Styrelsen för
Boeing Sweden Holdings AB
Org nr 556704-4291
får härmed avge
Årsredovisning
för räkenskapsåret 1 januari 2022 - 31 december 2022
Undertecknad styrelseledamot i Boeing Sweden Holdings AB intygar härmed, dels att denna kopia av årsredovisningen överensstämmer med originalet, dels att resultaträkningen och balansräkningen fastställts på årstämma
den 30 **Juni 2023**. Årsstämman beslöt även att godkänna styrelsens förslag till vinstdisposition.
Göteborg den 30 **Juni 2023**
Natalia Mikhailovna Gorbacheva

Innehåll:	**sida**
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Styrelsen för

Boeing Sweden Holdings AB

Org nr 556704-4291

får härmed avge

Årsredovisning

för räkenskapsåret 1 januari - 31 december 2022

20230801106302

Innehåll:	**sida**
Förvaltningsberättelse	**2**
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Boeing Sweden Holdings AB
Org nr 556704-4291
Förvaltningsberättelse
Allmänt om verksamheten
Styrelsen för Boeing Sweden Holdings AB (publ), organisationsnummer 556704-4291, avger härmed årsredovisning för räkenskapsåret 2022-01-01 – 2022-12-31.

Företaget som är moderföretag i en koncern upprättar med stöd av 7 kap.2§ Årsredovisningslagen ingen koncernredovisning eftersom det tillsammans med samtliga dotterföretag omfattas av koncernredovisningen i det överordnade moderföretaget The Boeing Company, USA (se vidare under redovisningsprinciper).

Denna koncernredovisning inges till Bolagsverket tillsammans med denna årsredovisning. Boeing Sweden Holdings AB, med säte i Göteborg, är ett holdingbolag.

Boeing Sweden Holdings AB förvärvade den 14 juni 2006 samtliga aktier i Jeppesen Systems AB (organisationsnummer 556484-0303 med säte i Göteborg, namnändrat från Carmen Systems AB),
som är en av Europas ledande leverantörer av intergrerade planerings-, schemaläggnings- och beslutsstödsystem inom flyg- och järnvägsbranschen.

Boeing Sweden Holdings AB förvärvade den 23 januari 2013 ytterligare samtliga aktier i Boeing Sweden AB (organisationsnummer 556920-0388 med säte i Göteborg, namnändrat från Goldcup 8515 AB),
ett företag som säljer tjänster i anslutning till service av Boeing flygplan.

Bolaget äger inga andra dotterbolag utöver de ovan nämda Jeppesen Systems AB och Boeing Sweden AB.
Företaget har heller inga anställda och ingen omsättning utan agerar uteslutande som ett holdingbolag för Jeppesen Systems AB och Boeing Sweden AB.

Väsentliga händelser under räkenskapsåret
Inga väsentliga händelser under räkenskapsåret har uppkommit.

Händelser efter balansdagen
Boeing Sweden Holdings AB har under våren 2023 erhållit en utdelning om EUR 43 miljoner från Jeppesen Systems AB som sedan har betalats ut som utdelning till moderbolaget Boeing Netherlands B.V.

Förväntad framtida utveckling
Bolagets verksamhet förväntas fortgå oförändrat.

Förslag till disposition beträffande bolagets resultat
Styrelsen föreslår årsstämman att årets disponibla vinstmedel disponeras enligt följande:

Balanserad vinst	99 652 484
Årets resultat	-10 708
Summa	99 641 776
Balanseras i ny räkning	99 641 776

Vad beträffar företagets resultat och ställning i övrigt, hänvisas till efterföljande resultat- och balansräkningar med tillhörande bokslutskommentarer.

Om inget annat anges är samtliga belopp i Euro.

20230801063O4

Resultaträkning		*01/01/2022 -*	*01/01/2021 -*
Belopp i EURO	*Not*	*31/12/2022*	*31/12/2021*
Rörelsens kostnader			
Övriga rörelsekostnader		-3,451	-37,343
Rörelseresultat		**-3 451**	**(37 343)**
Resultat från finansiella poster	6	-	21 810 903
Finansiella poster		-2 504	-5 320
Ränteintäkter och liknande resultatposter		-4 753	81 840
Skatt på årets resultat		-	-6 927
Årets resultat		**-10 708**	**-21 843 153**

Balansräkning			
Belopp i EURO	*Not*	*31-12-2022*	*31-12-2021*
TILLGÅNGAR			
Anläggningstillgångar			
Finansiella anläggningstillgångar			
Andelar i koncernföretag	5	99 147 005	99 147 005
Summa anläggningstillgångar		99 147 005	99 147 005
Omsättningstillgångar			
Kassa och bank		538 149	529 937
Fordringar hos koncernföretag		-	11 469
Summa omsättningstillgångar		538 149	541 406
SUMMA TILLGÅNGAR		99 685 154	99 688 411

Balansräkning			
Belopp i EURO	*Not*	*31-12-2022*	*31-12-2021*
EGET KAPITAL OCH SKULDER			
Eget kapital			
Bundet eget kapital			
Aktiekapital (1 000 aktier med kvotvärde €11,5)		11 500	11 500
		11 500	11 500
Fritt eget kapital			
Balanserad vinst		99 652 484	77 809 331
Årets resultat		-10 708	21 843 153
		99 641 776	99 652 484
Summa Eget kapital		99 653 276	99 663 984
Kortfristiga skulder		31 878	24 427
Övriga skulder		31 878	24 427
Summa Kortfristiga skulder		31 878	24 427
SUMMA EGET KAPITAL OCH SKULDER		99 685 154	99 688 411

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Rapport över förändringar i Eget kapital

	Aktie-kapital	*Balanserad vinst*	*Årets resultat*	*Totalt*
Vid årets ingång	11 500	77 809 331	21 843 153	99 663 984
Disposition av föregående års resultat		21 843 153	-21 843 153	0
Årets resultat			-10 708	-10 708
Vid årets slut	**11 500**	**99 652 484**	**-10 708**	**99 653 276**

Noter med redovisningsprinciper och bokslutskommentarer
Belopp i EURO om inget annat anges

Not 1 Allmän information

Boeing Sweden Holdings AB med organisationsnummer 556704-4291 är ett aktiebolag registrerat i Sverige med säte i Stockholm. Addressen till huvudkontoret är c/o Jeppesen Systems AB, Odinsgatan 9, 411 03 Göteborg. Företaget är uteslutande ett holding bolag.

Moderföretag i den största koncernen som Boeing Sweden Holdings AB är dotterföretag till är The Boeing Company (TBC) nr 91-0425694 med säte i USA. Moderföretag i den minsta koncernen som Boeing Sweden Holdings AB är dotterföretag till är Boeing Netherlands B.V, org nr 34247907 med säte i Nederländerna. TBCs koncernredovisning kan erhållas från (http://www.boeing.com/boeing/companyoffices/financial/).

Ingen koncernredovising har upprättats med stöd av Årsredovisningslagen 7 kap. 2 § punkt 1.

Not 2 Redovisningsprinciper och värderingsprinciper

Företaget tillämpar Årsredovisningslagen (1995:1554) och Bokföringsnämndens allmänna råd BFNAR 2012:1 Årsredovisning och koncernredovisning ("K3").

Utländsk valuta

Företagets redovisningsvaluta är euro (EUR)

Omräkning av poster i utländsk valuta
Vid varje balansdag räknas monetära poster i utländsk valuta om till balansdagens kurs.
Icke-monetära poster, som värderas till historisk anskaffningsvärde i en utländsk valuta, räknas inte om.
Valutakursdifferenser redovisas i rörelseresultatet eller som finansiell post utifrån den underliggande affärshändelsen, i den period de uppstår, med undantag för transaktioner som utgör säkring och som uppfyller villkoren för säkringsredovisning av kassaflöden eller av nettoinvesteringar.

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Nedskrivningar
Vid varje balansdag analyserar företaget de redovisade värdena för materiella anläggningstillgångar och immateriella tillgångar för att fastställa om det finns någon indikation på att dessa tillgångar har minskat i värde. Om så är fallet, beräknas tillgångens återvinningsvärde för att kunna fastställa värdet av en eventuell nedskrivning.

Där det inte är möjligt att beräkna återvinningsvärdet för en enskild tillgång, beräknas återvinningsvärdet för den kassagenererande enhet till vilken tillgången hör.

Inkomstskatter
Skattekostnaden utgörs av summan av aktuell skatt och uppskjuten skatt.

Aktuell skatt
Aktuell skatt beräknas på det skattepliktiga resultatet för perioden. Skattepliktigt resultat skiljer sig från det redovisade resultatet i resultaträkningen då det har justerats för ej skattepliktiga intäkter och ej avdragsgilla kostander samt för intäkter och kostnader som är skattepliktiga eller avdragsgilla i andra perioder. Aktuell skatteskuld beräknas enligt de skattesatser som gäller per balansdagen.

Uppskjuten skatt
Uppskjuten skatt redovisas på temporära skillnader mellan det redovisade värdet på tillgångar och skulder i de finansiella rapporterna och det skattemässiga värdet som används vid beräkningen av skattepliktig resultat.

Uppskjuten skatt redovisas enlgit den s k balansräkningsmetoden. Uppskjutna skatteskulder redovisas för i princip alla skattepliktiga temporära skillnader, och uppskjutna skattefordringar redovisas i princip för all avdragsgilla temporära skillnader i den omfattning det är sannolikt att beloppen A60kan utnyttjas mot framtida skattepliktiga överskott. Obeskattade reser redovisas inklusive uppskjuten skatteskuld.

Det redovisade värdet på uppskjutna skattefordringar omprövas varje balansdag och reduceras till den del det inte längre är sannolikt att tillräckliga skattepliktiga resultat kommer att finnas tillgängliga för att utnyttjas, helt eller delvis, mot den uppskjutna skattefordran.

Värderingen av uppskjuten skatt baseras på hur företaget, per balansdagen, förväntar sig att återvinna det redovisade värdet för motsvarande tillgång eller reglera det redovisade värdet för motsvarande skuld.
Upppskjuten skatt beräknas baserat på de skattesatser och skatteregler som har beslutats före balansdagen.

Koncernuppgifter
Boeing Sweden Holdings AB är moderbolag till Jeppesen Systems AB, 556484-0303 och Boeing Sweden AB, 556920-0388, båda med säte i Göteborg.
Företaget registrerades vid bolagsverket 19 maj 2006 och är ett holdingbolag vars aktier ägs till 100% av Boeing Netherlands B.V., Hooghoorddreef 15, 1101 BA, Amsterdam, the Netherlands. Boeing Sweden Holdings AB ingår i den koncern som ägs av The Boeing Company, USA.

Andelar i koncernföretag
Andelar i dotterföretag redovisas till anskaffningsvärde. Utdelning från dotterföretag redovisas som intäkt när rätten att få utdelning bedöms som säker och kan beräknas på ett tillförlitligt sätt.

Koncernbidrag
Erhållna och lämnade koncernbidrag redovisas som bokslutsdisposition i resultaträkningen.

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Not 3 Viktiga uppskattningar och bedömningar

Viktiga källor till osäkerhet i uppskattningar

Nedan redogörs för de viktigaste antagandena om framtiden, och andra viktiga källor till osäkerhet i uppskattningar per balansdagen, som innebär en betydande risk för väsentliga justeringar i redovisade värden för tillgångar och skulder under nästa räkenskapsår.

* Andelar i koncernföretag - vid årsboklutet görs en bedömning av värdet av andelar i koncernföretag

Not 4 Arvoden till styrelse

Inga ersättningar utgår till styrelsens ledamöter. Det finns inga anställda i bolaget.

Not 5 Andelar i koncernföretag

Koncernen	*Org nr*	*Säte*	*Kapitalandel*	*Bokförtvärde*
Jeppesen Systems AB	556484-0303	Göteborg	100%	81 492 555
Boeing Sweden AB	556920-0388	Göteborg	100%	17 654 450

Not 6 Resultat från finansiella poster

	2022	*2021*
Intäkter från andelar i koncernföretag	-	21,810,903

Not 7 Förslag till disposition beträffande bolagets resultat

Styrelsen föreslår årsstämman att årets disponibla vinstmedel disponeras enligt följande:

Balanserad vinst	99 652 484
Årets resultat	-10 708
Summa	99 641 776
Balanseras i ny räkning	99 641 776

Göteborg den 30 **Juni 2023**

Natalia Gorbacheva
Styrelseordförande

Natalie N. Rorem
Styrelseledamot

Vår revisionsberättelse har lämnats den
Deloitte AB

Ingelsson Marcus
Auktoriserad revisor

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Not 3 Viktiga uppskattningar och bedömningar

Viktiga källor till osäkerhet i uppskattningar

Nedan redogörs för de viktigaste antagandena om framtiden, och andra viktiga källor till osäkerhet i uppskattningar per balansdagen, som innebär en betydande risk för väsentliga justeringar i redovisade värden för tillgångar och skulder under nästa räkenskapsår.

* Andelar i koncernföretag - vid årsboklutet görs en bedömning av värdet av andelar i koncernföretag

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Inga ersättningar utgår till styrelsens ledamöter. Det finns inga anställda i bolaget.

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Koncernen	*Org nr*	*Säte*	*Kapitalandel*	*Bokförtvärde*
Jeppesen Systems AB	556484-0303	Göteborg	100%	81 492 555
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	2022	*2021*
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Göteborg den 30 **Juni 2023**

Natalia Gorbacheva
Styrelseordförande

Natalie N. Rorem
Styrelseledamot

Vår revisionsberättelse har lämnats den 30 juni 2023
Deloitte AB

Ingelsson Marcus
Auktoriserad revisor

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Deloitte.

REVISIONSBERÄTTELSE

Till bolagsstämman i Boeing Sweden Holdings AB
organisationsnummer 556704-4291

Rapport om årsredovisningen

Uttalanden

Vi har utfört en revision av årsredovisningen för Boeing Sweden Holdings AB för räkenskapsåret 2022-01-01 - 2022-12-31.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av Boeing Sweden Holdings ABs finansiella ställning per den 31 december 2022 och av dess finansiella resultat för året enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen.

Grund för uttalanden

Vi har utfört revisionen enligt International Standards on Auditing (ISA) och god revisionssed i Sverige. Vårt ansvar enligt dessa standarder beskrivs närmare i avsnittet *Revisorns ansvar*. Vi är oberoende i förhållande till Boeing Sweden Holdings AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens ansvar

Det är styrelsen som har ansvaret för att årsredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen ansvarar även för den interna kontroll som den bedömer är nödvändig för att upprätta en årsredovisning som inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag.

Vid upprättandet av årsredovisningen ansvarar styrelsen för bedömningen av bolagets förmåga att fortsätta verksamheten. Den upplyser, när så är tillämpligt, om förhållanden som kan påverka förmågan att fortsätta verksamheten och att använda antagandet om fortsatt drift. Antagandet om fortsatt drift tillämpas dock inte om styrelsen avser att likvidera bolaget, upphöra med verksamheten eller inte har något realistiskt alternativ till att göra något av detta.

Revisorns ansvar

Våra mål är att uppnå en rimlig grad av säkerhet om huruvida årsredovisningen som helhet inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag, och att lämna en revisionsberättelse som innehåller våra uttalanden. Rimlig säkerhet är en hög grad av säkerhet, men är ingen garanti för att en revision som utförs enligt ISA och god revisionssed i Sverige alltid kommer att upptäcka en väsentlig felaktighet om en sådan finns. Felaktigheter kan uppstå på grund av oegentligheter eller misstag och anses vara väsentliga om de enskilt eller tillsammans rimligen kan förväntas påverka de ekonomiska beslut som användare fattar med grund i årsredovisningen.

Som del av en revision enligt ISA använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Dessutom:

- identifierar och bedömer vi riskerna för väsentliga felaktigheter i årsredovisningen, vare sig dessa beror på oegentligheter eller misstag, utformar och utför granskningsåtgärder bland annat utifrån dessa risker och inhämtar revisionsbevis som är tillräckliga och ändamålsenliga för att utgöra en grund för våra uttalanden. Risken för att inte upptäcka en väsentlig felaktighet till följd av oegentligheter är högre än för en väsentlig felaktighet som beror på misstag, eftersom oegentligheter kan innefatta agerande i maskopi, förfalskning, avsiktliga utelämnanden, felaktig information eller åsidosättande av intern kontroll.
- skaffar vi oss en förståelse av den del av bolagets interna kontroll som har betydelse för vår revision för att utforma granskningsåtgärder som är lämpliga med hänsyn till omständigheterna, men inte för att uttala oss om effektiviteten i den interna kontrollen.
- utvärderar vi lämpligheten i de redovisningsprinciper som används och rimligheten i styrelsens uppskattningar i redovisningen och tillhörande upplysningar.
- drar vi en slutsats om lämpligheten i att styrelsen använder antagandet om fortsatt drift vid upprättandet av årsredovisningen. Vi drar också en slutsats, med grund i de inhämtade revisionsbevisen, om huruvida det finns någon väsentlig osäkerhetsfaktor som avser sådana händelser eller förhållanden som kan leda till betydande tvivel om bolagets förmåga att fortsätta verksamheten. Om vi drar slutsatsen att det finns en väsentlig osäkerhetsfaktor, måste vi i revisionsberättelsen fästa uppmärksamheten på upplysningarna i årsredovisningen om den väsentliga osäkerhetsfaktorn eller, om sådana upplysningar är otillräckliga, modifiera uttalandet om årsredovisningen. Våra slutsatser baseras på de revisionsbevis som inhämtas fram till datumet för revisionsberättelsen. Dock kan framtida händelser eller förhållanden göra att ett bolag inte längre kan fortsätta verksamheten.
- utvärderar vi den övergripande presentationen, strukturen och innehållet i årsredovisningen, däribland upplysningarna, och om årsredovisningen återger de underliggande transaktionerna och händelserna på ett sätt som ger en rättvisande bild.

Vi måste informera styrelsen om bland annat revisionens planerade omfattning och inriktning samt tidpunkten för den. Vi måste också informera om betydelsefulla iakttagelser under revisionen, däribland de eventuella betydande brister i den interna kontrollen som vi identifierat.

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Deloitte.

Rapport om andra krav enligt lagar och andra författningar

Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens förvaltning för Boeing Sweden Holdings AB för räkenskapsåret 2022-01-01 - 2022-12-31 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

Vi tillstyrker att bolagsstämman disponerar vinsten enligt förslaget i förvaltningsberättelsen och beviljar styrelsens ledamöter ansvarsfrihet för räkenskapsåret.

Grund för uttalanden

Vi har utfört revisionen enligt god revisionssed i Sverige. Vårt ansvar enligt denna beskrivs närmare i avsnittet *Revisorns ansvar*. Vi är oberoende i förhållande till Boeing Sweden Holdings AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens ansvar

Det är styrelsen som har ansvaret för förslaget till dispositioner beträffande bolagets vinst eller förlust. Vid förslag till utdelning innefattar detta bland annat en bedömning av om utdelningen är försvarlig med hänsyn till de krav som bolagets verksamhetsart, omfattning och risker ställer på storleken av bolagets egna kapital, konsolideringsbehov, likviditet och ställning i övrigt.

Styrelsen ansvarar för bolagets organisation och förvaltningen av bolagets angelägenheter. Detta innefattar bland annat att fortlöpande bedöma bolagets ekonomiska situation och att tillse att bolagets organisation är utformad så att bokföringen, medelsförvaltningen och bolagets ekonomiska angelägenheter i övrigt kontrolleras på ett betryggande sätt.

Revisorns ansvar

Vårt mål beträffande revisionen av förvaltningen, och därmed vårt uttalande om ansvarsfrihet, är att inhämta revisionsbevis för att med en rimlig grad av säkerhet kunna bedöma om någon styrelseledamot i något väsentligt avseende:

- företagit någon åtgärd eller gjort sig skyldig till någon försummelse som kan föranleda ersättningsskyldighet mot bolaget, eller
- på något annat sätt handlat i strid med aktiebolagslagen, årsredovisningslagen eller bolagsordningen.

Vårt mål beträffande revisionen av förslaget till dispositioner av bolagets vinst eller förlust, och därmed vårt uttalande om detta, är att med rimlig grad av säkerhet bedöma om förslaget är förenligt med aktiebolagslagen.

Rimlig säkerhet är en hög grad av säkerhet, men ingen garanti för att en revision som utförs enligt god revisionssed i Sverige alltid kommer att upptäcka åtgärder eller försummelser som kan föranleda ersättningsskyldighet mot bolaget, eller att ett förslag till dispositioner av bolagets vinst eller förlust inte är förenligt med aktiebolagslagen.

Som en del av en revision enligt god revisionssed i Sverige använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Granskningen av förvaltningen och förslaget till dispositioner av bolagets vinst eller förlust grundar sig främst på revisionen av räkenskaperna. Vilka tillkommande granskningsåtgärder som utförs baseras på vår professionella bedömning med utgångspunkt i risk och väsentlighet. Det innebär att vi fokuserar granskningen på sådana åtgärder, områden och förhållanden som är väsentliga för verksamheten och där avsteg och överträdelser skulle ha särskild betydelse för bolagets situation. Vi går igenom och prövar fattade beslut, beslutsunderlag, vidtagna åtgärder och andra förhållanden som är relevanta för vårt uttalande om ansvarsfrihet. Som underlag för vårt uttalande om styrelsens förslag till dispositioner beträffande bolagets vinst eller förlust har vi granskat om förslaget är förenligt med aktiebolagslagen.

Göteborg 2023-06-30

Deloitte AB

Marcus Ingelsson
Auktoriserad revisor

BOEING

The Boeing Company
2022 Annual Report

Today, Tomorrow and Beyond

Cover Photo

Powered by the Boeing-built core stage, NASA's Space Launch System (SLS) rocket erupted to life on Nov. 16, 2022, at 1:47 a.m. The inaugural launch of the Artemis missions was propelled by a team united in one goal: safely launching the first human-rated spacecraft to the Moon in almost 50 years.

Photo credit: NASA, Chris Coleman and Kevin Dav

"The first launch of the Space Launch System rocket was simply eye-watering."

– **Mike Sarafin**, *Artemis mission manager, NASA*

"It was an absolutely beautiful launch — visually and technically. It performed the mission as we designed it to do."

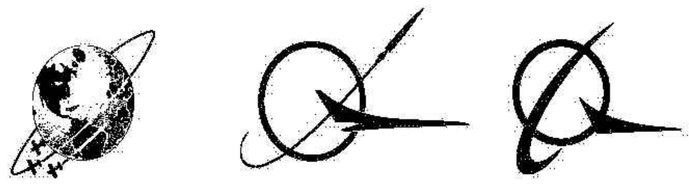
– **John Shannon**, *vice president and program manager, Boeing SLS program*

Inside Cover Photo

Boeing SLS teammates react in delight after gathering to watch the Artemis 1 launch near NASA's vertical assembly building at Kennedy Space Center in Florida.

We celebrate today by proudly continuing the legacy of those employees who came before us. Their accomplishments built a solid foundation for our brand and are also reflected in our logo.

The Boeing icon celebrates the first around-the-world flight by the U.S. Army Air Service flying the Douglas World Cruisers in 1924. The Boeing name in Boeing Stratotype created in 1947 celebrates the invention of the large swept-wing jet and the B-47 Stratojet. The 37-degree angle of the type was inspired by the B-47's angle of wing sweep.



Our logo serves as a reminder to add our own moments to the Boeing legacy **today, tomorrow and beyond** as we chart the course for humanity.

BOEING

The Boeing Company

As a leading global aerospace company, Boeing develops, manufactures and services commercial airplanes, defense products and space systems for customers in more than 150 countries. As a top U.S. exporter, the company leverages the talents of a global supplier base to advance economic opportunity, sustainability and community impact. Boeing's diverse team is committed to innovating for the future, leading with sustainability and cultivating a culture based on the company's core values of safety, quality and integrity. Learn more at boeing.com.

Watch a video of the Artemis launch.

Stakeholder-Driven Transparency

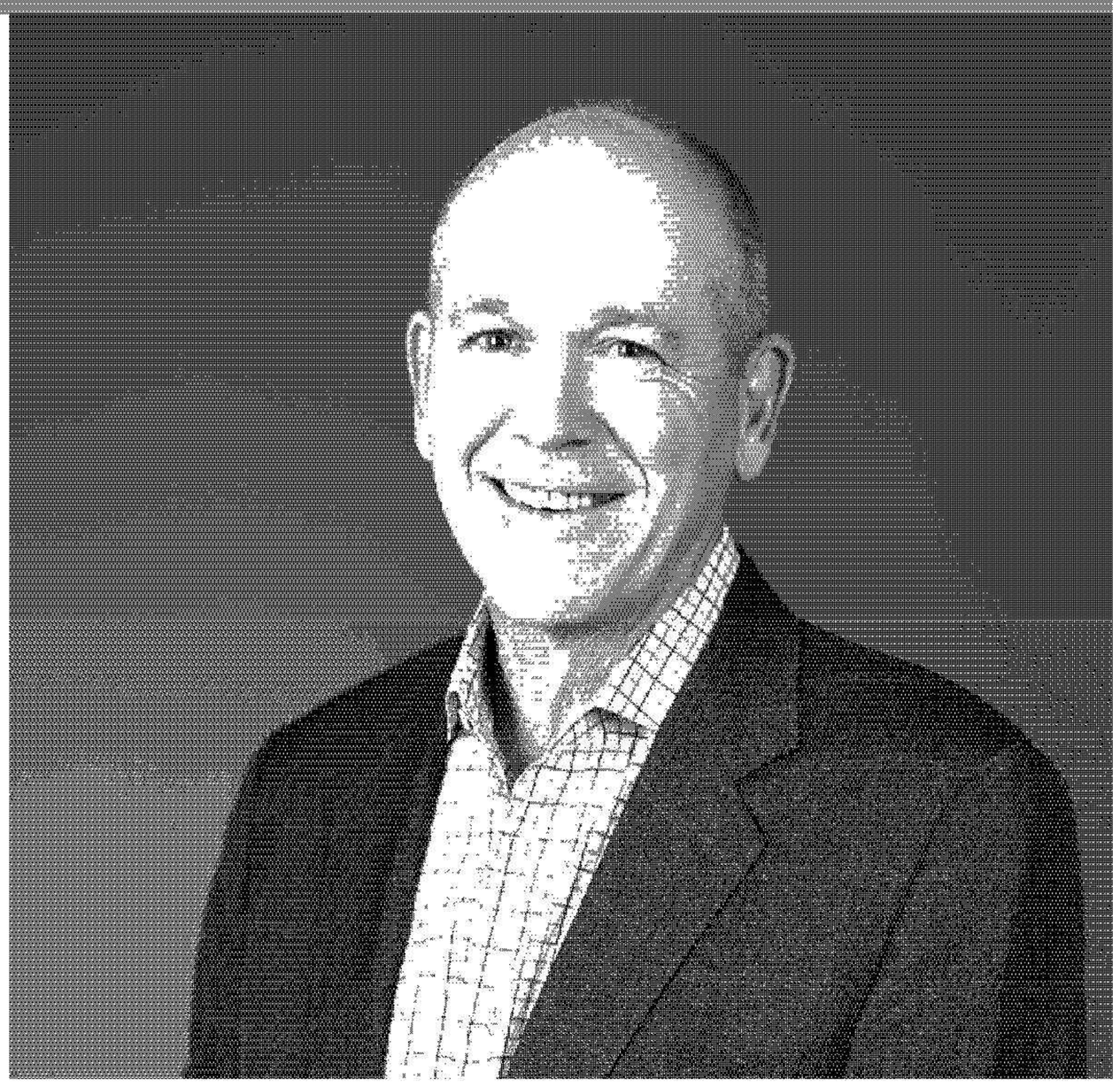
Boeing is committed to transparency. Through our annual disclosure and reporting cycle, we compile and share a broad set of data, information and operating examples for our stakeholders, including our employees, customers, industry partners, investors, regulatory authorities, communities and others. Using the most widely applicable disclosure frameworks, Boeing reports each year on our financial performance and company priorities; our employee demographics and progress toward achieving equity, diversity and inclusion commitments; our sustainability-focused environmental, social and governance performance; our community investments and advocacy; and our industry-leading aerospace market outlooks.

View our Annual Report online and learn more about Boeing.

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For more than a century, The Boeing Company has been at the forefront of historic innovations that connect people around the world and beyond. Today, our work continues to help chart the course for the future of aerospace.



Every day we work to transform our company to service big defense and commercial needs. There is substantial and growing demand for the products and services we create, with more than $400 billion in open orders. In response to these demands and in light of post-COVID supply chain challenges, a priority is making our aircraft production capabilities more predictable and scalable. We do this work while meeting exacting safety and quality standards that are set by our regulators and customers and reflect our values, and I am incredibly proud of the progress we have made in our journey together.

Our mission — to protect, connect and explore our world and beyond — is supported by our unwavering commitment to strengthening safety through continuous improvement, learning and innovation. We will never forget the lives lost in the 737 MAX accidents. Their memory drives us every day to uphold our responsibility to all who depend on the safety of our products and services.

Despite facing existential challenges in our company's recent history, there has not been a single year in the last decade when we did not invest substantial time and capital to enhance our capabilities and deliver innovation. We established research and technology centers in Australia, Brazil, China, Europe, the Middle East, India, South Korea and most recently in Japan. We believe the unique local perspectives our teammates bring to the table allow us to collaborate globally to find technology solutions that drive future growth.

Our product portfolio spans an impressive array of commercial and defense products that meet our customers' needs, including 737-7, 737-10, 777X, KC-46, MQ-25 and the T-7A. That includes classified products that serve the U.S. government and NATO allies — which we cannot disclose — along with services platforms that cater to a global customer base.

Boeing is one of the most sophisticated engineering and technology companies in the world. We specialize in creating the world's leading aerospace and defense products and solutions. Prioritizing and expanding large-scale capability investments will help us secure our future.

Additionally, distinctive new capabilities will deliver breakthrough benefits to our customers and reshape our industry in our favor, while uncovering new opportunities for growth. As part of our capability-building journey, we grew our workforce by about 23,000 teammates in 2022, primarily in engineering and manufacturing.

Our team works around the clock to create pioneering physical materials, sophisticated digital platforms and advanced production systems. Digital threads increasingly knit together our capabilities from design to production to support. Big data linked to intelligent analytics powers technologies embedded into our products and services while creating more efficient operations.

2022 Safety Milestones

Quarter 1

- Deployed Safety Management System Update training to all employees

Quarter 2

- Published first annual Chief Aerospace Safety Officer Report
- Deployed Employee Reporting—Speak Up training
- Established dedicated ombudsperson for FAA Organization Designation Authorization representatives
- Introduced Boeing Virtual Procedures Trainer for pilots to provide experiential training and complement current training
- Introduced risk management processes and tools to build transparency and objectivity in workplace safety
- Launched Life-Saving Rules for employees

Quarter 3

- Conducted Boeing's first joint safety risk management evaluation with a major network carrier
- Published 53rd Statistical Summary of Commercial Jet Airplane Accidents Report
- Inducted a new real-time data and analytics platform called Boeing Safety Intelligence into our Safety Management System
- Conducted first All-Employee Environment & Safety Conference in Boeing's history

Quarter 4

- Conducted workshops with airline heads of training on competency-based training and assessment program
- Established an Environment, Health and Safety Technology & Systems Team to help transform work processes using new technologies

Learn more about our first Chief Aerospace Safety Officer Report and changes to strengthen safety.

Wrap all this talent and technology together and what do you get? Autonomous flight. Satellite-guided drones. Augmented reality manufacturing tools. Big leaps forward in sustainable aerospace. Faster design and development cycles. Across Boeing, our people are advancing innovation each and every day.

We will never finish transforming our company. We charted the course of aerospace history through the last century, and we will do the same again over the next one hundred years. Our steadfast commitment to safety, quality, integrity and sustainability leads the way as we operate with discipline, patience and transparency. These principles are tightly woven into the fabric of our values and our culture.

I want to express tremendous appreciation and gratitude to our employees for their care and support of our business and one another, and to our customers, suppliers and regulators for continually helping Boeing become better. I am confident we are on the right path, and I stand inspired by all that our Boeing team is doing today, tomorrow and beyond.



Boeing shared strategic plans and forward-looking operational and financial goals for the first time since 2018 at an Investor Conference in November. Calling it an important milestone in the company's turnaround as we drive stability and position for the future, leaders said employees are at the heart of those plans with safety, quality and integrity key to meeting commitments.

David L. Calhoun
President and CEO

Executive Council



Pictured front to back, L to R

Row 1

Elizabeth Lund
Senior Vice President; Chair, Program Management Operations Council

Brian J. West
Chief Financial Officer; Executive Vice President, Finance

Uma Amuluru
Chief Compliance Officer; Vice President, Global Compliance

Row 2

Susan Doniz
Chief Information Officer; Senior Vice President, Information Technology & Data Analytics

Brett C. Gerry
Chief Legal Officer; Executive Vice President, Global Compliance

Theodore Colbert III
Executive Vice President; President and CEO, Boeing Defense, Space & Security

Scott Stocker
Vice President; Chair, Manufacturing Operations Council

Row 3

Stephanie Pope
Executive Vice President; President and CEO, Boeing Global Services

Stanley A. Deal
Executive Vice President; President and CEO, Boeing Commercial Airplanes

Carole A. Murray
Vice President; Chair, Quality Operations Council

Row 4

Dr. Brendan J. Nelson, AO
Senior Vice President; President, Boeing International

Michael D'Ambrose
Chief Human Resources Officer; Executive Vice President, Human Resources

Chris Raymond
Chief Sustainability Officer; Senior Vice President, Global Enterprise Sustainability

Row 5

B. Marc Allen
Chief Strategy Officer; Senior Vice President, Strategy and Corporate Development

Gregory L. Hyslop
Chief Engineer; Executive Vice President, Engineering, Test & Technology

Michael Delaney
Chief Aerospace Safety Officer; Senior Vice President, Global Aerospace Safety

Brian Besanceney
Chief Communications Officer; Senior Vice President, Communications

Row 6

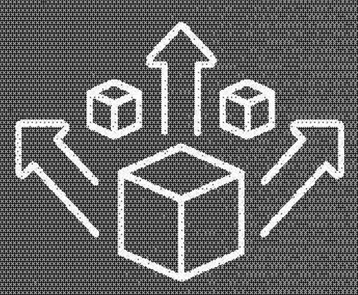
William A. Ampofo II
Vice President; Chair, Supply Chain Operations Council

Ziad "Z" Ojakli
Executive Vice President, Government Operations

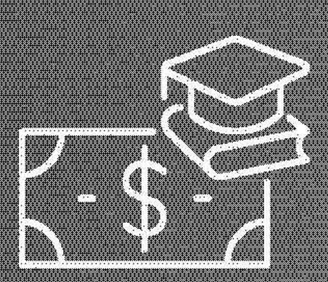
Boeing by the Numbers



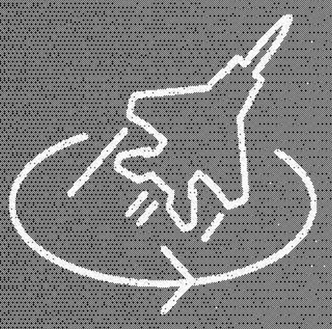
Delivered **374** 737 MAX airplanes



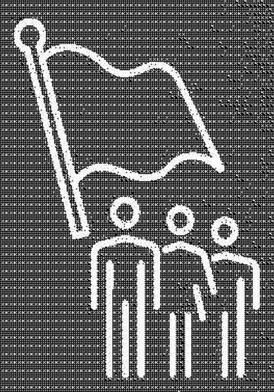
Shipped **8+ million** parts, chemicals and consumables



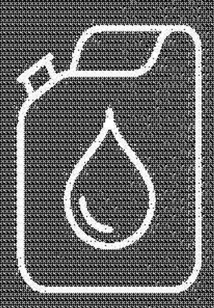
Provided nearly **$2B** of tuition assistance for employees since 1998 as part of Learning Together Program



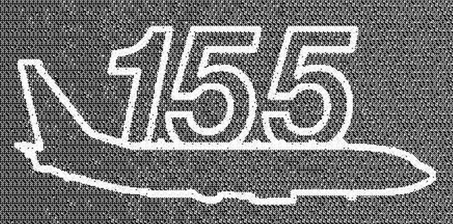
Boeing and the U.S. Air Force celebrated **50 years** of F-15 innovation



Veterans make up **14.6%** of Boeing's U.S. workforce



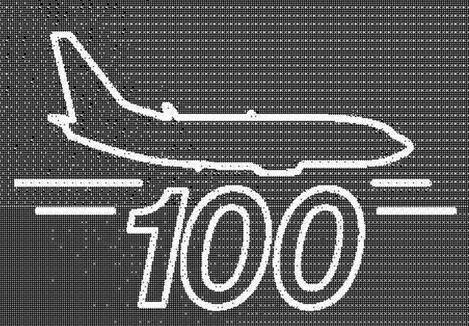
Purchased **2 million** gallons of blended SAF for its U.S. commercial airplane operations



Delivered the **155th** P-8



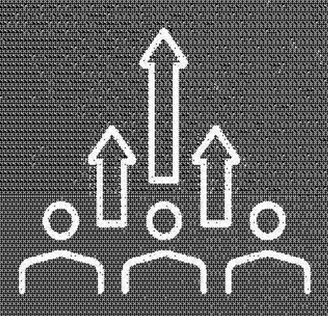
$197M donated from Boeing to support global community engagement efforts



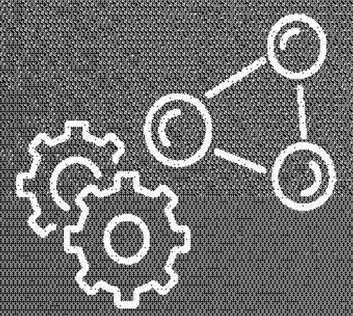
Delivered **100th** contracted 737-800 Boeing Converted Freighter



Boeing contributed **$50M** in support of STEM education globally



Hired approximately **23,000** Boeing employees



Invested about **$4B** in R&D, as well as capital expenditures on our infrastructure, factories, labs and manufacturing centers

Note: Data reflected here is current as of Dec. 31, 2022

A Commitment to Quality

Passionate About Precision

Boeing resumed 787 Dreamliner deliveries in August, thanks to the perseverance and determination of teammates across the enterprise in addressing nonconformances in some of the airplanes' joins. While the safety of the airplanes was not compromised, the joins did not meet the airplanes' exacting design requirements in some instances.

Leaders paused deliveries, despite the business impact, in order to inspect yet-to-deliver airplanes and correct any nonconformances.

"When I'm working on the 787, I'm doing my part in defining perfection with precision and passion."

– **TJ Heyward**, *mechanic, 787 program*

Learn more about our commitment to quality.

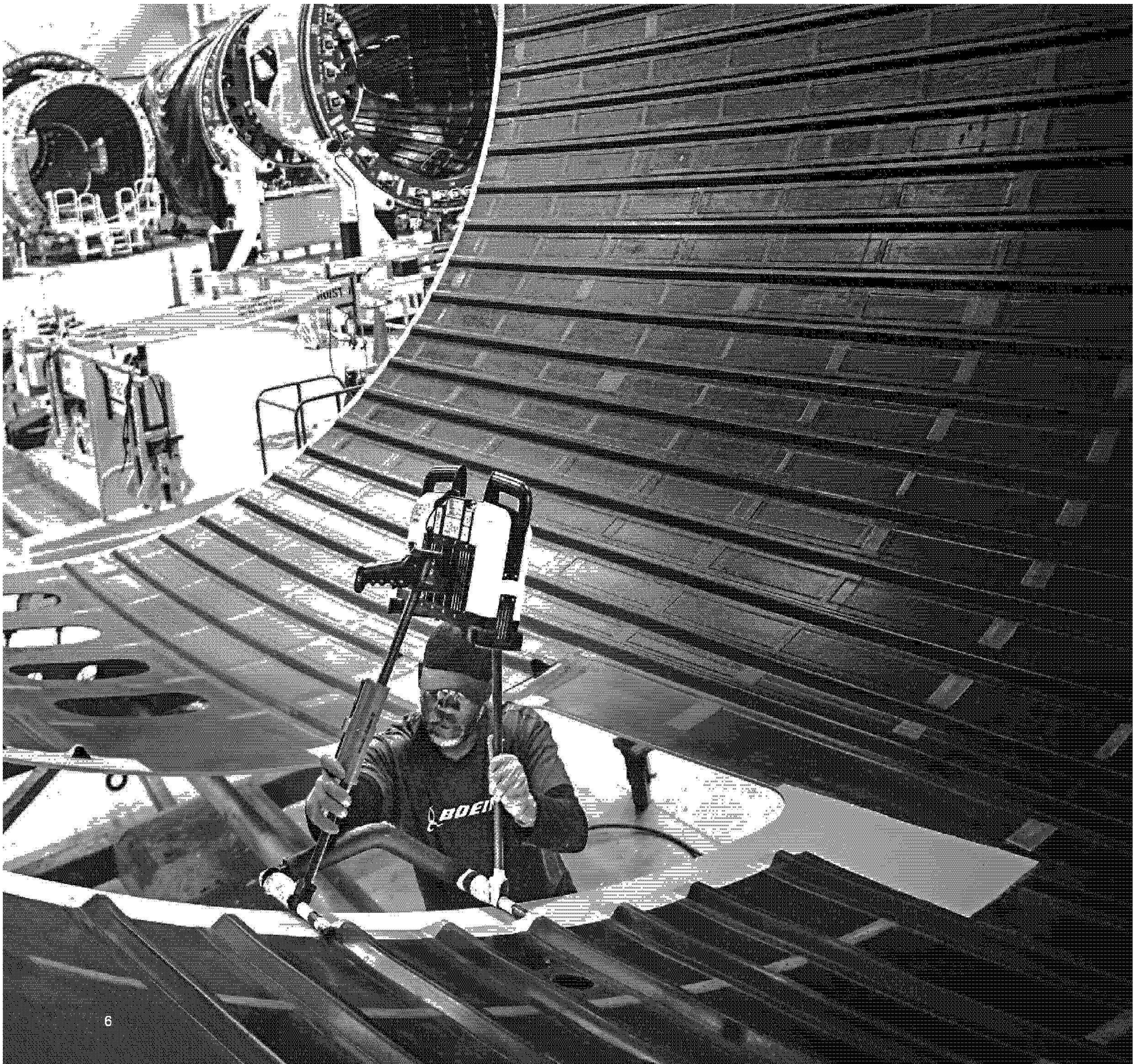




Photo credit: Lufthansa Group

Responding to Customer Needs

More than 80 customers from six continents have placed orders for nearly 1,500 Dreamliners, making the 787 the fastest-selling twin-aisle airplane in history.

"Boeing and Lufthansa's histories are intertwined, going all the way back to 1955, and we continue to build this great, transcontinental relationship. … Our companies share pride in our work, our products and in connecting people around the world. … Thank you for your dedication and professionalism in building these great machines. We can't wait to take delivery of them!"

– **Carsten Spohr**, *chairman and CEO, Lufthansa Group*

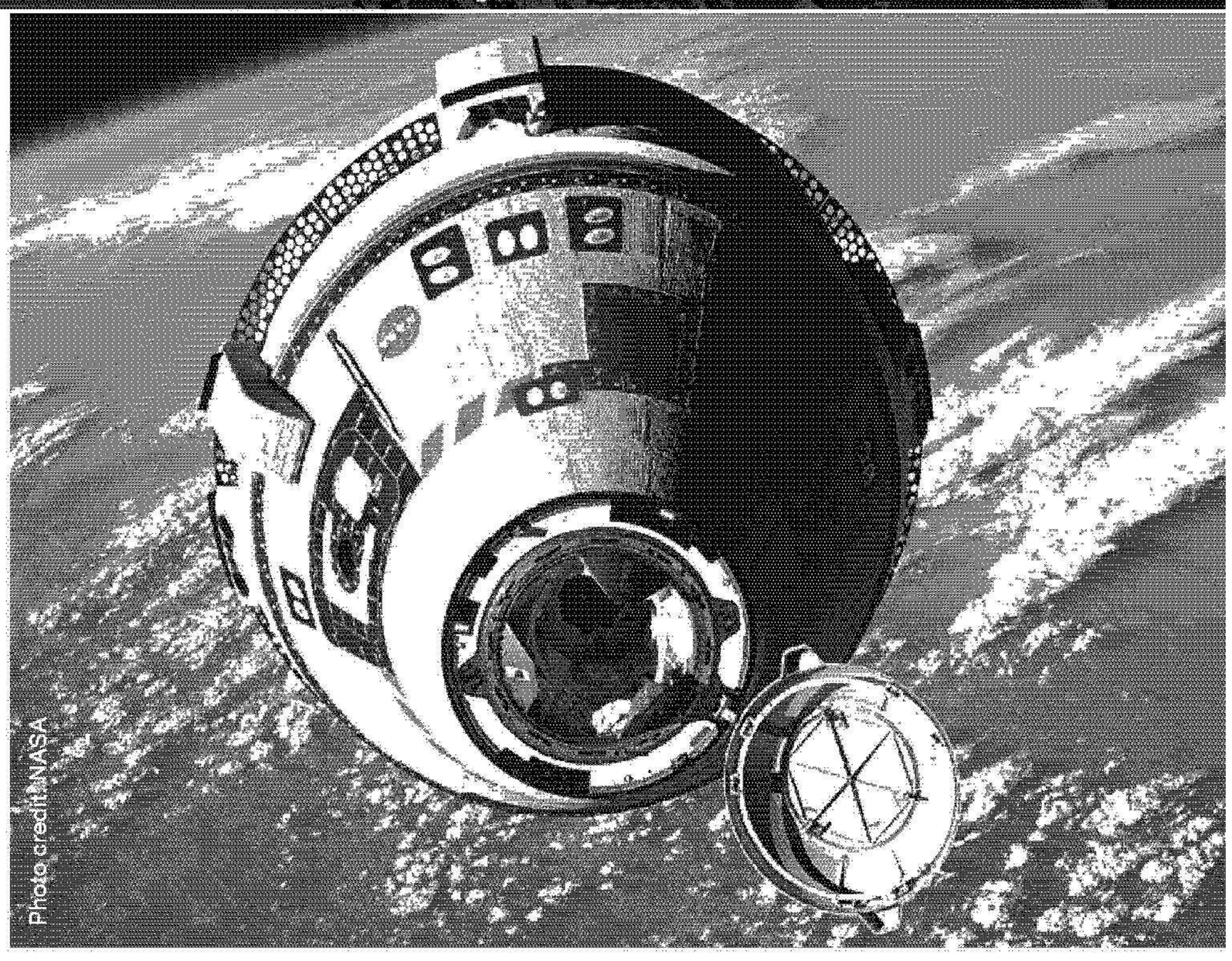


Photo credit: NASA

History in the Making

The Boeing Starliner capsule completed a successful orbital flight test in May, making history for the second time as the only American orbital capsule to touch down on land instead of in the ocean. This was the last major step for Starliner to demonstrate the safety, quality and performance of the spacecraft before taking American astronauts to the International Space Station (ISS) as part of NASA's Commercial Crew Program.

The flight test included docking and undocking from the ISS, and provided valuable data for NASA.

"I'm so proud of the team's resilience and steadfast commitment. NASA is ready to welcome Boeing's Starliner to the list of American commercial spacecraft capable of flying to the International Space Station."

– **Steve Stich**, *program manager, NASA Commercial Crew Program*

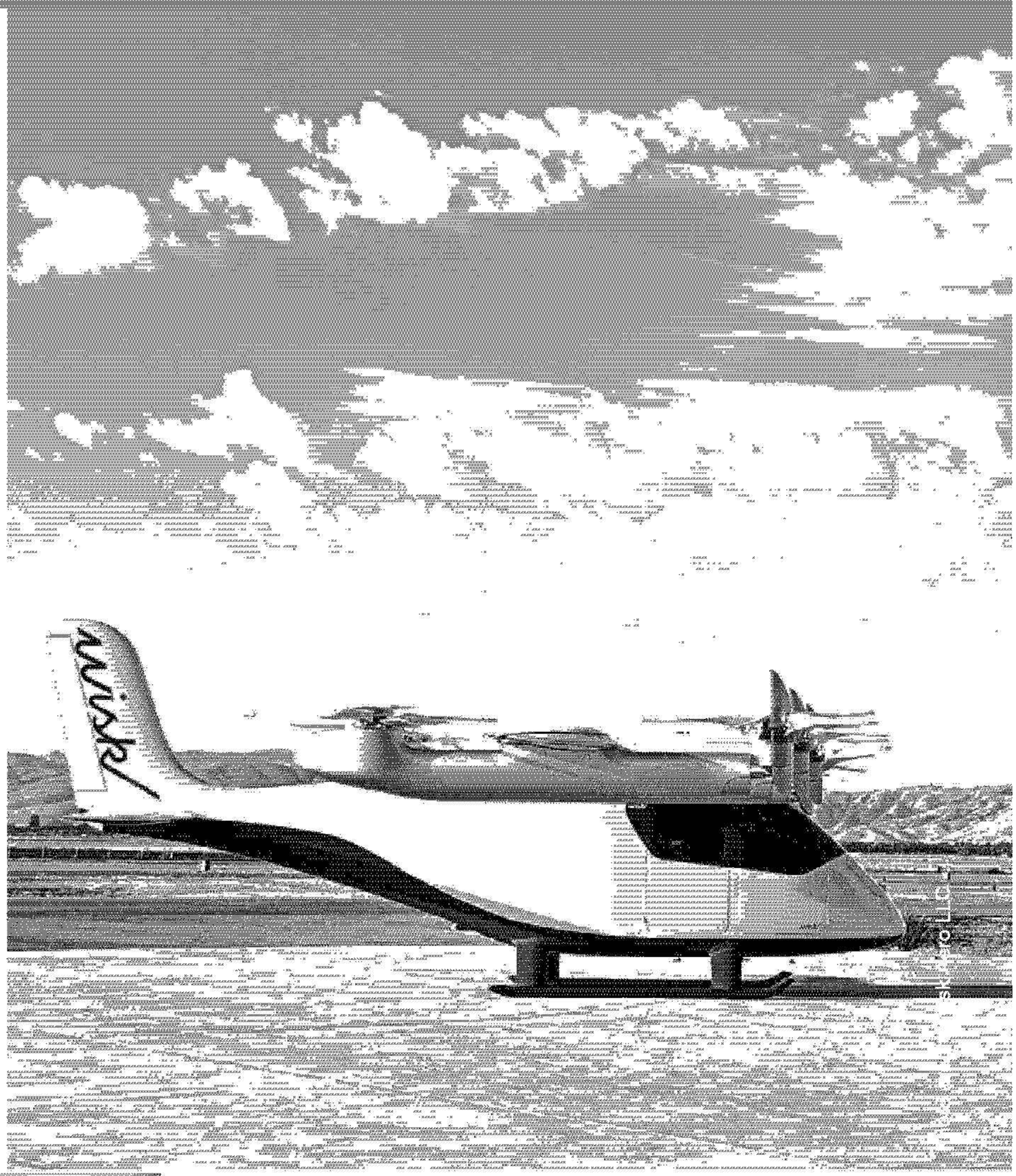
Exploring New Horizons

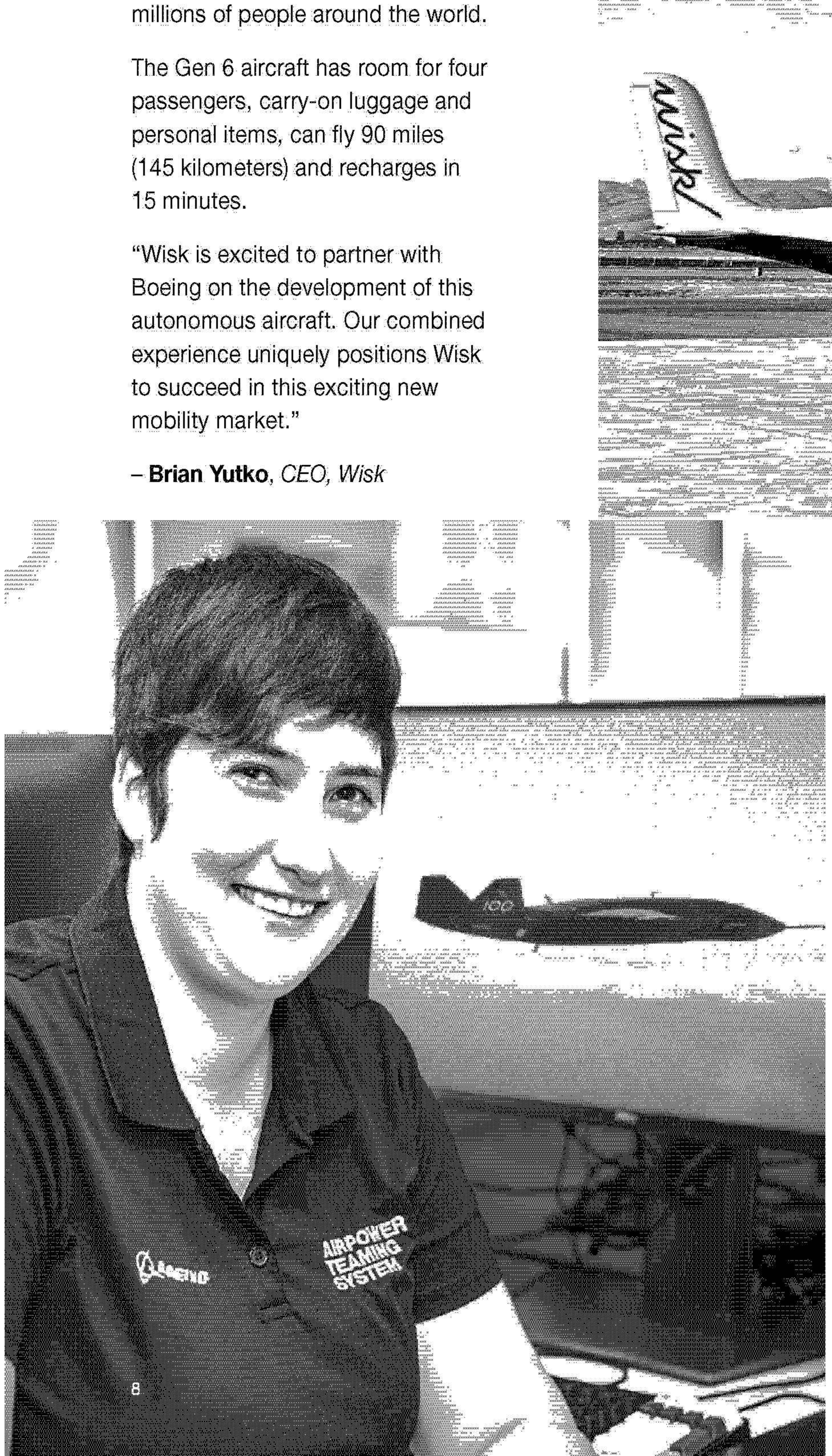
Wisk, a technology joint venture, is developing its 6th Generation aircraft. It will be the first candidate for certification of an autonomous, passenger-carrying electric vertical takeoff and landing (eVTOL) aircraft in the U.S. This aircraft is being designed with the highest safety standards and will become an accessible and sustainable transportation option for millions of people around the world.

