20220729187l5

Styrelsen och verkställande direktören för

VWR International AB

Org nr 556124-8153

får härmed avge

ÅRSREDOVISNING

för räkenskapsåret 1 januari - 31 december 2021

Innehåll:

Förvaltningsberättelse
Resultaträkning
Balansräkning
Noter med redovisningsprinciper
bokslutskommentarer
Underskrifter

Undertecknad styrelseledamot i VWR International AB intygar att resultaträkningen och balansräkningen i årsredovisningen har fastställts på årsstämma den 30 juni 2022. Årsstämman beslutade att godkänna styrelsens förslag till hur vinsten ska fördelas.

Jag intygar också att innehållet i årsredovisningen och revisionsberättelsen stämmer överens med originalen.

Stockholm 27 juli 2022

Stefan Walhagen

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729187 16

Förvaltningsberättelse

Allmänt om verksamheten

VWR International AB (VWR SE) säljer och marknadsför laboratorieprodukter från världsledande leverantörer runt om i världen till kunder i Norden.

VWR har länge varit en stor global oberoende och ledande leverantör av produkt- och servicelösningar till laboratorie- och produktionskunder inom läkemedels-, bioteknik-, industri-, utbildnings-, myndighets- och hälsovårdssektorn.

VWR SE fokuserar på fyra huvudsegment: bioteknik och läkemedel, universitet och statliga myndigheter, hälsovård samt övrig industri. Kunderna finns främst inom bioteknik, läkemedels-, livsmedels- och elektronikindustri, kemisk industri samt sjukhus, universitet och övriga skolor.

Syftet med organisationen är att erbjuda kunderna ett optimalt och segmentsanpassat erbjudande gällande produkter service och tjänster för en bättre marknadsbearbetning.

Företagets breda produktsortiment omfattar kemikalier, glas- och plastutensilier, apparater, instrument och laboratorieinredningar. Genom att erbjuda vår gedigna kompetens inom supply chain och logistik samt inom våra servicetjänster och individuella lösningar, kan kunderna helt fokusera på sina egna expertområden och därigenom arbeta med maximal effektivitet.

Det svenska huvudkontoret och bolagets säte ligger i Stockholm, där även merparten av försäljnings-organisationen finns. Regionkontor finns i Göteborg, Lund och Umeå. I Karlskoga ligger företagets distributionscenter, som sköter leveranserna till kunderna i Norden.

Marknaderna i Norge, Danmark och Finland bearbetas genom helägda dotterbolag i respektive land.

VWR är medvetna om att det ligger i företagets, våra medarbetares, våra leverantörers, våra kunders och vårt samhälles bästa att utveckla verksamhetspraxis baserad på principer för hållbar utveckling och med det öka företagets värde. Vi stödjer även våra kunders hållbarhetsinitiativ och vi hjälper dem att nå sina hållbarhetsmål.

VWR SE är certifierat inom kvalitet, miljö och arbetsmiljö enligt standarder för ISO 9001, ISO 14001, OHSAS 18001 samt ISO 17025 för vågkalibrering.

VWR Sveriges hållbarhetsrapport har upprättats i linje med GRI, i ett separat dokument som finns tillgängligt på VWR Sveriges hemsida.

VWR jobbar kontinuerligt med att utveckla våra policydokument så att de återspeglar nya prioriteringar. Vi utbildar våra medarbetare i linje med dessa policydokument för att säkerställa att vi agerar med integritet och främjar ansvarsfullt företagande.

VWR ska vara en attraktiv arbetsgivare som stödjer och främjar mångfald samt en inkluderande affärs-kultur. Företagskulturen bygger på individuell frihet som gör det möjligt för de anställda att ta ett stort personligt ansvar och därigenom bidra till företagets framgång.

VWR SE är rankat enligt Soliditets kreditvärderingssystem med AAA som är den högsta nivån sedan 2002.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB

Org nr 556124-8153

20220729187117

Utveckling av företagets verksamhet, resultat och ställning

Belopp i TSEK

Ekonomisk översikt	*2021*	*2020*	*2019*	*2018*	*2017*
Nettoomsättning	980 001	928 747	877 698	817 635	766 889
Rörelsemarginal %	11,0%	9,8%	9,6%	6,4%	5,9%
Balansomslutning	619 987	554 836	625 439	690 823	544 192
Avkastning på eget kapital %	67,1%	52,2%	43,3%	27,7%	36,1%
Soliditet %	66,9%	71,0%	71,9%	76,9%	70,6%

Definitioner: se not 26

VWR:s totala nettoomsättning ökade under 2021 med 5,5 % till 980 MSEK. Omsättningen på den svenska marknaden var 708 MSEK, vilket är 10,6 % högre än 2020.

Segmentet bioteknik och läkemedel hade en försäljningsökning på 20 %.
Segmenten industri och hälsovård visade en fortsatt tillväxt på 11 % respektive 4 %, medan segmentet universitet och statliga myndigheter redovisade en nedgång i försäljningen på 7 %.

Förväntad framtida utveckling samt väsentliga risker och osäkerhetsfaktorer
Marknaden för laboratorieprodukter förväntas under 2022 vara stabil. VWR kommer att fortsätta utveckla sin produktportfölj med världsledande leverantörer och fortsätter med integreringen mellan Avantor/VWR.

Det nya kombinerade bolaget kommer att ha en stark position som en vertikalt integrerad global aktör med ännu bättre förutsättningar och nya möjligheter inom tillverkning och leverantörskedjelösningar för biovetenskap, avancerad teknik och forskning.

Genom ökad säljaktivitet och fortsatt utveckling av VWR SE´s Catalyst Service tjänster räknar bolaget med att ta marknadsandelar och att kunna bygga ut sin ledande position i branschen.

VWR agerar på en konkurrensutsatt marknad och är exponerat för ett antal potentiella marknads- och operativa risker. Det finns detaljerade interna policys och instruktioner uppsatta i bolaget i syfte att begränsa riskernas resultatpåverkan och för att kontrollera rikstagandet i verksamheten.

Covid-19-viruset har påverkat världsekonomin under 2020 och 2021. Bolaget har gynnats av detta inom vissa kundsegment, såsom läkemedel, sjukvård och det har påverkats negativt inom andra kundsegment, såsom utbildning. Bolaget har varit tvunget att implementera accelererad logistik för att möta efterfrågan från läkemedelssegmentet. Verksamheten fortsätter att utvärdera kundernas behov och planera åtgärder för att möta dessa behov, inklusive ökad kredit, beställning av snabb logistik och lagring.
Denna effekt kommer att fortsätta 2022, men när COVID-19-vaccinationsprogrammet rullar ut och ekonomierna börjar återgå till det normala kommer normala affärsmönster att återvända.

Användning av finansiella instrument
En stor del av bolagets varuinköp sker i Euro. VWR terminssäkrar delar av sitt valutabehov för att minska valutaexponeringen.

Tillstånds- eller anmälningspliktig verksamhet enligt miljöbalken
Bolaget är ej tillstånds- eller anmälningspliktig enligt miljöbalken. I övrigt har bolaget de tillstånd som erfordras avseende miljö och säkerhet. Översynen avseende tillståndsplikt sker löpande.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729718

Eget kapital

Belopp i TSEK	**Bundet eget kapital**		**Fritt eget kapital**	
	Aktie-kapital	*Reserv-fond*	*Bal.res inkl årets resultat*	*Summa eget kapital*
Ingående balans	65 000	13 000	318 197	396 197
Utbetald utdelning			-260 000	-260 000
Årets resultat			278 047	278 047
Utgående balans	65 000	13 000	336 244	414 244

Förslag till disposition av företaget vinst eller förlust

Styrelsen föreslår att fritt eget kapital, KSEK 336 244, disponeras enligt följande:

att till aktieägarna utdelas 431 SEK per aktie, totalt	280 000
Balanseras i ny räkning	56 244
Summa	336 244

Det är styrelsen uppfattning att den föreslagna utdelningen inte hindrar bolaget från att fullgöra sina förpliktelser på kort och lång sikt, inte heller att fullgöra erfoderliga investeringar. Den föreslagna utdelningen kan därmed försvaras med hänsyn till vad som anförs i ABL 17 kap 3§ 2-3 st.
Bolagets resultat och ställning i övrigt framgår av efterföljande resultat- och balansräkningar med noter. Redovisningsvaluta är svenska kronor. Samtliga belopp anges i kkr om ingenting annat anges.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729187 19

Resultaträkning

Belopp i kSEK	*Not*	*2021*	*2020*
Nettoomsättning	1	980 001	928 747
Övriga rörelseintäkter	2	14 771	41 482
		994 772	970 229
Rörelsens kostnader			
Handelsvaror		-654 967	-642 746
Övriga externa kostnader	4	-82 639	-72 637
Personalkostnader	3	-134 896	-120 392
Av- och nedskrivningar av materiella och immateriella anläggningstillgångar		-2 538	-3 148
Övriga rörelsekostnader	5	-11 845	-40 580
Rörelseresultat		107 887	90 726
Resultat från finansiella poster			
Resultat från andelar i koncernföretag	6	194 437	135 429
Ränteintäkter och liknande resultatposter	7	-588	843
Räntekostnader och liknande resultatposter	8	-1 913	-1 335
Resultat efter finansiella poster		299 823	225 663
Resultat före skatt		299 823	225 663
Skatt på årets resultat	9	-21 776	-19 021
Årets resultat		278 047	206 642

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729718720

Balansräkning

Belopp i kSEK	*Not*	*2021-12-31*	*2020-12-31*
TILLGÅNGAR			
Anläggningstillgångar			
Immateriella anläggningstillgångar			
Materiella anläggningstillgångar			
Inventarier, verktyg och installationer	10	6 952	7 537
		6 952	7 537
Finansiella anläggningstillgångar			
Andelar i koncernföretag	11	257 365	257 365
Uppskjuten skattefordran	12	638	179
Andra långfristiga fordringar		25	25
		258 028	257 569
Summa anläggningstillgångar		264 980	265 106
Omsättningstillgångar			
Varulager m m	13		
Färdiga varor och handelsvaror		59 585	36 180
		59 585	36 180
Kortfristiga fordringar			
Kundfordringar		130 573	114 309
Fordringar hos koncernföretag		31 574	42 547
Övriga fordringar		488	450
Förutbetalda kostnader och upplupna intäkter	14	3 662	4 661
		166 297	161 967
Kassa och bank			
Kassa och bank		129 125	91 583
Summa omsättningstillgångar		355 007	289 730
SUMMA TILLGÅNGAR		619 987	554 836

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729187 21

Balansräkning

Belopp i kSEK	*Not*	*2021-12-31*	*2020-12-31*
EGET KAPITAL OCH SKULDER	15, 16		
Eget kapital			
Bundet eget kapital			
Aktiekapital		65 000	65 000
Reservfond		13 000	13 000
		78 000	78 000
Fritt eget kapital			
Balanserat resultat		58 197	111 555
Årets resultat		278 047	206 642
		336 244	318 197
		414 244	396 197
Avsättningar			
Uppskjuten skatteskuld	12	–	–
Övriga avsättningar	17	2 508	225
		2 508	225
Långfristiga skulder	18		
Övriga skulder avseende finansiella leasingavtal		1 336	1 121
		1 336	1 121
Kortfristiga skulder			
Leverantörsskulder		45 040	32 055
Skulder till koncernföretag		87 718	67 289
Aktuell skatteskuld		8 596	8 124
Övriga skulder		16 723	19 380
Upplupna kostnader och förutbetalda intäkter	19	43 822	30 445
		201 899	157 293
SUMMA EGET KAPITAL OCH SKULDER		619 987	554 836

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729187722

Kassaflödesanalys

Belopp i kSEK		2021	2020
Den löpande verksamheten			
Resultat efter finansiella poster		299 823	225 663
Justering för poster som inte ingår i kassaflödet	24	4 005	-522
		303 828	225 141
Betald inkomstskatt		-19 053	-13 956
Kassaflöde från den löpande verksamheten före förändringar av rörelsekapital		284 775	211 185
Förändringar i rörelsekapital			
Ökning(-)/Minskning(+) av varulager		-23 405	6 825
Ökning(-)/Minskning(+) av rörelsefordringar		-4 330	-3 277
Ökning(+)/Minskning(-) av rörelseskulder		43 478	-19 737
Kassaflöde från den löpande verksamheten		300 518	194 997
Investeringsverksamheten			
Förvärv av materiella anläggningstillgångar		-2 976	886
Kassaflöde från investeringsverksamheten		-2 976	886
Finansieringsverksamheten			
Utbetald utdelning till moderföretagets aktieägare		-260 000	-260 000
Kassaflöde från finansieringsverksamheten		-260 000	-260 000
Årets kassaflöde		37 542	-64 117
Likvida medel vid årets början		91 583	155 700
Likvida medel vid årets slut	23	129 125	91 583

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729187 23

Noter

Belopp i kSEK om inget annat anges

Redovisningsprinciper
Årsredovisningen har upprättats i enlighet med årsredovisningslagen och enligt Bokföringsnämndens allmänna råd BFNAR 2012:1 Årsredovisning och koncernredovisning (K3).

Tillgångar, avsättningar och skulder har värderats till anskaffningsvärden om inget annat anges nedan.

Immateriella tillgångar

Övriga immateriella anläggningstillgångar
Övriga immateriella anläggningstillgångar som förvärvats är redovisade till anskaffningsvärde minskat med ackumulerade avskrivningar och nedskrivningar.

Avskrivningar
Avskrivning sker linjärt över tillgångens beräknade nyttjandeperiod. Avskrivningen redovisas som kostnad i resultaträkningen.

	Nyttjandeperiod
Förvärvade immateriella tillgångar	
Licenser	5 år
Goodwill	5 år

Nyttjandeperioden för goodwill har bedömts utifrån investeringens förväntade avkastning och bidrag till verksamheten.

Materiella anläggningstillgångar
Materiella anläggningstillgångar redovisas till anskaffningsvärde minskat med ackumulerade avskrivningar och nedskrivningar. I anskaffningsvärdet ingår förutom inköpspriset även utgifter som är direkt hänförliga till förvärvet.

Tillkommande utgifter
Tillkommande utgifter som uppfyller tillgångskriteriet räknas in i tillgångens redovisade värde.
Utgifter för löpande underhåll och reparationer redovisas som kostnader när de uppkommer.

Avskrivningar
Avskrivning sker linjärt över tillgångens beräknade nyttjandeperiod eftersom det återspeglar den förväntade förbrukningen av tillgångens framtida ekonomiska fördelar. Avskrivningen redovisas som kostnad i resultaträkningen.

	Nyttjandeperiod
Inventarier, verktyg och installationer	3-10 år

Nedskrivningar - materiella och immateriella anläggningstillgångar samt andelar i koncernföretag
Vid varje balansdag bedöms om det finns någon indikation på att en tillgångs värde är lägre än dess redovisade värde.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729187724

Leasing

Alla leasingavtal har klassificerats som finansiella eller operationella leasingavtal. Ett finansiellt leasingavtal är ett leasingavtal enligt vilka de risker och fördelar som är förknippade med att äga en tillgång i allt väsentligt överförs från leasegivaren till leasetagaren. Ett operationellt leasingavtal är ett leasingavtal som inte är ett finansiellt leasingavtal.

Finansiella leasingavtal
Rättigheter och skyldigheter enligt finansiella leasingavtal redovisas som tillgång och skuld i balansräkningen. Vid det första redovisningstillfället värderas tillgången och skulden till det lägsta av tillgångens verkliga värde och nuvärdet av minimileaseavgifterna. Utgifter som är direkt hänförbara till ingående och upplägg av leasingavtalet läggs till det belopp som redovisas som tillgång.

Efter det första redovisningstillfället fördelas minimileaseavgifterna på ränta och amortering av skulden enligt effektivräntemetoden. Variabla avgifter redovisas som kostnader det räkenskapsår de uppkommit.

Den leasade tillgången skrivs av över leasingperioden.

Operationella leasingavtal
Leasingavgifterna enligt operationella leasingavtal, inklusive förhöjd förstagångshyra men exklusive utgifter för tjänster som försäkring och underhåll, redovisas som kostnad linjärt över leasingperioden.

Utländsk valuta

Poster i utländsk valuta
Monetära poster i utländsk valuta räknas om till balansdagens kurs. Icke-monetära poster räknas inte om utan redovisas till kursen vid anskaffningstillfället.

Valutakursdifferenser som uppkommer vid reglering eller omräkning av monetära poster redovisas i resultaträkningen det räkenskapsår de uppkommer.

Kursdifferenser på rörelsefordringar och rörelseskulder ingår i rörelseresultatet, medan differenser på finansiella fordringar och skulder redovisas bland finansiella poster.

Varulager

Varulagret är upptaget till det lägsta av anskaffningsvärdet och nettoförsäljningsvärdet. Därvid har inkuransrisk beaktats. Anskaffningsvärdet beräknas enligt först in- först ut- principen. I anskaffningsvärdet ingår förutom utgifter för inköp även utgifter för att bringa varorna till deras aktuella plats och skick.

Skatt

Skatt på årets resultat i resultaträkningen består av aktuell skatt och uppskjuten skatt. Aktuell skatt är inkomstskatt för innevarande räkenskapsår som avser årets skattepliktiga resultat och den del av tidigare räkenskapsårs inkomstskatt som ännu inte har redovisats. Uppskjuten skatt är inkomstskatt för skattepliktigt resultat avseende framtida räkenskapsår till följd av tidigare transaktioner eller händelser.

Uppskjuten skatteskuld redovisas för alla skattepliktiga temporära skillnader, dock särredovisas inte uppskjuten skatt hänförlig till obeskattade reserver eftersom obeskattade reserver redovisas som en egen post i balansräkningen. Uppskjuten skattefordran redovisas för avdragsgilla temporära skillnader och för möjligheten att i framtiden använda skattemässiga underskottsavdrag. Värderingen baseras på hur det redovisade värdet för motsvarande tillgång eller skuld förväntas återvinnas respektive regleras. Beloppen baseras på de skattesatser och skatteregler som är beslutade före balansdagen och har inte nuvärdeberäknats.

Uppskjutna skattefordringar har värderats till högst det belopp som sannolikt kommer att återvinnas baserat på innevarande och framtida skattepliktiga resultat. Värderingen omprövas varje balansdag.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729187725

Avsättningar
En avsättning redovisas i balansräkningen när företaget har en legal eller informell förpliktelse till följd av en inträffad händelse och det är sannolikt att ett utflöde av resurser krävs för att reglera förpliktelsen och en tillförlitlig uppskattning av beloppet kan göras.

Vid första redovisningstillfället värderas avsättningar till den bästa uppskattningen av det belopp som kommer att krävas för att reglera förpliktelsen på balansdagen. Avsättningarna omprövas varje balansdag.

Intäkter
Det inflöde av ekonomiska fördelar som företaget erhållit eller kommer att erhålla för egen räkning redovisas som intäkt. Intäkter värderas till verkliga värdet av det som erhållits eller kommer att erhållas, med avdrag för rabatter.

Försäljning av varor
Vid försäljning av varor redovisas intäkten vid leverans.

Försäljning av service och tjänster
Intäkter för service och tjänster redovisas direkt i anslutning efter utfört arbete.

Utdelning
Utdelning redovisas när behörigt organ har fattat beslut om att utdelning ska lämnas.

Eventualförpliktelser
En eventualförpliktelse är:
- En möjlig förpliktelse som till följd av inträffade händelser och vars förekomst endast kommer att bekräftas av en eller flera osäkra framtida händelser, som inte helt ligger inom företagets kontroll, inträffar eller uteblir, eller
- En befintlig förpliktelse till följd av inträffade händelser, men som inte redovisas som skuld eller avsättning eftersom det inte är sannolikt att ett utflöde av resurser kommer att krävas för att reglera förpliktelsen eller förpliktelsens storlek inte kan beräknas med tillräcklig tillförlitlighet.

Eventualförpliktelser är en sammanfattande beteckning för sådana garantier, ekonomiska åtaganden och eventuella förpliktelser som inte tas upp i balansräkningen.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729187 26

Not 1 Nettoomsättning per rörelsegren och geografisk marknad

	2021	2020
Nettoomsättning per rörelsegren		
Hälsovård	69 103	66 629
Universitet och statliga myndigheter	147 077	158 384
Bioteknik och läkemedel	326 798	271 407
Övrig industri	153 058	137 945
Försäljning till dotterbolag	267 478	288 249
Övrig försäljning	16 487	6 133
	980 001	928 747
Nettoomsättning per geografisk marknad		
Sverige	708 459	640 498
Norge	156 637	148 926
Danmark	11 131	12 397
Finland	99 710	125 226
Övriga länder	4 064	1 700
	980 001	928 747

Not 2 Övriga rörelseintäkter

	2021	2020
Kursvinster på fordringar/skulder av rörelsekaraktär	9 653	36 115
Realisationsvinster	1 214	712
Övrigt	3 904	4 655
	14 771	41 482

Not 3 Anställda, personalkostnader och arvoden till styrelse och revisorer

Medelantalet anställda

	2021	varav män	2020	varav män
Sverige	157	43%	165	45%

Redovisning av könsfördelning i företagsledningar

	2021-12-31 Andel kvinnor	2020-12-31 Andel kvinnor
Styrelsen	43%	0%
Övriga ledande befattningshavare	50%	52%

Löner och andra ersättningar samt sociala kostnader, inklusive pensionskostnader

	2021	2020
Löner och ersättningar	*96 292*	*81 742*
Sociala kostnader	*38 604*	*34 438*
(varav pensionskostnad) 1)	*(9 238)*	*(8 135)*

1) Av företagets pensionskostnader avser -354 KSEK (f.å. 372 kSEK) företagets ledning avseende gruppen styrelse och VD.

Löner och andra ersättningar fördelade mellan styrelseledamöter m.fl. och övriga anställda

	2021		2020	
	Styrelse och VD	Övriga anställda	Styrelse och VD	Övriga anställda
Löner och andra ersättningar	1 313	94 979	1 335	80 407

Avtal om avgångsvederlag
Mellan företaget och verkställande direktören gäller en ömsesidig uppsägningstid om sex månader. Inget avtal om avgångsvederlag finns.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729187727

Not 4 Ersättning till revisorer

	2021	*2020*
Revisionsuppdrag Deloitte	413	401
Revisionsuppdrag Kpmg	35	42

Med revisionsuppdrag avses lagstadgad revision av årsredovisningen och bokföringen samt styrelsens och verkställande direktörens förvaltning samt revision och annan granskning utförd i enlighet med överenskommelse eller avtal.

Detta inkluderar övriga arbetsuppgifter som det ankommer på bolagets revisor att utföra samt rådgivning eller annat biträde som föranleds av iakttagelser vid sådan granskning eller genomförandet av sådana övriga arbetsuppgifter.

Not 5 Övriga rörelsekostnader

	2021	*2020*
Kursförluster på fordringar/skulder av rörelsekaraktär	-11 171	-39 937
Övrigt	-674	-643
	-11 845	-40 580

Not 6 Resultat från andelar i koncernföretag

	2021	*2020*
Utdelning	194 437	135 429
	194 437	135 429

Not 7 Ränteintäkter och liknande resultatposter

	2021	*2020*
Ränteintäkter, övriga	-588	843
	-588	843

Not 8 Räntekostnader och liknande resultatposter

	2021	*2020*
Räntekostnader, koncernföretag	-568	-667
Räntekostnader, övriga	-1 345	-668
	-1 913	-1 335

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729187 28

Not 9 Skatt på årets resultat

	2021	*2020*
Aktuell skattekostnad	-22 177	-19 051
Uppskjuten skatt	401	31
	-21 776	-19 021

Avstämning av effektiv skatt

	2021		*2020*	
	Procent	*Belopp*	*Procent*	*Belopp*
Resultat före skatt		299 823		225 663
Skatt enligt gällande skattesats för moderföretaget	20,6%	-61 764	21,4%	-48 292
Ej avdragsgilla kostnader	0,0%	-21	0,0%	-47
Slutlig beskattning	0,0%	-13	0,0%	-7
Ej skattepliktiga intäkter	-13,4%	40 054	-12,8%	28 982
Rättelse av fel	0,0%	-32	-0,2%	343
Redovisad effektiv skatt	7,3%	-21 776	8,4%	-19 021

Not 10 Inventarier, verktyg och installationer

	2021-12-31	*2020-12-31*
Ackumulerade anskaffningsvärden		
Vid årets början	36 829	39 282
Nyanskaffningar	2 976	886
Avyttringar och utrangeringar	-3 971	-3 339
	35 834	36 829
Ackumulerade avskrivningar		
Vid årets början	-29 292	-28 927
Återförda avskrivningar på avyttringar och utrangeringar	2 947	2 632
Årets avskrivning på anskaffningsvärden	-2 538	-2 997
	-28 882	-29 292
Redovisat värde vid årets slut	6 952	7 537

	2021-12-31	*2020-12-31*
Inventarier som innehas under finansiella leasingavtal ingår med ett redovisat värde om	2 525	2 486

Under övriga kort- respektive långfristiga skulder redovisas nuvärdet av framtida betalningar avseende skuldförda finansiella leasingförpliktelser.

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729187729

Not 11 Andelar i koncernföretag

	2021-12-31	*2020-12-31*
Ackumulerade anskaffningsvärden		
Vid årets början	257 365	257 365
	257 365	257 365
Redovisat värde vid årets slut	257 365	257 365

Spec av företagets innehav av andelar i koncernföretag

			2021-12-31	*2020-12-31*
Dotterföretag / Org nr / Säte	*Antal andelar*	*Andel i % i)*	*Redovisat värde*	*Redovisat värde*
VWR International AS, 860964732, Oslo	49 750	99,5	9 016	9 016
VWR International OY, 0614918-0, Esbo	1 990	99,5	74 979	74 979
VWR International A/S, 27335659, Köpenhamn	58 705	99,5	173 269	173 269
KEBO Lab AB, 556244-9230, Stockholm	1 000	100,0	101	101
			257 365	257 365

i) Ägarandelen av kapitalet avses, vilket även överensstämmer med andelen av rösterna för totalt antal aktier.

Not 12 Uppskjuten skatt

	2021-12-31		
	Redovisat värde	*Skattemässigt värde*	*Temporär skillnad*
Väsentliga temporära skillnader			
Pensionsavsättning	588	–	588
Garantiavsättning	367	–	367
Avsättning för omstrukturering	2 141	–	2 141
	3 096	–	3 096

	2021-12-31		
	Uppskjuten skattefordran	*Uppskjuten skatteskuld*	*Netto*
Väsentliga temporära skillnader			
Pensionsavsättning	121	–	121
Garantiavsättning	76	–	76
Avsättning för omstrukturering	441	–	441
Uppskjuten skattefordran/skuld	638	–	638

Not 13 Varulager m m

	2021-12-31	*2020-12-31*
Färdiga varor och handelsvaror	59 585	36 180
	59 585	36 180

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729 18730

Not 14 Förutbetalda kostnader och upplupna intäkter

	2021-12-31	*2020-12-31*
Hyror	1 419	1 386
Övriga poster	2 243	3 275
	3 662	4 661

Not 15 Vinstdisposition

Förslag till disposition av företagets vinst eller förlust

Styrelsen föreslår att fritt eget kapital, KSEK 336,244, disponeras enligt följande:

Balanseras i ny räkning	56 244
Summa	56 244

Not 16 Antal aktier och kvotvärde

	2021-12-31	*2020-12-31*
Registrerade aktier		
Antal aktier	650 000	650 000
Kvotvärde i SEK	100	100

Not 17 Övriga avsättningar

	2021-12-31	*2020-12-31*
Garantiåtaganden	2 508	225
	2 508	225

Garantiåtaganden	*2021-12-31*	*2020-12-31*
Redovisat värde vid årets början	225	323
Avsättningar som gjorts under året[1]	1 938	-175
Belopp som tagits i anspråk under året	345	77
Redovisat värde vid årets slut	2 508	225

1) Inkl ökningar av befintliga avsättningar.

Not 18 Långfristiga skulder

	2021-12-31	*2020-12-31*
Skulder som förfaller senare än ett år från balansdagen		
Finansiella leasingavtal	-1 336	-1 121

Not 19 Upplupna kostnader och förutbetalda intäkter

	2021-12-31	*2020-12-31*
Upplupna personalkostnader	27 644	20 412
Övriga poster	16 178	10 033
	43 822	30 445

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

20220729187 31

Not 20 Ställda säkerheter och eventualförpliktelser

	2021-12-31	*2020-12-31*
Eventualförpliktelser		
Hyresgaranti dotterbolag	1 923	2 566
	1 923	2 566

Not 21 Väsentliga händelser efter räkenskapsårets slut

Det finns inga väsentliga händelser efter räkenskapsårets slut. Konflikten mellan Ryssland och Ukraina inleddes i slutet av februari 2022. Som ett resultat har Europeiska unionen och andra länder installerat olika sanktioner mot personer, företag och organisationer.
Avantors affärsmodell säkerställer att vi har en bred kund- och leverantörsbas. Detta innebär att när en kund eller ett leverantörssegment har problem behöver det nödvändigtvis inte påverka resterande segment inom koncernen. Historiskt sett har vår affärsmodell varit mer motståndskraftig mot krisen 2008, 2015 och Covid jämfört med marknaden och vår förväntan är att vi kommer att vara motståndskraftiga mot den senaste krisen.
Även om företaget inte har något deltagande, kunder eller leverantörer i Ryssland, Vitryssland eller Ukraina, kan det vara så att det finns negativa konsekvenser inom vissa sektorer, men i detta skede är det fortfarande svårt att förutsäga effekterna.

Not 22 Betalda räntor och erhållen utdelning

	2021	*2020*
Erhållen utdelning	194 437	135 429
Erhållen ränta	-588	843
Erlagd ränta	-1 913	-1 335

Not 23 Likvida medel

	2021-12-31	*2020-12-31*
Följande delkomponenter ingår i likvida medel:		
Banktillgodohavanden	129 125	91 583
	129 125	91 583

Not 24 Övriga upplysningar till kassaflödesanalysen

Justeringar för poster som inte ingår i kassaflödet m m

	2021	*2020*
Av- och nedskrivning av tillgångar	2 538	3 148
Orealiserade kursdifferenser	412	-155
Rearesultat försäljning av anläggningstillgångar	-1 214	-712
Övriga avsättningar	2 269	-2 803
	4 005	-522

DocuSign Envelope ID: F3516925-36E3-4E97-895A-2DB0AA1144F0

VWR International AB
Org nr 556124-8153

20220729187322

Not 25 Koncernuppgifter

Företaget är helägt dotterföretag (99,5 %) till VWR International BV, reg nr 04038098 med säte i Amsterdam, Nederländerna. VWR International BV är helägt dotterföretag till Avantor, Inc. med säte i Pennsylvania, USA, och Avantor upprättar en separat konsoliderad årsrapport inklusive koncernredovisning.

Avantor, Inc.'s konsoliderade årsrapport finns att tillgå hos Avantor, Inc., 100 Matsonford Road, Radnor, PA 19087, USA.

VWR International AB som utgör moderföretag för en koncern med dotterföretag enl not 12, upprättar ej koncernredovisning med hänvisning till reglerna i Årsredovisningslagen 7 kap. 2 §.

Inköp och försäljning inom koncernen
Av företagets totala inköp och försäljning mätt i kronor avser 59 % (45 %) av inköpen och 29 % (31 %) av försäljningen andra företag inom hela den företagsgrupp som företaget tillhör.

Not 26 Nyckeltalsdefinitioner

Rörelsemarginal:	Rörelseresultat / Nettoomsättning
Balansomslutning:	Totala tillgångar
Finansiella intäkter:	Poster i finansnettot som är hänförliga till tillgångar (som ingår i sysselsatt kapital)
Räntefria skulder:	Skulder som inte är räntebärande. Pensionsskulder ses som räntebärande.
Avkastning på egenkapital:	Årets resultat hänförligt till moderföretagets aktieägare / eget kapital hänförligt till moderföretagets aktieägare
Soliditet:	Totalt eget kapital / Totala tillgångar

Stockholm 2022

DocuSigned by:
Suzanne Scott
57FF5451...

Suzanne Scott

DocuSigned by:
Stefan Walhagen
43C2B002997D447...

Stefan Walhagen

DocuSigned by:
Ian Soellaart
74B5086FE4164FC...

Ian Soellaart
Ordförande

Marija Bojic
Suppleant

DocuSigned by:
Ingrid Nordström
0E1A763169FD4C4...

Ingrid Sofia Nordström
Arbetstagarrepresentant

DocuSigned by:
Annica Bengtsson
95957DC037B84D9...

Annica Elisabeth Bengtsson
Arbetstagarrepresentant

Vår revisionsberättelse har lämnats 2022
Deloitte AB

DocuSigned by:
8D1BD52772034A6...

Alexandros Kouvatsos
Auktoriserad revisor

DocuSign

Certificate Of Completion

Envelope Id: F351692536E34E97895A2DB0AA1144F0
Status: Completed
Subject: Please DocuSign: VWR International AB_Annual Report in Sweden_2021.pdf
Source Envelope:
Document Pages: 17
Signatures: 6
Certificate Pages: 6
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Envelope Originator:
hanisha lalwani
100 Matsonford Rd Bldg 1
Radnor, PA 19087-4569
hanisha.lalwani@avantorsciences.com
IP Address: 106.207.145.186

Record Tracking

Status: Original
6/28/2022 11:24:32 AM
Holder: hanisha lalwani
hanisha.lalwani@avantorsciences.com
Location: DocuSign

Signer Events

Annica Bengtsson
annica.bengtsson@avantorsciences.com
Security Level: Email, Account Authentication (None)

Signature

DocuSigned by:
Annica Bengtsson
85357DC037B84D9...

Signature Adoption: Pre-selected Style
Signed by link sent to
annica.bengtsson@avantorsciences.com
Using IP Address: 147.161.189.3

Timestamp

Sent: 6/28/2022 11:38:05 AM
Viewed: 6/29/2022 5:39:48 AM
Signed: 6/29/2022 5:40:12 AM

Electronic Record and Signature Disclosure:
Accepted: 1/26/2022 2:20:01 AM
ID: 44ac5aa0-be7a-4e04-be5f-4b3f05f4ccc0

Ian Soellaart
ian.soellaart@avantorsciences.com
Director
Security Level: Email, Account Authentication (None)

DocuSigned by:
Ian Soellaart
74B5086FE4184FC...

Signature Adoption: Pre-selected Style
Signed by link sent to
ian.soellaart@avantorsciences.com
Using IP Address: 147.161.189.7

Sent: 6/28/2022 11:38:06 AM
Viewed: 6/28/2022 11:44:41 AM
Signed: 6/28/2022 11:44:57 AM

Electronic Record and Signature Disclosure:
Accepted: 6/28/2022 11:44:41 AM
ID: 9ea0ff16-b814-4f7f-85a9-aef7a110e9c6

Ingrid Nordström
ingrid.nordstrom@avantorsciences.com
Security Level: Email, Account Authentication (None)

DocuSigned by:
Ingrid Nordström
0E1A763169FD4C4...

Signature Adoption: Pre-selected Style
Signed by link sent to
ingrid.nordstrom@avantorsciences.com
Using IP Address: 147.161.189.8

Sent: 6/28/2022 11:38:06 AM
Viewed: 6/29/2022 3:46:04 AM
Signed: 6/29/2022 3:47:11 AM

Electronic Record and Signature Disclosure:
Accepted: 6/29/2022 3:46:04 AM
ID: ffff76fe-f3f9-4a83-95dd-3f7f05636446

Signer Events	Signature	Timestamp
Stefan Walhagen stefan@walhagenlaw.se Security Level: Email, Account Authentication (None)	DocuSigned by: Stefan Walhagen 43C2B002997D447...	Sent: 6/28/2022 11:38:06 AM Viewed: 6/29/2022 5:34:14 PM Signed: 6/29/2022 5:35:09 PM
	Signature Adoption: Pre-selected Style Signed by link sent to stefan@walhagenlaw.se Using IP Address: 81.229.61.174	

Electronic Record and Signature Disclosure:
Accepted: 6/29/2022 5:34:14 PM
ID: 6558c683-3cf6-442a-99af-d2f04697ecc0

Suzanne Scott suzanne.scott@avantorsciences.com Commercial Director VWR International Security Level: Email, Account Authentication (None)	DocuSigned by: Suzanne Scott 57EE545198B046E...	Sent: 6/28/2022 11:38:06 AM Viewed: 6/29/2022 4:36:25 AM Signed: 6/29/2022 4:37:32 AM
	Signature Adoption: Pre-selected Style Signed by link sent to suzanne.scott@avantorsciences.com Using IP Address: 147.161.189.7	

Electronic Record and Signature Disclosure:
Accepted: 6/29/2022 4:36:25 AM
ID: b5f56ae1-3ebc-4ca9-a27f-de45e5493b9d

Alexandros Kouvatsos akouvatsos@deloitte.se Security Level: Email, Account Authentication (None)	DocuSigned by: 8D1BD52772034A6...	Sent: 6/29/2022 5:35:10 PM Viewed: 6/30/2022 1:52:07 AM Signed: 6/30/2022 1:52:53 AM
	Signature Adoption: Drawn on Device Signed by link sent to akouvatsos@deloitte.se Using IP Address: 94.255.187.45 Signed using mobile	

Electronic Record and Signature Disclosure:
Accepted: 6/30/2022 1:52:07 AM
ID: 5fc024e7-4fbf-4a14-bcf9-047ee96b0c04

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	**Status**	**Timestamp**
Agent Delivery Events	**Status**	**Timestamp**
Intermediary Delivery Events	**Status**	**Timestamp**
Certified Delivery Events	**Status**	**Timestamp**
Carbon Copy Events	**Status**	**Timestamp**
Witness Events	**Signature**	**Timestamp**
Notary Events	**Signature**	**Timestamp**

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	6/28/2022 11:38:06 AM
Certified Delivered	Security Checked	6/30/2022 1:52:07 AM
Signing Complete	Security Checked	6/30/2022 1:52:53 AM
Completed	Security Checked	6/30/2022 1:52:53 AM

Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

20220729187333

Deloitte.