The Gen 6 aircraft has room for four passengers, carry-on luggage and personal items, can fly 90 miles (145 kilometers) and recharges in 15 minutes.

"Wisk is excited to partner with Boeing on the development of this autonomous aircraft. Our combined experience uniquely positions Wisk to succeed in this exciting new mobility market."

– **Brian Yutko**, *CEO, Wisk*



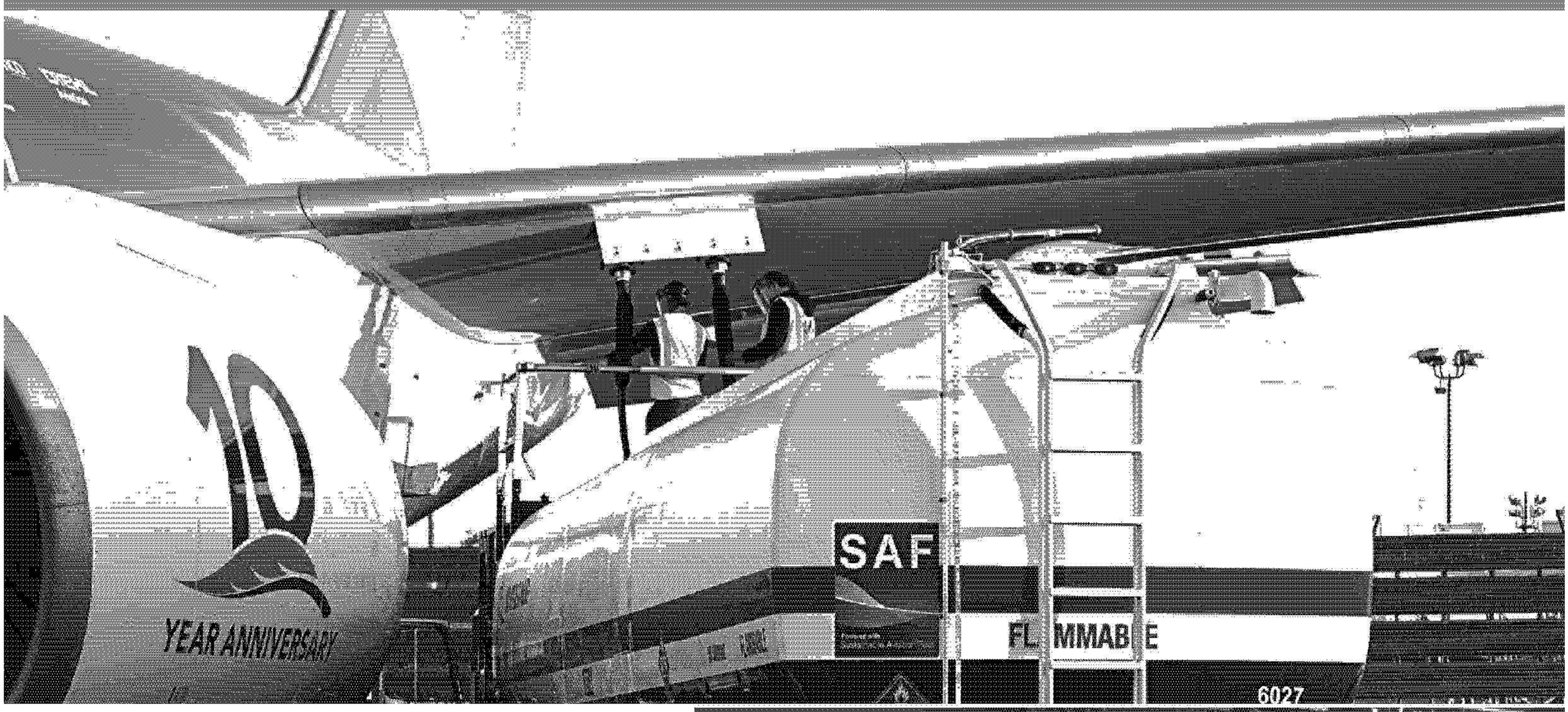


Autonomy in the Skies

The uncrewed MQ-28 Ghost Bat is the first military combat aircraft to be designed and built in Australia in 50 years. The co-development program between Boeing and the Royal Australian Air Force uses advanced composite materials and digital engineering to enable the rapid design of the air vehicle and production system, resulting in quality and efficiency outcomes for the program.

"It's an incredible feeling knowing code that you have written is making an important contribution to cutting-edge autonomous programs. My No. 1 advice would be to back yourself. You are capable of getting out there and making amazing things happen."

– **Lauren Skelly**, *senior software engineer*



A Decade of ecoDemonstrator

The Boeing ecoDemonstrator program celebrated its 10-year anniversary in 2022. It has accelerated innovation by testing more than 225 promising technologies in an operational environment to help decarbonize aviation, improve operational efficiency and enhance safety and the passenger experience. Almost every ecoDemonstrator platform has used sustainable aviation fuel (SAF), including the first ever commercial airplane test flight using 100% SAF in 2018 in a partnership with FedEx Express.

"We believe sustainable fuels are the best near-term solution to reducing carbon emissions. Our team is proud to support the industry's commitment to net-zero by 2050, and we are taking tangible steps forward to ensure our airplanes are 100% SAF-capable by 2030."

– **Rae Lutters**, *program manager, ecoDemonstrator*



Visualizing Net-Zero

This year, a global Boeing engineering and sustainability team unveiled an interactive tool that will help the aviation industry reach net-zero emissions by 2050.

"Cascade is helping put Boeing and data front and center of the conversation about decarbonizing aviation. We are allowing our industry to visualize the climate impact of aviation's pathways to decarbonize and finding consensus on the most effective strategies to reach net-zero by 2050."

– **Neil Titchener**, *program leader, Cascade*

Learn more about Cascade.

Shaping the Next Generation of Leaders

Boeing works with community partners across the U.S. and around the globe to support science, technology, engineering and mathematics (STEM) education. Amideast is a community partner in the Middle East and North Africa and a leading nonprofit organization engaged in international education, training and development. Boeing and Amideast have supported more than 22,000 young students in Egypt alone, since 2007. This year, Boeing expanded the partnership with a new grant to help Amideast align STEM activities with Egypt's sustainable development strategy.

"Egyptian youth participating in Amideast-Boeing STEM programs today will define and build a sustainable aerospace future and deliver on this commitment tomorrow. Our goal is to empower and educate these young people and be open to their innovative ideas."

– **Kuljit Ghata-Aura**, *president, Boeing Middle East, Türkiye and Africa*





Code for Success

Boeing partnered with the ThinkYoung Coding School in Gdańsk, Poland, to kick off the first coding school primarily designed for Ukrainian teenagers, but open to children of other nationalities as well. The school is one of many global Boeing community engagement initiatives. Since 2018, Boeing has invested more than 5.9 million euros for pan-European STEM projects.

"Our ThinkYoung Coding School aims to alleviate the war's impact on the educational development of young Ukrainians by growing digital and technological skills they can bring into their professional future. We are proud to have partnered with Boeing for seven years and reaffirm our joint commitment to improving the lives of young people around the world."

– **Andrea Gerosa**, *founder and CEO, ThinkYoung*



Global Services
Dallas, Texas, US



Inspiring Interns

Interns bring fresh perspectives to the work they support, making them an important part of Boeing's success. Our interns have a 71% return rate, contributing to Boeing's Top U.S. Internship of 2022 ranking from WayUp100. Boeing also expanded its partnership with the Thurgood Marshall College Fund (TMCF) to provide students at historically Black colleges and universities with scholarships, internships and immersive boot camp experiences at Boeing sites across the U.S., as well as on-campus networking engagements.

"I had a great experience at Boeing, and would love to duplicate that for other people now that I'm part of the Boeing team. There's so much room to grow and excel."

– **J'Nea Greer** *(pictured above, middle), Spelman College graduate and TMCF scholar, Boeing Human Resources Career Foundation Program*

Neurodiversity at Work

Boeing's partnerships with Specialisterne USA and Copa Health have helped make our hiring process more inclusive for neurodiverse candidates, who face challenges competing for jobs that align to their skills. The goal of the program is to find neurodivergent individuals with unique skill sets, enhance the diversity of the Boeing workforce and ultimately optimize business operations so we continue to deliver world-class products.

"My main struggle was getting past the interview phase of recruitment because of my difficulty with social skills when I'm nervous. … I already feel a part of the Boeing family."

– **Thomas Breitschwerdt**, *software engineer, V-22 Osprey and Specialisterne USA hire*



Facing Complex Challenges Head-On

Engineers and technologists at the Boeing India Engineering & Technology Center tackle high-quality, advanced aerospace work and offer their expertise to Boeing's defense, space and commercial businesses globally. Equipped with diverse skill sets and capabilities, team members deliver cutting-edge R&D in traditional and emerging areas and collaborate with global partners to enhance fleet capabilities through next-generation tools.

"I'm proud that our products and innovations contribute to global aerospace growth. The work we do enhances safety, quality, sustainability and productivity in everything we offer our customers. I'm excited to be part of the Boeing team in India."

– **Krishnapriya Palattuthodi**, *electrical design and analysis engineer, Boeing India*

A Mega Milestone

Boeing delivered the 100th contracted 737-800 Boeing Converted Freighter (BCF) to AerCap Cargo in September, following conversion at Boeing Shanghai Aviation Services, and continues to deliver the 737-800BCF from conversion lines around the globe.

"We are delighted to be part of this significant milestone with our partners at Boeing. Since launching the 737-800BCF program with Boeing in 2016, the e-commerce market has grown at a phenomenal rate with increased demand from e-commerce retail businesses. Thanks to its versatility and reliability, the 737-800BCF is becoming the workhorse for express air cargo and e-commerce networks."

– **Rich Greener**, *head of Cargo, AerCap*

Enhancing Safety Today and for the Next Generation

Approximately 2.1 million new pilots, technicians and cabin crew will be needed over the next 20 years in commercial aviation. To support this need, Boeing has been designing, developing and implementing an immersive training curriculum for pilots and maintainers centered on competency-based training and assessment.

"Competency-based training is a huge shift in how we instructors were trained and how we train our future pilots. Instead of telling pilots what to do step by step, I ask them to show me what they know. That ultimately enhances safety by increasing resilience in response to challenges."

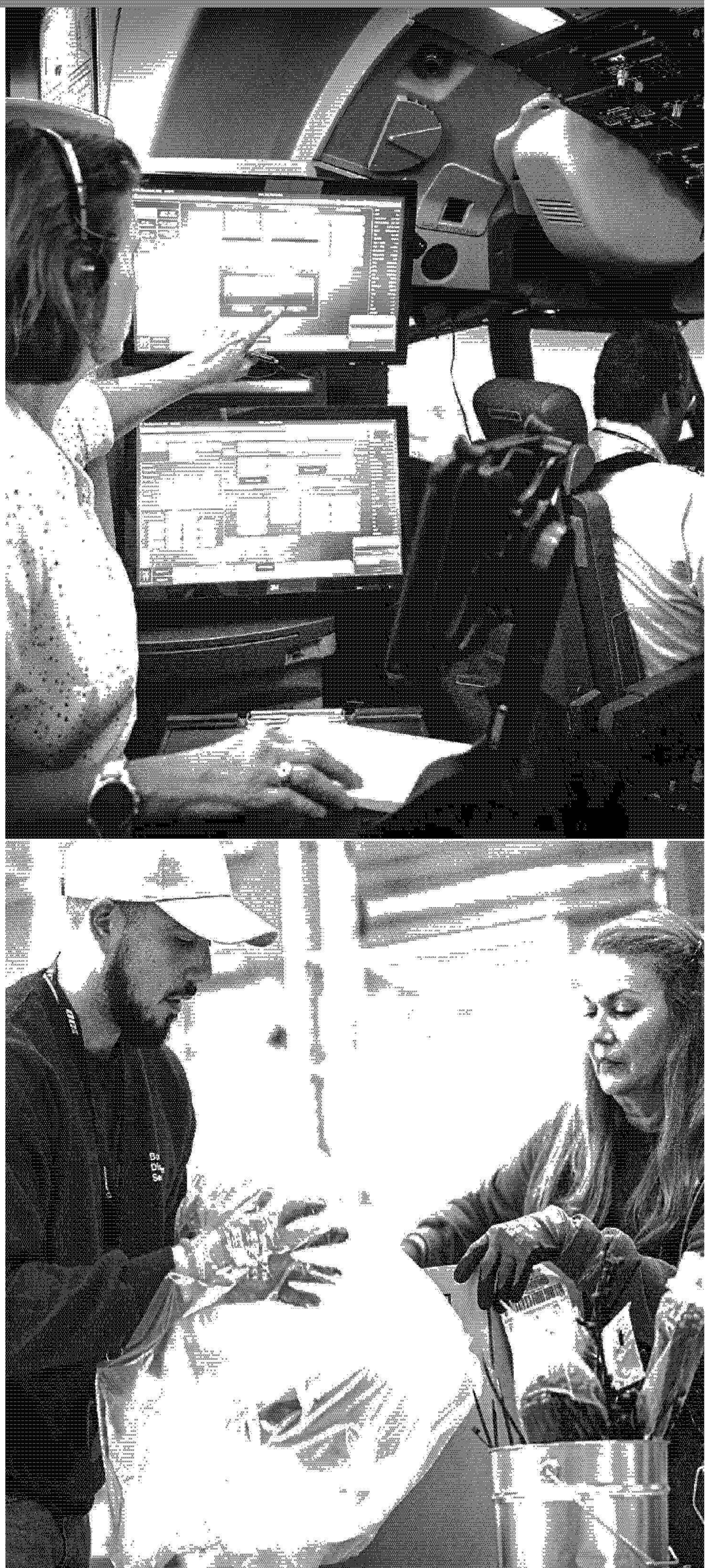
– **Ann Kieffer**, *flight training instructor and training center examiner*

German Distribution Center Helps With Growing Demand

Boeing's new 200,000-square-foot chemical warehouse near Hamburg, Germany, is a regional hub and hallmark of expanded customer service. The facility serves more than 6,000 global customers with chemicals and specialty materials, with a team of approximately 300 Boeing employees working around the clock to help operators maintain their fleets. The center also supports Boeing's commitment to sustainable aerospace operations.

"With our new site, we are in a very strong position in the market and will deliver the best services to our customers in Europe and beyond."

– **Timo Balke**, *regional director, Global Services Operations*



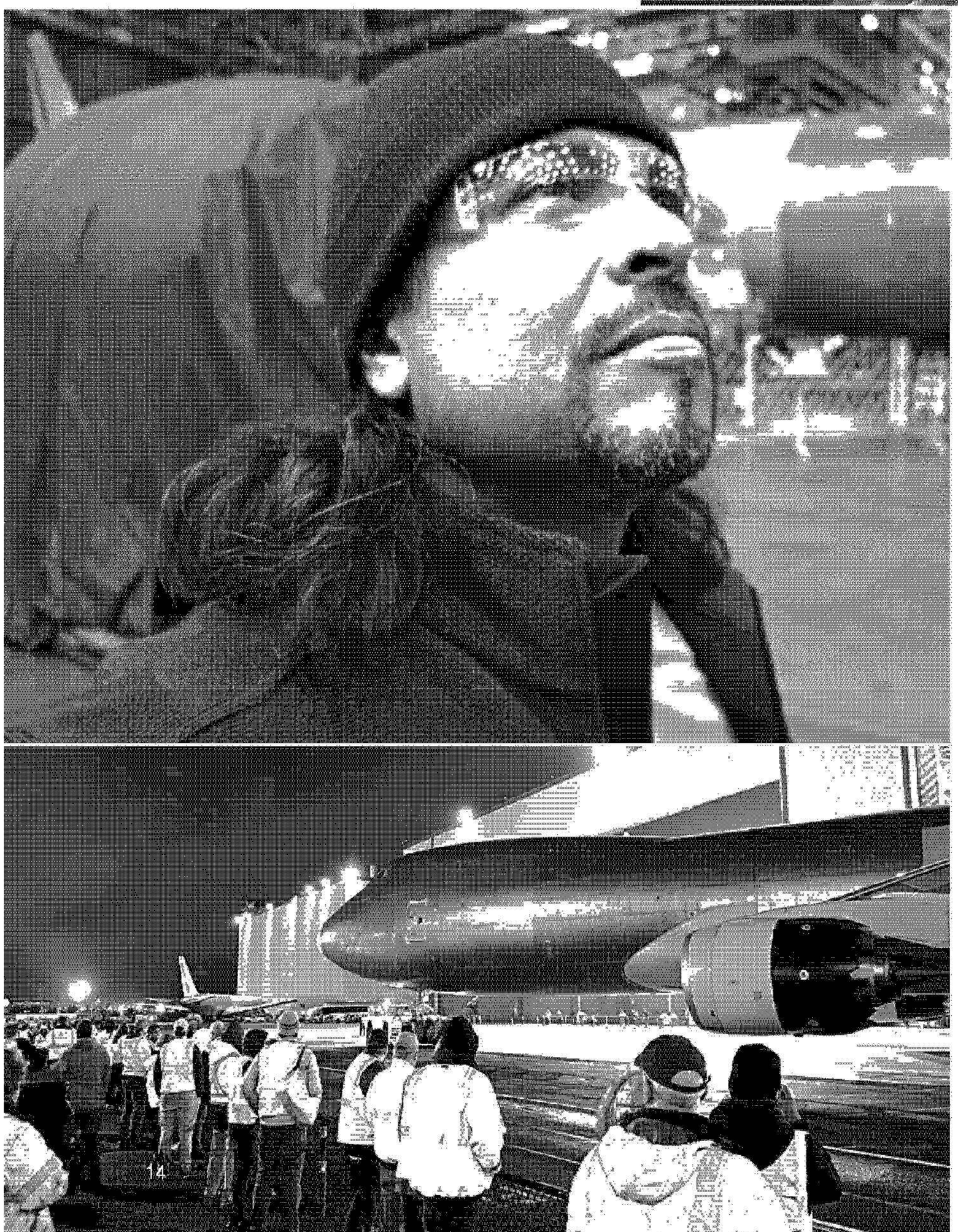
The End of an Era

More than 50 years of production of the Queen of the Skies came to an end in December, when the last 747 rolled out of Boeing's widebody factory in Everett, Washington.

The 747 has played a key role in Boeing's history of aerospace leadership. The world's first twin-aisle airplane was built in 1967, and more than 1,500 airplanes would be built over the next 54 years.

Hundreds of employees gathered outside the factory to bid farewell to the final 747-8 Freighter slated for delivery to Atlas Air.



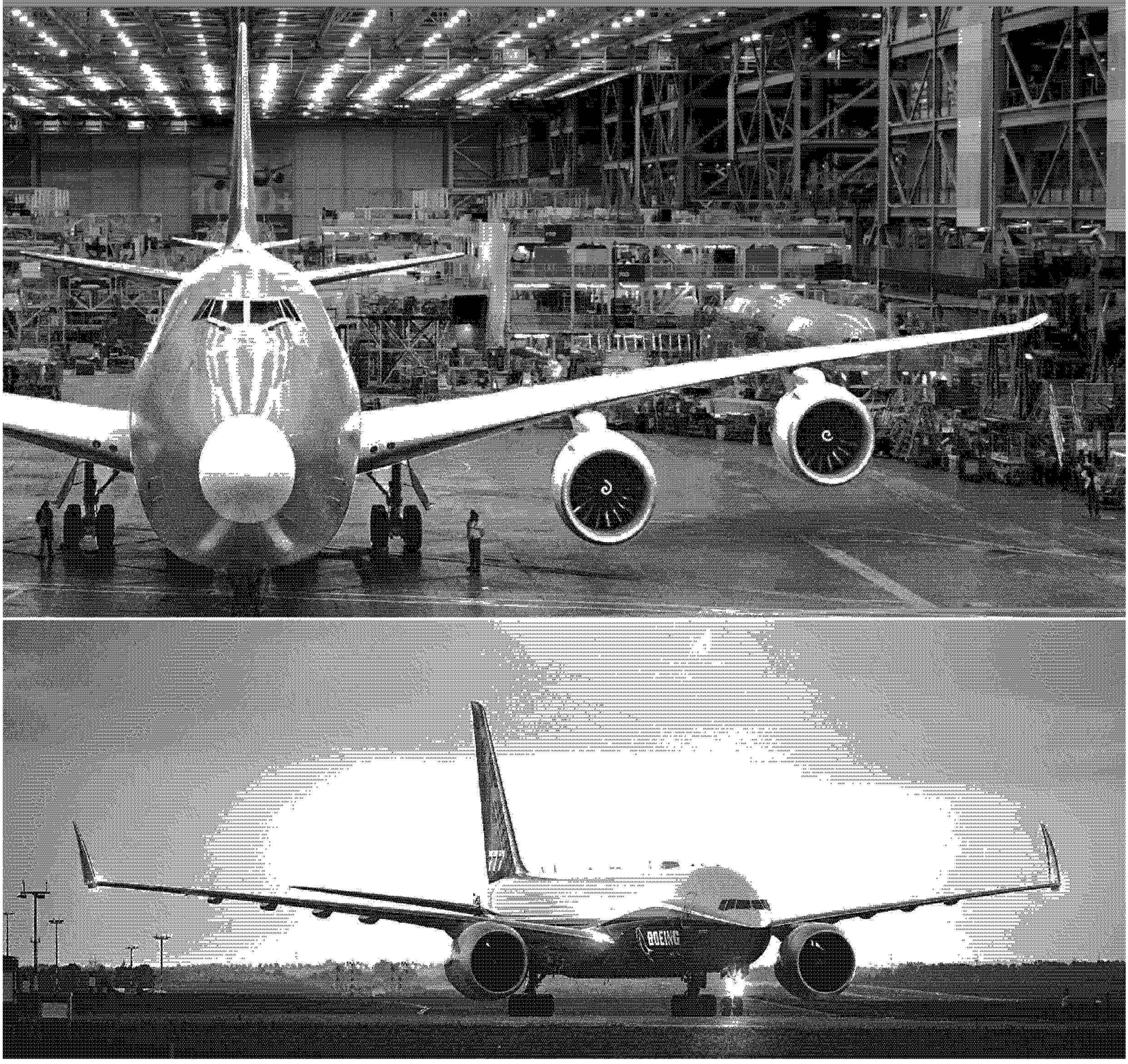


Tens of thousands of Boeing employees have worked on the airplane over the years, and many described the rollout as an emotional experience.

"Generations from now, people will look back on the 747 and marvel at what an incredible airplane it was and the significance that it held not only in aviation history, but in the history of Boeing. So many of our lives have been touched significantly by that airplane in particular, and how it's impacted and benefited our families."

– **Johnny Patchmatla**, *retired mechanic, 747 program*

Watch the final 747 rollout video.



A New Generation of Freighters

The billion-dollar e-commerce industry continues to grow post-pandemic along with a demand for more fuel-efficient freighters. Boeing's solution to the need? The 777-8 Freighter. With its advanced technology, new GE9X engines and composite wing design, the airplane offers 30% greater fuel efficiency and emission levels and 25% lower operating costs per metric tonne compared to the 747-400F it is replacing.

"Our partnership with Boeing consolidates Cargolux's position as a global leader of air freight services. Replacing our aging fleet of 747-400Fs with the latest technology and fuel-efficient 777-8F model will contribute to our long-term sustainability program while continuing to offer our customers the tailored service they expect."

– **Richard Forson**, *president and CEO, Cargolux*

Company Highlights

Our global teams continue to focus on safety and quality in every aspect of how we design, build and support our products and services. We resumed 787 deliveries and secured a historic order with United Airlines for 100 Dreamliners and 100 737 MAX airplanes. Our team delivered the 100th contracted 737-800BCF and opened a state-of-the-art distribution facility in Germany. We furthered space exploration with the successful docking of Starliner to the ISS and powered Artemis' first mission to the Moon with the SLS core stage, and we are confident in our future.

Product and Services Milestones

Boeing Commercial Airplanes

- Launched the 777-8 Freighter and won 774 net orders across our airplane family
- Showcased the 737-10 and 777-9 at the Farnborough International Airshow
- Continued progress on 737 MAX return to service*
- Resumed 787 deliveries
- Celebrated the 10-year anniversary of the ecoDemonstrator program

*+190 countries clear operations; +3 million flight hours through end of 2022

Boeing Defense, Space & Security

- Unveiled first T-7A Red Hawk
- Starliner successfully docked to International Space Station, completed flight test
- Germany selected CH-47F Chinook and Poland selected AH-64 Apache
- Advanced Composite Fabrication Center opened in Arizona
- Space Launch System core stage powered first NASA Artemis mission to Moon
- Awarded contract for U.S. Ground-based Midcourse Defense

Boeing Global Services

- Delivered 100th contracted 737-800 Boeing Converted Freighter
- Opened new state-of-the-art distribution center near Hamburg, Germany
- Boeing San Antonio inducted its first F-15 EPAWWS, with 43 aircraft scheduled for modification over the coming years
- Awarded contract to continue providing full Performance-Based Logistics support to the Italian Air Force's four KC-767A tankers through December 2025

Financial Overview

U.S. dollars in millions, except per share data	2022	2021	2020	2019	2018
Revenues	**66,608**	62,286	58,158	76,559	101,127
(Loss)/earnings from operations	**(3,547)**	(2,902)	(12,767)	(1,975)	11,987
Diluted (loss)/earnings per share	**(8.30)**	(7.15)	(20.88)	(1.12)	17.85
Operating margins	**(5.3%)**	(4.7%)	(22.0%)	(2.6%)	11.9%
Core operating (loss)/earnings*	**(4,690)**	(4,075)	(14,150)	(3,390)	10,660
Core operating margins*	**(7.0%)**	(6.5%)	(24.3%)	(4.4%)	10.5%
Core (loss)/earnings per share*	**(11.06)**	(9.44)	(23.25)	(3.47)	16.01
Operating cash flow	**3,512**	(3,416)	(18,410)	(2,446)	15,322
Contractual backlog	**381,977**	356,362	339,309	436,473	462,070
Total backlog†	**404,381**	377,499	363,404	463,403	490,481

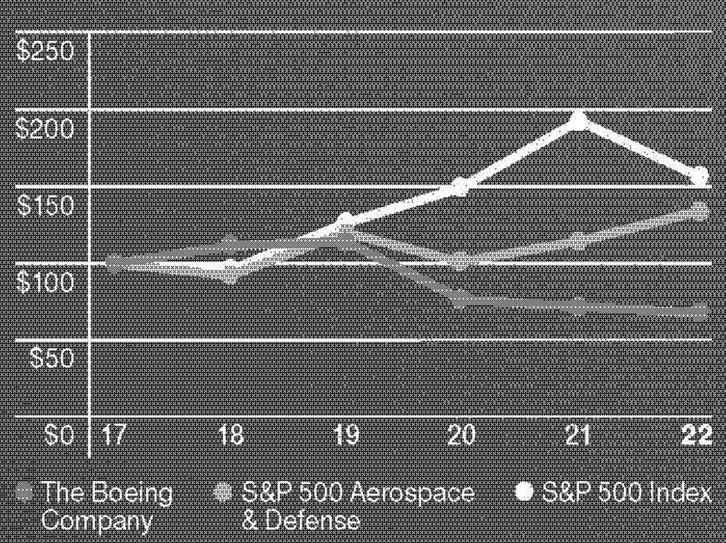
*Non-GAAP measures. See Page 135.

†Total backlog includes contractual and unobligated backlog. See Page 27 of Form 10-K.

Comparison of Cumulative* Five-year Total Shareholder Returns

Company/Index	Base Period 2017	2018	2019	2020	2021	**2022**
		Years Ending December				
Boeing	100	111.53	115.24	76.18	71.65	**67.79**
S&P 500 Aerospace & Defense	100	91.93	119.81	100.56	113.86	**133.64**
S&P 500 Index	100	95.62	125.72	148.85	191.58	**156.88**

*Cumulative return assumes $100 invested; includes reinvestment of dividends.





UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number 1-442

THE BOEING COMPANY

(Exact name of registrant as specified in its charter)

Delaware	**91-0425694**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
929 Long Bridge Drive Arlington, VA	**22202**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code (703)-414-6338

Securities registered pursuant to Section 12(b) of the Act:

Common Stock, $5.00 Par Value	BA	New York Stock Exchange
(Title of each class)	(Trading Symbol)	(Name of each exchange on which registered)

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of June 30, 2022, there were 593,451,225 common shares outstanding held by nonaffiliates of the registrant, and the aggregate market value of the common shares (based upon the closing price of these shares on the New York Stock Exchange) was approximately $81.1 billion.

The number of shares of the registrant's common stock outstanding as of January 20, 2023 was 598,239,585.

DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates information by reference to the registrant's definitive proxy statement, to be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year ended December 31, 2022.

THE BOEING COMPANY

Index to the Form 10-K

For the Fiscal Year Ended December 31, 2022

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PART I

Item 1. Business

The Boeing Company, together with its subsidiaries (herein referred to as "Boeing," the "Company," "we," "us," "our"), is one of the world's major aerospace firms.

We are organized based on the products and services we offer. We operate in four reportable segments:

- Commercial Airplanes (BCA);
- Defense, Space & Security (BDS);
- Global Services (BGS);
- Boeing Capital (BCC).

Commercial Airplanes Segment

This segment develops, produces and markets commercial jet aircraft principally to the commercial airline industry worldwide. We are a leading producer of commercial aircraft and offer a family of commercial jetliners designed to meet a broad spectrum of global passenger and cargo requirements of airlines. This family of commercial jet aircraft in production includes the 737 narrow-body model and the 767, 777 and 787 wide-body models. We ended production of the 747 wide-body model in 2022. Development continues on the 777X program and the 737-7 and 737-10 derivatives.

Defense, Space & Security Segment

This segment engages in the research, development, production and modification of manned and unmanned military aircraft and weapons systems for strike, surveillance and mobility, including fighter and trainer aircraft; vertical lift, including rotorcraft and tilt-rotor aircraft; and commercial derivative aircraft, including anti-submarine and tanker aircraft. In addition, this segment engages in the research, development, production and modification of the following products and related services: strategic defense and intelligence systems, including strategic missile and defense systems, command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR), cyber and information solutions, and intelligence systems, satellite systems, including government and commercial satellites and space exploration.

Global Services Segment

This segment provides services to our commercial and defense customers worldwide. BGS sustains aerospace platforms and systems with a full spectrum of products and services, including supply chain and logistics management, engineering, maintenance and modifications, upgrades and conversions, spare parts, pilot and maintenance training systems and services, technical and maintenance documents, and data analytics and digital services.

Boeing Capital Segment

BCC seeks to ensure that Boeing customers have the financing they need to buy and take delivery of their Boeing product, while managing overall financing exposure. BCC's portfolio consists of equipment under operating leases, sales-type/finance leases, notes and other receivables, assets held for sale or re-lease and investments.

Intellectual Property

We own numerous patents and have licenses for the use of patents owned by others, which relate to our products and their manufacture. In addition to owning a large portfolio of intellectual property, we also license intellectual property to and from third parties. For example, the U.S. government has licenses in our patents that are developed in performance of government contracts, and it may use or authorize others to use the inventions covered by such patents for government purposes. Unpatented research, development and engineering skills, as well as certain trademarks, trade secrets and other intellectual property rights, also make an important contribution to our business. While our intellectual property rights in the aggregate are important to the operation of each of our businesses, we do not believe that our business would be materially affected by the expiration of any particular intellectual property right or termination of any particular intellectual property patent license agreement.

Human Capital

As of December 31, 2022 and 2021, Boeing's total workforce was approximately 156,000 and 142,000 with 13% and 12% located outside of the U.S.

As of December 31, 2022, our workforce included approximately 50,000 union members. Our principal collective bargaining agreements and their current status are summarized in the following table:

Union	Percent of our Employees Represented	Status of the Agreements with Major Union
The International Association of Machinists and Aerospace Workers (IAM)	20%	We have two major agreements; one expiring in September 2024 and one in July 2025.
The Society of Professional Engineering Employees in Aerospace (SPEEA)	10%	We have two major agreements expiring in October 2026.
The United Automobile, Aerospace and Agricultural Implement Workers of America (UAW)	1%	We have one major agreement expiring in April 2027.

Guided by our values, we are committed to creating a company where everyone is included and respected, and where we support each other in reaching our full potential. We are committed to diverse representation across all levels of our workforce to reflect the vibrant and thriving diversity of the communities in which we live and work. In June of 2022, we released our second Global Equity, Diversity and Inclusion report with our workforce composition. As of December 2021, our U.S. workforce was comprised of approximately 23% women, 33% U.S. racial and ethnic minorities and 15% U.S. veterans. We also support Business Resource Groups open to all employees with more than 15,000 participants across 170 chapters globally that focus on gender, race & ethnicity, generations, gender identity, sexual orientation, disability or veteran status. These groups help foster inclusion among all teammates, build awareness, recruit and retain a diverse workforce and support the company in successfully operating in a global, multicultural business environment. We are committed to releasing an annual Global Equity, Diversity and Inclusion report in 2023 which will be updated with the latest year's information. Our 2022 report can be found on our website.

To attract and retain the best-qualified talent, we offer competitive benefits, including market-competitive compensation, healthcare, paid time off, parental leave, retirement benefits, tuition assistance, employee skills development, leadership development and rotation programs. In 2022, our voluntary resignation rate was approximately 4%. Additionally, we hired approximately 23,000 new employees in 2022 for critical skills and had an offer acceptance rate of 78%.

Employees are encouraged to provide feedback about their experience through ongoing employee engagement activities. Boeing actively listens to its employees via surveys ranging from pre-hire to exiting the company. These voluntary surveys provide aggregate trend reports for the company to address in real time and ensure Boeing maintains an employee-focused experience and culture. We also invest in rewarding performance and have established a multi-level recognition program for the purpose of acknowledging the achievements of excellent individual or team performance.

We are committed to supporting our employees' continuous development of professional, technical and leadership skills through access to digital learning resources and through partnerships with leading professional/technical societies and organizations around the world. For 2022, Boeing employees completed approximately 5.8 million hours of learning. We offer the ability for our people to pursue degree programs, professional certificates and individual courses in strategic fields of study from more than 300 accredited colleges and universities, online and across the globe through our tuition assistance program. Over 9,000 Boeing employees leverage these programs every year.

Safety, quality, integrity and sustainability are at the core of how Boeing operates. We aspire to achieve zero workplace injuries and provide a safe, open and accountable work environment for our employees. Employees are also required on an annual basis to sign the Boeing Code of Conduct to reaffirm their commitment to do their work in a compliant and ethical manner. We provide several channels for all employees to speak up, ask for guidance and report concerns related to ethics or safety violations. We address employee concerns and take appropriate actions that uphold our Boeing values.

Competition

The commercial jet aircraft market and the airline industry remain extremely competitive. We face aggressive international competitors who are intent on increasing their market share, such as Airbus and entrants from China. We are focused on improving our products and processes and continuing cost reduction efforts. We intend to continue to compete with other aircraft manufacturers by providing customers with airplanes and services that deliver superior design, safety, efficiency and value to customers around the world.

BDS faces strong competition primarily from Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon Technologies Corporation, General Dynamics Corporation and SpaceX. Non-U.S. companies such as BAE Systems and Airbus Group continue to build a strategic presence in the U.S. market by strengthening their North American operations and partnering with U.S. defense companies. In addition, certain competitors have occasionally formed teams with other competitors to address specific customer requirements. BDS expects the trend of strong competition to continue into 2023.

The commercial and defense services markets are extremely challenging and are made up of many of the same strong U.S. and non-U.S. competitors facing BCA and BDS along with other competitors in those markets. BGS leverages our extensive services network offering products and services which span the life cycle of our defense and commercial aircraft programs: training, fleet services and logistics, maintenance and engineering, modifications and upgrades, as well as the daily cycle of gate-to-gate operations. BGS expects the market to remain highly competitive in 2023, and intends to grow market share by leveraging a high level of customer satisfaction and productivity.

Regulatory Matters

Our businesses are heavily regulated in most of our markets. We work with numerous U.S. government agencies and entities, including but not limited to, all of the branches of the U.S. military, the National Aeronautics and Space Administration (NASA), the Federal Aviation Administration (FAA) and the Department of Homeland Security. Similar government authorities exist in our non-U.S. markets.

Government Contracts. The U.S. government, and other governments, may terminate any of our government contracts at their convenience, as well as for default based on our failure to meet specified performance requirements. If any of our U.S. government contracts were to be terminated for convenience, we generally would be entitled to receive payment for work completed and allowable termination or cancellation costs. If any of our government contracts were to be terminated for default, generally the U.S. government would pay only for the work that has been accepted and could require us to pay the difference between the original contract price and the cost to re-procure the contract items, net of the work accepted from the original contract. The U.S. government can also hold us liable for damages resulting from the default.

Commercial Aircraft. In the U.S., our commercial aircraft products are required to comply with FAA regulations governing production and quality systems, airworthiness and installation approvals, repair procedures and continuing operational safety. New aircraft models and new derivative aircraft are required to obtain FAA certification prior to entry into service. Outside the U.S., similar requirements exist for airworthiness, installation and operational approvals. These requirements are generally administered by the national aviation authorities of each country and, in the case of Europe, coordinated by the European Union Aviation Safety Agency.

Environmental. We are subject to various federal, state, local and non-U.S. laws and regulations relating to environmental protection, including the discharge, treatment, storage, disposal and remediation of hazardous substances and wastes. We could also be affected by laws and regulations relating to climate change, including laws limiting or otherwise related to greenhouse gas emissions. These laws and regulations could lead to increased environmental compliance expenditures, increased energy and raw materials costs and new and/or additional investment in designs and technologies. We continually assess our compliance status and management of environmental matters to ensure our operations are in compliance with all applicable environmental laws and regulations. Investigation, remediation and operation and maintenance costs associated with environmental compliance and management of sites are a normal, recurring part of our operations. These costs often are allowable costs under our contracts with the U.S. government. It is reasonably possible that costs incurred to ensure continued environmental compliance could have a material impact on our results of operations, financial condition or cash flows if additional work requirements or more stringent clean-up standards are imposed by regulators, new areas of soil, air and groundwater contamination are discovered and/or expansions of work scope are prompted by the results of investigations.

For additional information relating to environmental contingencies, see Note 13 to our Consolidated Financial Statements.

Non-U.S. Sales. Our non-U.S. sales are subject to both U.S. and non-U.S. governmental regulations and procurement policies and practices, including regulations relating to import-export control, tariffs, investment, exchange controls, anti-corruption and repatriation of earnings. Non-U.S. sales are also subject to varying currency, political and economic risks.

Raw Materials, Parts and Subassemblies

We are highly dependent on the availability of essential materials, parts and subassemblies from our suppliers and subcontractors. The most important raw materials required for our aerospace products

are aluminum (sheet, plate, forgings and extrusions), titanium (sheet, plate, forgings and extrusions) and composites (including carbon and boron). Although alternative sources generally exist for these raw materials, qualification of the sources could take a year or more. During 2022, as a result of the Russia Ukraine war, we suspended purchasing titanium from Russia. This has not disrupted our operations as we have been able to use inventory on hand and identify alternative sources. Many major components and product equipment items are procured or subcontracted on a sole-source basis. We continue to work with a small number of sole-source suppliers to ensure continuity of supply for certain items.

Suppliers

We are dependent upon the ability of a large number of U.S. and non-U.S. suppliers and subcontractors to meet performance specifications, quality standards and delivery schedules at our anticipated costs. While we maintain an extensive qualification and performance surveillance system to control risk associated with such reliance on third parties, failure of suppliers or subcontractors to meet commitments could adversely affect production schedules and program/contract profitability, thereby jeopardizing our ability to fulfill commitments to our customers. We are also dependent on the availability of energy sources, such as electricity, at affordable prices.

Seasonality

No material portion of our business is considered to be seasonal.

Executive Officers of the Registrant

See “Item 10. Directors, Executive Officers and Corporate Governance” in Part III.

Other Information

Boeing was originally incorporated in the State of Washington in 1916 and reincorporated in Delaware in 1934. Our principal executive offices are located at 929 Long Bridge Drive, Arlington, Virginia 22202, and our telephone number is (703) 465-3500.

General information about us can be found at www.boeing.com. The information contained on or connected to our website is not incorporated by reference into this Annual Report on Form 10-K and should not be considered part of this or any other report filed with the Securities and Exchange Commission (SEC). Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments to those reports, are available free of charge through our website as soon as reasonably practicable after we file them with, or furnish them to, the SEC. The SEC maintains a website at www.sec.gov that contains reports, proxy statements and other information regarding SEC registrants, including Boeing.

Forward-Looking Statements

This report, as well as our annual report to shareholders, quarterly reports and other filings we make with the SEC, press and earnings releases and other written and oral communications, contain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “may,” “should,” “expects,” “intends,” “projects,” “plans,” “believes,” “estimates,” “targets,” “anticipates” and similar expressions generally identify these forward-looking statements. Examples of forward-looking statements include statements relating to our future financial condition and operating results, as well as any other statement that does not directly relate to any historical or current fact.

Forward-looking statements are based on expectations and assumptions that we believe to be reasonable when made, but that may not prove to be accurate. These statements are not guarantees and are subject to risks, uncertainties and changes in circumstances that are difficult to predict. Many factors, including those set forth in the "Risk Factors" section below and other important factors disclosed in this report and from time to time in our other filings with the SEC, could cause actual results to differ materially and adversely from these forward-looking statements. Any forward-looking statement speaks only as of the date on which it is made, and we assume no obligation to update or revise any forward-looking statement whether as a result of new information, future events or otherwise, except as required by law.

Item 1A. Risk Factors

An investment in our common stock or debt securities involves risks and uncertainties and our actual results and future trends may differ materially from our past or projected future performance. We urge investors to consider carefully the risk factors described below in evaluating the information contained in this report.

Risks Related to Our Business and Operations

We depend heavily on commercial airlines, subjecting us to unique risks.

Market conditions have a significant impact on demand for our commercial aircraft and related services. The commercial aircraft market is predominantly driven by long-term trends in airline passenger and cargo traffic. The principal factors underlying long-term traffic growth are sustained economic growth and political stability both in developed and emerging markets. Demand for our commercial aircraft is further influenced by airline profitability, availability of aircraft financing, world trade policies, government-to-government relations, technological advances, price and other competitive factors, fuel prices, terrorism, pandemics, epidemics and environmental regulations. Historically, the airline industry has been cyclical and very competitive and has experienced significant profit swings and constant challenges to be more cost competitive. Significant deterioration in the global economic environment, the airline industry generally or the financial stability of one or more of our major customers could result in fewer new orders for aircraft or services, or could cause customers to seek to postpone or cancel contractual orders and/or payments to us, which could result in lower revenues, profitability and cash flows and a reduction in our contractual backlog. In addition, because our commercial aircraft backlog consists of aircraft scheduled for delivery over a period of several years, any of these macroeconomic, industry or customer impacts could unexpectedly affect deliveries over a long period.

We enter into firm fixed-price aircraft sales contracts with indexed price escalation clauses, which could subject us to losses if we have cost overruns or if increases in our costs exceed the applicable escalation rate. Commercial aircraft sales contracts are often entered into years before the aircraft are delivered. In order to help account for economic fluctuations between the contract date and delivery date, aircraft pricing generally consists of a fixed amount as modified by price escalation formulas derived from labor, commodity and other price indices. Our revenue estimates are based on current expectations with respect to these escalation formulas, but the actual escalation amounts are outside of our control. Escalation factors can fluctuate significantly from period to period. Changes in escalation amounts can significantly impact revenues and operating margins in our Commercial Airplanes business.

We derive a significant portion of our revenues from a limited number of commercial airlines. We can make no assurance that any customer will exercise purchase options, fulfill existing purchase commitments or purchase additional products or services from us. In addition, fleet decisions, airline consolidations or financial challenges involving any of our major commercial airline customers could significantly reduce our revenues and limit our opportunity to generate profits from those customers.

Airlines also are experiencing increased fuel and other costs, and the global economy is experiencing high inflation.

Our Commercial Airplanes business depends on our ability to maintain a healthy production system, ensure every airplane in our production system conforms to our exacting specifications, achieve planned production rate targets, successfully develop and certify new aircraft or new derivative aircraft, and meet or exceed stringent performance and reliability standards.

The commercial aircraft business is extremely complex, involving extensive coordination and integration with U.S and non-U.S. suppliers, highly-skilled labor performed by thousands of employees of ours and other partners, and stringent and evolving regulatory requirements and performance and reliability standards. The FAA has been working to implement safety reforms such as the 2018 FAA Reauthorization Act and the 2020 Aircraft Certification, Safety and Accountability Act (ACSAA). One of these, section 116 of the ACSAA prohibited the FAA from issuing a type certificate to aircraft after December 27, 2022 unless the aircraft's flight crew alerting system met certain specifications. The Consolidated Appropriations Act, 2023 amended Section 116 of the ACSAA, such that applications for original or amended type certifications that were submitted to the FAA prior to December 27, 2020, including those of the 737-7 and 737-10, are no longer subject to the crew alerting specifications of Section 116. Additionally, beginning one year after the FAA issues the type certificate for the 737-10, any new 737 MAX aircraft must include certain safety enhancements to be issued an original airworthiness certification by the FAA. These enhancements are included in Boeing's application for the certification for the 737-10, and the sufficiency of these enhancements will be determined by the FAA. Beginning three years after the issuance of a type certificate for the 737-10, all previously delivered 737 MAX aircraft must be retrofitted with these safety enhancements. As the holder of the type certificate, Boeing is required to bear any costs of these safety enhancement retrofits. We have provisioned for the estimated costs associated with the safety enhancements and do not expect those costs to be material. If we experience delays in achieving certification and/or incorporating safety enhancements, future revenues, cash flows and results of operations could be adversely impacted. Comparable agencies in other countries may adopt similar changes. To the extent the FAA or similar regulatory agencies outside the U.S. implement more stringent regulations, we may incur additional compliance costs. In addition, the introduction of new aircraft programs and/or derivatives, such as the 777X, 737-7 and 737-10, involves increased risks associated with meeting development, testing, certification and production schedules.

In addition, we have experienced production quality issues, including in our supply chain, which have contributed to lower 787 deliveries, including a suspension of 787 deliveries from May 2021 to August 2022. We continue to conduct inspections and rework on built and stored 787 aircraft. A number of our customers have contractual remedies, including compensation for late deliveries or rights to reject individual airplane deliveries based on delivery delays. Delays on the 737, 777X and 787 programs have resulted in, and may continue to result in, customers having the right to terminate orders, be compensated for late deliveries and/or substitute orders for other Boeing aircraft.

We must minimize disruption caused by production changes, achieve operational stability and implement productivity improvements in order to meet customer demand and maintain our profitability. We have previously announced plans to adjust production rates on several of our commercial aircraft programs. The 787 program is currently producing at low rates and we expect to gradually increase to 5 per month in 2023. Production of the 777X is currently paused and is expected to resume in 2023. The 737 program has experienced operational and supply chain challenges stabilizing production at 31 per month. We plan to gradually increase 737 production rates based on market demand and supply chain capacity. In addition, we continue to seek opportunities to reduce the costs of building our aircraft, including working with our suppliers to reduce supplier costs, identifying and implementing productivity improvements and optimizing how we manage inventory. If production rate changes at any of our

commercial aircraft assembly facilities are delayed or create significant disruption to our production system, or if our suppliers cannot timely deliver components to us at the cost and rates necessary to achieve our targets, we may be unable to meet delivery schedules and/or the financial performance of one or more of our programs may suffer.

Operational challenges impacting the production system for one or more of our commercial aircraft programs could result in additional production delays and/or failure to meet customer demand for new aircraft, either of which would negatively impact our revenues and operating margins. Our commercial aircraft production system is extremely complex. Operational issues, including delays or defects in supplier components, failure to meet internal performance plans, or delays or failures to achieve required regulatory approval, could result in additional out-of-sequence work and increased production costs, as well as delayed deliveries to customers, impacts to aircraft performance and/or increased warranty or fleet support costs. We and our suppliers are experiencing supply chain disruptions as a result of the lingering impacts of COVID-19, global supply chain constraints, and labor instability. We and our suppliers are also experiencing inflationary pressures. We continue to monitor the health and stability of the supply chain as we ramp up production. These factors have reduced overall productivity and adversely impacted our financial position, results of operations and cash flows.

If our commercial aircraft fail to satisfy performance and reliability requirements and/or potentially required sustainability standards, we could face additional costs and/or lower revenues. Developing and manufacturing commercial aircraft that meet or exceed our performance and reliability standards and/or potentially required sustainability standards, as well as those of customers and regulatory agencies, can be costly and technologically challenging. These challenges are particularly significant with newer aircraft programs. Any failure of any Boeing aircraft to satisfy performance or reliability requirements could result in disruption to our operations, higher costs and/or lower revenues.

Changes in levels of U.S. government defense spending or acquisition priorities could negatively impact our financial position and results of operations.

We derive a substantial portion of our revenue from the U.S. government, primarily from defense related programs with the United States Department of Defense (U.S. DoD). Levels of U.S. defense spending are very difficult to predict and may be impacted by numerous factors such as the evolving nature of the national security threat environment, U.S. national security strategy, U.S. foreign policy, the domestic political environment, macroeconomic conditions and the ability of the U.S. government to enact relevant legislation such as authorization and appropriations bills.

The timeliness of FY24 and future appropriations for government departments and agencies remains a recurrent risk. A lapse in appropriations for government departments or agencies would result in a full or partial government shutdown, which could impact the Company's operations. Alternatively, Congress may fund government departments and agencies with one or more Continuing Resolutions; however, this would restrict the execution of certain program activities and delay new programs or competitions. In addition, long-term uncertainty remains with respect to overall levels of defense spending in FY24 and beyond. U.S. government discretionary spending, including defense spending, is likely to continue to be subject to pressure.

There continues to be uncertainty with respect to future acquisition priorities and program-level appropriations for the U.S. DoD and other government agencies (including NASA), including changes to national security and defense priorities, and tension between modernization investments, sustainment investments, and investments in new technologies or emergent capabilities. Future investment priority changes or budget cuts, including changes associated with the authorizations and appropriations process, could result in reductions, cancellations, and/or delays of existing contracts or programs, or future program opportunities. Any of these impacts could have a material effect on the results of the Company's financial position, results of operations and/or cash flows.

In addition, as a result of the significant ongoing uncertainty with respect to both U.S. defense spending and the evolving nature of the national security threat environment, we also expect the U.S. DoD to continue to emphasize affordability, innovation, cybersecurity and delivery of technical data and software in its procurement processes, including the implementation of cybersecurity compliance requirements on the Defense Industrial Base, for which the supply chain may not be fully prepared. We and our suppliers will need to continue to adjust successfully to these changing acquisition priorities and policies or our revenues and market share could be impacted.

Our ability to deliver products and services that satisfy customer requirements is heavily dependent on the performance and financial stability of our subcontractors and suppliers, as well as on the availability of highly skilled labor, raw materials and other components.

We rely on other companies, including U.S. and non-U.S. subcontractors and suppliers, to provide and produce raw materials, integrated components and sub-assemblies, and production commodities and to perform some of the services that we provide to our customers. Many of our suppliers are experiencing inflationary pressures, as well as disruptions due to the lingering impacts of COVID-19, global supply chain constraints, and labor instability. If one or more of our suppliers or subcontractors continue to experience financial difficulties, delivery delays or other performance problems, we may be unable to meet commitments to our customers and our financial position, results of operations and cash flows may continue to be adversely impacted. In addition, if one or more of the raw materials on which we depend (such as aluminum, titanium or composites) becomes unavailable to us or our suppliers, or is available only at very high prices, we may be unable to deliver one or more of our products in a timely fashion or at budgeted costs. For example, we suspended purchasing titanium from Russia during 2022 as a result of the Russia Ukraine war. We believe we have sufficient material and parts to avoid production disruptions in the near-term, but future impacts to our production from disruptions in our supply chain are possible. In some instances, we depend upon a single source of supply. Any service disruption from one of these suppliers, either due to circumstances beyond the supplier's control, such as geopolitical developments, or as a result of performance problems or financial difficulties, could have a material adverse effect on our ability to meet commitments to our customers or increase our operating costs.

Competition within our markets and with respect to the products we sell may reduce our future contracts and sales.

The markets in which we operate are highly competitive and one or more of our competitors may have more extensive or more specialized engineering, manufacturing and marketing capabilities than we do in some areas. In our BCA business, we face aggressive international competition intent on increasing market share. In our BDS business, we anticipate that the effects of defense industry consolidation, shifting acquisition and budget priorities, and continued cost pressure at our U.S. DoD and non-U.S. customers will intensify competition for many of our BDS products. Our BGS segment faces competition from many of the same strong U.S. and non-U.S. competitors facing BCA and BDS. Furthermore, we are facing increased international competition and cross-border consolidation of competition, and U.S. procurement and compliance requirements that could limit our ability to be cost-competitive in the international market. There can be no assurance that we will be able to compete successfully against our current or future competitors or that the competitive pressures we face will not result in reduced revenues and market share.

We derive a significant portion of our revenues from non-U.S. sales and are subject to the risks of doing business in other countries.

In 2022, non-U.S. customers, which includes foreign military sales (FMS), accounted for approximately 41% of our revenues. We expect that non-U.S. sales will continue to account for a significant portion of our revenues for the foreseeable future. As a result, we are subject to risks of doing business internationally, including:

- changes in regulatory requirements or other executive branch actions, such as Executive Orders;
- changes in the global trade environment, including disputes with authorities in non-U.S. jurisdictions, including international trade authorities, that could impact sales and/or delivery of products and services outside the U.S. and/or impose costs on our customers in the form of tariffs, duties or penalties attributable to the importation of Boeing products and services;
- changes to U.S. and non-U.S. government policies, including sourcing restrictions, requirements to expend a portion of program funds locally and governmental industrial cooperation or participation requirements;
- fluctuations in international currency exchange rates;
- volatility in international political and economic environments and changes in non-U.S. national priorities and budgets, which can lead to delays or fluctuations in orders;
- the complexity and necessity of using non-U.S. representatives and consultants;
- the uncertainty of the ability of non-U.S. customers to finance purchases, including the availability of financing from the Export-Import Bank of the United States;
- uncertainties and restrictions concerning the availability of funding credit or guarantees;
- imposition of domestic and international taxes, export controls, tariffs, embargoes, sanctions (such as those imposed on Russia) and other trade restrictions;
- the difficulty of management and operation of an enterprise spread over many countries;
- compliance with a variety of non-U.S. laws, as well as U.S. laws affecting the activities of U.S. companies abroad; and
- unforeseen developments and conditions, including terrorism, war, epidemics and international tensions and conflicts.