REVISIONSBERÄTTELSE

Till bolagsstämman i VWR International AB
organisationsnummer 556124-8153

Rapport om årsredovisningen

Uttalanden

Vi har utfört en revision av årsredovisningen för VWR International AB för räkenskapsåret 2021-01-01 - 2021-12-31.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av VWR International ABs finansiella ställning per den 31 december 2021 och av dess finansiella resultat och kassaflöde 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 VWR International 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 och verkställande direktörens ansvar

Det är styrelsen och verkställande direktören som har ansvaret för att årsredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen och verkställande direktören ansvarar även för den interna kontroll som de 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 och verkställande direktören för bedömningen av bolagets förmåga att fortsätta verksamheten. De 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 och verkställande direktören 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 och verkställande direktörens uppskattningar i redovisningen och tillhörande upplysningar.
- drar vi en slutsats om lämpligheten i att styrelsen och verkställande direktören 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.

Denna handling är undertecknad i Mitto Legal med Penneo.com. Dokumentets integritet och validitet kan kontrolleras med Penneo.

20220729184734

- 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.

Rapport om andra krav enligt lagar och andra författningar

Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens och verkställande direktörens förvaltning för VWR International AB för räkenskapsåret 2021-01-01 - 2021-12-31 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

Vi tillstyrker att bolagsstämman disponerar vinsten enligt förslaget i förvaltningsberättelsen och beviljar styrelsens ledamöter och verkställande direktören 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 VWR International 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 och verkställande direktörens 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. Verkställande direktören ska sköta den löpande förvaltningen enligt styrelsens riktlinjer och anvisningar och bland annat vidta de åtgärder som är nödvändiga för att bolagets bokföring ska fullgöras i överensstämmelse med lag och för att medelsförvaltningen ska skötas 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 eller verkställande direktören 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 styrelsens motiverade yttrande samt ett urval av underlagen för detta för att kunna bedöma om förslaget är förenligt med aktiebolagslagen.

Anmärkning

Under 2021 har avdragen skatt och sociala avgifter vid flera tillfällen inte betalats i rätt tid. Bolaget har därmed ej fullgjort sina skyldigheter enligt skatteförfarandelagen. Dröjsmålen har berott på bristande rutiner. Dessa brister och försummelser har inte medfört någon skada för bolaget, utöver dröjsmålsräntor

Stockholm, enligt efterföljande signatur

Deloitte AB

Alexandros Kouvatsos
Auktoriserad revisor

Denna handlingen är digitalt undertecknad av Deloitte AB

PENNEO

Signaturerna i detta dokument är juridiskt bindande. Dokumentet är signerat genom Penneo™ för säker digital signering. Tecknarnas identitet har lagrats, och visas nedan.

"Med min signatur bekräftar jag innehållet och alla datum i detta dokumentet."

ALEXANDROS MARTIN KOUVATSOS
Undertecknare
På uppdrag av: Deloitte AB
Serienummer: 19830203xxxx
IP: 94.255.xxx.xxx
2022-06-30 05:54:54 UTC

BankID

20220729183735

Detta dokument är digitalt signerat genom Penneo.com. Den digitala signeringsdatan i dokumentet är säkrad och validerad genom det datorgenererade hashvärdet hos det originella dokumentet. Dokumentet är låst och tidsstämplat med ett certifikat från en betrodd tredje part. All kryptografisk information är innesluten i denna PDF, för framtida validering om så krävs.

Hur man verifierar originaliteten hos dokumentet
Detta dokument är skyddat genom ett Adobe CDS certifikat. När du öppnar dokumentet i Adobe Reader bör du se att dokumentet är certifierat med **Penneo e-signature service <penneo@penneo.com>** Detta garanterar att dokumentets innehåll inte har ändrats.

Du kan verifiera den kryptografiska informationen i dokumentet genom att använda Penneos validator, som finns på **https://penneo.com/validate**

2021
ANNUAL REPORT

Relentlessly advancing
life-changing science

Avantor 2021

We serve customers across three geographic regions, in four end markets:

Biopharma	Advanced Technologies & Applied Materials	Education & Government	Healthcare

FULL YEAR

		57% of revenue	Organic revenue growth
Organic revenue growth	Adjusted EBITDA margin expansion		
		37% of revenue	Organic revenue growth
Adjusted EPS growth	Free cash flow		
		6% of revenue	Organic revenue growth

See "Reconciliations of non-GAAP measures" in our annual report on Form 10-K for a discussion and calculation of non-GAAP measures.
[2] See "Non-GAAP Financial Measures" for a discussion and a calculation of non-GAAP measures.
[3] Based on management estimates.
[4] Based on FY 2021 results.
[5] Management estimate based on pipeline value Jan. 2020 vs. Dec. 2021.
[6] Management estimate based on open order value Dec. 2019 vs. Dec. 2021.
[7] Absolute reduction of scope 1 and scope 2 greenhouse gas emissions vs. 2019 baseline.

avantor™ avantorsciences.com

Well-positioned for growth

Extensive regulatory expertise

750+

Master Access Files

>$80B

total addressable market[3]

Broad portfolio – over

6M

products and services

>55%

of revenue from proprietary content

Global footprint offers extraordinary customer access

15%

GHG target reduction[7]

Bioproduction comprises

40%

of Biopharma revenue[4]

Global scale– serving over

225K

customer locations

~5X

increase in innovation pipeline[5]

>$4B

deployed for M&A in 2021

5X

increase in open orders since 2019[6]

>50%

of revenue from Biopharma

No single customer represents more than

4%

of our revenue

avantorsciences.com

avantor™

A message

President and Chief Executive Officer

Advancements in science are empowering society to treat some of the most challenging diseases that we face. The potential to achieve scientific breakthroughs has never been greater – and Avantor will continue to play a critical role.

At Avantor, everything that we do is tied to our unique mission of setting science in motion to create a better world. Our business model is grounded in supporting our customers from discovery to delivery, and we are embedded in virtually every stage of the most important research, scale-up, and manufacturing activities in the industries that we serve.

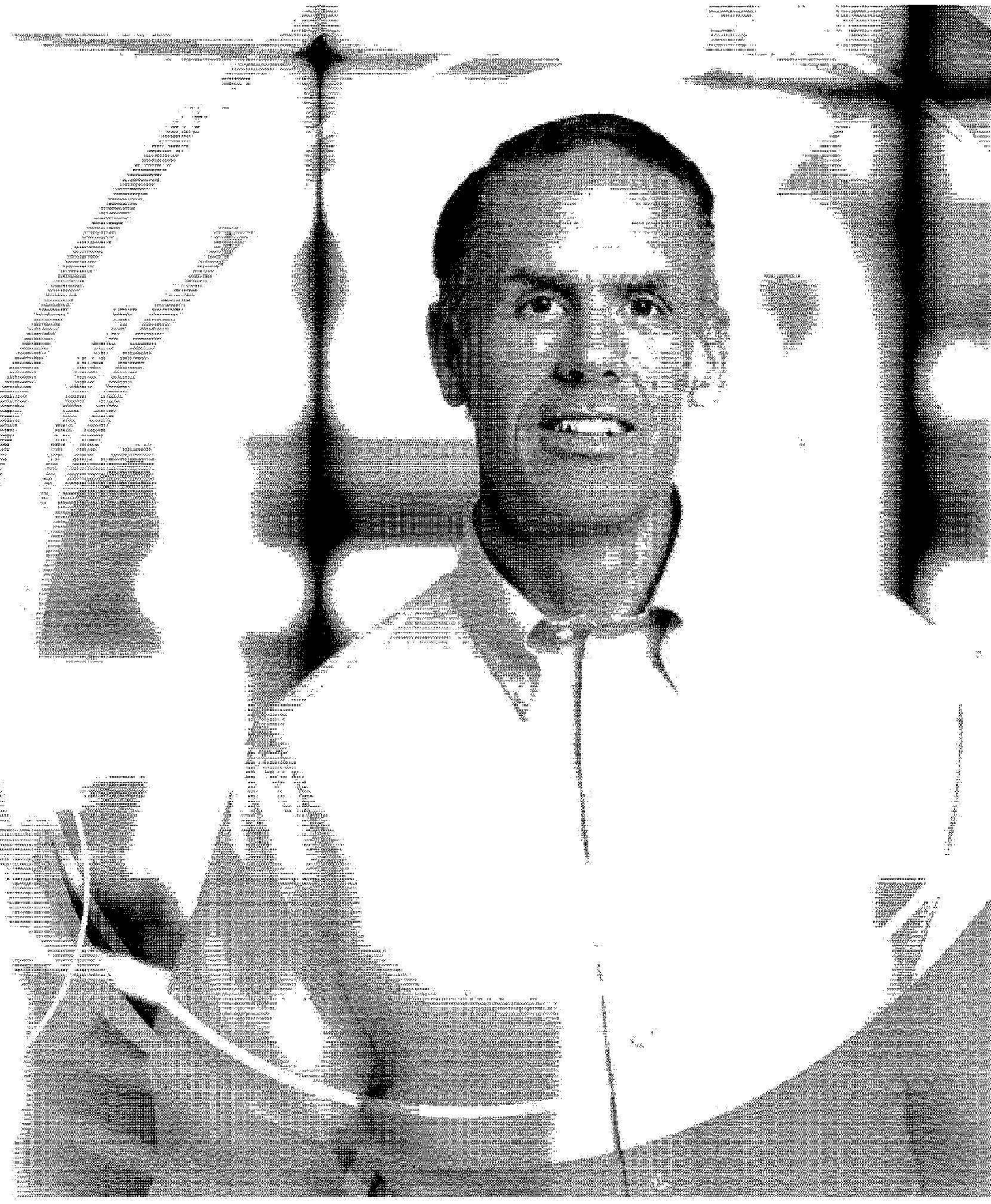
We leverage our comprehensive offering and access to early-stage research to seed content and solutions that are ultimately specified into our customers' approved production platforms. We support our customers every step of the way with our broad portfolio of products and services, customer-centric innovation model, and world-class supply chain. That's how Avantor keeps life-changing science moving forward.

Despite the challenging operating environment in 2021, we extended our track record of execution with another great year highlighted by 11.3% organic revenue growth. Compared to our initial guidance, we doubled organic revenue growth and adjusted EPS growth, and nearly quadrupled Adjusted EBITDA margin expansion. The Avantor Business System is the foundation of our ability to execute, and over the last several years, it has enabled us to transform our business, achieve significant strategic milestones, and deliver outstanding results.

In 2021, we completed several investments in our supply chain to increase capacity and expand our footprint to support our continued growth; and we have several more expansions planned for 2022. One area of specific emphasis has been scaling our single-use platform that now comprises approximately 45% of our bioproduction revenue, compared to just 20% in 2017. This platform is expected to grow more than 20% annually, and with the recent acquisitions of RIM Bio and Masterflex we now offer a differentiated end-to-end, single-use fluid management solution.

M&A was prominent in 2021, as we deployed more than $4 billion in closing three acquisitions with growth and margin profiles that are approximately two times higher than the existing Avantor portfolio. Given our extraordinary customer access, strong free cash flow, and track record of integration, we serve as a natural aggregator of differentiated life sciences technologies. Through 2025, we expect to have more than $8 billion of M&A capacity to strengthen our offering in areas such as bioproduction, high growth research workflows, and clinical services, while managing our balance sheet within our target leverage range of 2-4 times Adjusted EBITDA.

I am encouraged by the momentum we have in our four end markets. Our differentiated value proposition and strong industry fundamentals position us well for



continued growth, especially in biopharma where we derive more than half of our revenue. Our ability to serve our customers from early-phase discovery to delivery enables us to capture benefits throughout the integrated drug development and commercialization process. Importantly, bioproduction now comprises more than 40% of our biopharma revenue and our broad range of cGMP materials, including high purity process ingredients, single-use fluid management solutions, highly characterized chromatography resins, and custom excipients, positions us to capture opportunities across all modalities – monoclonal antibodies, cell and gene therapy, and mRNA.

We recognize our immense responsibility to our Avantor investors, associates, customers, suppliers, lenders, and the communities we serve. We made significant progress in 2021 advancing sustainability initiatives, including the release of our inaugural sustainability report, and are committed to progressing our Science for Goodness platform. We look forward to sharing more exciting developments in our 2022 sustainability report.

We have a passion for science, for working hand in hand with the world's leading researchers and scientists, and for solving complex problems. We have demonstrated that we can execute and are well-positioned for long-term growth. I am extremely proud of our more than 13,500 associates around the world who passionately live our values and serve our customers, and I am confident in our outlook for 2022 and beyond. I hope you're as excited about Avantor's future as I am. Thank you for being part of our journey.

(in millions)	2021	2020
Diluted earnings (loss) per share (GAAP)	$ 0.85	$ 0.09
Dilutive impact of convertible instruments	0.04	0.09
Normalization*	—	—
Fully diluted earnings (loss) per share (non-GAAP)	0.89	0.18
Amortization	0.45	0.48
Loss on extinguishment of debt	0.03	0.54
Net foreign currency loss (gain) from financing activities	—	—
Other stock-based compensation expense	—	—
Acquisition-related expenses	0.12	—
Integration-related expenses	0.03	0.02
Purchase accounting adjustments	0.01	—
Restructuring and severance charges	—	0.01
Receipt of disgorgement penalty	(0.02)	—
Other	—	0.01
Income tax benefit applicable to pretax adjustments	(0.10)	(0.35)
Adjusted EPS (non-GAAP)	$ 1.41	$ 0.89
Weighted average share count (GAAP):		
Diluted (GAAP)	599.6	583.4
Incremental shares excluded for GAAP	62.9	62.9
Normalization for shares issued in IPO	(19.8)	(3.6)
Share count for Adjusted EPS (non-GAAP)	642.7	642.7

* Adjusted EPS reflects the share count of 642.7, the proforma fully diluted share count that was determined immediately following our May 2019 initial public offering. That share count assumes the Mandatory Convertible Preferred Stock is converted at the lowest conversion ratio and does not reflect the vesting or exercise of any stock-based awards following the IPO or the incremental shares issued in secondary offerings.

Forward-Looking Statements

See "Cautionary factors regarding forward-looking statements" and "Item 1A: Risk Factors" in the enclosed annual report on Form 10-K for a discussion of risks and uncertainties relating to the forward-looking statements contained herein. Such statements speak only as of the date of this Annual Report and, except to the extent required by applicable law, the Company does not assume any obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

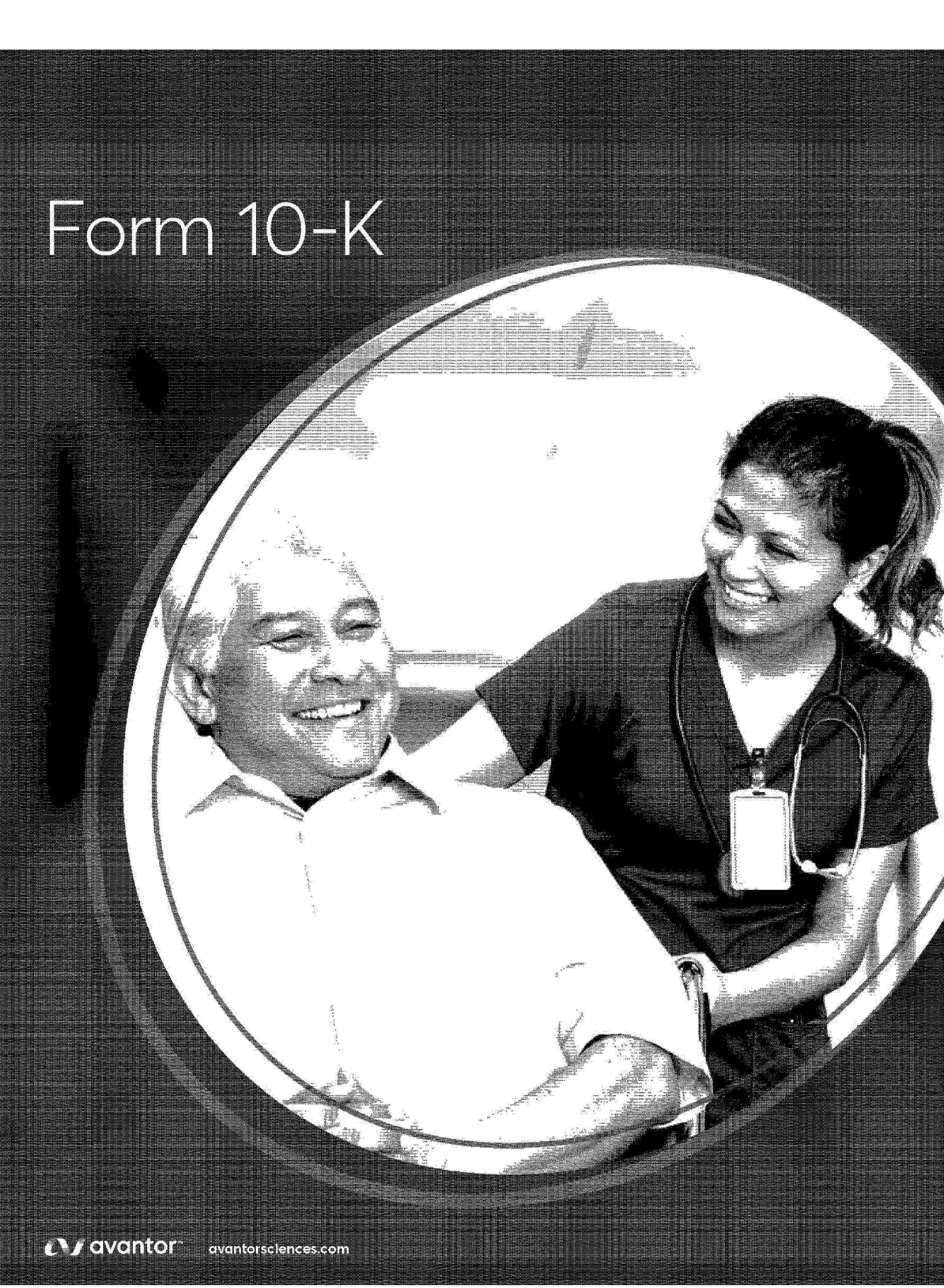
Non-GAAP Financial Measures

As appropriate, we supplement our results of operations determined in accordance with U.S. generally accepted accounting principles ("GAAP") with certain non-GAAP financial measurements that are used by management, and which we believe are useful to investors, as supplemental operational measurements to evaluate our financial performance.

These measurements should not be considered in isolation or as a substitute for reported GAAP results because they may include or exclude certain items as compared to similar GAAP-based measurements, and such measurements may not be comparable to similarly titled measurements reported by other companies. Rather, these measurements should be considered as an additional way of viewing aspects of our operations that provide a more complete understanding of our business. We strongly encourage investors to review our consolidated financial statements in their entirety and not rely solely on any one, single financial measurement.

[THIS PAGE INTENTIONALLY LEFT BLANK]

Form 10-K



avantor™ avantorsciences.com

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2021

☐ 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: **001-38912**

Avantor, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**82-2758923**
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

Radnor Corporate Center, Building One, Suite 200
100 Matsonford Road
Radnor, Pennsylvania 19087

(Address of principal executive offices) (zip code)

610 386-1700

(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol	Exchange on which registered
Common stock, $0.01 par value	**AVTR**	**New York Stock Exchange**
6.250% Series A Mandatory Convertible Preferred Stock, $0.01 par value	**AVTR PRA**	**New York Stock Exchange**

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, a 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

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. ☒

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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ Yes ☒ No

The aggregate market value of common stock held by our non-affiliates at June 30, 2021 was $20,730,129,607.

On January 28, 2022, 609,968,096 shares of common stock, $0.01 par value per share, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of our definitive proxy statement for our 2022 annual meeting of stockholders will be filed with the SEC on or before 120 days after our 2021 fiscal year-end and are incorporated by reference into Part III of this report.

Avantor, Inc. and subsidiaries
Form 10-K for the fiscal year ended December 31, 2021
Table of contents

		Page
Glossary		i
Cautionary factors regarding forward-looking statements		iv
	PART I	
Item 1.	Business	1
Item 1A.	Risk factors	9
Item 1B.	Unresolved staff comments	23
Item 2.	Properties	23
Item 3.	Legal proceedings	26
Item 4.	Mine safety disclosures	26
	Information about our executive officers	27
	PART II	
Item 5.	Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities	29
Item 6.	Reserved	31
Item 7.	Management's discussion and analysis of financial condition and results of operations	31
Item 7A.	Quantitative and qualitative disclosures about market risk	45
Item 8.	Financial statements and supplementary data	46
Item 9.	Changes in and disagreements with accountants on accounting and financial disclosure	46
Item 9A.	Controls and procedures	47
Item 9B.	Other information	49
Item 9C.	Disclosure regarding foreign jurisdictions that prevent inspections	49
	PART III	
Item 10.	Directors, executive officers and corporate governance	49
Item 11.	Executive compensation	49
Item 12.	Security ownership of certain beneficial owners and management and related stockholder matters	49
Item 13.	Certain relationships and related transactions, and director independence	50
Item 14.	Principal accountant fees and services	50
	PART IV	
Item 15.	Exhibits and financial statement schedules	50
Item 16.	Form 10-K summary	55

Glossary

	Description
we, us, our	Avantor, Inc. and its subsidiaries
2019 Plan	the Avantor, Inc. 2019 Equity Incentive Plan, a stock-based compensation plan
Adjusted EBITDA	our earnings or loss before interest, taxes, depreciation, amortization and certain other adjustments
AMEA	Asia, Middle-East and Africa
AOCI	accumulated other comprehensive income or loss
BIS	the Bureau of Industry and Security
CERCLA	the Comprehensive Environmental Response Compensation and Liability Act
cGMP	Current Good Manufacturing Practice
COVID-19	Coronavirus disease of 2019
double-digit	greater than 10%
DDTC	Directorate of Defense Trade controls
DEA	Drug Enforcement Administration
DHHS	Department of Health and Human Service
EMA	European Medicines Agency
EPA	the U.S. Environmental Protection Agency
ERP	enterprise resource planning system
EU	European Union
EURIBOR	the basic rate of interest used in lending between banks on the European Union interbank market
FASB	the Financial Accounting Standards Board of the United States
FCPA	the United States Foreign Corrupt Practices Act
FDA	United States Food and Drug Administration
GAAP	United States generally accepted accounting principles
GDPR	the General Data Protection Regulation
Goldman Sachs	an investment banking firm and its affiliates
high single-digit	7 - 9%
ICH Q7	the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use - Good Manufacturing Practice Guidance for Active Pharmaceutical Ingredients
IPO	initial public offering

	Description
ISO	International Organization for Standardization or international equivalents
ITAR	the International Traffic In Arms Regulations
JCPS	Junior Convertible Preferred Stock
LIBOR	the basic rate of interest used in lending between banks on the London interbank market
Long Term	period other than Short Term
low single-digit	1 - 3%
M&A	Mergers and Acquisitions
MCPS	6.250% Series A Mandatory Convertible Preferred Stock
mid single-digit	4 - 6%
NAV	Net Asset Value
New Mountain Capital	a private equity investor and its affiliates
NuSil	NuSil Acquisition Corp, NuSil Investments LLC and subsidiaries, a business organization with which we merged in 2016
NuSil Investors	NuSil LLC and NuSil 2.0 LLC, former owners of NuSil that are controlled by its former management
NYSE	the New York Stock Exchange
OEM	original engineering manufacturers
OFAC	the U.S. Department of The Treasury's Office of Foreign Assets Control
OSHA	the U.S. Occupational Safety & Health Administration
PPE	personal protective equipment
PSP Investments	a pension investment manager and its affiliates
RSU	restricted stock unit
SAR	stand alone appreciation right
SEC	the United States Securities and Exchange Commission
SG&A expenses	selling, general and administrative expenses
Short Term	period less than a year from the reporting date
specialty procurement	product sales related to customer procurement services
VWR	VWR Corporation and its subsidiaries, a company we acquired in November 2017

Cautionary factors regarding forward-looking statements

This report contains forward-looking statements. All statements other than statements of historical fact included in this report are forward-looking statements. Forward-looking statements discuss our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business. These statements may be preceded by, followed by or include the words "aim," "anticipate," "believe," "estimate," "expect," "forecast," "intend," "likely," "outlook," "plan," "potential," "project," "projection," "seek," "can," "could," "may," "should," "would," "will," the negatives thereof and other words and terms of similar meaning.

Forward-looking statements are inherently subject to risks, uncertainties and assumptions; they are not guarantees of performance. You should not place undue reliance on these statements. We have based these forward-looking statements on our current expectations and projections about future events. Although we believe that our assumptions made in connection with the forward-looking statements are reasonable, we cannot assure you that the assumptions and expectations will prove to be correct.

You should understand that the following important factors, in addition to those discussed under Item 1A, "Risk Factors," could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in our forward-looking statements:

- disruptions to our operations;
- competition from other industry providers;
- our ability to implement our growth strategy;
- our ability to anticipate and respond to changing industry trends;
- adverse trends in consumer, business, and government spending;
- our dependence on sole or limited sources for some essential materials and components;
- our ability to successfully value and integrate acquired businesses;
- our products' satisfaction of applicable quality criteria, specifications and performance standards;
- our ability to maintain our relationships with key customers;
- our ability to maintain our relationships with distributors;
- our ability to maintain consistent purchase volumes under purchase orders;
- our ability to maintain and develop relationships with drug manufacturers and contract manufacturing organizations;
- the impact of new laws, regulations, or other industry standards;
- changes in the interest rate environment that increase interest on our borrowings;

- adverse impacts from currency exchange rates or currency controls imposed by any government in major areas where we operate or otherwise;
- our ability to implement and improve processing systems and prevent a compromise of our information systems;
- our ability to protect our intellectual property and avoid third-party infringement claims;
- exposure to product liability and other claims in the ordinary course of business;
- our ability to develop new products responsive to the markets we serve;
- the availability of raw materials;
- our ability to source certain of our products from certain suppliers;
- our ability to contain costs in an inflationary environment;
- our ability to avoid negative outcomes related to the use of chemicals;
- our ability to maintain highly skilled employees;
- our ability to maintain a competitive workforce;
- adverse impact of impairment charges on our goodwill and other intangible assets;
- fluctuations and uncertainties related to doing business outside the United States;
- our ability to obtain and maintain required regulatory clearances or approvals may constrain the commercialization of submitted products;
- our ability to comply with environmental, health and safety laws and regulations, or the impact of any liability or obligation imposed under such laws or regulations;
- our indebtedness could adversely affect our financial condition and prevent us from fulfilling our debt or contractual obligations;
- our ability to generate sufficient cash flows or access sufficient additional capital to meet our debt obligations or to fund our other liquidity needs; and
- our ability to maintain an adequate system of internal control over financial reporting.

All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the foregoing cautionary statements. In addition, all forward-looking statements speak only as of the date of this report. We undertake no obligations to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise other than as required under the federal securities laws.

[THIS PAGE INTENTIONALLY LEFT BLANK]

PART I

Item 1. Business

Everything we do is tied to our mission of setting science in motion to create a better world. As a global life sciences leader, we keep life-changing science moving forward.

We are a leading global provider of mission-critical products and services to customers in the biopharma, healthcare, education & government, and advanced technologies & applied materials industries. Our business model is grounded in supporting our customers from breakthrough discovery to agile delivery and Avantor is embedded in virtually every stage of the most important research, scale-up and manufacturing activities in the industries we serve.

We serve as a one-stop shop, providing scientists all they need to conduct their research: materials & consumables, equipment & instrumentation and services & specialty procurement. Our customer-centric innovation model enables us to provide solutions for some of the most demanding applications, and we leverage our comprehensive offering and access to early-stage research to seek content and solutions that ultimately become specified into our customers' approved production platforms. Our broad portfolio of products and services, fully integrated business model and world class supply chain enable us to support our customers' journey every step of the way.

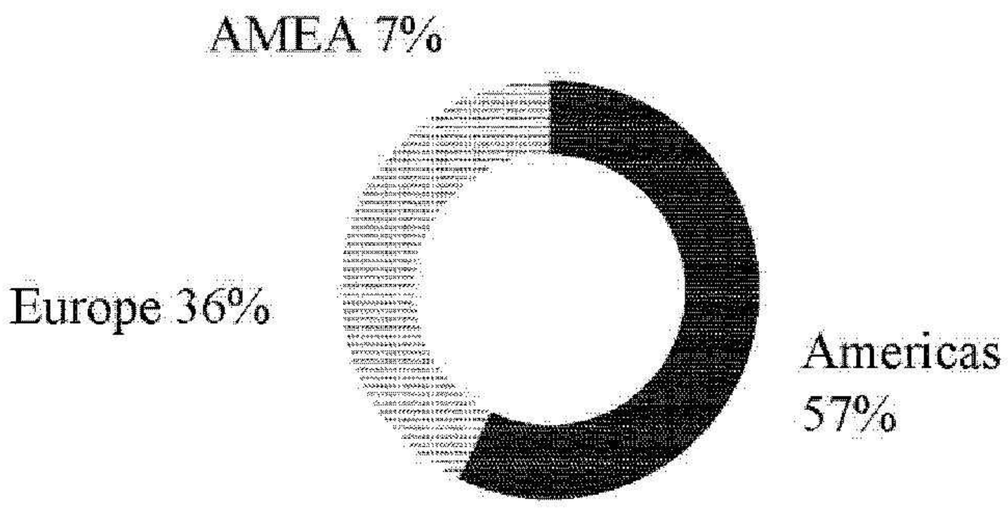
We have a number of distinctive capabilities that set Avantor apart from other companies in our space. For example, our global footprint offers extraordinary customer access, enabling us to serve more than 225,000 customer locations in more than 180 countries around the world.

Our 117-year legacy began in 1904 with the founding of the J.T. Baker Chemical Company. In 2010, we were acquired by New Mountain Capital from Covidien plc. Since then, we have expanded through a series of large acquisitions across the globe. In 2016, we merged with NuSil, a leading supplier of high-purity silicone products for the medical device and aerospace industries that was founded in 1985. In 2017, we acquired VWR, a global manufacturer and distributor of laboratory and production products and services founded in 1852 that now serves as our e-commerce platform for our customers. In June 2021, we acquired RIM Bio, a leading China-based manufacturer of single-use bioprocess bags and assemblies for biopharmaceutical manufacturing applications. That same month, we also acquired Ritter GmbH and its affiliates, a fast growing manufacturer of high-quality robotic and liquid handling consumables used in a variety of molecular screening and diagnostic applications. In November 2021, we acquired the Masterflex bioprocessing business of Antylia Scientific. Masterflex is a leading global manufacturer of peristaltic pumps and aseptic single-use fluid transfer technologies.

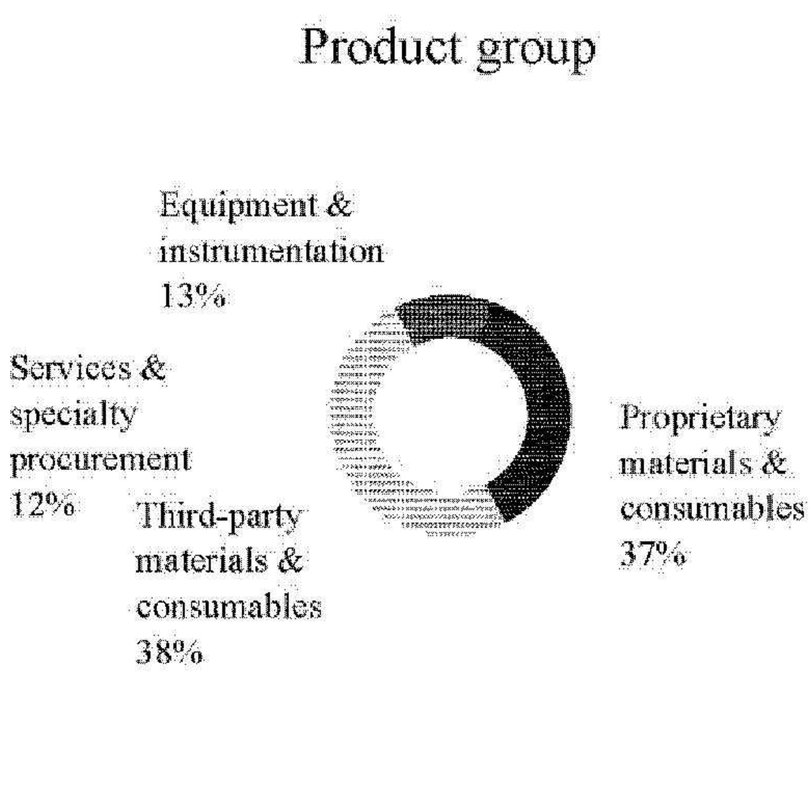
Avantor, Inc. was incorporated in Delaware in May 2017 in anticipation of the VWR acquisition. We completed our initial public offering through Avantor, Inc. and listed its shares on the New York Stock Exchange in May 2019.

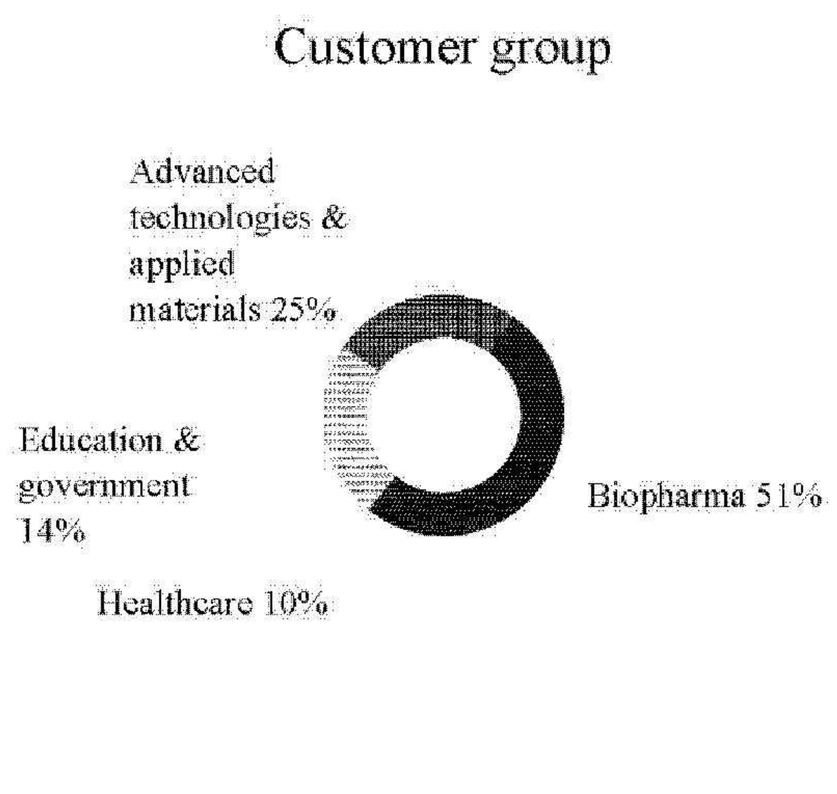
Business segments

We report financial results in three geographic segments based on customer location: the Americas, Europe and AMEA. The following chart presents the approximate mix of net sales for each of those segments during 2021:



Within each of our geographic segments, we sell materials & consumables, equipment & instrumentation and services & specialty procurement to customers in the biopharma, healthcare, education & government and advanced technologies & applied materials industries. We work with customers across these sophisticated, science-driven industries that require innovation and adherence to the most demanding technical and regulatory requirements. The following charts present the approximate mix of net sales for each of these groups during 2021:





Products and services

Our portfolio includes a comprehensive range of products and services that allows us to create customized and integrated solutions for our customers. These products and services enable our customers to achieve precise analytical results in their research, diagnostic, and quality assurance and quality control activities. Approximately 85% of our net sales were from product and service offerings that we consider to be recurring in nature. Our products and services are as follows:

- *Materials & consumables* include ultra-high purity chemicals and reagents, lab products and supplies, highly specialized formulated silicone materials, customized excipients, customized single-use assemblies, process chromatography resins and columns, analytical sample prep kits and education and microbiology and clinical trial kits, peristaltic pumps and fluid handling tips. Some of these are proprietary products that we make while others are produced by third parties;

- *Equipment & instrumentation* include filtration systems, virus inactivation systems, incubators, analytical instruments, evaporators, ultra-low-temperature freezers, biological safety cabinets and critical environment supplies; and

- *Services & specialty procurement* include onsite lab and production, clinical, equipment, procurement and sourcing and biopharmaceutical material scale-up and development services.

In aggregate, we provide approximately six million products and services, including high value specialty products developed to exacting purity and performance specifications. Our proprietary brands have been specified and trusted for decades. Our e-commerce platform makes it easy for customers to do business with us and enables digital marketing efforts that position us to capture new demand. All of our capabilities are underpinned by our Avantor Business System which drives execution and continuous improvement. We manufacture products that meet or exceed the demanding requirements of our customers across a number of highly-regulated industries. Our high-purity and ultra-high purity products, such as our J.T.Baker brand chemicals, are trusted by life sciences and electronic materials customers around the world and can be manufactured at purity levels as stringent as one part-per-trillion. Similarly, our NuSil brand of high-purity, customized silicones has been trusted for more than thirty years by leading medical device manufacturers and aerospace companies.

Each day, our onsite service associates work side-by-side with our customers to support their workflows. Our traditional service offerings focus on the needs of laboratory scientists and include procurement, logistics, chemical and equipment tracking and glassware autoclaving. In addition, we offer more complex and value-added scientific research support services such as DNA extraction, bioreactor servicing, clinical and biorepository services and compound management. We deliver these services in part through over 1,600 associates who are co-located with customers, working side-by-side with their scientists every day.

Customers

We benefit from longstanding customer relationships, and approximately 38% of our 2021 net sales came from customers that have had relationships with us for 15 years or more. We also have a diverse customer base with no single end customer comprising more than 4% of net sales.

Suppliers

We sell proprietary products we make and third-party products sourced from a wide variety of product suppliers located across the globe. Our supplier relationships are based on contracts that vary in geographic scope, duration, product and service type, and some include exclusivity provisions. Those relationships may include distribution, sales and marketing support as well as servicing of instruments and equipment. Many of our supplier relationships have been in place for more than twenty years.

Sales channels

We reach our customers throughout the Americas, Europe and AMEA via a well-trained global sales force, comprehensive websites and targeted catalogs. Our sales force is comprised of approximately 3,700 sales and sales support professionals, including over 180 sales specialists selected for their in-depth industry and product knowledge. Our sales professionals include native speakers for each of the countries in which we operate, allowing us to have high impact interactions with our customers across the globe.

Our e-commerce platform plays a vital role in how we conduct business with our customers. In 2021, approximately 73% of our transactions came from our digital channels. Our websites utilize search analytics and feature personalized search tools, customer specific web solutions and enhanced data that optimize our customers' online purchasing experience and better integrate our customers' processes with our own. Our websites are designed to integrate acquisitions, drive geographical expansion and serve segmented market needs with ease.

Infrastructure

We have more than 200 facilities strategically located throughout the globe that include manufacturing, distribution, service, research & technology and sales centers.

We operate over 30 global manufacturing facilities, including 16 facilities that are cGMP compliant and 13 facilities that have been registered with the FDA or comparable foreign regulatory authorities. Our facilities are strategically located in North America, Europe and the AMEA region to facilitate supply chain efficiency and proximity to customers. Our manufacturing capabilities include: (i) an ability to quickly change specifications depending on customer needs; (ii) our flexible unit operations, which allow for production scalability, from laboratory pre-clinical development to large-volume commercialization; (iii) proprietary purification technologies designed to ensure lot-to-lot consistency through ultra-low impurity levels; (iv) rigorous analytical quality control testing; and (v) robust regulatory and quality control procedures. Our global network of distribution centers gives our customers security of supply and real-time flexibility, as we can reach the majority of them within 24 hours. We also have 12 innovation centers that enable extensive collaboration and customization, critical elements for serving highly regulated, specification-driven applications.

Information technology

We have a highly automated suite of ERP systems that promote standardization and provide business insight. Our global web infrastructure provides seamless integration with our customers and suppliers. These ERP platforms support rapid development and deployment of enhancements so that we may quickly adapt to meet the technology needs of our customers and seamlessly integrate new acquisitions. We have made significant investments to implement common ERP and online platforms that enhance the customer experience and employ network and data security architecture.

Competition

We operate in a highly competitive environment with a diverse and fragmented base of competitors, many of whom focus on specific regions, customers, and/or segments. We focus on service and delivery, breadth of product line, customization capabilities, price, customer support, online capabilities and the ability to meet the special and local needs of our customers.

Competition is driven not only by the product quality and purity across industries we serve, but also by the adaptability of the supplier as a developmental and commercial partner. We rely on our scale, expertise, deep customer access, depth of product and value-added service offerings, marketing strategies and sales force, acquisition strategy, financial profile and management team to deliver superior solutions to our customers and provide extensive market channel access to our suppliers.

Sustainability

Our responsibility to improve the world through science is not one that we take lightly. We are committed to measurable sustainability actions that will create a positive impact on the environment and society. Our Science for Goodness sustainability platform enhances our framework for creating long-term value by embedding sound environmental, social and governance practices into our business strategy. The platform also enables us to continually measure and report progress against four key commitment pillars. We have aligned our pillars with several of the United Nations Sustainable Development Goals where we believe we can have a positive impact for our business and stakeholders.

By providing sustainable products and services as well as transparent information and reporting, we also strive to support our customers in achieving their sustainability goals. Our sustainability is reflected in our people, the products we create, the transformative services we provide, and the integrity with which we serve our shareholders, business partners, suppliers, customers, and communities. We are deeply committed to our global sustainability efforts and keenly aware of the work ahead of us in this area.

Employees and human capital resources

Our success depends on our ability to attract, retain and motivate highly qualified and diverse talent. As of December 31, 2021, we had approximately 13,500 employees located in over 30 different countries in a variety of roles. Approximately 5,850 of our associates were employed in the United States, and the remainder were employed outside of the United States. We believe that our relations with our employees are good. As of December 31, 2021, approximately 6% of our employees in North America were represented by unions, and a majority of our employees in Europe were represented by workers' councils or unions. We compete in the highly competitive life sciences industry. Attracting, developing and retaining talented people in technical, marketing, sales, research and other positions is crucial to executing our strategy and our ability to compete effectively. Our ability to recruit and retain such talent depends on a number of factors, including a positive work environment and culture, compensation and benefits, talent development and career growth and opportunities, and protecting the health, safety and well-being of our associates. To that end, we invest in our associates in order to be an employer of choice with limitless opportunity.

Avantor 2021 Workforce

Our associates reflect the communities in which we live and work, the customers we serve, and possess a broad range of thought and experiences that have helped Avantor achieve our goal of setting science in motion to create a better world.

People & culture

Our values give our associates a foundation for how we want to work together. Innovation, Customer-centricity, Accountability, Respect, and Excellence are the building blocks of our company culture and send a strong message to our associates, customers, suppliers, stockholders and communities: ICARE. In addition, our executive leaders serve as sponsors of our associate-centric teams (ACTs) in support of our diversity and inclusion initiatives. ACTs are employee resource groups that bring associates together and foster inclusion based on common interests, backgrounds and characteristics.

Compensation and benefits

We are committed to rewarding, supporting and developing the associates who make it possible to deliver on our strategy. To that end, we offer a comprehensive total rewards program aimed at the varying health, home-life and financial needs of our diverse and global associates. Our total rewards package includes market-competitive pay, broad-based stock grants and bonuses, healthcare benefits, retirement savings plans, an employee stock purchase plan, paid time off and family leave, flexible work schedules, access to wellness programs, free physicals and flu vaccinations, and an Employee Assistance Program and other mental health services.

Growth and development

We invest significant resources to develop talent with the right capabilities to deliver the growth and innovation needed to support our strategy. We offer associates and their managers a number of tools to help in their personal and professional development, including career development plans, mentoring programs and in-house learning opportunities. These programs are underpinned by the Avantor Business System, which drives excellence in people, processes and problem solving. These consistent lean leadership practices empower associates to continuously improve and add value to our operations and customer solutions. We have aligned our performance management system through which 100% of our associates receive annual performance reviews, to support our culture of feedback to increase the focus on continuous learning and development.

Health, safety and well-being

We are committed to protecting the health, safety and well-being of our associates. Our approach involves environment, health and safety professionals and process engineers who identify risks and implement behavioral solutions to prevent accidents before they occur. A robust auditing program is in place at every facility to ensure that we measure performance and drive continuous improvement. Our core areas of focus include compliance with regulatory and international requirements, active monitoring of regulatory agencies for changing requirements, partnering with operational leaders to meet Environment, Health & Safety (EH&S) requirements, and promoting effective communication throughout the organization.

Impact of COVID-19

The evolving COVID-19 pandemic had a significant impact on our human capital management in 2021, and we continued to be vigilant in our response by following precautionary safety guidance from credible health agencies such as the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC) and European Centre for Disease Prevention and Control (ECDC). A majority of our workforce worked remotely during some portion of the year. In our facilities where essential workers continued to work on-site, we continued or enhanced safety protocols and procedures to mitigate the spread of COVID-19. In addition, we offered associates a number of expanded benefits, including

providing up to 10 additional days of paid time off if required to quarantine or otherwise experiencing symptoms of COVID-19, expanding access to no cost individual counseling sessions and virtual support groups under our employee assistance programs, hosting virtual wellness events and waiving telemedicine co-pays for all visits in 2021. Despite the effects of the pandemic, the size of our workforce remained steady in 2021 and we were able to avert employee layoffs related to the pandemic.

Intellectual property

We rely on intellectual property rights, nondisclosure and other contractual provisions and technical measures to protect our offerings, services and intangible assets. Much of our intellectual property is know-how and asset configurations that we treat as trade secrets. These proprietary rights are important to our ongoing operations. In some instances, we may license our technology to third parties or may elect to license intellectual property from others. We have applied in the United States and certain foreign countries for registration of a number of trademarks, service marks and patents, some of which have been registered and issued. We also hold common law rights in various trademarks and service marks. Other than our Avantor, VWR, J.T.Baker, NuSil and Masterflex trademarks, we do not consider any particular patent, trademark, license, franchise or concession to be material to our overall business.

Seasonality

Our business is not seasonal, but some of our proprietary products have exhibited cyclical customer demand in prior periods. We believe that this is caused by factors unique to those particular product markets such as customer manufacturing schedules, inventory levels in the supply chain and government approval processes. As a result, we may see fluctuations across periods as the timing of our customers' demand for these products may change.

Government contracts

We conduct business with various government agencies and government contractors. As such, we are subject to certain laws and regulations applicable to companies doing business with the government, as well as with those concerning government contracts. Failure to address or comply with these laws and regulations could harm our business by leading to a renegotiation of profits or termination of the contract at the election of the government agency. We believe we are in compliance in all material respects with such laws and regulations, and no government contract is of such a magnitude as to have a material adverse effect on our financial results.

Government regulation

Our facilities that engage in the manufacturing, packaging, distribution and other biopharmaceutical and biomaterials product lines, as well as many of our products themselves, are subject to extensive ongoing regulation by U.S. governmental authorities, the EMA and other global regulatory authorities. Certain of our subsidiaries are required to register with these agencies, or to apply for permits and/or licenses with, and must comply with the operating, cGMP, quality and security standards of applicable domestic and foreign regulators, including the FDA, the DEA, the Bureau of Alcohol, Tobacco, Firearms and Explosives, DHHS, the equivalent agencies of European Union member states, and comparable foreign, state and local agencies, as well as various accrediting bodies, each depending upon the type of operation and the locations of storage or sale of the products manufactured or services provided by those subsidiaries in the event of noncompliance.

In order to maintain certain certifications of quality and safety standards for our manufacturing facilities and operations, we must comply with numerous regulatory systems, standards, guidance and other requirements, as appropriate, including, but not limited to, ICH Q7, the guidelines of the International Pharmaceutical Excipients Council, European in vitro diagnostic medical device directives, United States Pharmacopeia / National Formulary, as well as the European, British, Japanese, Indian and Chinese Pharmacopeia, the Food Chemicals Codex and controlled substances regulations.

In addition, our operations, and some of the products we offer, are subject to a number of complex and stringent laws and regulations governing the production, handling, transportation and distribution of chemicals, drugs and other similar products. We are subject to various federal, state, local, foreign and transnational laws, regulations and recommendations, both in the United States and abroad, relating to safe working conditions, good laboratory and distribution practices, and the safe and proper use, transportation and disposal of hazardous or potentially hazardous substances. In addition, U.S. and international import and export laws and regulations, including those enforced by the U.S. Departments of Commerce, State and Treasury, OFAC and BIS, require us to abide by certain standards relating to the cross-border transit of finished goods, raw materials and supplies and the handling of related information. Our logistics activities must comply with the rules and regulations of the Department of Transportation, Department of Homeland Security, Department of Commerce, Department of Defense, and the Federal Aviation Administration and similar foreign agencies. We are also subject to various other laws and regulations concerning the conduct of our foreign operations, including the FCPA and other anti-bribery laws as well as laws pertaining to the accuracy of our internal books and records.

The costs associated with complying with the various applicable federal, state, local, foreign and transnational regulations could be significant, and the failure to comply with such legal requirements could have an adverse effect on our reputation, results of operations and financial condition. See Item 1A, "Risk factors—Risks related to regulation." We are subject to audits by the FDA and other similar foreign regulatory bodies. To date, we have had no instances of noncompliance that have had a material impact on our operations.

In addition to the regulations described above, as part of our aerospace and military offerings, we are registered with the DDTC as a manufacturer and exporter of goods controlled by ITAR, and we are subject to strict export control and prior approval requirements related to these goods. In connection with our NuSil brand products, we have one ITAR site registration and one ITAR product registration, and we maintain control systems which enable ITAR compliance. With respect to our electronics materials products, we adhere to applicable industry guidelines which set stringent quality criteria for our products, and we are subject to import and export regulations and other restrictions regarding the safe use of these products as well.

Environmental matters

We are subject to various laws and governmental regulations concerning environmental, safety and health matters, including employee safety and health, in the United States and other countries. U.S. federal environmental legislation that affects us includes the Toxic Substances Control Act, the Resource Conservation and Recovery Act, the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, and CERCLA. These laws and regulations govern, among other things, air emissions, wastewater discharges, the use, handling and disposal of hazardous substances and wastes, soil and groundwater contamination and the general health and safety of our associates and the communities in which we operate. We are also subject to regulation by OSHA concerning employee safety and health matters. The

EPA, OSHA, and other federal and foreign or local agencies have the authority to promulgate regulations that may impact our operations.

Under CERCLA, and analogous statutes in local and foreign jurisdictions, current and former owners and operators of contaminated land are strictly liable for the investigation and remediation of the land and for natural resource damages that may result from releases of hazardous substances at or from the property. Liability under CERCLA and analogous laws is strict, unlimited, joint, several, retroactive, may be imposed regardless of fault and may relate to historical activities or contamination not caused by the current owner or operator. It is possible that facilities that we acquire or have acquired may expose us to environmental liabilities associated with historical site conditions that have not yet been discovered.

In addition to the federal environmental laws that govern our operations, various states have been delegated certain authority under the aforementioned federal statutes as well as having authority over these matters under state laws. Many state and local governments have adopted environmental and employee safety and health laws and regulations, some of which are similar to federal requirements.

A number of our operations involve, in varying degrees, the handling, manufacturing, use or sale of substances that are or could be classified as toxic or hazardous materials within the meaning of applicable laws. Consequently, some risk of environmental harm is inherent in our operations and products, as it is with other companies engaged in similar businesses. For additional information about environmental matters, see note 13 to our audited financial statements beginning on page F-1 of this report.

Available information

We file or furnish annual, quarterly and current reports, proxy statements and other documents with or to the SEC. The public can obtain any documents that we file with or furnish to the SEC at www.sec.gov.

You may also access our press releases, financial information and reports filed with or furnished to the SEC through our own website at www.avantorsciences.com. Copies of any documents on our website may be obtained free of charge, and reports filed with or furnished to the SEC will be available as soon as reasonably practicable after they are filed with or furnished to the SEC. The information found on our website is not part of this or any other report filed with or furnished to the SEC.

Item 1A. Risk factors

Risks related to our business and our industry

The COVID-19 pandemic has adversely impacted, and continues to pose risks to, our business, operating results, cash flows and/or financial condition, the nature and extent of which could be material.

The COVID-19 pandemic has adversely affected global economies, financial markets and the overall environment in which we do business, and the extent to which it may impact our future results of operations and overall financial performance remains uncertain. Many countries including the United States implemented measures such as quarantine, shelter-in-place, curfew, travel and activity restrictions and similar isolation measures, including government orders and other restrictions on the conduct of business operations. These measures resulted in significant and unpredictable reductions or increases in demand for certain of our offerings. We experienced, and may again experience, a decline in sales activities and customer orders in certain elements of our businesses, including our education & government and healthcare customer groups. The COVID-19 pandemic has also impacted our supply

chain as we experienced disruptions or delays in shipments of certain raw materials used in the products we manufacture and in the finished goods that we sell globally. It is uncertain how materially COVID-19 will affect our global operations generally if these impacts persist, worsen or re-emerge over an extended period of time. Moreover, any actions we take in response to any improvements in conditions may also vary widely by geography and by business and will likely be made with incomplete information; pose the risk that such actions may prove to be premature, incorrect or insufficient; and could have a material, adverse impact on our business, operating results, cash flows and/or financial condition.

Further, in connection with the global outbreak and spread of COVID-19 and in an effort to increase the wider availability of needed medical and other supplies and products, we have been required to allocate certain products (for example pursuant to the U.S. Defense Production Act) in a way that adversely affects our regular operations and financial results, results in differential treatment of customers and/or adversely affects our reputation and customer relationships.

Due to changes in COVID-19 infection rates regionally, nationally and globally, rapidly changing governmental directives, public health challenges and economic disruption and the duration of the foregoing, the potential impact that COVID-19 could have on the other Risk Factors described in this "Risk Factors" section remains unclear.

We refer you to "Management's Discussion and Analysis of Financial Condition and Results of Operations" for a more detailed discussion of the potential impact of the COVID-19 pandemic and associated economic disruptions, and the actual operational and financial impacts that we have experienced to date.

Significant interruptions in our operations could harm our business, financial condition and results of operations.

Manufacturing, distribution, service and logistics problems can and do arise, and any such problems could have a significant impact on our operating results. Accordingly, any significant disruptions to the operations of our manufacturing or distribution centers or logistics providers for any reason, including labor relations issues, power interruptions, severe weather, fire or other circumstances beyond our control could cause our operating expenses to increase without coverage or compensation or seriously harm our ability to fulfill our customers' orders or deliver products on a timely basis, or both. We must also maintain sufficient production capacity in order to meet anticipated customer demand, which carries fixed costs that we may not be able to offset if orders slow, which would adversely affect our operating margins. If we are unable to manufacture our products consistently, in sufficient quantities, and on a timely basis, our net sales, gross margins and our other operating results will be materially and adversely affected. Prompt shipment of our products is also very important to our business. We have experienced problems, both as a result of the COVID-19 pandemic and otherwise with or delays in, our production, shipping and logistics capabilities that resulted in delays in our ability to ship finished products, and there can be no assurance that we will not encounter such problems in the future. If we experience significant delays in our manufacturing, shipping or logistics processes, we could damage our customer relationships, cause disruption to our customers and adversely affect our business, financial condition and operating results.

We compete in highly competitive markets. Failure to compete successfully could adversely affect our business, financial condition and results of operations.

We face competition across our products and the markets in which we operate. We compete on several fronts, both domestically and internationally, including competing with other companies that provide similar offerings. Competition is driven by proprietary technologies and know-how, capabilities, consistency of operational performance, quality, supply chain control, price, value and speed. Our competitors range from regional companies, which may be able to more quickly respond to customers' needs because of geographic proximity, to large multinational companies, which may have greater financial, marketing, operational and research and development resources than we do. Such greater resources may allow our competitors to respond more quickly with new, alternative or emerging technologies.

In addition, consolidation trends in the biopharma and healthcare industries have served to create fewer customer accounts and to concentrate purchasing decisions for some customers, resulting in increased pricing pressures. The entry into the market by manufacturers in low-cost manufacturing locations also creates increased pricing and competitive pressures, particularly in developing markets, which may impede our goal to grow in those markets. Failure to anticipate and respond to competitors' actions may adversely affect our results of operations and financial condition.

It may be difficult for us to implement our strategies for improving growth.

We plan to continue expanding our commercial sales operations and scope and complexity of our business both domestically and internationally, while maintaining our commercial operations and administrative activities. For example, we intend to pursue the following growth strategies: (i) increase integration of our products and services into customers' workflows; (ii) develop new products and services; (iii) expand in geographies expected to have outsized growth; (iv) continue to enhance our global online platform; (v) increase commercial excellence and operational efficiency to drive margin expansion; and (vi) pursue strategic acquisitions to expand our platform. However, our ability to manage our business and conduct our global operations while also pursuing the aforementioned growth strategies requires considerable management attention and resources and is subject to the challenges of supporting a rapidly growing business in an environment of multiple languages, cultures and customs, legal and regulatory systems, alternative dispute systems and commercial markets.

Our failure to implement these strategies in a cost-effective and timely manner could have an adverse effect on our business, results of operations and financial condition.

Part of our growth strategy is to pursue strategic acquisitions, which will subject us to a variety of risks that could harm our business.

As part of our business strategy, we intend to continue to review, pursue and complete selective acquisition opportunities. There can be no assurances that we will be able to complete suitable acquisitions for a variety of reasons, including the identification of, and competition for, acquisition targets, the need for regulatory approvals, the inability of the parties to agree to the structure or purchase price of the transaction and the inability to finance the transaction on commercially acceptable terms. In addition, any completed acquisition will subject us to a variety of other risks, including:

- acquisitions may have an adverse effect on our business relationships with existing or future suppliers and other business partners, in particular, to the extent we consummate acquisitions that vertically integrate portions of our business;

- we may assume substantial actual or contingent liabilities, known and unknown, including environmental liabilities;

- acquisitions may not meet our expectations of future financial performance;

- we may experience delays or reductions in realizing expected synergies;

- we may incur substantial unanticipated costs or encounter other problems associated with acquired businesses or devote time and capital investigating a potential acquisition and not complete the transaction;

- we may be unable to achieve our intended objectives for the transaction; and

- we may not be able to retain the key personnel, customers and suppliers of the acquired business.

These factors related to our acquisition strategy, among others, could have an adverse effect on our business, financial condition and results of operations.

The customers we serve have and will continue to experience significant industry-related changes that could adversely affect our business.

Many of the customers we serve have experienced significant industry-related changes in the last several years and are expected to continue to experience significant changes, including reductions in governmental payments for biopharmaceutical products, expirations of significant patents, adverse changes in legislation or regulations regarding the delivery or pricing of general healthcare services or mandated benefits, and increased requirements on quality. General industry changes include:

- development of large and sophisticated group purchasing organizations and on-line auction sites that increase competition for, and reduce spending on, laboratory products;

- consolidation of biopharmaceutical companies resulting in a rationalization of research expenditures;

- increased regulatory scrutiny over drug production requiring safer raw materials;

- customers' purchasing the products that we supply directly from our suppliers; and

- significant reductions in development and production activities.

Some of our customers have implemented, or may in the future implement, certain measures described above in an effort to control and reduce costs. The ability of our customers to develop new products to replace sales decreases attributable to expirations of significant patents, along with the impact of other past or potential future changes in the industries we serve, may result in our customers significantly reducing their purchases of products from us or the prices they are willing to pay for those products. While we believe we are able to adapt our business to maintain existing customer relationships and develop new customer relationships, if we are unsuccessful or untimely in these efforts, our results of operations may suffer.

Our offerings are highly complex, and, if our products do not satisfy applicable quality criteria, specifications and performance standards, we could experience lost sales, delayed or reduced market acceptance of our products, increased costs and damage to our reputation.

The high-purity materials and customized solutions we offer are highly exacting and complex due to demanding customer specifications and stringent regulatory and industry requirements. Our operating results depend on our ability to execute and, when necessary, improve our global quality control systems, including our ability to effectively train and maintain our employees with respect to quality control. A failure of our global quality control systems could result in problems with facility operations or preparation or provision of defective or non-compliant products. Nearly all of our products are subsequently incorporated into products sold to end users by our customers, and we have no control over the manufacture and production of such products.

Our success depends on our customers' confidence that we can provide reliable, high-quality products. We believe that customers in our target markets are likely to be particularly sensitive to product defects and errors. Our reputation and the public image of our products and technologies may be impaired if our products fail to perform as expected or fail to meet applicable quality criteria, specifications or performance standards. If our products experience, or are perceived to experience, a material defect or error, this could result in loss or delay of net sales, damaged reputation, diversion of development resources, and increased insurance or warranty costs, any of which could harm our business.

The loss of a significant number of customers or a reduction in orders from a significant number of customers could reduce our net sales and harm our operating results.

Our operating results could be negatively affected by the loss of revenue from a significant number of our customers, including direct distributors and end users. Though we often include pricing and volume incentives in our contracts, our customers are generally not obligated to purchase any fixed quantities of products, and they may stop placing orders with us at any time. If a significant number of customers purchase fewer of our products, defer orders or fail to place additional orders with us, our sales could decline, and our operating results may not meet our expectations. In addition, if those customers order our products, but fail to pay on time or at all, our liquidity and operating results could be adversely affected.

Our contracts generally do not contain minimum purchase requirements, and we sell primarily on a purchase order basis. Therefore, our sales are subject to changes in demand from our customers, and these changes have been material in the past. The level and timing of orders placed by our customers vary for a number of reasons, including individual customer strategies, the introduction of new technologies, the desire of our clients to reduce their exposure to any single supplier and general economic conditions. If we are unable to anticipate and respond to the demands of our clients, we may lose clients because we have an inadequate supply of raw materials with which to manufacture our products or insufficient capacity in our sites. Alternatively, we may have excess inventory or excess capacity. Either of these factors may have a material adverse effect on our business, financial position and operating results.

We are subject to risks associated with doing business globally, which may harm our business.

We have global operations and derive a portion of our net sales from customers outside of the United States. Accordingly, our international operations or those of our international customers could be substantially affected by a number of risks arising from operating an international business, including:

- limitations on repatriation of earnings;

- taxes on imports;
- the possibility that unfriendly nations or groups could boycott our products;
- general economic and political conditions in the markets where we operate;
- foreign currency exchange rate fluctuations;
- potential changes in diplomatic and trade relationships, such as the United Kingdom's exit from the European Union;
- potential increased costs associated with overlapping tax structures;
- potential increased reliance on third parties within less developed markets;
- potential trade restrictions, tariffs and exchange controls;
- more limited protection for intellectual property rights in some countries;
- difficulties and costs associated with staffing and managing foreign operations;
- unexpected changes in regulatory requirements;
- difficulties in complying with a wide variety of foreign laws and regulations;
- the risk that certain governments may adopt regulations or take other actions that would have a direct adverse impact on our business and market opportunities, including nationalization of private enterprise;
- violations of anti-bribery and anti-corruption laws, such as the FCPA;
- violations of economic sanctions laws, such as the regulations enforced by OFAC;
- longer accounts receivable cycles in certain foreign countries, whether due to cultural differences, exchange rate fluctuation or other factors;
- the credit risk of local customers and distributors;
- limitations on our ability to enforce legal rights and remedies with third parties or partners outside of the United States;
- import and export licensing requirements and other restrictions, such as those imposed by OFAC, BIS, DDTC and comparable regulatory agencies and policies of foreign governments; and
- changes to our distribution networks.

Changes in exchange rates can adversely affect our net sales, profits and cash flows.

A substantial amount of our revenues are derived from international operations, and we anticipate that a significant portion of our sales will continue to come from outside of the United States. in the future. The

revenues we report with respect to our operations outside of the United States may be adversely affected by fluctuations in foreign currency exchange rates.

Further, we have a substantial amount of Euro denominated indebtedness. Fluctuations in the exchange rate between U.S. dollars and Euros may have a material adverse effect on our ability to repay such indebtedness. See Item 7A. "Quantitative and qualitative disclosures about market risk."

Our business depends on our ability to use and access information systems, and any failure to successfully maintain these systems or implement new systems to handle our changing needs could materially harm our operations.

We depend on standardized procedures and multiple information systems, including our online customer portal and distribution and enterprise resource systems, for our operations, customer service and quality and safety procedures. Furthermore, we rely on information technology systems to process, transmit, store and protect electronic information, including confidential customer, supplier, employee or other business information. Through our online customer portal, we collect and store confidential information that customers provide in order to, among other things, purchase products and services and register on our website.

We utilize commercially available third-party technology solutions, software and software systems with some proprietary configurations. We also store data using third-party cloud services. Our information systems are subject to damage or interruption from power outages, computer and telecommunications failures, computer viruses, security breaches, vandalism, catastrophic events, natural disasters, terrorist attacks, hackers and other security issues as well as human error. If our information systems are damaged, fail to work properly or otherwise become unavailable, we may incur substantial costs to repair or replace them, and we may experience a loss of critical information, customer disruption and interruptions or delays in our ability to perform essential functions and implement new and innovative services. A compromise of our information systems or those with which we interact could harm our reputation and expose us to regulatory actions and claims from customers and other persons, any of which could adversely affect our business, financial position and results of operations.

The GDPR, which went into effect in the EU on May 25, 2018, applies to the collection, use, retention, security, processing, and transfer of personally identifiable information of residents of countries in the European Economic Area. The GDPR created a range of new compliance obligations and imposes significant fines and sanctions for violations.

Any failure, or perceived failure, by us to comply with the GDPR, or with any applicable regulatory requirements or orders, including but not limited to privacy, data protection, information security, or consumer protection-related privacy laws and regulations, in one or more jurisdictions within the EU or elsewhere, could: result in proceedings or actions against us by governmental entities or individuals; subject us to significant fines, penalties, and/or judgments; require us to change our business practices; limit access to our products and services in certain countries, incur substantial costs (even if we ultimately prevail) or otherwise adversely affect our business.

Our inability to protect our intellectual property could adversely affect our business. In addition, third parties may claim that we infringe their intellectual property, and we could suffer significant litigation or licensing expenses as a result.

We rely on a variety of intellectual property rights, including patents, trademarks, copyrights and trade secrets, to protect our proprietary technology and products. We place considerable emphasis on obtaining

patent or maintaining trade secret protection for significant new technologies, products and processes because of the length of time and expense associated with bringing new products and processes through development and to the market.

We may need to spend significant resources monitoring and enforcing our intellectual property rights and we may not be able to prove infringement by third parties. Our competitive position may be harmed if we cannot enforce our intellectual property rights. In some circumstances, we may choose to not pursue enforcement for business reasons. In addition, competitors might avoid infringement by designing around our intellectual property rights or by developing non-infringing competing technologies. Intellectual property rights and our ability to enforce them may be unavailable or limited in some countries, which could make it easier for competitors to capture market share and could result in lost revenues.

Our trademarks are valuable assets and if we are unable to protect them from infringement, our business prospects may be harmed.

Our brands, particularly our J.T.Baker, NuSil, VWR and Masterflex brands, are valuable assets. Therefore, we actively manage our trademark portfolio, including by maintaining registrations for long-standing trademarks and applying to obtain trademark registrations for new brands. We also police our trademark portfolio against infringement. Our efforts to protect and defend our trademarks may fall short or be unsuccessful against competitors or other third parties for a variety of reasons. To the extent that third parties or distributors sell products that are counterfeit versions of our branded products, our customers could inadvertently purchase products that are inferior. This could cause our customers to refrain from purchasing our brands in the future and in turn could impair our brand equity and adversely affect our sales.

We are subject to product liability and other claims in the ordinary course of business.

Our business involves risk of product liability, intellectual property claims and other claims in the ordinary course of business arising from the products that we source from various manufacturers or produce ourselves. Furthermore, there may be product liability risks that are unknown or which become known in the future. Substantial, complex or extended litigation on any claim could cause us to incur significant costs and distract our management. We maintain insurance policies and in some cases, our suppliers, customers and predecessors of acquired companies have indemnified us against certain claims. We cannot assure you that our insurance coverage or indemnification agreements will be available in all pending or any future cases brought against us. Accordingly, we could be subject to uninsured and unindemnified future liabilities requiring us to provide additional reserves to address such liabilities. An unfavorable result in a case for which adequate insurance or indemnification is not available could adversely affect our business, financial condition and results of operations.

We must develop new products, adapt to rapid and significant technological change and respond to introductions of new products by competitors to remain competitive.

We sell our products in industries that are characterized by significant technological changes, frequent new product and technology introductions and enhancements and evolving industry standards. As a result, our customers' needs are rapidly evolving. If we do not appropriately innovate and invest in new technologies, our offerings may become less desirable in the markets we serve, and our customers could move to new technologies offered by our competitors or make products themselves. Without the timely introduction of new products, services and enhancements, our offerings will likely become less competitive over time, in which case, our competitive position, net sales and operating results could

suffer. Accordingly, we focus significant efforts and resources on the development and identification of new technologies, products and services that are attractive to, and gain acceptance, in the markets we serve and further broaden our offerings. To the extent we fail to timely introduce new and innovative products or services, adequately predict our customers' needs or fail to obtain desired levels of market acceptance, our business may suffer.

Our business, financial condition and results of operations depend upon the availability of raw materials.

Our operations depend upon our ability to obtain high-quality raw materials meeting our specifications and other requirements at reasonable prices, including various active pharmaceutical ingredients, components, compounds, excipients and other raw materials, many of which are sole-sourced due to market or customer demands. Our ability to maintain an adequate supply of such materials and components could be impacted by the availability and price of those raw materials and maintaining relationships with key suppliers.

Moreover, we are dependent upon the ability of our suppliers to provide materials and components that meet our specifications, quality standards, other applicable criteria, and delivery schedules. Our suppliers' failure to provide expected raw materials or components that meet such criteria could adversely affect production schedules and contract profitability.

Our business, financial condition and results of operations depend upon maintaining our relationships with suppliers.

We offer products from a wide range of suppliers. While there is generally more than one source of supply for most of the categories of third-party materials & consumables and equipment & instrumentation that we sell, we currently do not manufacture the majority of our products and are dependent on these suppliers for access to those products.

Our ability to sustain our gross margins has been, and will continue to be, dependent in part upon our ability to obtain favorable terms from our suppliers. These terms may change from time to time, and such changes could adversely affect our gross margins over time. In addition, our results of operations and cash flows could be adversely impacted by the acceleration of payment terms to our suppliers and/or the imposition of more restrictive credit terms and other contractual requirements.

Our use of chemicals and chemical processes is subject to inherent risk.

We use chemical ingredients in the manufacture of certain of our products. Due to the nature of the manufacturing process itself, there is a risk of incurring liability for damages caused by or during the storage or manufacture of both the chemical ingredients and the finished products. The processes used in certain of our facilities typically involve large volumes of solvents and chemicals, creating the potential for fires, spills and other safety or environmental impacts. If any of these risks materialize, it could result in significant remediation and other costs, potential adverse regulatory actions and liabilities, any of which could have an adverse effect on our business, results of operations and financial condition.

In addition, the manufacturing, use, storage, and distribution of chemicals are subject to threats including terrorism. We have several high-risk chemical facilities that possess materials that could be stolen and used to make weapons. We could also be subject to an attack on our high-risk facilities that could cause a significant number of deaths and injuries. As a result, many people, including our employees, could be harmed. Such an occurrence could also harm the environment, our reputation and disrupt our operations.

We are highly dependent on our senior management and key employees.

Our success depends on our ability to attract, motivate and retain highly qualified individuals. Competition for senior management and other key personnel in our industry is intense, and the pool of suitable candidates is limited. The failure to attract, retain and properly motivate members of our senior management team and other key employees, or to find suitable replacements for them in the event of death, illness or their desire to pursue other professional opportunities, could have a negative effect on our operating results.

Changes in tax law relating to multinational corporations could adversely affect our tax position.

The U.S. Congress, government agencies in non-U.S. jurisdictions where we and our affiliates do business, and the Organisation for Economic Cooperation and Development, or OECD, continue to focus on issues related to the taxation of multinational corporations. One example is in the area of "base erosion and profit shifting," where profits are claimed to be earned for tax purposes in low-tax jurisdictions, or payments are made between affiliates from a jurisdiction with high tax rates to a jurisdiction with lower tax rates. The OECD has released several components of its comprehensive plan to create an agreed set of international rules for addressing base erosion and profit shifting.

Due to the potential for changes to tax laws and regulations or changes to the interpretation thereof, the ambiguity of tax laws and regulations, the subjectivity of factual interpretations, the complexity of our intercompany arrangements, uncertainties regarding the geographic mix of earnings in any particular period, and other factors, our estimates of effective tax rate and income tax assets and liabilities may be incorrect and our financial statements could be adversely affected. The impact of the factors referenced in the first sentence of this paragraph may be substantially different from period-to-period.

Certain of our businesses rely on relationships with collaborative partners and other third parties for development, supply and marketing of certain products and potential products, and such collaborative partners or other third parties could fail to perform sufficiently.