While the impact of these factors is difficult to predict, any one or more of these factors could adversely affect our operations in the future. For example, since 2018, the U.S. and China have imposed tariffs on each other's imports. Certain aircraft parts and components that Boeing procures are subject to these tariffs. We are mitigating import costs through Duty Drawback Customs procedures. Overall, the U.S.-China trade relationship remains stalled as economic and national security concerns continue to be a challenge. China is a significant market for commercial aircraft. Boeing has long-standing relationships with our Chinese customers, who represent a key component of our commercial aircraft backlog. For the 737 MAX, there is uncertainty regarding timing of resumption of deliveries in China which is still subject to final regulatory approvals. If we are unable to obtain additional orders from China in the future, our market share could be adversely affected. Furthermore, following Russia's invasion of Ukraine, we suspended our operations in Russia due to sanctions and export controls, and the war has negatively impacted, and could continue to adversely impact, our business and financial results. Impacts from future potential deterioration in trade relations between the U.S. and one or more other countries, could have a material adverse impact on our financial position, results of operations and/or cash flows.

We use estimates and make assumptions in accounting for contracts and programs. Changes in our estimates and/or assumptions could adversely affect our future financial results.

Contract and program accounting require judgment relative to assessing risks, estimating revenues and costs and making assumptions for schedule and technical issues. Due to the size and nature of many of our contracts and programs, the estimation of total revenues and cost at completion is complicated and subject to many variables. Assumptions have to be made regarding the length of time to complete the contract or program because costs also include expected increases in wages and employee benefits, material prices and allocated fixed costs. Incentives or penalties related to performance on contracts are considered in estimating sales and profit rates and are recorded when there is sufficient information for us to assess anticipated performance. Customer and supplier claims and assertions are also assessed and considered in estimating revenues, costs and profit rates. Estimates of future award fees are also included in revenues and profit rates.

With respect to each of our commercial aircraft programs, inventoriable production costs (including overhead), program tooling and other non-recurring costs and routine warranty costs are accumulated and charged as cost of sales by program instead of by individual units or contracts. A program consists of the estimated number of units (accounting quantity) of a product to be produced in a continuing, long-term production effort for delivery under existing and anticipated contracts limited by the ability to make reasonably dependable estimates. To establish the relationship of sales to cost of sales, program accounting requires estimates of (a) the number of units to be produced and sold in a program, (b) the period over which the units can reasonably be expected to be produced and (c) the units' expected sales prices, production costs, program tooling and other non-recurring costs, and routine warranty costs for the total program. Several factors determine accounting quantity, including firm orders, letters of intent from prospective customers and market studies. Changes to customer or model mix, production costs and rates, learning curve, changes to price escalation indices, costs of derivative aircraft, supplier performance, customer and supplier negotiations/settlements, supplier claims and/or certification issues can impact these estimates. In addition, on development programs such as the 777X, 737-7 and 737-10 we are subject to risks with respect to the timing and conditions of aircraft certification, including potential gaps between when aircraft are certified in various jurisdictions, changes in certification processes and our estimates with respect to timing of future certifications, which could have an impact on overall program status. Any such change in estimates relating to program accounting may adversely affect future financial performance.

Because of the significance of the judgments and estimation processes described above, materially different revenues and profit amounts could be recorded if we used different assumptions, revised our estimates, or if the underlying circumstances were to change. Changes in underlying assumptions, circumstances or estimates may adversely affect future period financial performance. For additional information on our accounting policies for recognizing sales and profits, see our discussion under "Management's Discussion and Analysis – Critical Accounting Policies & Estimates – Accounting for Long-term Contracts/Program Accounting" on pages 48 - 49 and Note 1 to our Consolidated Financial Statements on pages 59 - 69 of this Form 10-K.

We may not realize the anticipated benefits of mergers, acquisitions, joint ventures/strategic alliances or divestitures.

As part of our business strategy, we may merge with or acquire businesses and/or form joint ventures and strategic alliances. Whether we realize the anticipated benefits from these acquisitions and related activities depends, in part, upon our ability to integrate the operations of the acquired business, the performance of the underlying product and service portfolio, and the performance of the management team and other personnel of the acquired operations. Accordingly, our financial results could be adversely affected by unanticipated performance issues, legacy liabilities, transaction-related charges, amortization of expenses related to intangibles, charges for impairment of long-term assets, credit

guarantees, partner performance and indemnifications. Consolidations of joint ventures could also impact our reported results of operations or financial position. While we believe that we have established appropriate and adequate procedures and processes to mitigate these risks, there is no assurance that these transactions will be successful. We also may make strategic divestitures from time to time. These transactions may result in continued financial involvement in the divested businesses, such as through guarantees or other financial arrangements, following the transaction. Nonperformance by those divested businesses could affect our future financial results through additional payment obligations, higher costs or asset write-downs.

Risks Related to Our Contracts

We conduct a significant portion of our business pursuant to U.S. government contracts, which are subject to unique risks.

In 2022, 40% of our revenues were earned pursuant to U.S. government contracts, which include FMS through the U.S. government. Business conducted pursuant to such contracts is subject to extensive procurement regulations and other unique risks.

Our sales to the U.S. government are subject to extensive procurement regulations, and changes to those regulations could increase our costs. New procurement regulations or climate or cyber-related contractual disclosures, or changes to existing requirements, could increase our compliance costs or otherwise have a material impact on the operating margins of our BDS and BGS businesses. These requirements may also result in withheld payments and/or reduced future business if we fail to comply. For example, proposals to raise domestic content thresholds for our U.S. government contracts could have negative impacts on our business. Compliance costs attributable to current and potential future procurement regulations such as these could negatively impact our financial position, results of operations and/or cash flows.

The U.S. government may modify, curtail or terminate one or more of our contracts. The U.S. government contracting party may modify, curtail or terminate its contracts and subcontracts with us, without prior notice and either at its convenience or for default based on performance. In addition, funding pursuant to our U.S. government contracts may be reduced or withheld as part of the U.S. Congressional appropriations process due to fiscal constraints, changes in U.S. national security strategy and/or priorities or other reasons. Further uncertainty with respect to ongoing programs could also result in the event that the U.S. government finances its operations through temporary funding measures such as "continuing resolutions" rather than full-year appropriations. Any loss or anticipated loss or reduction of expected funding and/or modification, curtailment or termination of one or more large programs could have a material adverse effect on our financial position, results of operations and/or cash flows.

We are subject to U.S. government inquiries and investigations, including periodic audits of costs that we determine are reimbursable under U.S. government contracts. U.S. government agencies, including the Defense Contract Audit Agency and the Defense Contract Management Agency, routinely audit government contractors. These agencies review our performance under contracts, cost structure and compliance with applicable laws, regulations and standards, as well as the adequacy of and our compliance with our internal control systems and policies. Any costs found to be misclassified or inaccurately allocated to a specific contract will be deemed non-reimbursable, and to the extent already reimbursed, must be refunded. Any inadequacies in our systems and policies could result in withholds on billed receivables, penalties and reduced future business. Furthermore, if any audit, inquiry or investigation uncovers improper or illegal activities, we could be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or debarment from doing business with the U.S. government. We also

could suffer reputational harm if allegations of impropriety were made against us, even if such allegations are later determined to be false.

We enter into fixed-price contracts which could subject us to losses if we have cost overruns.

Our BDS and BGS defense businesses generated approximately 60% and 69% of their 2022 revenues from fixed-price contracts. While fixed-price contracts enable us to benefit from performance improvements, cost reductions and efficiencies, they also subject us to the risk of reduced margins or incurring losses if we are unable to achieve estimated costs and revenues. If our estimated costs exceed our estimated price, we recognize reach-forward losses which can significantly affect our reported results. For example, during the year ended December 31, 2022, BDS recorded additional losses on several fixed price development programs. We continue to experience near-term production disruptions and inefficiencies due to supplier disruption, labor instability and factory performance. These factors have contributed to significant earnings charges on a number of fixed-price development programs which are expected to adversely affect cash flows in future periods, and may result in future earnings charges and adverse cash flow effects. New programs could also have risk for reach-forward loss upon contract award and during the period of contract performance. The long term nature of many of our contracts makes the process of estimating costs and revenues on fixed-price contracts inherently risky. Fixed-price contracts often contain price incentives and penalties tied to performance, which can be difficult to estimate and have significant impacts on margins. In addition, some of our contracts have specific provisions relating to cost, schedule and performance.

Estimating costs to complete fixed-price development contracts is generally subject to more uncertainty than fixed-price production contracts. Many of these development programs have highly complex designs. In addition, technical or quality issues that arise during development could lead to schedule delays and higher costs to complete, which could result in a material charge or otherwise adversely affect our financial condition. Examples of significant BDS fixed-price development contracts include Commercial Crew, KC-46A Tanker, MQ-25, T-7A Red Hawk, VC-25B Presidential Aircraft, and commercial and military satellites.

We enter into cost-type contracts, which also carry risks.

Our BDS and BGS defense businesses generated approximately 40% and 31% of their 2022 revenues from cost-type contracting arrangements. Some of these are development programs that have complex design and technical challenges. These cost-type programs typically have award or incentive fees that are subject to uncertainty and may be earned over extended periods. In these cases the associated financial risks are primarily in reduced fees, lower profit rates or program cancellation if cost, schedule or technical performance issues arise. Programs whose contracts are primarily cost-type include Ground-based Midcourse Defense, Proprietary and Space Launch System programs.

We enter into contracts that include in-orbit incentive payments that subject us to risks.

Contracts in the commercial satellite industry and certain government satellite contracts include in-orbit incentive payments. These in-orbit payments may be paid over time after final satellite acceptance or paid in full prior to final satellite acceptance. In both cases, the in-orbit incentive payment is at risk if the satellite does not perform to specifications for up to 15 years after acceptance. The net present value of in-orbit incentive fees we ultimately expect to realize is recognized as revenue in the construction period. If the satellite fails to meet contractual performance criteria, customers will not be obligated to continue making in-orbit payments and/or we may be required to provide refunds to the customer and incur significant charges.

Risks Related to Cybersecurity and Business Disruptions

Unauthorized access to our, our customers' and/or our suppliers' information and systems could negatively impact our business.

We rely extensively on information technology systems and networks to operate our company and meet our business objectives. As cyber threats increase in volume and sophistication, the risk to the security of these systems and networks – and to the confidentiality, integrity, and availability of the data they house – continues to evolve, requiring constant vigilance and concerted, company-wide risk management efforts.

A cyberattack or security breach, whether experienced directly or through our supply chain, could, among other serious consequences, result in loss of intellectual property; unauthorized access to various categories of sensitive, proprietary or customer data; disruption or degradation of business operations, or compromise of products or services. To address these risks, we maintain an extensive network of technical security controls, policy enforcement mechanisms, monitoring systems and management oversight. We also have established a Cybersecurity Governance Council to strengthen governance and coordination of cybersecurity activities. While these measures are designed to prevent, detect and respond to unauthorized activity, there is no guarantee that they will be sufficient to prevent or mitigate the risk of a cyberattack or the potentially serious reputational, operational, or financial impacts that may result. In November 2022, we discovered a cybersecurity incident that impacted certain systems of Jeppesen, a wholly owned Boeing subsidiary that provides flight planning and navigation services. We determined that the incident posed no risk to flight safety. We promptly notified law enforcement, regulatory authorities and customers, launched an investigation, and took additional steps to protect the integrity of our systems. While this incident has not had a material impact on us, future incidents like this one could have material impact on our business, operations, and reputation.

In addition, we manage information and information technology systems for certain customers and/or suppliers. Many of these customers and/or suppliers face similar security threats. If we were unable to protect against the unauthorized access, release and/or corruption of our customers' and/or suppliers' confidential, classified or personally identifiable information, our reputation could be damaged, and/or we could face financial or other losses.

Business disruptions could seriously affect our future sales and financial condition or increase our costs and expenses.

Our business may be impacted by disruptions including threats to physical security or our information technology systems, extreme weather (including effects of climate change) or other acts of nature, and pandemics or other public health crises. Any of these disruptions could affect our internal operations or our suppliers' operations and delay delivery of products and services to our customers. Any significant production delays, or any destruction, manipulation or improper use of Boeing's or our suppliers' data, information systems or networks could impact our sales, increase our expenses and/or have an adverse effect on the reputation of Boeing and of our products and services.

Risks Related to Legal and Regulatory Matters

The outcome of litigation and of government inquiries and investigations involving our business is unpredictable and an adverse decision in any such matter could have a material effect on our financial position and results of operations.

We are involved in a number of litigation matters. These matters may divert financial and management resources that would otherwise be used to benefit our operations. No assurances can be given that the results of these matters will be favorable to us. An adverse resolution of any of these lawsuits, or future lawsuits, could have a material impact on our financial position and results of operations. In addition, we

are subject to extensive regulation under the laws of the United States and its various states, as well as other jurisdictions in which we operate. As a result, we are sometimes subject to government inquiries and investigations due, among other things, to our business relationships with the U.S. government, the heavily regulated nature of our industry, and in the case of environmental proceedings, our current or past ownership of certain property. Any such inquiry or investigation could result in an adverse ruling against us, which could have a material impact on our financial position, results of operations and/or cash flows.

Our operations expose us to the risk of material environmental liabilities.

We are subject to various U.S. federal, state, local and non-U.S. laws and regulations related to environmental protection, including the discharge, treatment, storage, disposal and remediation of hazardous substances and wastes. We could incur substantial costs, including cleanup costs, fines and civil or criminal sanctions, as well as third-party claims for property damage or personal injury, if we were to violate or become liable under environmental laws or regulations. In some cases, we are subject to such costs due to environmental impacts attributable to our current or past manufacturing operations or the operations of companies we have acquired. In other cases, we are subject to such costs due to an indemnification agreement between us and a third party relating to such environmental liabilities. In all cases, our current liabilities and ongoing cost assessments are based on current laws and regulations. New laws and regulations, more stringent enforcement of existing laws and regulations, the discovery of previously unknown contamination or the imposition of new remediation requirements could result in additional costs. For additional information relating to environmental contingencies, see Note 13 to our Consolidated Financial Statements.

We may be adversely affected by global climate change or by legal, regulatory or market responses to such change.

Increasing stakeholder environmental, social and governance (ESG) expectations, physical and transition risks associated with climate change, emerging ESG regulation, contractual requirements, and policy requirements may pose risk to our market outlook, brand and reputation, financial outlook, cost of capital, global supply chain and production continuity, which may impact our ability to achieve long-term business objectives. Changes in environmental and climate change laws or regulations could lead to additional operational restrictions and compliance requirements upon us or our products, require new or additional investment in product designs, result in carbon offset investments or otherwise could negatively impact our business and/or competitive position. Increasing aircraft performance standards, increasing sustainability disclosure requirements in the U.S. and globally, and requirements on manufacturing and product air pollutant emissions, especially greenhouse gas (GHG) emissions, may result in increased costs or reputational risks and could limit our ability to manufacture and/or market certain of our products at acceptable costs, or at all. Physical impacts of climate change, increasing global chemical restrictions and bans, and water and waste requirements may drive increased costs to us and our suppliers and impact our production continuity and data facilities.

Finally, from time to time, in alignment with our sustainability priorities, we establish and publicly announce goals and commitments to improve our environmental performance, such as our recent operational goals in areas of GHG emissions, energy, water and waste. If we fail to achieve or improperly report on our progress toward achieving our sustainability goals and commitments, the resulting negative publicity could adversely affect our reputation and/or our access to capital.

Risks Related to Financing and Liquidity

We may be unable to obtain debt to fund our operations and contractual commitments at competitive rates, on commercially reasonable terms or in sufficient amounts.

We depend, in part, upon the issuance of debt to fund our operations and contractual commitments. In addition, our debt balances have increased significantly since 2019, driven primarily by impacts related to the 737 MAX grounding and the COVID-19 pandemic, and we expect to continue to actively manage our liquidity. As of December 31, 2022, our debt totaled $57.0 billion of which approximately $14.5 billion of principal payments on outstanding debt will become due over the next three years. In addition, as of December 31, 2022, our airplane financing commitments totaled $16.1 billion. Our increased debt balance resulted in downgrades to our credit ratings in 2020, and our ratings remained unchanged in 2022 and 2021. If we require additional funding in order to pay off existing debt, address further impacts to our business related to market developments, fund outstanding financing commitments or meet other business requirements, our market liquidity may not be sufficient. These risks will be particularly acute if we are subject to further credit rating downgrades. A number of factors could cause us to incur increased borrowing costs and to have greater difficulty accessing public and private markets for debt. These factors include disruptions or declines in the global capital markets and/or a decline in our financial performance, outlook or credit ratings and/or changes in demand for our products and services. The occurrence of any or all of these events may adversely affect our ability to fund our operations and contractual or financing commitments.

Substantial pension and other postretirement benefit obligations have a material impact on our earnings, shareholders' equity and cash flows from operations, and could have significant adverse impacts in future periods.

Many of our employees have earned benefits under defined benefit pension plans. Potential pension contributions include both mandatory amounts required under the Employee Retirement Income Security Act and discretionary contributions to improve the plans' funded status. The extent of future contributions depends heavily on market factors such as the discount rate and the actual return on plan assets. We estimate future contributions to these plans using assumptions with respect to these and other items. Changes to those assumptions could have a significant effect on future contributions as well as on our annual pension costs and/or result in a significant change to shareholders' equity. For U.S. government contracts, we allocate pension costs to individual contracts based on U.S. Cost Accounting Standards which can also affect contract profitability. We also provide other postretirement benefits to certain of our employees, consisting principally of health care coverage for eligible retirees and qualifying dependents. Our estimates of future costs associated with these benefits are also subject to assumptions, including estimates of the level of medical cost increases. For a discussion regarding how our financial statements can be affected by pension and other postretirement plan accounting policies, see "Management's Discussion and Analysis – Critical Accounting Policies & Estimates – Pension Plans" on page 50 of this Form 10-K. Although under Generally Accepted Accounting Principles in the United States of America (GAAP) the timing of periodic pension and other postretirement benefit expense and plan contributions are not directly related, the key economic factors that affect GAAP expense would also likely affect the amount of cash or stock we would contribute to our plans.

Our insurance coverage may be inadequate to cover all significant risk exposures.

We are exposed to liabilities that are unique to the products and services we provide. We maintain insurance for certain risks and, in some circumstances, we may receive indemnification from the U.S. government. The amount of our insurance coverage may not cover all claims or liabilities, and we may be forced to bear substantial costs. For example, liabilities arising from the use of certain of our products, such as aircraft technologies, space systems, spacecraft, satellites, missile systems,

weapons, cybersecurity, border security systems, anti-terrorism technologies and/or air traffic management systems may not be insurable on commercially reasonable terms. While some of these products are shielded from liability within the U.S. under the SAFETY Act provisions of the 2002 Homeland Security Act, no such protection is available outside the U.S., potentially resulting in significant liabilities. See Note 21 of the Consolidated Financial Statements for discussion of legal proceedings resulting from the October 29, 2018 accident of Lion Air Flight 610 and the March 10, 2019 accident of Ethiopian Airlines Flight 302. The amount of insurance coverage we maintain may be inadequate to cover these or other claims or liabilities.

A significant portion of our customer financing portfolio is concentrated among certain customers and in certain types of Boeing aircraft, which exposes us to concentration risks.

A significant portion of our customer financing portfolio is concentrated among certain customers and in distinct geographic regions. Our portfolio is also concentrated by varying degrees across Boeing aircraft product types, most notably 717 and 747-8 aircraft, and among customers that we believe have less than investment-grade credit. If one or more customers holding a significant portion of our portfolio assets experiences financial difficulties or otherwise defaults on or does not renew its leases with us at their expiration, and we are unable to redeploy the aircraft on reasonable terms, or if the types of aircraft that are concentrated in our portfolio suffer greater than expected declines in value, our financial position, results of operations and/or cash flows could be materially adversely affected.

Risks Related to Labor

Some of our and our suppliers' workforces are represented by labor unions, which may lead to work stoppages.

Approximately 50,000 employees, which constitute 32% of our total workforce, were union represented as of December 31, 2022. We experienced a work stoppage in 2008 when a labor strike halted commercial aircraft and certain BDS program production. We may experience additional work stoppages in the future, which could adversely affect our business. We cannot predict how stable our union relationships, currently with 11 U.S. labor organizations and 12 non-U.S. labor organizations, will be or whether we will be able to meet the unions' requirements without impacting our financial condition. The unions may also limit our flexibility in dealing with our workforce. Union actions at suppliers can also affect us. Work stoppages and instability in our union relationships could delay the production and/or development of our products, which could strain relationships with customers and result in lower revenues.

Item 1B. Unresolved Staff Comments

Not applicable

Item 2. Properties

We had approximately 87 million square feet of floor space on December 31, 2022 for manufacturing, warehousing, engineering, administration and other productive uses, of which approximately 88% was located in the United States. The following table provides a summary of the floor space by business as of December 31, 2022:

(Square feet in thousands)	Owned	Leased	Government Owned	Total
Commercial Airplanes	39,586	6,673		46,259
Defense, Space & Security	22,643	5,090		27,733
Global Services	1,201	7,591		8,792
Other[(1)]	1,821	2,476	315	4,612
Total	65,251	21,830	315	87,396

[(1)] Other includes sites used for corporate offices, enterprise research and development and common internal services.

At December 31, 2022, the combined square footage at the following major locations totaled more than 81 million square feet:

- Commercial Airplanes – Greater Seattle, WA; China; Greater Charleston, SC; Greater Portland, OR; Greater Los Angeles, CA; Greater Salt Lake City, UT; Australia and Canada
- Defense, Space & Security – Greater St. Louis, MO; Greater Seattle, WA; Greater Los Angeles, CA; Philadelphia, PA; Mesa, AZ; Huntsville, AL; Oklahoma City, OK; Heath, OH; Greater Washington, DC; Australia; Greater Portland, OR; Houston, TX; and Kennedy Space Center
- Global Services – San Antonio, TX; Greater Miami, FL; Dallas, TX; Great Britain; China; Jacksonville, FL; and Germany
- Other – Chicago, IL; India; Greater Los Angeles, CA; Greater St. Louis, MO; and Greater Washington, DC.

Most runways and taxiways that we use are located on airport properties owned by others and are used jointly with others. Our rights to use such facilities are provided for under long-term leases with municipal, county or other government authorities. In addition, the U.S. government furnishes us certain office space, installations and equipment at U.S. government bases for use in connection with various contract activities.

Item 3. Legal Proceedings

Currently, we are involved in a number of legal proceedings. For a discussion of contingencies related to legal proceedings, see Note 21 to our Consolidated Financial Statements, which is hereby incorporated by reference.

Item 4. Mine Safety Disclosures

Not applicable

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

The principal market for our common stock is the New York Stock Exchange where it trades under the symbol BA. As of January 20, 2023, there were 88,322 shareholders of record.

Issuer Purchases of Equity Securities

The following table provides information about purchases we made during the quarter ended December 31, 2022 of equity securities that are registered by us pursuant to Section 12 of the Exchange Act:

(Dollars in millions, except per share data)

	(a)	(b)	(c)	(d)
	Total Number of Shares Purchased[1]	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet be Purchased Under the Plans or Programs[2]
10/1/2022 thru 10/31/2022	4,578	$138.33		
11/1/2022 thru 11/30/2022	2,371	142.24		
12/1/2022 thru 12/31/2022	18,793	181.13		
Total	25,742	$169.94		

(1) A total of 25,742 shares were transferred to us from employees in satisfaction of tax withholding obligations associated with the vesting of restricted stock units during the period. We did not purchase any shares of our common stock in the open market pursuant to a repurchase program.

(2) On March 21, 2020, the Board of Directors terminated its prior authorization to repurchase shares of the Company's outstanding common stock. Share repurchases under this open market repurchase program have been suspended since April 2019.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Consolidated Results of Operations and Financial Condition

Overview

We are a global market leader in the design, development, manufacture, sale, service and support of commercial jetliners, military aircraft, satellites, missile defense, human space flight and launch systems and services. We are one of the two major manufacturers of 100+ seat airplanes for the worldwide commercial airline industry and one of the largest defense contractors in the U.S. While our principal operations are in the U.S., we conduct operations in an expanding number of countries and rely on an extensive network of non-U.S. partners, key suppliers and subcontractors.

Our strategy is centered on successful execution in healthy core businesses – Commercial Airplanes (BCA), Defense, Space & Security (BDS) and Global Services (BGS) – supplemented and supported by Boeing Capital (BCC). Taken together, these core businesses have historically generated substantial earnings and cash flow that enable our investments in new products and services. We focus on producing the products and providing the services that the market demands, and continue to find new ways to improve efficiency and quality to provide a fair return for our shareholders. BCA is committed to being the leader in commercial aviation by offering airplanes and services that deliver superior design, safety, efficiency and value to customers around the world. BDS integrates its resources in defense, intelligence, communications, security, space and services to deliver capability-driven solutions to customers at reduced costs. Our BDS strategy is to leverage our core businesses to capture key next-generation programs while expanding our presence in adjacent and international markets, underscored by an intense focus on growth and productivity. BGS provides support for commercial and defense through innovative, comprehensive and cost-competitive product and service solutions. BCC facilitates, arranges, structures and provides selective financing solutions for our Boeing customers.

Business Environment and Trends

Domestic travel continues to recover from the lingering effects of the COVID-19 pandemic before international travel and the narrow-body market continues to follow domestic travel recovery, while the wide-body market continues to be paced by international travel recovery. The pace of the commercial market recovery remains impacted by government restrictions related to COVID-19, especially China. We are seeing a strong recovery in travel demand for our airline customers in North and South America, the Middle East, and Europe, and demand for dedicated freighters continues to be underpinned by a strong recovery in global trade.

We and our suppliers are experiencing supply chain disruptions as a result of the lingering impacts of COVID-19, global supply chain constraints, and labor instability. We and our suppliers are also experiencing inflationary pressures. We continue to monitor the health and stability of the supply chain as we ramp up production. These factors have reduced overall productivity and adversely impacted our financial position, results of operations and cash flows.

Airline financial performance, which influences demand for new capacity, has been adversely impacted by the COVID-19 pandemic. According to the International Air Transport Association (IATA), net losses for the airline industry were $138 billion in 2020 and $42 billion in 2021. IATA also forecasts $6.9 billion of losses for the industry globally in 2022, with approximately $9.9 billion of profits in North America driven by the robust domestic market being more than offset by losses in other regions. For 2023, IATA is forecasting $4.6 billion in profits for the industry globally. While the outlook continues to improve, we continue to face a challenging environment in the near- to medium-term as airlines are facing increased fuel and other costs, and the global economy is experiencing high inflation. The current environment is also affecting the financial viability of some airlines.

The long-term outlook for the industry remains positive due to the fundamental drivers of air travel demand: economic growth, increasing propensity to travel due to increased trade, globalization and improved airline services driven by liberalization of air traffic rights between countries. Our Commercial Market Outlook forecast projects a 3.8% growth rate for passenger and cargo traffic over a 20-year period. Based on long-term global economic growth projections of 2.6% in average annual gross domestic product, we project demand for approximately 41,170 new airplanes over the next 20 years. The industry remains vulnerable to exogenous developments including fuel price spikes, credit market shocks, acts of terrorism, natural disasters, conflicts, epidemics, pandemics and increased global environmental regulations.

During 2022, commercial services volume at BGS recovered to pre-pandemic levels. We expect BGS commercial revenues to remain strong in future quarters as the commercial airline industry continues to recover. The demand outlook for our government services business remains stable.

At BDS, we continue to see stable demand reflecting the important role our products and services have in ensuring our national security. Outside of the U.S., we are seeing similar solid demand as governments prioritize security, defense technology and global cooperation given evolving threats. We continue to experience near-term production disruptions and inefficiencies due to supplier disruption, labor instability and factory performance. These factors have contributed to significant earnings charges on a number of fixed-price development programs which are expected to adversely affect cash flows in future periods.

As a result of the war in Ukraine, we recorded earnings charges totaling $212 million during the first quarter of 2022, primarily related to asset impairments. We have closed our facilities in Russia. We are focused on the safety of our employees and retaining the strength of our engineering talent through voluntary transfers to other countries. We have also suspended our business in Russia, including parts, maintenance and technical support for Russian airlines, and purchases from Russian suppliers. We are complying with U.S. and international sanctions and export control restrictions. We have sufficient material and parts to avoid production disruptions in the near-term, but future impacts to our production from disruptions in our supply chain are possible. The war in Ukraine continues to impact our airline and lessor customers. We continue to monitor developments and potential Boeing impacts, and take mitigating actions as appropriate.

Consolidated Results of Operations

The following table summarizes key indicators of consolidated results of operations:

(Dollars in millions, except per share data)

Years ended December 31,	**2022**	2021	2020
Revenues	**$66,608**	$62,286	$58,158
GAAP			
Loss from operations	**($3,547)**	($2,902)	($12,767)
Operating margins	**(5.3)%**	(4.7)%	(22.0)%
Effective income tax rate	**(0.6)%**	14.8 %	17.5 %
Net loss attributable to Boeing Shareholders	**($4,935)**	($4,202)	($11,873)
Diluted loss per share	**($8.30)**	($7.15)	($20.88)
Non-GAAP [(1)]			
Core operating loss	**($4,690)**	($4,075)	($14,150)
Core operating margins	**(7.0%)**	(6.5%)	(24.3%)
Core loss per share	**($11.06)**	($9.44)	($23.25)

(1) These measures exclude certain components of pension and other postretirement benefit expense. See pages 45 - 47 for important information about these non-GAAP measures and reconciliations to the most directly comparable GAAP measures.

Revenues

The following table summarizes Revenues:

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Commercial Airplanes	**$25,867**	$19,493	$16,162
Defense, Space & Security	**23,162**	26,540	26,257
Global Services	**17,611**	16,328	15,543
Boeing Capital	**199**	272	261
Unallocated items, eliminations and other	**(231)**	(347)	(65)
Total	**$66,608**	$62,286	$58,158

Revenues increased by $4,322 million in 2022 compared with 2021 driven by higher revenues at BCA and BGS, partially offset by lower revenues at BDS. BCA revenues increased by $6,374 million primarily driven by higher 737 and 787 deliveries. BGS revenues increased by $1,283 million primarily due to higher commercial services volume, partially offset by lower government services volume and performance. BDS revenues decreased by $3,378 million primarily due to charges on development programs, unfavorable performance across other defense programs, and lower P-8 and weapons volume.

Revenues increased by $4,128 million in 2021 compared with 2020 driven by higher revenues at BCA, BDS and BGS. BCA revenues increased by $3,331 million primarily driven by higher 737 MAX deliveries due to recertification and return to service in most jurisdictions and the absence of $498 million of 737 MAX customer considerations which reduced revenues in 2020, partially offset by lower 787 deliveries in 2021. BDS revenues increased by $283 million primarily from higher revenue on the

KC-46A Tanker program and lower charges in 2021. BGS revenues increased by $785 million primarily due to higher commercial and government services volume.

Revenues will continue to be significantly impacted until the global supply chain stabilizes, labor instability diminishes, and deliveries ramp up.

Loss From Operations

The following table summarizes Loss from operations:

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Commercial Airplanes	**($2,370)**	($6,475)	($13,847)
Defense, Space & Security	**(3,544)**	1,544	1,539
Global Services	**2,727**	2,017	450
Boeing Capital	**29**	106	63
Segment operating loss	**(3,158)**	(2,808)	(11,795)
Pension FAS/CAS service cost adjustment	**849**	882	1,024
Postretirement FAS/CAS service cost adjustment	**294**	291	359
Unallocated items, eliminations and other	**(1,532)**	(1,267)	(2,355)
Loss from operations (GAAP)	**($3,547)**	($2,902)	($12,767)
FAS/CAS service cost adjustment *	**(1,143)**	(1,173)	(1,383)
Core operating loss (Non-GAAP) **	**($4,690)**	($4,075)	($14,150)

* The FAS/CAS service cost adjustment represents the difference between the FAS pension and postretirement service costs calculated under GAAP and costs allocated to the business segments.

** Core operating loss is a non-GAAP measure that excludes the FAS/CAS service cost adjustment. See pages 45 - 47.

Loss from operations increased by $645 million in 2022 compared with 2021. BDS had a loss from operations of $3,544 million compared with earnings of $1,544 million during 2021, primarily due to charges on development programs. BCA loss from operations decreased by $4,105 million primarily due to the absence in 2022 of the $3,460 million reach-forward loss taken on the 787 program in 2021, higher 737 deliveries and lower abnormal production costs, partially offset by higher research and development spending, charges related to the war in Ukraine and other period expenses. BGS earnings from operations increased by $710 million in 2022 compared with 2021 primarily due to higher commercial services volume and favorable mix, partially offset by lower government services performance.

Loss from operations decreased by $9,865 million in 2021 compared with 2020 primarily due to lower losses at BCA and higher earnings at BGS. BCA loss from operations decreased by $7,372 million primarily due to the absence of a $6,493 million reach-forward loss on the 777X program recorded in 2020, lower period expenses, lower 737 MAX customer considerations and higher 737 MAX deliveries, partially offset by a $3,460 million reach-forward loss on the 787 program in 2021. BGS earnings from operations increased by $1,567 million in 2021 compared with 2020 primarily due to charges incurred in 2020 as a result of the COVID-19 pandemic, as well as higher commercial services volume.

Core operating loss increased by $615 million in 2022 compared with 2021 and decreased by $10,075 million in 2021 compared with 2020 primarily due to changes in Segment operating loss as described above.

Unallocated Items, Eliminations and Other The most significant items included in Unallocated items, eliminations and other are shown in the following table:

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Share-based plans	**($114)**	($174)	($120)
Deferred compensation	**117**	(126)	(93)
Amortization of previously capitalized interest	**(95)**	(107)	(95)
Research and development expense, net	**(278)**	(184)	(240)
Eliminations and other unallocated items	**(1,162)**	(676)	(1,807)
Unallocated items, eliminations and other	**($1,532)**	($1,267)	($2,355)

Share-based plans expense decreased by $60 million in 2022 and increased by $54 million in 2021. The lower expense in 2022 compared to 2021 was due to decreased grants of restricted stock units (RSUs) and other share-based compensation. The higher expense in 2021 compared to 2020 was primarily related to a one-time grant of RSUs to most employees in December 2020.

Deferred compensation expense decreased by $243 million in 2022, primarily driven by changes in broad stock market conditions, and increased by $33 million in 2021, primarily driven by changes in broad stock market conditions and our stock price.

Research and development expense increased by $94 million in 2022 and decreased by $56 million in 2021 primarily due to enterprise investments in product development.

Eliminations and other unallocated expense increased by $486 million in 2022 primarily due to a $200 million settlement with the Securities and Exchange Commission related to the 737 MAX accidents, lower income from operating investments, and an increase in environmental remediation expense. Eliminations and other unallocated expense decreased by $1,131 million in 2021 primarily due to earnings charges of $744 million in the fourth quarter of 2020 in anticipation of the agreement between Boeing and the U.S. Department of Justice that was finalized in January 2021 and higher income from operating investments in 2021.

Net periodic pension benefit costs included in Loss from operations were as follows:

(Dollars in millions)	Pension		
Years ended December 31,	**2022**	2021	2020
Allocated to business segments	**($852)**	($885)	($1,027)
Pension FAS/CAS service cost adjustment	**849**	882	1,024
Net periodic pension benefit cost included in Loss from operations	**($3)**	($3)	($3)

The pension FAS/CAS service cost adjustment recognized in Loss from operations in 2022 decreased by $33 million compared with 2021 and decreased by $142 million in 2021 compared with 2020 due to reductions in allocated pension cost year over year. Net periodic benefit cost included in Loss from operations in 2022 was largely consistent with 2021 and 2020.

For additional discussion related to Postretirement Plans, see Note 16 to our Consolidated Financial Statements.

Other Earnings Items

(Dollars in millions) Years ended December 31,	**2022**	2021	2020
Loss from operations	**($3,547)**	($2,902)	($12,767)
Other income, net	**1,058**	551	447
Interest and debt expense	**(2,533)**	(2,682)	(2,156)
Loss before income taxes	**(5,022)**	(5,033)	(14,476)
Income tax (expense)/benefit	**(31)**	743	2,535
Net loss from continuing operations	**(5,053)**	(4,290)	(11,941)
Less: net loss attributable to noncontrolling interest	**(118)**	(88)	($68)
Net loss attributable to Boeing Shareholders	**($4,935)**	**($4,202)**	**($11,873)**

Non-operating pension income included in Other income, net was $881 million in 2022, $528 million in 2021, and $340 million in 2020. The increased income in 2022 compared to 2021 was primarily due to lower amortization of net actuarial losses in 2022 and a settlement loss recorded in 2021. The increased income in 2021 compared to 2020 was primarily due to lower interest cost and higher expected return on plan assets, partially offset by higher amortization of net actuarial losses and higher settlement charges.

Non-operating postretirement income included in Other income, net was $58 million in 2022, compared with income of $1 million in 2021 and expense of $16 million in 2020. The increased income in 2022 and 2021 was due to lower amortization of net actuarial losses.

Interest and debt expense decreased by $149 million in 2022 primarily due to lower average debt balances and increased by $526 million in 2021 as a result of higher average debt balances.

In August 2022, the President signed into law the Inflation Reduction Act of 2022, which contained provisions effective January 1, 2023, including a 15% corporate minimum tax and a 1% excise tax on stock buybacks, both of which we do not expect to have a material impact on our results of operations, financial condition or cash flows. For additional discussion related to Income Taxes, see Note 4 to our Consolidated Financial Statements.

Total Costs and Expenses ("Cost of Sales")

Cost of sales, for both products and services, consists primarily of raw materials, parts, sub-assemblies, labor, overhead and subcontracting costs. Our BCA segment predominantly uses program accounting to account for cost of sales. Under program accounting, cost of sales for each commercial aircraft program equals the product of (i) revenue recognized in connection with customer deliveries and (ii) the estimated cost of sales percentage applicable to the total remaining program. For long-term contracts, the amount reported as cost of sales is recognized as incurred. Substantially all contracts at our BDS segment and certain contracts at our BGS segment are long-term contracts with the U.S. government and other customers that generally extend over several years. Cost of sales for commercial spare parts is recorded at average cost.

The following table summarizes cost of sales:

(Dollars in millions)

Years ended December 31	**2022**	2021	Change	2021	2020	Change
Cost of sales	**$63,106**	$59,269	$3,837	$59,269	$63,843	($4,574)
Cost of sales as a % of Revenues	**94.7 %**	95.2 %	(0.5)%	95.2 %	109.8 %	(14.6)%

Cost of sales increased by $3,837 million in 2022 compared with 2021, primarily due to charges recorded at BDS and higher revenues at BCA. Cost of sales as a percentage of Revenues remained largely consistent in 2022 compared to 2021.

Cost of sales decreased by $4,574 million in 2021 compared with 2020, primarily due to higher earnings charges at BCA, BDS and BGS in 2020, partially offset by higher costs as a result of higher revenues in 2021 and the reach-forward loss on the 787 program. Cost of sales as a percentage of Revenues decreased in 2021 compared to 2020 primarily due to higher earnings charges at BCA and BGS in 2020 and higher revenues in 2021.

Research and Development The following table summarizes our Research and development expense:

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Commercial Airplanes	**$1,510**	$1,140	$1,385
Defense, Space & Security	**945**	818	713
Global Services	**119**	107	138
Other	**278**	184	240
Total	**$2,852**	$2,249	$2,476

Research and development expense increased by $603 million in 2022 compared with 2021 primarily due to higher research and development expenditures on 777X, 737 MAX, as well as BCA and enterprise investments in product development.

Research and development expense decreased by $227 million in 2021 compared with 2020 primarily due to lower BCA and enterprise investments in product development and lower spending on the 777X program.

Backlog

Our backlog at December 31 was as follows:

(Dollars in millions)

Years ended December 31,	**2022**	2021
Commercial Airplanes	**$329,824**	$296,882
Defense, Space & Security	**54,373**	59,828
Global Services	**19,338**	20,496
Unallocated items, eliminations and other	**846**	293
Total Backlog	**$404,381**	$377,499
Contractual backlog	**$381,977**	$356,362
Unobligated backlog	**22,404**	21,137
Total Backlog	**$404,381**	$377,499

Contractual backlog of unfilled orders excludes purchase options, announced orders for which definitive contracts have not been executed, orders where customers have the unilateral right to terminate, and unobligated U.S. and non-U.S. government contract funding. The increase in contractual backlog during 2022 was primarily due to an increase in BCA backlog that was partially offset by a decrease in BDS backlog. If we remain unable to deliver 737 MAX aircraft in China for an extended period of time, and/or entry into service of the 777X, 737-7 and/or 737-10 is further delayed, we may experience reductions to backlog and/or significant order cancellations.

Unobligated backlog includes U.S. and non-U.S. government definitive contracts for which funding has not been authorized. The increase in unobligated backlog in 2022 was primarily due to contract awards, partially offset by reclassifications to contractual backlog related to BDS and BGS contracts.

Additional Considerations

Global Trade We continually monitor the global trade environment in response to geopolitical economic developments, as well as changes in tariffs, trade agreements or sanctions that may impact the Company.

The current state of U.S.-China relations remains an ongoing watch item. Since 2018, the U.S. and China have imposed tariffs on each other's imports. Certain aircraft parts and components that Boeing procures are subject to these tariffs. We are mitigating import costs through Duty Drawback Customs procedures. China is a significant market for commercial aircraft. Boeing has long-standing relationships with our Chinese customers, who represent a key component of our commercial aircraft backlog. Overall, the U.S.-China trade relationship remains stalled as economic and national security concerns continue to be a challenge.

Beginning in June 2018, the U.S. Government imposed tariffs on steel and aluminum imports. In response to these tariffs, several major U.S. trading partners have imposed, or announced their intention to impose, tariffs on U.S. goods. The U.S. has subsequently reached agreements with Mexico, Canada, the United Kingdom, the European Union, and Japan to ease or remove tariffs on steel and/or aluminum. We continue to monitor the potential for any extra costs that may result from the remaining global tariffs.

We are complying with all U.S. and other government export control restrictions and sanctions imposed on certain businesses and individuals in Russia. We continue to monitor and evaluate additional sanctions and export restrictions that may be imposed by the U.S. Government or other governments,

as well as any responses from Russia that could affect our supply chain, business partners or customers, for any additional impacts to our business.

Segment Results of Operations and Financial Condition

Commercial Airplanes

Business Environment and Trends

Airline Industry Environment See Overview to Management's Discussion and Analysis of Financial Condition and Results of Operations for a discussion of the airline industry environment.

Industry Competitiveness The industry continues to recover from the lingering effects of the COVID-19 pandemic. The commercial aircraft market and the airline industry both remain extremely competitive. While the impacts and responses have varied globally, the reduction of demand and disruption in production has adversely impacted most manufacturers in the commercial aircraft industry.

Continued access to global markets remains vital to our ability to fully realize our sales potential and long-term investment returns. Approximately 70% of Commercial Airplanes' total backlog, in dollar terms, is with non-U.S. airlines. We face aggressive international competitors who are intent on increasing their market share. They offer competitive products and have access to most of the same customers and suppliers. The grounding of the 737 MAX in 2019 and the associated suspension of 737 MAX deliveries in multiple jurisdictions significantly reduced our market share with respect to deliveries of single aisle aircraft and may provide competitors with an opportunity to obtain more orders and increase market share. With government support, Airbus has historically invested heavily to create a family of products to compete with ours. After the acquisition of a majority share of Bombardier's C Series (now A220) in 2018, Airbus continues to expand in the 100-150 seat transcontinental market. Other competitors are also in different phases of developing commercial jet aircraft, including Commercial Aircraft Corporation of China, Ltd. (COMAC), which delivered its first C919 aircraft in 2022. Some of these competitors have historically enjoyed access to government-provided financial support, including "launch aid," which greatly reduces the cost and commercial risks associated with airplane development activities. This has enabled the development of airplanes without broad commercial viability; others to be brought to market more quickly than otherwise possible; and many offered for sale below market-based prices. Competitors continue to make improvements in efficiency, which may result in funding product development, gaining market share and improving earnings. This market environment has resulted in intense pressures on pricing and other competitive factors, and we expect these pressures to continue or intensify in the coming years.

We are focused on improving our products and services and continuing our business transformation efforts, which enhances our ability to compete and positions us for market recovery. We are also focused on taking actions to ensure that Boeing is not harmed by unfair subsidization of competitors.

Results of Operations

(Dollars in millions)			
Years ended December 31,	**2022**	2021	2020
Revenues	**$25,867**	$19,493	$16,162
% of total company revenues	**39%**	31%	28%
Loss from operations	**($2,370)**	($6,475)	($13,847)
Operating margins	**(9.2)%**	(33.2)%	(85.7)%
Research and development	**$1,510**	$1,140	$1,385

Revenues

BCA revenues increased by $6,374 million in 2022 compared with 2021 primarily due to higher 737 and 787 deliveries in 2022.

BCA revenues increased by $3,331 million in 2021 compared with 2020 primarily due to higher 737 MAX deliveries driven by recertification and return to service in most jurisdictions and the absence of charges for 737 MAX customer considerations which reduced revenues in 2020, partially offset by lower 787 deliveries in 2021.

BCA deliveries, including intercompany deliveries, as of December 31 were as follows:

	737	*	**747**	**767**	*	**777**	**787**	**Total**
2022								
Cumulative deliveries	**8,132**		**1,572**	**1,271**		**1,701**	**1,037**	
Deliveries	**387**	(13)	**5**	**33**	(15)	**24**	**31**	**480**
2021								
Cumulative deliveries	7,745		1,567	1,238		1,677	1,006	
Deliveries	263	(16)	7	32	(13)	24	14	340
2020								
Cumulative deliveries	7,482		1,560	1,206		1,653	992	
Deliveries	43	(14)	5	30	(11)	26	53	157

* Intercompany deliveries identified by parentheses

Loss From Operations

BCA loss from operations was $2,370 million in 2022 compared with $6,475 million in 2021 reflecting higher 737 deliveries and lower abnormal production costs, partially offset by higher research and development spending, charges related to the war in Ukraine and other period expenses. The 2021 loss also reflects a reach-forward loss on the 787 program of $3,460 million. Abnormal production costs in 2022 were $1,753 million, including $1,240 million related to the 787 program, $325 million related to the 777X program, and $188 million related to the 737 program.

BCA loss from operations was $6,475 million in 2021 compared with $13,847 million in 2020. The 2021 loss reflects the reach-forward loss on the 787 program of $3,460 million, abnormal production costs related to the 737 program of $1,887 million, and abnormal production costs related to the 787 program of $468 million resulting from continued production issues, inspections and rework, partially offset by higher 737 MAX deliveries. The 2020 loss reflects the reach-forward loss on the 777X program of $6,493 million, lower deliveries and lower program margins resulting from the COVID-19 pandemic,

$2,567 million of abnormal production costs related to the 737 program, $623 million of severance cost, $498 million of 737 MAX customer considerations, $336 million related to 737NG frame fitting component repair costs and $270 million of abnormal production costs in the first half of 2020 from the temporary suspension of operations in response to COVID-19, partially offset by lower research and development spending. Lower 787 margins reflecting a reduction in the accounting quantity in the first quarter of 2020 also contributed to lower earnings.

Backlog

Our total backlog represents the estimated transaction prices on unsatisfied and partially satisfied performance obligations to our customers where we believe it is probable that we will collect the consideration due and where no contingencies remain before we and the customer are required to perform. Backlog does not include prospective orders where customer-controlled contingencies remain, such as the customer receiving approval from its board of directors, shareholders or government or completing financing arrangements. All such contingencies must be satisfied or have expired prior to recording a new firm order even if satisfying such conditions is highly probable. Backlog excludes options and BCC orders as well as orders where customers have the unilateral right to terminate. A number of our customers may have contractual remedies, including rights to reject individual airplane deliveries if the actual delivery date is significantly later than the contractual delivery date. We address customer claims and requests for other contractual relief as they arise. The value of orders in backlog is adjusted as changes to price and schedule are agreed to with customers and is reported in accordance with the requirements of ASC 606.

BCA total backlog of $329,824 million at December 31, 2022 increased from $296,882 million at December 31, 2021, reflecting new orders in excess of deliveries and price escalation, offset by order cancellations and by an increase in the value of existing orders that in our assessment do not meet the accounting requirements of ASC 606 for inclusion in backlog. Aircraft order cancellations during the year ended December 31, 2022 totaled $11,251 million and relate to 737 and 787 aircraft. The net ASC 606 adjustments for the year ended December 31, 2022 resulted in a decrease to backlog of $4,675 million primarily due to a net increase of 777X aircraft in the ASC 606 reserve, partially offset by net decreases in 737 and 787 aircraft in the ASC 606 reserve. ASC 606 adjustments include consideration of aircraft orders where a customer-controlled contingency may exist, as well as an assessment of whether the customer is committed to perform, impacts of geopolitical events or related sanctions, or whether it is probable that the customer will pay the full amount of consideration when it is due. If we remain unable to deliver 737 MAX aircraft in China for an extended period of time, and/or entry into service of the 777X, 737-7 and/or 737-10 is further delayed, we may experience reductions to backlog and/or significant order cancellations.

Accounting Quantity The accounting quantity is our estimate of the quantity of airplanes that will be produced for delivery under existing and anticipated contracts. The determination of the accounting quantity is limited by the ability to make reasonably dependable estimates of the revenue and cost of existing and anticipated contracts. It is a key determinant of the gross margins we recognize on sales of individual airplanes throughout a program's life. Estimation of each program's accounting quantity takes into account several factors that are indicative of the demand for that program, including firm orders, letters of intent from prospective customers and market studies. We review our program accounting quantities quarterly.

The accounting quantity for each program may include units that have been delivered, undelivered units under contract and units anticipated to be under contract in the reasonable future (anticipated orders). In developing total program estimates, all of these items within the accounting quantity must be considered.

The following table provides details of the accounting quantities and firm orders by program as of December 31. Cumulative firm orders represent the cumulative number of commercial jet aircraft deliveries plus undelivered firm orders. Firm orders include military derivative aircraft that are not included in program accounting quantities. All revenues and costs associated with military derivative aircraft production are reported in the BDS segment.

	Program						
	737	**747**	**767**	**777**	**777X**	**787**	†
2022							
Program accounting quantities	**10,800**	**1,574**	**1,267**	**1,790**	**400**	**1,600**	
Undelivered units under firm orders	**3,653**	**1**	**106**	**69**	**244**	**505**	(8)
Cumulative firm orders	**11,785**	**1,573**	**1,377**	**1,770**	**244**	**1,542**	
2021							
Program accounting quantities	10,400	1,574	1,243	1,750	350	1,500	
Undelivered units under firm orders	3,414	6	108	58	253	411	(14)
Cumulative firm orders	11,159	1,573	1,346	1,735	253	1,417	
2020							
Program accounting quantities	10,000	1,574	1,207	1,700	350	1,500	
Undelivered units under firm orders	3,282	8	75	41	191	458	(22)
Cumulative firm orders	10,764	1,568	1,281	1,694	191	1,450	

† Aircraft ordered by BCC are identified in parentheses.

Program Highlights

737 Program The accounting quantity for the 737 program increased by 400 units during 2022 due to the program's normal progress of obtaining additional orders and delivering airplanes.

We increased the production rate to 31 per month in 2022, and expect to implement further gradual production rate increases based on market demand and supply chain capacity. We expensed abnormal production costs of $188 million and $1,887 million during the years ended December 31, 2022 and 2021.

Over 190 countries have approved the resumption of 737 MAX operations. The first 737 MAX passenger flight in China since 2019 occurred on January 13, 2023. There is uncertainty regarding timing of resumption of deliveries in China, which are still subject to final regulatory approvals. We continue to work with a small number of customers who have requested to defer deliveries or to cancel orders for 737 MAX aircraft, and we are remarketing and/or delaying deliveries of certain aircraft included within inventory.

We have approximately 250 aircraft in inventory as of December 31, 2022, including approximately 140 aircraft in inventory that are designated for customers in China. We are remarketing some of these aircraft to other customers. We anticipate delivering most of the aircraft in inventory by the end of 2024. In the event that we are unable to resume aircraft deliveries in China or remarket those aircraft and/or ramp up deliveries consistent with our assumptions, our expectation of delivery timing could be impacted.

The 737-7 and 737-10 models are currently going through FAA certification. The Consolidated Appropriations Act, 2023 amended Section 116 of the ACSAA, such that applications for original or amended type certifications that were submitted to the FAA prior to December 27, 2020, including those of the 737-7 and 737-10, are no longer subject to the crew alerting specifications of Section 116. Additionally, beginning one year after the FAA issues the type certificate for the 737-10, any new 737 MAX aircraft must include certain safety enhancements to be issued an original airworthiness certification by the FAA. These enhancements are included in Boeing's application for the certification for the 737-10, and the sufficiency of these enhancements will be determined by the FAA. Beginning three years after the issuance of a type certificate for the 737-10, all previously delivered 737 MAX aircraft must be retrofitted with these safety enhancements. As the holder of the type certificate, Boeing is required to bear any costs of these safety enhancement retrofits. We have provisioned for the estimated costs associated with the safety enhancements and do not expect those costs to be material.

We are following the lead of the FAA as we work through the certification process, and currently expect the 737-7 to be certified and delivered in 2023, and the 737-10 to begin FAA certification flight testing in 2023 with first delivery in in 2024. At December 31, 2022, we had 27 737-7 and 3 737-10 aircraft in inventory and 236 737-7 and 720 737-10 aircraft in backlog and have delivered a total of 1,033 737 MAX aircraft. If we experience delays in achieving certification and/or incorporating safety enhancements, future revenues, cash flows and results of operations could be adversely impacted.

See further discussion of the 737 MAX in Note 7 and Note 13 to our Consolidated Financial Statements.

747 Program We completed production of the 747 in the fourth quarter of 2022 and delivery of the last aircraft is expected to occur in early 2023. Ending production of the 747 did not have a material impact on our financial position, results of operations or cash flows.

767 Program The accounting quantity for the 767 program increased by 24 units during 2022 due to the program's normal progress of obtaining additional orders and delivering airplanes. The 767 assembly line includes the commercial program and a derivative to support the KC-46A Tanker program. The commercial program has near break-even gross margins. We are currently producing at a combined rate of 3 aircraft per month.

777 and 777X Programs The accounting quantity for the 777 program increased by 40 units during 2022 due to the program's normal progress of obtaining additional orders and delivering airplanes. We are currently producing at a combined production rate of 3 per month for the 777/777X programs. The accounting quantity for the 777X program increased by 50 units during 2022 reflecting the launch of the 777X-8 freighter during the first quarter of 2022. First delivery of the 777X-8 freighter is expected in 2027.

During the first quarter of 2022, we revised the estimated first delivery date of the 777X-9, previously expected in late 2023, and now expect it will occur in 2025, based on an updated assessment of the time required to meet certification requirements. We are working towards Type Inspection Authorization (TIA) which will enable us to begin FAA certification flight testing. The timing of TIA and certification will ultimately be determined by the regulators, and further determinations with respect to anticipated certification requirements could result in additional delays in entry into service and/or additional cost increases.

In April 2022, we decided to pause production of the 777X-9 during 2022 and 2023. We implemented the production pause during the second quarter of 2022, and it is expected to result in abnormal production costs of approximately $1.5 billion that are being expensed as incurred until 777X-9 production resumes. During the year ended December 31, 2022, $0.3 billion of abnormal costs were period expensed.

The 777X program had near break-even gross margins at December 31, 2022. The level of profitability on the 777X program will be subject to a number of factors. These factors include continued production disruption due to labor instability and supply chain disruption, customer negotiations, further production rate adjustments for the 777X or other commercial aircraft programs, contraction of the accounting quantity and potential risks associated with the testing program and the timing of aircraft certification. One or more of these factors could result in additional reach-forward losses on the 777X program in future periods.

787 Program During the fourth quarter of 2022, we increased the accounting quantity for the 787 program by 100 units due to the program's normal progress of obtaining additional orders and delivering aircraft. The increase in the accounting quantity improved the program's profit margin.

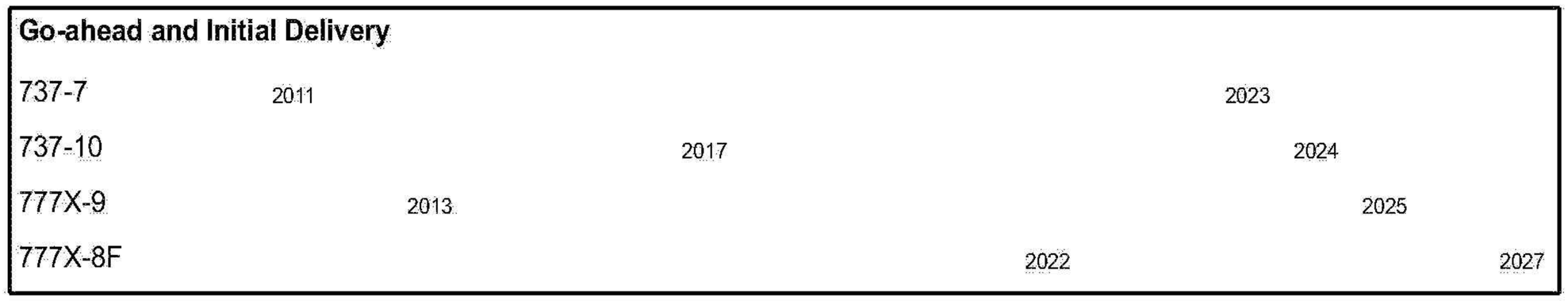
We received FAA authorization to resume delivery on July 28, 2022 and deliveries resumed in August. During 2022, we delivered 31 aircraft to customers. We continue to conduct inspections and rework on undelivered aircraft. During 2021, we delivered 14 aircraft between March and May 2021 prior to deliveries being paused in May 2021 due to production quality issues including in our supply chain. We have implemented changes in the production process designed to ensure that newly-built airplanes meet our specifications and do not require further inspections and rework. At December 31, 2022, and 2021, we had approximately 100 and 110 aircraft in inventory. Most of the aircraft in inventory at December 31, 2022 are expected to deliver by the end of 2024.

We are currently producing at low rates and expect to gradually return to 5 per month in 2023. In the third quarter of 2021, we determined that production rates below 5 per month represented abnormally low production rates and result in abnormal production costs. We also determined that the inspections and rework costs on inventoried aircraft are excessive and should also be accounted for as abnormal production costs that are required to be expensed as incurred. Cumulative abnormal costs recorded through December 31, 2022 totaled $1.7 billion. During the fourth quarter of 2022 we adjusted the total estimate of abnormal production costs up to $2.8 billion with most being incurred by the end of 2023. At December 31, 2021, we were expecting to incur approximately $2 billion of abnormal production costs on a cumulative basis. The increase was primarily driven by a decision in the fourth quarter of 2022 to slow down near-term production due to supply chain constraints and increased inspection and rework costs. We continue to work with customers and suppliers regarding timing of future deliveries and production rate changes.

During the fourth quarter of 2021, we recorded a loss of $3.5 billion on the program primarily due to the additional rework, as well as other actions required to resume 787 deliveries, taking longer than expected. These impacts have resulted in longer than expected delivery delays and associated customer considerations.

Fleet Support We provide the operators of our commercial aircraft with assistance and services to facilitate efficient and safe airplane operation. Collectively known as fleet support services, these activities and services begin prior to airplane delivery and continue throughout the operational life of the airplane. They include flight and maintenance training, field service support, engineering services, information services and systems and technical data and documents. The costs for fleet support are expensed as incurred and have historically been approximately 1% of total consolidated costs of products and services.

Program Development The following chart summarizes the time horizon between go-ahead and planned initial delivery for major Commercial Airplanes derivatives and programs.



Reflects models in development during 2022

The development schedules shown above are subject to a number of uncertainties, including changes in certification requirements. The timing of certifications will ultimately be determined by the regulators.

Additional Considerations

The development and ongoing production of commercial aircraft is extremely complex, involving extensive coordination and integration with suppliers and highly-skilled labor from employees and other partners. Meeting or exceeding our performance and reliability standards, as well as those of customers and regulators, can be costly and technologically challenging, such as the 787 production issues and associated rework. In addition, the introduction of new aircraft and derivatives, such as the 777X, 737-7 and 737-10, involves increased risks associated with meeting development, production and certification schedules. These challenges include increased global regulatory scrutiny of all development aircraft in the wake of the 737 MAX accidents. As a result, our ability to deliver aircraft on time, satisfy performance and reliability standards and achieve or maintain, as applicable, program profitability is subject to significant risks. Factors that could result in lower margins (or a material charge if an airplane program has or is determined to have reach-forward losses) include the following: changes to the program accounting quantity, customer and model mix, production costs and rates, changes to price escalation factors due to changes in the inflation rate or other economic indicators, performance or reliability issues involving completed aircraft, capital expenditures and other costs associated with increasing or adding new production capacity, learning curve, additional change incorporation, achieving anticipated cost reductions, the addition of regulatory requirements in connection with certification in one or more jurisdictions, flight test and certification schedules, costs, schedule and demand for new airplanes and derivatives and status of customer claims, supplier claims or assertions and other contractual negotiations. While we believe the cost and revenue estimates incorporated in the consolidated financial statements are appropriate, the technical complexity of our airplane programs creates financial risk as additional completion costs may become necessary or scheduled delivery dates could be extended, which could trigger termination provisions, order cancellations or other financially significant exposure.

Defense, Space & Security

Business Environment and Trends

United States Government Defense Environment Overview

The Consolidated Appropriations Act, 2023, enacted in December 2022, provided fiscal year 2023 (FY23) appropriations for government departments and agencies, including $817 billion for the U.S. DoD and $25.4 billion for NASA. The enacted FY23 appropriations included funding for Boeing's major programs, including the F/A-18 Super Hornet, F-15EX, CH-47 Chinook, AH-64 Apache, V-22 Osprey, KC-46A Tanker, MQ-25, and the Space Launch System. The FY23 appropriations support F/A-18 production further into calendar year 2025. The FY23 appropriations did not include funding for additional P-8 aircraft. The P-8 program continues to pursue additional sales opportunities to extend production beyond 2024.

There is ongoing uncertainty with respect to program-level appropriations for the U.S. DoD, NASA and other government agencies for fiscal year 2024 and beyond. U.S. government discretionary spending, including defense spending, is likely to continue to be subject to pressure. Future budget cuts or investment priority changes, including changes associated with the authorizations and appropriations process, could result in reductions, cancellations and/or delays of existing contracts or programs. Any of these impacts could have a material effect on our results of operations, financial position and/or cash flows.

Non-U.S. Defense Environment Overview The non-U.S. market continues to be driven by complex and evolving security challenges and the need to modernize aging equipment and inventories. BDS expects that it will continue to have a wide range of opportunities across Asia, Europe and the Middle East given the diverse regional threats. At the end of 2022, 28% of BDS backlog was attributable to non-U.S. customers.

Results of Operations

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Revenues	**$23,162**	$26,540	$26,257
% of total company revenues	**35 %**	43 %	45 %
(Loss)/earnings from operations	**($3,544)**	$1,544	$1,539
Operating margins	**(15.3)%**	5.8 %	5.9 %

Since our operating cycle is long-term and involves many different types of development and production contracts with varying delivery and milestone schedules, the operating results of a particular period may not be indicative of future operating results. In addition, depending on the customer and their funding sources, our orders might be structured as annual follow-on contracts, or as one large multi-year order or long-term award. As a result, period-to-period comparisons of backlog are not necessarily indicative of future workloads. The following discussions of comparative results among periods should be viewed in this context.

Deliveries of new-build production units, including remanufactures and modifications, were as follows:

Years ended December 31,	**2022**	2021	2020
F/A-18 Models	**14**	21	20
F-15 Models	**12**	16	4
CH-47 Chinook (New)	**19**	15	27
CH-47 Chinook (Renewed)	**9**	5	3
AH-64 Apache (New)	**25**	27	19
AH-64 Apache (Remanufactured)	**50**	56	52
MH-139 Grey Wolf	**4**		
KC-46 Tanker	**15**	13	14
P-8 Models	**12**	16	15
Commercial Satellites	**4**		
Military Satellites	**1**		
Total	**165**	169	154

Revenues

BDS revenues in 2022 decreased by $3,378 million compared with 2021 primarily due to charges on development programs. Unfavorable performance across other defense programs and lower P-8 and weapons volume also contributed to the decrease in revenue. Cumulative contract catch-up adjustments in 2022 were $1,858 million more unfavorable than the prior year largely due to charges on development programs.

BDS revenues in 2021 increased by $283 million compared with 2020 primarily due to higher revenue on the KC-46A Tanker program due to new orders for 27 aircraft received during the first quarter of 2021 and lower charges in 2021. This was partially offset by lower revenues on rotorcraft programs, Commercial Crew and VC-25B. Cumulative contract catch-up adjustments in 2021 were $56 million less unfavorable than the prior year, largely due to the lower charges described below.

(Loss)/earnings From Operations

BDS loss from operations in 2022 of $3,544 million decreased by $5,088 million compared with earnings from operations of $1,544 million in 2021 primarily due to unfavorable impacts of cumulative contract catch-up adjustments ($4,284 million more unfavorable in 2022 than 2021). Volume and mix and higher research and development also contributed to the year over year earnings decline. Charges of fixed price development programs in 2022 included VC-25B ($1,452 million), KC-46A Tanker ($1,374 million), MQ-25 ($579 million), T-7A Red Hawk Production Options ($552 million), T-7A Red Hawk Engineering, Manufacturing and Development (EMD) ($203 million), and Commercial Crew ($288 million). These were partially offset by charges on the KC-46A Tanker ($402 million), VC-25B ($318 million), and Commercial Crew ($214 million) recognized in 2021. The net unfavorable cumulative contract catch-up adjustments represent losses incurred on these development and other programs. See further discussion of fixed-price contracts in Note 13 to our Consolidated Financial Statements.

BDS earnings from operations in 2021 of $1,544 million increased by $5 million compared with earnings from operations of $1,539 million in 2020 primarily due to less unfavorable impacts from cumulative contract catch-up adjustments, which improved $219 million from the prior year, largely due to lower KC-46A Tanker charges in 2021 compared to 2020 and other charges on development programs. The $219 million change in cumulative contract catch-up adjustments was offset primarily by lower volume and mix on rotorcraft programs and lower equity earnings for United Launch Alliance (ULA). During 2020, BDS recorded charges on KC-46A Tanker ($1,320 million) and VC-25B ($168 million).

BDS (loss)/earnings from operations includes our share of income from equity method investments of $13 million, $53 million and $141 million primarily from our ULA and non-U.S. joint ventures in 2022, 2021 and 2020, respectively. Earnings from our ULA joint venture increased in 2022, partially offset by losses on other operating investments.

Backlog

Total backlog of $54,373 million at December 31, 2022 was $5,455 million lower than December 31, 2021 due to the timing of awards and revenue recognized on contracts awarded in prior years.

Additional Considerations

Our BDS business includes a variety of development programs which have complex design and technical challenges. Some of these programs have cost-type contracting arrangements. In these cases, the associated financial risks are primarily in reduced fees, lower profit rates or program cancellation if cost, schedule or technical performance issues arise. Examples of these programs include Ground-based Midcourse Defense, Proprietary and Space Launch System programs.

Some of our development programs are contracted on a fixed-price basis. Examples of significant fixed-price development programs include Commercial Crew, KC-46A Tanker, MQ-25, T-7A Red Hawk, VC-25B, and commercial and military satellites. A number of our ongoing fixed-price development programs have reach-forward losses. New programs could also have risk for reach-forward loss upon contract award and during the period of contract performance. Many development programs have highly complex designs. As technical or quality issues arise during development, we may experience schedule delays and cost impacts, which could increase our estimated cost to perform the work or reduce our estimated price, either of which could result in a material charge or otherwise adversely affect our financial condition. These programs are ongoing, and while we believe the cost and fee estimates incorporated in the financial statements are appropriate, the technical complexity of these programs creates financial risk as additional completion costs may become necessary or scheduled delivery dates could be extended, which could trigger termination provisions or other financially significant exposure. Risk remains that we may be required to record additional reach-forward losses in future periods.

Global Services

Business Environment and Trends

The aerospace markets we serve include parts distribution, logistics and other inventory services; maintenance, engineering and upgrades; training and professional services; and data analytics and digital services. During 2022, commercial services volume at BGS recovered to pre-pandemic levels. We expect BGS commercial revenues to remain strong in future quarters as the commercial airline industry continues to recover.

Over the long-term, as the size of the worldwide commercial airline fleet continues to grow, so does demand for aftermarket services designed to increase efficiency and extend the economic lives of aircraft. Airlines are using data analytics to plan flight operations and predictive maintenance to improve their productivity and efficiency. Airlines continue to look for opportunities to reduce the size and cost of their spare parts inventory, frequently outsourcing spares management to third parties.

The demand outlook for our government services business has remained stable in 2022. Government services market segments are growing on pace with related fleets, but vary based on the utilization and age of the aircraft. The U.S. government services market is the single largest individual market, comprising over 50 percent of the government services markets served. Over the next decade, we

expect U.S. growth to remain flat and non-U.S. fleets, led by Middle East and Asia Pacific customers, to add rotorcraft and commercial derivative aircraft at faster rates. We expect less than 20 percent of the worldwide fleet of military aircraft to be retired and replaced over the next ten years, driving increased demand for services to maintain aging aircraft and enhance aircraft capability.

BGS' major customer, the U.S. government, remains subject to the spending limits and uncertainty described on page 35, which could restrict the execution of certain program activities and delay new programs or competitions.

Industry Competitiveness Aviation services is a competitive market with many domestic and international competitors. This market environment has resulted in intense pressures on pricing, and we expect these pressures to continue or intensify in the coming years. Continued access to global markets remains vital to our ability to fully realize our sales growth potential and long-term investment returns.

Results of Operations

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Revenues	**$17,611**	$16,328	$15,543
% of total company revenues	**26 %**	26 %	27 %
Earnings from operations	**$2,727**	$2,017	$450
Operating margins	**15.5 %**	12.4 %	2.9 %

Revenues

BGS revenues in 2022 increased by $1,283 million compared with 2021 primarily due to higher commercial services volume, partially offset by lower government services volume and performance. The decrease in government services volume is partly driven by the discontinuation of an engine distribution agreement in the second quarter of 2022. The net favorable impact of cumulative contract catch-up adjustments in 2022 was $137 million lower than the prior year.

BGS revenues in 2021 increased by $785 million compared with 2020 due to higher commercial and government services volume. The net favorable impact of cumulative contract catch-up adjustments in 2021 was $37 million lower than the prior year.

Earnings From Operations

BGS earnings from operations in 2022 increased by $710 million compared with 2021, primarily due to higher commercial services volume and favorable mix, partially offset by lower government services performance. The net unfavorable impact of cumulative contract catch-up adjustments in 2022 was $148 million worse than the net favorable impact in the prior year.

BGS earnings from operations in 2021 increased by $1,567 million compared with 2020, primarily due to charges incurred in 2020 driven by impacts of the COVID-19 pandemic as well as higher commercial services volume in 2021, partially offset by an inventory write-down of $220 million recognized in the fourth quarter of 2021 driven by revised cost estimates on certain customer contracts. Charges in 2020 included $531 million of inventory write-downs, $178 million of related impairments of distribution rights primarily driven by airlines' decisions to retire certain aircraft, $398 million for higher expected credit losses primarily driven by customer liquidity issues, $115 million of contract termination and facility impairment charges, and $72 million of severance costs. The net favorable impact of cumulative contract catch-up adjustments in 2021 was $98 million lower than the prior year.

Backlog

BGS total backlog of $19,338 million at December 31, 2022 decreased by 6% from $20,496 million at December 31, 2021, primarily due to revenue recognized on contracts awarded in prior years.

Boeing Capital

Business Environment and Trends

BCC's gross customer financing and investment portfolio at December 31, 2022 totaled $1,549 million. A substantial portion of BCC's portfolio is composed of customers that have less than investment-grade credit. BCC's portfolio is also concentrated by varying degrees across Boeing aircraft product types, most notably 717 and 747-8 aircraft.

BCC provided customer financing of $96 million during 2022 and none during 2021. While we may be required to fund a number of new aircraft deliveries in 2023 and/or provide refinancing for existing bridge debt, we expect alternative financing will be available at reasonable prices from broad and globally diverse sources.

Aircraft values and lease rates are impacted by the number and type of aircraft that are currently out of service. Approximately 4,950 western-built commercial jet aircraft (18.3% of current world fleet) were parked at the end of 2022, including both in-production and out-of-production aircraft types. Of these parked aircraft, a larger portion are expected to be retired compared to the pre-COVID-19 period, which directly impacts the Company in terms of number of new aircraft deliveries and financing opportunities, the ability of existing customers to meet current payment obligations and the value of aircraft in its portfolio. We continue to work closely with our customers to mitigate the risk. At the end of 2021 and 2020, 20.5% and 29.4% of the western-built commercial jet aircraft were parked. Aircraft valuations could decline if significant numbers of additional aircraft, particularly types with relatively few operators, are placed out of service. See Overview to Management's Discussion and Analysis of Financial Condition and Results of Operations for a discussion of the airline industry environment.

Results of Operations

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Revenues	**$199**	$272	$261
Earnings from operations	**$29**	$106	$63
Operating margins	**15 %**	39 %	24 %

Revenues

BCC segment revenues consist principally of lease income from equipment under operating lease, interest income from financing receivables and notes, and other income. BCC's revenues in 2022 decreased by $73 million compared with 2021 primarily due to lower gains on re-lease of assets.

Earnings From Operations

BCC's earnings from operations is presented net of interest expense, provision for (recovery of) losses, asset impairment expense, depreciation on leased equipment and other operating expenses. In 2022, earnings from operations decreased by $77 million compared with 2021, primarily due to an increase in the allowance for losses on receivables as a result of the war in Ukraine and lower revenues. Earnings from operations in 2021 increased by $43 million compared with 2020 primarily due to higher revenues, lower provision for losses, and lower interest and asset impairment expenses.

Financial Position

The following table presents selected financial data for BCC as of December 31:

(Dollars in millions)	**2022**	2021
Customer financing and investment portfolio, net	**$1,494**	$1,720
Other assets, primarily cash and short-term investments	**460**	462
Total assets	**$1,954**	$2,182
Other liabilities, primarily income taxes	**$239**	$347
Debt, including intercompany loans	**1,425**	1,525
Equity	**290**	310
Total liabilities and equity	**$1,954**	$2,182
Debt-to-equity ratio	**4.9-to-1**	4.9-to-1

BCC's customer financing and investment portfolio at December 31, 2022 decreased $226 million from December 31, 2021, primarily due to portfolio run-off, partially offset by new volume.

BCC enters into certain intercompany transactions, reflected in Unallocated items, eliminations and other, in the form of intercompany guarantees and other subsidies that mitigate the effects of certain credit quality or asset impairment issues on the BCC segment.

Liquidity and Capital Resources

Cash Flow Summary

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Net loss	**($5,053)**	($4,290)	($11,941)
Non-cash items	**4,426**	7,851	10,866
Changes in assets and liabilities	**4,139**	(6,977)	(17,335)
Net cash provided/(used) by operating activities	**3,512**	(3,416)	(18,410)
Net cash provided/(used) by investing activities	**4,370**	9,324	(18,366)
Net cash (used)/provided by financing activities	**(1,266)**	(5,600)	34,955
Effect of exchange rate changes on cash and cash equivalents	**(73)**	(39)	85
Net increase/(decrease) in cash & cash equivalents, including restricted	**6,543**	269	(1,736)
Cash & cash equivalents, including restricted, at beginning of year	**8,104**	7,835	9,571
Cash & cash equivalents, including restricted, at end of year	**$14,647**	$8,104	$7,835

Operating Activities Net cash provided by operating activities was $3.5 billion during 2022, compared with net cash used by operating activities of $3.4 billion during 2021. The $6.9 billion improvement in cash provided by operating activities in 2022 is primarily driven by improved changes in assets and liabilities of $11.1 billion, partially offset by lower non-cash items of $3.4 billion and higher net loss of $0.8 billion. Changes in assets and liabilities for 2022 improved by $11.1 billion compared with 2021 primarily driven by favorable changes in Accrued liabilities ($6.6 billion), Accounts payable ($4.6 billion) and Inventories ($1.5 billion), partially offset by a decrease in Advances and progress billings ($2.4 billion) in 2022. The increase in Accrued liabilities is primarily driven by the accrued losses on BDS fixed-price development programs, lower payments to 737 MAX customers in 2022, and a $0.7 billion

payment in 2021 consistent with the terms of the Deferred Prosecution Agreement between Boeing and the U.S. Department of Justice. Concessions paid to 737 MAX customers totaled $1.0 billion and $2.5 billion during 2022 and 2021. Growth in Accounts Payable in 2022 is a source of cash while reductions in Accounts Payable in 2021 were a use of cash generally reflecting increases in production rates. Inventory improvements were driven by higher 737 MAX deliveries and resumption of 787 deliveries in 2022. Additionally, in 2022 and 2021 we received income tax refunds of $1.5 billion and $1.7 billion. Cash provided by Advances and progress billings was $0.1 billion in 2022, as compared with $2.5 billion of cash provided in 2021. The $3.4 billion reduction in non-cash items in 2022 is primarily driven by the $3.5 billion reach-forward loss on the 787 program that was recorded in 2021. Net loss for 2022 was $5.1 billion compared with net loss of $4.3 billion in 2021. The $0.8 billion year-over-year increase in the net loss is primarily driven by the absence of an income tax benefit in 2022.

The reduction in cash used by operating activities in 2021 compared with 2020 is primarily driven by lower net loss and improved changes in assets and liabilities. Non-cash items in 2021 include the $3.5 billion reach-forward loss on the 787 program which was recorded as a reduction to inventory, as well as $1.2 billion of treasury shares issued to fund Company contributions to the 401(k) plan and $0.8 billion of share-based plans expense reflecting a one-time stock grant to most employees in lieu of 2021 salary increases. The changes in assets and liabilities reflect the significant increase in commercial aircraft inventory in 2020 driven by lower deliveries due to the COVID-19 pandemic and the 737 MAX grounding. In 2021, inventory growth slowed as the continued buildup of 787 aircraft caused by production issues and 777X inventory growth was partially offset by a decrease in 737 MAX inventory following the resumption of deliveries. Compensation payments to 737 MAX customers totaled $2.5 billion in 2021 and $2.2 billion in 2020. In the first quarter of 2021, we paid $0.7 billion consistent with the terms of the Deferred Prosecution Agreement between Boeing and the U.S. Department of Justice. Additionally, in 2021, we received income tax refunds of $1.7 billion. Cash provided by Advances and progress billings was $2.5 billion in 2021, as compared with Cash used by Advances and progress billings of $1.1 billion in 2020.

At December 31, 2022 and 2021, Accounts payable included $2.5 billion and $2.3 billion payable to suppliers who have elected to participate in supply chain financing programs. Payables to suppliers who elected to participate in supply chain financing programs increased by $0.2 billion in 2022 and declined by $1.5 billion and $1.9 billion in 2021 and 2020. Supply chain financing is not material to our overall liquidity. The declines in 2021 and 2020 were primarily due to reductions in commercial purchases from suppliers.

Investing Activities Cash provided by investing activities during 2022 was $4.4 billion, compared with cash provided by investing activities of $9.3 billion during 2021 and cash used by investing activities of $18.4 billion during 2020. The decrease in cash inflows in 2022 compared to 2021 is primarily due to $5.6 billion of net proceeds from investments compared to $9.8 billion in 2021. The increase in cash inflows in 2021 compared to 2020 is primarily due to $27.1 billion of higher net proceeds from investments. Capital expenditures totaled $1.2 billion in 2022, compared with $1.0 billion in 2021 and $1.3 billion in 2020. We expect capital expenditures in 2023 to be higher than in 2022.

Financing Activities Cash used by financing activities was $1.3 billion during 2022, compared with $5.6 billion during 2021 and cash provided of $35.0 billion in 2020. The decrease of $4.3 billion compared with 2021 primarily reflects higher net debt repayments in 2021. During 2021, debt repayments net of new borrowings were $5.6 billion, primarily due to $13.8 billion of repayments of our two-year delayed draw term loan credit agreement, partially offset by $9.8 billion of fixed rate senior notes issued in the first quarter of 2021. During the year ended December 31, 2020, new borrowings net of repayments were $36.3 billion, primarily due to $29.9 billion of fixed rate senior notes issued in 2020 and $13.8 billion of new borrowings under a two-year delayed draw term loan agreement entered into in the first quarter of 2020.

At December 31, 2022 and 2021 debt balances totaled $57.0 billion and $58.1 billion, of which $5.2 billion and $1.3 billion were classified as short-term. This included $1.4 billion and $1.5 billion of debt attributable to BCC at December 31, 2022 and 2021, of which $0.2 billion and $0.3 billion were classified as short-term.

During the years ended December 31, 2022, 2021 and 2020, we did not repurchase any shares through our open market share repurchase program. Share repurchases under this program have been suspended since April 2019. In March 2020, the Board of Directors terminated its prior authorization to repurchase shares of the Company's outstanding common stock in the open market. We had 0.2 million, 0.3 million and 0.6 million shares transferred to us from employee tax withholdings in 2022, 2021 and 2020, respectively. In March 2020, we announced the suspension of our dividend until further notice. As a result, we did not pay any dividends in 2022 and 2021 compared with $1.2 billion paid in 2020.

Capital Resources

The following table summarizes certain cash requirements for known contractual and other obligations as of December 31, 2022, and the estimated timing thereof. See Note 12 for future operating lease payments.

(Dollars in millions)	Current	Long-term	Total
Long-term debt (including current portion)	$5,197	$52,338	$57,535
Interest on debt	2,266	31,397	33,663
Pension and other postretirement	519	8,133	8,652
Purchase obligations	62,025	59,515	121,540
737 MAX customer concessions and consideration[(1)]	100	600	700

(1) For further discussion, see Note 13 to our Consolidated Financial Statements.

We expect to be able to fund our cash requirements through cash and short-term investments and cash provided by operations, as well as continued access to capital markets. At December 31, 2022, we had $14.6 billion of cash, $2.6 billion of short-term investments, and $12.0 billion of unused borrowing capacity on revolving credit line agreements. In the third quarter of 2022, we entered into a $5.8 billion 364-day revolving credit agreement expiring in August 2023, a $3 billion three-year revolving credit agreement expiring in August 2025, and amended our $3.2 billion five-year revolving credit agreement, which expires in October 2024, primarily to incorporate a LIBOR successor rate. The 364-day credit facility has a one-year term out option which allows us to extend the maturity of any borrowings one year beyond the aforementioned expiration date. We anticipate that these credit lines will remain undrawn and primarily serve as back-up liquidity to support our general corporate borrowing needs.

Our increased debt balance resulted in downgrades to our credit ratings in 2020, and our ratings remained unchanged in 2022 and 2021. We expect to be able to access capital markets when we require additional funding in order to pay off existing debt, address further impacts to our business related to market developments, fund outstanding financing commitments or meet other business requirements. A number of factors could cause us to incur increased borrowing costs and to have greater difficulty accessing public and private markets for debt. These factors include disruptions or declines in the global capital markets and/or a decline in our financial performance, outlook or credit ratings, and/or associated changes in demand for our products and services. These risks will be particularly acute if we are subject to further credit rating downgrades. The occurrence of any or all of these events may adversely affect our ability to fund our operations and financing or contractual commitments.

Any future borrowings may affect our credit ratings and are subject to various debt covenants. At December 31, 2022, we were in compliance with the covenants for our debt and credit facilities. The most restrictive covenants include a limitation on mortgage debt and sale and leaseback transactions as a percentage of consolidated net tangible assets (as defined in the credit agreements) and a limitation on consolidated debt as a percentage of total capital (as defined in the credit agreements). When considering debt covenants, we continue to have substantial borrowing capacity.

Pension and Other Postretirement Benefits Pension cash requirements are based on an estimate of our minimum funding requirements, pursuant to Employee Retirement Income Security Act (ERISA) regulations, although we may make additional discretionary contributions. Estimates of other postretirement benefits are based on both our estimated future benefit payments and the estimated contributions to plans that are funded through trusts.

At December 31, 2022 and 2021, our pension plans were $5.3 billion and $7.8 billion underfunded as measured under Generally Accepted Accounting Principles in the United States of America (GAAP). On an ERISA basis our plans are more than 100% funded at December 31, 2022. We do not expect to make significant contributions to our pension plans in 2023. We may be required to make higher contributions to our pension plans in future years.

In the fourth quarter of 2020, we contributed $3 billion of our common stock to our pension fund. In the fourth quarter of 2020, we also began using our common stock in lieu of cash to fund Company contributions to our 401(k) plans for the foreseeable future. Under this approach, common stock is contributed to our 401(k) plans following each pay period. This further enables the Company to conserve cash. We have retained an independent fiduciary to manage and liquidate stock contributed to these plans at its discretion.

Purchase Obligations Purchase obligations represent contractual agreements to purchase goods or services that are legally binding; specify a fixed, minimum or range of quantities; specify a fixed, minimum, variable or indexed price provision; and specify approximate timing of the transaction. Purchase obligations include amounts recorded as well as amounts that are not recorded on the Consolidated Statements of Financial Position.

Purchase obligations not recorded on the Consolidated Statements of Financial Position include agreements for inventory procurement, tooling costs, electricity and natural gas contracts, property, plant and equipment, customer financing equipment and other miscellaneous production related obligations. The most significant obligation relates to inventory procurement contracts. We have entered into certain significant inventory procurement contracts that specify determinable prices and quantities, and long-term delivery timeframes. In addition, we purchase raw materials on behalf of our suppliers. These agreements require suppliers and vendors to be prepared to build and deliver items in sufficient time to meet our production schedules. The need for such arrangements with suppliers and vendors arises from the extended production planning horizon for many of our products. A significant portion of these inventory commitments is supported by firm contracts with customers and/or has historically resulted in settlement through reimbursement from customers for penalty payments to the supplier should the customer not take delivery. These amounts are also included in our forecasts of costs for program and contract accounting. Some inventory procurement contracts may include escalation adjustments. In these limited cases, we have included our best estimate of the effect of the escalation adjustment in the amounts disclosed in the table above.

Purchase obligations recorded on the Consolidated Statements of Financial Position primarily include accounts payable and certain other current and long-term liabilities including accrued compensation.

We have entered into various industrial participation agreements with certain customers outside of the U.S. to facilitate economic flow back and/or technology or skills transfer to their businesses or government agencies as the result of their procurement of goods and/or services from us. These commitments may be satisfied by our local operations there, placement of direct work or vendor orders for supplies, opportunities to bid on supply contracts, transfer of technology or other forms of assistance. However, in certain cases, our commitments may be satisfied through other parties (such as our vendors) who purchase supplies from our non-U.S. customers. In certain cases, penalties could be imposed if we do not meet our industrial participation commitments. During 2022, we incurred no such penalties. As of December 31, 2022, we had outstanding industrial participation agreements

totaling $24.8 billion that extend through 2034. Purchase order commitments associated with industrial participation agreements are included in purchase obligations. To be eligible for such a purchase order commitment from us, a non-U.S. supplier must have sufficient capability to meet our requirements and must be competitive in cost, quality and schedule.

Off-Balance Sheet Arrangements We are a party to certain off-balance sheet arrangements including certain guarantees. For discussion of these arrangements, see Note 14 to our Consolidated Financial Statements.

Commercial Commitments

The following table summarizes our commercial commitments outstanding as of December 31, 2022.

(Dollars in millions)	Total Amounts Committed/ Maximum Amount of Loss	Less than 1 year	1-3 years	4-5 years	After 5 years
Standby letters of credit and surety bonds	$5,070	$3,859	$1,036	$10	$165
Commercial aircraft financing commitments	16,105	3,084	5,989	4,075	2,957
Total commercial commitments	$21,175	$6,943	$7,025	$4,085	$3,122

Commercial aircraft financing commitments include commitments to provide financing related to aircraft on order, under option for deliveries or proposed as part of sales campaigns or refinancing with respect to delivered aircraft, based on estimated earliest potential funding dates. Customer financing commitments totaled $16.1 billion and $12.9 billion at December 31, 2022 and 2021. The increase relates to new financing commitments. We anticipate that we will not be required to fund a significant portion of our financing commitments as we continue to work with third party financiers to provide alternative financing to customers. Historically, we have not been required to fund significant amounts of outstanding commitments. However, there can be no assurances that we will not be required to fund greater amounts than historically required. See Note 13 to our Consolidated Financial Statements.

Contingent Obligations

We have significant contingent obligations that arise in the ordinary course of business, which include the following:

Legal Various legal proceedings, claims and investigations are pending against us. Legal contingencies are discussed in Note 21 to our Consolidated Financial Statements.

Environmental Remediation We are involved with various environmental remediation activities and have recorded a liability of $752 million at December 31, 2022. For additional information, see Note 13 to our Consolidated Financial Statements.

Non-GAAP Measures

Core Operating Loss, Core Operating Margin and Core Loss Per Share

Our Consolidated Financial Statements are prepared in accordance with GAAP which we supplement with certain non-GAAP financial information. These non-GAAP measures should not be considered in isolation or as a substitute for the related GAAP measures, and other companies may define such measures differently. We encourage investors to review our financial statements and publicly-filed reports in their entirety and not to rely on any single financial measure. Core operating earnings, core operating margin and core earnings per share exclude the FAS/CAS service cost adjustment. The FAS/

CAS service cost adjustment represents the difference between the Financial Accounting Standards (FAS) pension and postretirement service costs calculated under GAAP and costs allocated to the business segments. Core earnings per share excludes both the FAS/CAS service cost adjustment and non-operating pension and postretirement expenses. Non-operating pension and postretirement expenses represent the components of net periodic benefit costs other than service cost. Pension costs, comprising service and prior service costs computed in accordance with GAAP are allocated to BCA and certain BGS businesses supporting commercial customers. Pension costs allocated to BDS and BGS businesses supporting government customers are computed in accordance with U.S. Government Cost Accounting Standards (CAS), which employ different actuarial assumptions and accounting conventions than GAAP. CAS costs are allocable to government contracts. Other postretirement benefit costs are allocated to all business segments based on CAS, which is generally based on benefits paid.

The Pension FAS/CAS service cost adjustments recognized in Loss from operations were benefits of $849 million in 2022, $882 million in 2021 and $1,024 million in 2020. The lower benefits in 2022 and 2021 were primarily due to reductions in allocated pension cost year over year. The non-operating pension expense included in Other income, net was a benefit of $881 million in 2022, $528 million in 2021 and $340 million in 2020. The higher benefits in 2022 were primarily due to lower amortization of net actuarial losses and a settlement loss that was recorded in 2021. For further discussion of pension and other postretirement costs, see the Management's Discussion and Analysis on page 24 of this Form 10-K and see Note 22 to our Consolidated Financial Statements.

Management uses core operating earnings, core operating margin and core earnings per share for purposes of evaluating and forecasting underlying business performance. Management believes these core earnings measures provide investors additional insights into operational performance as unallocated pension and other postretirement benefit cost primarily represent costs driven by market factors and costs not allocable to U.S. government contracts.

Reconciliation of Non-GAAP Measures to GAAP Measures

The table below reconciles the non-GAAP financial measures of core operating loss, core operating margins and core loss per share with the most directly comparable GAAP financial measures of loss from operations, operating margins and diluted loss per share.

(Dollars in millions, except per share data)

Years ended December 31,	**2022**	2021	2020
Revenues	**$66,608**	$62,286	$58,158
Loss from operations, as reported	**($3,547)**	($2,902)	($12,767)
Operating margins	**(5.3)%**	(4.7)%	(22.0)%
Pension FAS/CAS service cost adjustment[(1)]	**($849)**	($882)	($1,024)
Postretirement FAS/CAS service cost adjustment[(1)]	**(294)**	(291)	(359)
FAS/CAS service cost adjustment[(1)]	**($1,143)**	($1,173)	($1,383)
Core operating loss (non-GAAP)	**($4,690)**	($4,075)	($14,150)
Core operating margins (non-GAAP)	**(7.0)%**	(6.5)%	(24.3)%
Diluted loss per share, as reported	**($8.30)**	($7.15)	($20.88)
Pension FAS/CAS service cost adjustment[(1)]	**(1.43)**	(1.50)	(1.80)
Postretirement FAS/CAS service cost adjustment[(1)]	**(0.49)**	(0.49)	(0.63)
Non-operating pension expense[(2)]	**(1.47)**	(0.91)	(0.60)
Non-operating postretirement expense[(2)]	**(0.10)**		0.03
Provision for deferred income taxes on adjustments [(3)]	**0.73**	0.61	0.63
Core loss per share (non-GAAP)	**($11.06)**	($9.44)	($23.25)
Weighted average diluted shares (in millions)	**595.2**	588.0	569.0

(1) FAS/CAS service cost adjustment represents the difference between the FAS pension and postretirement service costs calculated under GAAP and costs allocated to the business segments. This adjustment is excluded from Core operating loss (non-GAAP).

(2) Non-operating pension and postretirement expenses represent the components of net periodic benefit costs other than service cost. These expenses are included in Other income, net and are excluded from Core loss per share (non-GAAP).

(3) The income tax impact is calculated using the U.S. corporate statutory tax rate.

Critical Accounting Policies & Estimates

Accounting for Long-term Contracts

Substantially all contracts at BDS and certain contracts at BGS are long-term contracts. Our long-term contracts typically represent a single distinct performance obligation due to the highly interdependent and interrelated nature of the underlying goods and/or services and the significant service of integration that we provide.

Accounting for long-term contracts involves a judgmental process of estimating the total sales, costs, and profit for each performance obligation. Cost of sales is recognized as incurred, and revenue is determined by adding a proportionate amount of the estimated profit to the amount reported as cost of sales.

Due to the size, duration and nature of many of our long-term contracts, the estimation of total sales and costs through completion is complicated and subject to many variables. Total sales estimates are based on negotiated contract prices and quantities, modified by our assumptions regarding contract options, change orders, incentive and award provisions associated with technical performance, and price adjustment clauses (such as inflation or index-based clauses). The majority of these long-term contracts are with the U.S. government where the price is generally based on estimated cost to produce the product or service plus profit. Federal Acquisition Regulations provide guidance on the types of cost that will be reimbursed in establishing contract price. Total cost estimates are largely based on negotiated or estimated purchase contract terms, historical performance trends, business base and other economic projections. Factors that influence these estimates include inflationary trends, technical and schedule risk, internal and subcontractor performance trends, business volume assumptions, asset utilization, anticipated labor agreements, and lingering impacts of COVID-19.

Revenue and cost estimates for all significant long-term contract performance obligations are reviewed and reassessed quarterly. Changes in these estimates could result in recognition of cumulative catch-up adjustments to the performance obligation's inception to date revenues, cost of sales and profit in the period in which such changes are made. Changes in revenue and cost estimates could also result in a reach-forward loss or an adjustment to a reach-forward loss which would be recorded immediately in earnings. Net cumulative catch-up adjustments for changes in estimated revenues and costs at completion across all long-term contracts, including the impact of increases in estimated losses on unexercised options, increased Loss from operations by $5,253 million, $880 million and $942 million in 2022, 2021 and 2020, respectively. The cumulative catch-up adjustments in 2022 were primarily due to losses recognized on the VC-25B, KC-46A Tanker, MQ-25, Commercial Crew and T-7A Red Hawk programs. These are all fixed-price development programs, and there is ongoing risk that similar losses may have to be recognized in future periods on these and/or other programs.

Due to the significance of judgment in the estimation process described above, it is likely that materially different earnings could be recorded if we used different assumptions or if the underlying circumstances were to change. Changes in underlying assumptions/estimates, internal and supplier performance, inflationary trends, or other circumstances may adversely or positively affect financial performance in future periods. If the combined gross margins for our profitable long-term contracts had been estimated to be higher or lower by 1% during 2022, it would have increased or decreased pre-tax income for the year by approximately $300 million.

Program Accounting

Program accounting requires the demonstrated ability to reliably estimate revenues, costs and gross profit margin for the defined program accounting quantity. A program consists of the estimated number of units (accounting quantity) of a product to be produced in a continuing, long-term production effort for

delivery under existing and anticipated contracts. The determination of the accounting quantity is limited by the ability to make reasonably dependable estimates.

Factors that must be estimated include program accounting quantity, sales price, labor and employee benefit costs, material costs, procured part costs, major component costs, overhead costs, program tooling and other non-recurring costs, and warranty costs. Estimation of the accounting quantity for each program takes into account several factors that are indicative of the demand for the particular program, such as firm orders, letters of intent from prospective customers and market studies. Total estimated program sales are determined by estimating the model mix and sales price for all unsold units within the accounting quantity, added together with the sales prices for all undelivered units under contract. The sales prices for all undelivered units within the accounting quantity include an escalation adjustment for inflation that is updated quarterly. Cost estimates are based largely on negotiated and anticipated contracts with suppliers, historical performance trends, and business base and other economic projections. Factors that influence these estimates include production rates, internal and subcontractor performance trends, learning curve, change incorporation, regulatory requirements in connection with certification, flight test and certification schedules, performance or reliability issues involving completed aircraft, customer and/or supplier claims or assertions, asset utilization, anticipated labor agreements, inflationary or deflationary trends, and lingering impacts of COVID-19.

To ensure reliability in our estimates, we employ a rigorous estimating process that is reviewed and updated on a quarterly basis. This includes reassessing the accounting quantity. Changes in estimates of program gross profit margins are normally recognized on a prospective basis; however, when estimated costs to complete a program plus costs already included in inventory exceed estimated revenues from the program, a loss is recorded in the current period. Reductions to the estimated loss are included in the gross profit margin for undelivered units in the accounting quantity whereas increases to the estimated loss are recorded as an earnings charge in the period in which the loss is determined.

The 767, 777X, and 787 programs had near break-even or single digit margins at December 31, 2022. Adverse changes to the revenue and/or cost estimates for these programs could result in earnings charges in future periods.

777X Program The 777X program had near break-even gross margins at December 31, 2022. The level of profitability on the 777X program will be subject to a number of factors. These factors include continued production disruption due to labor instability and supply chain disruption, customer negotiations, further production rate adjustments for the 777X or other commercial aircraft programs, contraction of the accounting quantity and potential risks associated with the testing program and the timing of aircraft certification. One or more of these factors could result in additional reach-forward losses on the 777X program in future periods, which may be material.

787 Program During the fourth quarter of 2021, we recorded a loss of $3.5 billion on the 787 program primarily due to rework driving longer delivery delays than were previously expected and associated customer considerations. During the fourth quarter of 2022, we increased the 787 program accounting quantity by 100 units due to the program's normal progress of obtaining additional orders and delivering aircraft. The increase in the accounting quantity improved the program's profit margin.

Our program revenue and cost assumptions reflect our current best estimate. However, if we are required to reduce the accounting quantity and/or production rates, experience further delivery delays, incur additional customer considerations, or experience other factors that result in lower margins, the 787 program could record additional losses in future periods, which may be material.

Pension Plans

Many of our employees have earned benefits under defined benefit pension plans. The majority of employees that had participated in defined benefit pension plans have transitioned to a company-funded defined contribution retirement savings plan. Accounting rules require an annual measurement of our projected obligation and plan assets. These measurements are based upon several assumptions, including the discount rate and the expected long-term rate of asset return. Future changes in assumptions or differences between actual and expected outcomes can significantly affect our future annual expense, projected benefit obligation and Shareholders' equity.

The projected benefit obligation is sensitive to discount rates. The projected benefit obligation would decrease by $1,270 million or increase by $1,415 million if the discount rate increased or decreased by 25 basis points. A 25 basis point change in the discount rate would not have a significant impact on pension cost. However, net periodic pension cost is sensitive to changes in the expected long-term rate of asset return. A decrease or increase of 25 basis points in the expected long-term rate of asset return would have increased or decreased 2022 net periodic pension cost by $158 million. See Note 16 of the Notes to our Consolidated Financial Statements, which includes the discount rate and expected long-term rate of asset return assumptions for the last three years.

Deferred Income Taxes – Valuation Allowance

The Company had deferred income tax assets of $12,301 million at December 31, 2022 that can be used in future years to offset taxable income and reduce income taxes payable. The Company had deferred income tax liabilities of $9,306 million at December 31, 2022 that will partially offset deferred income tax assets and result in higher taxable income in future years and increase income taxes payable. Tax law determines whether future reversals of temporary differences will result in taxable and deductible amounts that offset each other in future years. The particular years in which temporary differences result in taxable or deductible amounts generally are determined by the timing of the recovery of the related asset or settlement of the related liability.

On a quarterly basis, we assess the likelihood that we will be able to recover our deferred tax assets against future sources of taxable income and reduce the carrying amounts of deferred tax assets by recording a valuation allowance if, based on the available evidence, it is more likely than not (defined as a likelihood of more than 50%) that all or a portion of such assets will not be realized.

This assessment takes into account both positive and negative evidence. A recent history of financial reporting losses is heavily weighted as a source of objectively verifiable negative evidence. Due to our recent history of losses, we determined we could not include future projected earnings in our analysis. Rather, we use systematic and logical methods to estimate when deferred tax liabilities will reverse and generate taxable income and when deferred tax assets will reverse and generate tax deductions. The selection of methodologies and assessment of when temporary differences will result in taxable or deductible amounts involves significant management judgment and is inherently complex and subjective. We believe that the methodologies we use are reasonable and can be replicated on a consistent basis in future periods.

Deferred tax liabilities represent the assumed source of future taxable income and the majority are assumed to generate taxable amounts during the next five years. Deferred tax assets include amounts related to pension and other postretirement benefits that are assumed to generate significant deductible amounts beyond five years. The Company's valuation allowance of $3,162 million at December 31, 2022 primarily relates to pension and other postretirement benefit obligation deferred tax assets, tax credits and other carryforwards that are assumed to reverse beyond the period in which reversals of deferred tax liabilities are assumed to occur. During 2022, the Company increased the valuation allowance by $739 million primarily due to tax credits and other carryforwards generated in 2022 that

cannot be realized in 2022, partially offset by favorable pension remeasurement. Until the Company generates sustained levels of profitability, additional valuation allowances may have to be recorded with corresponding adverse impacts on earnings and/or other comprehensive income.

For additional information regarding income taxes, see Note 4 of the Notes to the Consolidated Financial Statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

We have financial instruments that are subject to interest rate risk, principally fixed- and floating-rate debt obligations, and customer financing assets and liabilities. The investors in our fixed-rate debt obligations do not generally have the right to demand we pay off these obligations prior to maturity. Therefore, exposure to interest rate risk is not believed to be material for our fixed-rate debt. As of December 31, 2022, we do not have any significant floating-rate debt obligations. Historically, we have not experienced material gains or losses on our customer financing assets and liabilities due to interest rate changes.

Foreign Currency Exchange Rate Risk

We are subject to foreign currency exchange rate risk relating to receipts from customers and payments to suppliers in foreign currencies. We use foreign currency forward contracts to hedge the price risk associated with firmly committed and forecasted foreign denominated payments and receipts related to our ongoing business. Foreign currency forward contracts are sensitive to changes in foreign currency exchange rates. At December 31, 2022, a 10% increase or decrease in the exchange rate in our portfolio of foreign currency contracts would have increased or decreased our unrealized losses by $232 million. Consistent with the use of these contracts to neutralize the effect of exchange rate fluctuations, such unrealized losses or gains would be offset by corresponding gains or losses, respectively, in the remeasurement of the underlying transactions being hedged. When taken together, these forward currency contracts and the offsetting underlying commitments do not create material market risk.

Commodity Price Risk

We are subject to commodity price risk relating to commodity purchase contracts for items used in production that are subject to changes in the market price. We use commodity swaps and commodity purchase contracts to hedge against these potentially unfavorable price changes. Our commodity purchase contracts and derivatives are both sensitive to changes in the market price. At December 31, 2022, a 10% increase or decrease in the market price in our commodity derivatives would have increased or decreased our unrealized losses by $70 million. Consistent with the use of these contracts to neutralize the effect of market price fluctuations, such unrealized losses or gains would be offset by corresponding gains or losses, respectively, in the remeasurement of the underlying transactions being hedged. When taken together, these commodity purchase contracts and the offsetting swaps do not create material market risk.

Item 8. Financial Statements and Supplementary Data

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The Boeing Company and Subsidiaries
Consolidated Statements of Operations

(Dollars in millions, except per share data)

Years ended December 31,	**2022**	2021	2020
Sales of products	**$55,893**	$51,386	$47,142
Sales of services	**10,715**	10,900	11,016
Total revenues	**66,608**	62,286	58,158
Cost of products	**(53,969)**	(49,954)	(54,568)
Cost of services	**(9,109)**	(9,283)	(9,232)
Boeing Capital interest expense	**(28)**	(32)	(43)
Total costs and expenses	**(63,106)**	(59,269)	(63,843)
	3,502	3,017	(5,685)
(Loss)/income from operating investments, net	**(16)**	210	9
General and administrative expense	**(4,187)**	(4,157)	(4,817)
Research and development expense, net	**(2,852)**	(2,249)	(2,476)
Gain on dispositions, net	**6**	277	202
Loss from operations	**(3,547)**	(2,902)	(12,767)
Other income, net	**1,058**	551	447
Interest and debt expense	**(2,533)**	(2,682)	(2,156)
Loss before income taxes	**(5,022)**	(5,033)	(14,476)
Income tax (expense)/benefit	**(31)**	743	2,535
Net loss	**(5,053)**	(4,290)	(11,941)
Less: net loss attributable to noncontrolling interest	**(118)**	(88)	(68)
Net loss attributable to Boeing Shareholders	**($4,935)**	($4,202)	($11,873)
Basic loss per share	**($8.30)**	($7.15)	($20.88)
Diluted loss per share	**($8.30)**	($7.15)	($20.88)

See Notes to the Consolidated Financial Statements on pages 59 - 114.

The Boeing Company and Subsidiaries
Consolidated Statements of Comprehensive Income

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Net loss	**($5,053)**	($4,290)	($11,941)
Other comprehensive income/(loss), net of tax:			
Currency translation adjustments	**(62)**	(75)	98
Unrealized loss on certain investments, net of tax of $0, $0 and $0	**(1)**		
Derivative instruments:			
Unrealized (loss)/gain arising during period, net of tax of $12, ($16) and ($4)	**(40)**	55	14
Reclassification adjustment for loss/(gain) included in net earnings, net of tax of ($3), $2 and ($7)	**10**	(6)	27
Total unrealized (loss)/gain on derivative instruments, net of tax	**(30)**	49	41
Defined benefit pension plans & other postretirement benefits:			
Net actuarial gain/(loss) arising during the period, net of tax of ($22), ($32) and $111	**1,533**	4,262	(1,956)
Amortization of actuarial loss included in net periodic pension cost, net of tax of ($11), ($8) and ($52)	**791**	1,155	917
Settlements included in net (loss)/income, net of tax of $0, ($2) and $0	**(4)**	191	5
Amortization of prior service credits included in net periodic pension cost, net of tax of $2, $1 and $6	**(114)**	(114)	(112)
Prior service (credit)/cost arising during the period, net of tax of $0, $0 and ($2)	**(1)**		27
Pension and postretirement (cost)/benefit related to our equity method investments, net of tax of $0, ($2) and $0	**(3)**	6	
Total defined benefit pension plans & other postretirement benefits, net of tax	**2,202**	5,500	(1,119)
Other comprehensive income/(loss), net of tax	**2,109**	5,474	(980)
Comprehensive (loss)/income, net of tax	**(2,944)**	1,184	(12,921)
Less: Comprehensive loss related to noncontrolling interest	**(118)**	(88)	(68)
Comprehensive (loss)/income attributable to Boeing Shareholders, net of tax	**($2,826)**	$1,272	($12,853)

See Notes to the Consolidated Financial Statements on pages 59 - 114.

The Boeing Company and Subsidiaries
Consolidated Statements of Financial Position

(Dollars in millions, except per share data)

December 31,	**2022**	2021
Assets		
Cash and cash equivalents	**$14,614**	$8,052
Short-term and other investments	**2,606**	8,192
Accounts receivable, net	**2,517**	2,641
Unbilled receivables, net	**8,634**	8,620
Current portion of customer financing, net	**154**	117
Inventories	**78,151**	78,823
Other current assets, net	**2,847**	2,221
Total current assets	**109,523**	108,666
Customer financing, net	**1,450**	1,695
Property, plant and equipment, net	**10,550**	10,918
Goodwill	**8,057**	8,068
Acquired intangible assets, net	**2,311**	2,562
Deferred income taxes	**63**	77
Investments	**983**	975
Other assets, net of accumulated amortization of $949 and $975	**4,163**	5,591
Total assets	**$137,100**	$138,552
Liabilities and equity		
Accounts payable	**$10,200**	$9,261
Accrued liabilities	**21,581**	18,455
Advances and progress billings	**53,081**	52,980
Short-term debt and current portion of long-term debt	**5,190**	1,296
Total current liabilities	**90,052**	81,992
Deferred income taxes	**230**	218
Accrued retiree health care	**2,503**	3,528
Accrued pension plan liability, net	**6,141**	9,104
Other long-term liabilities	**2,211**	1,750
Long-term debt	**51,811**	56,806
Total liabilities	**152,948**	153,398
Shareholders' equity:		
Common stock, par value $5.00 – 1,200,000,000 shares authorized; 1,012,261,159 shares issued	**5,061**	5,061
Additional paid-in capital	**9,947**	9,052
Treasury stock, at cost	**(50,814)**	(51,861)
Retained earnings	**29,473**	34,408
Accumulated other comprehensive loss	**(9,550)**	(11,659)
Total shareholders' deficit	**(15,883)**	(14,999)
Noncontrolling interests	**35**	153
Total equity	**(15,848)**	(14,846)
Total liabilities and equity	**$137,100**	$138,552

See Notes to the Consolidated Financial Statements on pages 59 - 114.