We believe that for certain of our businesses, success in penetrating target markets depends in part on their ability to develop and maintain collaborative relationships with other companies. Relying on collaborative relationships is risky because, among other things, our collaborative partners may (i) not devote sufficient resources to the success of our collaborations; (ii) fail to obtain regulatory approvals necessary to continue the collaborations in a timely manner; (iii) be acquired by other companies and terminate our collaborative partnership or become insolvent; (iv) compete with us; (v) disagree with us on key details of the collaborative relationship; (vi) have insufficient capital resources; and (vii) decline to renew existing collaborations on acceptable terms. Because these and other factors may be beyond our control, the development or commercialization of our products involved in collaborative partnerships may be delayed or otherwise adversely affected. If we or any of our collaborative partners terminate a collaborative arrangement, we may be required to devote additional resources to product development and commercialization or we may need to cancel some development programs, which could adversely affect our business and financial statements.

Risks related to regulation

We are required to comply with a wide variety of laws and regulations, and are subject to regulation by various federal, state and foreign agencies, and our failure to comply with existing and future regulatory requirements could adversely affect our results of operations and financial condition.

We compete in markets in which we and our customers are subject to federal, state, local, international and transnational laws and regulations, including the operating, quality and security standards of the FDA, various state health departments, the DHHS, similar bodies of the EU and its member states and other comparable agencies around the world, and, in the future, any changes to such laws and regulations could adversely affect us. We develop, configure and market our products to meet customer needs driven by those regulations. Among other rules affecting us, we are subject to laws and regulations concerning cGMP and product safety. Our subsidiaries may be required to register for permits and/or licenses with, and may be required to comply with, the laws and regulations of the FDA, the DHHS, the DEA, foreign agencies including the EMA, and other various state health departments and/or comparable state and foreign agencies as well as certain accrediting bodies depending upon the types of operations and locations of distribution and sale of the products manufactured or services provided by those subsidiaries. Any significant change in regulations could reduce demand for our products or increase our expenses. For example, many of our products are marketed to the biopharma industry for use in discovering, developing and manufacturing drugs, or are sold as raw materials or components to drug device manufacturers or for use in the manufacture of implantable devices. Changes in the domestic or foreign regulation of drug discovery, development or manufacturing processes or medical device manufacturing processes, or adverse findings concerning any health effects associated with these products, could have an adverse effect on the demand for these products and could also result in legal liability and claims.

We are also registered with the DDTC, as a manufacturer and exporter of goods controlled by ITAR, and we are subject to strict export control and prior approval requirements related to these goods. Our failure to comply with ITAR and other export control laws and regulations, as well as economic sanctions, could result in penalties, loss, or suspension of contracts or other consequences. Any of these could adversely affect our operations and financial condition. Failure by us or by our customers to meet one or more of these various regulatory obligations could have adverse consequences in the event of material non-compliance. Compliance with relevant sanctions and export control laws could restrict our access to, and increase the cost of obtaining, certain products and at times could interrupt our supply of imported inventory or our ability to service certain customers. Conversely, compliance with these regulatory obligations may require us to incur significant expenses.

In addition, certain of our facilities are certified to ISO, including ISO 13485, ISO 9001, AS9100, ISO 22000 and/or ISO 14001. These standards are voluntary quality management system standards, the maintenance of which indicates to customers certain quality and operational norms. Customers may rely on contractual assurances that we make with respect to ISO certificates to transact business. Failure to comply with these ISO standards can lead to observations of non-compliance or even suspension of ISO or Aerospace Standard (AS) certifications or European Community (EC) Declarations of Conformity Certificates by the registrar. If we were to lose ISO or AS certifications or EC Declarations of Conformity, we could lose sales and customers to competitors or other suppliers. We are also subject to periodic inspections or audits by our customers. If these audits or inspections identify issues or the customer perceives there are issues, the customer may decide to cease purchasing products from us which could adversely affect our business.

We are subject to environmental, health and safety laws and regulations, and costs to comply with such laws and regulations, or any liability or obligation imposed under such laws or regulations, could negatively impact our business, financial condition and results of operations.

We are subject to a broad range of foreign, federal, state and local environmental, health and safety laws and regulations, including those of the EPA, OSHA and equivalent local, state, and foreign regulatory agencies in each of the jurisdictions in which we operate. We may be fined or penalized by regulators for failing to comply with environmental, health and safety laws and regulations. For example, we recently entered into a settlement with the EPA to resolve alleged violations of the Toxic Substances Control Act and the Emergency Planning and Community Right to Know Act at our Phillipsburg, New Jersey and Paris, Kentucky facilities. See Item 3, "Legal Proceedings." In addition, contamination resulting from our current or past operations or from past uses of land that we own or operate may trigger investigation or remediation obligations, which may have an adverse effect on our business, financial condition and results of operations. We cannot be certain that identification of presently unidentified environmental, health and safety conditions, new regulations, more vigorous enforcement by regulatory authorities or other unanticipated events will not arise in the future and give rise to additional environmental liabilities, business interruptions, compliance costs or penalties, which could have an adverse effect on our business, financial condition and results of operations.

We currently incur costs and may incur additional costs related to remediation of alleged environmental damage associated with past or current waste disposal practices or other hazardous materials handling at property that we currently own or operate, or formerly owned or operated, or facilities to which we arranged for the disposal of hazardous substances. Our liabilities arising from past or future releases of, or exposures to, hazardous substances may exceed our estimates or adversely affect our financial statements and reputation and we may be subject to additional claims for cleanup or other environmental claims in the future based on our past, present or future business activities, and we may not be able to recover any costs under any of our indemnifications that we have. For additional information regarding environmental matters, see note 13 to the consolidated financial statements beginning on page F-1 of this report.

Risks related to our indebtedness

Our indebtedness could adversely affect our financial condition and prevent us from fulfilling our debt or contractual obligations.

We now have and expect to continue to have a significant amount of debt. Our indebtedness could have important consequences to us including the following:

- making it more difficult for us to satisfy our debt or contractual obligations;
- exposing us to the risk of increased interest rates as certain of our borrowings, including borrowings under our senior secured credit facilities, are at variable rates of interest;
- restricting us from making strategic acquisitions or causing us to make non-strategic divestitures;
- requiring us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, which would reduce the funds available for working capital, capital expenditures, investments, acquisitions and other general corporate purposes;
- limiting our flexibility in planning for, or reacting to, changes in our business, future business opportunities and the industry in which we operate;

- placing us at a competitive disadvantage compared to any of our less leveraged competitors;
- increasing our vulnerability to a downturn in our business and both general and industry-specific adverse economic conditions; and
- limiting our ability to obtain additional financing.

Our credit facilities contain financial and other restrictive covenants that could limit our ability to engage in activities that may be in our long-term best interests. Our failure to comply with those covenants could result in an event of default which, if not cured or waived, could result in the acceleration of all of our debt, which could adversely affect our business, earnings and financial condition.

Despite our current level of indebtedness, we and our subsidiaries may still be able to incur substantially more debt.

We and our subsidiaries may be able to incur significant additional indebtedness in the future. Although our credit agreement and indentures contain restrictions on the incurrence of additional indebtedness, these restrictions are subject to a number of qualifications and exceptions, and the additional indebtedness incurred in compliance with these restrictions could be substantial. If new debt is added to our current debt levels, the related risks that we now face could intensify.

An increase in interest rates may negatively impact our operating results and financial condition.

Certain of our borrowings, including borrowings under our senior secured credit facilities and our receivables facility, to the extent the interest rate is not fixed, are at variable rates of interest. An increase in interest rates would have a negative impact on our results of operations by causing an increase in interest expense.

Our total interest expense was $217.4 million in 2021 and $307.6 million in 2020.

Risks related to ownership of our stock

Our common stock ranks junior to the MCPS with respect to the payment of dividends and amounts payable in the event of our liquidation, dissolution or winding-up of our affairs.

Our common stock ranks junior to the MCPS with respect to the payment of dividends and amounts payable in the event of our liquidation, dissolution or winding-up of our affairs. This means that, unless accumulated and unpaid dividends have been declared and paid, or set aside for payment, on all outstanding shares of the MCPS for all preceding dividend periods, no dividends may be declared or paid on our common stock and we will not be permitted to purchase, redeem or otherwise acquire any of our common stock, subject to limited exceptions. Likewise, in the event of our voluntary or involuntary liquidation, dissolution or winding-up of our affairs, no distribution of our assets may be made to holders of our common stock until we have paid to holders of the MCPS a liquidation preference equal to $50.00 per share plus accumulated and unpaid dividends.

Because we have no current plans to pay cash dividends on our common stock, you may not receive any return on investment unless you sell your common stock for a price greater than that which you paid for it.

We have no current plans to pay cash dividends on our common stock. The declaration, amount and payment of any future dividends on our common stock will be at the sole discretion of our Board of Directors. Our Board of Directors may take into account general and economic conditions, our financial condition and results of operations, our available cash and current and anticipated cash needs, capital requirements, contractual, legal, tax and regulatory restrictions and implications on the payment of dividends by us to our stockholders or by our subsidiaries to us, including restrictions under our credit agreement and other indebtedness we may incur, and such other factors as our Board of Directors may deem relevant. In addition, no dividends may be declared or paid on our common stock unless accumulated and unpaid dividends on the MCPS have been declared and paid, or set aside for payment, on all outstanding shares of the MCPS for all preceding dividend periods.

As a result, you may not receive any return on an investment in our common stock unless you sell our common stock for a price greater than your purchase price.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results, which could lead to a loss of investor confidence in our financial statements and have an adverse effect on our stock price.

Effective internal controls are necessary for us to provide reliable and accurate financial statements and to effectively prevent fraud. We devote significant resources and time to comply with the internal control over financial reporting requirements of the Sarbanes Oxley Act of 2002 and continue to enhance our controls. However, we cannot be certain that we will be able to prevent future significant deficiencies or material weaknesses. Inadequate internal controls could cause investors to lose confidence in our reported financial information, which could have a negative effect on investor confidence in our financial statements, the trading price of our stock and our access to capital.

Our amended and restated certificate of incorporation provides, subject to limited exceptions, that state and federal courts (as appropriate) located within the State of Delaware will be the sole and exclusive forum for certain stockholder litigation matters, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or stockholders.

Our amended and restated certificate of incorporation provides that unless we consent to the selection of an alternative forum, the state or federal courts (as appropriate) located within the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for any (i) derivative action or proceeding brought on behalf of our company, (ii) action asserting a claim of breach of a fiduciary duty owed by any director, officer, or other employee or stockholder of our company to us or our stockholders, creditors or other constituents, (iii) action against us or any of our directors or officers involving a claim or defense arising pursuant to any provision of the Delaware General Corporation Law or our amended and restated certificate of incorporation or our amended and restated bylaws, (iv) action against us or any director or officer of the Company involving a claim or defense implicating the internal affairs doctrine, or (v) action against us or any of our directors or officers involving a claim or defense arising pursuant to the Exchange Act or the Securities Act. It is possible that these exclusive forum provisions may be challenged in court and may be deemed unenforceable in whole or in part. Our exclusive forum provision shall not relieve the company of its duties to comply with the federal securities laws and the rules and

regulations thereunder, and our stockholders will not be deemed to have waived our compliance with these laws, rules and regulations.

Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and consented to the forum provisions in our amended and restated certificate of incorporation. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provision contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, operating results and financial condition.

Item 1B. Unresolved staff comments

None.

Item 2. Properties

The following table sets forth information about our key properties at December 31, 2021:

(in thousands of square feet)	Size	Principal use	Status
Americas:			
Visalia, California	503	Distribution and offices	Owned
Phillipsburg, New Jersey	500	Manufacturing and offices	Owned
Paris, Kentucky	420	Manufacturing and distribution	Owned
Batavia, Illinois	360	Distribution and offices	Owned
West Henrietta, New York	339	Assembly, distribution and offices	Owned
Bridgeport, New Jersey	325	Distribution and offices	Owned
Carpinteria, California	270	Manufacturing, research & technology and	Leased
Solon, Ohio	255	Manufacturing, distribution and offices	Leased
Rochester, New York	205	Assembly and distribution	Leased
Suwanee, Georgia	169	Distribution and offices	Leased
Sterling, Virginia	161	Biostorage, warehousing and offices	Leased
Leesburg, Virginia	155	Biostorage and warehousing	Leased
Devens, Massachusetts	70	Manufacturing, distribution and offices	Leased
Buford, Georgia	130	Customized kitting and distribution	Leased
Manati, Puerto Rico	130	Distribution and offices	Owned
Denver, Colorado	120	Distribution	Leased
Missouri City, Texas	125	Distribution	Leased
Mississauga, Ontario, Canada	114	Distribution and offices	Leased
Radnor, Pennsylvania	102	Corporate headquarters	Leased
Overland, Missouri	90	Manufacturing and distribution	Owned
Claremont, California	86	Customized kitting and distribution	Leased
Ecatepec, Mexico	56	Manufacturing and distribution	Leased
Mexico City, Mexico	76	Manufacturing and distribution	Owned
Barrington, Illinois	65	Manufacturing	Leased
Irving, Texas	65	Manufacturing	Leased
Bakersfield, California	64	Manufacturing and research & technology	Leased
Aurora, Ohio	61	Manufacturing	Leased

(in thousands of square feet)	Size	Principal use	Status
Tualatin, Oregon	56	Distribution	Leased
Franklin, Massachusetts	55	Distribution	Leased
Bethlehem, Pennsylvania	50	Manufacturing, distribution and offices	Leased
Bridgewater, New Jersey	36	Research & technology	Leased
Chester, Connecticut	35	Manufacturing and distribution	Leased
Chino, California	32	Equipment design and manufacturing	Leased
Sparks, Nevada	17	Manufacturing	Leased
Valencia, California	14	Manufacturing	Leased
Allentown, Pennsylvania	12	Offices	Leased
Europe:			
Schwabmuenchen, Germany	993	Distribution	Owned
Briare, France	336	Distribution, repackaging and mixing	Owned
Bruchsal, Germany	219	Distribution	Owned
Gliwice, Poland	186	Manufacturing and distribution	Leased
Lutterworth, United Kingdom	185	Distribution	Leased
Leuven, Belgium	180	Distribution and manufacturing	Owned
Karlskoga, Sweden	151	Distribution	Leased
Stříbrná Skalice, Czech Republic	116	Custom kitting, distribution and offices	Leased
Dublin, Ireland	111	Distribution	Leased
Debrecen, Hungary	68	Distribution	Leased
Barcelona, Spain	67	Distribution	Leased
Søborg, Denmark	66	Distribution and offices	Leased
Darmstadt, Germany	63	Offices	Leased
Fontenay-Sous-Bois, France	56	Offices	Leased
Volčja Draga, Slovenia	34	Manufacturing	Leased
Chorley, United Kingdom	27	Distribution, service and offices	Leased
AMEA:			
Perth, Australia	90	Manufacturing, distribution and offices	Leased
Panoli, India	80	Manufacturing	Leased
Singapore	74	Distribution	Leased
Coimbatore, India	41	Service center	Leased
Shanghai, China	29	Research & technology and offices	Leased
Dehradun, India	23	Manufacturing	Leased
Mumbai, India	18	Research & technology	Leased
Gurgaon, India	15	Offices	Leased
Chubei City, Taiwan	14	Research & technology and offices	Leased
Changzhou, China	3	Manufacturing	Owned
Gwanggyo, Korea	2	Laboratory	Leased

Item 3. Legal proceedings

In April 2018, the EPA notified us of potential liabilities under the Toxic Substances Control Act and the Emergency Planning and Community Right to Know Act that were identified in March 2017 and June 2017 inspections of our Phillipsburg, New Jersey facility. The alleged violations relate to our failure to timely file reports regarding the Phillipsburg facility. We have also become aware of additional potential liabilities under the Toxic Substances Control Act relating to failure to timely file reports regarding the Paris, Kentucky facility, and relating to export shipments of elemental mercury, which we have voluntarily disclosed to the EPA. We have settled this matter with the EPA for less than $1.0 million.

For additional information regarding legal proceedings and matters, see note 13 to our consolidated financial statements beginning on page F-1 of this report, which information is incorporated into this item by reference.

Item 4. Mine safety disclosures

Not applicable.

Information about our Executive Officers

The following table sets forth certain information regarding our executive officers at January 28, 2022:

	Age	Position
Michael Stubblefield	49	Director, President and Chief Executive Officer
Thomas Szlosek	58	Executive Vice President and Chief Financial Officer
Gerard Brophy	56	Executive Vice President, Biopharma Production
Christophe Couturier	56	Executive Vice President, AMEA
Meghan Henson	52	Executive Vice President and Chief Human Resources Officer
Sheri Lewis	56	Executive Vice President, Global Operations and Supply Chain
Justin Miller	55	Executive Vice President, General Counsel and Secretary
Frederic Vanderhaegen	54	Executive Vice President, Americas and Europe

Unless indicated to the contrary, the business experience summaries provided below describe positions held by the named individuals during the last five years.

Michael Stubblefield became our President and Chief Executive Officer in 2014. In addition, Mr. Stubblefield also serves as a Director. Prior to joining us, Mr. Stubblefield was a Senior Expert for the Chemicals Practice of McKinsey & Company, a management consulting firm, from 2013 to 2014.

Thomas Szlosek is our Executive Vice President and Chief Financial Officer, a position he has held since December 2018. Mr. Szlosek previously served as the Senior Vice President and Chief Financial Officer of Honeywell International, Inc., a diversified technology and manufacturing company, from April 2014 to August 2018. Mr. Szlosek is also a Certified Public Accountant.

Gerard Brophy is our Executive Vice President, Biopharma Production, a position he has held since July 2018. Dr. Brophy joined us from GE Healthcare, a medical technology and life sciences company where he spent more than 14 years in a variety of senior level positions, most recently as the Head of Cell Therapy, Life Sciences from January 2017 to July 2018, and Chief Technology Officer, Life Sciences from April 2013 to January 2017.

Christophe Couturier is our Executive Vice President, AMEA, a position he has held since April 2021. Prior to his current role, Mr. Couturier served as Executive Vice President, Services, from April 2018 to April 2021. Prior to joining Avantor, Mr. Couturier served as Chief Executive Officer of Salicornia, LLC, a personal consulting company, from September 2017 to April 2018 and, before Salicornia, as Chief Financial Officer at OvaScience, a biotechnology company, from September 2016 to July 2017. Prior to OvaScience, Mr. Couturier spent more than 12 years at Millipore Sigma, a life science and high technology company, where he held a variety of services, merger integration, general management, finance and consulting positions.

Meghan Henson is our Executive Vice President and Chief Human Resources Officer, a position she has held since December 2020. Prior to joining us, Ms. Henson served as Chief Human Resource Officer for XPO Logistics, a transportation and logistics provider where she led the global human resources organization from June 2016 to September 2020. Prior to XPO Logistics, Ms. Henson served as Chief Human Resource Officer for Chubb Insurance, a property and casualty insurer, from January 2013 to April 2016.

Sheri Lewis is our Executive Vice President, Global Operations and Supply Chain, a position she has held since December 2020. Prior to joining Avantor, Ms. Lewis spent 11 years at Medtronic, a global healthcare solutions company, in a number of leadership positions including, most recently, Vice President Global Operations for the Minimally Invasive Therapies from December 2018 to December 2020. She also served as Medtronic's Vice President Global Supply Chain, Distribution and Logistics from March 2017 to December 2018 and Vice President Global Operations from March 2015 to March 2017.

Justin Miller is our Executive Vice President, General Counsel and Secretary, a position he has held since December 2017. Prior to joining us, Mr. Miller was Of Counsel at Ballard Spahr LLP from December 2015 to December 2017. Prior to Ballard Spahr, Mr. Miller spent 20 years at DuPont, a science company, in a number of leadership positions within the legal group, serving most recently as Associate General Counsel and Chief Litigation Counsel from 2013 to 2015.

Frederic Vanderhaegen is our Executive Vice President, Americas and Europe, a position he has held since October 2018. Mr. Vanderhaegen joined us from Ortho Clinical Diagnostics, an in vitro diagnostics company, where he served as Vice President and General Manager, EMEA from June 2015 to October 2018. Prior to Ortho Clinical Diagnostics, Mr. Vanderhaegen acted as Vice President of Sales at Beckman Coulter, a company that develops, manufactures and markets diagnostic systems for complex biomedical testing, from October 2012 to June 2015.

PART II

Item 5. Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities

Principal markets for common stock

Our common stock is listed on the NYSE under the symbol "AVTR."

Holders of common stock

On January 28, 2022, we had 4 holders of record of our common stock. This does not include holdings in street or nominee names.

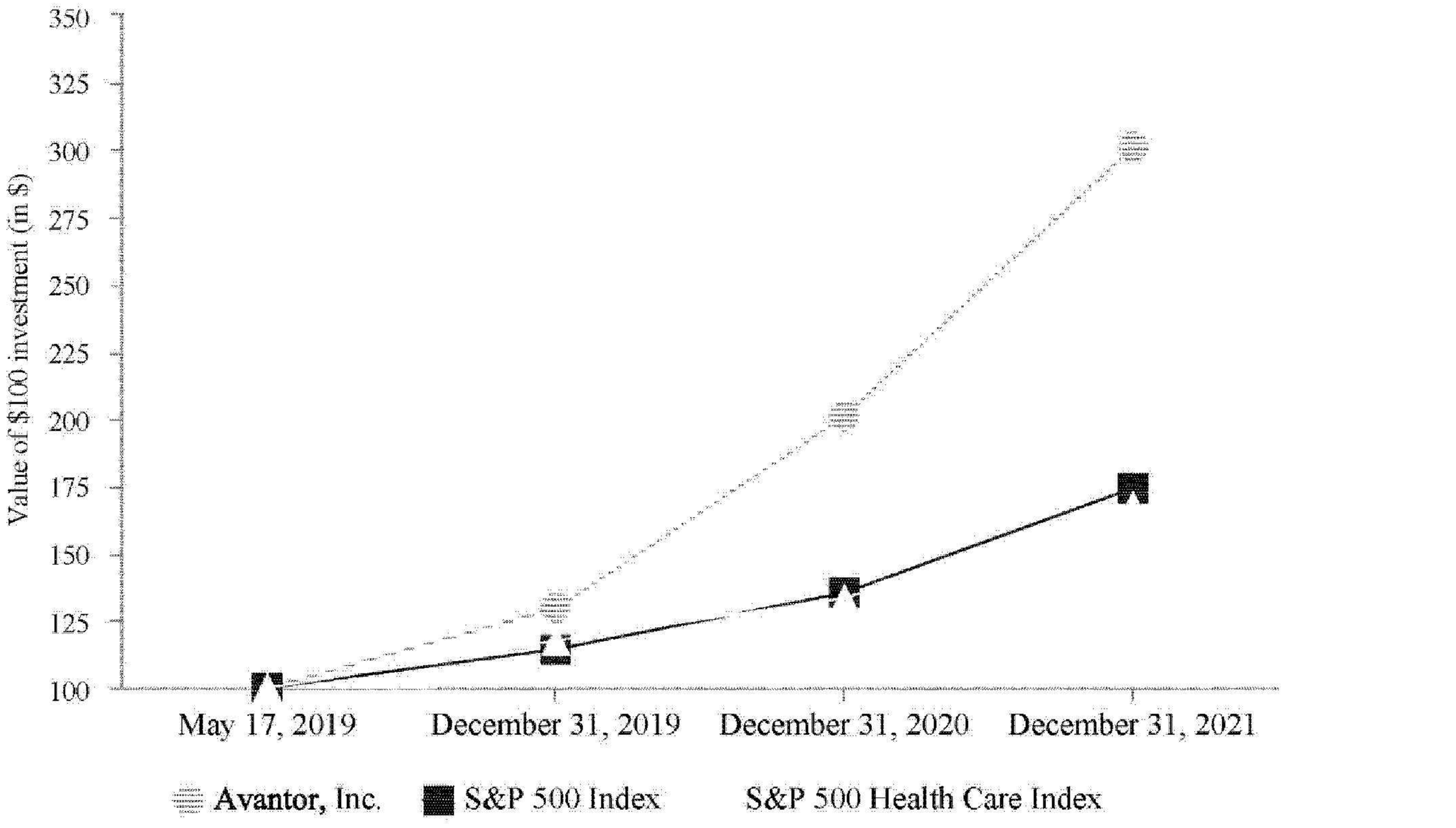
Dividends

We currently do not expect to pay any dividends on our common stock. Additionally, our subsidiaries are party to certain debt agreements that would restrict their ability to fund future dividend payments to our common stockholders. For more information, see note 25 to our consolidated financial statements beginning on page F-1 of this report.

Stock performance graph

The following graph compares the return on a $100 investment in our common stock made on May 17, 2019, the day we first began trading on the NYSE, with a $100 investment also made on May 17, 2019 in the S&P 500 Index and the S&P 500 Health Care Index. The S&P 500 Index is a broad equity market index of companies having market capitalization similar to ours. The S&P 500 Health Care Index is an industry-specific equity market index that we believe closely aligns to us based on the following: (i) the index follows companies of a similar size to us in terms of net sales and market capitalization; (ii) the index includes health care distributors, the segment of the Global Industry Classification Standard that we believe most closely aligns to us; and (iii) the index includes companies in the biopharma and healthcare industries, two of our primary customer groups that together comprise over half of our net sales.

The information in this section is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference in any of our filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, except to the extent that we specifically incorporate such information by reference. The stock performance shown below is not necessarily indicative of future performance.


Value of $100 investment (in $)
350
325
300
275
250
225
200
175
150
125
100
May 17, 2019
December 31, 2019
December 31, 2020
December 31, 2021
Avantor, Inc.
S&P 500 Index
S&P 500 Health Care Index

Item 6. Reserved

Data responsive to Item 6 have not been presented in accordance with amendments to Item 301 of Regulation S-K.

Item 7. Management's discussion and analysis of financial condition and results of operations

This discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results may differ materially from those contained in or implied by any forward-looking statements. See "Cautionary factors regarding forward-looking statements."

Overview

We are a leading global provider of mission critical products and services to customers in the biopharmaceutical, healthcare, education & government and advanced technologies & applied materials industries. We have global operations and an extensive product portfolio. We strive to enable customer success through innovation, cGMP manufacturing and comprehensive service offerings. The depth and breadth of our portfolio provides our customers a comprehensive range of products and services and allows us to create customized and integrated solutions for our customers.

For the fiscal year ended December 31, 2021, we recorded net sales of $7,386.1 million, net income of $572.6 million and Adjusted EBITDA of $1,458.6 million. We also generated net sales growth of 15.5% and organic net sales growth of 11.3%, each compared to the same period in 2020. See "Reconciliations of non-GAAP measures" for a reconciliation of net income to Adjusted EBITDA and "Results of operations" for a reconciliation of net sales growth to organic net sales growth.

Trends affecting our business and results of operations

The following trends have affected our recent operating results, and they may also continue to affect our performance and financial condition in future periods.

Our results are being impacted by the ongoing global coronavirus outbreak

The COVID-19 pandemic continues to effect global economies, financial markets and the overall environment in which we do business as further described in Part I, Item 1A, "Risk factors." The outbreak continued to impact the full year results of our three segments, as described further in the "Results of operations" section.

We completed acquisitions to further enhance our business model

We completed the acquisitions of Masterflex, Ritter GmbH, and RIM Bio in 2021. Masterflex is a leading global manufacturer of peristaltic pumps and aseptic single-use fluid transfer technologies. Ritter GmbH's current business is focused on providing diagnostic system providers and liquid handling OEMs with robotic fluid handling tips, plates, and other consumables. RIM Bio is a China-based single-use bioprocess bag manufacturer. RIM Bio's current business provides a complete range of single-use 2D bags, 3D bags, tank liners, bag assemblies and multi-bag manifolds used in the manufacturing of biologics including monoclonal antibodies (mAbs), vaccines, cell and gene therapies, and recombinant proteins.

We financed the acquisitions with issuances of debt and equity, along with cash on hand. Refer to notes 14 and 15, respectively, for additional details.

We have been impacted by supply chain constraints and inflationary pressures

We have experienced challenges in sourcing certain products and raw materials as a result of global supply chain disruptions. While these impacts are not pervasive, they may impact our future growth. We have also experienced inflationary pressures, mainly driven by labor costs, which have the ability to affect our future margin expansion.

We lowered our weighted average annual cost of interest and simplified our capital structure

In 2021, we issued $396.5 million and $738.1 million of term loans that mature on June 9, 2026 and June 9, 2028, respectively. The debt bears interest at variable rates. We also issued $800.0 million aggregate principal amount of 3.875% senior unsecured notes. The notes are due on November 1, 2029, with interest payable semi-annually on May 1 and November 1 of each year. Additionally, we also amended our senior secured credit facilities and issued $900.0 million of incremental U.S. Dollar term loan at LIBOR plus 2.25%.

In 2020, we restructured our debt profile to take advantage of favorable interest rates by replacing our outstanding $2,000.0 million 9% unsecured notes with €400.0 million of 3.875% unsecured notes and $1,550.0 million of 4.625% unsecured notes. We also replaced our $1,500.0 million 6% secured notes and €500.0 million 4.75% secured notes with the issuance of a new $1,175.0 million tranche of our senior secured credit facility term loan that bears interest at a rate of LIBOR plus 2.50% under our modified credit agreement and €650.0 million of 2.625% secured notes.

Our IPO generated significant proceeds and certain costs

In the second quarter of 2019, we completed our IPO. The IPO generated net proceeds of $4,235.6 million after deducting underwriting discounts, commissions and other offering costs of $132.1 million. The IPO also satisfied a performance condition for certain of our stock options, which caused us to immediately recognize $26.9 million of expense. We continue to see increased compliance costs as a result of being a publicly traded company in 2021.

We reduced our expenses through a global restructuring program

Under a global restructuring program, which concluded on December 31, 2020, we combined sales and marketing resources, eliminated redundant corporate functions, optimized procurement and our manufacturing footprint, and implemented best practices throughout the organization.

From inception of the program through its completion on December 31, 2020, we have recognized $129.8 million of charges and have spent $9.6 million on capital projects, the vast majority of these expenses were incurred through 2020 with an immaterial amount incurred in 2021. Through December 31, 2020, we believe that we have generated over $220 million of annualized cost synergies, which we believe will favorably impact our results in 2022 and beyond. The program was originally envisioned to last for three years following the VWR acquisition and has concluded.

We are investing in a differentiated innovation model

We are engaging with our customers early in their product development cycles to advance their programs from research and discovery through development and commercialization. These projects include enhancing product purity and performance characteristics, improving product packaging and streamlining workflows. We are also developing new products in emerging areas of science such as cell and gene therapy.

Changes in foreign currency exchange rates are impacting our financial condition and results of operations

We have substantial operations overseas whose financial condition and results of operations have been and will continue to be impacted by changes in the exchange rate of the U.S. dollar into other currencies. See Item 7A, "Quantitative and qualitative disclosures about market risk."

Key indicators of performance and financial condition

To evaluate our performance, we monitor a number of key indicators. As appropriate, we supplement our results of operations determined in accordance with GAAP with certain non-GAAP measures that we believe are useful to investors, creditors and others in assessing our performance. These measurements should not be considered in isolation or as a substitute for reported GAAP results because they may include or exclude certain items as compared to similar GAAP-based measurements, and such measurements may not be comparable to similarly-titled measurements reported by other companies. Rather, these measurements should be considered as an additional way of viewing aspects of our operations that provide a more complete understanding of our business.

The key indicators that we monitor are as follows:

- ***Net sales, gross margin, operating income*** and ***net income or loss***. These measures are discussed in the section entitled "Results of operations;"

- ***Organic net sales growth***, which is a non-GAAP measure discussed in the section entitled "Results of operations." Organic net sales growth eliminates from our reported net sales the impacts of earnings from any acquired or disposed businesses and changes in foreign currency exchange rates. We believe that this measurement is useful to investors as a way to measure and evaluate our underlying commercial operating performance consistently across our segments and the periods presented. This measurement is used by our management for the same reason. Reconciliations to the change in reported net sales, the most directly comparable GAAP financial measure, are included in the section entitled "Results of operations;"

- ***Adjusted EBITDA and Adjusted EBITDA margin***, which are non-GAAP measures discussed in the section entitled "Results of operations." Adjusted EBITDA is used by investors to measure and evaluate our operating performance exclusive of interest expense, income tax expense, depreciation, amortization and certain other adjustments. Adjusted EBITDA margin is Adjusted EBITDA divided by net sales as determined under GAAP. We believe that these measurements are useful to investors as a way to analyze the underlying trends in our core business consistently across the periods presented. A reconciliation of net income or loss, the most directly comparable GAAP financial measure, to Adjusted EBITDA is included in the section entitled "Reconciliations of non-GAAP measures;"

- ***Cash flows from operating activities***, which is discussed in the section entitled "Liquidity and capital resources—Historical cash flows."

- ***Free cash flow***, which is a non-GAAP measure, is equal to our cash flow from operating activities, plus acquisition-related costs paid in the period, less capital expenditures. We have amended our definition of free cash flow to exclude acquisition-related costs as they may be significant, individually or in aggregate, and may make it more difficult for investors to understand the free cash flows associated with the normal operations of our business. We believe that this measurement is useful to investors as it provides a view on the Company's ability to generate cash for use in financing or investing activities. This measurement is used by management for the same reason. A reconciliation of cash flows from operating activities, the most directly comparable GAAP financial measure, to free cash flows, is included in the section entitled "Liquidity and capital resources—Historical cash flows."

Results of operations

We present results of operations in the same way that we manage our business, evaluate our performance and allocate our resources. We also provide discussion of net sales and Adjusted EBITDA by geographic segment based on customer location: the Americas, Europe and AMEA. Corporate costs are managed on a standalone basis and not allocated to segments.

Years ended December 31, 2021 and 2020

Executive summary

	Year ended December 31,		
(dollars in millions)	**2021**	**2020**	**Change**
Net sales	$ 7,386.1	$ 6,393.6	$ 992.5
Gross margin	33.9 %	32.5 %	140 bps
Operating income	$ 972.2	$ 706.8	$ 265.4
Net income	572.6	116.6	456.0
Adjusted EBITDA	1,458.6	1,141.6	317.0
Adjusted EBITDA margin	19.8 %	17.9 %	190 bps

Our fiscal year 2021 operating results reflect strong growth across all of our end markets, highlighted by biopharma. We generated high single-digit sales growth in our core business which was augmented by our COVID-19 related sales of PPE and solutions to support diagnostics testing and vaccine production. Double-digit growth of our proprietary materials and consumables product group coupled with commercial excellence and productivity to offset inflationary headwinds contributed to gross margin and Adjusted EBITDA margin expansion.

Net sales

(in millions)	Year ended December 31, 2021	2020	Reconciliation of net sales growth to organic net sales growth: Net sales growth	Foreign currency impact	M&A impact	Organic net sales growth
Americas	$ 4,237.4	$ 3,731.5	$ 505.9	$ 20.0	$ 34.6	$ 451.3
Europe	2,677.3	2,286.7	390.6	99.4	85.3	205.9
AMEA	471.4	375.4	96.0	10.9	23.1	62.0
Total	$ 7,386.1	$ 6,393.6	$ 992.5	$ 130.3	$ 143.0	$ 719.2

Net sales increased $992.5 million or 15.5%, which included $130.3 million or 2.0% of favorable foreign currency impact and $143.0 million or 2.2% of M&A impact. Organic net sales growth was $719.2 million or 11.3% and was primarily due to strong growth in our core business and a modest contribution from COVID-19 related sales.

In Americas, net sales increased $505.9 million or 13.6%, which included $20.0 million or 0.5% of favorable foreign currency impact and $34.6 million or 1.0% of M&A impact. Organic net sales growth was $451.3 million or 12.1%. Additional information on organic net sales growth by end market (with approximate percentage of total organic net sales for the region) is as follows:

- *Biopharma (55%)* — Sales grew double-digits, with strong growth in our research & development business and biopharma production. The growth was led by both COVID-19 vaccine-related offerings as well as our support of non-COVID-19 therapies.

- *Healthcare (10%)* — Sales increased high single-digits driven by increased demand for materials and consumables in our medical/clinical reference lab business, COVID-19 diagnostic testing offerings and increased demand for our proprietary silicone offerings driven by recovery in elective surgical procedures.

- *Education and government (15%)* — Sales increased double-digits primarily from a recovery in education, as demand increased from customers that had been closed during the prior year due to COVID-19 and university research lab expanded.

- *Advanced technologies & applied materials (20%)* — Sales increased low single-digits driven by sales of proprietary materials and consumables into production platforms such as aerospace & defense and semiconductors and continued improvement in industrial demand.

In Europe, net sales increased $390.6 million or 17.1%, which included $99.4 million or 4.3% of favorable foreign currency impact and $85.3 million or 3.7% of M&A impact. Organic net sales growth was $205.9 million or 9.1%. Additional information on organic net sales growth by end market (with approximate percentage of total organic net sales for the region) is as follows:

- *Biopharma (50%)* — Sales grew in the double-digits driven by strong demand for our proprietary biopharma process ingredients, single-use solutions, and consumables to support our core business.

- *Healthcare (10%)* — Sales grew double-digits due primarily to increased demand for our proprietary silicone offerings driven by recovery in elective surgical procedures and sales of COVID-19 testing content.

- *Education & government (10%)* — Sales grew in the high single-digits primarily from a recovery in education demand from academic labs that had been closed during the prior year due to COVID-19.

- *Advanced technologies & applied materials (30%)* — We experienced mid single-digit growth driven by sales of our laboratory materials, consumables, and equipment and instrumentation offerings.

In AMEA, net sales increased $96.0 million or 25.6%, which included $10.9 million or 2.9% of favorable foreign currency impact and $23.1 million or 6.1% of M&A impact. Organic net sales growth was $62.0 million or 16.6%. Additional information on organic net sales growth by end market (with approximate percentage of total organic net sales for the region) is as follows:

- *Biopharma (50%)* — Sales grew double-digits driven by strong demand for our proprietary offering of process ingredients, chromatography resins, excipients, and single use solutions.

- *Advanced technologies & applied materials (40%)* — Sales grew double-digits primarily driven by strong demand for our proprietary offerings into the semiconductor industry.

Gross margin

	Year ended December 31,		
	2021	**2020**	**Change**
Gross margin	33.9 %	32.5 %	140 bps

Gross margin increased 140 basis points resulting primarily from favorable product mix, reflecting higher sales of our proprietary materials, commercial excellence and the favorable impact from the higher gross margins of acquired companies.

Operating income

	Year ended December 31,		
(in millions)	**2021**	**2020**	**Change**
Gross profit	$ 2,502.7	$ 2,080.5	$ 422.2
Operating expenses	1,530.5	1,373.7	156.8
Operating income	$ 972.2	$ 706.8	$ 265.4

Operating income increased primarily from higher gross profit, as previously discussed. This was partially offset by higher operating expenses from inflation, acquisition-related expenses, increased incentive compensation expense due to our strong performance in fiscal year 2021 and unfavorable foreign exchange impacts.

Net income

(in millions)	Year ended December 31, 2021	2020	Change
Operating income	$ 972.2	$ 706.8	$ 265.4
Interest expense	(217.4)	(307.6)	90.2
Loss on extinguishment of debt	(12.4)	(346.8)	334.4
Other income, net	10.6	9.9	0.7
Income tax (expense) benefit	(180.4)	54.3	(234.7)
Net income	$ 572.6	$ 116.6	$ 456.0

Net income increased due to higher operating income, as previously discussed, lower interest expense as a result of the repricings and refinancings of our debt for more favorable interest rates in 2020, and the reduction of losses on the extinguishment of debt that we incurred in fiscal year 2020 as a result of our debt refinancings. These increases were partially offset by higher income tax expense as a result of higher pretax income and the absence of an income tax benefit related to the release of uncertain tax provisions that we recorded in the prior year.

Adjusted EBITDA

For reconciliations of Adjusted EBITDA to net income or loss, see "Reconciliations of non-GAAP measures."

(dollars in millions)	Year ended December 31, 2021	2020	Change
Adjusted EBITDA	$ 1,458.6	$ 1,141.6	$ 317.0
Adjusted EBITDA margin	19.8 %	17.9 %	190 bps
Adjusted EBITDA:			
Americas	$ 978.4	$ 802.4	$ 176.0
Europe	538.5	397.8	140.7
AMEA	113.9	79.8	34.1
Corporate	(172.2)	(138.4)	(33.8)
Total	$ 1,458.6	$ 1,141.6	$ 317.0

Adjusted EBITDA increased $317.0 million or 27.8%, which included a favorable foreign currency translation impact of $22.1 million or 1.9% and $49.4 million or 4.4% from M&A. The remaining growth was $245.5 million or 21.5%.

In the Americas, Adjusted EBITDA grew $176.0 million or 21.9%, or 19.5% when adjusted for favorable foreign currency translation impact and M&A. Gross margin expansion from commercial excellence, increased volume, and favorable mix driven by sales of our higher-margin proprietary products was partially offset by increased incentive compensation expense and inflationary pressures.

In Europe, Adjusted EBITDA grew $140.7 million or 35.4%, or 24.8% when adjusted for favorable foreign currency translation impact and M&A, due to gross margin expansion from increased volume, commercial excellence and favorable mix driven by sales of our higher-margin proprietary products partially offset by increased incentive compensation expense, inflationary pressures and operational foreign exchange impacts.

In AMEA, Adjusted EBITDA grew $34.1 million or 42.7%, or 30.1% when adjusted for favorable foreign currency translation impact and M&A. In addition to the increased sales volume we experienced a favorable mix driven by sales of our higher-margin proprietary products. This was partially offset by increased incentive compensation expense, inflationary pressures and operational foreign exchange impacts.

In Corporate, Adjusted EBITDA declined $33.8 million or 24.4% reflecting higher incentive compensation expense, inflationary pressures and increased stock-based compensation expense.

Year ended December 31, 2019

A discussion and analysis covering the year ended December 31, 2019 is included in our 2020 10-K.

Reconciliations of non-GAAP measures

The following table presents the reconciliation of net income or loss to non-GAAP measures:

	Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Net income	$ 572.6	$ 116.6	$ 37.8
Interest expense	217.4	307.6	440.0
Income tax expense (benefit)	180.4	(54.3)	2.8
Depreciation and amortization	379.2	395.4	398.9
Loss on extinguishment of debt	12.4	346.8	73.7
Net foreign currency loss (gain) from financing activities	1.3	(0.7)	1.9
Other stock-based compensation expense	3.0	1.3	36.8
Acquisition-related expenses[1]	77.8	—	1.7
Integration-related expenses[2]	15.9	17.1	24.0
Purchase accounting adjustments[3]	6.3	—	(10.7)
Restructuring and severance charges[4]	5.3	11.8	24.3
Receipt of disgorgement penalty[5]	(13.0)	—	—
Adjusted EBITDA	$ 1,458.6	$ 1,141.6	$ 1,031.2

1. Represents legal, accounting, financing, investment banking and consulting fees incurred related to completed and pending acquisitions. Generally, these expenses are incurred prior to and at the closing of acquisitions.
2. Represents non-recurring direct costs incurred with third parties to integrate acquired companies. These expenses represent incremental costs and are unrelated to normal operations of our business. Integration expenses are incurred over a pre-defined integration period specific to each acquisition.
3. Represents the amortization of the purchase accounting adjustment we made to reflect Ritter's acquired inventory at fair value upon acquisition in 2021, as shown in note 4 to our consolidated financial statements beginning on page F-1 of this report. In 2019, the amount relates mostly to a normalization of expense for prepaid customer rebates that were derecognized in purchase accounting.
4. Reflects the incremental expenses incurred in the period related to initiatives to increase profitability and productivity. Typical costs included in this caption are employee severance, site-related exit costs, and contract termination costs.
5. As described in note 19 to our consolidated financial statements beginning on F-1 of this report.

Liquidity and capital resources

We fund short-term cash requirements primarily from operating cash flows, while most of our long-term financing is from indebtedness, which we use to finance transactions outside of our normal operations.

Our most significant contractual obligations are scheduled principal and interest payments for indebtedness. We also have obligations to make payments under operating leases, to purchase certain products and services and to fund defined benefit plan obligations primarily outside of the United States. In addition to contractual obligations, we use cash to fund capital expenditures, taxes, and dividends on our MCPS. Changes in working capital may be a source or a use of cash depending on our operations during the period.

We expect to fund our short-term and long-term capital needs with cash generated by operations and availability under our credit facilities. Although we believe that these sources will provide sufficient liquidity for us to meet our long-term capital needs, our ability to fund these needs will depend to a significant extent on our future financial performance, which will be subject in part to general economic, competitive, financial, regulatory and other factors that are beyond our control.

We believe that cash generated by operations, together with available liquidity under our credit facilities, will be adequate to meet our current and expected needs for cash prior to the maturity of our debt, although no assurance can be given in this regard.

Liquidity

The following table presents our primary sources of liquidity:

	December 31, 2021		
(in millions)	**Receivables facility**	**Revolving credit facility**	**Total**
Unused availability under credit facilities:			
Capacity	$ 300.0	$ 515.0	$ 815.0
Undrawn letters of credit outstanding	(9.8)	—	(9.8)
Outstanding borrowings	—	—	—
Unused availability	$ 290.2	$ 515.0	805.2
Cash and cash equivalents			301.7
Total liquidity			$ 1,106.9

Our availability under our receivables facility depends upon maintaining a sufficient borrowing base of eligible accounts receivable. We believe that we have sufficient capital resources to meet our liquidity needs.

At December 31, 2021, $256.5 million or 85% of our cash and cash equivalents was held by our non-U.S. subsidiaries and may be subject to certain taxes upon repatriation, primarily where foreign withholding taxes apply.

Historical cash flows

The following table presents a summary of cash provided by (used in) various activities:

(in millions)	Year ended December 31, 2021	2020	Change
Operating activities:			
Net income	$ 572.6	$ 116.6	$ 456.0
Non-cash items[1]	492.5	790.8	(298.3)
Working capital changes[2]	(175.5)	(43.1)	(132.4)
All other	64.0	65.5	(1.5)
Total	$ 953.6	$ 929.8	$ 23.8
Investing activities	(4,121.7)	(59.1)	(4,062.6)
Financing activities	3,219.2	(782.9)	4,002.1
Capital expenditures	(111.1)	(61.6)	(49.5)

1. Consists of typical non-cash charges including depreciation and amortization, stock based compensation expense, deferred income tax expense and others.
2. Includes changes to our accounts receivable, inventory, contract assets and accounts payable.

Cash flows from operating activities increased $23.8 million in 2021 primarily due to an increase of operating income offset by lower non-cash items and higher net working capital requirements.

Investing activities used $4,062.6 million of additional cash in 2021, reflecting the cash paid for acquisitions and an increase in capital spending.

Financing activities provided $4,002.1 million of additional cash in 2021 primarily due to our secondary equity offering and additional issuances of debt to finance the acquisition of Masterflex, and the issuance of two new tranches of Euro term loans to finance the acquisition of Ritter GmbH.

Free cash flow

(in millions)	Year ended December 31, 2021	2020	Change
Net cash provided by operating activities	$ 953.6	$ 929.8	$ 23.8
Acquisition-related expenses paid	77.8	—	77.8
Capital expenditures	(111.1)	(61.6)	(49.5)
Free cash flow	$ 920.3	$ 868.2	$ 52.1

Free cash flow was $52.1 million higher in 2021 due to changes in cash flows from operating activities noted above, which included the payment of $77.8 million of non-recurring costs related to acquisitions, offset by an increase in capital spending. Refer to "Reconciliations of non-GAAP financial measures" for disclosure regarding acquisition-related expenses.

A discussion and analysis of historical cash flows covering the year ended December 31, 2019 is included in the 2020 10-K.

Indebtedness

A significant portion of our long-term financing is from indebtedness. The purpose of this section is to disclose how certain features of our indebtedness influence our liquidity and capital resources. Additional detail about the terms of our indebtedness may be found in note 14 to our consolidated financial statements beginning on page F-1 of this report.

Our credit facilities provide us access to up to $815.0 million of additional cash.

We have entered into a receivables facility and a revolving credit facility that provide us access to cash to fund short-term business needs. See the section entitled "Liquidity" for additional information.

Our indebtedness restricts us from paying dividends to common stockholders

The acquisition of VWR was partially funded by the issuance of debt by Avantor Inc.'s wholly-owned subsidiary, Avantor Funding, Inc. Certain of those debt agreements prevent Avantor Funding, Inc. from paying dividends or making other payments to Avantor, Inc., subject to limited exceptions. At December 31, 2021 and 2020, substantially all of Avantor, Inc.'s net assets were subject to those restrictions.

Our senior secured credit facilities require or may require us to make certain principal repayments prior to maturity

We are required to make quarterly payments on our senior secured credit facilities, with the balance due on the maturity date. We have generated sufficient cash flows to make all required historical payments, and we expect that our cash flows will continue to be sufficient to make future payments.

To the extent our net leverage ratios, as defined in our credit agreement, reach certain levels, we are required to make additional prepayments if: (i) we generate excess cash flows, as defined in our credit agreement, at specified percentages that decline if certain net leverage ratios are achieved; or (ii) we receive cash proceeds from certain types of asset sales or debt issuances. We are required to make a prepayment of 50% of our excess cash flows if our first lien net leverage ratio, as defined in our credit agreement, exceeds 4.50:1.00, a prepayment of 25% of our excess cash flows if our first lien net leverage ratio is less than or equal to 4.50:1.00 but greater than 3.75:1.00, and no prepayment if our first lien net leverage ratio is less than or equal to 3.75:1.00. As our first lien net leverage ratio was below 3.75:1.00 at December 31, 2021, no additional prepayments were required and no such prepayments have become due since the inception of the credit facilities.

We are subject to certain financial covenants that, if not met, could put us in default of our debt agreements

The receivables facility and our senior secured credit facilities contain certain customary covenants, including a financial covenant. That covenant becomes applicable in periods when we have drawn more than 35% of our revolving credit facility. When applicable, we may not have total borrowings in excess of a pro forma net leverage ratio, as defined. This covenant was not applicable at December 31, 2021, and our historical net leverage has been below the covenant requirement.

Contractual obligations

The following table presents our contractual obligations at December 31, 2021:

	Payments due by period		
(in millions)	**Total**	**Short-Term**	**Long-Term**
Debt:			
Principal[1][2]	$ 7,113.2	$ 45.2	$ 7,068.0
Interest[1]	1,425.9	234.3	1,191.6
Operating leases	133.5	39.5	94.0
Purchase obligations[3]	244.7	122.7	122.0
Other liabilities:			
Underfunded defined benefit plans[4]	137.0	7.1	129.9
Transition tax payments[5]	52.6	6.2	46.4
Other	7.0	2.8	4.2
Total	$ 9,113.9	$ 457.8	$ 8,656.1

(1) Includes finance lease liabilities. To calculate payments for principal and interest, we assumed that variable interest rates, foreign currency exchange rates and outstanding borrowings under credit facilities were unchanged from December 31, 2021 through maturity. For the variable interest rates and principal amounts used, see note 14 to our consolidated financial statements beginning on page F-1 of this report.

(2) Our senior secured credit facilities would require us to accelerate our principal repayments should we generate excess cash flows, as defined, in future periods.

(3) Purchase obligations for certain products and services are made in the normal course of business to meet operating needs.

(4) Represents our obligation to fund defined benefit plans with obligations in excess of plan assets. The total obligation is equal to the aggregate excess of the discounted benefit obligation over the fair value of plan assets for all underfunded plans. The payments due in less than one year are estimated using actuarial methods. The payments due for all other years are estimated by distributing the remaining funding status to future periods in the same way as benefit payments are expected to be made by the plans following actuarial methods.

(5) Represents our transition tax obligation due over eight years to transition to the modified territorial tax system under new U.S. income tax legislation.

Critical accounting policies and estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported throughout the financial statements. Those estimates and assumptions are based on our best estimates and judgment. We evaluate our estimates and assumptions on an ongoing basis using historical experience and known facts and circumstances. We adjust our estimates and assumptions when we believe the facts and circumstances warrant an adjustment. As future events and their effects cannot be determined with precision, actual results could differ significantly from those estimates.

We consider the policies and estimates discussed below to be critical to an understanding of our financial statements because their application places the most significant demands on our judgment. Specific risks for these critical accounting policies are described in the following sections. For all of these policies, we

caution that future events rarely develop exactly as forecasted, and such estimates naturally require adjustment.

Our discussion of critical accounting policies and estimates is intended to supplement, not duplicate, our summary of significant accounting policies so that readers will have greater insight into the uncertainties involved in these areas. For a summary of all of our significant accounting policies, see note 2 to our consolidated financial statements beginning on page F-1 of this report.

Testing goodwill and other intangible assets for impairment

We carry significant amounts of goodwill and other intangible assets on our consolidated balance sheet. At December 31, 2021, the combined carrying value of goodwill and other intangible assets, net of accumulated amortization and impairment charges, was $10,481.4 million or 75% of our total assets.

Required annual assessment

On October 1 of each year, we perform annual impairment testing of our goodwill and indefinite-lived intangible assets, or more frequently if an event or change in circumstance occurs that would require reassessment of the recoverability of those assets. The impairment analysis for goodwill and indefinite-lived intangible assets consists of an optional qualitative test potentially followed by a quantitative analysis. These measurements rely upon significant judgment from management described as follows:

- The qualitative analysis for goodwill and indefinite-lived intangible assets requires us to identify potential factors that may result in an impairment and estimate whether they would warrant performance of a quantitative test;
- The quantitative impairment test requires us to estimate the fair value of our reporting units and indefinite-lived intangible assets. We estimate the fair value of each reporting unit using a weighted average of two valuation methods based on a discounted cash flows method and a guideline public company method. These valuation methods require management to make various assumptions, including, but not limited to, future profitability, cash flows, discount rates, weighting of valuation methods and the selection of comparable publicly traded companies.

Our estimates are based on historical trends, management's knowledge and experience and overall economic factors, including projections of future earnings potential. Developing future cash flows in applying the income approach requires us to evaluate our intermediate to longer-term strategies, including, but not limited to, estimates about net sales growth, operating margins, capital requirements, inflation and working capital management. The development of appropriate rates to discount the estimated future cash flows requires the selection of risk premiums, which can materially impact the present value of future cash flows. Selection of an appropriate peer group under the market approach involves judgment, and an alternative selection of guideline companies could yield materially different market multiples. Weighing the different value indications involves judgment about their relative usefulness and comparability to the reporting unit.

We did not record any impairment charges as a result of our October 1, 2021 impairment testing. Each reporting unit had a fair value that was substantially in excess of its carrying value, and our indefinite-lived intangible assets did not show any indications that their fair value was more likely than not below their carrying value.

Estimating valuation allowances on deferred tax assets

We are required to estimate the degree to which tax assets and loss carryforwards will result in a future income tax benefit, based on our expectations of future profitability by tax jurisdiction. We provide a valuation allowance for deferred tax assets that we believe will more likely than not go unutilized. If it becomes more likely than not that a deferred tax asset will be realized, we reverse the related valuation allowance and recognize an income tax benefit for the amount of the reversal. At December 31, 2021, our valuation allowance on deferred tax assets was $187.6 million, $155.7 million of which relates to foreign net operating loss carry forwards that are not expected to be realized.

We must make assumptions and judgments to estimate the amount of valuation allowance to be recorded against our deferred tax assets, which take into account current tax laws and estimates of the amount of future taxable income, if any. Changes to any of the assumptions or judgments could cause our actual income tax obligations to differ from our estimates.

Accounting for uncertain tax positions

In the ordinary course of business, there is inherent uncertainty in quantifying our income tax positions. We assess income tax positions for all years subject to examination based upon our evaluation of the facts, circumstances and information available at the reporting date. For those tax positions where it is more likely than not that a tax benefit will be sustained, we have recorded an amount having greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority assumed to have full knowledge of all relevant information. For those income tax positions where it is not more likely than not that a tax benefit will be sustained, no tax benefit has been recognized in the financial statements. Our reserve for uncertain tax positions was $55.3 million at December 31, 2021, exclusive of penalties and interest. Where applicable, associated interest expense has also been recognized as a component of interest expense.

We operate in numerous countries under many legal forms and, as a result, we are subject to the jurisdiction of numerous domestic and non-U.S. tax authorities, as well as to tax agreements and treaties among these governments. Determination of taxable income in any jurisdiction requires the interpretation of the related tax laws and regulations and the use of estimates and assumptions regarding significant future events, such as the amount, timing and character of deductions and the sources and character of income and tax credits. Changes in tax laws, regulations, agreements and treaties, currency exchange restrictions or our level of operations or profitability in each taxing jurisdiction could have an impact upon the amount of current and deferred tax balances and hence our net income.

We file tax returns in each tax jurisdiction that requires us to do so. Should tax return positions not be sustained upon audit, we could be required to record an income tax provision. Should previously unrecognized tax benefits ultimately be sustained, we could be required to record an income tax benefit.

Calculating expense for long-term compensation arrangements

Our employees receive various long-term compensation awards, including stock options, RSUs, performance stock units and cash-based awards. We calculate expense for some of those awards using fair value estimates based on unobservable inputs. Additionally, some of those awards contain performance or market conditions. We assess the probability of achieving those performance conditions, and in cases where partial or exceptional performance affects the size of the award, we also estimate the projected achievement level. We determine the fair value of awards with market conditions on their grant date using

a Monte Carlo model, which incorporates the probability of achieving the market condition in the awards' fair value. We recognize the expense for such awards ratably over their vesting term.

Expense for stock options without performance or market conditions is determined on the grant date and recognized ratably over their vesting term. We estimate the grant date fair value of stock options using the Black-Scholes model. This model requires us to make various assumptions, with the most significant assumption currently being the volatility of our stock price. A public quotation was first established for our common stock in May 2019, which does not provide adequate historical basis to reasonably estimate the expected volatility of our common stock over their more than six-year expected life. Instead, we estimate volatility based on historical stock price trends of a peer company set. The fair value of our awards would have differed had we selected different peer companies or used a different technique to estimate volatility. Increasing our expected volatility assumption by 5 percentage points for all stock options at the date of grant would have increased our 2021 stock-based compensation expense by $2.4 million.

Estimating the net realizable value of inventories

We value our inventories at the lower of cost or net realizable value. We regularly review quantities of inventories on hand and compare these amounts to the expected use of each product or product line, which can require us to make significant judgments. If our judgments prove to be incorrect, we may be required to record a charge to cost of sales to reduce the carrying amount of inventory on hand to net realizable value. As with any significant estimate, we cannot be certain of future events which may cause us to change our judgments.

Business combinations

We allocate the fair value of purchase consideration to the assets acquired, liabilities assumed, and non-controlling interests in the acquired companies generally based on their fair values at the acquisition date. The excess of the fair value of purchase consideration over the fair value of these assets acquired, liabilities assumed and non-controlling interests in the acquired companies is recorded as goodwill. When determining the fair values of assets acquired, liabilities assumed, and non-controlling interests in the acquired companies, management makes significant estimates related to intangible assets.

Critical estimates in valuing intangible assets include, but are not limited to, expected future cash flows and discount rates. Fair value estimates are based on the assumptions management believes a market participant would use in pricing the asset or liability. Amounts recorded in a business combination may change during the measurement period, which is a period not to exceed one year from the date of acquisitions, as additional information about conditions existing at the acquisition date becomes available.

Item 7A. Quantitative and qualitative disclosures about market risk

Foreign currency exchange risk

Although we report our results and financial condition in U.S. dollars, a significant portion of our operating and financing activities are denominated in foreign currencies, principally the Euro but also many others.

Our U.S. subsidiaries carry significant amounts of Euro-denominated debt. This does not result in any material risks from an earnings perspective because the exposure from these instruments is substantially hedged by offsetting exposures from intercompany borrowing arrangements. From a cash flow

perspective, we have the risk of paying more or less cash for any optional or mandatory repayments of our Euro-denominated debt that may not be offset with equivalent cash repayments of our intercompany borrowings. For example, an optional debt repayment of €100 million on December 31, 2021 and December 31, 2020, with a 10% weakening of the U.S. dollar would have caused us to pay an additional $11.4 million and $12.2 million, respectively, to extinguish that debt.

Changes to foreign currency exchange rates could favorably or unfavorably affect the translation of our foreign operating results. For example, during times of a strengthening U.S. dollar, our reported international sales and earnings will be reduced because local currencies will translate into fewer U.S. dollars. For the year ended December 31, 2021, a 10% strengthening of the U.S. dollar compared to all other currencies would have decreased net income by $10.9 million and decreased Adjusted EBITDA by $61.9 million. For the year ended December 31, 2020, a 10% strengthening of the U.S. dollar compared to all other currencies would have decreased net income by $4.7 million and decreased Adjusted EBITDA by $45.0 million.

Interest rate risk

We carry a significant amount of debt that exposes us to interest rate risk. A portion of our debt consists of variable-rate instruments. We have also issued fixed-rate secured and unsecured notes. None of our other financial instruments are subject to material interest rate risk.

At December 31, 2021, we had borrowings of $3,479.9 million under our credit facilities. Borrowings under these facilities bear interest at variable rates based on prevailing LIBOR and EURIBOR rates in the financial markets. Changes to those market rates affect both the amount of cash we pay for interest and our reported interest expense. Our Euro term loans include a zero percent floor on EURIBOR, which has been negative, so the floor provides a partial hedge of our variable interest rate risk on that loan. At December 31, 2021, a 100 basis point increase to the applicable variable rates of interest would have increased the amount of interest by $27.9 million per annum. At December 31, 2020, a 100 basis point increase to the applicable variable rates of interest would have increased the amount of interest by $18.8 million per annum.

Our senior secured notes and senior unsecured notes bear interest at fixed rates, so their fair value will increase if interest rates fall and decrease if interest rates rise. At December 31, 2021, a 100 basis point decrease in the market rate of interest for the notes would have increased their aggregate fair value by $201.7 million. At December 31, 2020, a 100 basis point decrease in the market rate of interest for the notes would have increased their aggregate fair value by $182.1 million.

Item 8. Financial statements and supplementary data

The information required by this item is included at the end of this report beginning on page F-1.

Item 9. Changes in and disagreements with accountants on accounting and financial disclosure

None.

Item 9A. Control and procedures

Management's evaluation of disclosure controls and procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934) as of December 31, 2021. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2021, our disclosure controls and procedures were effective in providing reasonable assurance 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, reported, accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in internal control over financial reporting

There have been no changes to our internal control over financial reporting during the fiscal quarter ended December 31, 2021 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Management's annual report on internal control over financial reporting

Our management, including our Chief Executive Officer and Chief Financial Officer, is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company. As permitted by SEC guidance, the scope of management's assessment of the effectiveness of our internal control over financial reporting as of December 31, 2021 excluded Ritter GmbH and Affiliates ("Ritter"), which was acquired on June 10, 2021, and Masterflex LLC ("Masterflex"), which was acquired on November 1, 2021, and whose financial statements each constitute approximately 1% of net sales and less than 2% of net income of the consolidated financial statement amounts as of and for the year ended December 31, 2021. 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 accounting principles generally accepted in the United States of America. 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. Our management conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2021 based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, our management concluded that, as of December 31, 2021, our internal control over financial reporting was effective.

Deloitte & Touche LLP (PCAOB ID No. 34), an independent registered public accounting firm, which has audited and reported on the consolidated financial statements contained in this Form 10-K, has issued its report on the effectiveness of the Company's internal control over financial reporting which follows this report.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Avantor, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Avantor, Inc. and subsidiaries (the "Company") as of December 31, 2021, 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, 2021, 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, 2021, of the Company and our report dated February 11, 2022, expressed an unqualified opinion on those financial statements.

As described in Management's Annual Report on Internal Control Over Financial Reporting, management excluded from its assessment the internal control over financial reporting at Ritter GmbH and Affiliates ("Ritter"), which was acquired on June 10, 2021, and Masterflex LLC ("Masterflex"), which was acquired on November 1, 2021, and whose financial statements each constitute approximately 1% of net sales, and less than 2% of net income, of the consolidated financial statement amounts as of and for the year ended December 31, 2021. Accordingly, our audit did not include the internal control over financial reporting at Ritter and Masterflex.

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 Annual 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

Philadelphia, Pennsylvania

February 11, 2022

Item 9B. Other information

None.

Item 9C. Disclosure regarding foreign jurisdictions that prevent inspections.

Not applicable.

PART III

See Part I, "Information about our executive officers" for information about our executive officers, which is incorporated by reference herein. The other information required by Part III is incorporated herein by reference to our definitive proxy statement for our 2022 annual meeting of stockholders.

Item 10. Directors, executive officers and corporate governance

See Part I, "Information about our executive officers" for information about our executive officers, which is incorporated by reference herein. The other information required by this Item is incorporated herein by reference to the applicable information in our definitive proxy statement for our 2022 annual meeting of stockholders which we intend to file with the SEC no later than 120 days after our 2021 fiscal year end (the "2022 Proxy Statement").

Item 11. Executive compensation

The information required by this Item is incorporated by reference to the applicable information in our 2022 Proxy Statement.

Item 12. Security ownership of certain beneficial owners and management and related stockholder matters

The information required by this Item is incorporated by reference to the applicable information in our 2022 Proxy Statement.

Item 13. Certain relationships and related transactions, and director independence

The information required by this Item is incorporated by reference to the applicable information in our 2022 Proxy Statement.

Item 14. Principal accountant fees and services

The information required by this Item is incorporated by reference to the applicable information in our 2022 Proxy Statement.

PART IV

Item 15. Exhibits and financial statement schedules

The following documents are filed as part of this report.

1. Financial Statements and Schedules. See Index to Consolidated Financial Statements and Schedules on page F-1.

2. Exhibits:

Exhibit no.	Description	Location of exhibits		
		Form	Exhibit no.	Filing date
3.1	Third Amended and Restated Certificate of Incorporation, effective May 13, 2021	8-K	3.1	5/17/2021
3.2	Third Amended and Restated Bylaws of Avantor, Inc.	8-K	3.1	1/28/2021
3.3	Certificate of Designations of 6.250% Series A Mandatory Convertible Preferred Stock of Avantor, Inc.	8-K	3.3	5/21/2019
4.1	Description of capital stock	10-K	4.1	2/14/2020
4.2	Indenture, dated as of July 17, 2020, among Avantor Funding, Inc., the guarantors party thereto and The Bank of New York Mellon Trust Company, N.A., as Trustee.	8-K	4.1	7/17/2020
4.3	Indenture, dated as of November 6, 2020, among Avantor Funding, Inc., the guarantors party thereto and The Bank of New York Mellon Trust Company, N.A., as Trustee and Notes Collateral Agent.	8-K	4.1	11/6/2020
4.4	Indenture, dated as of October 26, 2021, among Avantor Funding, Inc., the guarantors party thereto and The Bank of New York Mellon Trust Company, N.A., as Trustee.	8-K	4.4	10/26/2021
10.1	Credit Agreement, dated as of November 21, 2017, by and among Vail Holdco Sub LLC, Avantor Funding, Inc. (f/k/a Avantor, Inc.), the guarantors party thereto, Goldman Sachs Bank USA and the other lenders, l/c issuers and parties thereto.	S-1/A	10.1	4/10/2019

Exhibit no.	Description	Location of exhibits		
		Form	Exhibit no.	Filing date
10.2	Amendment No. 1, dated as of November 27, 2018 to the Credit Agreement, dated as of November 21, 2017, by and among Vail Holdco Sub LLC, Avantor Funding, Inc. (f/k/a Avantor, Inc.), the guarantors party thereto, Goldman Sachs Bank USA and the other lenders, l/c issuers and parties thereto.	S-1/A	10.2	4/10/2019
10.3	Amendment No. 2 to the Credit Agreement, dated as of November 21, 2017, among Vail Holdco Sub LLC, Avantor Funding, Inc., each of the Guarantors, each of the lenders from time to time party thereto and Goldman Sachs Bank USA, as administrative agent and collateral, Swing Line Lender and an L/C Issuer, the lenders party thereto and Goldman Sachs Lending Partners LLC, as the Additional Initial B-2 Euro Term Lender and the Additional Initial B-2 Dollar Term Lender.	8-K	10.1	6/18/2019
10.4	Amendment No. 3 to the Credit Agreement, dated as of November 21, 2017, among Vail Holdco Sub LLC, Avantor Funding, Inc., each of the Guarantors, each of the lenders from time to time party thereto and Goldman Sachs Bank USA, as administrative agent and collateral agent, Swing Line Lender and an L/C Issuer, the lenders party thereto and Goldman Sachs Lending Partners LLC, as the Additional Initial B-3 Euro Term Lender and the Additional Initial B-3 Dollar Term Lender.	8-K	10.1	1/27/2020
10.5	Amendment No. 4 to the Credit Agreement, dated as of November 21, 2017, among Vail Holdco Sub LLC, Avantor Funding, Inc., each of the Guarantors, each of the lenders from time to time party thereto and Goldman Sachs Bank USA, as administrative agent and collateral agent, Swing Line Lender and an L/C Issuer.	8-K	10.1	7/14/2020
10.6	Amendment No. 5 to the Credit Agreement, dated as of November 21, 2017 (as amended by Amendment No. 1 to Credit Agreement, dated as of November 27, 2018, Amendment No. 2 to Credit Agreement, dated as of June 18, 2019, Amendment No. 3 to Credit Agreement, dated as of January 24, 2020 and Amendment No. 4, dated as of July 14, 2020), among Vail Holdco Sub LLC, Avantor Funding, Inc., each of the Guarantors, each of the lenders from time to time party thereto and Goldman Sachs Bank USA, as administrative agent and collateral agent, Swing Line Lender and an L/C Issuer, the lenders party thereto and Goldman Sachs Lending Partners LLC, as the New Term Lender	8-K	10.1	11/6/2020

Exhibit no.	Description	Location of exhibits		
		Form	Exhibit no.	Filing date
10.7	Amendment No. 6 to the Credit Agreement, dated as of November 21, 2017 (as amended by Amendment No. 1 to Credit Agreement, dated as of November 27, 2018, Amendment No. 2 to Credit Agreement, dated as of June 18, 2019, Amendment No. 3 to Credit Agreement, dated as of January 24, 2020, Amendment No. 4 to Credit Agreement, dated as of July 14, 2020 and Amendment No. 5 to Credit Agreement, dated as of November 6, 2020), among Vail Holdco Sub LLC, Avantor Funding, Inc., each of the Guarantors, each of the lenders from time to time party thereto and Goldman Sachs Bank USA, as administrative agent and collateral agent, Swing Line Lender and an L/C Issuer, the lenders party thereto and Citibank, N.A., as the New Term Lender	8-K	10.1	6/14/2021
10.8	Amendment No. 7 to the Credit Agreement, dated as of November 21, 2017 (as amended by Amendment No. 1 to Credit Agreement, dated as of November 27, 2018, Amendment No. 2 to Credit Agreement, dated as of June 18, 2019, Amendment No. 3 to Credit Agreement, dated as of January 24, 2020, Amendment No. 4 to Credit Agreement, dated as of July 14, 2020, Amendment No. 5 to Credit Agreement, dated as of November 6, 2020 and Amendment No. 6 to Credit Agreement, dated as of June 10, 2021), among Vail Holdco Sub LLC, Avantor Funding, Inc., each of the Guarantors, each of the lenders from time to time party thereto and Goldman Sachs Bank USA, as administrative agent and collateral agent, Swing Line Lender and an L/C Issuer, the lenders party thereto and Bank of America, N.A., as the Additional Initial B-4 Dollar Term Lender and as the Additional Incremental B-5 Dollar Term Lender	8-K	10.1	7/9/2021
10.9	Amendment No. 8 to the Credit Agreement, dated as of November 21, 2017 (as amended by Amendment No. 1 to Credit Agreement, dated as of November 27, 2018, Amendment No. 2 to Credit Agreement, dated as of June 18, 2019, Amendment No. 3 to Credit Agreement, dated as of January 24, 2020, Amendment No. 4 to Credit Agreement, dated as of July 14, 2020, Amendment No. 5 to Credit Agreement, dated as of November 6, 2020, Amendment No. 6 to Credit Agreement, dated as of June 10, 2021 and Amendment No. 7 to Credit Agreement, dated as of July 7, 2021), among Vail Holdco Sub LLC, Avantor Funding, Inc., each of the Guarantors, each of the lenders from time to time party thereto and Goldman Sachs Bank USA, as administrative agent and collateral agent, Swing Line Lender and an L/C Issuer, the lenders party thereto and Citibank, N.A., as the New Term Lender	8-K	10.1	11/2/2021

Exhibit no.	Description	Location of exhibits		
		Form	Exhibit no.	Filing date
10.10	Security Agreement, dated as of November 21, 2017, among the grantors identified therein and Goldman Sachs Bank USA, as agent.	S-1/A	10.3	4/10/2019
10.11	First Lien Intercreditor Agreement, dated as of November 21, 2017, by and among Avantor Funding, Inc. (f/k/a Avantor, Inc.), Vail Holdco Sub LLC, the other grantors party thereto, Goldman Sachs Bank USA, as collateral agent for the credit agreement secured parties, the Bank of New York Mellon Trust Company, N.A., as collateral agent for the indenture secured parties and each additional agent party from time to time thereto.	S-1/A	10.4	4/10/2019
10.12	Receivables Purchase Agreement, dated March 27, 2020, among Avantor Receivables Funding, LLC, VWR International, LLC, the various conduit purchasers from time to time party thereto, the various related committed purchasers from time to time party thereto, the various purchaser agents from time to time party thereto, the various LC participants from time to time party thereto and PNC Bank, National Association, as Administrator and LC Bank.	8-K	10.1	3/30/2020
10.13	Amendment No. 1 dated as of December 21, 2021 to the Receivables Purchase Agreement, dated as of March 27, 2020, among Avantor Receivables Funding, LLC, VWR International, LLC, the various conduit purchasers from time to time party thereto, the various related committed purchasers from time to time party thereto, the various purchaser agents from time to time thereto, the various LC participants from time to time party thereto and PNC Bank, National Association, as Adminstrator and LC Bank.	*		
10.14	Purchase and Sale Agreement, dated March 27, 2020, between the various entities listed on Schedule I thereto as Originators and Avantor Receivables Funding, LLC.	8-K	10.2	3/30/2020
10.15^	Avantor Funding, Inc. (f/k/a Avantor, Inc.) Equity Incentive Plan (as amended through September 28, 2016).	S-1/A	10.12	4/5/2019
10.16^	Form of Nonqualified Stock Option Agreement under the Avantor Funding, Inc. Equity Incentive Plan.	S-1/A	10.13	4/25/2019
10.17^	Avantor, Inc. (f/k/a Vail Holdco Corp) Equity Incentive Plan.	S-1/A	10.14	4/5/2019
10.18^	Form of Nonqualified Stock Option Agreement under the Avantor, Inc. Equity Incentive Plan.	S-1/A	10.15	4/25/2019
10.19^	Avantor, Inc. 2019 Equity Incentive Plan	8-K	10.2	5/21/2019
10.20^	Form of Nonqualified Stock Option Agreement under the Avantor, Inc. 2019 Equity Incentive Plan.	S-1/A	10.25	4/25/2019

Exhibit no.	Description	Location of exhibits		
		Form	Exhibit no.	Filing date
10.21	Form of Performance Stock Unit Grant Notice Under The Avantor, Inc. 2019 Equity Incentive Plan (Employees)	*		
10.22^	Form of Restricted Stock Unit Agreement under the Avantor, Inc. 2019 Equity Incentive Plan (Employees).	S-1/A	10.26	4/25/2019
10.23^	Form of Restricted Stock Unit Agreement under the Avantor, Inc. 2019 Equity Incentive Plan (Non-Employee Directors).	S-1/A	10.27	4/25/2019
10.24^	Avantor, Inc. 2019 Employee Stock Purchase Plan	8-K	10.3	5/21/2019
10.25^	Amendment No. 1 to the Avantor, Inc. 2019 Employee Stock Purchase Plan	S-8	4.4	11/14/2019
10.26^	Amended and Restated Employment Agreement, dated April 10, 2019, between Michael Stubblefield and Avantor, Inc. (f/k/a Vail Holdco Corp)	S-1/A	10.16	4/25/2019
10.27^	Employment Letter Agreement, dated October 5, 2018, between Thomas A. Szlosek and Avantor, Inc. (f/k/a Vail Holdco Corp)	S-1/A	10.17	4/5/2019
10.28^	Amended and Restated Employment Letter Agreement, dated April 2, 2019, between Gerard Brophy and VWR Management Services, LLC	S-1/A	10.19	4/10/2019
10.29^	Contract of Employment, dated June 29, 2018, between Frederic Vanderhaegen and VWR International GmbH	S-1/A	10.20	4/25/2019
10.30^	Addendum to Contract of Employment, dated April 10, 2019, between Frederic Vanderhaegen and VWR International GmbH	S-1/A	10.21	4/25/2019
10.31^	Amended and Restated Employment Letter Agreement, dated April 2, 2019, between Michael Wondrasch and VWR Management Services, LLC	10-Q	10.1	4/28/2021
10.32^	Form of Indemnification Agreement (between Avantor, Inc. and its directors and officers)	S-1/A	10.23	4/25/2019
21	List of subsidiaries of Avantor, Inc.	*		
23	Consent of Deloitte & Touche LLP	*		
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	*		
31.2	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	*		
32.1	Certification of Principal Executive Officer pursuant to 18 U.S.C. 1350 (Section 906 of the Sarbanes-Oxley Act of 2002)	**		
32.2	Certification of Principal Financial Officer pursuant to 18 U.S.C. 1350 (Section 906 of the Sarbanes-Oxley Act of 2002)	**		

Exhibit no.	Description	Location of exhibits		
		Form	Exhibit no.	Filing date
101	The following materials from this report, formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) the Consolidated Statements of Income, (ii) the Consolidated Statements of Comprehensive Income, (iii) the Consolidated Balance Sheets, (iv) the Consolidated Statements of Cash Flows, and (v) Notes to Consolidated Financial Statements.	*		
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)			

---

* Filed herewith

** Furnished herewith

^ Indicates management contract or compensatory plan, contract or arrangement.