The Boeing Company and Subsidiaries
Consolidated Statements of Cash Flows

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Cash flows – operating activities:			
Net loss	**($5,053)**	($4,290)	($11,941)
Adjustments to reconcile net loss to net cash used by operating activities:			
Non-cash items –			
Share-based plans expense	**725**	833	250
Treasury shares issued for 401(k) contribution	**1,215**	1,233	195
Depreciation and amortization	**1,979**	2,144	2,246
Investment/asset impairment charges, net	**112**	98	410
Customer financing valuation adjustments	**37**		12
Gain on dispositions, net	**(6)**	(277)	(202)
787 and 777X reach-forward losses		3,460	6,493
Other charges and credits, net	**364**	360	1,462
Changes in assets and liabilities –			
Accounts receivable	**142**	(713)	909
Unbilled receivables	**6**	(586)	919
Advances and progress billings	**108**	2,505	(1,060)
Inventories	**420**	(1,127)	(11,002)
Other current assets	**(591)**	345	372
Accounts payable	**838**	(3,783)	(5,363)
Accrued liabilities	**2,956**	(3,687)	1,074
Income taxes receivable, payable and deferred	**1,347**	733	(2,576)
Other long-term liabilities	**(158)**	(206)	(222)
Pension and other postretirement plans	**(1,378)**	(972)	(794)
Customer financing, net	**142**	210	173
Other	**307**	304	235
Net cash provided/(used) by operating activities	**3,512**	(3,416)	(18,410)
Cash flows – investing activities:			
Payments to acquire property, plant and equipment	**(1,222)**	(980)	(1,303)
Proceeds from disposals of property, plant and equipment	**35**	529	296
Acquisitions, net of cash acquired		(6)	
Contributions to investments	**(5,051)**	(35,713)	(37,616)
Proceeds from investments	**10,619**	45,489	20,275
Other	**(11)**	5	(18)
Net cash provided/(used) by investing activities	**4,370**	9,324	(18,366)
Cash flows – financing activities:			
New borrowings	**34**	9,795	47,248
Debt repayments	**(1,310)**	(15,371)	(10,998)
Stock options exercised	**50**	42	36
Employee taxes on certain share-based payment arrangements	**(40)**	(66)	(173)
Dividends paid			(1,158)
Net cash (used)/provided by financing activities	**(1,266)**	(5,600)	34,955
Effect of exchange rate changes on cash and cash equivalents	**(73)**	(39)	85
Net increase/(decrease) in cash & cash equivalents, including restricted	**6,543**	269	(1,736)
Cash & cash equivalents, including restricted, at beginning of year	**8,104**	7,835	9,571
Cash & cash equivalents, including restricted, at end of year	**14,647**	8,104	7,835
Less restricted cash & cash equivalents, included in Investments	**33**	52	83
Cash and cash equivalents at end of year	**$14,614**	$8,052	$7,752

See Notes to the Consolidated Financial Statements on pages 59 - 114.

The Boeing Company and Subsidiaries
Consolidated Statements of Equity

(Dollars in millions, except per share data)	Boeing shareholders						
	Common Stock	Additional Paid-In Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Loss	Non-controlling Interests	Total
Balance at January 1, 2020	$5,061	$6,745	($54,914)	$50,482	($16,153)	$317	($8,462)
Net loss				(11,873)		(68)	(11,941)
Other comprehensive loss, net of tax of $52					(980)		(980)
Share-based compensation		250					250
Treasury shares issued for stock options exercised, net		(26)	63				37
Treasury shares issued for other share-based plans, net		(214)	47				(167)
Treasury shares contributed to pension plans		952	2,048				3,000
Treasury shares issued for 401(k) contribution		80	115				195
Changes in noncontrolling interests						(8)	(8)
Other				1			1
Balance at December 31, 2020	$5,061	$7,787	($52,641)	$38,610	($17,133)	$241	($18,075)
Net loss				(4,202)		(88)	(4,290)
Other comprehensive income, net of tax of ($57)					5,474		5,474
Share-based compensation		833					833
Treasury shares issued for stock options exercised, net		(28)	70				42
Treasury shares issued for other share-based plans, net		(98)	35				(63)
Treasury shares issued for 401(k) contribution		558	675				1,233
Balance at December 31, 2021	**$5,061**	**$9,052**	**($51,861)**	**$34,408**	**($11,659)**	**$153**	**($14,846)**
Net loss				**(4,935)**		**(118)**	**(5,053)**
Other comprehensive income, net of tax of ($22)					**2,109**		**2,109**
Share-based compensation		**725**					**725**
Treasury shares issued for stock options exercised, net		**(31)**	**81**				**50**
Treasury shares issued for other share-based plans, net		**(94)**	**46**				**(48)**
Treasury shares issued for 401(k) contribution		**295**	**920**				**1,215**
Balance at December 31, 2022	**$5,061**	**$9,947**	**($50,814)**	**$29,473**	**($9,550)**	**$35**	**($15,848)**

See Notes to the Consolidated Financial Statements on pages 59 - 114.

The Boeing Company and Subsidiaries
Notes to the Consolidated Financial Statements
Summary of Business Segment Data

(Dollars in millions)

Years ended December 31,	**2022**	2021	2020
Revenues:			
Commercial Airplanes	**$25,867**	$19,493	$16,162
Defense, Space & Security	**23,162**	26,540	26,257
Global Services	**17,611**	16,328	15,543
Boeing Capital	**199**	272	261
Unallocated items, eliminations and other	**(231)**	(347)	(65)
Total revenues	**$66,608**	$62,286	$58,158
(Loss)/earnings from operations:			
Commercial Airplanes	**($2,370)**	($6,475)	($13,847)
Defense, Space & Security	**(3,544)**	1,544	1,539
Global Services	**2,727**	2,017	450
Boeing Capital	**29**	106	63
Segment operating loss	**(3,158)**	(2,808)	(11,795)
Unallocated items, eliminations and other	**(1,532)**	(1,267)	(2,355)
FAS/CAS service cost adjustment	**1,143**	1,173	1,383
Loss from operations	**(3,547)**	(2,902)	(12,767)
Other income, net	**1,058**	551	447
Interest and debt expense	**(2,533)**	(2,682)	(2,156)
Loss before income taxes	**(5,022)**	(5,033)	(14,476)
Income tax (expense)/benefit	**(31)**	743	2,535
Net loss	**(5,053)**	(4,290)	(11,941)
Less: net loss attributable to noncontrolling interest	**(118)**	(88)	(68)
Net loss attributable to Boeing Shareholders	**($4,935)**	($4,202)	($11,873)

This information is an integral part of the Notes to the Consolidated Financial Statements. See Note 22 for further segment results.

Note 1 – Summary of Significant Accounting Policies

Principles of Consolidation and Basis of Presentation

The Consolidated Financial Statements included in this report have been prepared by management of The Boeing Company (herein referred to as "Boeing," the "Company," "we," "us" or "our"). These statements include the accounts of all majority-owned subsidiaries and variable interest entities that are required to be consolidated. All significant intercompany accounts and transactions have been eliminated. As described in Note 22, we operate in four reportable segments: Commercial Airplanes (BCA), Defense, Space & Security (BDS), Global Services (BGS) and Boeing Capital (BCC).

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Operating Cycle

For classification of certain current assets and liabilities, we use the duration of the related contract or program as our operating cycle, which is generally longer than one year.

Revenue and Related Cost Recognition

Commercial aircraft contracts The majority of our BCA segment revenue is derived from commercial aircraft contracts. For each contract, we determine the transaction price based on the consideration expected to be received. We allocate the transaction price to each commercial aircraft performance obligation based on relative standalone selling prices adjusted by an escalation formula as specified in the customer agreement. Revenue is recognized for each commercial aircraft performance obligation at the point in time when the aircraft is completed and accepted by the customer. We use program accounting to determine the amount reported as cost of sales.

Payments for commercial aircraft sales are received in accordance with the customer agreement, which generally includes a deposit upon order and additional payments in accordance with a payment schedule, with the balance being due immediately prior to or at aircraft delivery. Advances and progress billings (contract liabilities) are normal and customary for commercial aircraft contracts and not considered a significant financing component as they are intended to protect us from the other party failing to adequately complete some or all of its obligations under the contract.

Long-term contracts Substantially all contracts at BDS and certain contracts at BGS are long-term contracts with the U.S. government and other customers that generally extend over several years. Products sales under long-term contracts primarily include fighter jets, rotorcraft, cybersecurity products, surveillance suites, advanced weapons, missile defense, military derivative aircraft, satellite systems and modification of commercial passenger aircraft to cargo freighters. Sales of services under long-term contracts primarily include support and maintenance agreements associated with our commercial and defense products and space travel on Commercial Crew.

For each long-term contract, we determine the transaction price based on the consideration expected to be received. We allocate the transaction price to each distinct performance obligation to deliver a good or service, or a collection of goods and/or services, based on the relative standalone selling prices. A long-term contract will typically represent a single distinct performance obligation due to the highly interdependent and interrelated nature of the underlying goods and/or services and the significant service of integration that we provide. While the scope and price on certain long-term contracts may be modified over their life, the transaction price is based on current rights and obligations under the contract and does not include potential modifications until they are agreed upon with the customer. When applicable, a cumulative adjustment or separate recognition for the additional scope and price may result. Long-term contracts can be negotiated with a fixed price or a price in which we are reimbursed for costs incurred plus an agreed upon profit. The Federal Acquisition Regulations provide guidance on the types of cost that will be reimbursed in establishing the price for contracts with the U.S. government. Certain long-term contracts include in the transaction price variable consideration, such as incentive and award fees, if specified targets are achieved. The amount included in the transaction price represents the expected value, based on a weighted probability, or the most likely amount.

Long-term contract revenue is recognized over the contract term (over time) as the work progresses, either as products are produced or as services are rendered. We generally recognize revenue over time as we perform on long-term contracts because of continuous transfer of control to the customer. For U.S. government contracts, this continuous transfer of control to the customer is supported by clauses in the contract that allow the customer to unilaterally terminate the contract for convenience, pay us for costs incurred plus a reasonable profit and take control of any work in process. Similarly, for non-U.S. government contracts, the customer typically controls the work in process as evidenced either by contractual termination clauses or by our rights to payment of the transaction price associated with work performed to date on products or services that do not have an alternative use to the Company.

The accounting for long-term contracts involves a judgmental process of estimating total sales, costs and profit for each performance obligation. Cost of sales is recognized as incurred. The amount reported as revenues is determined by adding a proportionate amount of the estimated profit to the amount reported as cost of sales. Recognizing revenue as costs are incurred provides an objective measure of progress on the long-term contract and thereby best depicts the extent of transfer of control to the customer.

For long-term contracts for which revenue is recognized over time, changes in estimated revenues, cost of sales and the related effect on operating income are recognized using a cumulative catch-up adjustment which recognizes in the current period the cumulative effect of the changes on current and prior periods based on a long-term contract's percentage-of-completion. When the current estimates of total revenues and costs at completion for a long-term contract indicate a loss, a provision for the entire reach-forward loss on the long-term contract is recognized.

The table below reflects the impact of net cumulative catch-up adjustments for changes in estimated revenues and costs at completion across all long-term contracts including the impact to Loss from operations from increases in estimated losses on unexercised options for the years ended December 31:

	2022	2021	2020
Decrease to Revenue	**($2,335)**	($379)	($359)
Increase to Loss from operations	**($5,253)**	($880)	($942)
Decrease to Diluted EPS	**($8.88)**	($1.28)	($1.37)

Significant adjustments during the three years ended December 31, 2022 included losses on VC-25B, KC-46A Tanker, MQ-25, Commercial Crew and T-7A Red Hawk programs.

Due to the significance of judgment in the estimation process, changes in underlying assumptions/ estimates, internal and supplier performance, inflationary trends, or other circumstances may adversely or positively affect financial performance in future periods.

Payments under long-term contracts may be received before or after revenue is recognized. The U.S. government customer typically withholds payment of a small portion of the contract price until contract completion. Therefore, long-term contracts typically generate Unbilled receivables (contract assets) but may generate Advances and progress billings (contract liabilities). Long-term contract Unbilled receivables and Advances and progress billings are not considered a significant financing component because they are intended to protect either the customer or the Company in the event that some or all of the obligations under the contract are not completed.

Commercial spare parts contracts Certain contracts at our BGS segment include sales of commercial spare parts. For each contract, we determine the transaction price based on the consideration expected to be received. The spare parts have discrete unit prices that represent fair value. We generally consider each spare part to be a separate performance obligation. Revenue is recognized for each commercial spare part performance obligation at the point in time of delivery to the customer. We may provide our customers with a right to return a commercial spare part where a customer may receive a full or partial refund, a credit applied to amounts owed, a different product in exchange, or any combination of these items. We consider the potential for customer returns in the estimated transaction price. The amount reported as cost of sales is recorded at average cost. Payments for commercial spare parts sales are typically received shortly after delivery.

Other service revenue contracts Certain contracts at our BGS segment are for sales of services to commercial customers including maintenance, training, data analytics and information-based services. We recognize revenue for these service performance obligations over time as the services are rendered. The method of measuring progress (such as straight-line or billable amount) varies depending upon which method best depicts the transfer of control to the customer based on the type of service performed. Cost of sales is recorded as incurred.

Concession sharing arrangements We account for sales concessions to our customers in consideration of their purchase of products and services as a reduction of the transaction price and the revenue that is recognized for the related performance obligations. The sales concessions incurred may be partially reimbursed by certain suppliers in accordance with concession sharing arrangements. We record these reimbursements, which are presumed to represent reductions in the price of the vendor's products or services, as a reduction in Cost of products.

Unbilled receivables and advances and progress billings Unbilled receivables (contract assets) arise when the Company recognizes revenue for amounts which cannot yet be billed under terms of the contract with the customer. Advances and progress billings (contract liabilities) arise when the Company receives payments from customers in advance of recognizing revenue. The amount of Unbilled receivables or Advances and progress billings is determined for each contract.

Financial services revenue We record financial services revenue associated with sales-type/finance leases, operating leases and loans in Sales of services on the Consolidated Statements of Operations. For sales-type leases, we recognize selling profit or loss at lease inception if collection of the lease payments is probable. For sales-type and direct finance leases, we record customer financing receivables at lease inception. A customer financing receivable is recorded at the aggregate of future minimum lease payments, estimated residual value of the leased equipment, and any deferred incremental direct costs less unearned income. Income is recognized over the life of the lease to approximate a level rate of return on the net investment. For notes receivable, we record customer financing receivables net of any unamortized discounts and deferred incremental direct costs. Interest income and amortization of any discounts are recorded ratably over the related term of the note.

Income recognition is generally suspended for customer financing receivables that are uncollectible. We determine that a customer financing receivable is uncollectible when, based on current information and events, it is probable that we will be unable to collect amounts due according to the original contractual terms. We determine a customer financing receivable is past due when cash has not been received upon the due date specified in the contract.

We evaluate the collectability of customer financing receivables at commencement and on a recurring basis. If a customer financing receivable is determined to be uncollectible, the customer is categorized as non-accrual status. When a customer is in non-accrual status at commencement, sales-type lease revenue is deferred until substantially all cash has been received or the customer is removed from non-accrual status. If we have a direct finance lease and/or a note receivable with a customer that is in non-accrual status, or a sales-type lease with a customer that changes to non-accrual status after commencement, we recognize contractual interest income as payments are received to the extent there is sufficient collateral and payments exceed past due principal payments.

Residual values, which are reviewed periodically, represent the estimated amount we expect to receive at lease termination from the disposition of the leased equipment. Actual residual values realized could differ from these estimates. Declines in estimated residual value that are deemed other-than-temporary are recognized in the period in which the declines occur.

For operating leases, revenue on leased aircraft and equipment is recorded on a straight-line basis over the term of the lease. Operating lease assets, included in Customer financing, net, are recorded at cost and depreciated to an estimated residual value using the straight-line method over the period that we project we will hold the asset. We periodically review our estimates of residual value and recognize forecasted changes by prospectively adjusting depreciation expense. We record assets held for sale at the lower of carrying value or fair value less costs to sell. We evaluate for impairment assets under operating leases when events or changes in circumstances indicate that the expected undiscounted cash flow from the asset may be less than the carrying value. When we determine that impairment is indicated for an asset, the amount of impairment expense recorded is the excess of the carrying value over the fair value of the asset.

Reinsurance revenue Our wholly-owned insurance subsidiary, Astro Ltd., participates in a reinsurance pool for workers' compensation. The member agreements and practices of the reinsurance pool minimize any participating members' individual risk. Reinsurance revenues were $129, $126 and $129 during 2022, 2021 and 2020, respectively. Reinsurance costs related to premiums and claims paid to the reinsurance pool were $134, $129 and $136 during 2022, 2021 and 2020, respectively. Revenues and costs are presented net in Cost of sales in the Consolidated Statements of Operations.

Research and Development

Research and development includes costs incurred for experimentation, design and testing, as well as bid and proposal efforts related to government products and services, which are expensed as incurred unless the costs are related to certain contractual arrangements with customers. Costs that are incurred pursuant to such contractual arrangements are recorded over the period that revenue is recognized, consistent with our long-term contract accounting policy. We have certain research and development arrangements that meet the requirement for best efforts research and development accounting. Accordingly, the amounts funded by the customer are recognized as an offset to our research and development expense rather than as contract revenues. Research and development expense included bid and proposal costs of $217, $213 and $224 in 2022, 2021 and 2020, respectively.

Share-Based Compensation

We provide various forms of share-based compensation to our employees. For awards settled in shares, we measure compensation expense based on the grant-date fair value net of estimated forfeitures. For awards settled in cash, or that may be settled in cash, we measure compensation expense based on the fair value at each reporting date net of estimated forfeitures. The expense is recognized over the requisite service period, which is generally the vesting period of the award.

Income Taxes

Provisions for U.S. federal, state and local, and non-U.S. income taxes are calculated on reported Loss before income taxes based on current tax law and also include, in the current period, the cumulative effect of any changes in tax rates from those used previously in determining deferred tax assets and liabilities. Such provisions differ from the amounts currently receivable or payable because certain items of income and expense are recognized in different time periods for financial reporting purposes than for income tax purposes. Significant judgment is required in determining income tax provisions and evaluating tax positions.

The accounting for uncertainty in income taxes requires a more-likely-than-not threshold for financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. We record a liability for the difference between the benefit recognized and measured for financial statement purposes and the tax position taken or expected to be taken on our tax return. To the extent that our assessment of such tax positions changes, the change in estimate is recorded in the period in which the determination is made. Tax-related interest and penalties are classified as a component of Income tax (expense)/benefit.

We also assess the likelihood that we will be able to recover our deferred tax assets against future sources of taxable income and reduce the carrying amounts of deferred tax assets by recording a valuation allowance if, based on the available evidence, it is more likely than not that all or a portion of such assets will not be realized. Changes in our estimates and judgments regarding realization of deferred tax assets may result in an increase or decrease to our tax expense and/or other comprehensive income, which would be recorded in the period in which the change occurs.

Postretirement Plans

Many of our employees have earned benefits under defined benefit pension plans. The majority of employees that had participated in defined benefit pension plans have transitioned to a company-funded defined contribution retirement savings plan. We also provide postretirement benefit plans other than pensions, consisting principally of health care coverage to eligible retirees and qualifying dependents. Benefits under the pension and other postretirement benefit plans are generally based on age at retirement and years of service and, for some pension plans, benefits are also based on the employee's annual earnings. The net periodic cost of our pension and other postretirement plans is determined using the projected unit credit method and several actuarial assumptions, the most significant of which are the discount rate, the long-term rate of asset return and medical trend (rate of growth for medical costs). Actuarial gains and losses, which occur when actual experience differs from actuarial assumptions, are reflected in Shareholders' equity (net of taxes). If actuarial gains and losses exceed ten percent of the greater of plan assets or plan liabilities, we amortize them over the average expected future lifetime of participants. The funded status of our pension and postretirement plans is reflected on the Consolidated Statements of Financial Position.

Postemployment Plans

We record a liability for postemployment benefits, such as severance or job training, when payment is probable, the amount is reasonably estimable, and the obligation relates to rights that have vested or accumulated.

Environmental Remediation

We are subject to federal and state requirements for protection of the environment, including those for discharge of hazardous materials and remediation of contaminated sites. We routinely assess, based on in-depth studies, expert analyses and legal reviews, our contingencies, obligations and commitments for remediation of contaminated sites, including assessments of ranges and probabilities of recoveries from other responsible parties and/or insurance carriers. Our policy is to accrue and charge to current expense identified exposures related to environmental remediation sites when it is probable that a liability has been incurred and the amount can be reasonably estimated. The amount of the liability is based on our best estimate or the low end of a range of reasonably possible exposure for investigation, cleanup and monitoring costs to be incurred. Estimated remediation costs are not discounted to present value as the timing of payments cannot be reasonably estimated. We may be able to recover a portion of the remediation costs from insurers or other third parties. Such recoveries are recorded when realization of the claim for recovery is deemed probable.

Cash and Cash Equivalents

Cash and cash equivalents consist of highly liquid instruments, such as commercial paper, time deposits, and other money market instruments, which have original maturities of three months or less. We aggregate our cash balances by bank where conditions for right of set-off are met, and reclassify any negative balances, consisting mainly of uncleared checks, to Accounts payable. Negative balances reclassified to Accounts payable were $102 and $47 at December 31, 2022 and 2021.

Inventories

Inventoried costs on commercial aircraft programs and long-term contracts include direct engineering, production and tooling and other non-recurring costs, and applicable overhead, which includes fringe benefits, production related indirect and plant management salaries and plant services, not in excess of estimated net realizable value. To the extent a material amount of such costs are related to an abnormal event or are fixed costs not appropriately attributable to our programs or contracts, they are expensed in the current period rather than inventoried. Inventoried costs include amounts relating to programs and contracts with long-term production cycles, a portion of which is not expected to be realized within one year. Included in inventory for federal government contracts is an allocation of allowable costs related to manufacturing process reengineering.

Commercial aircraft programs inventory includes deferred production costs and supplier advances. Deferred production costs represent actual costs incurred for production of early units that exceed the estimated average cost of all units in the program accounting quantity. Higher production costs are experienced at the beginning of a new or derivative aircraft program. Units produced early in a program require substantially more effort (labor and other resources) than units produced later in a program because of volume efficiencies and the effects of learning. We expect that these deferred costs will be fully recovered when all units included in the accounting quantity are delivered as the expected unit cost for later deliveries is below the estimated average cost of all units in the program. Supplier advances represent payments for parts we have contracted to receive from suppliers in the future. As parts are received, supplier advances are amortized to work in process.

The determination of net realizable value of long-term contract costs is based upon quarterly reviews that estimate costs to be incurred to complete all contract requirements. When actual contract costs and

the estimate to complete exceed total estimated contract revenues, a loss provision is recorded. The determination of net realizable value of commercial aircraft program costs is based upon quarterly program reviews that estimate revenue and cost to be incurred to complete the program accounting quantity. When estimated costs to complete exceed estimated program revenues to go, a program loss provision is recorded in the current period for the estimated loss on all undelivered units in the accounting quantity.

Used aircraft purchased by the Commercial Airplanes segment and general stock materials are stated at cost not in excess of net realizable value. Spare parts inventory is stated at lower of average unit cost or net realizable value. We review our commercial spare parts and general stock materials quarterly to identify impaired inventory, including excess or obsolete inventory, based on historical sales trends, expected production usage, and the size and age of the aircraft fleet using the part. Impaired inventories are charged to Cost of products in the period the impairment occurs.

Included in inventory for commercial aircraft programs are amounts paid or credited in cash, or other consideration to certain airline customers, that are referred to as early issue sales consideration. Early issue sales consideration is recognized as a reduction to revenue when the delivery of the aircraft under contract occurs. If an airline customer does not perform and take delivery of the contracted aircraft, we believe that we would have the ability to recover amounts paid. However, to the extent early issue sales consideration exceeds advances and is not considered to be otherwise recoverable, it would be written off in the current period.

Precontract Costs

We may, from time to time, incur costs in excess of the amounts required for existing contracts. If we determine the costs are probable of recovery from future orders, then we capitalize the precontract costs we incur, excluding start-up costs which are expensed as incurred. Capitalized precontract costs are included in Inventories in the accompanying Consolidated Statements of Financial Position. Should future orders not materialize or we determine the costs are no longer probable of recovery, the capitalized costs would be written off.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost, including applicable construction-period interest, less accumulated depreciation and are depreciated principally over the following estimated useful lives: new buildings and land improvements, from 10 to 40 years; and new machinery and equipment, from 4 to 20 years. The principal methods of depreciation are as follows: buildings and land improvements, 150% declining balance; and machinery and equipment, sum-of-the-years' digits. Capitalized internal use software is included in Other assets and amortized using the straight line method over 5 years. Capitalized software as a service is included in Other assets and amortized using the straight line method over the term of the hosting arrangement, which is typically no greater than 10 years. We periodically evaluate the appropriateness of remaining depreciable lives assigned to long-lived assets, including assets that may be subject to a management plan for disposition.

Long-lived assets held for sale are stated at the lower of cost or fair value less cost to sell. Long-lived assets held for use are subject to an impairment assessment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If the carrying value is no longer recoverable based upon the undiscounted future cash flows of the asset, the amount of the impairment is the difference between the carrying amount and the fair value of the asset.

Leases We determine if an arrangement is, or contains, a lease under which we are the lessee at the inception date. Operating lease assets are included in Other assets, with the related liabilities included in Accrued liabilities and Other long-term liabilities. Assets under finance leases, which primarily represent computer equipment, are included in Property, plant and equipment, net, with the related

liabilities included in Short-term debt and current portion of long-term debt and Long-term debt on the Consolidated Statements of Financial Position.

Operating lease assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease assets and liabilities are recognized at the lease commencement date based on the estimated present value of lease payments over the lease term. We use our estimated incremental borrowing rate in determining the present value of lease payments. Variable components of the lease payments such as fair market value adjustments, utilities and maintenance costs are expensed as incurred and not included in determining the present value. Our lease terms include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense for operating leases is recognized on a straight-line basis over the lease term.

We have real property lease agreements with lease and non-lease components which are accounted for as a single lease component.

Asset Retirement Obligations

We record all known asset retirement obligations for which the liability's fair value can be reasonably estimated, including certain asbestos removal, asset decommissioning and contractual lease restoration obligations. Recorded amounts are not material.

We also have known conditional asset retirement obligations, such as certain asbestos remediation and asset decommissioning activities to be performed in the future, that are not reasonably estimable due to insufficient information about the timing and method of settlement of the obligation. Accordingly, these obligations have not been recorded in the Consolidated Financial Statements. A liability for these obligations will be recorded in the period when sufficient information regarding timing and method of settlement becomes available to make a reasonable estimate of the liability's fair value. In addition, there may be conditional asset retirement obligations that we have not yet discovered (e.g. asbestos may exist in certain buildings but we have not become aware of it through the normal course of business), and therefore, these obligations also have not been included in the Consolidated Financial Statements.

Goodwill and Other Acquired Intangibles

Goodwill and other acquired intangible assets with indefinite lives are not amortized, but are tested for impairment annually and when an event occurs or circumstances change such that it is more likely than not that an impairment may exist. Our annual testing date is April 1.

We test goodwill for impairment by performing a qualitative assessment or using a quantitative test. If we choose to perform a qualitative assessment and determine it is more likely than not that the carrying value of the net assets is more than the fair value of the related operations, the quantitative test is then performed; otherwise, no further testing is required. For operations where the quantitative test is used, we compare the carrying value of net assets to the estimated fair value of the related operations. If the fair value is determined to be less than carrying value, the shortfall up to the carrying value of the goodwill represents the amount of goodwill impairment.

Indefinite-lived intangibles consist of a brand and trade name and in-process research and development (IPR&D) acquired in business combinations. IPR&D is initially capitalized at fair value as an intangible asset with an indefinite life and assessed for impairment thereafter. IPR&D is reclassified to finite-lived acquired intangible assets when a project is completed and then amortized on a straight-line basis over the asset's estimated useful life. We test these intangibles for impairment by comparing the carrying values to current projections of related discounted cash flows. Any excess carrying value over the amount of discounted cash flows represents the amount of the impairment.

Our finite-lived acquired intangible assets are amortized on a straight-line basis over their estimated useful lives as follows: developed technology, from 4 to 14 years; product know-how, from 6 to 30 years; customer base, from 3 to 17 years; distribution rights, from 3 to 27 years; and other, from 1 to 32 years. We evaluate the potential impairment of finite-lived acquired intangible assets whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If the carrying value is no longer recoverable based upon the undiscounted future cash flows of the asset, the amount of the impairment is the difference between the carrying amount and the fair value of the asset.

Investments

Time deposits are held-to-maturity investments that are carried at cost.

Available-for-sale debt securities include commercial paper, U.S. government agency securities and corporate debt securities. Available-for-sale debt securities are recorded at fair value, and unrealized gains and losses are recorded, net of tax, as a component of accumulated other comprehensive income. Realized gains and losses on available-for-sale debt securities are recognized based on the specific identification method. Available-for-sale debt securities are assessed for impairment quarterly.

The equity method of accounting is used to account for investments for which we have the ability to exercise significant influence, but not control, over an investee. Significant influence is generally deemed to exist if we have an ownership interest in the voting stock of an investee of between 20% and 50%. The cumulative earnings approach is used for cash flow classification of distributions received from equity method investments.

Other Equity investments are recorded at fair value, with gains and losses recorded through net earnings. Equity investments without readily determinable fair value are measured at cost, less impairments, plus or minus observable price changes. Equity investments without readily determinable fair value are assessed for impairment quarterly.

We classify investment income and loss on our Consolidated Statements of Operations based on whether the investment is operating or non-operating in nature. Operating investments align strategically and are integrated with our operations. Earnings from operating investments, including our share of income or loss from equity method investments, dividend income from other equity investments, and any impairments or gain/loss on the disposition of these investments, are recorded in (Loss)/Income from operating investments, net. Non-operating investments are those we hold for non-strategic purposes. Earnings from non-operating investments, including interest and dividends on marketable securities, and any impairments or gain/loss on the disposition of these investments are recorded in Other income, net.

Derivatives

All derivative instruments are recognized in the financial statements and measured at fair value regardless of the purpose or intent of holding them. We use derivative instruments to principally manage a variety of market risks. For our cash flow hedges, the derivative's gain or loss is initially reported in comprehensive income and is subsequently reclassified into earnings in the same period(s) during which the hedged forecasted transaction affects earnings.

We have agreements to purchase and sell aluminum to address long-term strategic sourcing objectives and non-U.S. business requirements. We also hold certain other derivative instruments for economic purposes. These aluminum purchase and sale agreements and other derivative instruments are derivatives for accounting purposes but are not designated as hedges for accounting purposes. For these aluminum agreements and other derivative instruments not designated for hedge accounting treatment, the changes in their fair value are recorded in earnings immediately.

Allowances for Losses on Certain Financial Assets

We establish allowances for credit losses on accounts receivable, unbilled receivables, customer financing receivables and certain other financial assets. The adequacy of these allowances is assessed quarterly through consideration of factors such as customer credit ratings, bankruptcy filings, published or estimated credit default rates, age of the receivable, expected loss rates and collateral exposures. Collateral exposure is the excess of the carrying value of a financial asset over the fair value of the related collateral. We determine the creditworthiness of our customers by assigning internal credit ratings based upon publicly available information and information obtained directly from the customers. Our rating categories are comparable to those used by major credit rating agencies.

Customer financing receivables are collateralized by security in the related asset. We use a median calculated from published collateral values from multiple third-party aircraft value publications based on the type and age of the aircraft to determine the fair value of aircraft collateral. Under certain circumstances, we apply judgment based on the attributes of the specific aircraft or equipment, usually when the features or use of the aircraft vary significantly from the more generic aircraft attributes covered by outside publications.

We have entered into agreements with certain customers that would entitle us to look beyond the specific collateral underlying the receivable for purposes of determining the collateral exposure. Should the proceeds from the sale of the underlying collateral asset resulting from a default condition be insufficient to cover the carrying value of our receivable (creating a shortfall condition), these agreements would, for example, permit us to take the actions necessary to sell or retain certain other assets in which the customer has an equity interest and use the proceeds to cover the shortfall.

Commercial Aircraft Trade-in Commitments

In conjunction with signing a definitive agreement for the sale of new commercial aircraft (Sale Aircraft), we have entered into trade-in commitments with certain customers that give them the right to trade in used aircraft at a specified price.

Exposure related to trade-in commitments may take the form of:

(1) adjustments to revenue for the difference between the contractual trade-in price in the definitive agreement and our best estimate of the fair value of the trade-in aircraft as of the date of such agreement, which would be recognized upon delivery of the Sale Aircraft, and/or

(2) charges to cost of products for adverse changes in the fair value of trade-in aircraft that occur subsequent to signing of a definitive agreement for Sale Aircraft but prior to the purchase of the used trade-in aircraft. Estimates based on current aircraft values would be included in Accrued liabilities.

The fair value of trade-in aircraft is determined using aircraft-specific data such as model, age and condition, market conditions for specific aircraft and similar models, and multiple valuation sources. This process uses our assessment of the market for each trade-in aircraft, which in most instances begins years before the return of the aircraft. There are several possible markets in which we continually pursue opportunities to place used aircraft. These markets include, but are not limited to, the resale market, which could potentially include the cost of long-term storage; the leasing market, with the potential for refurbishment costs to meet the leasing customer's requirements; or the scrap market. Trade-in aircraft valuation varies significantly depending on which market we determine is most likely for each aircraft. On a quarterly basis, we update our valuation analysis based on the actual activities associated with placing each aircraft into a market or using current published third-party aircraft valuations based on the type and age of the aircraft, adjusted for individual attributes and known conditions.

Warranties

In conjunction with certain product sales, we provide warranties that cover factors such as non-conformance to specifications and defects in material and design. The majority of our warranties are issued by our BCA segment. Generally, aircraft sales are accompanied by a 3 to 4-year standard warranty for systems, accessories, equipment, parts, and software manufactured by us or manufactured to certain standards under our authorization. These warranties are included in the programs' estimate at completion. On occasion we have made commitments beyond the standard warranty obligation to correct fleet-wide major issues of a particular model, resulting in additional accrued warranty expense. Warranties issued by our BDS segment principally relate to sales of military aircraft and weapons systems. These sales are generally accompanied by a six month to two-year warranty period and cover systems, accessories, equipment, parts and software manufactured by us to certain contractual specifications. Estimated costs related to standard warranties are recorded in the period in which the related product delivery occurs. The warranty liability recorded at each balance sheet date reflects the estimated number of months of warranty coverage outstanding for products delivered times the average of historical monthly warranty payments, as well as additional amounts for certain major warranty issues that exceed a normal claims level. Estimated costs of these additional warranty issues are considered changes to the initial liability estimate.

We provide guarantees to certain commercial aircraft customers which include compensation provisions for failure to meet specified aircraft performance targets. We account for these performance guarantees as warranties. The estimated liability for these warranties is based on known and anticipated operational characteristics and forecasted customer operation of the aircraft relative to contractually specified performance targets, and anticipated settlements when contractual remedies are not specified. Estimated payments are recorded as a reduction of revenue at delivery of the related aircraft. We have agreements that require certain suppliers to compensate us for amounts paid to customers for failure of supplied equipment to meet specified performance targets. Claims against suppliers under these agreements are included in Inventories and recorded as a reduction in Cost of products at delivery of the related aircraft. These performance warranties and claims against suppliers are included in the programs' estimate at completion.

Supplier Penalties

We record an accrual for supplier penalties when an event occurs that makes it probable we will incur a supplier penalty and the amount is reasonably estimable.

Guarantees

At the inception of a guarantee, we record a liability in Accrued liabilities for the fair value of the guarantee. For credit guarantees, the liability is equal to the present value of the expected loss. We determine the expected loss by multiplying the creditor's default rate by the guarantee amount reduced by the expected recovery, if applicable. We also recognize a liability for the expected contingent loss at inception and adjust it each quarter.

Note 2 – Goodwill and Acquired Intangibles

Changes in the carrying amount of goodwill for the years ended December 31, 2022 and 2021 were as follows:

	Commercial Airplanes	Defense, Space & Security	Global Services	Other	Total
Balance at December 31, 2020	$1,316	$3,224	$3,454	$87	$8,081
Goodwill adjustments			(11)	(2)	(13)
Balance at December 31, 2021	$1,316	$3,224	$3,443	$85	$8,068
Goodwill adjustments			(11)		(11)
Balance at December 31, 2022	**$1,316**	**$3,224**	**$3,432**	**$85**	**$8,057**

As of December 31, 2022 and 2021, we had indefinite-lived intangible assets with carrying amounts of $197 relating to trade names. As of December 31, 2022 and 2021, we had an indefinite-lived intangible asset with a carrying amount of $202 related to in process research and development for a next-generation air vehicle.

The gross carrying amounts and accumulated amortization of our acquired finite-lived intangible assets were as follows at December 31:

	2022		2021	
	Gross Carrying Amount	**Accumulated Amortization**	Gross Carrying Amount	Accumulated Amortization
Distribution rights	**$2,546**	**$1,443**	$2,554	$1,321
Product know-how	**552**	**441**	553	413
Customer base	**1,356**	**777**	1,360	721
Developed technology	**621**	**545**	626	526
Other	**276**	**233**	301	250
Total	**$5,351**	**$3,439**	$5,394	$3,231

During 2020, we recorded impairments of $178 within Cost of Sales related to our distribution rights, primarily driven by airlines' decisions to retire certain aircraft. Amortization expense for acquired finite-lived intangible assets for the years ended December 31, 2022 and 2021 was $241 and $284. Estimated amortization expense for the five succeeding years is as follows:

	2023	2024	2025	2026	2027
Estimated amortization expense	$234	$219	$194	$190	$172

Note 3 – Earnings Per Share

Basic and diluted earnings per share are computed using the two-class method, which is an earnings allocation method that determines earnings per share for common shares and participating securities. The undistributed earnings are allocated between common shares and participating securities as if all earnings had been distributed during the period. Participating securities and common shares have equal rights to undistributed earnings.

Basic earnings per share is calculated by taking net earnings, less earnings available to participating securities, divided by the basic weighted average common shares outstanding.

Diluted earnings per share is calculated by taking net earnings, less earnings available to participating securities, divided by the diluted weighted average common shares outstanding.

The elements used in the computation of basic and diluted earnings per share were as follows:

(In millions - except per share amounts)

Years ended December 31,	**2022**	2021	2020
Net loss available to common shareholders	**($4,935)**	($4,202)	($11,873)
Basic			
Basic weighted average shares outstanding	**595.2**	588.0	569.0
Less: participating securities[2]	**0.3**	0.4	0.4
Basic weighted average common shares outstanding	**594.9**	587.6	568.6
Diluted			
Basic weighted average shares outstanding	**595.2**	588.0	569.0
Dilutive potential common shares[1]			
Diluted weighted average shares outstanding	**595.2**	588.0	569.0
Less: participating securities[2]	**0.3**	0.4	0.4
Diluted weighted average common shares outstanding	**594.9**	587.6	568.6
Net loss per share:			
Basic	**($8.30)**	($7.15)	($20.88)
Diluted	**(8.30)**	(7.15)	(20.88)

(1) Diluted loss per share includes any dilutive impact of stock options, restricted stock units, performance-based restricted stock units and performance awards.

(2) Participating securities include certain instruments in our deferred compensation plan.

As a result of incurring a net loss in 2022, 2021 and 2020, potential common shares of 3.5 million, 2.6 million and 1.6 million, respectively, were excluded from diluted loss per share because the effect would have been antidilutive. The following table represents all shares that were excluded from the calculation of diluted loss per share during the respective period but may be dilutive potential common shares in future periods. This includes potential common shares that were excluded because the effect was either antidilutive or the performance condition was not met.

(Shares in millions)

Years ended December 31,	**2022**	2021	2020
Performance awards		2.9	5.7
Performance-based restricted stock units	**0.4**	0.8	1.3
Restricted stock units	**1.0**	0.4	1.0
Stock options	**0.8**	0.3	

Note 4 – Income Taxes

The components of Loss before income taxes were:

Years ended December 31,	**2022**	2021	2020
U.S.	**($5,457)**	($5,475)	($14,882)
Non-U.S.	**435**	442	406
Total	**($5,022)**	($5,033)	($14,476)

Income tax (benefit)/expense consisted of the following:

Years ended December 31,	**2022**	2021	2020
Current tax (benefit)/expense			
U.S. federal	**($58)**	($89)	($3,968)
Non-U.S.	**142**	147	148
U.S. state	**(42)**	42	21
Total current	**42**	100	(3,799)
Deferred tax (benefit)/expense			
U.S. federal	**(62)**	(855)	652
Non-U.S.	**(3)**	(12)	
U.S. state	**54**	24	612
Total deferred	**(11)**	(843)	1,264
Total income tax expense/(benefit)	**$31**	($743)	($2,535)

Net income tax (refunds)/payments were ($1,317), ($1,480) and $37 in 2022, 2021 and 2020, respectively.

The following is a reconciliation of the U.S. federal statutory tax to actual income tax (benefit)/expense:

Years ended December 31,	**2022**		2021		2020	
	Amount	**Rate**	Amount	Rate	Amount	Rate
U.S. federal statutory tax	**($1,054)**	**21.0 %**	($1,057)	21.0 %	($3,039)	21.0 %
Valuation allowance	**1,199**	**(23.9)**	512	(10.2)	2,603	(18.0)
Research and development credits	**(204)**	**4.1**	(189)	3.8	(284)	2.0
State income tax provision, net of effects on U.S. federal tax	**(90)**	**1.8**	(94)	1.9	(168)	1.2
Tax on non-U.S. activities	**64**	**(1.3)**	47	(0.9)	7	(0.1)
Impact of CARES Act [1]	**(5)**	**0.1**	3	(0.1)	(1,175)	8.1
Other provision adjustments	**121**	**(2.4)**	**35**	(0.8)	108	(0.8)
Audit settlements[2]					(587)	4.1
Income tax expense/(benefit)	**$31**	**(0.6)%**	($743)	14.7 %	($2,535)	17.5 %

(1) On March 27, 2020, the CARES Act was enacted, which includes a five year net operating loss (NOL) carryback provision which enabled us to benefit from the 2020 U.S. federal tax NOL at the former federal tax rate of 35%. In 2022, 2021, and 2020, we recorded tax benefits of $5, tax expense of $3, and tax benefits of $1,175 related to the NOL carryback provision.

(2) In the fourth quarter of 2020, we recorded a tax benefit of $587 related to the settlement of the 2015-2017 federal tax audit.

Significant components of our deferred tax assets/(liabilities) at December 31 were as follows:

	2022	2021
Inventory and long-term contract methods of income recognition	**($4,369)**	($3,827)
Federal net operating loss, credit, interest and other carryovers[1]	**2,082**	1,522
Fixed assets, intangibles and goodwill	**(1,641)**	(1,657)
Research expenditures	**1,464**	
Pension benefits	**1,146**	1,739
Other employee benefits	**1,095**	991
State net operating loss, credit, interest and other carryovers[2]	**1,021**	929
Accrued expenses and reserves	**933**	763
Other postretirement benefit obligations	**660**	913
737 MAX customer concessions and other considerations	**425**	682
Other	**179**	227
Gross deferred tax assets/(liabilities) before valuation allowance	**$2,995**	**$2,282**
Valuation allowance	**(3,162)**	(2,423)
Net deferred tax assets/(liabilities) after valuation allowance	**($167)**	**($141)**

(1) Of the deferred tax asset for federal net operating loss, credit, interest and other carryovers, $742 expires on or before December 31, 2042 and $1,340 may be carried over indefinitely.

(2) Of the deferred tax asset for state net operating loss, credit, interest and other carryovers, $514 expires on or before December 31, 2042 and $507 may be carried over indefinitely.

Net deferred tax assets/(liabilities) at December 31 were as follows:

	2022	2021
Deferred tax assets	**$12,301**	$11,258
Deferred tax liabilities	**(9,306)**	(8,976)
Valuation allowance	**(3,162)**	(2,423)
Net deferred tax assets/(liabilities)	**($167)**	($141)

The Company's deferred income tax assets of $12,301 can be used in future years to offset taxable income and reduce income taxes payable. The Company's deferred income tax liabilities of $9,306 will partially offset deferred income tax assets and result in higher taxable income in future years and increase income taxes payable. Tax law determines whether future reversals of temporary differences will result in taxable and deductible amounts that offset each other in future years. The particular years in which temporary differences result in taxable or deductible amounts generally are determined by the timing of the recovery of the related asset or settlement of the related liability. The deferred income tax assets and liabilities relate primarily to U.S. federal and state tax jurisdictions. From a U.S. federal tax perspective, the Company generated a tax NOL in 2020 that was carried back to prior years when the tax rate was 35% due to the CARES Act benefit as described above. The Company generated tax NOL in 2021 and interest carryovers in 2021 and 2022 that can be carried forward indefinitely and federal research and development credits that can be carried forward 20 years.

In the fourth quarter of 2020 and throughout 2021 and 2022, the Company was in a three-year cumulative pre-tax loss position. We also normalized earnings and other comprehensive income (OCI) for certain non-recurring items and reached a normalized three-year cumulative loss position in 2021. Adjustments to normalize earnings included non-recurring items for certain 737 MAX expenses, an agreement with the Department of Justice, severance costs and remeasurement gains and losses from the annual remeasurement of pension and other postretirement benefit obligations. For purposes of assessing the recoverability of deferred tax assets, the Company determined that it could not include future projected earnings in the analysis due to recent history of losses.

As of December 31, 2022 and 2021, the Company has recorded valuation allowances of $3,162 and $2,423 primarily for certain federal deferred tax assets, as well as for certain federal and state net operating loss and tax credit carryforwards. To measure the valuation allowance, the Company estimated in what year each of its deferred tax assets and liabilities would reverse using systematic and logical methods to estimate the reversal patterns. Based on these methods, deferred tax liabilities are assumed to reverse and generate taxable income over the next 5 to 10 years while deferred tax assets related to pension and other postretirement benefit obligations are assumed to reverse and generate tax deductions over the next 15 to 20 years. The valuation allowance primarily results from not having sufficient income from deferred tax liability reversals in the appropriate future periods to support the realization of deferred tax assets.

The increase in the valuation allowance during 2022 is primarily due to tax credits and other carryforwards generated in 2022 that cannot be realized in 2022. During 2022, the Company increased the valuation allowance by $739. This reflects a tax expense of $1,199 recorded in continuing operations and an increase of $18 related to the associated federal benefit of state impacts. This was partially offset by a tax benefit of $478 included in OCI primarily due to the net actuarial gains that resulted from the annual remeasurement of pension assets and liabilities.

Until the Company generates sustained levels of profitability, additional valuation allowances may have to be recorded with corresponding adverse impacts on earnings and/or OCI.

The Tax Cuts and Jobs Act (TCJA) one-time repatriation tax and Global Intangible Low Tax Income liabilities effectively taxed the undistributed earnings previously deferred from U.S. income taxes. We have not provided for deferred income taxes on the undistributed earnings from certain non-U.S. subsidiaries because such earnings are considered to be indefinitely reinvested. If such earnings were to be distributed, any deferred income taxes would not be significant.

As of December 31, 2022 and 2021, the amounts accrued for the payment of income tax-related interest and penalties included in the Consolidated Statements of Financial Position were not significant. The amounts of interest included in the Consolidated Statements of Operations were not significant for 2022, 2021 and 2020.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2022	2021	2020
Unrecognized tax benefits – January 1	**$858**	$966	$1,476
Gross increases – tax positions in prior periods	**17**	64	44
Gross decreases – tax positions in prior periods	**(51)**	(245)	(581)
Gross increases – current period tax positions	**91**	73	136
Gross decreases – current period tax positions			
Settlements			(109)
Unrecognized tax benefits – December 31	**$915**	$858	$966

As of December 31, 2022, 2021 and 2020, the total amount of unrecognized tax benefits include $878, $790 and $734, respectively, that would affect the effective tax rate, if recognized. As of December 31, 2022, these amounts are primarily associated with the amount of research tax credits claimed and various other matters.

Federal income tax audits have been settled for all years prior to 2018. The Internal Revenue Service (IRS) began the 2018-2019 federal tax audit in the first quarter of 2021 and added tax year 2020 to the audit in the fourth quarter of 2021. We are also subject to examination in major state and international jurisdictions for the 2008-2021 tax years. We believe appropriate provisions for all outstanding tax issues have been made for all jurisdictions and all open years.

Note 5 – Accounts Receivable, net

Accounts receivable at December 31 consisted of the following:

	2022	2021
U.S. government contracts[1]	**$800**	$1,180
Commercial Airplanes	**293**	279
Global Services[2]	**1,390**	1,456
Defense, Space, & Security[2]	**145**	111
Other	**5**	5
Less valuation allowance	**(116)**	(390)
Total	**$2,517**	$2,641

(1) Includes foreign military sales through the U.S. government

(2) Excludes U.S. government contracts

Note 6 – Allowances for Losses on Financial Assets

The change in allowances for expected credit losses for the years ended December 31, 2022 and 2021 consisted of the following:

	Accounts receivable	Unbilled receivables	Other Current Assets	Customer financing	Other Assets	Total
Balance at January 1, 2021	($444)	($129)	($72)	($17)	($140)	($802)
Changes in estimates	(24)	(11)	6	(1)	(59)	(89)
Write-offs	77	49	4		13	143
Recoveries	1					1
Balance at December 31, 2021	(390)	(91)	(62)	(18)	(186)	(747)
Balance at January 1, 2022	**(390)**	**(91)**	**(62)**	**(18)**	**(186)**	**(747)**
Changes in estimates	**2**	**21**	**(27)**	**(37)**	**(35)**	**(76)**
Write-offs	**260**	**47**	**4**		**133**	**444**
Recoveries	**12**					**12**
Balance at December 31, 2022	**($116)**	**($23)**	**($85)**	**($55)**	**($88)**	**($367)**

Note 7 – Inventories

Inventories at December 31 consisted of the following:

	2022	2021
Long-term contracts in progress	**$582**	$872
Commercial aircraft programs	**67,702**	68,106
Capitalized precontract costs[1]	**794**	648
Commercial spare parts, used aircraft, general stock materials and other	**9,073**	9,197
Total	**$78,151**	$78,823

[1] Capitalized precontract costs at December 31, 2022 includes amounts related to KC-46A Tanker, Commercial Crew, and T-7 Production Options. See Note 13.

Commercial Aircraft Programs

The decrease in commercial aircraft programs inventory during 2022 reflects a decrease in 737 and 787 inventory, offset by growth in 777X inventory. Commercial aircraft programs inventory includes approximately 250 737 aircraft and 100 787 aircraft at December 31, 2022 as compared with 335 737 aircraft and 110 787 aircraft at December 31, 2021.

At December 31, 2022 and 2021, commercial aircraft programs inventory included the following amounts related to the 737 program: deferred production costs of $2,955 and $1,296 and unamortized tooling and other non-recurring costs of $626 and $617. At December 31, 2022, $3,555 of 737 deferred production costs, unamortized tooling and other non-recurring costs are expected to be recovered from units included in the program accounting quantity that have firm orders, and $26 is expected to be recovered from units included in the program accounting quantity that represent expected future orders.

At December 31, 2022 and 2021, commercial aircraft programs inventory included the following amounts related to the 777X program: $4,059 and $3,363 of work in process, $1,330 and $652 of

deferred production costs, and $3,774 and $3,521 of unamortized tooling and other non-recurring costs. In April 2022, we decided to pause production of the 777X-9 during 2022 and 2023. The production pause is resulting in abnormal production costs that are being expensed as incurred until 777X-9 production resumes. We expensed abnormal production costs of $325 during the year ended December 31, 2022. The 777X program has near break-even margins at December 31, 2022.

During the fourth quarter of 2021, we determined that estimated costs to complete the 787 program plus costs already included in 787 inventory exceed estimated revenues from the program. The resulting reach-forward loss of $3,460 was recorded as a reduction to deferred production costs. At December 31, 2022 and 2021, commercial aircraft programs inventory included the following amounts related to the 787 program: deferred production costs of $12,689 and $11,693, $1,831 and $1,907 of supplier advances, and $1,722 and $1,815 of unamortized tooling and other non-recurring costs. At December 31, 2022, $9,881 of 787 deferred production costs, unamortized tooling and other non-recurring costs are expected to be recovered from units included in the program accounting quantity that have firm orders, and $4,530 is expected to be recovered from units included in the program accounting quantity that represent expected future orders. We are currently producing at abnormally low rates resulting in abnormal production costs that are being expensed as incurred. We expensed abnormal production costs of $1,240 and $468 during the years ended December 31, 2022 and 2021.

Commercial aircraft programs inventory included amounts credited in cash or other consideration (early issue sales consideration) to airline customers totaling $3,586 and $3,290 at December 31, 2022 and 2021.

Note 8 – Contracts with Customers

Unbilled receivables increased from $8,620 at December 31, 2021 to $8,634 at December 31, 2022, primarily driven by revenue recognized in excess of billings at BGS, partially offset by billings in excess of revenue recognized at BDS.

Advances and progress billings increased from $52,980 at December 31, 2021 to $53,081 at December 31, 2022, primarily driven by advances on orders received at BCA, partially offset by revenue recognized at BDS and BGS.

Revenues recognized for the years ended December 31, 2022 and 2021 from amounts recorded as Advances and progress billings at the beginning of each year were $12,087 and $11,336.

The following table summarizes our contract assets under long-term contracts that were unbillable or related to outstanding claims as of December 31:

	Unbilled		Claims	
	2022	2021	**2022**	2021
Current	**$6,478**	$5,870		$4
Expected to be collected after one year	**2,179**	2,841	**$16**	$11
Less valuation allowance	**(23)**	(91)		
Total	**$8,634**	$8,620	**$16**	$15

Unbilled receivables related to commercial customer incentives expected to be collected after one year were $117 and $131 at December 31, 2022 and 2021. Unbilled receivables related to claims are items that we believe are earned, but are subject to uncertainty concerning their determination or ultimate realization.