Item 16. Form 10-K summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

Avantor, Inc.

Date: February 11, 2022 By: /s/ Steven Eck

Name: Steven Eck
Title: Senior Vice President and Chief Accounting Officer (Authorized Signatory)

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, as of February 11, 2022.

/s/ Michael Stubblefield Michael Stubblefield	Director, President and Chief Executive Officer
/s/ Thomas A. Szlosek Thomas A. Szlosek	Executive Vice President and Chief Financial Officer
/s/ Steven Eck Steven Eck	Senior Vice President and Chief Accounting Officer
/s/ Rajiv Gupta Rajiv Gupta	Chairman of the Board of Directors
/s/ Juan Andres Juan Andres	Director
/s/ Michael Severino Michael Severino	Director
/s/ Matthew Holt Matthew Holt	Director
/s/ John Carethers John Carethers	Director
/s/ Joseph Massaro Joseph Massaro	Director
/s/ Jonathan Peacock Jonathan Peacock	Lead Independent Director

/s/ Lan Kang	Director
Lan Kang	
/s/ Christi Shaw	Director
Christi Shaw	
/s/ Greg Summe	Director
Greg Summe	
/s/ Mala Murthy	Director
Mala Murthy	

[THIS PAGE INTENTIONALLY LEFT BLANK]

Avantor, Inc. and subsidiaries
Index to consolidated financial statements

	Page
Report of independent registered public accounting firm	F-2
Consolidated balance sheets	F-5
Consolidated statements of operations	F-6
Consolidated statements of comprehensive income or loss	F-7
Consolidated statements of stockholders' equity or deficit	F-8
Consolidated statements of cash flows	F-10
Notes to consolidated financial statements	F-12

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Avantor, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Avantor, Inc. and subsidiaries (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive income or loss, stockholders' equity or deficit, and cash flows for each of the three years in the period ended December 31, 2021, 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, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, 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, 2021, 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 February 11, 2022 expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 3 to the financial statements, effective January 1, 2019, the Company adopted the Financial Accounting Standards Board's new standard related to leases using the modified retrospective approach.

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 Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill —Americas and Europe Reporting Units - Refer to Notes 2, 6 and 11 to the financial statements

Critical Audit Matter Description

Goodwill is tested for impairment at the reporting unit level on October 1 of each year or more frequently whenever an event or change in circumstance occurs that would require reassessment of the recoverability of the asset. Quantitative impairment testing requires the Company to estimate the fair value of each of its four reporting units. The Company estimates the fair value of each reporting unit using a weighted average of two valuation methods based on a discounted cash flows method and a guideline public company method. These valuation methods require management to make various assumptions, which include, but are not limited to, future profitability, cash flows, discount rates, weighting of valuation methods, and the selection of comparable publicly traded companies (peer groups). If the Company determines the carrying value of a reporting unit exceeds its fair value, an impairment charge is recorded for the excess. No impairment charges were recorded as each reporting unit had a fair value substantially in excess of its carrying value.

The assumptions management made to estimate fair value for the Americas and Europe reporting units under the discounted cash flows method included net sales growth and discount rates and, under the guideline public company method, the selection of appropriate peer groups and market multiples. Performing audit procedures to evaluate the reasonableness of these assumptions for the Americas and Europe reporting units required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures over management's estimates of net sales growth and discount rates as well as the selection of peer groups and market multiples for the Americas and Europe reporting units included the following, among others:

- We tested the effectiveness of controls over management's goodwill impairment testing, including those over management's assumptions of net sales growth and discount rates under the discounted cash flows method and the selection of appropriate peer groups and market multiples under the guideline public company method.

- We evaluated management's ability to accurately forecast net sales growth by comparing management's forecasts reflected in the prior period Americas and European reporting unit forecasts to actual results.

- With the assistance of our fair value specialists, we evaluated the reasonableness of the discount rate assumptions and the selection of peer groups and guideline public company market multiples, including testing the underlying information supporting these assumptions and the mathematical accuracy of the calculations.

/s/ Deloitte & Touche LLP

Philadelphia, Pennsylvania
February 11, 2022

We have served as the Company's auditor since 2010.

Avantor, Inc. and subsidiaries
Consolidated balance sheets

(in millions)	December 31, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 301.7	$ 286.6
Accounts receivable, net of allowances of $26.4 and $26.2	1,222.1	1,113.3
Inventory	872.0	739.6
Other current assets	81.4	91.4
Total current assets	2,477.2	2,230.9
Property, plant and equipment, net of accumulated depreciation of $445.2 and $388.3	705.5	549.9
Other intangible assets, net (see note 11)	5,140.3	4,048.8
Goodwill	5,341.1	2,860.2
Other assets	233.1	216.7
Total assets	$ 13,897.2	$ 9,906.5
Liabilities and stockholders' equity		
Current liabilities:		
Current portion of debt	$ 45.2	$ 26.4
Accounts payable	755.1	678.9
Employee-related liabilities	199.7	179.3
Accrued interest	49.8	44.5
Other current liabilities	401.0	313.6
Total current liabilities	1,450.8	1,242.7
Debt, net of current portion	6,978.0	4,867.5
Deferred income tax liabilities	913.0	723.9
Other liabilities	358.4	398.1
Total liabilities	9,700.2	7,232.2
Commitments and contingencies (see note 13)		
Stockholders' equity:		
MCPS including paid-in capital, 20.7 shares outstanding	1,003.7	1,003.7
Common stock including paid-in capital, 609.7 and 580.1 shares outstanding	2,752.6	1,737.6
Accumulated earnings (deficit)	483.9	(88.7)
Accumulated other comprehensive (loss) income	(43.2)	21.7
Total stockholders' equity	4,197.0	2,674.3
Total liabilities and stockholders' equity	$ 13,897.2	$ 9,906.5

The accompanying notes are an integral part of these consolidated financial statements

Avantor, Inc. and subsidiaries
Consolidated statements of operations

(in millions, except per share data)	Year ended December 31, 2021	2020	2019
Net sales	$ 7,386.1	$ 6,393.6	$ 6,040.3
Cost of sales	4,883.4	4,313.1	4,119.6
Gross profit	2,502.7	2,080.5	1,920.7
Selling, general and administrative expenses	1,530.5	1,373.7	1,368.9
Operating income	972.2	706.8	551.8
Interest expense	(217.4)	(307.6)	(440.0)
Loss on extinguishment of debt	(12.4)	(346.8)	(73.7)
Other income, net	10.6	9.9	2.5
Income before income taxes	753.0	62.3	40.6
Income tax (expense) benefit	(180.4)	54.3	(2.8)
Net income	572.6	116.6	37.8
Accumulation of yield on preferred stock	(64.6)	(64.6)	(152.5)
Accretion of make whole premium on series A preferred stock	—	—	(220.4)
Net income (loss) available to common stockholders	$ 508.0	$ 52.0	$ (335.1)
Earnings (loss) per share:			
Basic	0.86	0.09	(0.84)
Diluted	0.85	0.09	(0.84)
Weighted average shares outstanding:			
Basic	590.5	576.3	401.2
Diluted	599.6	583.4	401.2

The accompanying notes are an integral part of these consolidated financial statements

Avantor, Inc. and subsidiaries
Consolidated statements of comprehensive income or loss

(in millions)	Year ended December 31, 2021	2020	2019
Net income	$ 572.6	$ 116.6	$ 37.8
Other comprehensive (loss) income:			
Foreign currency translation — unrealized (loss) gain	(62.8)	106.4	(3.3)
Derivative instruments:			
Unrealized gain (loss)	(1.6)	1.0	(1.4)
Reclassification of loss (gain) into earnings	3.5	(1.7)	(0.9)
Adjustments to defined benefit plans	8.0	(7.7)	(19.5)
Other comprehensive (loss) income before income taxes	(52.9)	98.0	(25.1)
Income tax (expense) benefit	(12.0)	9.6	5.7
Other comprehensive (loss) income	(64.9)	107.6	(19.4)
Comprehensive income	$ 507.7	$ 224.2	$ 18.4

The accompanying notes are an integral part of these consolidated financial statements

Avantor, Inc. and subsidiaries
Consolidated statements of stockholders' equity or deficit

(in millions)	MCPS including paid-in capital		Common stock including paid-in capital		Accumulated (deficit) earnings	AOCI	Total
	Shares	Amount	Shares	Amount			
Balance on December 31, 2018	—	$ —	132.8	$ (2,746.8)	$ (238.4)	$ (66.5)	$ (3,051.7)
Impact of new accounting standard	—	—	—	—	(3.1)	—	(3.1)
Issuances, net of issuance costs	20.7	1,003.7	238.1	3,231.9	—	—	4,235.6
Conversion of JCPS	—	—	194.5	1,562.0	—	—	1,562.0
Comprehensive income (loss)	—	—	—	—	37.8	(19.4)	18.4
Stock-based compensation expense	—	—	—	64.4	—	—	64.4
Accumulation of yield on preferred stock	—	—	—	(152.5)	—	—	(152.5)
Accretion of make whole premium on series A preferred stock	—	—	—	(220.4)	—	—	(220.4)
Exercise of stock options	—	—	0.4	0.7	—	—	0.7
Exercise of warrants	—	—	7.0	—	—	—	—
Award reclassification	—	—	—	8.8	—	—	8.8
Balance on December 31, 2019	20.7	$ 1,003.7	572.8	$ 1,748.1	$ (203.7)	$ (85.9)	$ 2,462.2
Impact of new accounting standard	—	—	—	—	(1.6)	—	(1.6)
Comprehensive income	—	—	—	—	116.6	107.6	224.2
Stock-based compensation expense	—	—	—	42.2	—	—	42.2
Accumulation of yield on preferred stock	—	—	—	(64.6)	—	—	(64.6)
Exercise of stock options and other common stock transactions	—	—	7.3	11.9	—	—	11.9
Balance on December 31, 2020	20.7	$ 1,003.7	580.1	$ 1,737.6	$ (88.7)	$ 21.7	$ 2,674.3

The accompanying notes are an integral part of these consolidated financial statements

Avantor, Inc. and subsidiaries
Consolidated statements of stockholders' equity or deficit (continued)

(in millions)	MCPS including paid-in capital		Common stock including paid-in capital		Accumulated (deficit) earnings	AOCI	Total
	Shares	Amount	Shares	Amount			
Balance on December 31, 2020	20.7	$ 1,003.7	580.1	$ 1,737.6	$ (88.7)	$ 21.7	$ 2,674.3
Comprehensive income (loss)	—	—	—	—	572.6	(64.9)	507.7
Issuance of stock, net of issuance costs	—	—	23.8	967.0	—	—	967.0
Stock-based compensation expense	—	—	—	47.7	—	—	47.7
Accumulation of yield on preferred stock	—	—	—	(64.6)	—	—	(64.6)
Stock option exercises and other common stock transactions	—	—	5.8	64.9	—	—	64.9
Balance on December 31, 2021	20.7	$ 1,003.7	609.7	$ 2,752.6	$ 483.9	$ (43.2)	$ 4,197.0

The accompanying notes are an integral part of these consolidated financial statements

Avantor, Inc. and subsidiaries
Consolidated statements of cash flows

(in millions)	Year ended December 31, 2021	2020	2019
Cash flows from operating activities:			
Net income	$ 572.6	$ 116.6	$ 37.8
Reconciling adjustments:			
Depreciation and amortization	379.2	395.4	398.9
Stock-based compensation expense	50.7	44.1	67.9
Non-cash restructuring charges	—	—	10.4
Provision for accounts receivable and inventory	44.9	69.5	48.1
Deferred income tax benefit	(17.7)	(87.5)	(106.7)
Amortization of deferred financing costs	16.3	23.4	33.5
Loss on extinguishment of debt	12.4	346.8	73.7
Foreign currency remeasurement loss (gain)	6.7	(0.9)	2.4
Changes in assets and liabilities:			
Accounts receivable	(111.8)	(102.4)	(68.9)
Inventory	(129.8)	(69.7)	(84.1)
Accounts payable	64.9	110.6	(2.0)
Accrued interest	5.3	(29.7)	(2.4)
Other assets and liabilities	56.9	110.7	(49.3)
Other, net	3.0	2.9	(5.3)
Net cash provided by operating activities	953.6	929.8	354.0
Cash flows from investing activities:			
Capital expenditures	(111.1)	(61.6)	(51.6)
Cash paid for acquisitions, net of cash acquired	(4,014.1)	—	—
Other	3.5	2.5	9.5
Net cash used in investing activities	$ (4,121.7)	$ (59.1)	$ (42.1)

The accompanying notes are an integral part of these consolidated financial statements

Avantor, Inc. and subsidiaries
Consolidated statements of cash flows (continued)

(in millions)	Year ended December 31, 2021	2020	2019
Cash flows from financing activities:			
Debt borrowings	$ 2,834.6	$ 3,938.8	$ 1.3
Debt repayments	(533.9)	(4,361.5)	(1,878.6)
Payments of debt refinancing fees and premiums	(40.6)	(315.8)	—
Payments of contingent consideration	—	—	(4.6)
Proceeds from issuance of stock, net of issuance costs	967.0	—	4,235.6
Payments of dividends on preferred stock	(64.6)	(64.6)	(31.3)
Redemption of series A preferred stock	—	—	(2,630.9)
Proceeds received from exercise of stock options	82.5	20.2	0.7
Shares repurchased to satisfy employee tax obligations for vested stock-based awards	(25.8)	—	—
Net cash provided by (used in) financing activities	3,219.2	(782.9)	(307.8)
Effect of currency rate changes on cash	(13.2)	12.1	(2.5)
Net change in cash, cash equivalents and restricted cash	37.9	99.9	1.6
Cash, cash equivalents and restricted cash, beginning of year	289.2	189.3	187.7
Cash, cash equivalents and restricted cash, end of year	$ 327.1	$ 289.2	$ 189.3

The accompanying notes are an integral part of these consolidated financial statements

1. Nature of operations and presentation of financial statements

We are a global manufacturer and distributor that provides products and services to customers in the biopharmaceutical, healthcare, education & government and advanced technologies & applied materials industries.

Basis of presentation

The accompanying financial statements have been prepared in accordance with the rules and regulations of the SEC for annual reports and GAAP. The financial statements include the accounts of Avantor, Inc., its consolidated subsidiaries, and those business entities in which we maintain a controlling interest.

For the periods presented, all share and per share information has been adjusted for a stock split that occurred in connection with our IPO.

The financial statements reflect the adoptions of a new lease standard at January 1, 2019 and a new credit losses standard at January 1, 2020. Information about these new accounting standards is disclosed in note 3.

Principles of consolidation

All intercompany balances and transactions have been eliminated from the financial statements.

Use of estimates

The preparation of financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported throughout the financial statements. Actual results could differ from those estimates.

Secondary offerings

On September 15, 2021, we issued 23.81 million shares of our common stock, at a public offering price of $42.00 per share. The proceeds from this offering were $967.0 million, net of $33.0 million of offering costs. The proceeds were used to partially finance the acquisition of Masterflex as discussed in footnote 4 of our consolidated financial statements.

2. Summary of significant accounting policies

Earnings or loss per share

Basic earnings or loss per share is computed by dividing net income or loss available to common stockholders by the weighted average number of common shares outstanding during the reporting period. In historical periods, junior convertible preferred stock and warrants were accounted for under a two-class method, but for all periods presented, those instruments were excluded from the calculation because they did not participate in losses.

Diluted earnings per share is computed based on the weighted average number of common shares outstanding increased by the number of additional shares that would have been outstanding had the

potentially dilutive common shares been issued and reduced by the number of shares we could have repurchased with the proceeds from the issuance of the potentially dilutive shares. Variable conversion ratios are determined as of period end. Preferred dividends are added back to net income or loss available to common stockholders provided that the preferred securities are not anti-dilutive to the calculation.

In periods of net loss available to common stockholders, diluted calculations are equal to basic calculations because the inclusion of dilutive shares would be anti-dilutive.

Segment reporting

We report three geographic segments based on customer location: the Americas, Europe and AMEA. Our operating segments are the same as our reportable segments.

None of our customers contributed more than 10% to our net sales, and we disclose net sales for the following product lines: proprietary materials & consumables, third party materials & consumables, services & specialty procurement and equipment & instrumentation.

We disclose geographic data for our two largest countries, the United States and Germany, as a percentage of consolidated net sales. No other countries were individually material. We also disclose certain regional data because of differences in geopolitical and / or competitive conditions. We disclose property and equipment by geographic area because many of these assets cannot be readily moved and are illiquid, subjecting them to geographic risk. None of our other long-lived assets are subject to significant geopolitical risk. We do not manage total assets on a segment basis. Segment information about interest expense, income tax expense or benefit and other significant non-cash items are not disclosed because they are not included in the segment profitability measurement nor are they otherwise provided to our chief operating decision maker on a regular basis.

Cash and cash equivalents

Cash equivalents are comprised of highly-liquid investments with original maturities of three months or less. Bank overdrafts are classified as current liabilities, and changes to bank overdrafts are presented as a financing activity on our consolidated statements of cash flows.

Accounts receivable and allowance for current expected credit losses

Substantially all of our accounts receivable are trade accounts that are recorded at the invoiced amount and generally do not bear interest. Accounts receivable are presented net of an allowance for current expected credit losses. We consider many factors in estimating our allowance including the age of our receivables, historical collections experience, customer types, creditworthiness and economic trends. Account balances are written off against the allowance when we determine it is probable that the receivable will not be recovered.

Inventory

Inventory consists of merchandise inventory related to our distribution business and finished goods, raw materials and work in process related to our manufacturing business. Goods are removed from inventory as follows:

- Merchandise inventory purchased by certain U.S. subsidiaries using the last-in, first-out method.

- All other merchandise inventory using the first-in, first-out method.
- Manufactured inventories using an average cost method.

Inventory is valued at the lower of cost or net realizable value. Cost for manufactured goods is determined using standard costing methods to estimate raw materials, labor and overhead consumed. Variances from actual cost are recorded to inventory at period-end. Cost for other inventory is based on amounts invoiced by suppliers plus freight. If net realizable value is less than carrying value, we reduce the carrying amount to net realizable value and record a loss in cost of sales.

Property, plant and equipment

Property, plant and equipment are stated at cost. Depreciation is recognized using the straight-line method over estimated useful lives of three to 40 years for buildings and related improvements, three to 20 years for machinery and equipment and three to 10 years for capitalized software. Leasehold improvements are depreciated on a straight-line basis over the shorter of the estimated useful lives of the assets or the estimated remaining life of the lease. Depreciation is classified as cost of sales or SG&A expense based on the use of the underlying asset.

Software development costs are capitalized as property, plant and equipment once the preliminary project stage is completed and management commits to funding the project if it is probable that the project will be completed for its intended use. Preliminary project planning and training costs related to software are expensed as incurred.

Impairment of long-lived assets

Long-lived assets include property, plant and equipment, finite-lived intangible assets and certain other assets. For impairment testing purposes, long-lived assets may be grouped with working capital and other types of assets or liabilities if they generate cash flows on a combined basis.

We evaluate long-lived assets or asset groups for impairment whenever events or changes in circumstances indicate a potential inability to recover their carrying amounts. Impairment is determined by comparing their carrying value to their estimated undiscounted future cash flows. If long-lived assets or asset groups are impaired, the loss is measured as the amount by which their carrying value exceed their fair value.

Goodwill and other intangible assets

Goodwill represents the excess of the price of an acquired business over the aggregate fair value of its net assets. Other intangible assets consist of both finite-lived and indefinite-lived intangible assets.

Goodwill and other indefinite-lived intangible assets are tested annually for impairment on October 1 of each year. Goodwill impairment testing is performed at the reporting unit level. Our reporting units are Americas, NuSil, Europe and AMEA.

All of our intangible assets, including goodwill, are tested for impairment whenever an impairment indicator arises. Examples of impairment indicators include unexpected adverse business conditions, economic factors, unanticipated technological changes or competitive activities, loss of key personnel and acts or anticipated acts by governments and courts.

The impairment analysis for goodwill and indefinite-lived intangible assets consists of an optional qualitative assessment potentially followed by a quantitative analysis. If we determine that the carrying value of a reporting unit or an indefinite-lived intangible asset exceeds its fair value, an impairment charge is recorded for the excess.

Indefinite-lived intangible assets are not amortized. Annually, we evaluate whether these assets continue to have indefinite lives, considering whether they have any legal, regulatory, contractual, competitive or economic limitations and whether they are expected to contribute to the generation of cash flows indefinitely.

Finite-lived intangible assets are amortized over their estimated useful lives on a straight-line basis, with customer relationships amortized over lives of ten to 20 years, tradenames amortized over a life of 10 years to 22.5 years and other finite-lived intangible assets amortized over lives of five to 20 years. Amortization is classified in SG&A expenses. We reevaluate the estimated useful lives of our finite-lived intangible assets annually.

Restructuring and severance charges

Restructuring plans are designed to improve gross margins and reduce operating costs over time. We typically incur upfront charges to implement those plans related to employee severance, facility closure and other actions:

- *Employee severance and related* — Employee severance programs can be voluntary or involuntary. Voluntary severances are recorded at their reasonably estimated amount when associates accept severance offers. Involuntary severances covered by plan or statute are recorded at estimated amounts when probable and reasonably estimable. Significant judgment is required to determine probability and whether the amount can be reasonably estimated. Involuntary severances requiring continuing service are measured at fair value as of the termination date and recognized on a straight-line basis over the service period. Other involuntary severances are recognized at fair value on the date we notify associates of the severance plan, provided approval is obtained by the appropriate level of management.

- *Facility closure* — On the date we cease using a facility, facility lease assets are tested for impairment in the same way as other long-lived assets. The remaining lease expense is recognized between the period that we commit to cease use of a facility and the date we exit.

- *Other* — Other charges may be incurred to write down assets, divest businesses or for other reasons and are accounted for under applicable GAAP as described elsewhere in these policies.

Restructuring and severance charges are classified as SG&A expenses. Accrued restructuring and severance charges are classified as employee-related or current liabilities if we anticipate settlement within one year, otherwise they are included in other liabilities.

Contingencies

Our business exposes us to various contingencies including compliance with environmental laws and regulations, legal exposures related to the manufacture and sale of products and other matters. Loss

contingencies are reflected in the financial statements based on our assessments of their expected outcome or resolution:

- They are recognized as liabilities on our balance sheet if the potential loss is probable and the amount can be reasonably estimated.

- They are disclosed if the potential loss is material and considered at least reasonably possible.

Significant judgment is required to determine probability and whether the amount can be reasonably estimated. Due to uncertainties related to these matters, accruals are based only on the information available at the time. As additional information becomes available, we reassess potential liabilities and may revise our previous estimates.

Debt

Borrowings under lines of credit are stated at their face amount. Borrowings under term debt and through the issuance of notes are stated at their face amounts net of unamortized deferred financing costs, including any original issue discounts or premiums.

The accounting for financing costs depends on whether debt is newly issued, extinguished or modified. That determination is made on an individual lender basis when the lenders are part of a syndication. When new debt is issued, financing costs and discounts are deferred and recognized as interest expense through maturity of the debt. When debt is extinguished, unamortized deferred financing costs and discounts are written off and presented as a loss on extinguishment of debt. When debt is modified, new financing costs and prior unamortized deferred financing costs may be either (i) immediately recognized as interest expense, other expense, or SG&A expense or (ii) deferred and recognized as interest expense through maturity of the modified debt, depending on the type of cost and whether the modification was substantial or insubstantial.

Borrowings and repayments under lines of credit are short-term in nature and presented on the statement of cash flows on a net basis.

Equity

Stockholders' equity or deficit comprises nonredeemable ownership interests in MCPS and common stock. Our accounting policies for these instruments are as follows:

- MCPS is classified as permanent equity and initially recorded at fair value, net of issuance costs. Accrued but unpaid MCPS dividends are classified as other current liabilities with a corresponding reduction to common stock including paid-in capital.

- Common stock is presented at par value plus additional paid-in amounts, net of issuance costs. Distributions are accounted for as reductions to common stock including paid-in capital and are classified as financing activities on the statement of cash flows.

- Upon issuance, paid-in capital is allocated among host stock instruments and detachable warrants on a relative fair value basis.

Costs directly associated with new equity issuances are recorded as other current assets until the issuances are completed or abandoned. If the issuance is completed, the costs are reclassified to stockholders'

equity and presented as a reduction of proceeds received. If the issuance is abandoned, the costs are reclassified to SG&A expenses. Costs associated with secondary equity offerings under a registration rights agreement are recorded as SG&A expenses.

Disclosures about certain classes of stock are provided in the footnotes and not stated separately on the balance sheet or statement of stockholders' equity or deficit when those presentations are not deemed to be material.

Revenue recognition

We recognize revenue by applying a five-step process: (i) identify the contract with a customer, (ii) identify the performance obligation in the contract, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations and (v) recognize revenue as the performance obligations are satisfied by transferring control of the performance obligation through delivery of a promised product or service to a customer.

Control of a performance obligation may transfer to the customer either at a point in time or over time depending on an evaluation of the specific facts and circumstances for each contract, including the terms and conditions of the contract as agreed with the customer, as well as the nature of the products or services to be provided. The substantial majority of our net sales are recognized at a point in time based upon the delivery of products to customers pursuant to purchase orders. We recognize service revenues and sales of certain of our custom-manufactured products over time as control passes to the customer concurrent with our performance. We are able to fulfill most purchase orders rapidly, and service and custom-manufacturing cycles are short. As a result, we do not record material contract assets or liabilities, nor do we have material unfulfilled performance obligations.

We have elected to use the practical expedient not to adjust the transaction price of a contract for the effects of a significant financing component if, at the inception of the contract, we expect that the period between when we transfer a promised good or service to a customer and when the customer pays for that good or service will be one year or less.

Some customer contracts include variable consideration, such as rebates, some of which depend upon our customers meeting specified performance criteria, such as a purchasing level over a period of time. We use judgment to estimate the value of these pricing arrangements at each reporting date and record contract assets or liabilities to the extent that estimated values are recognized at a different time than the revenue for the related products. When estimating variable consideration, we also apply judgment when considering the probability of whether a reversal of revenue could occur and only recognize revenue subject to this constraint.

The only significant costs we incur to obtain contracts are related to sales commissions. These commissions are primarily based on purchase order amounts, not recoverable and not applicable to periods greater than one year. We elected to apply the practical expedient to expense these costs as incurred as if the amortization period of the asset that would have otherwise been recognized is one year or less.

Performance obligations following the delivery of products, such as rights of return and warranties, are not material. No other types of revenue arrangements were material to our consolidated financial statements.

Classification of expenses — cost of sales

Cost of sales includes the cost of the product, depreciation of production assets, supplier rebates, shipping and receiving charges and inventory adjustments. For manufactured products, the cost of the product includes direct and indirect manufacturing costs, plant administrative expenses and the cost of raw materials consumed in the manufacturing process.

Classification of expenses — selling, general and administrative

Selling, general and administrative expenses include personnel and facility costs, amortization of intangible assets, depreciation of non-production assets, research and development costs, advertising expense, promotional charges and other charges related to our global operations. Research and development expenses were not material for the periods presented.

Employee benefit plans

Some of our employees participate in defined benefit plans that we sponsor. We present these plans as follows due to their differing geographies, characteristics and actuarial assumptions:

- *U.S. plans* — Two plans based in the United States, one of which we acquired from VWR in 2017. Another plan acquired from VWR was merged with ours in 2018. The U.S. plans are closed to participants who joined the Company after 2018, and annual accruals of future pension benefits for participating employees are not material to our financial statements.

- *Non-U.S. plans* — Eight plans for our employees around the world that we acquired from VWR in 2017, most of which continue to accrue future pension benefits.

- *Medical plan* — A post-retirement medical plan for certain employees in the United States. The medical plan is closed to new employees, and annual accruals of future pension benefits for participating employees are not material to our financial statements.

We sponsor a number of other defined benefit plans around the world that are not material individually or in the aggregate and therefore are not included in our disclosures. Defined contribution and other employee benefit plans are also not material.

The cost of our defined benefit plans is incurred systematically over expected employee service periods. We use actuarial methods and assumptions to determine expense each period and the value of projected benefit obligations. Actuarial changes in the projected value of defined benefit obligations are deferred to AOCI and recognized in earnings systematically over future periods. The portion of cost attributable to continuing employee service is included in selling, general and administrative expenses. The rest of the cost is included in other income or expense, net.

Stock-based compensation expense

Some of our management and directors are compensated with stock-based awards. Stock-based compensation expense is included in SG&A expenses on the statement of operations.

Stock options and RSUs

We measure the expense of stock options and RSUs based on their grant-date fair values. These awards typically vest with continuing service, so expense is recognized on a straight-line basis from the date of grant through the end of the requisite service period. When awards are contingent upon the achievement of a performance condition, we record expense over the life of the awards in accordance with the probability of achievement. We measure the expense of awards with a market condition based on the grant-date fair value, which includes the probability of achieving the market condition. We recognize forfeitures of unvested awards as they occur by reversing any expense previously recorded in the period of forfeiture. We issue new shares of common stock upon exercise or vesting of awards.

The grant-date fair value of stock options is measured using the Black-Scholes pricing model using assumptions based on the terms of each stock option agreement, the expected behavior of grant recipients and peer company data. We have limited historical data about our own awards upon which to base our assumptions. Expected volatility is calculated based on the observed equity volatility for a peer group over a period of time equal to the expected life of the stock options. The risk-free interest rate is based on U.S. Treasury observed market rates continuously compounded over the duration of the expected life. The expected life of stock options is estimated as the midpoint of the weighted average vesting period and the contractual term.

The grant-date fair value of RSUs is measured as the quoted closing price of our common stock on the grant date.

SARs

SARs were issued to our employees by a NuSil investor. Prior to their settlement in November 2019 (see note 18), these awards were accounted as contributed capital in a manner similar to how a parent accounts for a contribution to an equity-method investee. The contributed capital was required to be remeasured at fair value at the end of each reporting period. That contribution was included in the noncontrolling interest until it was derecognized in November 2017 in connection with a legal entity restructuring. Since then through November 2019, the contribution had been included within the common stock including paid-in capital. Changes to the fair value of the contributed capital were recognized as adjustments to stock-based compensation expense each period.

We estimated the fair value of SARs by measuring the equity value of the issuer of the SARs using ordinary valuation techniques. The applicable portion of the equity value was then allocated to the SARs based on their relative participation rights.

Award modifications

When stock-based compensation arrangements are modified, we treat the modification as an exchange of the original award for a new award and immediately recognize expense for the incremental value of the new award. The incremental value is measured as the excess of the fair value of new awards over the fair value of the original awards, each based on circumstances and assumptions as of the modification date. Fair value is measured using the same methods previously described.

Income taxes

Our worldwide income is subject to the income tax regulations of many governments. Income tax expense is calculated using an estimated global rate with recognition of deferred tax assets and liabilities for

expected temporary differences between taxable and reported income. Deferred tax assets and liabilities are measured using the enacted tax rates expected to apply to taxable income when those temporary differences are expected to reverse. We record a valuation allowance to reduce deferred tax assets to the amount that is more likely than not to be realized.

Income tax regulations change from time to time. The effect of a change in tax law on deferred tax assets and liabilities is recognized as a cumulative adjustment to income tax expense or benefit in the period of enactment. The effect of a change in tax law on the income tax expense or benefit itself is recognized prospectively for the applicable tax years.

Income tax regulations can be complex, requiring us to interpret tax law and take positions. Upon audit, tax authorities may challenge our positions. We regularly assess the outcome of potential examinations and only recognize positions that are more likely than not to be sustained. Recognized income tax positions are measured at the largest amount that is more likely than not of being realized. Changes in recognition or measurement are reflected in the period in which a change in judgment occurs, as a result of information that arises or when a tax position is effectively settled. We recognize accrued interest and penalties related to unrecognized tax benefits as a component of income tax expense in our consolidated financial statements.

Fair value measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at a measurement date. We classify fair value measurements based on the lowest of the following levels that is significant to the measurement:

- *Level 1* — Quoted prices in active markets for identical assets or liabilities
- *Level 2* — Inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability
- *Level 3* — Inputs that are unobservable for the asset or liability based on our evaluation of the assumptions market participants would use in pricing the asset or liability

We exercise considerable judgment when estimating fair value, particularly when evaluating what assumptions market participants would likely make. The use of different assumptions or estimation methodologies could have a material effect on the estimated fair values.

Foreign currency translation

Our operations span the globe, so we are impacted by changes in foreign currency exchange rates. We determine the functional currency of our subsidiaries based upon the primary currency used to generate and expend cash, which is usually the currency of the country in which the subsidiary is located. For subsidiaries with functional currencies other than the U.S. dollar, assets and liabilities are translated into U.S. dollars using period-end exchange rates, and revenues, expenses, income and losses of our subsidiaries are translated into U.S. dollars using monthly average exchange rates. The resulting foreign currency translation gains or losses are deferred as AOCI and reclassified to earnings only upon sale or liquidation of those businesses.