Note 9 – Customer Financing

Customer financing primarily relates to our BCC segment. Financing arrangements typically range in terms from 1 to 12 years and may include options to extend or terminate the lease. Certain leases include provisions to allow the lessee to purchase the underlying aircraft at a specified price.

Customer financing consisted of the following at December 31:

	2022	2021
Financing receivables:		
Investment in sales-type/finance leases	**$804**	$944
Notes	**385**	412
Total financing receivables	**1,189**	**1,356**
Less allowance for losses on receivables	**55**	18
Financing receivables, net	**1,134**	1,338
Operating lease equipment, at cost, less accumulated depreciation of $76 and $58	**470**	474
Total	**$1,604**	$1,812

The components of investment in sales-type/finance leases at December 31 were as follows:

	2022	2021
Minimum lease payments receivable	**$924**	$1,099
Estimated residual value of leased assets	**86**	110
Unearned income	**(206)**	(265)
Total	**$804**	$944

At December 31, 2022 and 2021, $405 and $378 were determined to be uncollectible financing receivables and placed on non-accrual status. The increase in allowance for losses on receivables during the year ended December 31, 2022 was primarily due to impacts of the war in Ukraine. Customer financing interest income received for the years ended December 31, 2022 and 2021 was $13 and $18.

There were no past due customer financing receivables as of December 31, 2022.

Our financing receivable balances at December 31, 2022 by internal credit rating category and year of origination consisted of the following:

Rating categories	Current	2021	2020	2019	2018	Prior	Total
BBB						**$68**	$68
BB	**$35**	**$218**	**$112**	**$39**	**$12**	**63**	479
B		**35**				**218**	253
CCC				**19**		**370**	389
Total carrying value of financing receivables	$35	$253	$112	$58	$12	$719	$1,189

At December 31, 2022, our allowance for losses related to receivables with ratings of CCC, B, BB and BBB. We applied default rates that averaged 100.0%, 31.5%, 2.9% and 0.1%, respectively, to the exposure associated with those receivables.

Customer Financing Exposure

The majority of our customer financing portfolio is concentrated in the following aircraft models at December 31:

	2022	2021
717 Aircraft ($45 and $62 accounted for as operating leases)	**$563**	$603
747-8 Aircraft (Accounted for as sales-type/finance leases)	**394**	435
737 Aircraft ($174 and $145 accounted for as operating leases)	**186**	163
777 Aircraft ($209 and $225 accounted for as operating leases)	**209**	233
MD-80 Aircraft (Accounted for as sales-type/finance leases)	**96**	142
757 Aircraft (Accounted for as sales-type/finance leases)	**107**	126
747-400 Aircraft ($0 and $1 accounted for as operating leases)	**46**	50

Operating lease equipment primarily includes large commercial jet aircraft.

Impairment charges related to customer financing operating lease assets for the years ended December 31 were as follows:

	2022	2021	2020
Boeing Capital	**$2**	$23	$32
Other Boeing	**5**	8	(8)
Total	**$7**	$31	$24

Lease income recorded in Revenue on the Consolidated Statements of Operations for the years ended December 31, 2022 and 2021 included $69 and $54 from sales-type/finance leases, and $65 and $68 from operating leases. Profit at the commencement of sales-type leases was recorded in revenue for the years ended December 31, 2022 and 2021 in the amount of $28 and $78.

As of December 31, 2022, undiscounted cash flows for notes receivable, sales-type/finance and operating leases over the next five years and thereafter are as follows:

	Notes receivable	Sales-type/ finance leases	Operating leases
Year 1	**$201**	**$239**	**$61**
Year 2	**18**	**161**	**50**
Year 3	**19**	**131**	**47**
Year 4	**21**	**118**	**43**
Year 5	**22**	**116**	**43**
Thereafter	**104**	**159**	**61**
Total financing receipts	**385**	**924**	**305**
Less imputed interest		**(206)**	
Estimated unguaranteed residual values		**86**	
Total	**$385**	**$804**	**$305**

At December 31, 2022 and December 31, 2021, unguaranteed residual values were $86 and $110. Guaranteed residual values at December 31, 2022 were not significant.

Note 10 – Property, Plant and Equipment

Property, plant and equipment at December 31 consisted of the following:

	2022	2021
Land	**$376**	$377
Buildings and land improvements	**14,404**	14,152
Machinery and equipment	**15,844**	15,692
Construction in progress	**1,368**	1,235
Gross property, plant and equipment	**31,992**	31,456
Less accumulated depreciation	**(21,442)**	(20,538)
Total	**$10,550**	$10,918

Depreciation expense was $1,396, $1,488 and $1,533 for 2022, 2021 and 2020, respectively. Interest capitalized in 2022, 2021 and 2020 totaled $89, $76 and $81, respectively.

During 2022 and 2021, we acquired $101 and $46 of property, plant and equipment through non-cash investing and financing transactions. Accounts payable related to purchases of property, plant and equipment were $396 and $295 for the years ended December 31, 2022 and 2021.

Note 11 – Investments

Our investments, which are recorded in Short-term and other investments or Investments, consisted of the following at December 31:

	2022	2021
Equity method investments [1]	**$948**	$930
Time deposits	**2,093**	7,676
Available for sale debt instruments	**479**	464
Equity and other investments	**36**	45
Restricted cash & cash equivalents [2]	**33**	52
Total	**$3,589**	$9,167

(1) Dividends received were $111 and $77 during 2022 and 2021. Retained earnings at December 31, 2022 include undistributed earnings from our equity method investments of $141. During the third quarter of 2021, Boeing and AE Industrial Partners announced a strategic partnership to establish a dedicated aerospace venture fund. This transaction resulted in the deconsolidation of HorizonX and generated a gain of $117 which is included in (Loss)/income from operating investments, net.

(2) Reflects amounts restricted in support of our property sales, workers' compensation programs and insurance premiums.

Allowance for losses on available for sale debt instruments are assessed quarterly. All instruments are considered investment grade and we have not recognized an allowance for credit losses as of December 31, 2022.

Equity Method Investments

Our equity method investments consisted of the following at December 31:

	Segment	Ownership Percentages	Investment Balance	
			2022	2021
United Launch Alliance	BDS	50%	**$587**	$617
Other	BCA, BDS, BGS and Other		**361**	313
Total equity method investments			**$948**	$930

Note 12 – Leases

Our operating lease assets primarily represent manufacturing and research and development facilities, warehouses and offices. Total operating lease expense was $421 and $380 for the years ended December 31, 2022 and 2021, of which $75 and $73 was attributable to variable lease expenses.

For the years ended December 31, 2022 and 2021, cash payments against operating lease liabilities totaled $294 and $301 and non-cash transactions totaled $245 and $443 to recognize operating assets and liabilities for new leases.

Supplemental Consolidated Statement of Financial Position information related to leases consisted of the following at December 31:

	2022	2021
Operating leases:		
Operating lease right-of-use assets	**$1,451**	$1,437
Current portion of lease liabilities	**276**	268
Non-current portion of lease liabilities	**1,305**	1,271
Total operating lease liabilities	**$1,581**	$1,539
Weighted average remaining lease term *(years)*	**12**	13
Weighted average discount rate	**4.13%**	3.82%

Maturities of operating lease liabilities for the next five years are as follows:

	Operating leases
2023	**$316**
2024	**259**
2025	**224**
2026	**191**
2027	**151**
Thereafter	**1,039**
Total lease payments	**2,180**
Less imputed interest	**(599)**
Total	**$1,581**

As of December 31, 2022, we have entered into leases that have not yet commenced of $420, primarily for a maintenance, repair and overhaul hangar that will support military aircraft programs. These leases will commence in 2023 with lease terms of 3 years to 25 years.

Note 13 – Liabilities, Commitments and Contingencies

Accrued Liabilities

Accrued liabilities at December 31 consisted of the following:

	2022	2021
Accrued compensation and employee benefit costs	**$6,351**	$6,037
737 MAX grounding customer concessions and other considerations	**1,864**	2,940
Other customer concessions and considerations	**1,102**	240
Environmental	**752**	605
Product warranties	**2,275**	1,900
Forward loss recognition	**4,060**	2,014
Accrued interest payable	**599**	641
Current portion of lease liabilities	**276**	268
Current portion of retiree healthcare and pension liabilities	**494**	536
Other	**3,808**	3,274
Total	**$21,581**	$18,455

737 MAX Grounding

The following table summarizes changes in the 737 MAX customer concessions and other considerations liability during 2022 and 2021.

	2022	2021
Beginning balance – January 1	**$2,940**	$5,537
Reductions for payments made	**(1,031)**	(2,535)
Reductions for concessions and other in-kind considerations	**(29)**	(48)
Changes in estimates	**(16)**	(14)
Ending balance – December 31	**$1,864**	$2,940

The liability balance of $1.9 billion at December 31, 2022 includes $1.6 billion of contracted customer concessions and other liabilities and $0.3 billion that remains subject to negotiation with customers. The contracted amount includes $0.8 billion expected to be liquidated by lower customer delivery payments, $0.7 billion expected to be paid in cash and $0.1 billion in other concessions. Of the cash payments to customers, we expect to pay $0.1 billion in 2023 and the remaining $0.6 billion in future years. The type of consideration to be provided for the remaining $0.3 billion will depend on the outcomes of negotiations with customers.

Environmental

The following table summarizes environmental remediation activity during the years ended December 31, 2022 and 2021.

	2022	2021
Beginning balance – January 1	**$605**	$565
Reductions for payments made, net of recoveries	**(43)**	(59)
Changes in estimates	**190**	99
Ending balance – December 31	**$752**	$605

The liabilities recorded represent our best estimate or the low end of a range of reasonably possible costs expected to be incurred to remediate sites, including operation and maintenance over periods of up to 30 years. It is reasonably possible that we may incur charges that exceed these recorded amounts because of regulatory agency orders and directives, changes in laws and/or regulations, higher than expected costs and/or the discovery of new or additional contamination. As part of our estimating process, we develop a range of reasonably possible alternate scenarios that includes the high end of a range of reasonably possible cost estimates for all remediation sites for which we have sufficient information based on our experience and existing laws and regulations. There are some potential remediation obligations where the costs of remediation cannot be reasonably estimated. At December 31, 2022 and 2021, the high end of the estimated range of reasonably possible remediation costs exceeded our recorded liabilities by $1,058 and $1,094.

Product Warranties

The following table summarizes product warranty activity recorded during the years ended December 31, 2022 and 2021.

	2022	2021
Beginning balance – January 1	**$1,900**	$1,527
Additions for current year deliveries	**202**	116
Reductions for payments made	**(403)**	(241)
Changes in estimates	**576**	498
Ending balance – December 31	**$2,275**	$1,900

Commercial Aircraft Trade-In Commitments

In conjunction with signing definitive agreements for the sale of new aircraft, we have entered into trade-in commitments with certain customers that give them the right to trade in used aircraft at a specified price. The probability that trade-in commitments will be exercised is determined by using both quantitative information from valuation sources and qualitative information from other sources. The probability of exercise is assessed quarterly, or as events trigger a change, and takes into consideration the current economic and airline industry environments. Trade-in commitments, which can be terminated by mutual consent with the customer, may be exercised only during the period specified in the agreement and require advance notice by the customer.

Trade-in commitment agreements at December 31, 2022 have expiration dates from 2023 through 2029. At December 31, 2022 and 2021, total contractual trade-in commitments were $1,117 and $612. As of December 31, 2022 and 2021, we estimated that it was probable we would be obligated to perform on certain of these commitments with net amounts payable to customers totaling $286 and $283, and the fair value of the related trade-in aircraft was $286 and $283.

Financing Commitments

Financing commitments related to aircraft on order, including options and those proposed in sales campaigns, and refinancing of delivered aircraft, totaled $16,105 and $12,905 as of December 31, 2022 and 2021. The estimated earliest potential funding dates for these commitments as of December 31, 2022 are as follows:

	Total
2023	$3,084
2024	2,608
2025	3,381
2026	2,555
2027	1,520
Thereafter	2,957
	$16,105

As of December 31, 2022, all of these financing commitments relate to customers we believe have less than investment-grade credit. We have concluded that no reserve for future potential losses is required for these financing commitments based upon the terms, such as collateralization and interest rates, under which funding would be provided.

Other Financial Commitments

We have financial commitments to make additional capital contributions totaling $270 related to certain joint ventures over the next five years.

Standby Letters of Credit and Surety Bonds

We have entered into standby letters of credit and surety bonds with financial institutions primarily relating to the guarantee of our future performance on certain contracts and security agreements. Contingent liabilities on outstanding letters of credit agreements and surety bonds aggregated approximately $5,070 and $3,634 as of December 31, 2022 and 2021.

Company Owned Life Insurance

McDonnell Douglas Corporation insured its executives with Company Owned Life Insurance (COLI), which are life insurance policies with a cash surrender value. Although we do not use COLI currently, these obligations from the merger with McDonnell Douglas are still a commitment at this time. We have loans in place to cover costs paid or incurred to carry the underlying life insurance policies. As of December 31, 2022 and 2021, the cash surrender value was $376 and $374 and the total loans were $346 and $360. As we have the right to offset the loans against the cash surrender value of the policies, we present the net asset in Other assets on the Consolidated Statements of Financial Position as of December 31, 2022 and 2021.

Government Assistance

In 2022, we adopted Accounting Standards Update (ASU) 2021-10, *Government Assistance (Topic 832)*, which requires certain disclosures for those government assistance transactions for which we have applied a grant accounting model. Certain states and localities in which we operate offer or have offered various business incentives related to investment and/or job creation.

Between 2010 and 2016, we received cash grants totaling $346 related to our investment in operations in South Carolina. The grants were recorded in Other liabilities and are being amortized, primarily to

inventory, over the useful life of the Property, plant and equipment extending through 2052. During 2022, we amortized $11 to Inventory, and recorded a benefit of $5 in Cost of Sales. At December, 31, 2022, inventory included a benefit of $64 and Accrued liabilities included a balance of $106.

We are eligible to claim tax refunds from the State of Missouri and City of Irving, Texas primarily related to job creation and retention through 2031. During 2022, we received $30 in cash and recorded a benefit of $21 in Cost of sales. At December 31, 2022, Other current assets includes receivables of $20. As of December 31, 2022, $56 of refunds, plus interest, is subject to clawback if we fail to meet certain conditions, including employment levels.

We are eligible to claim cash grants through 2032 of up to $62, related to operations in Queensland, Australia. During 2022, $7 cash was received and recorded as a benefit in Cost of Sales. At December 31, 2022, $4 is subject to clawback if we fail to meet certain conditions, including employment levels.

Industrial Revenue Bonds (IRB) issued by St. Louis County were used to finance the purchase and/or construction of real and personal property at our St. Louis site. Tax benefits associated with IRBs include a twelve-year property tax abatement and sales tax exemption from St. Louis County. We record these properties on our Consolidated Statements of Financial Position. We have also purchased the IRBs and therefore are the bondholders as well as the borrower/lessee of the properties purchased with the IRB proceeds. The liabilities and IRB assets are equal and are reported net in the Consolidated Statements of Financial Position. As of December 31, 2022 and 2021, the assets and liabilities associated with the IRBs were $271.

Recoverable Costs on Government Contracts

Our final incurred costs for each year are subject to audit and review for allowability by the U.S. government, which can result in payment demands related to costs they believe should be disallowed. We work with the U.S. government to assess the merits of claims and where appropriate reserve for amounts disputed. If we are unable to satisfactorily resolve disputed costs, we could be required to record an earnings charge and/or provide refunds to the U.S. government.

Fixed-Price Contracts

Substantially all contracts at BDS and the majority of contracts at BGS Government are long-term contracts. Long-term contracts that are contracted on a fixed-price basis could result in losses in future periods. Certain of the fixed-price contracts are for the development of new products, services and related technologies. This development work scope is inherently uncertain and subject to significant variability in estimates of the cost and time required to complete the work by us and our suppliers. The operational and technical complexities of fixed-price development contracts create financial risk, which could trigger additional earnings charges, termination provisions, order cancellations, or other financially significant exposure.

VC-25B Presidential Aircraft

The Company's firm fixed-price contract for the Engineering, Manufacturing, and Development (EMD) effort on the U.S. Air Force's (USAF) VC-25B Presidential Aircraft, commonly known as Air Force One, is a $4.3 billion program to develop and modify two 747-8 commercial aircraft. During the year ended December 31, 2022, we increased the reach-forward loss on the contract by $1,452 primarily driven by increases to cost estimates associated with factory modification labor and support engineering resources due to labor instability and inefficiencies that we now estimate will persist longer than previously anticipated, higher supplier cost estimates based on ongoing supplier negotiations and higher levels of engineering design changes due to technical requirements which are driving increased rework and schedule delays. Risk remains that we may record additional losses in future periods.

KC-46A Tanker

In 2011, we were awarded a contract from the USAF to design, develop, manufacture, and deliver four next generation aerial refueling tankers as well as priced options for 13 annual production lots totaling 179 aircraft. This EMD contract is a fixed-price incentive fee contract and involves highly complex designs and systems integration. Since 2016, the USAF has authorized eight low rate initial production (LRIP) lots for a total of 109 aircraft. The EMD contract and authorized LRIP lots total approximately $21 billion as of December 31, 2022. As of December 31, 2022, we had approximately $209 of capitalized precontract costs and $292 of potential termination liabilities to suppliers related to unexercised future lots.

During the year ended December 31, 2022, we increased the reach-forward loss on the KC-46A Tanker program by $1,374 primarily reflecting higher production and supply chain costs partially driven by labor instability and supply chain disruption, most of which was recorded during the third quarter of 2022. The increase in production costs was primarily driven by factory unit time performance expectations that assume continued production disruption due to labor instability and supply chain disruption. Factory unit time estimates also reflect reduced benefits from prior investments in productivity enablers and higher factory unit time to produce aircraft for the remaining life of the program. The current year losses also reflect increased estimated change incorporation costs for flight test aircraft as well as schedule delays to complete the Remote Vision System. Risk remains that we may record additional losses in future periods.

MQ-25

In the third quarter of 2018, we were awarded the MQ-25 EMD contract by the U.S. Navy. The contract is a fixed-price contract that now includes development and delivery of seven aircraft and test articles at a contract price of $890. In connection with winning the competition, we recognized a reach-forward loss of $291 in the third quarter of 2018. During the year ended December 31, 2022, we increased the MQ-25 reach-forward loss by $579 primarily driven by higher than anticipated costs to manufacture the EMD units reflecting recent performance which is resulting in additional factory resources and increased engineering costs to address design and supplier quality issues. We also increased costs associated with engineering design challenges, additional testing and certification activities, and flight test support. Risk remains that we may record additional losses in future periods.

T-7A Red Hawk EMD Contract & Production Options

In 2018, we were awarded the T-7A Red Hawk program. The EMD portion of the contract is a $860 fixed-price contract and includes five aircraft and seven simulators. During the year ended December 31, 2022, we recorded earnings charges of $203 related to the T-7A Red Hawk fixed-price EMD contract, which has a reach-forward loss at December 31, 2022. Current year losses were primarily due to supply chain and hardware qualification issues, as well as schedule delays in achieving Military Flight Release and additional cost growth to resolve technical issues and other engineering design changes identified during 2022. EMD aircraft flight testing is now estimated to start in 2023.

The production portion of the contract includes 11 production lots for aircraft and related services. In 2018, we recorded a loss of $400 associated with the 11 production lots and associated support options for 346 T-7A Red Hawk aircraft that we believe are probable of being exercised. The first production and support contract option is expected to be exercised in 2024. We increased the estimated reach-forward loss by $552 during the year ended December 31, 2022 primarily driven by ongoing supply chain negotiations (which are impacted by supply chain constraints and inflationary pressures), and design revisions, as well as an increase in the number of expected units in the initial production lots. Risk remains that we may record additional losses in future periods. At December 31, 2022, we had approximately $56 of capitalized precontract costs and $283 of potential termination liabilities to suppliers related to future production lots.

Commercial Crew

NASA has contracted us to design and build the CST-100 Starliner spacecraft to transport crews to the International Space Station. During the second quarter of 2022 we successfully completed the uncrewed Orbital Flight Test. A crewed flight test is now expected to be completed in 2023. During the year ended December 31, 2022, we increased the reach-forward loss by $288 primarily reflecting increases to estimated costs related to completing the crewed flight tests and revised schedules for both the crewed flight test and three post certification missions. Most of this increase was recorded in the third quarter of 2022, primarily driven by timing of the three future post certification missions which are now assumed to be completed by 2026 based on NASA's revised launch plans. We had previously assumed that the post certification missions would be completed by 2024. Risk remains that we may record additional losses in future periods. At December 31, 2022, we had approximately $180 of capitalized precontract costs and $159 of potential termination liabilities to suppliers related to unauthorized future missions.

Note 14 – Arrangements with Off-Balance Sheet Risk

We enter into arrangements with off-balance sheet risk in the normal course of business, primarily in the form of guarantees.

The following table provides quantitative data regarding our third party guarantees. The maximum potential payments represent a "worst-case scenario" and do not necessarily reflect amounts that we expect to pay. The carrying amount of liabilities represents the amount included in Accrued liabilities.

	Maximum Potential Payments		Estimated Proceeds from Collateral/ Recourse		Carrying Amount of Liabilities	
December 31,	**2022**	2021	**2022**	2021	**2022**	2021
Contingent repurchase commitments	**$514**	$548	**$514**	$548		
Credit guarantees	**45**	90		28	**$27**	$24

Contingent Repurchase Commitments In conjunction with signing a definitive agreement for the sale of commercial aircraft, we have entered into contingent repurchase commitments with certain customers wherein we agree to repurchase the sold aircraft at a specified price, generally 10 to 15 years after delivery. Our repurchase of the aircraft is contingent upon entering into a mutually acceptable agreement for the sale of additional new aircraft in the future. The commercial aircraft repurchase price specified in contingent repurchase commitments is generally lower than the expected fair value at the specified repurchase date. Estimated proceeds from collateral/recourse in the table above represent the lower of the contracted repurchase price or the expected fair value of each aircraft at the specified repurchase date.

If a future sale agreement is reached and a customer elects to exercise its right under a contingent repurchase commitment, the contingent repurchase commitment becomes a trade-in commitment. Our historical experience is that contingent repurchase commitments infrequently become trade-in commitments.

Credit Guarantees We have issued credit guarantees where we are obligated to make payments to a guaranteed party in the event that the original lessee or debtor does not make payments or perform certain specified services. Generally, these guarantees have been extended on behalf of guaranteed parties with less than investment-grade credit and are collateralized by certain assets. Current outstanding credit guarantees expire through 2036.

Other Indemnifications In conjunction with our sales of Electron Dynamic Devices, Inc. and Rocketdyne Propulsion and Power businesses and our BCA facilities in Wichita, Kansas and Tulsa and McAlester, Oklahoma, we agreed to indemnify, for an indefinite period, the buyers for costs relating to pre-closing environmental conditions and certain other items. We are unable to assess the potential number of future claims that may be asserted under these indemnifications, nor the amounts thereof (if any). As a result, we cannot estimate the maximum potential amount of future payments under these indemnities and therefore, no liability has been recorded. To the extent that claims have been made under these indemnities and/or are probable and reasonably estimable, liabilities associated with these indemnities are included in the environmental liability disclosure in Note 13.

Note 15 – Debt

In the third quarter of 2022, we entered into a $5,800 364-day revolving credit agreement expiring in August 2023, a $3,000 three-year revolving credit agreement expiring in August 2025, and amended our $3,200 five-year revolving credit agreement, which expires in October 2024, primarily to incorporate a LIBOR successor rate. The 364-day credit facility has a one-year term out option which allows us to extend the maturity of any borrowings one year beyond the aforementioned expiration date. As of December 31, 2022, we had $12,000 currently available under credit line agreements. We continue to be in full compliance with all covenants contained in our debt or credit facility agreements.

Interest incurred, including amounts capitalized, was $2,650, $2,790 and $2,280 for the years ended December 31, 2022, 2021 and 2020, respectively. Interest expense recorded by BCC is reflected as Boeing Capital interest expense on our Consolidated Statements of Operations. Total Company interest payments were $2,572, $2,583 and $1,925 for the years ended December 31, 2022, 2021 and 2020, respectively.

Short-term debt and current portion of long-term debt at December 31 consisted of the following:

	2022	2021
Unsecured debt	**$5,103**	$1,155
Finance lease obligations	**65**	61
Other notes	**22**	80
Total	**$5,190**	$1,296

Debt at December 31 consisted of the following:

	2022	2021
Unsecured debt		
1.17% - 2.50% due through 2026	**$11,846**	12,404
2.60% - 3.20% due through 2030	**6,412**	7,001
3.25% - 3.90% due through 2059	**9,576**	9,570
3.95% - 5.15% due through 2059	**14,035**	13,993
5.71% - 6.63% due through 2060	**13,011**	13,008
6.88% - 8.75% due through 2043	**1,854**	1,853
Other debt and notes		
Finance lease obligations due through 2044	**206**	180
Other notes	**61**	93
Total debt	**$57,001**	$58,102

Scheduled principal payments for debt and minimum finance lease obligations for the next five years are as follows:

	2023	2024	2025	2026	2027
Debt	$5,128	$5,081	$4,306	$7,966	$3,300
Minimum finance lease obligations	$69	$52	$41	$22	$5

Note 16 – Postretirement Plans

Many of our employees have earned benefits under defined benefit pension plans. The majority of employees that had participated in defined benefit pension plans have transitioned to a company-funded defined contribution retirement savings plan.

We fund our major pension plans through trusts. Pension assets are placed in trust solely for the benefit of the plans' participants and are structured to maintain liquidity that is sufficient to pay benefit obligations as well as to keep pace over the long-term with the growth of obligations for future benefit payments.

We also have other postretirement benefits (OPB) other than pensions which consist principally of health care coverage for eligible retirees and qualifying dependents, and to a lesser extent, life insurance to certain groups of retirees. Retiree health care is provided principally until age 65 for approximately three-fourths of those participants who are eligible for health care coverage. Certain employee groups, including employees covered by most United Auto Workers bargaining agreements, are provided lifetime health care coverage.

The funded status of the plans is measured as the difference between the plan assets at fair value and the projected benefit obligation (PBO). We have recognized the aggregate of all overfunded plans in Other assets and the aggregate of all underfunded plans in either Accrued retiree health care or Accrued pension plan liability, net. The portion of the amount by which the actuarial present value of benefits included in the PBO exceeds the fair value of plan assets, payable in the next 12 months, is reflected in Accrued liabilities.

The components of net periodic benefit (income)/cost were as follows:

	Pension			Other Postretirement Benefits		
Years ended December 31,	**2022**	2021	2020	**2022**	2021	2020
Service cost	**$3**	$3	$3	**$72**	$87	$89
Interest cost	**2,080**	1,988	2,455	**98**	97	130
Expected return on plan assets	**(3,789)**	(3,848)	(3,756)	**(10)**	(7)	(9)
Amortization of prior service credits	**(81)**	(80)	(80)	**(35)**	(35)	(38)
Recognized net actuarial loss/(gain)	**913**	1,219	1,032	**(111)**	(56)	(63)
Settlement/curtailment (gain)/loss	**(4)**	193	9			(4)
Net periodic benefit (income)/cost	**($878)**	($525)	($337)	**$14**	$86	$105
Net periodic benefit cost included in Loss from operations	**$3**	$3	$3	**$79**	$90	$91
Net periodic benefit (income)/cost included in Other income, net	**(881)**	(528)	(340)	**(58)**	(1)	16
Net periodic benefit (income)/cost included in Loss before income taxes	**($878)**	($525)	($337)	**$21**	$89	$107

The following tables show changes in the benefit obligation, plan assets and funded status of both pensions and OPB for the years ended December 31, 2022 and 2021. Benefit obligation balances presented below reflect the PBO for our pension plans and accumulated postretirement benefit obligations (APBO) for our OPB plans.

	Pension		Other Postretirement Benefits	
	2022	2021	**2022**	2021
Change in benefit obligation				
Beginning balance	**$75,635**	$82,415	**$4,092**	$4,693
Service cost	**3**	3	**72**	87
Interest cost	**2,080**	1,988	**98**	97
Amendments	**1**			
Actuarial (gain)/loss	**(17,605)**	(3,249)	**(914)**	(401)
Settlement/other		(870)		
Gross benefits paid	**(4,971)**	(4,653)	**(406)**	(411)
Subsidies			**39**	26
Exchange rate adjustment	**(26)**	1	**(3)**	1
Ending balance	**$55,117**	$75,635	**$2,978**	$4,092
Change in plan assets				
Beginning balance at fair value	**$67,813**	$68,696	**$172**	$160
Actual return on plan assets	**(13,141)**	4,477	**(27)**	21
Company contribution	**2**	11		
Plan participants' contributions			**6**	6
Settlement payments		(870)		
Benefits paid	**(4,824)**	(4,502)	**(11)**	(15)
Exchange rate adjustment	**(25)**	1		
Ending balance at fair value	**$49,825**	$67,813	**$140**	$172
Amounts recognized in statement of financial position at December 31 consist of:				
Other assets	**$987**	$1,426	**$21**	
Accrued liabilities	**(138)**	(144)	**(356)**	($392)
Accrued retiree health care			**(2,503)**	(3,528)
Accrued pension plan liability, net	**(6,141)**	(9,104)		
Net amount recognized	**($5,292)**	($7,822)	**($2,838)**	($3,920)

Amounts recognized in Accumulated other comprehensive loss at December 31 were as follows:

	Pension		Other Postretirement Benefits	
	2022	2021	**2022**	2021
Net actuarial loss/(gain)	**$17,448**	$19,031	**($1,862)**	($1,092)
Prior service credits	**(1,224)**	(1,306)	**(41)**	(76)
Total recognized in Accumulated other comprehensive loss	**$16,224**	$17,725	**($1,903)**	($1,168)

The accumulated benefit obligation (ABO) for all pension plans was $54,481 and $74,199 at December 31, 2022 and 2021. Key information for our plans with ABO and PBO in excess of plan assets as of December 31 was as follows:

	2022	2021
Accumulated benefit obligation	**$48,134**	$66,406
Fair value of plan assets	**42,491**	58,593

	2022	2021
Projected benefit obligation	**$48,770**	$67,841
Fair value of plan assets	**42,491**	58,593

Assumptions

The following assumptions, which are the weighted average for all plans, are used to calculate the benefit obligation at December 31 of each year and the net periodic benefit cost for the subsequent year.

December 31,	**2022**	2021	2020
Discount rate:			
Pension	**5.40 %**	2.80 %	2.50 %
Other postretirement benefits	**5.30 %**	2.50 %	2.00 %
Expected return on plan assets	**6.00 %**	6.30 %	6.50 %
Rate of compensation increase	**4.30 %**	4.30 %	4.30 %
Interest crediting rates for cash balance plans	**5.00 %**	5.00 %	5.00 %

The discount rate for each plan is determined based on the plans' expected future benefit payments using a yield curve developed from high quality bonds that are rated as Aa or better by at least half of the four rating agencies utilized as of the measurement date. The yield curve is fitted to yields developed from bonds at various maturity points. Bonds with the ten percent highest and the ten percent lowest yields are omitted. The present value of each plan's benefits is calculated by applying the discount rates to projected benefit cash flows.

The pension fund's expected return on plan assets assumption is derived from a review of actual historical returns achieved by the pension trust and anticipated future long-term performance of individual asset classes. While consideration is given to historical returns, the assumption represents a long-term, prospective return. The expected return on plan assets component of the net periodic benefit cost for the upcoming plan year is determined based on the expected return on plan assets assumption and the market-related value of plan assets (MRVA). Since our adoption of the accounting standard for pensions in 1987, we have determined the MRVA based on a five-year moving average of plan assets. As of December 31, 2022, the MRVA was approximately $10,131 more than the fair market value of assets.

Assumed health care cost trend rates were as follows:

December 31,	**2022**	2021	2020
Health care cost trend rate assumed next year	**5.50 %**	4.50 %	4.50 %
Ultimate trend rate	**4.50 %**	4.50 %	4.50 %
Year that trend reaches ultimate rate	**2028**	2021	2021

Plan Assets

Investment Strategy The overall objective of our pension assets is to earn a rate of return over time to satisfy the benefit obligations of the pension plans and to maintain sufficient liquidity to pay benefits and address other cash requirements of the pension fund. Specific investment objectives for our long-term investment strategy include reducing the volatility of pension assets relative to pension liabilities, achieving a competitive total investment return, achieving diversification between and within asset classes and managing other risks. Investment objectives for each asset class are determined based on specific risks and investment opportunities identified.

We periodically update our long-term, strategic asset allocations. We use various analytics to determine the optimal asset mix and consider plan liability characteristics, liquidity characteristics, funding requirements, expected rates of return and the distribution of returns. A key element of our strategy is to de-risk the plan as the funded status of the plan increases. During 2022, the funded status of the plans increased as compared to 2021, and additional assets were reallocated to fixed income. The changes in the asset allocation are reflected in the table below. We identify investment benchmarks to evaluate performance for the asset classes in the strategic asset allocation that are market-based and investable where possible. Actual allocations to each asset class vary from target allocations due to periodic investment strategy changes, market value fluctuations, the length of time it takes to fully implement investment allocation positions, and the timing of benefit payments and contributions. Short-term investments and exchange-traded derivatives are used to rebalance the actual asset allocation to the target asset allocation. The asset allocation is monitored and rebalanced frequently. The actual and target allocations by asset class for the pension assets at December 31 were as follows:

	Actual Allocations		Target Allocations	
Asset Class	**2022**	2021	**2022**	2021
Fixed income	**63 %**	61 %	**63 %**	63 %
Global equity	**14**	16	**20**	20
Private equity	**8**	8	**4**	4
Real estate and real assets	**8**	8	**7**	7
Hedge funds	**7**	7	**6**	6
Total	**100 %**	100 %	**100 %**	100 %

Fixed income securities are invested primarily in a diversified portfolio of long duration instruments as well as Emerging Market, Structured, High Yield and Private Debt. Global equity securities are invested in a diversified portfolio of U.S. and non-U.S. companies, across various industries and market capitalizations.

Private equity investment vehicles are primarily limited partnerships (LPs) that mainly invest in U.S. and non-U.S. leveraged buyout, venture capital, growth and special situation strategies. Real estate and real assets include global private investments that may be held through investments in LPs or other fund structures. Real estate includes, but is not limited to, investments in office, retail, apartment and industrial properties. Real assets include, but are not limited to, investments in natural resources (such as energy, farmland and timber), commodities and infrastructure.

Hedge fund investments seek to capitalize on inefficiencies identified across and within different asset classes or markets. Hedge fund strategy types include, but are not limited to, directional, event driven, relative value and long-short.

Investment managers are retained for explicit investment roles specified by contractual investment guidelines. Certain investment managers are authorized to use derivatives, such as equity or bond futures, swaps, options and currency futures or forwards. Derivatives are used to achieve the desired

market exposure of a security or an index, transfer value-added performance between asset classes, achieve the desired currency exposure, adjust portfolio duration or rebalance the total portfolio to the target asset allocation.

As a percentage of total pension assets, derivative net notional amounts were 37.1% and 33.4% for fixed income, including to-be-announced mortgage-backed securities and treasury forwards, and (5.6%) and (5.4%) for global equity and commodities at December 31, 2022 and 2021.

In November 2020, the Company elected to contribute $3,000 of our common stock to the pension fund. An independent fiduciary was retained to manage and liquidate the stock over time at its discretion. Plan assets included $1,782 and $1,883 of our common stock as of December 31, 2022 and 2021.

Risk Management In managing the pension assets, we review and manage risk associated with funded status risk, interest rate risk, market risk, counterparty risk, liquidity risk and operational risk. Liability matching and asset class diversification are central to our risk management approach and are integral to the overall investment strategy. Further, asset classes are constructed to achieve diversification by investment strategy, by investment manager, by industry or sector and by holding. Investment manager guidelines for publicly traded assets are specified and are monitored regularly through the custodian. Credit parameters for counterparties have been established for managers permitted to trade over-the-counter derivatives. Valuation is governed through several types of procedures, including reviews of manager valuation policies, custodian valuation processes, pricing vendor practices, pricing reconciliation and periodic, security-specific valuation testing.

Fair Value Measurements The following table presents our plan assets using the fair value hierarchy as of December 31, 2022 and 2021. The fair value hierarchy has three levels based on the reliability of the inputs used to determine fair value. Level 1 refers to fair values determined based on quoted prices in active markets for identical assets. Level 2 refers to fair values estimated using significant other observable inputs and Level 3 includes fair values estimated using significant unobservable inputs.

	December 31, 2022				December 31, 2021			
	Total	**Level 1**	**Level 2**	**Level 3**	Total	Level 1	Level 2	Level 3
Fixed income securities:								
Corporate	**$15,095**		**$15,025**	**$70**	$20,573		$20,520	$53
U.S. government and agencies	**7,827**		**7,827**		11,285		11,285	
Mortgage backed and asset backed	**664**		**502**	**162**	777		675	102
Municipal	**843**		**811**	**32**	1,064		1,035	29
Sovereign	**706**		**706**		1,135		1,126	9
Other	**8**	**$8**			3	$3		
Derivatives:								
Assets	**36**		**36**		62		62	
Liabilities	**(87)**		**(87)**		(48)		(48)	
Cash equivalents and other short-term investments	**571**		**571**		448		448	
Equity securities:								
U.S. common and preferred stock	**2,931**	**2,931**			4,463	4,463		
Non-U.S. common and preferred stock	**2,023**	**2,023**			3,345	3,340		5
Boeing company stock	**1,782**	**1,782**			1,883	1,883		
Derivatives:								
Assets					1		1	
Liabilities	**(1)**		**(1)**		(1)		(1)	
Private equity								
Real estate and real assets:								
Real estate					413	413		
Real assets	**362**	**310**	**47**	**5**	784	749	35	
Derivatives:								
Assets	**1**		**1**		8		8	
Liabilities	**(8)**		**(7)**	**(1)**	(2)		(2)	
Total	**$32,753**	**$7,054**	**$25,431**	**$268**	$46,193	$10,851	$35,144	$198
Fixed income common/ collective/pooled funds	**$1,511**				$1,712			
Fixed income other	**832**				747			
Equity common/collective/ pooled funds	**2,757**				4,561			
Private equity	**4,239**				5,100			
Real estate and real assets	**3,525**				3,952			
Hedge funds	**3,391**				4,717			
Total investments measured at NAV as a practical expedient	**$16,255**				$20,789			
Cash	**$409**				$520			
Receivables	**541**				454			
Payables	**(133)**				(143)			
Total	**$49,825**				$67,813			

Fixed income securities are primarily valued upon a market approach, using matrix pricing and considering a security's relationship to other securities for which quoted prices in an active market may be available, or an income approach, converting future cash flows to a single present value amount.

Inputs used in developing fair value estimates include reported trades, broker quotes, benchmark yields and base spreads.

Common/collective/pooled funds are typically common or collective trusts valued at their net asset values (NAVs) that are calculated by the investment manager or sponsor of the fund and have daily or monthly liquidity.

Derivatives included in the table above are over-the-counter and are primarily valued using an income approach with inputs that include benchmark yields, swap curves, cash flow analysis, rating agency data and interdealer broker rates. Exchange-traded derivative positions are reported in accordance with changes in daily variation margin which is settled daily and therefore reflected in the payables and receivables portion of the table.

Cash equivalents and other short-term investments (which are used to pay benefits) are held in a separate account which consists of a commingled fund (with daily liquidity) and separately held short-term securities and cash equivalents. All of the investments in this cash vehicle are valued daily using a market approach with inputs that include quoted market prices for similar instruments. In the event a market price is not available for instruments with an original maturity of one year or less, amortized cost is used as a proxy for fair value. Common and preferred stock equity securities are primarily valued using a market approach based on the quoted market prices of identical instruments.

Private equity and private debt NAV valuations are based on the valuation of the underlying investments, which include inputs such as cost, operating results, discounted future cash flows and market based comparable data. For those investments reported on a one-quarter lagged basis (primarily LPs) we use NAVs, adjusted for subsequent cash flows and significant events.

Real estate and real asset NAVs are based on the valuation of the underlying investments, which include inputs such as cost, discounted future cash flows, independent appraisals and market based comparable data. For those investments reported on a one-quarter lagged basis (primarily LPs), NAVs are adjusted for subsequent cash flows and significant events. Publicly traded infrastructure stocks are valued using a market approach based on quoted market prices of identical instruments. Exchange-traded commodities futures positions are reported in accordance with changes in daily variation margin which is settled daily and therefore reflected in the payables and receivables portion of the table.

Hedge fund NAVs are generally based on the valuation of the underlying investments. This is primarily done by applying a market or income valuation methodology depending on the specific type of security or instrument held.

Investments in private equity, private debt, real estate, real assets and hedge funds are primarily calculated and reported by the General Partner, fund manager or third-party administrator. Additionally, some investments in fixed income and equity are made via commingled vehicles and are valued in a similar fashion. Pension assets invested in commingled and LP structures rely on the NAV of these investments as the practical expedient for the valuations.

The following tables summarizes the changes of Level 3 assets, reconciled by asset class, held during the years ended December 31, 2022 and 2021. Transfers into and out of Level 3 are reported at the beginning-of-year values.

	January 1 2022 Balance	Net Realized and Unrealized Gains/(Losses)	Net Purchases, Issuances and Settlements	Net Transfers Into/(Out of) Level 3	December 31 2022 Balance
Fixed income securities:					
Corporate	**$53**	**($19)**	**$3**	**$33**	**$70**
Mortgage backed and asset backed	**102**	**(11)**	**16**	**55**	**162**
Municipal	**29**	**(14)**	**9**	**8**	**32**
Sovereign	**9**			**(9)**	
Equity securities:					
Non-U.S. common and preferred stock	**5**	**(45)**	**(2)**	**42**	
Real assets		**(1)**	**5**		**4**
Total	**$198**	**($90)**	**$31**	**$129**	**$268**

	January 1 2021 Balance	Net Realized and Unrealized Gains/(Losses)	Net Purchases, Issuances and Settlements	Net Transfers Into/(Out of) Level 3	December 31 2021 Balance
Fixed income securities:					
Corporate	$40	($1)	$5	$9	$53
U.S. government and agencies	2		(2)		
Mortgage backed and asset backed	120		(17)	(1)	102
Municipal	72		7	(50)	29
Sovereign	2	(8)	15		9
Equity securities:					
Non-U.S. common and preferred stock	2	2	(3)	4	5
Real assets	2			(2)	
Total	$240	($7)	$5	($40)	$198

For the year ended December 31, 2022, the changes in unrealized gains/(losses) for Level 3 assets still held at December 31, 2022 were ($16) for corporate fixed income securities, ($11) for mortgage backed and asset backed fixed income securities, ($14) for municipal fixed income securities, and ($1) for real asset securities. For the year ended December 31, 2021, the changes in unrealized gains/(losses) for Level 3 assets still held at December 31, 2021 were ($1) for mortgage backed and asset backed fixed income securities and ($8) for sovereign.

OPB Plan Assets The majority of OPB plan assets are invested in a balanced index fund which is comprised of approximately 60% equities and 40% debt securities. The index fund is valued using a

market approach based on the quoted market price of an identical instrument (Level 1). The expected rate of return on these assets does not have a material effect on the net periodic benefit cost.

Cash Flows

Contributions Required pension contributions under the Employee Retirement Income Security Act (ERISA), as well as rules governing funding of our non-US pension plans, are not expected to be significant in 2023. During the fourth quarter of 2020, we contributed $3,000 in common stock to the pension fund. We do not expect to make discretionary contributions to our pension plans in 2023.

Estimated Future Benefit Payments The table below reflects the total pension benefits expected to be paid from the plans or from our assets, including both our share of the benefit cost and the participants' share of the cost, which is funded by participant contributions. OPB payments reflect our portion only.

Year(s)	2023	2024	2025	2026	2027	2028-2032
Pensions	$5,348	$4,473	$4,404	$4,325	$4,221	$19,560
Other postretirement benefits:						
Gross benefits paid	381	371	353	334	310	1,176
Subsidies	(11)	(11)	(11)	(12)	(12)	(63)
Net other postretirement benefits	$370	$360	$342	$322	$298	$1,113

Termination Provisions

Certain of the pension plans provide that, in the event there is a change in control of the Company which is not approved by the Board of Directors and the plans are terminated within five years thereafter, the assets in the plan first will be used to provide the level of retirement benefits required by ERISA, and then any surplus will be used to fund a trust to continue present and future payments under the postretirement medical and life insurance benefits in our group insurance benefit programs.

Should we terminate certain pension plans under conditions in which the plan's assets exceed that plan's obligations, the U.S. government will be entitled to a fair allocation of any of the plan's assets based on plan contributions that were reimbursed under U.S. government contracts.

Defined Contribution Plans

We provide certain defined contribution plans to all eligible employees. The principal plans are the Company-sponsored 401(k) plans. The expense for these defined contribution plans was $1,260, $1,268 and $1,351 in 2022, 2021 and 2020, respectively.

Note 17 – Share-Based Compensation and Other Compensation Arrangements

Share-Based Compensation

Our 2003 Incentive Stock Plan, as amended and restated, permits awards of incentive and non-qualified stock options, stock appreciation rights, restricted stock or units, performance shares, performance restricted stock or units, performance units and other stock and cash-based awards to our employees, officers, directors, consultants, and independent contractors. The aggregate number of shares of our stock authorized for issuance under the plan is 87,000,000.

Shares issued as a result of stock option exercises or conversion of stock unit awards will be funded out of treasury shares, except to the extent there are insufficient treasury shares, in which case new shares will be issued. We believe we currently have adequate treasury shares to satisfy these issuances during 2023.

Share-based plans expense is primarily included in Total costs and expenses and General and administrative expense, as well as a portion allocated to production as inventoried costs. The share-based plans expense and related income tax benefit were as follows:

Years ended December 31,	**2022**	2021	2020
Restricted stock units and other awards	**$726**	$840	$243
Income tax benefit (before consideration of valuation allowance)	$178	$148	$53

Stock Options

Options have been granted to our executive officers that are scheduled to vest and become exercisable three years after the grant date and expire ten years after the grant date. If an executive terminates employment because of retirement, layoff, disability, or death, the executive (or beneficiary) may receive some or all of their stock options depending on certain age and service conditions. The fair values of the stock options granted were estimated using a Monte-Carlo simulation model using the assumptions presented below. The model includes no expected dividend yield.

On February 16, 2022, we granted 348,769 premium-priced stock options to our executive officers as part of our long-term incentive program. These stock options have an exercise price equal to 120% of the fair market value of our stock on the date of grant. If certain performance measures are met, the exercise price is reduced to 110% of the grant date fair market value of our stock.

On February 17, 2021, we granted 342,986 premium-priced stock options to our executive officers as part of our long-term incentive program. These stock options have an exercise price equal to 120% of the fair market value of our stock on the date of grant. During 2021, we also granted 148,322 stock options to certain executives to encourage retention or to award various achievements, of which 40,322 had an exercise price equal to 120% of the fair market value of our stock on the date of grant, and the remaining 108,000 had an exercise price equal to the fair market value on the date of grant. The grant date fair market values of these awards were not significant.

Grant Year	Grant Date	Expected Life	Expected Volatility	Risk Free Interest Rate	Grant Date Fair Value Per Option
2022	2/16/2022	6.8 years	36.6 %	2.0 %	$83.04
2021	2/17/2021	6.6 years	37.8 %	1.3 %	$74.63

Options granted through January 2014 had an exercise price equal to the fair market value of our stock on the date of grant and expire 10 years after the date of grant. These stock options vested over a period of three years and were fully vested as of December 31, 2017.

Stock option activity for the year ended December 31, 2022 was as follows:

	Shares	Weighted Average Exercise Price Per Option	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Number of shares under option:				
Outstanding at beginning of year	1,709,379	$121.83		
Granted	362,450	259.77		
Exercised	(663,348)	75.85		
Expired	(664)	130.72		
Forfeited	(17,048)	246.21		
Outstanding at end of year	1,390,769	$178.18	5.0	$68
Exercisable at end of year	598,983	$77.22	0.2	$68

The total intrinsic value of options exercised during the years ended December 31, 2022, 2021 and 2020 was $75, $84 and $90, with a related tax benefit of $17, $19 and $32, respectively. At December 31, 2022, there was $23 of total unrecognized compensation cost related to options which is expected to be recognized over a weighted average period of 1.9 years. No options vested during the years ended December 31, 2022, 2021 and 2020.

Restricted Stock Units

In February 2022, 2021 and 2020, we granted to our executives 1,804,541, 980,077 and 325,108 restricted stock units (RSUs) as part of our long-term incentive program with grant date fair values of $217.48, $215.70 and 319.04 per unit, respectively. On July 29, 2022, we also granted 2,568,112 RSUs with a grant date fair value of $157.69 per unit as part of our long-term incentive program, accelerating awards planned for 2023 to retain executives. The RSUs granted under this program will generally vest and settle in common stock (on a one-for-one basis) on the third anniversary of the grant date. If an executive terminates employment because of retirement, layoff, disability, or death, the executive (or beneficiary) may receive some or all of their stock units depending on certain age and service conditions. In all other cases, the RSUs will not vest and all rights to the stock units will terminate. These RSUs are labeled executive long-term incentive program in the table below.

In December 2020, we granted to our employees (excluding executives and certain union-represented employees), a one-time grant of 5,163,425 RSUs with a grant date fair value of $233.00 per unit. The RSUs granted under this program will vest and settle in common stock (on a one-for-one basis) on the third anniversary of the grant date. If an employee terminates employment because of retirement, layoff, disability or death, the employee (or beneficiary) may receive a proration of stock units based on active employment during the three-year service period. In all other cases, the RSUs will not vest and all rights to the stock units will terminate. These RSUs are labeled employee long-term incentive program in the table below.

In addition to RSUs awarded under our long-term incentive programs, we granted RSUs to certain executives and employees to encourage retention or to reward various achievements. These RSUs are labeled other RSUs in the table below.

The fair values of all RSUs are estimated using the average of the high and low stock prices on the date of grant.

RSU activity for the year ended December 31, 2022 was as follows:

	Executive Long-Term Incentive Program	Employee Long-Term Incentive Program	Other
Number of units:			
Outstanding at beginning of year	2,049,695	4,780,724	698,866
Granted	4,527,189		595,122
Forfeited	(282,488)	(269,380)	(67,441)
Distributed	(176,496)	(137,537)	(267,853)
Outstanding at end of year	6,117,900	4,373,807	958,694
Undistributed vested units	426,652	1,454,414	18,914
Unrecognized compensation cost	$683	$240	$87
Weighted average remaining amortization period *(years)*	2.1	1.0	2.1

Performance-Based Restricted Stock Units

Performance-Based Restricted Stock Units (PBRSUs) are stock units that pay out based on the Company's total shareholder return (TSR) as compared to a group of peer companies over a three-year period. The award payout can range from 0% to 200% of the initial PBRSU grant. The PBRSUs granted under this program will vest at the payout amount and settle in common stock (on a one-for-one basis) on the third anniversary of the grant date. If an executive terminates employment because of retirement, layoff, disability or death, the employee (or beneficiary) remains eligible under the award and, if the award is earned, will receive a proration of stock units based on active employment during the three-year service period. In all other cases, the PBRSUs will not vest and all rights to the stock units will terminate.

In February 2020, we granted to our executives 290,202 PBRSUs as part of our long-term incentive program. Compensation expense for the award is recognized over the three-year performance period based upon the grant date fair value. The grant date fair values were estimated using a Monte-Carlo simulation model with the assumptions presented below. The model includes no expected dividend yield.

Grant Year	Grant Date	Performance Period	Expected Volatility	Risk Free Interest Rate	Grant Date Fair Value Per Unit
2020	2/24/2020	3 years	27.0 %	1.2 %	$357.38

PBRSU activity for the year ended December 31, 2022 was as follows:

	Executive Long-Term Incentive Program
Number of units:	
Outstanding at beginning of year	383,401
Performance based adjustment[(1)]	(162,548)
Forfeited	(10,647)
Outstanding at end of year	210,206
Unrecognized compensation cost	$4
Weighted average remaining amortization period *(years)*	0.2

(1) Represents adjustment to 0% payout for units granted in 2019.

Performance Awards

During 2020, we granted Performance Awards to our executives, which are cash units that pay out based on the achievement of long-term financial goals at the end of a three-year period. Each unit had an initial value of $100 dollars. The Compensation Committee has the discretion to pay these awards in cash, stock or a combination of both after the three-year performance period. As of December 31, 2022 these performance awards have expired with a payout of $0.

Deferred Compensation

The Company has deferred compensation plans which permit certain employees and executives to defer a portion of their salary, bonus, certain other incentive awards and retirement contributions. Participants can diversify these amounts among 23 investment funds including a Boeing stock unit account.

Total (income)/expense related to deferred compensation was ($117), $126 and $93 in 2022, 2021 and 2020, respectively. As of December 31, 2022 and 2021, the deferred compensation liability which is being marked to market was $1,499 and $1,703.

Note 18 – Shareholders' Equity

On December 17, 2018, the Board approved a repurchase plan for up to $20,000 of common stock. In March 2020, the Board of Directors terminated its prior authorization to repurchase shares under this plan.

As of December 31, 2022 and 2021, there were 1,200,000,000 shares of common stock and 20,000,000 shares of preferred stock authorized. No preferred stock has been issued.

Changes in Share Balances

The following table shows changes in each class of shares:

	Common Stock	Treasury Stock
Balance at January 1, 2020	1,012,261,159	449,352,405
Issued		(19,986,868)
Acquired		575,484
Balance at December 31, 2020	1,012,261,159	429,941,021
Issued		(6,904,556)
Acquired		307,242
Balance at December 31, 2021	1,012,261,159	423,343,707
Issued		**(8,877,047)**
Acquired		**204,723**
Balance at December 31, 2022	**1,012,261,159**	**414,671,383**

Accumulated Other Comprehensive Loss

Changes in Accumulated other comprehensive loss (AOCI) by component for the years ended December 31, 2022, 2021 and 2020 were as follows:

	Currency Translation Adjustments	Unrealized Gains and Losses on Certain Investments	Unrealized Gains and Losses on Derivative Instruments	Defined Benefit Pension Plans & Other Postretirement Benefits	Total [1]
Balance at January 1, 2020	($128)	$1	($84)	($15,942)	($16,153)
Other comprehensive income/(loss) before reclassifications	98		14	(1,929) [2]	(1,817)
Amounts reclassified from AOCI			27	810 [3]	837
Net current period Other comprehensive income/(loss)	98		41	(1,119)	(980)
Balance at December 31, 2020	($30)	$1	($43)	($17,061)	($17,133)
Other comprehensive (loss)/income before reclassifications	(75)		55	4,268 [2]	4,248
Amounts reclassified from AOCI			(6)	1,232 [3]	1,226
Net current period Other comprehensive (loss)/income	(75)		49	5,500	5,474
Balance at December 31, 2021	($105)	$1	$6	($11,561)	($11,659)
Other comprehensive (loss)/income before reclassifications	**(62)**	**(1)**	**(40)**	**1,529** [2]	**1,426**
Amounts reclassified from AOCI			**10** [4]	**673** [3]	**683**
Net current period Other comprehensive (loss)/income	**(62)**	**(1)**	**(30)**	**2,202**	**2,109**
Balance at December 31, 2022	**($167)**		**($24)**	**($9,359)**	**($9,550)**

(1) Net of tax.