Gains and losses related to the remeasurement of debt and intercompany financing into functional currencies are reported in earnings as other income or expense, net. Gains and losses associated with the

remeasurement of operating assets and liabilities into functional currencies are reported within the applicable component of operating income.

Leases

We primarily enter into real estate leases for manufacturing, warehousing and commercial office space to support our global operations. We also enter into vehicle and equipment leases to support those operations.

We determine if an arrangement is a lease at inception. Short-term leases, defined as having an initial term of twelve months or less, are expensed as incurred and not recorded on the balance sheet. We record the value of all other leased property and the related obligations as assets and liabilities on the balance sheet. Information about the amount and classification of lease assets and liabilities is included in note 23.

At inception, lease assets and liabilities are measured at the present value of future lease payments over the lease term. As most of our leases do not provide an implicit rate, we exercise judgment in selecting the incremental borrowing rate based on the information available at inception to determine the present value of future payments. Operating lease assets are further adjusted for lease incentives and initial direct costs.

Our lease terms may include options to extend or terminate the lease. We exercise judgment to calculate the term of those leases when extension or termination options are present and include such options in the calculation of the lease term when it is reasonably certain that we will exercise those options. Operating lease expense is recognized on a straight-line basis over the lease term, except for variable rent which is expensed as incurred. Short-term lease and variable rent expense was immaterial to the financial statements and has been included within operating lease expense. Finance lease expense includes depreciation, which is recognized on a straight-line basis over the expected life of the leased asset, and an immaterial amount of interest expense.

Some of our lease agreements include both lease and non-lease components. We account for those components separately for real estate leases and as a combined single lease component for all other types of leases.

Business combinations

We account for business acquisitions under the accounting standards for business combinations. The results of each acquisition are included in our consolidated results as of the acquisition date and the purchase price of an acquisition is allocated to tangible and intangible assets and assumed liabilities based on their estimated fair values. Any excess of the fair value consideration transferred over the estimated fair values of the net assets acquired is recognized as goodwill.

Any purchase price that is considered contingent consideration is measured at its estimated fair value at the acquisition date. Contingent consideration is remeasured at the end of each reporting period, with changes in estimated fair value being recorded through SG&A expense within our statement of operations.

3. New accounting standards

New business combinations standard

In October 2021, the FASB issued Accounting Standards Update 2021-08, *Accounting for contract assets and contract liabilities from contracts with customers*, which amends the existing business combination guidance (Accounting Standards Codification Topic 805) to require acquiring entities to apply the new revenue recognition standard (Accounting Standards Codification Topic 606) to recognize and measure contract assets and contract liabilities in a business combination. As a result of the amendments under this new standard, it is expected that the acquirer in a business combination will generally recognize and measure acquired contract assets and contract liabilities in a manner consistent with how the acquired business recognized and measured them in the pre-acquisition financial statements.

The new standard is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, and early adoption is permitted. An entity that early adopts the standard at an interim date should apply the amendments (1) retrospectively to all business combinations for which the acquisition date occurs on or after the beginning of the fiscal year that includes the interim period of early application and (2) prospectively to all business combinations that occur on or after the date of initial application. We have elected to early adopt this standard and have applied the related accounting to each business combination that we completed in the current fiscal year. The impact of adopting this standard was not material to our financial statements.

New tax standard

In December 2019, the FASB issued a new standard to simplify the accounting for income taxes by removing certain exceptions to the existing guidance and also providing for additional clarification. This standard encompasses multiple amendments, and requires adoption either retrospectively, prospectively, or using a modified retrospective approach, depending on the amendment. For the amendments in which we are given the choice between adopting retrospectively or on a modified retrospective basis, we will adopt on a modified retrospective basis. All other amendments will be adopted using the method prescribed by the standard. The standard was effective on January 1, 2021 and its impact is immaterial.

New credit losses standard

In June 2016, the FASB issued a new standard that modifies the recognition of credit losses related to financial assets. Under the new standard, an entity must measure and record its total expected credit losses, rather than recording such losses when it is probable that they have occurred, as was required under the previous standard. We adopted the new guidance on January 1, 2020 using a modified retrospective approach applied to our portfolio of trade receivables as of that date. On the adoption date, we (i) recorded a $1.6 million cumulative effect adjustment to increase accumulated deficit, (ii) increased our allowance for credit losses to accounts receivable by $2.2 million, and (iii) recognized a $0.6 million reduction to deferred income tax liabilities.

New lease standard

In February 2016, the FASB issued a new standard related to leases. The most significant change for us was the recognition of new assets and liabilities for leases classified as operating leases. The standard also expanded disclosures about the amount, timing, and uncertainty of cash flows arising from leases. Our accounting for finance leases was substantially unchanged. Those new disclosures are provided in notes 2 and 23.

We adopted the standard effective January 1, 2019 using a modified retrospective transition approach whereby the new standard was applied to all leases existing at January 1, 2019 with a cumulative effect adjustment recorded in equity representing the cumulative earnings effect of this new standard. We elected to utilize the package of practical expedients permitted under the transition guidance in the standard which allowed us to not reassess (i) whether any expired or existing contracts contain leases, (ii) historical lease classification and (iii) initial direct costs.

The most significant impacts upon adoption were: (i) a $3.1 million cumulative effect adjustment that increased accumulated deficit and (ii) recognition of $155.0 million of operating lease assets and $162.5 million of operating lease liabilities. Other impacts were immaterial and included adjustments to existing finance lease assets and liabilities, recognition of deferred income tax assets and a similar amount of deferred income tax liabilities, and derecognition of prepaid rent expense assets.

Other

There were no other new accounting standards that we expect to have a material impact to our financial position or results of operations upon adoption.

4. Business combinations

Masterflex acquisition

On November 1, 2021, we completed the acquisition of Masterflex for preliminary cash consideration of $2,845.3 million. Masterflex is a leading global manufacturer of peristaltic pumps and aseptic single-use fluid transfer technologies. The acquisition strengthens Avantor's offering across all bioproduction and research platforms including monoclonal antibodies (mAbs), cell and gene therapy and mRNA, and supports both therapy and vaccine manufacturing including COVID-19.

We funded the acquisition through debt issuances of $900.0 million under our senior secured term loan facility and $800.0 million of 3.875% senior unsecured notes and gross proceeds from a secondary equity offering of $1,000.0 million, along with cash on hand. Additional details about the debt and equity offerings can be found in footnotes 14 and 15 to our consolidated financial statements, respectively.

The preliminary fair value of the net assets acquired on November 1, 2021 was $2,845.3 million, which included the following:

(in millions)	**November 1, 2021**
Inventory	$ 31.7
Property, plant & equipment	10.1
Other intangible assets	1,231.5
Goodwill	1,742.6
Other assets and liabilities	(31.6)
Deferred income taxes, net	(139.0)
Total net assets	$ 2,845.3

The assets acquired and liabilities assumed are recorded at their preliminary estimated fair values primarily within our Americas operating segment as of November 1, 2021, and remain subject to change

as we complete our determination of the final acquired assets and liabilities assumed, the impact of which could be material.

The following table summarizes the preliminary fair value of intangible assets acquired on November 1, 2021 and their related weighted average amortization periods:

(dollars in millions)	Fair value	Weighted average estimated life
Tradename	$ 236.7	22.5 years
Customer relationships	736.9	15.0 years
Developed technology	257.9	11.0 years
Total	$ 1,231.5	

Given the timing of the acquisition, the preliminary intangible asset allocation and their respective estimated useful lives were determined based on an industry benchmarking analysis of the allocation of the percentage of intangible assets of purchase price from recent comparable transactions. The difference between the benchmark estimate and the final fair values may be material. The goodwill represents intellectual capital and the acquired assembled workforce, which are other intangible assets that do not qualify for separate recognition. A portion of the goodwill is deductible for tax purposes.

Since the acquisition date, Masterflex has generated revenues of $40.6 million.

Ritter GmbH acquisition

On June 10, 2021, we completed the acquisition of Ritter GmbH for net cash consideration of $1,079.8 million, and contingent consideration with an initial fair value of $6.1 million. Ritter GmbH's current business is focused on providing diagnostic system providers and liquid handling OEMs with robotic fluid handling tips, plates, and other consumables. The combination of our companies expanded our proprietary offerings to our biopharma and healthcare customers and enhance our offerings for critical lab automation workflows. The combined businesses also share similar characteristics including a recurring, specification-driven revenue profile and a consumable-driven portfolio of products produced to exacting standards that enhances our unique customer value proposition.

To fund the acquisition, we issued debt under our senior secured term loan facility in an aggregate principal amount of $1,134.6 million.

The purchase consideration is as follows:

(in millions)	June 10, 2021
Cash paid at closing	$ 1,084.5
Cash acquired	(4.7)
Net cash consideration	1,079.8
Fair value of acquisition contingent consideration	6.1
Purchase price	$ 1,085.9

The contingent consideration has a maximum potential payout of €300.0 million over three years. The fair value of the contingent consideration is determined using a Monte Carlo simulation as further described in note 22.

The fair value of the net assets acquired on June 10, 2021 was $1,085.9 million, which included the following:

(in millions)	**June 10, 2021**
Accounts receivable	$ 33.7
Inventory	30.0
Property, plant & equipment	141.2
Other intangible assets	220.0
Goodwill	807.0
Other assets and liabilities	(0.2)
Accounts payable	(21.5)
Accrued expenses	(37.2)
Debt	(20.4)
Deferred income taxes, net	(66.7)
Total net assets	$ 1,085.9

The following table summarizes the fair value of intangible assets acquired on June 10, 2021 and their related weighted average amortization period:

(dollars in millions)	**Fair value**	**Weighted average estimated life**
Customer relationships	$ 125.0	18.0 years
Developed technology	95.0	7.0 years
Total	$ 220.0	

The goodwill represents intellectual capital and the acquired assembled workforce, which are other intangible assets that do not qualify for separate recognition. Of the goodwill recognized, none is deductible for tax purposes.

Since the acquisition date, Ritter generated revenues of $108.3 million.

RIM Bio acquisition

On June 1, 2021, we completed the acquisition of RIM Bio, a China-based single-use bioprocess bag manufacturer. RIM Bio's current business provides a complete range of single-use 2D bags, 3D bags, tank liners, bag assemblies and multi-bag manifolds used in the manufacturing of biologics including monoclonal antibodies (mAbs), vaccines, cell and gene therapies, and recombinant proteins. The addition of RIM Bio enables us to better serve our customers by expanding our single-use manufacturing, distribution, and cleanroom capabilities to the AMEA region. The impact of this acquisition is not material to our consolidated financial statements.

Acquisition-related costs of completed acquisitions

For the year ended December 31, 2021, we incurred $77.8 million of acquisition-related costs. These costs consist of non-recurring legal, accounting, investment banking, certain financing and consulting fees incurred to complete our acquisitions. All acquisition costs are expensed in the period incurred and excluded from Adjusted EBITDA, as shown in footnote 7 of these consolidated financial statements. These acquisition costs have been primarily recorded within the Europe, Americas and Corporate operating segments and presented in SG&A in the consolidated statements of operations.

Proforma disclosures

The following unaudited pro forma combined financial information for the fiscal years ended December 31, 2021 and 2020 gives effect to the Ritter and Masterflex acquisitions as if they had occurred on January 1, 2020. The pro forma information is not necessarily indicative of the results of operations that actually would have occurred under the ownership and management of the Company.

	Year ended December 31,	
(in millions)	**2021**	**2020**
Revenue	$ 7,699.2	$ 6,716.5
Net income (loss)	609.3	(29.9)

The unaudited pro forma combined financial information presented above includes the accounting effects of the Ritter and Masterflex acquisitions, including, to the extent applicable, amortization charges from acquired intangible assets; depreciation of property, plant and equipment that have been revalued; transaction costs; interest expense; and the related tax effects.

5. Earnings per share

The following table presents the reconciliation of basic and diluted earnings per share for the years ended December 31, 2021 and 2020:

	Year ended December 31, 2021			Year ended December 31, 2020		
(in millions, except per share data)	**Earnings (numerator)**	**Weighted average shares outstanding (denominator)**	**Earnings per share**	**Earnings (numerator)**	**Weighted average shares outstanding (denominator)**	**Earnings per share**
Basic	$ 508.0	590.5	$ 0.86	$ 52.0	576.3	$ 0.09
Dilutive effect of stock-based awards	—	9.1		—	7.1	
Diluted	$ 508.0	599.6	$ 0.85	$ 52.0	583.4	$ 0.09

For the years ended December 31, 2021 and 2020, diluted earnings per share included accumulation of yield on preferred stock of $64.6 million, and excluded 62.9 million of common stock equivalents under the MCPS because they were anti-dilutive to the calculation.

For the year ended December 31, 2019, basic and diluted loss per share calculations were the same because we reported a net loss available to common stockholders. The following table presents the number of common shares from convertible instruments that were excluded from the calculations of diluted loss per share because their effect would have been anti-dilutive:

(in millions)	**Year ended December 31, 2019**
Stock options	23.0
Restricted stock units	4.2
MCPS	62.9
Total	90.1

6. Risks and uncertainties

Remeasurement of foreign-denominated debt and intercompany borrowings

Our operations span the globe. To fund those operations, we have entered into significant Euro-denominated indebtedness (see note 14), and we have also established significant intercompany borrowings among our subsidiaries that are denominated in various currencies. Changes in foreign currency exchange rates, particularly the Euro, have required us to record gains and losses, some of which have been significant, to remeasure the debt and the intercompany borrowings into functional currencies of the subsidiaries holding them.

On July 11, 2019, we completed an intercompany recapitalization that is intended to mitigate substantially all of our net Euro financing exposure in future periods. We still expect to record gains and losses related to intercompany borrowings denominated in other currencies. Historically, the remeasurement of borrowings denominated in currencies other than the Euro has not been material.

Impairment testing

On October 1, 2021, we performed quantitative annual impairment testing of goodwill for each of our reporting units. We did not record any impairment charges. Each reporting unit had a fair value that was substantially in excess of its carrying value.

Unfavorable changes to forecasted results and other assumptions used to determine fair values of reporting units or long-lived assets could present a risk of impairment in future periods. We have not recorded any material impairments during the periods presented.

Collective bargaining arrangements

As of December 31, 2021, approximately 6% of our employees in North America were represented by unions, and a majority of our employees in Europe are represented by workers' councils or unions.

7. Segment financial information

We report based on three geographic segments based on customer location: the Americas, Europe and AMEA. Each segment manufactures and distributes solutions for the life sciences and advanced technologies & applied materials industries. Corporate costs are managed on a standalone basis and not allocated to segments.

The following tables present information by reportable segment:

	Net sales Year ended December 31,			Adjusted EBITDA Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**	**2021**	**2020**	**2019**
Americas	$ 4,237.4	$ 3,731.5	$ 3,584.8	$ 978.4	$ 802.4	$ 703.5
Europe	2,677.3	2,286.7	2,102.0	538.5	397.8	356.2
AMEA	471.4	375.4	353.5	113.9	79.8	81.3
Corporate	—	—	—	(172.2)	(138.4)	(109.8)
Total	$ 7,386.1	$ 6,393.6	$ 6,040.3	$ 1,458.6	$ 1,141.6	$ 1,031.2

	Capital expenditures Year ended December 31,			Depreciation and amortization Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**	**2021**	**2020**	**2019**
Americas	$ 75.0	$ 36.0	$ 32.8	$ 232.3	$ 245.8	$ 249.7
Europe	33.3	22.2	12.7	140.9	139.8	141.0
AMEA	2.8	3.4	6.1	6.0	9.8	8.2
Total	$ 111.1	$ 61.6	$ 51.6	$ 379.2	$ 395.4	$ 398.9

The amounts above exclude inter-segment activity because it is not material. All of the net sales for each segment are from external customers.

The following table presents the reconciliation of Adjusted EBITDA from net income or loss:

(in millions)	Year ended December 31, 2021	2020	2019
Net income	$ 572.6	$ 116.6	$ 37.8
Interest expense	217.4	307.6	440.0
Income tax expense (benefit)	180.4	(54.3)	2.8
Depreciation and amortization	379.2	395.4	398.9
Loss on extinguishment of debt	12.4	346.8	73.7
Net foreign currency loss (gain) from financing activities	1.3	(0.7)	1.9
Other stock-based compensation expense	3.0	1.3	36.8
Acquisition-related expenses[1]	77.8	—	1.7
Integration-related expenses[2]	15.9	17.1	24.0
Purchase accounting adjustments[3]	6.3	—	(10.7)
Restructuring and severance charges[4]	5.3	11.8	24.3
Receipt of disgorgement penalty[5]	(13.0)	—	—
Adjusted EBITDA	$ 1,458.6	$ 1,141.6	$ 1,031.2

1. Represents legal, accounting, financing, investment banking and consulting fees incurred related to completed and pending acquisitions. Generally, these expenses are incurred prior to and at the closing of acquisitions.
2. Represents non-recurring direct costs incurred with third parties to integrate acquired companies. These expenses represent incremental costs and are unrelated to normal operations of our business. Integration expenses are incurred over a pre-defined integration period specific to each acquisition.
3. Represents the amortization of the purchase accounting adjustment we made to reflect Ritter's acquired inventory at fair value upon acquisition in 2021, as shown in note 4 to our consolidated financial statements

beginning on page F-1 of this report. In 2019 the amount relates mostly to a normalization of expense for prepaid customer rebates that were derecognized in purchase accounting.

4. Reflects the incremental expenses incurred in the period related to initiatives to increase profitability and productivity. Typical costs included in this caption are employee severance, site-related exit costs, and contract termination costs.
5. As described in note 19 to our consolidated financial statements beginning on F-1 of this report.

The following table presents net sales by product line:

	Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Proprietary materials & consumables	$ 2,548.2	$ 2,043.6	$ 1,765.4
Third party materials & consumables	2,906.3	2,671.8	2,583.6
Services & specialty procurement	922.6	817.5	778.9
Equipment & instrumentation	1,009.0	860.7	912.4
Total	$ 7,386.1	$ 6,393.6	$ 6,040.3

The following table presents information by geographic area:

	Net sales Year ended December 31,			Property, plant and equipment, net December 31,	
(in millions)	**2021**	**2020**	**2019**	**2021**	**2020**
United States	$ 3,931.7	$ 3,493.7	$ 3,330.9	$ 383.7	$ 352.4
Germany	561.7	511.4	464.4	158.5	20.3
Other countries in Europe	2,115.6	1,775.3	1,637.6	107.1	117.1
All other countries	777.1	613.2	607.4	56.2	60.1
Total	$ 7,386.1	$ 6,393.6	$ 6,040.3	$ 705.5	$ 549.9

8. Supplemental disclosures of cash flow information

The following tables present supplemental disclosures of cash flow information:

	December 31,	
(in millions)	**2021**	**2020**
Cash and cash equivalents	$ 301.7	$ 286.6
Restricted cash classified as other assets	25.4	2.6
Total	$ 327.1	$ 289.2

	Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Cash flows from operating activities:			
Cash paid for income taxes, net	$ 144.7	$ 42.7	$ 112.3
Cash paid for interest, excluding financing leases	187.0	317.8	405.5
Cash paid for interest on finance leases	5.1	5.3	4.9
Cash paid under operating leases	43.6	42.3	44.1
Cash flows from financing activities:			
Cash paid under finance leases	4.7	4.3	5.5

At December 31, 2021, $256.5 million or 85% of our cash and cash equivalents was held by our non-U.S. subsidiaries and may be subject to certain taxes upon repatriation, primarily where foreign withholding taxes apply.

The following table presents the classification on the statements of cash flows of contingent consideration payments:

	Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Operating activities, other reconciling adjustments	$ —	$ —	$ —
Financing activities	—	—	4.6
Total	$ —	$ —	$ 4.6

9. Inventory

The following table presents components of inventory:

(dollars in millions)	December 31, 2021	December 31, 2020
Merchandise inventory	$ 562.9	$ 463.0
Finished goods	102.6	115.9
Raw materials	156.1	123.2
Work in process	50.4	37.5
Total	$ 872.0	$ 739.6
Inventory under the LIFO method:		
Percentage of total inventory	23 %	29 %
Excess of current cost over carrying value	$ 24.9	$ 19.0

10. Property, plant and equipment

The following table presents the components of property, plant and equipment:

(in millions)	December 31, 2021	December 31, 2020
Buildings and related improvements	$ 384.3	$ 359.2
Machinery, equipment and other	479.5	376.3
Software	122.3	106.7
Land	67.7	47.1
Assets not yet placed into service	96.9	48.9
Property, plant and equipment, gross	1,150.7	938.2
Accumulated depreciation	(445.2)	(388.3)
Property, plant and equipment, net	$ 705.5	$ 549.9

Depreciation expense was $88.4 million in 2021, $87.9 million in 2020 and $86.6 million in 2019.

11. Goodwill and other intangible assets

The following tables present changes in goodwill by segment:

	December 31, 2021			
(in millions)	**Americas**	**Europe**	**AMEA**	**Total**
Beginning balance, net	$ 1,611.6	$ 1,218.5	$ 30.1	$ 2,860.2
Currency translation	0.8	(127.6)	(0.4)	(127.2)
Additions	1,799.0	807.0	2.1	2,608.1
Ending balance, net	3,411.4	1,897.9	31.8	5,341.1
Accumulated impairment losses	21.0	6.7	11.1	38.8
Ending balance, gross	$ 3,432.4	$ 1,904.6	$ 42.9	$ 5,379.9

	Year ended December 31, 2020			
(in millions)	**Americas**	**Europe**	**AMEA**	**Total**
Beginning balance, net	$ 1,609.6	$ 1,130.1	$ 29.7	$ 2,769.4
Currency translation	2.0	87.1	0.4	89.5
Other	—	1.3	—	1.3
Ending balance, net	1,611.6	1,218.5	30.1	2,860.2
Accumulated impairment losses	21.0	6.7	11.1	38.8
Ending balance, gross	$ 1,632.6	$ 1,225.2	$ 41.2	$ 2,899.0

The following table presents the components of other intangible assets:

	December 31, 2021			December 31, 2020		
(in millions)	**Gross value**	**Accumulated amortization**	**Carrying value**	**Gross value**	**Accumulated amortization**	**Carrying value**
Customer relationships	$ 5,474.2	$ 1,121.6	$ 4,352.6	$ 4,701.6	$ 894.9	$ 3,806.7
Trade names	505.1	194.1	311.0	275.7	184.3	91.4
Other	541.5	157.1	384.4	185.4	127.0	58.4
Total finite-lived	$ 6,520.8	$ 1,472.8	5,048.0	$ 5,162.7	$ 1,206.2	3,956.5
Indefinite-lived			92.3			92.3
Total			$ 5,140.3			$ 4,048.8

Amortization expense was $290.8 million in 2021, $307.5 million in 2020 and $312.3 million in 2019.

The following table presents estimated future amortization:

(in millions)	December 31, 2021
2022	$ 364.2
2023	351.9
2024	351.9
2025	350.6
2026	349.3
Thereafter	3,280.1
Total	$ 5,048.0

12. Restructuring and severance

The following table presents restructuring and severance expenses by plan:

	Year ended December 31,		
(in millions)	2021	2020	2019
2017 restructuring program	$ —	$ 11.0	$ 23.0
Other	5.3	0.8	1.3
Total	$ 5.3	$ 11.8	$ 24.3

Current year restructuring expenses represent costs related to facility closures and employee severance under various management-approved productivity initiatives.

2017 restructuring program

The 2017 restructuring program was a three-year program designed to optimize our sales, gross margins and operating costs, and concluded at December 31, 2020. Spending under the program included $9.6 million for capital expenditures and $129.8 million for employee severance and related costs, facility closures and other charges through its three year duration. The program includes combining sales and marketing resources, eliminating redundant corporate functions, optimizing procurement and our manufacturing footprint, and implementing best practices throughout the organization.

The following table presents information about expenses under the 2017 restructuring program for the periods covered under this report in which the plan was active:

(in millions)	Year ended December 31, 2020	Year ended December 31, 2019	Expenses incurred
Employee severance and related	$ 10.7	$ 11.7	$ 88.6
Facility closure	0.3	0.9	2.4
Other	—	10.4	38.8
Total	$ 11.0	$ 23.0	$ 129.8
Americas	$ 1.1	$ 12.1	$ 53.8
Europe	9.9	9.8	60.3
AMEA	—	—	0.8
Corporate	—	1.1	14.9
Total	$ 11.0	$ 23.0	$ 129.8

Other expenses in the table above were to write-down the carrying value of assets we plan to close or sell under the program, the largest of which were charges of $10.0 million in 2019 to write-down finite-lived intangible assets related to a discontinued product line.

The following table presents changes to accrued employee severance and related expenses under the 2017 restructuring program, which are primarily classified as employee-related current liabilities:

(in millions)	Year ended December 31, 2021	2020	2019
Beginning balance	$ 12.4	$ 15.8	$ 33.6
Expenses	—	10.7	11.7
Cash payments	(7.6)	(15.1)	(29.1)
Currency translation	(0.7)	1.0	(0.4)
Ending balance	$ 4.1	$ 12.4	$ 15.8

13. Commitments and contingencies

Our business involves commitments and contingencies related to compliance with environmental laws and regulations, the manufacture and sale of products and litigation. The ultimate resolution of contingencies is subject to significant uncertainty, and it is reasonably possible that contingencies could be decided unfavorably for us.

Environmental laws and regulations

Our environmental liabilities are subject to changing governmental policy and regulations, discovery of unknown conditions, judicial proceedings, method and extent of remediation, existence of other potentially responsible parties and future changes in technology. We believe that known and unknown environmental matters, if not resolved favorably, could have a material effect on our financial position, liquidity and profitability.

Mallinckrodt indemnification

In 2010, New Mountain Capital acquired us from Covidien plc in accordance with a stock purchase agreement dated May 25, 2010. At that time, we were organized as Mallinckrodt Baker, Inc. or MBI. Pursuant to the terms of that agreement, we are entitled to various levels of indemnification with respect to environmental liabilities involving the former MBI operations. In 2013, in connection with the Covidien plc divestiture of Mallinckrodt Group S.a.r.l and Mallinckrodt LLC, together "Mallinckrodt," and by a second amendment to the stock purchase agreement dated June 6, 2013, but effective upon the consummation of the divestiture, Covidien plc assigned its obligations as described herein to Mallinckrodt, and Mallinckrodt assumed those obligations from Covidien plc. As a result of the stock purchase agreement and assignment, Mallinckrodt is contractually obligated to indemnify and defend us for all off-site environmental liabilities (for example, Superfund or CERCLA liabilities) arising from the pre-closing disposal of chemicals or wastes by former MBI operations.

In connection with environmental liabilities arising from pre-closing noncompliance with environmental laws, Mallinckrodt is contractually obligated to reimburse us for a percentage of the total liability, with such reimbursements made through disbursements from a $30.0 million environmental escrow established at the time of the closing. Specifically, Mallinckrodt will be responsible for reimbursement of 80% of the total costs up to $40.0 million of such environmental liabilities. Mallinckrodt will then be responsible for reimbursement of 50% of the next $40.0 million of such environmental liabilities. If such environmental liabilities exceed $80.0 million in the aggregate, Mallinckrodt will be responsible for reimbursement of 100% of such liabilities up to the next $30.0 million in the aggregate. Currently, reimbursements are 80% of the amounts spent by us, with reimbursements and settlements to date exceeding $12.0 million. In addition, in connection with operation and maintenance activities required pursuant to administrative consent orders and subsequently issued remedial action permits involving our Phillipsburg, New Jersey, facility, amounts in excess of a small annual threshold are also subject to reimbursement, currently at the 80% level.

Other noteworthy matters

The New Jersey Department of Environmental Protection has ordered us to remediate groundwater conditions near our plant in Phillipsburg, New Jersey. This matter is covered by the indemnification arrangement previously described. At December 31, 2021, our accrued obligation under this order is $3.5 million, which is calculated based on expected cash payments discounted at rates ranging from 0.3% in 2021 to 2.0% in 2045. The undiscounted amount of that obligation is $4.2 million.

In 2016, we assessed the environmental condition of our chemical manufacturing site in Gliwice, Poland. Our assessment revealed specific types of soil and groundwater contamination throughout the site. We are also monitoring the condition of a closed landfill on that site. These matters are not covered by our indemnification arrangement because they relate to an operation we subsequently acquired. At December 31, 2021, our balance sheet includes a liability of $2.7 million for remediation and monitoring costs. That liability is estimated primarily on expected remediation payments discounted through 2021 and is not materially different than its undiscounted amount.

Manufacture and sale of products

Our business involves risk of product liability, patent infringement and other claims in the ordinary course of business arising from the products that we produce ourselves or obtain from our suppliers, as well as

from the services we provide. Our exposure to such claims may increase to the extent that we expand our manufacturing operations or service offerings.

We maintain insurance policies to protect us against these risks, including product liability insurance. In many cases the suppliers of products we distribute have indemnified us against such claims. Our insurance coverage or indemnification agreements with suppliers may not be adequate in all pending or any future cases brought against us. Furthermore, our ability to recover under any insurance or indemnification arrangements is subject to the financial viability of our insurers, our suppliers and our suppliers' insurers, as well as legal enforcement under the local laws governing the arrangements.

We have entered into indemnification agreements with customers of our self-manufactured products to protect them from liabilities and losses arising from our negligence, willful misconduct or sale of defective products. To date, we have not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions.

Litigation

At December 31, 2021, there was no outstanding litigation that we believe would result in material losses if decided against us, and we do not believe that there are any unasserted matters that are reasonably possible to result in a material loss.

14. Debt

The following table presents information about our debt:

(dollars in millions)	December 31, 2021 Interest terms	Rate	Amount	December 31, 2020
Receivables facility	LIBOR plus 0.90%	1.00 %	$ —	$ —
Senior secured credit facilities:				
Euro term loans	EURIBOR plus 2.25%	2.25 %	133.9	344.8
Euro term loans	EURIBOR plus 2.00%	2.00 %	367.9	—
Euro term loans	EURIBOR plus 2.50%	2.50 %	684.9	—
U.S. dollar term loans	LIBOR plus 2.00%	2.50 %	229.3	546.7
U.S. dollar term loans	LIBOR plus 2.25%	2.75 %	2,063.9	1,175.0
2.625% secured notes	fixed rate	2.625 %	739.6	795.0
3.875% unsecured notes	fixed rate	3.875 %	800.0	—
3.875% unsecured notes	fixed rate	3.875 %	455.1	489.2
4.625 % unsecured notes	fixed rate	4.625 %	1,550.0	1,550.0
Finance lease liabilities			71.2	71.5
Other			17.4	—
Total debt, gross			7,113.2	4,972.2
Less: unamortized deferred financing costs			(90.0)	(78.3)
Total debt			$ 7,023.2	$ 4,893.9
Classification on balance sheets:				
Current portion of debt			$ 45.2	$ 26.4
Debt, net of current portion			6,978.0	4,867.5

The following table presents mandatory future repayments of debt principal:

(in millions)	December 31, 2021
2022	$ 45.2
2023	44.9
2024	385.3
2025	776.3
2026	385.8
Thereafter	5,475.7
Total debt, gross	$ 7,113.2

Credit facilities

The following table presents availability under our credit facilities:

	December 31, 2021		
(in millions)	**Receivables facility**	**Revolving credit facility**	**Total**
Capacity	$ 300.0	$ 515.0	$ 815.0
Undrawn letters of credit outstanding	(9.8)	—	(9.8)
Outstanding borrowings	—	—	—
Unused availability	$ 290.2	$ 515.0	$ 805.2

Current availability under the receivables facility depends upon maintaining a sufficient borrowing base of eligible accounts receivable. At December 31, 2021, $504.9 million of accounts receivable were available as collateral under the facility.

Receivables facility

The receivables facility is with a commercial bank, functions like a line of credit and matures on March 27, 2023. Borrowings are secured by accounts receivable which are sold by certain of our domestic subsidiaries to a special-purpose consolidated subsidiary. As a result, those receivables are not available to satisfy the claims of other creditors. We bear the risk of collection on those receivables and account for the receivables facility as a secured borrowing.

The receivables facility includes representations and covenants that we consider usual and customary, including a financial covenant. That covenant becomes applicable for periods in which we have drawn more than 35% of our revolving credit facility under the senior secured credit facilities. When applicable, we may not have total borrowings in excess of a pro forma net leverage ratio, as defined. This covenant was not applicable at December 31, 2021.

Senior secured credit facilities

On December 31, 2021, the senior secured credit facilities consist of a $515.0 million revolving credit facility that matures on July 14, 2025, a $133.9 million term loan facility and a $229.3 million term loan facility that mature on November 21, 2024, a $2,063.9 million term loan facility that matures on November 8, 2027, a $367.9 million term loan facility that matures on June 9, 2026 and a $684.9 million term loan facility that matures on June 9, 2028. The revolving credit facility allows us to issue letters of credit and also to issue short term notes. Borrowings under the facilities are guaranteed by substantially all of our domestic subsidiaries and secured by substantially all of their assets except for the accounts receivable that secure the receivables facility.

On July 7, 2021, we amended our U.S. Dollar terms loans under our senior secured credit facilities. The amendment reduced the LIBOR floor in our interest calculation from 1.00% to 0.50%. The costs to complete the amendment were not material.

On June 10, 2021, in connection with the acquisition of Ritter GmbH, we issued $396.5 million and $738.1 million of term loans that mature on June 9, 2026 and June 9, 2028, respectively. The debt bears

interest at variable rates, and the interest rates for each respective instrument at December 31, 2021 are presented in the table above. We capitalized issuance costs of $22.5 million related to these term loans.

The senior secured credit facilities bear interest at variable rates. The margin on the revolving credit facility declines if certain net leverage ratios are achieved. Various other immaterial fees are payable under the facilities.

On October 26, 2021, in connection with the acquisition of Masterflex, we issued $800.0 million aggregate principal amount of 3.875% senior unsecured notes. The notes are due on November 1, 2029, with interest payable semi-annually on May 1 and November 1 of each year. We capitalized issuance costs of $10.0 million related to these notes.

On November 1, 2021, in connection with the acquisition of Masterflex, we amended our senior secured credit facilities and issued $900.0 million of incremental U.S. Dollar term loans at Libor plus 2.25%. We incurred $19.9 million of issuance costs, of which $8.0 million were capitalized and $11.9 million were expensed, as these costs related to the portion of the issuance that was deemed to be a modification of the original debt.

We are required to make additional prepayments if: (i) we generate excess cash flows, as defined, at specified percentages that decline if certain net leverage ratios are achieved; or (ii) we receive cash proceeds from certain types of asset sales or debt issuances. No additional required prepayments have become due since the inception of the credit facilities. We may also prepay the term loans at our option. In 2021 and 2020, we made optional prepayments of $190.0 million and $76.4 million, respectively, of Euro term loans and $312.7 million and $123.7 million, respectively, of U.S. dollar term loans. In connection with the 2021 and 2020 optional prepayments, we recorded losses on extinguishment of debt of $12.4 million and $5.7 million, respectively, for the proportional write-off of the related unamortized deferred financing costs.

The senior secured credit facilities contain certain other customary covenants, including a financial covenant. That covenant becomes applicable in periods when we have drawn more than 35% of our revolving credit facility. When applicable, we may not have total borrowings in excess of a pro forma net leverage ratio, as defined. This covenant was not applicable at December 31, 2021.

15. Equity

Our equity capitalization has changed significantly over the past three years as we underwent an IPO in May of 2019. The following describes our equity structure prior to and following the IPO.

Avantor, Inc. following the IPO

The following table presents the equity capitalization of Avantor, Inc.:

(shares in millions)	Par value per share	Shares authorized
Undesignated preferred stock	$ 0.01	50.0
MCPS	0.01	25.0
Common stock	0.01	750.0

MCPS

MCPS accrues cumulative dividends at a rate of 6.250% per annum on the liquidation preference of $50.00 per share. Accrued cumulative dividends in arrears as of December 31, 2021 was $8.1 million, and we paid a dividend of $64.6 million during the year ended December 31, 2021. Each share of MCPS converts into between 3.0395 and 3.5714 shares of common stock, depending upon the average trading price of our common stock leading up to the conversion date and subject to customary anti-dilution adjustments. The MCPS converts:

- Automatically on May 15, 2022;
- Following the occurrence of a change of control or certain other defined events, in which case holders are also entitled to receive a make-whole dividend equal to the present value of all remaining dividends that would have accumulated through May 15, 2022; and
- At any time at the option of the holder at the minimum conversion rate of $3.0395.

The holders have the right to appoint two additional members to the board of directors if dividends on the MCPS have not been declared or paid for the equivalent of six or more dividend periods. The holders do not have any other voting rights.

In the event of any bankruptcy, liquidation, dissolution or winding up of the Company, the holders are entitled to a liquidation preference of $50.00 in cash per share before any payment or distribution is made to holders of common stock.

Common stock

Each share of common stock entitles the holder to one vote for applicable matters. Holders are entitled to receive dividends declared by the board of directors and a pro rata share of assets available for distribution after satisfaction of the rights of the preferred stockholders.

Secondary equity offering

On September 15, 2021 we issued 23.81 million shares of our common stock, at a public offering price of $42.00 per share. The proceeds from this offering were $967.0 million, net of $33.0 million of offering

costs and were used to partially finance the acquisition of Masterflex as discussed in footnote 4 of our consolidated financial statements.