(2) Primarily related to remeasurement of assets and benefit obligations related to the Company's pension and other postretirement benefit plans resulting in an actuarial gain/(loss) of $1,533, $4,262 and ($1,956) (net of tax of ($22), ($32) and $111) for the years ended December 31, 2022, 2021 and 2020. See Note 16.

(3) Primarily related to amortization of actuarial losses for the years ended December 31, 2022, 2021 and 2020 totaling $791, $1,155 and $917 (net of tax of ($11), ($8) and ($52)), respectively. These are included in the net periodic pension cost. See Note 16.

(4) Included losses of $39 (net of tax of ($11)) from cash flow hedges reclassified to Other income, net because the forecasted transactions are probable of not occurring.

Note 19 – Derivative Financial Instruments

Cash Flow Hedges

Our cash flow hedges include foreign currency forward contracts, commodity swaps and commodity purchase contracts. We use foreign currency forward contracts to manage currency risk associated with certain transactions, specifically forecasted sales and purchases made in foreign currencies. Our foreign currency contracts hedge forecasted transactions through 2031. We use commodity derivatives, such as fixed-price purchase commitments and swaps to hedge against potentially unfavorable price changes for commodities used in production. Our commodity contracts hedge forecasted transactions through 2029.

Derivative Instruments Not Receiving Hedge Accounting Treatment

We have entered into agreements to purchase and sell aluminum to address long-term strategic sourcing objectives and non-U.S. business requirements. These agreements are derivative instruments for accounting purposes. The quantities of aluminum in these agreements offset and are priced at prevailing market prices. We also hold certain foreign currency forward contracts and commodity swaps which do not qualify for hedge accounting treatment.

Notional Amounts and Fair Values

The notional amounts and fair values of derivative instruments in the Consolidated Statements of Financial Position as of December 31 were as follows:

	Notional amounts[1]		Other assets		Accrued liabilities	
	2022	2021	**2022**	2021	**2022**	2021
Derivatives designated as hedging instruments:						
Foreign exchange contracts	**$2,815**	$2,630	**$23**	$30	**($122)**	($52)
Commodity contracts	**602**	500	**115**	88	**(9)**	(18)
Derivatives not receiving hedge accounting treatment:						
Foreign exchange contracts	**462**	361	**5**	2	**(42)**	(3)
Commodity contracts	**412**	760	**2**	8	**(1)**	(7)
Total derivatives	**$4,291**	$4,251	**145**	128	**(174)**	(80)
Netting arrangements			**(33)**	(30)	**33**	30
Net recorded balance			**$112**	$98	**($141)**	($50)

(1) Notional amounts represent the gross contract/notional amount of the derivatives outstanding.

Gains/(losses) associated with our hedging transactions and forward points recognized in Other comprehensive income are presented in the following table:

Years ended December 31,	**2022**	2021
Recognized in Other comprehensive income, net of taxes:		
Foreign exchange contracts	**($118)**	($47)
Commodity contracts	**78**	102

Gains/(losses) associated with our hedging transactions and forward points reclassified from AOCI to earnings are presented in the following table:

Years ended December 31,	**2022**	2021
Foreign exchange contracts		
Revenues	**$1**	
Costs and expenses	**7**	$13
General and administrative	**(12)**	8
Commodity contracts		
Costs and expenses	**$31**	($18)
General and administrative expense	**10**	5

Losses from cash flow hedges reclassified from AOCI to Other income, net because it is probable the forecasted transactions will not occur were $50 and $0 for the years ended December 31, 2022 and 2021. Gains/(losses) related to undesignated derivatives on foreign exchange and commodity cash flow hedging transactions recognized in Other income, net were insignificant for the years ended December 31, 2022 and 2021.

Based on our portfolio of cash flow hedges, we expect to reclassify gains of $14 (pre-tax) out of Accumulated other comprehensive loss into earnings during the next 12 months.

We have derivative instruments with credit-risk-related contingent features. If we default on our five-year credit facility, our derivative counterparties could require settlement for foreign exchange and certain commodity contracts with original maturities of at least five years. The fair value of those contracts in a net liability position at December 31, 2022 was $33. For other particular commodity contracts, our counterparties could require collateral posted in an amount determined by our credit ratings. At December 31, 2022, there was no collateral posted related to our derivatives.

Note 20 – Fair Value Measurements

The fair value hierarchy has three levels based on the reliability of the inputs used to determine fair value. Level 1 refers to fair values determined based on quoted prices in active markets for identical assets. Level 2 refers to fair values estimated using significant other observable inputs, and Level 3 includes fair values estimated using significant unobservable inputs. The following table presents our assets and liabilities that are measured at fair value on a recurring basis and are categorized using the fair value hierarchy.

	December 31, 2022			December 31, 2021		
	Total	**Level 1**	**Level 2**	Total	Level 1	Level 2
Assets						
Money market funds	**$1,797**	**$1,797**		$1,370	$1,370	
Available-for-sale debt investments:						
Commercial paper	**256**		**$256**	225		$225
Corporate notes	**195**		**195**	262		262
U.S. government agencies	**47**		**47**	1		1
Other equity investments	**10**	**10**		20	20	
Derivatives	**112**		**112**	98		98
Total assets	**$2,417**	**$1,807**	**$610**	$1,976	$1,390	$586
Liabilities						
Derivatives	**($141)**		**($141)**	($50)		($50)
Total liabilities	**($141)**		**($141)**	($50)		($50)

Money market funds, available-for-sale debt investments and equity securities are valued using a market approach based on the quoted market prices or broker/dealer quotes of identical or comparable instruments.

Derivatives include foreign currency and commodity contracts. Our foreign currency forward contracts are valued using an income approach based on the present value of the forward rate less the contract rate multiplied by the notional amount. Commodity derivatives are valued using an income approach based on the present value of the commodity index prices less the contract rate multiplied by the notional amount.

Certain assets have been measured at fair value on a nonrecurring basis. The following table presents the nonrecurring losses recognized for the years ended December 31 due to long-lived asset impairment, and the fair value and asset classification of the related assets as of the impairment date:

	2022				2021			
	Total	**Level 2**	**Level 3**	**Total Losses**	Total	Level 2	Level 3	Total Losses
Investments				**($31)**				($8)
Customer financing assets	**$47**		**$47**	**(7)**	$110		$110	(31)
Property, plant and equipment				**(19)**	9		9	(50)
Other Assets and Acquired intangible assets	**15**		**15**	**(55)**	1		1	(9)
Total	**$62**		**$62**	**($112)**	$120		$120	($98)

Level 3 Investments, Property, plant and equipment, Other assets and Acquired intangible assets were primarily valued using an income approach based on the discounted cash flows associated with the underlying assets. Level 2 Property, plant and equipment were valued based on a third party valuation using a combination of income and market approaches that considered estimates of net operating income, capitalization rates and adjusted for as-is condition. The fair value of the impaired customer financing assets includes operating lease equipment and investments in sales type-leases/finance leases and is derived by calculating a median collateral value from a consistent group of third party aircraft value publications. The values provided by the third party aircraft publications are derived from their knowledge of market trades and other market factors. Management reviews the publications quarterly to assess the continued appropriateness and consistency with market trends. Under certain circumstances, we adjust values based on the attributes and condition of the specific aircraft or equipment, usually when the features or use of the aircraft vary significantly from the more generic aircraft attributes covered by third party publications, or on the expected net sales price for the aircraft.

For Level 3 assets that were measured at fair value on a nonrecurring basis during the year ended December 31, 2022, the following table presents the fair value of those assets as of the measurement date, valuation techniques and related unobservable inputs of those assets.

	Fair Value	Valuation Technique(s)	Unobservable Input	Range Median or Average
Customer financing assets	$47	Market approach	Aircraft value publications Aircraft condition adjustments	$40 - $51[(1)] Median $46 ($4) - $5[(2)] Net $1

(1) The range represents the sum of the highest and lowest values for all aircraft subject to fair value measurement, according to the third party aircraft valuation publications that we use in our valuation process.

(2) The negative amount represents the sum, for all aircraft subject to fair value measurement, of all downward adjustments based on consideration of individual aircraft attributes and condition. The positive amount represents the sum of all such upward adjustments.

Fair Value Disclosures

The fair values and related carrying values of financial instruments that are not required to be remeasured at fair value on the Consolidated Statements of Financial Position at December 31 were as follows:

	December 31, 2022				
	Carrying Amount	**Total Fair Value**	**Level 1**	**Level 2**	**Level 3**
Assets					
Notes receivable, net	**$385**	**$403**		**$403**	
Liabilities					
Debt, excluding finance lease obligations	**(56,794)**	**(52,856)**		**(52,856)**	

	December 31, 2021				
	Carrying Amount	Total Fair Value	Level 1	Level 2	Level 3
Assets					
Notes receivable, net	$412	$485		$485	
Liabilities					
Debt, excluding finance lease obligations	(57,921)	(65,724)		(65,724)	

The fair values of notes receivable are estimated with discounted cash flow analysis using interest rates currently offered on loans with similar terms to borrowers of similar credit quality. The fair value of our debt that is traded in the secondary market is classified as Level 2 and is based on current market yields. For our debt that is not traded in the secondary market, the fair value is classified as Level 2 and is based on our indicative borrowing cost derived from dealer quotes or discounted cash flows. The fair values of our debt classified as Level 3 are based on discounted cash flow models using the implied yield from similar securities. With regard to other financial instruments with off-balance sheet risk, it is not practicable to estimate the fair value of our indemnifications and financing commitments because the amount and timing of those arrangements are uncertain. Items not included in the above disclosures include cash, restricted cash, time deposits and other deposits, commercial paper, money market funds, Accounts receivable, Unbilled receivables, Other current assets, Accounts payable and long-term payables. The carrying values of those items, as reflected in the Consolidated Statements of Financial Position, approximate their fair value at December 31, 2022 and 2021. The fair value of assets and liabilities whose carrying value approximates fair value is determined using Level 2 inputs, with the exception of cash (Level 1).

Note 21 – Legal Proceedings

Various legal proceedings, claims and investigations related to products, contracts, employment and other matters are pending against us.

In addition, we are subject to various U.S. government inquiries and investigations from which civil, criminal or administrative proceedings could result or have resulted in the past. Such proceedings involve or could involve claims by the government for fines, penalties, compensatory and treble damages, restitution and/or forfeitures. Under government regulations, a company, or one or more of its operating divisions or subdivisions, can also be suspended or debarred from government contracts, or lose its export privileges, based on the results of investigations. Except as described below, we believe,

based upon current information, that the outcome of any such legal proceeding, claim, or government dispute and investigation will not have a material effect on our financial position, results of operations or cash flows. Where it is reasonably possible that we will incur losses in excess of recorded amounts in connection with any of the matters set forth below, we will disclose either the amount or range of reasonably possible losses in excess of such amounts or, where no such amount or range can be reasonably estimated, the reasons why no such estimate can be made.

Multiple legal actions have been filed against us as a result of the October 29, 2018 accident of Lion Air Flight 610 and the March 10, 2019 accident of Ethiopian Airlines Flight 302. During 2021, we entered into (i) a Deferred Prosecution Agreement with the U.S. Department of Justice that resolved the Department of Justice's previously disclosed investigation into us regarding the evaluation of the 737 MAX by the Federal Aviation Administration (FAA) as well as (ii) a proposed settlement with plaintiffs in a shareholder derivative lawsuit that resulted in the Company receiving $219 in the second quarter of 2022. In September 2022, we settled a previously disclosed investigation by the Securities and Exchange Commission related to the 737 MAX accidents and consented to a civil penalty, which resulted in an earnings charge of $200 that was paid in October 2022. We cannot reasonably estimate a range of loss, if any, not covered by available insurance that we may incur as a result of any remaining pending lawsuits or other matters related to the accidents and the 737 MAX.

During 2019, we entered into agreements with Embraer S.A. (Embraer) to establish joint ventures that included the commercial aircraft and services operations of Embraer, of which we were expected to acquire an 80 percent ownership stake for $4,200, as well as a joint venture to promote and develop new markets for the C-390 Millennium. In 2020, we exercised our contractual right to terminate these agreements based on Embraer's failure to meet certain required closing conditions. Embraer has disputed our right to terminate the agreements, and the dispute is currently in arbitration. We cannot reasonably estimate a range of loss, if any, that may result from the arbitration, which we currently expect to be completed in late 2023 or early 2024.

Note 22 – Segment and Revenue Information

Our primary profitability measurements to review a segment's operating results are Earnings/(loss) from operations and operating margins. We operate in four reportable segments: BCA, BDS, BGS and BCC. All other activities fall within Unallocated items, eliminations and other. See page 58 for the Summary of Business Segment Data, which is an integral part of this note.

BCA develops, produces and markets commercial jet aircraft principally to the commercial airline industry worldwide. Revenue on commercial aircraft contracts is recognized at the point in time when an aircraft is completed and accepted by the customer.

BDS engages in the research, development, production and modification of the following products and related services: manned and unmanned military aircraft and weapons systems, surveillance and engagement, strategic defense and intelligence systems, satellite systems and space exploration. BDS revenue is generally recognized over the contract term (over time) as costs are incurred.

BGS provides parts, maintenance, modifications, logistics support, training, data analytics and information-based services to commercial and government customers worldwide. BGS segment revenue and costs include certain products and services provided to other segments. Revenue on commercial spare parts contracts is recognized at the point in time when a spare part is delivered to the customer. Revenue on other contracts is generally recognized over the contract term (over time) as costs are incurred.

BCC facilitates, arranges, structures and provides selective financing solutions for our customers.

While our principal operations are in the United States, Canada and Australia, some key suppliers and subcontractors are located in Europe and Japan. Revenues, including foreign military sales, are reported by customer location and consisted of the following:

Years ended December 31,	**2022**	2021	2020
Asia	**$8,393**	$5,845	$5,931
Europe	**7,916**	8,967	7,961
Middle East	**5,047**	4,653	5,308
Canada	**1,612**	969	1,302
Oceania	**1,576**	1,147	832
Africa	**418**	239	114
Latin America, Caribbean and other	**2,412**	1,376	229
Total non-U.S. revenues	**27,374**	23,196	21,677
United States	**39,218**	39,076	36,979
Estimated potential concessions and other considerations to 737 MAX customers	**16**	14	(498)
Total revenues	**$66,608**	$62,286	$58,158

Revenues from the U.S. government (including foreign military sales through the U.S. government), primarily recorded at BDS and BGS, represented 40%, 49% and 51% of consolidated revenues for 2022, 2021 and 2020, respectively. Approximately 4% of operating assets were located outside the United States as of December 31, 2022 and 2021.

The following tables present BCA, BDS and BGS revenues from contracts with customers disaggregated in a number of ways, such as geographic location, contract type and the method of revenue recognition. We believe these best depict how the nature, amount, timing and uncertainty of our revenues and cash flows are affected by economic factors.

BCA revenues by customer location consisted of the following:

Years ended December 31,	**2022**	2021	2020
Revenue from contracts with customers:			
Asia	**$4,484**	$2,792	$2,679
Europe	**4,038**	4,334	3,872
Middle East	**2,003**	1,098	1,647
Other non-U.S.	**3,042**	1,681	513
Total non-U.S. revenues	**13,567**	9,905	8,711
United States	**12,167**	9,472	7,899
Estimated potential concessions and other considerations to 737 MAX customers	**16**	14	(498)
Total revenues from contracts with customers	**25,750**	19,391	16,112
Intersegment revenues, eliminated on consolidation	**117**	102	50
Total segment revenues	**$25,867**	$19,493	$16,162
Revenue recognized on fixed-price contracts	**100 %**	100 %	100 %
Revenue recognized at a point in time	**100 %**	100 %	100 %

BDS revenues on contracts with customers, based on the customer's location, consisted of the following:

Years ended December 31,	**2022**	2021	2020
Revenue from contracts with customers:			
U.S. customers	**$17,144**	$19,869	$19,662
Non-U.S. customers[(1)]	**6,018**	6,671	6,595
Total segment revenue from contracts with customers	**$23,162**	$26,540	$26,257
Revenue recognized over time	**99 %**	99 %	98 %
Revenue recognized on fixed-price contracts	**60 %**	68 %	69 %
Revenue from the U.S. government[(1)]	**89 %**	89 %	89 %

(1) Includes revenues earned from foreign military sales through the U.S. government.

BGS revenues consisted of the following:

Years ended December 31,	**2022**	2021	2020
Revenue from contracts with customers:			
Commercial	**$9,560**	$7,527	$6,936
Government	**7,681**	8,553	8,368
Total revenues from contracts with customers	**17,241**	16,080	15,304
Intersegment revenues eliminated on consolidation	**370**	248	239
Total segment revenues	**$17,611**	$16,328	$15,543
Revenue recognized at a point in time	**50 %**	45 %	47 %
Revenue recognized on fixed-price contracts	**88 %**	86 %	87 %
Revenue from the U.S. government[(1)]	**33 %**	40 %	41 %

(1) Includes revenues earned from foreign military sales through the U.S. government.

Earnings in Equity Method Investments

For the year ended December 31, 2022, our share of income from equity method investments was $56, primarily driven by investments held in Unallocated items, eliminations and other. For the years ended December 31, 2021 and 2020, our share of income from equity method investments was $40 and $86, primarily in our BDS segment.

Backlog

Our total backlog includes contracts that we and our customers are committed to perform. The value in backlog represents the estimated transaction prices on performance obligations to our customers for which work remains to be performed. Backlog is converted into revenue, primarily based on the cost incurred or at delivery and acceptance of products, depending on the applicable revenue recognition model.

Our backlog at December 31, 2022 was $404,381. We expect approximately 17% to be converted to revenue through 2023 and approximately 71% through 2026, with the remainder thereafter. There is significant uncertainty regarding the timing of when backlog will convert into revenue due to timing of 787 deliveries from inventory, timing of 737 MAX delivery resumption in China, timing of entry into service of the 777X, 737-7 and/or 737-10, and the lingering effects of the COVID-19 pandemic.

Unallocated Items, Eliminations and other

Unallocated items, eliminations and other include common internal services that support Boeing's global business operations, intercompany guarantees provided to BCC and eliminations of certain sales between segments. Such sales include aircraft sold to our BCC segment that are leased by BCC to customers and considered transferred to the BCC segment. We generally allocate costs to business segments based on the U.S. federal cost accounting standards. Components of Unallocated items, eliminations and other (expense)/income are shown in the following table.

Years ended December 31,	**2022**	2021	2020
Share-based plans	**($114)**	($174)	($120)
Deferred compensation	**117**	(126)	(93)
Amortization of previously capitalized interest	**(95)**	(107)	(95)
Research and development expense, net	**(278)**	(184)	(240)
Eliminations and other unallocated items	**(1,162)**	(676)	(1,807)
Unallocated items, eliminations and other	**($1,532)**	($1,267)	($2,355)
Pension FAS/CAS service cost adjustment	**$849**	$882	$1,024
Postretirement FAS/CAS service cost adjustment	**294**	291	359
FAS/CAS service cost adjustment	**$1,143**	$1,173	$1,383

Pension and Other Postretirement Benefit Expense

Pension costs, comprising GAAP service and prior service costs, are allocated to BCA and the commercial operations at BGS. Pension costs are allocated to BDS and BGS businesses supporting government customers using U.S. Government Cost Accounting Standards (CAS), which employ different actuarial assumptions and accounting conventions than GAAP. These costs are allocable to government contracts. Other postretirement benefit costs are allocated to business segments based on CAS, which is generally based on benefits paid. FAS/CAS service cost adjustment represents the difference between the Financial Accounting Standards (FAS) pension and postretirement service costs calculated under GAAP and costs allocated to the business segments. Non-operating pension and postretirement expenses represent the components of net periodic benefit costs other than service cost. These expenses are included in Other income, net.

Assets

Segment assets are summarized in the table below.

December 31,	**2022**	2021
Commercial Airplanes	**$75,212**	$75,863
Defense, Space & Security	**14,426**	14,974
Global Services	**16,149**	16,397
Boeing Capital	**1,510**	1,735
Unallocated items, eliminations and other	**29,803**	29,583
Total	**$137,100**	$138,552

Assets included in Unallocated items, eliminations and other primarily consist of Cash and cash equivalents, Short-term and other investments, tax assets, capitalized interest, and assets managed centrally on behalf of the four principal business segments and intercompany eliminations.

Capital Expenditures

Years ended December 31,	**2022**	2021	2020
Commercial Airplanes	**$218**	$177	$322
Defense, Space & Security	**202**	199	172
Global Services	**130**	94	127
Unallocated items, eliminations and other	**672**	510	682
Total	**$1,222**	$980	$1,303

Capital expenditures for Unallocated items, eliminations and other relate primarily to assets managed centrally on behalf of the four principal business segments.

Depreciation and Amortization

Years ended December 31,	**2022**	2021	2020
Commercial Airplanes	**$508**	$535	$559
Defense, Space & Security	**238**	233	251
Global Services	**346**	414	408
Boeing Capital Corporation	**46**	59	66
Centrally Managed Assets [(1)]	**841**	903	962
Total	**$1,979**	$2,144	$2,246

(1) Amounts shown in the table represent depreciation and amortization expense recorded by the individual business segments. Depreciation and amortization for centrally managed assets are included in segment operating earnings based on usage and occupancy. In 2022, $643 was included in the primary business segments, of which $360, $230 and $53 was included in BCA, BDS and BGS, respectively. In 2021, $668 was included in the primary business segments, of which $386, $222 and $60 was included in BCA, BDS and BGS, respectively. In 2020, $689 was included in the primary business segments, of which $397, $236 and $56 was included in BCA, BDS and BGS, respectively.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of The Boeing Company

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of The Boeing Company and subsidiaries (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, equity, and cash flows, for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated January 27, 2023, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Cost Estimates for Fixed-Price Development Contracts — Refer to Notes 1 and 13 to the financial statements

Critical Audit Matter Description

As more fully described in Notes 1 and 13 to the consolidated financial statements, the Company recognizes revenue over time for long-term contracts as goods are produced or services are rendered. The Company uses costs incurred as the method for determining progress, and revenue is recognized based on costs incurred to date plus an estimate of margin at completion. The process of estimating margin at completion involves estimating the costs to complete production of goods or rendering of services and comparing those costs to the estimated final revenue amount. Margins on fixed-price development contracts are inherently uncertain in that revenue is fixed while the estimates of costs required to complete these contracts are subject to significant variability. The operational and technical complexities of fixed-price development contracts create financial risk, which could increase the estimates of costs and result in lower margins or material reach-forward losses. The ongoing effects of macroeconomic challenges, including supply chain disruption, labor shortages, and inflationary pressures compound these complexities and related financial risks.

Given the complexities of certain of the Company's fixed-price development contracts, including the KC-46A Tanker, Commercial Crew, United States Air Force VC-25B Presidential Aircraft, T-7A Redhawk, and MQ-25 contracts, the limited amount of historical data available in certain instances and significant judgments necessary to estimate future costs at completion, auditing these estimates involved extensive audit effort, a high degree of auditor judgment, and required audit professionals with specialized industry experience.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the cost estimates for the KC-46A Tanker, Commercial Crew, United States Air Force VC-25B Presidential Aircraft, T-7A Redhawk, and MQ-25 fixed-price development contracts included the following, among others:

- We evaluated the appropriateness and consistency of management's methods used in developing its estimates.
- We evaluated the reasonableness of judgments made and significant assumptions used by management relating to key cost and schedule estimates, including the effects of supply chain disruptions, labor shortages, and inflationary pressures. We also evaluated the ranges and probabilities of reasonably possible outcomes, and where management set its point estimate within the range.
- We evaluated the appropriateness of the timing of changes to key estimates, including evaluating the timeline of key events and knowledge points that led to management's determination that a change in estimate was necessary.
- We inquired of project managers, engineers, supply chain leadership, and others directly involved with the execution of contracts to evaluate management's ability to achieve the key cost and schedule estimates, as well as evaluate project status and challenges which may affect total estimated costs to complete.
- We observed the project work site when key estimates related to tangible or physical progress of the project.
- We tested the accuracy and completeness of the key data used in developing estimates. We

developed independent expectations of reasonable outcomes using, in part, the program's data and compared our expectations to management's estimates.

- We performed retrospective reviews when evaluating the thoroughness and precision of management's estimation process and effectiveness of the related internal controls by comparing actual outcomes to previous estimates and the related financial statement impact, and evaluating key judgments made by management when determining the timing of changes to key estimates.

- We tested the effectiveness of internal controls including, those over the review of significant judgments made and assumptions used to develop key estimates, key data used in developing the estimates and the mathematical extrapolation of such data.

Program Accounting Estimates for the 777X Program — Refer to Notes 1, 7, and 22 to the financial statements

Critical Audit Matter Description

The introduction of new aircraft programs involves increased risk associated with meeting development, certification and production schedules. The Company uses program accounting to compute cost of sales and margin for each commercial airplane sold. The use of program accounting requires estimating and demonstrating customer demand for the number of units included in the program (program accounting quantity) and estimating the sales and costs over the expected life of each program. In particular, estimating the sales and costs associated with the initial program accounting quantity and the unsold units within the program accounting quantity involve measurement uncertainty resulting in a range of reasonable outcomes. Additionally, the level of effort to meet regulatory requirements and achieve certification may be challenging to predict, including potential delays in the timing of entry into service and corresponding increases in estimated costs. Changes to the revenue and cost estimates related to the program accounting quantity or regulatory requirements to achieve certification could occur, resulting in lower margins or material reach-forward losses. Auditing the estimated revenues and costs for the 777X program involved extensive audit effort, a high degree of auditor judgment, and required audit professionals with specialized industry experience.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the estimated revenues and costs for the anticipated 777X initial program accounting quantity included the following, among others:

- We inquired of management, including individuals responsible for sales and pricing, to evaluate the status of current sales campaigns, short and long-term market demand, and status of negotiations with individual customers.

- We compared management's estimate of market demand to external industry sources of expected demand.

- We evaluated management's ability to estimate program revenue by comparison to historical estimates and actual results on other commercial programs.

- We evaluated the consistency of management's methods and the appropriateness of significant assumptions used in developing its revenue estimates related to the initial program accounting quantity and unsold units within the program accounting quantity.

- We evaluated the appropriateness and consistency of management's methods used in developing its cost estimates.

- We inquired of those directly involved with the certification of the aircraft to evaluate the challenges and timeline to achieve certification, which may affect total estimated costs.

- We evaluated communications with regulatory bodies for information contradictory with management's certification timeline assumptions.

- We tested the effectiveness of internal controls, including those over the review of significant judgments made and assumptions used to develop key estimates, key data used in developing the estimates and the mathematical extrapolation of such data.

Program Accounting Revenue Estimates for the 787 Program — Refer to Notes 1, 7, and 22 to the financial statements

Critical Audit Matter Description

Production quality issues and supply chain disruption for the 787 program have resulted in increased risk associated with forecasted revenue estimates primarily due to the difficulty in assessing the value of consideration expected to be provided to customers as a result of delivery delays. The Company uses program accounting to compute cost of sales and margin for each commercial airplane sold. The use of program accounting requires estimating the revenue expected to be earned upon delivery of the aircraft included in the program's accounting quantity. While the 787 program resumed deliveries in 2022, the forecasted delivery schedule and the value of the consideration expected to be provided to customers for delivery delays continue to be key factors that affect estimated revenue. There is estimation uncertainty related to the revenue forecasts of aircraft which have reached or are expected to reach a delivery delay period that provides the customer with a contractual termination right. Changes to the expected delivery schedule could result in additional consideration to customers. This could result in lower margins or material reach-forward losses. Auditing the estimated revenues for the 787 program involved extensive audit effort, a high degree of auditor judgment, and required professionals with specialized industry experience.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the estimated revenues for the 787 program included the following, among others:

- We inquired of management, including operational and supply chain leadership, to assess the assumptions related to the supply chain disruption impacts on the delivery schedule and the estimated timeline for completion of rework.

- We evaluated the appropriateness and consistency of management's method used in developing the delivery schedule assumptions, including the impact of production quality issues and supply chain disruption.

- We inquired of management, including individuals responsible for sales and pricing, to evaluate the status of current contracts with customers and estimated consideration to be provided to customers.

- We evaluated the consistency of management's methods and the appropriateness of significant assumptions used in developing its estimates related to forecasted revenue for aircraft which have or are expected to have delivery delays.

- We tested the effectiveness of internal controls, including those over the review of significant judgments made and assumptions used to develop key estimates, key data used in developing the estimates and the mathematical extrapolation of such data.

/s/ Deloitte & Touche LLP

Chicago, Illinois
January 27, 2023

We have served as the Company's auditor since at least 1934; however, an earlier year could not be reliably determined.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of The Boeing Company

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of The Boeing Company and subsidiaries (the "Company") as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2022 of the Company, and our report dated January 27, 2023 expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Chicago, Illinois
January 27, 2023

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures.

Our Chief Executive Officer and Chief Financial Officer have evaluated our disclosure controls and procedures as of December 31, 2022 and have concluded that these disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and is accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

(b) Management's Report on Internal Control Over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f). Our management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation under the framework in Internal Control – Integrated Framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2022.

Our internal control over financial reporting as of December 31, 2022, has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report which is included in Item 8 of this report and is incorporated by reference herein.

(c) Changes in Internal Controls Over Financial Reporting.

There were no changes in our internal control over financial reporting that occurred during the fourth quarter of 2022 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

None.

Part III

Item 10. Directors, Executive Officers and Corporate Governance

Our executive officers and their ages as of January 27, 2023, are as follows:

Name	Age	Principal Occupation or Employment/Other Business Affiliations
Bertrand-Marc Allen	49	Chief Strategy Officer and Senior Vice President, Strategy and Corporate Development since October 2020. Mr. Allen previously served as Senior Vice President and President, Embraer Partnership and Group Operations from April 2019 to October 2020; Senior Vice President and President, Boeing International from February 2015 to April 2019; President of Boeing Capital Corporation from March 2014 to February 2015; Corporate Vice President, Boeing International and Chairman and President of Boeing (China) Co., Ltd. from March 2011 to March 2014; and Vice President, Global Law Affairs from May 2007 to March 2011. Mr. Allen serves on the board of directors of Procter & Gamble Co.
Brian R. Besanceney	50	Chief Communications Officer and Senior Vice President, Communications since August 2022. Prior to joining Boeing, Mr. Besanceney served as Senior Vice President and Chief Communications Officer for Walmart Inc. from April 2016 to August 2022. Prior to that he held executive-level positions for The Walt Disney Company including Senior Vice President of Public Affairs from 2010 to 2016 and Vice President of Public Affairs and Business Development for Disney's Parks and Resorts division from 2009 to 2010.
David L. Calhoun	65	President and Chief Executive Officer since January 2020 and a member of the Board of Directors since June 2009. Previously, Mr. Calhoun served as Senior Managing Director & Head of Private Equity Portfolio Operations at The Blackstone Group from January 2014 to January 2020. Prior to that, Mr. Calhoun served as Chairman of the Board of Nielsen Holdings plc from January 2014 to January 2016, as Chief Executive Officer of Nielsen Holdings plc from May 2010 to January 2014, and as Chairman of the Executive Board and Chief Executive Officer of The Nielsen Company B.V. from August 2006 to January 2014. Prior to joining Nielsen, he served as Vice Chairman of General Electric Company and President and Chief Executive Officer of GE Infrastructure. During his 26-year tenure at GE, he ran multiple business units including GE Transportation, GE Aircraft Engines, GE Employers Reinsurance Corporation, GE Lighting and GE Transportation Systems. Mr. Calhoun also serves on the board of directors of Caterpillar Inc.

Name	Age	Principal Occupation or Employment/Other Business Affiliations
Theodore Colbert III	49	Executive Vice President, President and Chief Executive Officer, Boeing Defense, Space & Security since April 2022. Mr. Colbert previously served as Executive Vice President, President and Chief Executive Officer, Boeing Global Services from October 2019 to March 2022; Chief Information Officer and Senior Vice President, Information Technology & Data Analytics from April 2016 to October 2019; Chief Information Officer and Vice President of Information Technology from November 2013 to April 2016; Vice President of Information Technology Infrastructure from December 2011 to November 2013; and Vice President of IT Business Systems from September 2010 to December 2011. Mr. Colbert serves on the board of directors of Archer-Daniels-Midland Company.
Michael D'Ambrose	65	Chief Human Resources Officer and Executive Vice President, Human Resources since June 2021. Prior to joining Boeing in July 2020 as Executive Vice Present, Human Resources, Mr. D'Ambrose served as Senior Vice President and Chief Human Resources Officer for Archer-Daniels-Midland Company from October 2006 to June 2020. Previously, he served in a series of executive-level business and human resources positions, including chief human resources officer at Citigroup, First Data Corporation and Toys 'R' Us, Inc.
Stanley A. Deal	58	Executive Vice President, President and Chief Executive Officer, Boeing Commercial Airplanes since October 2019. Mr. Deal joined Boeing in 1986, and his previous positions include Executive Vice President, President and Chief Executive Officer, Boeing Global Services from November 2016 to October 2019; Senior Vice President of Commercial Aviation Services from March 2014 to November 2016; Vice President and General Manager of Supply Chain Management and Operations for Commercial Airplanes from September 2011 to February 2014; Vice President of Supplier Management from February 2010 to August 2011; and Vice President of Asia Pacific Sales from December 2006 to January 2010.
Susan Doniz	53	Chief Information Officer and Senior Vice President, Information Technology & Data Analytics since May 2020. Prior to joining Boeing, Ms. Doniz served as Global Chief Information Officer of Qantas Airways Limited from January 2017 to April 2020; as strategic advisor to the Global CEO of SAP SE on transformation and technology issues in support of customers from September 2015 to January 2017; and Global Product, Digital Strategy and Chief Information Officer of AIMIA Inc. from June 2011 to January 2015.
Brett C. Gerry	51	Chief Legal Officer and Executive Vice President, Global Compliance since May 2020. Mr. Gerry previously served as Senior Vice President and General Counsel from May 2019 to May 2020; President of Boeing Japan from February 2016 to May 2019; Vice President and General Counsel, Boeing Commercial Airplanes from March 2009 to March 2016; and Chief Counsel, Network and Space Systems from September 2008 to March 2009.

Name	Age	Principal Occupation or Employment/Other Business Affiliations
Gregory L. Hyslop	64	Chief Engineer and Executive Vice President, Engineering, Test & Technology since December 2020. Dr. Hyslop's previous positions include Chief Engineer and Senior Vice President, Engineering, Test & Technology from August 2019 to December 2020; Chief Technology Officer and Senior Vice President, Engineering, Test & Technology from March 2016 to August 2019; Vice President and General Manager of Boeing Research and Technology from February 2013 to March 2016; and Vice President and General Manager of Boeing Strategic Missile & Defense Systems from March 2009 to February 2013.
Brendan J. Nelson	64	Senior Vice President and President, Boeing International since January 2023. Dr. Nelson previously served as President of Boeing Australia, New Zealand and South Pacific from February 2020 to January 2023. Prior to joining Boeing, he served as the Director of the Australian War Memorial from December 2012 to December 2019 and as the Australian Ambassador to Belgium, Luxembourg, the European Union and NATO from February 2010 to November 2012.
Ziad S. Ojakli	56	Executive Vice President, Government Operations since October 2021. Prior to joining Boeing, Mr. Ojakli served as a managing partner and Senior Vice President of Global Government Affairs at SoftBank Group Corp. from August 2018 to September 2020. Prior to that, he served as Group Vice President, Government & Community Relations at Ford Motor Company from January 2004 to July 2018.
Stephanie F. Pope	50	Executive Vice President, President and Chief Executive Officer, Boeing Global Services since April 2022. Ms. Pope joined Boeing in 1994, and her previous positions include Vice President and Chief Financial Officer of Boeing Commercial Airplanes from December 2020 to March 2022; Vice President and Chief Financial Officer of Boeing Global Services from January 2017 to December 2020; Vice President of Finance and Controller for Boeing Defense, Space & Security from August 2016 to December 2016; and Vice President, Financial Planning & Analysis from February 2013 to July 2016.

Name	Age	Principal Occupation or Employment/Other Business Affiliations
Brian J. West	53	Executive Vice President and Chief Financial Officer since August 2021. Prior to joining Boeing, Mr. West served as Chief Financial Officer of Refinitiv Holdings (a London Stock Exchange Group business and provider of financial markets data and infrastructure) from November 2018 to June 2021. Prior to that, he served as Chief Financial Officer and Executive Vice President of Operations of Oscar Insurance Corporation from January 2016 to October 2018. Mr. West served as Chief Operating Officer of Nielsen Holdings plc from March 2014 to December 2015 and as Chief Financial Officer of Nielsen Holdings plc (or its predecessor) from February 2007 to March 2014. Prior to joining Nielsen, Mr. West was employed by the General Electric Company as the Chief Financial Officer of its GE Aviation division from June 2005 to February 2007 and Chief Financial Officer of its GE Aviation Services division from March 2004 to June 2005. Prior to that, Mr. West held several senior financial positions across General Electric Company businesses, including Plastics, NBC, Energy and Transportation.

Codes of Ethics. We have adopted (1) The Boeing Company Code of Ethical Business Conduct for the Board of Directors; and (2) The Boeing Code of Conduct that applies to all employees, including our CEO (collectively, the Codes of Conduct). The Codes of Conduct are posted on our website, www.boeing.com/company/general-info/corporate-governance.page. We intend to disclose promptly on our website any amendments to, or waivers of, the Codes of Conduct covering our CEO, CFO and/or Controller.

No family relationships exist among any of the executive officers, directors or director nominees.

Additional information required by this item will be included under the captions "Election of Directors," "Stock Ownership Information" and "Board Committees" in our proxy statement, which will be filed with the SEC no later than 120 days after December 31, 2022 and that information is incorporated by reference herein (the "2023 Proxy Statement").

Item 11. Executive Compensation

The information required by this item will be included under the captions "Compensation Discussion and Analysis," "Compensation of Executive Officers," "Compensation of Directors," in the 2023 Proxy Statement, and that information is incorporated by reference herein.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Equity Compensation Plan Information

Our equity compensation plans approved by our shareholders provide for the issuance of common stock to officers and other employees, directors and consultants. The following table sets forth information regarding outstanding options and units, and shares available for future issuance under these plans as of December 31, 2022:

Plan Category	Number of shares to be issued upon exercise of outstanding options and units	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under equity compensation plans (excluding shares reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by shareholders			
Stock options	1,390,769	$178.18	
Deferred compensation	671,837		
Other stock units[(1)]	11,870,813		
Equity compensation plans not approved by shareholders	None	None	None
Total[(2)]	13,933,419	$178.18	3,918,585

(1) Includes 420,412 shares issuable in respect of Performance-Based Restricted Stock Units subject to the satisfaction of performance criteria and assumes payout at maximum levels.

(2) Excludes the potential Performance Awards which the Compensation Committee has the discretion to pay in cash, stock or a combination of both after the three-year performance period which ended December 31, 2022.

For further information, see Note 17 to our Consolidated Financial Statements.

The additional information required by this item will be included under the caption “Stock Ownership Information” in the 2023 Proxy Statement, and that information is incorporated by reference herein.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item will be included under the captions “Related Person Transactions” and “Director Independence” in the 2023 Proxy Statement, and that information is incorporated by reference herein.

Item 14. Principal Accountant Fees and Services

Our independent registered public accounting firm is Deloitte & Touche LLP (PCAOB ID No. 34).

The information required by this item will be included under the caption “Independent Auditor Fees” in the 2023 Proxy Statement, and that information is incorporated by reference herein.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) List of documents filed as part of this report:

1. Financial Statements

Our consolidated financial statements are as set forth under Item 8 of this report on Form 10-K.

2. Financial Statement Schedules

All schedules are omitted because they are not applicable, not required or the information is included in the consolidated financial statements.

3. Exhibits

3.1	Amended and Restated Certificate of Incorporation of The Boeing Company dated May 5, 2006 (Exhibit 3.1 to the Company's Current Report on Form 8-K dated May 1, 2006)
3.2	By-Laws of The Boeing Company, as amended and restated, effective June 28, 2022 (Exhibit 3.2 to the Company's Form 10-Q for the quarter ended June 30, 2022)
4.1	Description of The Boeing Company Securities Registered under Section 12 of the Exchange Act (Exhibit 4.1 to the Company's Form 10-K for the year ended December 31, 2019)
10.1	364-Day Credit Agreement, dated as of August 25, 2022, among The Boeing Company for itself and on behalf of its Subsidiaries, as a Borrower, the Lenders party hereto, Citibank, N.A., as administrative agent, JPMorgan Chase Bank, N.A. as syndication agent and Citibank, N.A. and JPMorgan Chase Bank N.A., as joint lead arrangers and joint book managers (Exhibit 10.1 to the Company's Current Report on Form 8-K, dated August 25, 2022)
10.2	Three-Year Credit Agreement, dated as of August 25, 2022, among The Boeing Company for itself and on behalf of its Subsidiaries, as a Borrower, the Lenders party hereto, Citibank, N.A., as administrative agent, JPMorgan Chase Bank, N.A., as syndication agent and Citibank, N.A. and JPMorgan Chase Bank, N.A., as joint lead arrangers and joint book managers (Exhibit 10.2 to the Company's Current Report on Form 8-K, dated August 25, 2022)
10.3	Five-Year Credit Agreement, dated as of October 30, 2019, among The Boeing Company, for itself and on behalf of its Subsidiaries, as a Borrower, the Lenders party hereto, Citibank, N.A., as administrative agent, JPMorgan Chase Bank, N.A., as syndication agent and Citibank N.A. and JPMorgan Chase Bank, N.A., as joint lead arrangers and joint book managers (Exhibit 10.2 to the Company's Current Report on Form 8-K dated October 30, 2019
10.4	Amendment No. 1, dated as of August 25, 2022, to Five-Year Credit Agreement, dated as of October 30, 2019, among The Boeing Company for itself and on behalf of its Subsidiaries, as a Borrower, the Lenders party hereto, Citibank, N.A., as administrative agent, JPMorgan Chase Bank, N.A., as syndication agent and Citibank N.A. and JPMorgan Chase Bank, N.A., as joint lead arrangers and joint book managers (Exhibit 10.3 to the Company's Current Report on Form 8-K, dated August 25, 2022)
10.5	Joint Venture Master Agreement, dated as of May 2, 2005, by and among Lockheed Martin Corporation, The Boeing Company and United Launch Alliance, L.L.C. (Exhibit (10)(i) to the Company's Form 10-Q for the quarter ended June 30, 2005)

10.6	Delta Inventory Supply Agreement, dated as of December 1, 2006, by and between United Launch Alliance, L.L.C. and The Boeing Company (Exhibit (10)(vi) to the Company's Form 10-K for the year ended December 31, 2006)
10.7	Deferred Prosecution Agreement dated January 6, 2021 (Exhibit 10.1 to the Company's Current Report on Form 8-K dated January 6, 2021)
10.8	Summary of Non employee Director Compensation (Exhibit 10.6 to the Company's Form 10-K for the year ended December 31, 2019)*
10.9	Deferred Compensation Plan for Directors of The Boeing Company, as amended and restated effective January 1, 2008 (Exhibit 10.2 to the Company's Current Report on Form 8-K dated October 28, 2007)*
10.10	The Boeing Company Annual Incentive Plan, as amended and restated February 24, 2020 (formerly known as the Incentive Compensation Plan for Employees of The Boeing Company and Subsidiaries) (Exhibit 10.2 to the Company's Form 10-Q for the quarter ended March 31, 2020)*
10.11	The Boeing Company 1997 Incentive Stock Plan, as amended effective May 1, 2000 and further amended effective January 1, 2008 (Exhibit 10.5 to the Company's Current Report on Form 8-K dated October 28, 2007)*
10.12	Supplemental Executive Retirement Plan for Employees of The Boeing Company, as amended and restated as of January 1, 2016 (Exhibit (10)(xvi) to the Company's Form 10-K for the year ended December 31, 2015)*
10.13	The Boeing Company Executive Supplemental Savings Plan, as amended and restated effective January 1, 2022*
10.14	The Boeing Company Executive Layoff Benefits Plan, as amended and restated effective January 1, 2017 (Exhibit (10)(xviii) to the Company's Form 10-K for the year ended December 31, 2016)*
10.15	The Boeing Company 2003 Incentive Stock Plan, as amended and restated effective December 9, 2021 (Exhibit 10.16 to the Company's Form 10-K for the year ended December 31, 2021)*
10.16	Form of Non-Qualified Stock Option Grant Notice of Terms (Exhibit (10)(xvii)(b) to the Company's Form 10-K for the year ended December 31, 2010)*
10.17	Form of U.S. Notice of Terms of Non-Qualified Stock Option (Exhibit 10.1 to the Company's 10-Q for the quarter ended March 31, 2021)*
10.18	Form of International Notice of Terms of Non-Qualified Stock Option (Exhibit 10.2 to the Company's 10-Q for the quarter ended March 31, 2021)*
10.19	Form of U.S. Notice of Terms of Non-Qualified Stock Option for CEO (Exhibit 10.3 to the Company's 10-Q for the quarter ended March 31, 2021)*
10.20	Form of U.S. Notice of Terms of Restricted Stock Units (Exhibit 10.4 to the Company's 10-Q for the quarter ended March 31, 2021)*
10.21	Form of International Notice of Terms of Restricted Stock Units (Exhibit 10.5 to the Company's 10-Q for the quarter ended March 31, 2021)*
10.22	Form of U.S. Notice of Terms of Restricted Stock Units for CEO (Exhibit 10.6 to the Company's 10-Q for the quarter ended March 31, 2021)*
10.23	Form of Notice of Terms of Supplemental Restricted Stock Units (Exhibit 10.2 to the Company's Current Report on Form 8-K dated June 29, 2021)*

10.24	Form of Notice of Terms of Supplemental Non-Qualified Stock Option (Exhibit 10.3 to the Company's Current Report on Form 8-K dated June 29, 2021)*
10.25	Form of Notice of Terms of Performance-Based Restricted Stock Units (Exhibit 10.3 to the Company's Form 10-Q for the quarter ended March 31, 2020)*
10.26	Form of Performance Award Notice (Exhibit 10.4 to the Company's Form 10-Q for the quarter ended March 31, 2020)*
10.27	Form of Notice of Terms of Restricted Stock Units (Exhibit 10.5 to the Company's Form 10-Q for the quarter ended March 31, 2020)*
10.28	Form of International Notice of Terms of Performance-Based Restricted Stock Units (Exhibit 10.6 to the Company's Form 10-Q for the quarter ended March 31, 2020)*
10.29	Form of International Performance Award Notice (Exhibit 10.7 to the Company's Form 10-Q for the quarter ended March 31, 2020)*
10.30	Form of International Notice of Terms of Restricted Stock Units (Exhibit 10.8 to the Company's Form 10-Q for the quarter ended March 31, 2020)*
10.31	Notice of Terms of Supplemental Restricted Stock Units, dated February 24, 2020 (Exhibit 10.1 to the Company's Current Report on Form 8-K dated February 23, 2020)*
10.32	Notice of Terms of Supplemental Performance-Based Restricted Stock Units, dated February 24, 2020 (Exhibit 10.2 to the Company's Current Report on Form 8-K dated February 23, 2020)*
10.33	Form of International Notice of Terms of Supplemental Restricted Stock Units (Exhibit 10.2 to the Company's Form 10-Q for the quarter ended June 30, 2020)*
10.34	U.S. Notice of Terms of Non-Qualified Premium-Priced Stock Option for CEO, dated February 16, 2022 (Exhibit 10.1 to the Company's Form 10-Q for the quarter ended March 31, 2022)*
10.35	U.S. Notice of Terms of Long-Term Incentive Restricted Stock Units for CEO, dated February 16, 2022 (Exhibit 10.2 to the Company's Form 10-Q for the quarter ended March 31, 2022)*
10.36	Form of U.S. Notice of Terms of Non-Qualified Premium-Priced Stock Option (Exhibit 10.3 to the Company's Form 10-Q for the quarter ended March 31, 2022)*
10.37	Form of U.S. Notice of Terms of Long-Term Incentive Restricted Stock Units (Exhibit 10.4 to the Company's Form 10-Q for the quarter ended March 31, 2022)*
10.38	Form of International Notice of Terms of Non-Qualified Premium-Priced Stock Option (Exhibit 10.5 to the Company's Form 10-Q for the quarter ended March 31, 2022)*
10.39	Form of International Notice of Terms of Long-Term Incentive Restricted Stock Units (Exhibit 10.6 to the Company's Form 10-Q for the quarter ended March 31, 2022)*
10.40	Employment Agreement between Boeing Canada Operations LTD and Susan Doniz (Exhibit 10.1 to the Company's Form 10-Q for the quarter ended June 30, 2020)*
10.41	Consulting Agreement, dated as of December 18, 2022, between The Boeing Company and GCubed Group LLC (Exhibit 10.1 to the Company's Current Report on Form 8-K dated December 18, 2022)*
21	List of Company Subsidiaries
23	Consent of Independent Registered Public Accounting Firm

31.1	Certification of Chief Executive Officer pursuant to Section 302 of Sarbanes-Oxley Act of 2002
31.2	Certification of Chief Financial Officer pursuant to Section 302 of Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer pursuant to Section 906 of Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to Section 906 of Sarbanes-Oxley Act of 2002
99.1	Commercial Program Method of Accounting (Exhibit (99)(i) to the Company's Form 10-K for the year ended December 31, 1997)
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File - the cover page XBRL tags are embedded within the Inline XBRL document contained in Exhibit 101

* Management contract or compensatory plan

In accordance with Item 601(b)(4)(iii)(A) of Regulation S-K, copies of certain instruments defining the rights of holders of long-term debt of the Company are not filed herewith. Pursuant to this regulation, we hereby agree to furnish a copy of any such instrument to the SEC upon request.

Item 16. Form 10-K Summary

None.

Signatures

Pursuant to the requirements of Section 13 of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on January 27, 2023.

THE BOEING COMPANY
(Registrant)

By: /s/ Carol J. Hibbard
Carol J. Hibbard – Senior Vice President and Controller

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on January 27, 2023.

/s/ David L. Calhoun

David L. Calhoun – President and Chief Executive Officer and Director (Principal Executive Officer)

/s/ Stayce D. Harris

Stayce D. Harris – Director

/s/ Brian J. West

Brian J. West – Executive Vice President and Chief Financial Officer (Principal Financial Officer)

/s/ Akhil Johri

Akhil Johri – Director

/s/ Carol J. Hibbard

Carol J. Hibbard – Senior Vice President and Controller (Principal Accounting Officer)

/s/ David L. Joyce

David L. Joyce – Director

/s/ Robert A. Bradway

Robert A. Bradway – Director

/s/ Lawrence W. Kellner

Lawrence W. Kellner – Chair of the Board

/s/ Lynne M. Doughtie

Lynne M. Doughtie – Director

/s/ Steven M. Mollenkopf

Steven M. Mollenkopf – Director

/s/ David L. Gitlin

David L. Gitlin – Director

/s/ John M. Richardson

John M. Richardson – Director

/s/ Lynn J. Good

Lynn J. Good – Director

/s/ Ronald A. Williams

Ronald A. Williams – Director

Caution Concerning Forward-Looking Statements

This report contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "should," "expects," "intends," "projects," "plans," "believes," "estimates," "targets," "anticipates," and similar expressions generally identify these forward-looking statements. Examples of forward-looking statements include statements relating to our future financial condition and operating results, as well as any other statement that does not directly relate to any historical or current fact. Forward-looking statements are based on expectations and assumptions that we believe to be reasonable when made, but that may not prove to be accurate. These statements are not guarantees and are subject to risks, uncertainties, and changes in circumstances that are difficult to predict. Many factors could cause actual results to differ materially and adversely from these forward-looking statements. Among these factors are risks related to: (1) general conditions in the economy and our industry, including those due to regulatory changes; (2) our reliance on our commercial airline customers; (3) the overall health of our aircraft production system, planned commercial aircraft production rate changes, our ability to successfully develop and certify new aircraft or new derivative aircraft, and the ability of our aircraft to meet stringent performance and reliability standards; (4) changing budget and appropriation levels and acquisition priorities of the U.S. government; (5) our dependence on our subcontractors and suppliers, as well as the availability of highly skilled labor and raw materials; (6) competition within our markets; (7) our non-U.S. operations and sales to non-U.S. customers; (8) changes in accounting estimates; (9) realizing the anticipated benefits of mergers, acquisitions, joint ventures/strategic alliances or divestitures; (10) our dependence on U.S. government contracts; (11) our reliance on fixed-price contracts; (12) our reliance on cost-type contracts; (13) contracts that include in-orbit incentive payments; (14) unauthorized access to our, our customers' and/or our suppliers' information and systems; (15) potential business disruptions, including threats to physical security or our information technology systems, extreme weather (including effects of climate change) or other acts of nature and pandemics or other public health crises; (16) potential adverse developments in new or pending litigation and/or government inquiries or investigations; (17) potential environmental liabilities; (18) effects of climate change and legal, regulatory or market responses to such change; (19) changes in our ability to obtain debt financing on commercially reasonable terms, at competitive rates and in sufficient amounts; (20) substantial pension and other postretirement benefit obligations; (21) the adequacy of our insurance coverage; (22) customer and aircraft concentration in our customer financing portfolio; and (23) work stoppages or other labor disruptions.

Additional information concerning these and other factors can be found in our filings with the Securities and Exchange Commission. Any forward-looking statement speaks only as of the date on which it is made, and we assume no obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.

Reconciliation of GAAP Measures to Non-GAAP Measures

The table below reconciles the non-GAAP financial measures of core operating (loss)/earnings, core operating margin and core (loss)/earnings per share with the most directly comparable GAAP financial measures of (loss)/earnings from operations, operating margins and diluted (loss)/earnings per share. See pages 45–47 of Form 10-K.

U.S. dollars in millions, except per share data

	2022	2021	2020	2019	2018
Revenues	**66,608**	62,286	58,158	76,559	101,127
(Loss)/earnings from operations, as reported	**(3,547)**	(2,902)	(12,767)	(1,975)	11,987
Operating margins	**(5.3%)**	(4.7%)	(22.0%)	(2.6%)	11.9%
Pension FAS/CAS service cost adjustment	**(849)**	(882)	(1,024)	(1,071)	(1,005)
Post-retirement FAS/CAS service cost adjustment	**(294)**	(291)	(359)	(344)	(322)
FAS/CAS service cost adjustment	**(1,143)**	(1,173)	(1,383)	(1,415)	(1,327)
Core operating (loss)/earnings (non-GAAP)	**(4,690)**	(4,075)	(14,150)	(3,390)	10,660
Core operating margins (non-GAAP)	**(7.0%)**	(6.5%)	(24.3%)	(4.4%)	10.5%
Diluted (loss)/earnings per share, as reported	**(8.30)**	(7.15)	(20.88)	(1.12)	17.85
Pension FAS/CAS service cost adjustment	**(1.43)**	(1.50)	(1.80)	(1.89)	(1.71)
Post-retirement FAS/CAS service cost adjustment	**(0.49)**	(0.49)	(0.63)	(0.61)	(0.55)
Nonoperating pension (income)/expense	**(1.47)**	(0.91)	(0.60)	(0.66)	(0.24)
Nonoperating post-retirement expense	**(0.10)**	–	0.03	0.19	0.17
Provision for deferred income taxes on adjustments	**0.73**	0.61	0.63	0.62	0.49
Core (loss)/earnings per share (non-GAAP)	**(11.06)**	(9.44)	(23.25)	(3.47)	16.01
Weighted average diluted shares (in millions)	**595.2**	588.0	569.0	566.0	586.2

Selected Programs, Products and Services

Boeing Commercial Airplanes

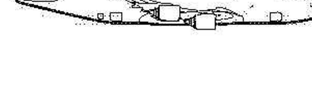
Stanley A. Deal, Executive Vice President; President and CEO,
Boeing Commercial Airplanes, Renton, Washington, USA

737 Family

737-7



737-8



737-9

737-10

The versatile 737 MAX family delivers enhanced efficiency, improved environmental performance and increased passenger comfort to the single-aisle market. Powered by CFM International LEAP-1B engines and incorporating advanced technology winglets, the 737 MAX offers excellent economics, reducing fuel use and emissions by 20% compared to the airplanes it replaces. Reflecting Boeing's ongoing commitment to environmental performance, each 737 MAX can save millions of pounds of CO_2 emissions per airplane, per year, over the competition and previous generations of aircraft.

Passengers will enjoy the Boeing Sky Interior, with larger overhead storage bins, customizable LED lighting, modern sculpted sidewalls and bigger windows.

More than 100 customers around the world have placed firm orders for over 5,000 airplanes since program launch. Nearly 50 operators have over 800 737 MAX airplanes in revenue service, flying more than 1.2 million revenue flights totaling more than 3 million flight hours since late 2020.

The improved efficiency of the BBJ 737-7, BBJ 737-8 and BBJ 737-9 increases ranges by approximately 600 nautical miles (965 kilometers) while reducing operating costs and environmental impact. Each member of the BBJ 737 MAX family provides a unique combination of range, cabin area and cargo volume to best meet customer needs.

Orders: *14,917 (total for all 737s)**
*4,661 (737 MAXs)**

Deliveries: *11,264 (total for all 737s)**
*1,033 (737 MAXs)**

747-8 Family

747-8 Intercontinental

747-8 Freighter



The 747-8 Intercontinental and the 747-8 Freighter are the last-generation airplanes of the iconic Boeing 747 family. The airplanes feature new wings with raked wingtips and more fuel-efficient engines than those on the 747-400. Boeing announced the end of production of the 747-8 in 2022.

The 747-8 Intercontinental was offered as a commercial airplane or a business jet. The interior of the passenger model was inspired by the Boeing 787 Dreamliner, including a sculpted ceiling, LED dynamic lighting, larger bins and a new staircase design. The Intercontinental, first delivered in 2012, operates in the 400- to 500-seat market, seating 410 passengers in a typical three-class configuration (66 more than the 747-400).

The 747-8 Freighter, first delivered in 2011, carries 16% more cargo volume than the 747-400 Freighter. It is the industry's only freighter with a nose cargo door that accommodates outsized cargo.

Both the passenger and freighter variants of the 747-8 have an increased maximum takeoff weight of 987,000 pounds (approx. 447,700 kilograms), allowing airlines to reduce fuel costs and fly into more airports.

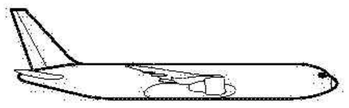
With 16% fewer emissions, the 747-8 is cleaner than the 747-400. The 747-8s in service are performing well with the highest schedule reliability in the airplane family's history. In total, for 747-8 there have been 154 deliveries to more than a dozen customers, and the airplane has flown a combined 4.3 million flight hours. While production has ended, Boeing will continue to support the 747 fleet for decades to come.

Orders: *1,573**

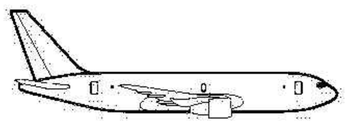
Deliveries: *1,572**

767 Family

767-300 Freighter



767-2C



The versatile 767 is the only Boeing airplane that serves the passenger, freighter and tanker markets.

Over time, the airplane has evolved to meet changing market requirements, incorporating improvements and advancements in engine performance, flight deck avionics and aerodynamics.

The 767-300 Freighter, based on the 767-300ER (Extended Range), is the most fuel-efficient freighter per trip for the medium widebody cargo market.

The 767 Freighter offers excellent fuel efficiency, cargo capacity and high reliability for greater operational flexibility.

The 767-2C is the commercial platform of the KC-46A Pegasus tanker variant and is based on the 767-200ER airframe. The KC-46A multimission tanker has been approved for global deployment, including combat operations by the U.S. Air Force. Boeing has delivered more than 65 KC-46A tankers to the U.S. Air Force and the Japan Air Self-Defense Force, including the second KC-46A to the Japan customer, of six on contract. More KC-46As now operate globally than any other aerial refueling tanker except the Boeing-built KC-135 Stratotanker. The KC-46A's proven aerial refueling systems are delivering millions of pounds of fuel to joint force and allied receivers every month, as well as unmatched multimission capability for rapid air mobility. In 2022, Boeing was also awarded contracts to deliver two additional KC-46A tankers to Japan and four KC-46A tankers to Israel.

Orders: *1,377**

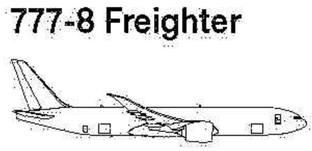
Deliveries: *1,271**

*Orders and deliveries are as of Dec. 31, 2022

Boeing Commercial Airplanes continued

777 Family

777-200LR



777-300ER

777 Freighter

777-8

777-9



777-8 Freighter



Renowned for its efficiency, capability and industry-leading reliability, the 777 helps operators maximize profits while delivering an exceptional passenger experience. That's why so many of the world's elite airlines fly the 777, and eight leading customers have already ordered the newest passenger members of the family — the 777-8 and 777-9 (777X).

The 777-8 and 777-9 passenger planes feature breakthroughs in aerodynamics and engines to further advance Boeing's market-leading twin-aisle family. The 777-9 will be the largest and most efficient twin-engine jet in the world, delivering 10% lower fuel use, emissions and operating costs than the competition.

The superior range (up to 8,730 nautical miles [16,170 kilometers] for the 777-8) and payload capability (seating 426 in a typical two-class configuration for the 777-9) give operators an advantage in the world's fastest-growing markets. The 777-8 and 777-9 offer customers low-risk, profitable growth for the future. For even greater flexibility, the 777-8 and 777-9 will integrate seamlessly with today's 777 and 787 Dreamliner families, already proven partners in fleets around the world.

Performance is just part of the story with the 777-8 and 777-9. With the widest cabin in its class, innovative custom architecture and passenger comfort advancements from the 787 Dreamliner, they will deliver a positive and memorable flight experience.

The 777 family also includes the 777 Freighter, Boeing's bestselling freighter of all time. With 224,900 pounds (102 metric tonnes) of revenue payload capability, the 777 Freighter is the largest, longest-range and most fuel-efficient twin-engine freighter available today, with the lowest trip costs of any large freighter.

In 2022, Boeing launched the new 777-8 Freighter with a firm order from Qatar Airways, the largest freighter commitment in Boeing history by value. Featuring advanced technology from the new 777X and proven performance from the 777 Freighter, the 777-8 Freighter offers the highest payload and the lowest fuel use, emissions and operating cost per metric tonne of any large freighter, perfect for operators creating a more sustainable and profitable future. With nearly identical payload and range capabilities, 30% better fuel efficiency and emissions, 25% better operating costs per metric tonne and a noise footprint up to 60% smaller, the 777-8 Freighter will be the ideal choice as operators replace aging 747-400 Freighters later this decade.

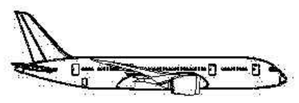
In addition to passenger jets, the 777, 777-8 and 777-9 are superior business jets. In December 2018, Boeing launched the 777X line of Boeing Business Jets, with the BBJ 777-8 and BBJ 777-9. The BBJ 777X will offer the largest cabin and longest range of any twin-engine business jet — capable of flying nonstop between any two cities on Earth.

Orders: *2,014 (total for all 777s)**
*1,770 (777)**
*244 (777X)**

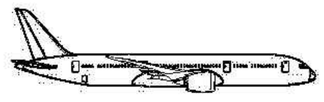
Deliveries: *1,701**

787 Dreamliner Family

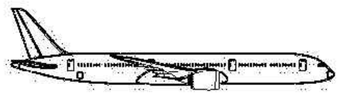
787-8 Dreamliner



787-9 Dreamliner



787-10 Dreamliner



The Boeing 787 Dreamliner is the most innovative commercial airplane family flying today. The 787's combination of capability, efficiency, reliability and sustainability allows operators to profitably open new routes, flying people directly where they'd like to go in exceptional comfort.

Boeing designed the 787 Dreamliner to bring big-jet range and speed to a midsized airplane. Since entering service, the 787 family has made more than 350 new point-to-point routes possible while avoiding more than 132 billion pounds (59.8 million metric tonnes) of carbon emissions (when compared with the Airbus A330).

The Dreamliner family's long range (up to 7,565 nautical miles [14,010 kilometers]) and large payload capability (up to 336 passengers in a typical two-class configuration) provide operators with unprecedented fuel economy, low operating costs and excellent cargo capacity.

Boeing Business Jets also offers 787-8 and 787-9 models, which provide the range to fly nonstop almost anywhere in the world.

The revolutionary, award-winning design of the 787 Dreamliner family delivers an unrivaled flying experience preferred by passengers around the world. The 787 continues to play a transformational role in how airlines build and expand networks, while delighting their passengers in the process. It features the largest windows of any commercial airplane; a lower cabin altitude with more comfortable humidity, large overhead bins, soothing LED lighting; and Smoother Ride Technology to counter turbulence. All of these features allow passengers to arrive at their destinations feeling more refreshed and less fatigued.

The 787 was utilized more than any other widebody airplane during the pandemic, and 99% of the fleet is active today when compared to pre-pandemic levels. Hundreds of Dreamliners were utilized during the pandemic by airlines for dedicated cargo operations, reflecting the operational efficiency, value and flexibility the airplane family creates for its customers.

Orders: 1,542*

Deliveries: 1,037*

*Orders and deliveries are as of Dec. 31, 2022

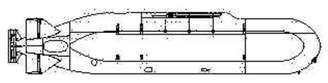
Selected Programs, Products and Services

Boeing Defense, Space & Security

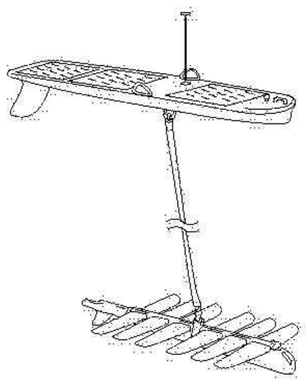
Theodore Colbert III, Executive Vice President; President and CEO, Boeing Defense, Space & Security, Arlington, Virginia, USA

Autonomous Systems

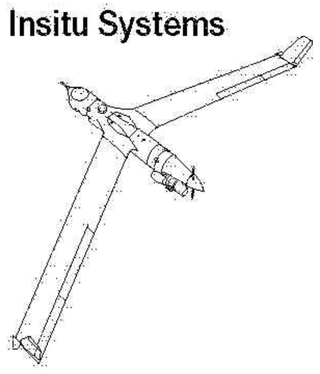
Echo Voyager



Liquid Robotics Wave Glider



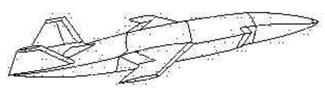
Insitu Systems



MQ-25



MQ-28 Ghost Bat



From seabed to space, Boeing autonomous systems improve safety and increase the success of human-directed missions with platforms such as the Liquid Robotics Wave Glider; Insitu ScanEagle, Integrator and RQ-21A Blackjack; and Boeing MQ-25 and MQ-28.

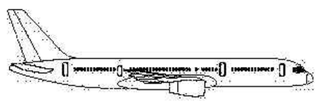
In 2021, Boeing and the U.S. Navy conducted three historic uncrewed aerial refueling missions with the MQ-25 T1 test asset, transferring fuel for the first time to an F/A-18 Super Hornet, E-2D Hawkeye and F-35C Lightning II. The F/A-18 flight marked the first time in history an uncrewed aircraft refueled another aircraft. Boeing also announced a new $200 million, 300,000-square-foot MQ-25 production facility, scheduled for completion in 2024 at MidAmerica St. Louis Airport in Illinois. In 2020, the U.S. Navy exercised an option for three additional MQ-25s, the service's first operational carrier-based uncrewed aircraft. Boeing is manufacturing seven aircraft and two test articles under the initial contract awarded in 2018, and the Navy's stated requirement is for more than 70 MQ-25s.

In 2022, Boeing digitally demonstrated a new open autonomy architecture for MQ-25 that will allow the U.S. Navy to increase mission effectiveness by integrating manned-unmanned teaming (MUM-T) capability at speed and scale. A Boeing-led team virtually demonstrated how other aircraft can use MQ-25's architecture and task it to conduct tanking and intelligence, surveillance and reconnaissance (ISR) missions — all within the mission airspace and without traditional communications with the ship-based ground control station.

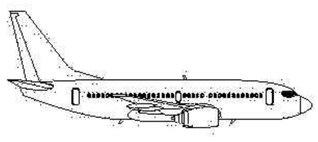
Boeing and the Navy gathered in Long Beach, California, to see the first Orca vehicle enter the water and be named in the Navy's time-honored tradition. XLEO, the test article system, was added to the Orca Extra Large Unmanned Undersea Vehicle (XLUUV) contract in early 2022. Boeing continues to innovate across domains, delivering expanded autonomy mission sets for customers around the world. These include developing Echo Voyager, an extra-large uncrewed undersea vehicle — Orca, to augment traditional undersea systems, and offering new uncrewed aerial vehicle systems such as the Integrator Extended Range. In 2021, Boeing and the Royal Australian Air Force successfully completed the first flight test of the MQ-28 and expanded its flight-test program with two aircraft successfully completing separate flight missions. The aircraft, designed by Boeing Australia, will complement and extend airborne missions using artificial intelligence to team with existing crewed and uncrewed military aircraft. In 2021, Liquid Robotics expanded its reach into international defense markets, delivered its largest order to date and tailored the Wave Gliders' capabilities to mission-specific anti-submarine warfare needs.

Commercial Derivatives

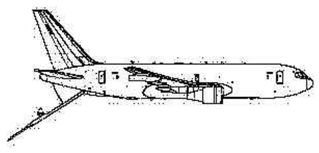
C-32



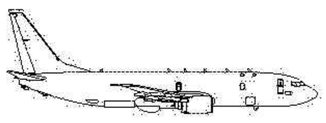
C-40A Clipper



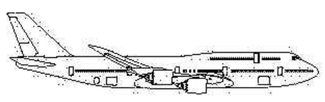
KC-46A Pegasus



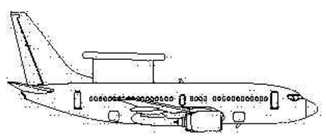
P-8A Poseidon/P-8I



VC-25B



737 Airborne Early Warning and Control (AEW&C)



Boeing commercial derivative aircraft combine the versatility of commercial airplanes with advanced military capability to support global security requirements. Boeing commercial derivative aircraft programs include the KC-46A Pegasus air refueling tanker, derived from the 767-2C Freighter; the P-8 maritime patrol aircraft, derived from the Next-Generation 737-800; the E-7 Airborne Early Warning & Control (AEW&C) program, derived from the Next-Generation 737-700; and the VC-25B presidential aircraft, based on a uniquely modified 747-8 Intercontinental platform. For more than a half-century, Boeing has designed and produced more than 1,400 commercial derivative aircraft for nearly 40 customers in 31 countries.

In February 2022, Boeing delivered the 12th P-8I, which was the fourth aircraft to be delivered under an option contract for four additional aircraft that the Indian Ministry of Defence placed in 2016. The P-8 program has delivered nine of nine P-8A Poseidon aircraft to the United Kingdom and five of five P-8A Poseidon aircraft to Norway. In December 2022, Boeing delivered the first P-8A to New Zealand. This delivery also marked the 155th P-8 aircraft delivered to global customers. First deliveries to Korea and Germany are scheduled to take place in 2023 and 2024, respectively. To date, the global operating P-8 fleet has amassed more than 450,000 flight hours.

Boeing continues to make great strides in the VC-25B program's modification phase, which includes major structural modifications, electrical power upgrades, a mission communication system, a medical facility, the executive interior and autonomous ground operations capabilities. The work on the two 747-8 Intercontinental aircraft is being performed at a Boeing facility in San Antonio.

In 2022, Boeing achieved several major milestones for the E-7 AEW&C program. In the United Kingdom, our team installed the first of two Multi-role Electronically Scanned Array sensors onto one of the aircrafts that will transform into the Royal Air Force's future E-7 fleet. In September 2022, Boeing received the Request for Proposal amendment from the U.S. Air Force to continue work on the E-7 Airborne Early Warning and Control aircraft (delivery of two Rapid Production aircraft).

The KC-46A multimission tanker has been approved for global deployment, including combat operations by the U.S. Air Force. Boeing has delivered more than 65 KC-46A tankers to the U.S. Air Force and the Japan Air Self-Defense Force, including the second KC-46A to the Japan customer, of six on contract. In 2022, Boeing delivered 14 to the U.S. Air Force and one to the Japan Air Self-Defense Force. More KC-46As now operate globally than any other aerial refueling tanker except the Boeing-built KC-135 Stratotanker. The KC-46A's proven aerial refueling systems are delivering millions

Boeing Defense, Space & Security continued

Commercial Derivatives continued

of pounds of fuel to joint force and allied receivers every month, as well as unmatched multimission capability for rapid air mobility. In 2022, Boeing also was awarded contracts to deliver two additional KC-46A tankers to Japan and four KC-46A tankers to Israel.

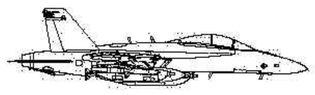
2022 Deliveries:

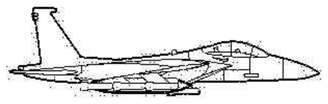
15 KC-46A Pegasus

12 P-8A Poseidon/P-8

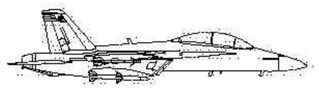
Fixed-Wing Strike

EA-18G Growler F-15EX Eagle II

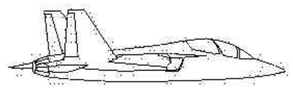




F/A-18E/F Super Hornet



T-7A Red Hawk



Boeing delivers advanced, affordable, complementary air power with next-generation capabilities that are ready now. Platforms include the digitally transformed F-15EX Eagle II; the Block III F/A-18 Super Hornet and F/A-18 Super Hornets that have gone through the Service Life Modification (SLM) line; the EA-18G Growler, which remains the most advanced airborne electronic attack platform in service; and the T-7A advanced pilot training system, which will prepare all future U.S. Air Force fighter and bomber pilots.

Two F-15EX Eagle IIs were delivered to the U.S. Air Force in 2021 ahead of schedule and performed full-scale operational testing six months later, achieving impressive results with their advanced survivability, weapons payload and networking capabilities. The F/A-18 Super Hornet delivers next-generation multirole strike fighter capability and has open architecture hardware ready to outpace emerging threats well into the future. It is the most advanced Hornet ever delivered. In 2019, Boeing was awarded a three-year contract from the U.S. Navy for 78 Block III Super Hornets and began delivering operational Block III aircraft to the Navy in September 2021. The F/A-18 SLM line, which extends the life and capabilities of Super Hornets already in the fleet, is delivering fighters back to the U.S. Navy and will deliver Block III capabilities in the future. The Navy plans to convert all Block II Super Hornets to the Block III configuration through the SLM process. EA-18G Growler modifications are underway, and Boeing and the Navy will modernize and upgrade the entire Growler fleet, including the addition of some Block III Super Hornet capabilities.

After the U.S. Air Force awarded Boeing the Advanced Pilot Training System contract in 2018, the T-X aircraft was officially named the T-7A Red Hawk in 2019 and given a livery with red tails, in honor of the famed Tuskegee Airmen, the first African American military aviators in the U.S. armed forces who piloted aircraft with red tails during World War II. Then in 2020 the Air Force designated the T-7A Red Hawk as a pathfinder in digital design, manufacturing and flight testing. The contract is for 351 jets, 46 high-resolution simulators and associated ground equipment. To date, more than 450 successful engineering and manufacturing development flight tests have been accomplished as the advanced trainer stages for initial production. The first EMD T-7A Red Hawk was officially rolled out for the U.S. Air Force on April 28, 2022.

As a dedicated partner to the U.S. Air Force, U.S. Navy and global defense forces, Boeing continues to build capacity, ensure readiness and deliver the world's most modern capabilities for decades to come.

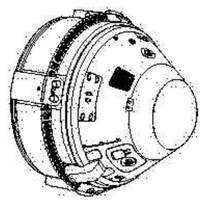
2022 Deliveries:

14 F/A-18E/F Super Hornet

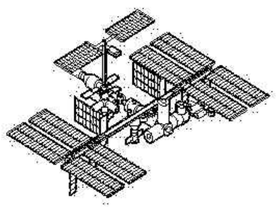
12 F-15 models

Human Space Exploration

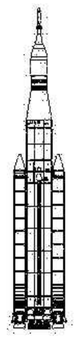
CST-100 Starliner



International Space Station (ISS)



Space Launch System (SLS)



United Launch Alliance (ULA)

With experience gained from supporting every major U.S. endeavor to space, Boeing is focused on the future and proud to be part of all of NASA's human space exploration efforts. Boeing developed the CST-100 Starliner spacecraft to ensure NASA and the U.S. have redundant crew launch capabilities, enabling critical research on the International Space Station (ISS) laboratory and test bed. Boeing built and successfully tested heavy-lift propulsion to deep space with the Space Launch System (SLS) rocket, and delivered orbital satellites and deep-space exploratory missions with the United Launch Alliance (ULA) joint venture between Boeing and Lockheed Martin.

Boeing is designing, building, testing and flying the CST-100 Starliner under a contract with NASA's Commercial Crew Program for the safe, reliable and sustainable transportation of astronauts to and from the ISS. The Starliner docked with the ISS for the first time on May 20, 2022, completing a major flight-test objective for the program and paving the way for crewed flight. During the Orbital Flight Test-2 (OFT-2), Starliner spent six days in space, orbited the Earth 94 times and covered a total distance of 2,467,406 miles before a soft touchdown landing at White Sands Space Harbor in New Mexico. Throughout the OFT-2 data reviews, the team verified Starliner's subsystems performed as needed during the flight, including environmental control and life support, landing, power, guidance navigation and control, docking and ascent abort emergency detection system validation, and atmospheric entry with aero-deceleration. The program is now progressing toward the Crew Flight Test (CFT), its first flight with astronauts on board, in 2023.

Boeing provided the second set of advanced solar arrays for the ISS in 2022 and is preparing a third set to be installed in 2023. The first set of new arrays, installed in 2021, are meeting design expectations and producing twice as much power as the legacy arrays they are augmenting. The arrays are critical upgrades for the ISS as it operates through at least 2030 with Boeing as NASA's prime contractor and integrator for the orbital laboratory. The ISS power system upgrades provide additional power for research hardware and new commercial modules.

Human Space Exploration continued

In June 2022, the fully integrated Artemis I launch vehicle—which included the first Boeing-built core stage for NASA's SLS and the Orion Spacecraft—successfully completed a Wet Dress Rehearsal (WDR), which included fueling and draining the massive rocket in a test of timing and mechanisms. The WDR activities marked the last phase of integrated testing, progressing toward launch. On Nov. 16, 2022, at 1:47 a.m. Eastern time, at NASA's Kennedy Space Center (KSC) in Florida, the Artemis I rocket launched and began a nearly 26-day mission to the Moon. The unpiloted flight test of the launch vehicle and spacecraft was completed with a splashdown in the Pacific Ocean on Dec. 11. Work is well underway at NASA's Michoud Assembly Facility (MAF) in Louisiana on the core stage for Artemis II, which is slated to be the first crewed mission. Core Stage 2 is expected to be delivered to KSC in 2023. Core stage structures for the Artemis III and IV missions, which aim to land the first woman and person of color on the lunar surface, are currently in production. In addition, Boeing is building the new, more powerful Exploration Upper Stage to power astronauts and cargo to the moon and beyond in a single launch, replacing the Boeing- and United Alliance-built Interim Cryogenic Propulsion Stage used for the first evolution of the rocket.

Integrated Missile Systems

Ground-Based Midcourse Defense (GMD)
Ground-Based Interceptor (GBI)

Minuteman III Intercontinental Ballistic Missile (ICBM)



Ground-based Midcourse Defense

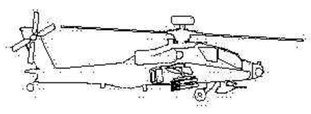
Boeing is the system developer and prime contractor for the Ground-based Midcourse Defense (GMD) system, the U.S.'s only defense against long-range ballistic missiles. GMD consists of networked space-, sea- and land-based sensors; command and control facilities; and ground-based interceptors (GBI) connected through an extensive space and terrestrial communications network. The system has achieved 12 successful intercepts in 19 tests. Boeing continues to lead GMD development, integration, testing, operations and sustainment activities. In 2018, Boeing was awarded a $6.5 billion agreement to extend the GMD development and sustainment contract through December 2023. In 2020, the Boeing-led team delivered 13 silos and silo interface vaults to Fort Greely, Alaska, nearly eight months ahead of the delivery schedule. In 2021, the Boeing-led team, alongside the U.S. Missile Defense Agency, demonstrated an advanced missile defense capability through a successful flight test. The test included launching a GBI into space with a three-stage booster in two-stage mode, allowing the GBI to release the kill vehicle earlier in flight.

Minuteman III Intercontinental Ballistic Missile

Since 1958, Boeing has designed, developed, delivered and sustained three generations of Minuteman intercontinental ballistic missiles (ICBM) for the U.S. Air Force as a foundational partner in our nation's mission of strategic deterrence. In 2017, the Air Force awarded Boeing more than $330 million for sustainment and modernization efforts across the nuclear triad. In 2021, the Air Force awarded Boeing $1.6 billion to continue guidance and navigation repair efforts for the Minuteman ICBM through 2039. Today, hundreds of Boeing employees across the country continue to maintain the readiness of the Minuteman ICBM—keeping it safe, secure and effective around the clock. Boeing looks forward to continuing our partnership with the Air Force—keeping the Minuteman ICBM mission-ready today while delivering innovative solutions to support strategic deterrence tomorrow.

Military Rotorcraft

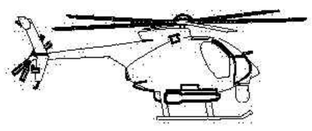
AH-64 Apache



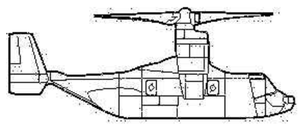
MH-139A Grey Wolf



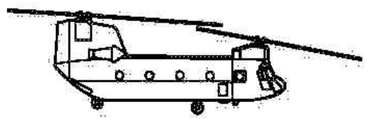
AH-6 Little Bird



V-22 Osprey



H-47 Chinook



Boeing is redefining the boundaries of military rotorcraft. Driven by proven platforms and the latest technology, Boeing supports the vital missions of defense forces around the world. Boeing military rotorcraft include the medium- to heavy-lift cargo helicopter H-47 Chinook; the multimission attack helicopter AH-64 Apache; the light attack and reconnaissance AH-6 Little Bird; the V-22 Osprey, a multirole combat tiltrotor aircraft combining the vertical performance of a helicopter with the speed and range of a fixed-wing aircraft; and, most recently, the multimission utility helicopter MH-139A Grey Wolf. Trusted and in demand by the U.S. Army, Navy, Air Force and Marines and by allied defense forces in more than 20 countries, Boeing rotorcraft products ensure that troops are prepared for the toughest missions—today and tomorrow.

In 2022, Boeing achieved two key international vertical lift down-select awards. In June, Germany selected the Chinook (60 aircraft) as its future heavy-lift aircraft, and in September, the Polish government chose the Apache (96 aircraft) as its upcoming attack helicopter.

The program also hit some major milestones in 2022. The MH-139 delivered the first four test aircraft to the U.S. Air Force, paving the way for a production milestone in early 2023. On the attack side, the Apache program celebrated many delivery milestones for the U.S. Army and international customers, including the delivery of the first E-model Apache to the Royal Netherlands Air Force. In October 2022, Boeing's Apache program introduced the Modernized Apache concept, which aligns with the U.S. Army's modernization efforts. The Bell Boeing V-22 Osprey usage has accelerated across Department of Defense (DOD) services, pushing the platform past the 700,000-flight-hour mark in November.

Vertical Lift secured a number of new orders in 2022. In February, Boeing was awarded a contract for eight AH-6 aircraft by the DOD

Boeing Defense, Space & Security continued

Military Rotocraft continued

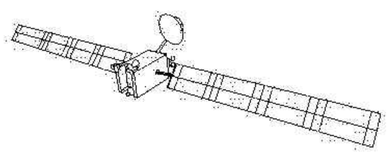
as part of a foreign military sale to Thailand. For Chinook, Boeing received awards to produce six more MH-47G aircraft and two more CH-47F Block II. In December, Boeing also received a contract to produce two more Block I Chinooks for the Army and 12 for the Egyptian Air Force.

2022 Deliveries:

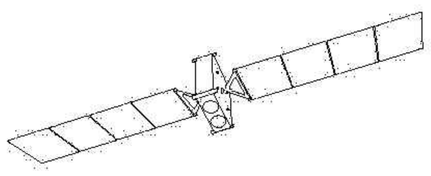
25 AH-64 Apache (new)
50 AH-64 Apache (remanufactured)
19 H-47 Chinook (new)
9 H-47 Chinook (renewed)
4 MH-139A Grey Wolf (new)
13 V-22 Osprey (new)

Satellites

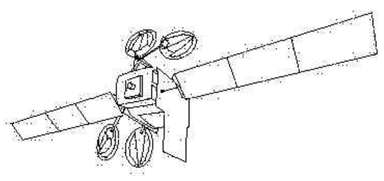
Commercial Satellites and Services
SES-20, SES-21 (C-Band Satellites)



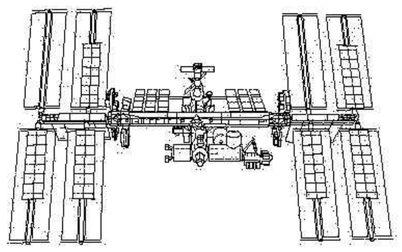
SES O3b mPOWER (702X Satellites)



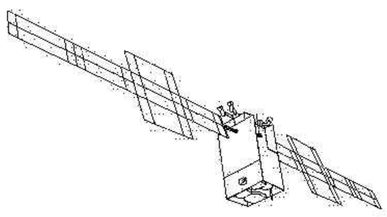
ViaSat-3 Satellites



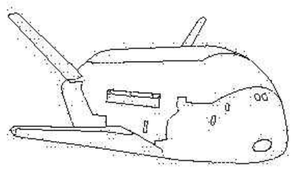
Spectrolab



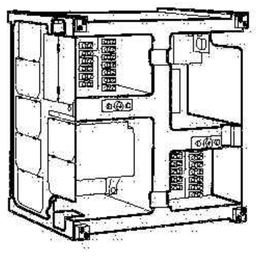
Government Satellite Systems
Wideband Global SATCOM 11+ (WGS-11+)



X-37B Orbital Test Vehicle (OTV)



Millennium Space System (MSS)



Commercial Satellites and Services

Boeing Commercial Satellites designs and sells communications satellites and payloads for commercial telecommunications, broadband, scientific and environmental applications. Boeing-built spacecraft relay voice and video communications, streaming video content and direct-to-home entertainment.

Forging the path for connectivity, Boeing's development of O3b mPOWER, an 11-satellite constellation for satellite operator SES, will provide high-performance data communications to users around the world. With more than 5,000 steerable beams that can reallocate bandwidth on demand, the O3b mPOWER satellite is truly the first of its kind. Boeing delivered the first two of these satellites during the fourth quarter of 2022. Boeing also delivered two C-band satellites to SES in 2022, marking the first satellite deliveries for Boeing since 2019.

For ViaSat, Boeing is building three 702 satellite platforms that will be integrated with ViaSat-3 payloads, slated to deliver industry-leading boosts to residential services as well as improved video streaming capability for commercial and business jet aircraft, and high-value government transport. Boeing works closely with subsidiary Millennium Space Systems on small satellite constellation offerings. Spectrolab's solar cells power some of the most iconic space missions and satellites, including the O3b mPOWER constellation, the International Space Station's new roll-out arrays, and a number of cubesats deployed during the Artemis I mission.

Government Satellite Systems

Boeing Government Satellite Systems delivers satellite and ground solutions that support government customers' national security operations, including intelligence, surveillance, reconnaissance and communications.

Moving at mission-relevant speed to deliver resilient systems to the escalating threat environment, Boeing leverages technological innovation from commercial and government space programs developing best-in-class satellite systems across all orbits and mission sets. With capabilities ranging from payload technology development to designing turnkey end-to-end systems, our products encompass narrowband ultra-high-frequency solutions that enable worldwide communication in challenging environments and protected wideband systems that enable high-capacity broadband connectivity for the U.S. government and its allies.

Boeing made marked progress on a number of Tactical Military Satellite Communication (MILSATCOM) programs in 2022, including launching production for the 11th Wideband Global SATCOM (WGS) satellite, which will join the constellation that underpins the DOD and allied connectivity. WGS-11+, currently expected to deliver in 2024, brings advanced capability and resilience to the warfighter. On rapid prototyping programs for the U.S. Space Force that are designed to deliver critical capability in shorter time frames, Boeing continued to demonstrate and iterate on both space-based and ground-based anti-jam technology, the Protected Tactical SATCOM Prototype (PTS-P) and Protected Tactical Enterprise Service (PTES), respectively. These programs are critical to ensuring warfighter connectivity in contested environments.

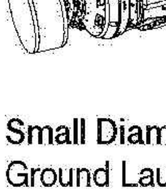
A leader in advanced space experimentation, Boeing is the prime contractor for the X-37B Orbital Test Vehicle—the most advanced uncrewed reentry spacecraft used by the U.S. Air Force to perform risk-reduction and experimentation for reusable space vehicle technologies. The spaceplane successfully completed its sixth mission in 2022, returning to Earth after spending more than 900 days on orbit, shattering its previous endurance record.

Weapons

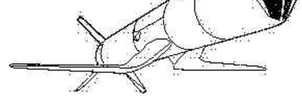
Boeing provides a high-tech portfolio of precision-guided weapons, cruise missile systems, laser weapon systems and integrated air and missile defense solutions to the DOD and more than 40 international partners, with significant investments to increase capacity and advance capability, including Joint Direct Attack Munition, Small Diameter Bomb, Harpoon, Patriot Advanced Capability-3 (PAC-3) Missile seeker and Standoff Land Attack Missile Expanded Response (SLAM ER).

In 2021, Boeing completed construction of a new 35,000-square-foot manufacturing facility to support increased production for cruise missile systems programs. It also received multiple contracts to continue to meet warfighter needs in 2022, including a High Altitude Anti-Submarine Warfare Weapon Capability (HAAWC) full-rate production contract to help meet the U.S. Navy's operational need to conduct anti-submarine warfare from higher altitudes and longer distances. In addition, Boeing delivered its 4,500th PAC-3 seeker in 2022 and is nearing completion of an additional 9,000-square-foot facilities expansion to support growing air and missile defense needs.

Compact Laser Weapon System

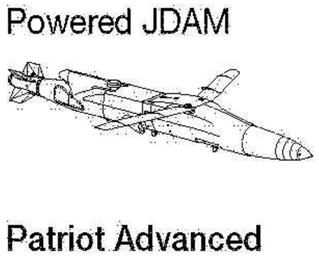


Harpoon



Joint Direct Attack Munition (JDAM)

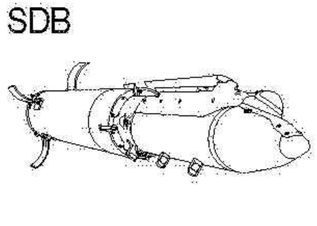
JDAM Extended Range (JDAM ER)



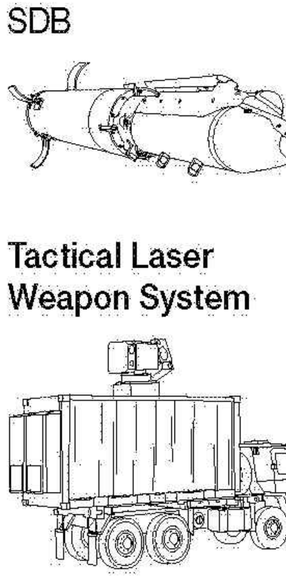
Laser JDAM



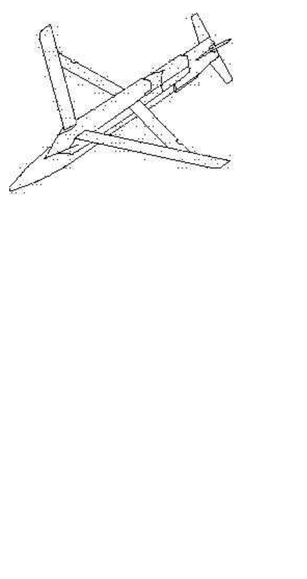
Powered JDAM



Patriot Advanced Capability-3 (PAC-3) Missile Seeker



Standoff Land Attack Missile Expanded Response (SLAM ER)



Small Diameter Bomb (SDB)

Ground Launched SDB

Laser SDB

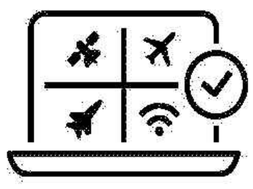
Tactical Laser Weapon System

Selected Programs, Products and Services

Boeing Global Services

Stephanie F. Pope, Executive Vice President; President and CEO, Boeing Global Services, Plano, Texas, USA

Digital Aviation Solutions

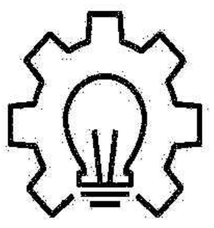


Digital Aviation Solutions combines data analysis and engineering know-how to deliver savings and efficiencies for customers, operators, technicians and maintainers. Our digital focus underpins and strengthens all of our solutions, which include crew management and scheduling, predictive maintenance tools and fuel optimization.

Boeing analytics experts and engineers help customers solve problems by transforming troves of aircraft and system data into actionable insights to enable higher reliability, readiness and performance while reducing costs. Specifically for our government customers, these services are delivered through our Next Generation Product Support portfolio.

Across the commercial, defense, business aviation and general aviation markets, Boeing's extensive collection of digital products and services collect, analyze and leverage insights to improve operational safety, reliability and efficiency; reduce fuel consumption and emissions; maximize quality in maintenance work; and lower operating costs regardless of platform manufacturer.

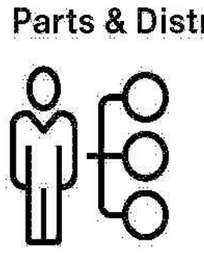
Engineering, Modifications & Maintenance



Boeing Global Services commercial and defense customers around the world rely on our Engineering, Modifications & Maintenance technical fleet solutions to optimize readiness and reliability. Unmatched industry innovation, agile execution and a global presence allow Boeing to convert, sustain and upgrade any type of aircraft flown today. Services range from providing technical information and expertise that help customers better manage their fleets to delivering engineering and maintenance services that help customers keep their operations running smoothly.

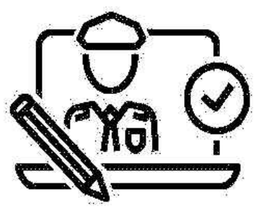
Modifications services support sustainment programs around the globe for our government customers. Commercial services include avionics, connectivity and interior modifications, complemented by a cabin and interiors organization focused on development of seating and other furnishings. Commercial modifications also include life-extending Boeing Converted Freighter programs to accommodate growing demand for cargo capacity.

Parts & Distribution Services



Parts & Distribution Services operates one of the industry's most comprehensive aftermarket parts and services networks. Whether customers need high-value parts, tailored solutions or consumables and expendables, Global Services ensures they have access to the world's most robust supply chain and the flexibility, scale and purchasing power to operate efficiently. Using supply chain expertise and advanced analytics capabilities, Boeing supports all aspects of fleet management, including airplane-on-ground support, component repair, used serviceable material offerings and engine- and component-exchange programs that enable reliable and sustainable operations. Our original equipment manufacturer knowledge and distribution network delivers when it matters most for customers who expect stability, reliability and flexibility for their Boeing and non-Boeing platforms. Whether for in-production or out-of-production aircraft, Global Services understands material and logistics support, including spare parts, retrofit kits, distribution and life-cycle management, as well as performance-based logistics agreements.

Training Solutions

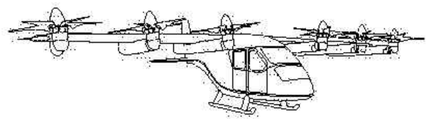


Training Solutions is a leader in aviation learning and simulator services, developing and delivering training programs, technology, simulation and analytics tools — and the software, technical services and data solutions, and training center support to go with it — to further enhance aviation safety as well as meet the career-long training needs of pilots, maintainers and cabin crew in commercial, defense and early career aviation learning. Enabled by Boeing's global infrastructure, data-driven approach and research facilities, Training Solutions provides superior customer support and has evolved its world-class offerings into comprehensive solutions that further enhance aviation safety.

Boeing Engineering, Test & Technology

Gregory L. Hyslop, Chief Engineer; Executive Vice President,
Boeing Engineering, Test & Technology, Seattle, Washington, USA

Wisk

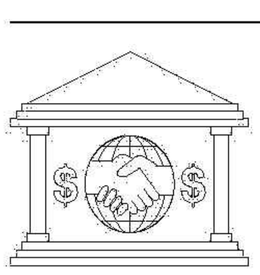


Boeing sees electric vertical takeoff and landing (eVTOL) aircraft as critical to enabling the future growth of the aerospace industry. This includes maturing important technologies, such as electric propulsion, autonomy and other capabilities that will be pioneered with eVTOL vehicles. At Boeing, we have our joint venture Wisk, which is working to become the first certified, self-flying eVTOL vehicle to market. In October 2022, Wisk revealed its 6th Generation aircraft, the world's first all-electric, autonomous, four-seat eVTOL air taxi designed for passenger transport. This vehicle will make it possible for passengers to skip the traffic and get to their destination faster. Vehicles such as this will enable new business opportunities centered around urban air mobility; additionally, we are working with our airline customers to understand how such vehicles might integrate into their fleets, both for short-distance operations and to compliment more traditional operations with a final-destination add-on service.

Wisk is an advanced air mobility company dedicated to delivering safe, everyday flight for everyone. Headquartered in the San Francisco Bay Area with locations around the world, Wisk is an independent company backed by The Boeing Company and Kitty Hawk Corporation. With over 12 years of experience and more than 1,600 flight tests, Wisk is shaping the future of daily commutes and urban travel, safely and sustainably.

Boeing Capital Corporation

Timothy R. Myers, President, Boeing Capital Corporation,
Renton, Washington, USA



Boeing Capital Corporation, a wholly owned subsidiary of The Boeing Company, is a global provider of innovative financial solutions. Drawing on its comprehensive expertise, Boeing Capital Corporation ensures that a range of efficient financial options is available for customers of Boeing products and services.

For more than five decades, Boeing Capital Corporation has been instrumental in the development of the global aircraft financing infrastructure, and it paved the way for the emergence of modern operating lessors and banks. Today, with its unrivaled understanding of the commercial aviation industry and strong relationships with the financial, airline and lessor communities, Boeing Capital Corporation continues to develop and promote innovative financing structures as well as spearhead industry standards. As of Dec. 31, 2022, Boeing Capital Corporation managed a portfolio of approximately $1.5 billion.

Shareholder Information

Corporate Headquarters
The Boeing Company
929 Long Bridge Drive
Arlington, VA 22202
703-465-3500
www.boeing.com

Transfer Agent
The transfer agent is responsible for shareholder records, issuance of stock, replacement of lost stock certificates, consolidation of accounts, and distribution of dividends and tax reporting documents, including Form 1099. Requests concerning these or other related shareholder matters are most efficiently answered by contacting:

Computershare Trust Company, N.A.
P.O. Box 43006
Providence, RI 02940-3006
888-777-0923
781-575-3400 (outside the United States)
www.computershare.com/investor

Registered shareholders also can access their accounts to view their account history, account statements and tax reporting documents; change their address; certify their tax identification number; replace checks; request duplicate statements; make additional investments; and download a variety of forms related to stock transactions at www.computershare.com/investor.

Electronic Delivery
Shareholders are encouraged to enroll in the electronic delivery program to receive all shareholder communications, including proxy voting materials, electronically instead of by mail. Registered shareholders can enroll at www.computershare.com/investor.

Duplicate Shareholder Accounts
Registered shareholders with duplicate accounts may contact Computershare for instructions regarding the consolidation of those accounts. We recommend that registered shareholders always use the same form of their names in all stock transactions to be handled in the same account. Registered shareholders may also ask Computershare to eliminate excess mailings of annual reports going to shareholders in the same household.

Change of Address
For Boeing registered shareholders:
Contact Computershare through one of the means described above.

For Boeing beneficial shareholders:
Contact your brokerage firm or bank to give notice of your change of address.

Annual Meeting
Boeing's 2023 annual meeting of shareholders is scheduled to be held Tuesday, April 18, 2023, beginning at 11 a.m. Eastern time in a virtual format only at www.virtualshareholdermeeting.com/BA2023. Please refer to our proxy statement for information regarding voting your shares and attending the virtual meeting.

Investor Relations Contact
The Boeing Company
Mail Code 9U2-14
800 N 6th Street
Renton, WA 98057-5411
www.boeing.com/investors

Contact to Request an Annual Report
Mail Services
The Boeing Company
Mail Code 3T-00
P.O. Box 3707
Seattle, WA 98124-2207
mailservices@boeing.com
425-965-4550

In addition, an electronic version of the annual report is available at www.boeing.com. You can also view electronic versions of the proxy statement, Form 10-K or Form 10-Q at www.boeing.com or on the Securities and Exchange Commission website at www.sec.gov.

Stock Exchanges
The company's common stock is traded principally on the New York Stock Exchange; the trading symbol is BA.

Independent Auditors
Deloitte & Touche LLP
111 South Wacker Drive
Chicago, IL 60606-4301
312-486-1000

Equal Opportunity Employer
It is the policy of The Boeing Company to attract and retain the best-qualified people available without regard to race, color, religion, national origin, gender, sexual orientation, gender identity, age, physical or mental disability, genetic factors, military/veteran status or other characteristics protected by law.

Board of Directors

(as of Feb. 10, 2023)

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Boeing director since 2016
Committees: Finance (Chair); Governance & Public Policy

David L. Calhoun
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The Boeing Company
Boeing director since 2009
Committees: None

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Former U.S. Chairman and CEO, KPMG
Boeing director since 2021
Committees: Audit; Finance

David L. Gitlin
Chairman and CEO,
Carrier Global Corporation
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Committees: Aerospace Safety; Finance

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Duke Energy Corporation
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Committees: Compensation (Chair); Audit

Stayce D. Harris
Former United Airlines Pilot; Former Inspector General, U.S. Air Force
Boeing director since 2021
Committees: Aerospace Safety; Audit; Special Programs

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United Technologies Corporation
Boeing director since 2020
Committees: Audit (Chair); Finance

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GE Aviation; Former Vice Chair,
General Electric Company
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Committees: Aerospace Safety (Chair); Compensation; Special Programs

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Independent Chair of the Board,
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Former Chairman and CEO,
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Boeing director since 2011
Committees: Aerospace Safety; Governance & Public Policy

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Boeing director since 2020
Committees: Compensation; Governance & Public Policy; Special Programs

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Former Director of the Naval Nuclear Propulsion Program, U.S. Navy
Boeing director since 2019
Committees: Special Programs (Chair); Aerospace Safety; Finance

Ronald A. Williams
Former Chairman, President and CEO, Aetna Inc.
Boeing director since 2010
Committees: Governance & Public Policy (Chair); Compensation

Company Officers

(as of Feb. 10, 2023)

Bertrand-Marc Allen
Chief Strategy Officer and
Senior Vice President,
Strategy and Corporate Development

Brian R. Besanceney
Chief Communications Officer
and Senior Vice President,
Communications

David L. Calhoun
President and CEO

Theodore Colbert III
Executive Vice President;
President and CEO,
Boeing Defense, Space & Security

Michael D'Ambrose
Chief Human Resources Officer
and Executive Vice President,
Human Resources

Stanley A. Deal
Executive Vice President;
President and CEO,
Boeing Commercial Airplanes

John C. Demers*
Vice President,
Assistant General Counsel
and Corporate Secretary

Susan Doniz
Chief Information Officer and
Senior Vice President,
Information Technology & Data Analytics

Brett C. Gerry
Chief Legal Officer and
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Controller

Gregory L. Hyslop
Chief Engineer and
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Engineering, Test & Technology

Dr. Brendan J. Nelson, AO
Senior Vice President and President,
Boeing International

Stephanie F. Pope
Executive Vice President;
President and CEO,
Boeing Global Services

Ziad S. Ojakli
Executive Vice President,
Government Operations

Brian J. West
Chief Financial Officer and
Executive Vice President,
Finance

David R. Whitehouse*
Senior Vice President,
Treasurer

*Appointed officer

Connecting in Times of Need

Boeing employees in Poland helped migrating Ukrainian teammates earlier this year as they fled their native land. They donated and delivered food and medical supplies, set up food trucks and shelters and even opened their homes to their colleagues and strangers crossing over to rebuild new lives. Boeing committed 2 million euros to support humanitarian response efforts in Ukraine and doubled every dollar donated by employees—adding up to more than 1 million euros in charitable contributions.

"My mother and I took a few valuables and my cat and ended up in Poland after a 34-hour train ride. Our Polish colleagues really helped us. They opened their hearts to us, and we really appreciated it! During the first days of war, I must have received a thousand messages from people, friends and colleagues who I maybe met just one time. They were asking what they could do for us. It was really amazing. We feel this support even now."

– **Olha Avdieienko** *(pictured left), originally from Kyiv, Ukraine, now located in Gdańsk, Poland*

"Everybody in Poland did all they could to help. My boyfriend owns a food truck, so we decided to drive to the border and prepare food for people crossing the border as well as Boeing Ukraine employees, volunteers, soldiers, policemen and firemen. I ended up helping three families who stayed at my house in Warsaw. They cleaned up, ate dinner with us and slept safely before I helped them get to their new apartment in Gdańsk. I am so glad I had a chance to do that."

– **Klaudia Bartkowiak** *(pictured far left), Boeing Poland, Warsaw*



The Boeing Company
929 Long Bridge Drive
Arlington, VA 22202
USA

Aircraft maintenance technicians Todd Warnstadt (left), Reginald Smith and Tin Ngo (in the lift) prepare the 737-10 for continued flight testing. The 737-10, Boeing's largest single-aisle airplane and the fourth member of the versatile, fuel-efficient 737 MAX family, is completing a comprehensive flight-test program prior to certification and entry into service. Demand for the 737 MAX family remains strong, with orders for nearly 700 airplanes in 2022.

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Bolagsverket

851 81 Sundsvall
0771-670 670
bolagsverket.se

Boeing Sweden Holdings AB
c/o Jeppesen Systems AB
Odingsgatan 9
411 03 GÖTEBORG

Företagsnamn:	Boeing Sweden Holdings AB , 556704-4291
Ärende:	Årsredovisning
Räkenskapsår:	2022-01-01-2022-12-31
Ärendenummer:	9556896/2023
Ärendet kom in:	2023-08-01
Svaret ska ha kommit in:	2023-11-01
Telefonnummer:	060-18 42 00

Vi behöver fler uppgifter för att kunna behandla ärendet

Information om förseningsavgift

Om du inte svarar i tid kan företaget behöva betala en förseningsavgift.

Skicka in en koncernredovisning

Årsredovisningen som vi har fått hänvisar till ett moderföretags koncernredovisning. Skicka in en kopia av koncernredovisningen och revisionsberättelsen som årsredovisningen hänvisar till.

Mer information hittar du på bolagsverket.se.

Gör så här

Skicka handlingarna med post och kom ihåg att skriva ärendenumret. Svaret ska ha kommit in senast 1 november 2023.

På bolagsverket.se kan du se hur det går med ditt ärende. Där kan du också se våra aktuella handläggningstider.

Vad händer om årsredovisningen inte kommer in i tid?

Om du inte svarar i tid kan företaget få betala en förseningsavgift. Har det gått mer än 11 månader sedan räkenskapsåret tog slut kan vi pröva om företaget ska gå i likvidation.

ANKOM

"p0160_arsred_forelaggande"

851 81 Sundsvall
0771-670 670
bolagsverket.se

Tips!

Skicka in årsredovisningen digitalt nästa gång!
När du skickar in en årsredovisning digitalt får du direkt en kvittens på att vi har tagit emot den. Och om årsredovisningen är fullständig registrerar vi den på en gång.

Läs mer på bolagsverket.se/digital-arsredovisning.

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