Initial public offering and related events

In 2019, we completed an IPO of our common stock and MCPS. We sold 238.1 million shares of common stock at a price per share of $14, resulting in net proceeds of $3,231.9 million after deducting underwriting discounts, commissions and other offering costs of $100.8 million. We also sold 20.7 million shares of MCPS at a price per share of $50, resulting in net proceeds of $1,003.7 million after deducting underwriting discounts, commissions and other offering costs of $31.3 million.

In connection with the closing of our IPO, we filed an amended and restated certificate of incorporation to effect a five-for-one split of our common stock and authorize the classes of stock noted above. All shares of common stock, stock-based instruments and per share data included in these financial statements give effect to the stock split.

Redemption of series A preferred stock

In connection with the IPO, we redeemed all outstanding series A preferred stock at an aggregate redemption price of $2,630.9 million. The series A preferred stock redemption price was equal to the sum of their $2,410.5 million liquidation preference on such shares of series A preferred stock and a make-whole premium of $220.4 million.

In connection with the redemption, we eliminated the authorized shares designated as series A preferred stock, making those shares available for other preferred stock designations.

Conversion of junior convertible preferred stock

As a result of the completion of our IPO, all outstanding shares of junior convertible preferred stock automatically converted into 194.5 million shares of common stock. The number of shares of common stock received upon conversion of the junior convertible preferred stock was based on the $2,722.5 million liquidation preference of such stock divided by the IPO price per share of common stock.

In connection with the conversion, we eliminated the authorized shares designated as junior convertible preferred stock, making those shares available for other preferred stock designations.

Avantor, Inc. prior to the IPO

The following table presents the equity capitalization of Avantor, Inc. prior to the IPO:

(shares in millions)	Par value per share	Shares authorized
Series A preferred stock	$ 0.01	25.0
Junior convertible preferred stock	0.01	5.0
Undesignated preferred stock	0.01	10.0
Common stock	0.002	2,675.0
Class B stock	0.01	0.3

Series A preferred stock

The series A preferred stock was redeemable upon the occurrence of an event that was not within our control and therefore presented as redeemable equity. Holders of the series A preferred stock were also entitled to receive quarterly cumulative dividends payable in additional shares of series A preferred stock at a rate of 12.5%.

The following table presents the changes in the series A preferred stock:

	Year ended December 31, 2019	
(in millions)	Shares	Amount
Beginning balance	2.3	$ 2,297.3
Adjustment to redemption value	0.2	220.4
Accumulation of yield	0.1	113.2
Redemption	(2.6)	(2,630.9)
Ending balance	—	$ —

Junior convertible preferred stock

The junior convertible preferred stock was convertible with no limit on the possible number of shares to be issued, so settlement in shares could not be assured. Accordingly, we presented the junior convertible preferred stock as redeemable equity. It was not subsequently remeasured at redemption value because redemption was not deemed probable. Holders were entitled to participate in dividends and distributions as declared by the board of directors on an if-converted basis with the holders of the warrants and common stock.

In connection with our IPO, each share converted into shares of common stock.

The following table presents the changes in junior convertible preferred stock:

(in millions)	Year ended December 31, 2019 Shares	Amount
Beginning balance	1.7	$ 1,562.0
Conversion	(1.7)	(1,562.0)
Ending balance	—	$ —

Warrants

In 2017 we issued 7.0 million detachable warrants with the series A preferred stock. Holders of warrants were entitled to participate in dividends and distributions as declared by the board of directors on an if-converted basis with the holders of outstanding shares of junior convertible preferred stock and common stock. Each warrant was exercisable for a share of common stock at a price of $0.002 per share. During 2019, all outstanding warrants were exercised.

Class B stock

Shares of class B stock had no voting or economic rights and were convertible into common shares upon a change of control or a qualified initial public offering if a certain performance threshold was met. Since the performance threshold was not met at the time of our IPO, the shares of class B stock were canceled in 2019.

16. Accumulated other comprehensive income (loss)

The following table presents changes in the components of AOCI:

(in millions)	Foreign currency translation	Derivative instruments	Defined benefit plans	Total
Balance on December 31, 2018	$ (59.0)	$ 1.1	$ (8.6)	$ (66.5)
Unrealized (loss)	(3.3)	(1.4)	(18.9)	(23.6)
Reclassification of (gain) into earnings	—	(0.9)	(0.6)	(1.5)
Increase due to income taxes	—	0.7	5.0	5.7
Balance on December 31, 2019	(62.3)	(0.5)	(23.1)	(85.9)
Unrealized gain (loss)	106.4	1.0	(8.3)	99.1
Reclassification of (gain) loss into earnings	—	(1.7)	0.6	(1.1)
Increase due to income taxes	7.7	0.2	1.7	9.6
Balance on December 31, 2020	51.8	(1.0)	(29.1)	21.7
Unrealized (loss) gain	(62.8)	(1.6)	7.9	(56.5)
Reclassification of loss into earnings	—	3.5	0.1	3.6
(Decrease) due to income taxes	(8.2)	(0.5)	(3.3)	(12.0)
Balance on December 31, 2021	$ (19.2)	$ 0.4	$ (24.4)	$ (43.2)

The reclassifications and income tax effects shown above were immaterial to the financial statements and were made to either cost of sales or selling, general and administrative expense depending upon the nature

of the underlying transaction. The income tax effects in 2021 on foreign currency translation were due to our net investment hedge discussed in note 21.

17. Employee benefit plans

We sponsor many defined benefit plans across the globe. Those plans have resulted in significant obligations to pay benefits to current and former employees, many of which are at least partially funded with plan assets. Unless required otherwise, we typically seek to close the defined benefit plans to new participants. Defined benefit plans do not materially impact our earnings, and as a result, certain disclosures have been omitted.

The following table presents changes in benefit obligations and plan assets and the funded status of our plans:

	U.S. pension plans Year ended December 31,		Non-U.S. pension plans Year ended December 31,		U.S. medical plan Year ended December 31,	
(in millions)	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Benefit obligation:						
Beginning balance	$ 246.0	$ 228.8	$ 301.4	$ 258.1	$ 15.3	$ 15.5
Service cost	3.6	3.2	5.5	5.0	0.2	0.2
Interest cost	4.4	6.3	2.6	3.4	0.3	0.4
Employee contributions	—	—	1.2	1.1	—	—
Actuarial (gain) loss	(7.6)	24.4	(1.7)	22.9	(0.5)	(0.4)
Benefits paid	(16.3)	(16.7)	(3.3)	(4.3)	(0.4)	(0.4)
Settlements and curtailments	—	—	(1.7)	(3.6)	—	—
Currency translation	—	—	(11.1)	18.5	—	—
Other	—	—	(1.3)	0.3	—	—
Ending balance	230.1	246.0	291.6	301.4	14.9	15.3
Fair value of plan assets:						
Beginning balance	286.6	256.0	167.5	147.2	—	—
Return (loss) on plan assets	(2.1)	46.6	16.9	14.5	—	—
Employer contributions	0.7	0.7	5.2	5.0	0.4	0.4
Employee contributions	—	—	1.2	1.1	—	—
Benefits paid	(16.3)	(16.7)	(3.3)	(4.3)	(0.4)	(0.4)
Settlements and curtailments	—	—	(1.7)	(3.6)	—	—
Currency translation	—	—	(3.0)	7.6	—	—
Other	—	—	—	—	—	—
Ending balance	268.9	286.6	182.8	167.5	—	—
Funded status at end of year	$ 38.8	$ 40.6	$ (108.8)	$ (133.9)	$ (14.9)	$ (15.3)

The following table presents other balance sheet information for defined benefit plans:

	U.S. pension plans December 31,		Non-U.S. pension plans December 31,		U.S. medical plan December 31,	
(in millions)	**2021**	**2020**	**2021**	**2020**	**2021**	**2020**
Accumulated benefit obligation	$ 222.1	$ 238.8	$ 277.5	$ 294.9	$ 14.7	$ 15.3
Amounts recorded in balance sheet:						
Other assets	$ 49.2	$ 51.8	$ 2.9	$ —	$ —	$ —
Other current liabilities	(0.7)	(0.7)	(2.9)	(2.7)	(0.8)	(0.7)
Other liabilities	(9.7)	(10.5)	(108.8)	(131.2)	(14.1)	(14.6)
Funded status	$ 38.8	$ 40.6	$ (108.8)	$ (133.9)	$ (14.9)	$ (15.3)
Components of AOCI, excluding tax effects:						
Actuarial (loss) gain	$ (16.4)	$ (9.6)	$ (20.9)	$ (36.1)	$ 6.8	$ 6.8
Prior service gain (loss)	—	—	1.0	(0.3)	0.2	0.4

The following table presents the assumptions used to determine the benefit obligation:

	U.S. pension plans December 31,		Non-U.S. pension plans December 31,		U.S. medical plan December 31,	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**
Discount rate	2.8 %	2.5 %	1.3 %	1.0 %	2.8 %	2.4 %
Annual rate of salary increase	2.5 %	2.5 %	1.8 %	1.8 %	—	—
Health care cost trends:						
Initial rate	n/a	n/a	n/a	n/a	5.4 %	5.4 %
Ultimate rate	n/a	n/a	n/a	n/a	4.0 %	4.5 %
Year ultimate rate is reached	n/a	n/a	n/a	n/a	2046	2037

The discount rate continues to be the primary driver for changes in the projected benefit obligation. The increases in discount rates in 2021 caused most of the actuarial gains in the U.S. and Non-U.S. pension plan projected benefit obligation. In 2020 the fall in discount rates was the primary reason for the losses on projected benefit obligation. The actuarial gains in the U.S. medical plan in 2021 were also primarily driven by the increase in the discount rate in 2021; in 2020 the fall in discount rates was the primary reason for the actuarial losses.

The following table presents future benefits expected to be paid:

(in millions)	December 31, 2021		
	U.S. pension plans	**Non-U.S. pension plans**	**U.S. medical plan**
2022	$ 14.1	$ 8.0	$ 0.7
2023	13.6	8.2	0.8
2024	13.2	7.9	0.9
2025	13.1	8.7	0.9
2026	13.2	9.5	0.9
2027 – 2031	65.3	50.9	5.0

We do not expect to make any material contributions to our defined benefit plans in 2022.

The following table presents the allocation of plan assets:

	December 31, 2021					December 31, 2020				
(in millions)	**Total**	**Level 1**	**Level 2**	**Level 3**	**NAV[1]**	**Total**	**Level 1**	**Level 2**	**Level 3**	**NAV[1]**
U.S. plans:										
Cash	$ 4.2	$ 4.2	$ —	$ —	$ —	$ 1.0	$ 1.0	$ —	$ —	$ —
Fixed income	211.7	—	211.7	—	—	231.5	—	231.5	—	—
Equity	53.0	—	53.0	—	—	54.1	54.1	—	—	—
Total	$ 268.9	$ 4.2	$264.7	$ —	$ —	$ 286.6	$55.1	$231.5	$ —	$ —
Non-U.S. plans:										
Cash	$ 1.4	$ 1.4	$ —	$ —	$ —	$ 0.4	$ 0.3	$ 0.1	$ —	$ —
Fixed income	93.3	—	93.3	—	—	39.7	—	39.7	—	—
Equity	19.6	—	19.6	—	—	36.8	—	36.8	—	—
Other	27.1	—	12.9	—	14.2	52.3	—	52.3	—	—
Insurance contracts	41.4	—	—	41.4	—	38.3	—	—	38.3	—
Total	$ 182.8	$ 1.4	$125.8	$41.4	$ 14.2	$ 167.5	$ 0.3	$128.9	$38.3	$ —

1. Investments are measured at fair value using the net asset value per share practical expedient, and therefore, are not classified in the fair value hierarchy.

For the U.S. plans, our primary investment strategy is to match the duration of plan assets with benefit obligations. This strategy, utilizing diversified fixed income funds, attempts to hedge the rate used to discount pension obligations. The fixed income funds invest in long duration investment grade corporate bonds primarily across industrial, financial and utilities sectors and is managed by a single institution. Surplus assets are invested in equity funds. We estimate the expected long-term rate of return on plan assets considering prior performance, the mix of assets and expectations for the long-term returns on those asset classes. Assets measured using Level 3 inputs were not material to the portfolio.

For the non-U.S. plans, in many cases we enter into insurance contracts to guarantee payment of benefits for an annual fee. Otherwise, our primary investment strategy is to seek a return on plan assets sufficient to achieve our long-term funding objectives. To seek this return, we invest significantly in global equity funds and secondarily in fixed income funds to mitigate inflation and interest rate risk. These funds primarily invest in inflation-linked and other types of government bonds. We estimate the expected long-term rate of return on plan assets in a similar manner to the U.S. plans.

The following table presents changes to plan assets of non-U.S. plans that were measured using unobservable inputs:

	Year ended December 31,	
(in millions)	**2021**	**2020**
Beginning balance	$ 38.3	$ 33.6
Purchases	9.1	3.6
Actual returns	0.5	0.5
Settlements	(4.8)	(2.6)
Currency translation	(1.7)	3.2
Ending balance	$ 41.4	$ 38.3

18. Stock-based compensation

The following table presents components of stock-based compensation expense:

		Year ended December 31,		
(in millions)	**Classification**	**2021**	**2020**	**2019**
Stock options	Equity	$ 18.8	$ 16.9	$ 42.4
RSUs	Equity	26.8	23.8	13.0
Optionholder awards	Liability	—	0.6	2.4
SARs	Equity	—	—	9.0
Other	Both	5.1	2.8	1.1
Total		$ 50.7	$ 44.1	$ 67.9
Balance sheet classification:				
Equity		$ 47.7	$ 42.2	$ 64.4
Liability		3.0	1.9	3.5

At December 31, 2021, unvested awards have remaining expense of $78.0 million to be recognized over a weighted average period of 1.7 years.

We recognized a reduction to income tax expense as a result of tax benefits associated with our stock-based compensation plans of $30.0 million, $32.6 million and $1.3 million, in 2021, 2020 and 2019, respectively.

Our stock-based compensation awards have been issued under a succession of plans sponsored by the ultimate parent of our business, which is currently Avantor, Inc. In connection with the IPO, we adopted the 2019 Plan. The 2019 Plan provides for up to 23.5 million shares of common stock to be issued in the form of stock options, restricted stock units or other equity-based awards or cash-based awards. The 2019

Plan also provides for 1% annual increases to the number of shares of common stock available for issuance unless reduced by our Board of Directors. At December 31, 2021, 10.9 million shares were available for future issuance. The 2019 Plan will automatically terminate on May 17, 2029, and no award may be granted after this date.

In November 2019, the NuSil Investors settled the SARs. We were not required to pay any cash upon settlement of those awards.

Stock options

The following table presents information about outstanding stock options:

(options and intrinsic value in millions)	Number of options	Weighted average exercise price per option	Aggregate intrinsic value	Weighted average remaining term
Balance on December 31, 2020	20.0	$ 18.80		
Granted	1.5	27.91		
Exercised	(4.5)	17.97		
Forfeited	(0.7)	19.52		
Balance on December 31, 2021	16.3	$ 19.83	$ 364.4	6.9 years
Expected to vest	6.6	19.83	148.4	8.1 years
Vested	9.7	19.82	216.0	6.1 years

During 2021, we granted stock options that have a contractual life of ten years and will vest annually over three to four years, subject to the recipient continuously providing service to us through each such date.

Stock options outstanding on December 31, 2019 primarily consisted of stock options issued in connection with the IPO that vested annually over four years, subject to the recipient continuously providing service to us through each such date.

The following table presents weighted-average information about stock options granted:

	Year ended December 31,		
	2021	2020	2019
Grant date fair value per option	$ 8.63	$ 5.43	$ 4.85
Assumptions used to determine grant date fair value:			
Expected stock price volatility	29 %	28 %	30 %
Risk free interest rate	1.1 %	1.4 %	2.1 %
Expected dividend rate	nil	nil	nil
Expected life of options	6.3 years	6.2 years	6.3 years

The following table presents other information about stock options:

(in millions)	Year ended December 31, 2021	2020	2019
Fair value of options vested	$ 17.2	$ 12.0	$ 42.4
Intrinsic value of options exercised	74.9	100.8	5.4

RSUs

The following table presents information about unvested RSUs:

(awards in millions)	Number of awards	Weighted average grant date fair value per award
Balance on December 31, 2020	4.9	$ 15.31
Granted	1.2	29.77
Vested	(1.1)	15.02
Forfeited	(0.6)	18.30
Balance on December 31, 2021	4.4	$ 19.52

During 2021, we granted restricted stock units that will vest annually over three to four years, subject to the recipient continuously providing service to us through each such date. Certain of those awards contain performance and market conditions that impact the number of shares that will ultimately vest. The expense recorded related to the performance and market conditions was not material.

The fair value of RSUs that vested in 2021 was $27.5 million. RSUs did not have a material impact to our stock-based compensation expense prior to our 2019 IPO. Similarly, the fair value of RSUs vesting from 2018 to 2019 was not material.

Optionholder awards

We settled employee-related awards in cash during 2020 in their entirety. We paid cash of $0.0 million in 2021, $1.2 million in 2020 and $4.6 million in 2019 to settle vested awards under this program.

SARs

SARs were fully-vested rights for the holder to receive cash from a NuSil investor, whose primary asset was shares of our equity. The SARs were issued to our employees by a NuSil investor many years ago. These awards were accounted as contributed capital in a manner similar to how a parent accounts for a contribution to an equity-method investee. The contribution was required to be remeasured at fair value at the end of each reporting period, resulting in the recognition of expense or benefit each period as the value of our equity changed over time.

In November 2019, the NuSil investor settled the SARs, which froze the value of the capital contribution and ended the requirement to remeasure the contribution prospectively. We were not required to pay any cash upon settlement of those awards.

19. Other income or expense, net

The following table presents the components of other income or expense, net:

(in millions)	Year ended December 31, 2021	2020	2019
Net foreign currency (loss) gain from financing activities	$ (1.3)	$ 0.7	$ (1.9)
Income related to defined benefit plans	10.4	8.8	5.1
Other	1.5	0.4	(0.7)
Other income (expense), net	$ 10.6	$ 9.9	$ 2.5

Most of the net foreign currency remeasurement (loss) gain from financing activities was caused by the volatility of the U.S. dollar on unhedged intercompany loan positions as disclosed in note 6. The income related to defined benefit plans includes expected returns on defined benefit plan assets, partially offset by interest cost on defined benefit plan obligations. We recognized $13.0 million of other income related to the disgorgement of disallowed trading profits from Goldman Sachs, which was a related party until December 31, 2020 and expensed $11.9 million of debt issuance costs related to the issuance of an additional $900.00 million under our $2,063.9 million term loan facility as discussed in note 14.

20. Income taxes

The following table presents detail about captions appearing on the statements of operations:

(in millions)	Year ended December 31, 2021	2020	2019
Income (loss) before income taxes:			
United States	$ 555.0	$ (2.6)	$ 26.0
Foreign	198.0	64.9	14.6
Total	$ 753.0	$ 62.3	$ 40.6
Current income tax (expense) benefit:			
Federal	$ (74.0)	$ 30.4	$ (36.6)
State	(32.3)	(4.8)	(15.3)
Foreign	(91.8)	(58.8)	(57.6)
Subtotal	(198.1)	(33.2)	(109.5)
Deferred income tax (expense) benefit:			
Federal	(11.6)	28.0	28.9
State	(1.9)	14.4	19.4
Foreign	31.2	45.1	58.4
Subtotal	17.7	87.5	106.7
Income tax (expense) benefit	$ (180.4)	$ 54.3	$ (2.8)

The following table reconciles the income tax provision calculated at the United States federal corporate rate to the amounts presented in the statements of operations:

	Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Income before income taxes	$ 753.0	$ 62.3	$ 40.6
United States federal corporate rate	21 %	21 %	21 %
Income tax (expense) at federal corporate rate	(158.2)	(13.1)	(8.5)
State income taxes, net of federal benefit	(27.0)	7.6	3.3
Rate changes related to foreign jurisdictions	(9.7)	(4.0)	14.0
Stock-based compensation	14.5	10.1	—
Foreign taxes	1.4	5.7	(3.1)
Valuation allowance	4.1	(1.1)	(7.6)
Changes to uncertain tax positions	(10.7)	40.8	(3.7)
Foreign-derived intangible income	8.2	6.9	5.0
Transaction costs	(2.1)	—	—
Other, net	(0.9)	1.4	(2.2)
Income tax (expense) benefit	$ (180.4)	$ 54.3	$ (2.8)

As a result of the new tax reform legislation, in 2018 we finalized the provisional accounting of previously recognized provisional one-time income tax effects based on new transition tax rules and interpretations issued that year, as shown in the table above. After the utilization of tax attributes such as net operating loss carryforwards, our transition tax payable was $52.6 million at December 31, 2021.

Deferred taxes

The following table presents the components of deferred tax assets and liabilities:

(in millions)	December 31, 2021	December 31, 2020
Deferred tax assets:		
Reserves and accrued expenses	$ 51.6	$ 58.7
Pension, postretirement, and environmental liabilities	14.7	18.9
Net operating loss and research and development carryforwards	312.4	335.6
Other	10.2	27.2
Deferred tax assets, gross	388.9	440.4
Less: valuation allowances	(187.6)	(209.9)
Deferred tax assets, net	201.3	230.5
Deferred tax liabilities:		
Intangibles	(892.8)	(895.3)
Property, plant and equipment	(52.0)	(48.6)
Investment in partnerships	(148.0)	—
Deferred tax liabilities	(1,092.8)	(943.9)
Net deferred tax liability	$ (891.5)	$ (713.4)
Classification on balance sheets:		
Other assets	$ 21.5	$ 10.5
Deferred income tax liabilities	(913.0)	(723.9)

The (decrease) increase to the valuation allowance was $(22.3) million in 2021, $16.0 million in 2020 and $(3.9) million in 2019.

At December 31, 2021, $155.7 million of the valuation allowances presented above relate to foreign net operating loss carryforwards that are not expected to be realized. We evaluate the realization of deferred tax assets by considering such factors as the reversal of existing taxable temporary differences, expected profitability by tax jurisdiction and available carryforward periods. The extent and timing of any such reversals will influence the extent of tax benefits recognized in a particular year. Should applicable losses, credits and deductions ultimately be realized, the resulting reduction in the valuation allowance would generally be recognized as an income tax benefit.

As a result of the Masterflex acquisition, we recorded a deferred tax liability related to the inside-outside basis difference that the acquired corporations have in the Masterflex, LLC partnership.

Uncertain tax positions

We file federal income tax returns in the United States and other tax returns in various states and international jurisdictions. In the normal course of business, we are subject to examination by taxing authorities throughout the world. We provide reserves for positions that are more likely than not to be overturned by a tax authority upon examination. Tax years are subject to examination in the United States since 2009 at the federal level, since 2005 for certain states and in certain international jurisdictions since 2008.

The following table reflects changes to the reserve for uncertain tax positions, excluding accrued interest and penalties:

(in millions)	Year ended December 31, 2021	2020	2019
Beginning balance	$ 46.7	$ 83.6	$ 84.3
Additions:			
Tax positions related to the current year	5.1	3.4	3.1
Tax positions related to prior years	7.3	3.6	2.5
Reductions:			
Tax positions related to prior years	—	(0.1)	(4.4)
Settlements with taxing authorities	(0.9)	(43.1)	(0.3)
Lapse of statutes of limitations	(1.6)	(1.8)	(1.4)
Currency translation	(1.3)	1.1	(0.2)
Ending balance	$ 55.3	$ 46.7	$ 83.6

Accrued interest and penalties related to the reserve for uncertain tax positions were $5.3 million at December 31, 2021, $3.9 million at December 31, 2020 and $7.1 million at December 31, 2019. We believe that it is reasonably possible that the reserve for uncertain tax positions could decrease by up to $2.4 million over the next twelve months.

The development of reserves for uncertain tax positions requires judgments about tax issues, potential outcomes and the timing of settlement discussions with tax authorities. If we were to prevail on all uncertain tax positions, we would recognize an income tax benefit.

Other matters

Undistributed earnings of foreign subsidiaries that are deemed to be permanently invested amount to $2,893.1 million at December 31, 2021. Undistributed earnings of foreign subsidiaries as of December 31, 2021 is subject to certain taxes upon repatriation, primarily where foreign withholding taxes apply. We assert indefinite reinvestment related to investments in foreign subsidiaries. It is not practicable to calculate the unrecognized deferred tax liability on undistributed foreign earnings due to the complexity of the hypothetical calculation.

At December 31, 2021, we had federal net operating loss carryforwards of $20.9 million that primarily expire in 2037 and state net operating loss carryforwards of $158.9 million that expire at various times through 2037. In addition, we had foreign net operating loss carryforwards of $627.0 million, which predominantly have indefinite expirations.

21. Derivative and hedging activities

We engage in hedging activities to reduce our exposure to foreign currency exchange rates. Our hedging activities are designed to manage specific risks according to our strategies, as summarized below, which may change from time to time. Our hedging activities consist of the following:

- *Economic hedges* — We are exposed to changes in foreign currency exchange rates on certain of our Euro-denominated term loans and notes that move inversely from our portfolio of Euro-

denominated intercompany loans. The currency effects for these non-derivative instruments are recorded through earnings in the period of change and substantially offset one another;

- *Other hedging activities* — Certain of our subsidiaries hedge short-term foreign currency denominated business transactions and intercompany financing transactions using foreign currency forward contracts. These activities were not material to our consolidated financial statements; and

- *Net investment hedge* — We have designated €400.0 million of our 3.875% senior unsecured notes as a hedge of our net investment in certain European operations to manage our exposure to currency and exchange rate movements from these operations.

Net Investment Hedge

We designated all of our outstanding €400.0 million 3.875% senior unsecured notes, issued on July 17, 2020, and maturing on July 15, 2028, as a hedge of our net investment in certain of our European operations. For instruments that are designated and qualify as net investment hedges, the foreign currency transactional gains or losses are reported as a component of AOCI. The gains or losses would be reclassified into earnings upon a liquidation event or deconsolidation of a hedged foreign subsidiary.

Net investment hedge effectiveness is assessed based upon the change in the spot rate of the foreign currency denominated debt. The critical terms of the foreign currency notes match the portion of the net investments designated as being hedged. At December 31, 2021, the net investment hedges were equal to the designated portion of the European operations and were considered to be perfectly effective.

Non-derivative financial instruments which are designated as hedging instruments:

The accumulated loss related to the foreign currency denominated debt designated as net investment hedges classified in the foreign currency translation adjustment component of AOCI was $3.5 million and $37.6 million as of December 31, 2021 and December 31, 2020, respectively.

The amount of (gain) loss related to the foreign currency denominated debt designated as net investment hedges classified in the foreign currency translation adjustment component of other comprehensive income is presented below:

	Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**
Net investment hedges	$ (34.1)	$ 37.6	$ —

22. Financial instruments and fair value measurements

Our financial instruments include cash and cash equivalents, accounts receivable, accounts payable, debt, contingent consideration arrangements and derivatives.

Assets and liabilities for which fair value is only disclosed

The carrying amount of cash and cash equivalents was the same as its fair value and is a level 1 measurement. The carrying amounts for trade accounts receivable and accounts payable approximated fair value due to their short-term nature and are level 2 measurements.

The following table presents the gross amounts, which exclude unamortized deferred financing costs, and the fair values of debt instruments:

	December 31, 2021		December 31, 2020	
(in millions)	Gross amount	Fair value	Gross amount	Fair value
Receivables facility	$ —	$ —	$ —	$ —
Senior secured credit facilities:				
Euro term loans	133.9	133.7	344.8	346.5
Euro term loans	367.9	367.7	—	—
Euro term loans	684.9	683.6	—	—
U.S. dollar term loans	229.3	224.9	546.7	548.1
U.S. dollar term loans	2,063.9	2,029.1	1,175.0	1,178.7
2.625% secured notes	739.6	758.2	795.0	815.7
3.875% unsecured notes	800.0	810.9	—	—
3.875% unsecured notes	455.1	475.3	489.2	515.0
4.625 % unsecured notes	1,550.0	1,629.8	1,550.0	1,648.7
Finance lease liabilities	71.2	71.2	71.5	71.5
Other	17.4	17.4	—	—
Total	$ 7,113.2	$ 7,201.8	$ 4,972.2	$ 5,124.2

The fair values of debt instruments are based on standard pricing models that take into account the present value of future cash flows, and in some cases private trading data, which are level 2 measurements.

Recurring fair value measurements with significant unobservable inputs

Certain of the business acquisitions we completed entitle the sellers to contingent consideration based on sales or earnings during a period of time following the acquisition.

The following table presents changes to contingent consideration liabilities:

	Year ended December 31,	
(in millions)	**2021**	**2020**
Beginning balance	$ —	$ —
Acquisitions	6.1	—
Changes to estimated fair value	—	—
Cash payments	—	—
Currency translation	(0.4)	—
Ending balance	$ 5.7	$ —

We estimated the fair value of contingent consideration on a recurring basis using the average of probability-weighted potential payments specified in the purchase agreements, which were level 3 measurements. Changes to the estimated fair value have been immaterial since the acquisition date through the end of the fiscal year. The significant assumptions used in these calculations include forecasted results and the estimated likelihood for each performance scenario.

23. Leases

The following table presents lease assets and liabilities and their balance sheet classification:

		December 31,	
(in millions)	**Classification**	**2021**	**2020**
Operating leases:			
Lease assets	Other assets	$ 107.8	$ 125.4
Current portion of liabilities	Other current liabilities	34.1	34.5
Liabilities, net of current portion	Other liabilities	78.6	98.2
Finance leases:			
Lease assets	Property, plant and equipment, net	59.9	62.3
Current portion of liabilities	Current portion of debt	4.2	3.6
Liabilities, net of current portion	Debt, net of current portion	67.0	67.9

The following tables present information about lease expense:

	Year ended December 31,		
(in millions)	**2021**	**2020**	**2019**
	(1,2)	**(1,2)**	**(1,2)**
Operating lease expense	$ 48.2	$ 52.0	$ 55.1
Finance lease expense	11.1	11.3	10.3
Total	$ 59.3	$ 63.3	$ 65.4

(1) Operating lease expense for 2021 and 2020 includes $7.3 million and $7.8 million, respectively, classified as cost of sales and $40.9 million and $44.2 million classified as SG&A expenses, respectively.

(2) Finance lease expense consists primarily of amortization of finance lease assets that is classified as SG&A expenses.

	December 31,	
	2021	**2020**
Weighted average remaining lease term:		
Operating leases	5.0 years	5.5 years
Finance leases	13.5 years	14.6 years
Weighted average discount rate:		
Operating leases	4.4 %	5.3 %
Finance leases	7.9 %	8.6 %

The following table presents future payments due under leases reconciled to lease liabilities:

	December 31, 2021	
(in millions)	**Operating leases**	**Finance leases**
2022	$ 39.5	$ 9.3
2023	32.5	8.7
2024	25.2	8.6
2025	13.7	7.8
2026	7.7	7.6
Thereafter	14.9	81.0
Total undiscounted lease payments	133.5	123.0
Difference between undiscounted and discounted lease payments	(20.8)	(51.8)
Lease liabilities	$ 112.7	$ 71.2

24. Related party disclosures

Related parties include our owners, directors, executive management and other parties that can exert influence on us. Transactions with related parties cannot be presumed to be carried out on an arm's-length basis. Related party transactions exclude transactions eliminated in consolidation, compensation arrangements and other transactions occurring in the ordinary course of business.

The following table presents information about related parties during the periods presented:

	Became related party	**Ceased to be related party**
New Mountain Capital	August 2010	November 2020
Goldman Sachs	November 2017	November 2020
PSP Investments	November 2017	May 2019

New Mountain Capital

New Mountain Capital became a related party in 2010 when they became our parent. They no longer have a controlling interest in us, and as of December 31, 2020, they held less than 10% of our common stock.

Through the date of our IPO, we were party to advisory agreements with New Mountain Capital. Under those agreements, we were required to pay New Mountain Capital (i) an annual advisory fee of $1.0 million; (ii) a fee equal to 2% of the value of any acquisitions or financing transactions greater than a certain amount; and (iii) reimbursement of certain immaterial out-of-pocket expenses. The advisory agreement automatically terminated in connection with our IPO, with no transaction fee paid for the offering and no advisory fees paid in 2019 or 2020, which was the year they ceased to be a related party. We did not pay any distributions to New Mountain Capital in 2020 or 2019.

Goldman Sachs

Goldman Sachs became a related party in 2017 in connection with our acquisition of VWR when they obtained control of more than 10% of our common stock. As of December 31, 2020 they held less than 10% of our common stock.

In 2019, Goldman Sachs acted as co-lead book-running manager for our IPO. In exchange for these services, Goldman Sachs received an aggregate underwriter discount of $24.5 million. Goldman Sachs purchased shares of common stock in the IPO valued at $70.0 million. Goldman Sachs also received proceeds of $429.5 million upon the redemption of our series A preferred stock and from repayment of term loans held under our senior secured credit facilities. Goldman Sachs also executed our June 2019 debt repricing for which they did not receive any material fees.

In 2020, Goldman Sachs executed our July and November debt refinancings, for which we paid them fees of $8.5 million. As of December 31, 2020, Goldman Sachs held $3.5 million of term loans under our senior secured credit facilities. We also received $3.0 million from Goldman Sachs related to their disgorgement of short-swing trading profits, which we recorded as other income (expense). We donated these proceeds to our charitable organization, the Avantor Foundation, which was also recorded in our financial statements as other income (expense).

PSP Investments

PSP Investments became a related party in November 2017 in connection with the financing for the VWR acquisition because it controlled one of our board seats.

In 2019, following the IPO, PSP Investments received proceeds of $302.5 million upon redemption of our series A preferred stock and ceased to be a related party once it lost control of its board seat.

25. Condensed unconsolidated financial information of Avantor, Inc.

Pursuant to SEC regulations, the following presents condensed unconsolidated financial information of the registrant, Avantor, Inc.

The following condensed unconsolidated financial statements should be read in conjunction with our consolidated financial statements and notes thereto because certain applicable disclosures are provided there. In these condensed unconsolidated financial statements, all of our subsidiaries are wholly-owned for the periods presented and presented as investments of Avantor, Inc. under the equity method. Under that method, the equity interest in subsidiaries' assets and liabilities is stated as a net noncurrent asset at historical cost on the balance sheet.

No statements of operations are included because Avantor, Inc. only had equity in the earnings or loss of its subsidiaries for the periods presented in amounts equal to our consolidated net income or loss.

Avantor, Inc.
Condensed unconsolidated balance sheets

(in millions)	December 31, 2021	December 31, 2020
Assets		
Investment in unconsolidated subsidiaries	$ 4,197.0	$ 2,674.3
Total assets	$ 4,197.0	$ 2,674.3
Stockholders' equity		
MCPS including paid-in capital, 20.7 shares outstanding	$ 1,003.7	$ 1,003.7
Common stock including paid-in capital, 609.7 and 580.1 shares outstanding	2,752.6	1,737.6
Accumulated earnings (deficit)	483.9	(88.7)
Accumulated other comprehensive (loss) income	(43.2)	21.7
Total stockholders' equity	$ 4,197.0	$ 2,674.3

Avantor, Inc.
Condensed unconsolidated statements of cash flows

(in millions)	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
Cash flows from investing activities:			
Contribution to unconsolidated subsidiaries	$ (967.3)	$ —	$ —
Net cash used in investing activities	(967.3)	—	—
Cash flows from financing activities:			
Proceeds from issuance of stock, net of issuance costs	967.0	—	4,235.6
Redemption of series A preferred stock	—	—	(2,630.9)
Payments of dividends on preferred stock	(64.6)	(64.6)	(31.3)
Contribution from (to) unconsolidated subsidiaries	—	44.4	(1,574.1)
Proceeds received from exercise of stock options, net of shares repurchased to satisfy employee tax obligations for vested stock-based awards	64.9	20.2	0.7
Net cash provided by financing activities	967.3	—	—
Net change in cash and cash equivalents	—	—	—
Cash, cash equivalents and restricted cash, beginning of year	—	—	—
Cash, cash equivalents and restricted cash, end of year	$ —	$ —	$ —

26. Valuation and qualifying accounts

The following table presents changes to our valuation and qualifying accounts:

(in millions)	Allowance for expected credit losses	Valuation allowances on deferred tax assets
Balance on December 31, 2018	$ 10.9	$ 197.8
Charged to costs and expenses	5.9	—
Other additions[1]	2.0	—
Deductions[1]	—	(0.5)
Currency translation	(0.2)	(3.4)
Balance on December 31, 2019	18.6	193.9
Cumulative effect of adopting new accounting standard	2.2	—
Charged to costs and expenses	10.2	2.4
Deductions[1]	(4.1)	—
Currency translation	(0.7)	13.6
Balance on December 31, 2020	26.2	209.9
Cumulative effect of adopting new accounting standard	—	—
Charged to costs and expenses	3.6	(9.4)
Deductions[1]	(2.6)	—
Currency translation	(0.8)	(12.9)
Balance on December 31, 2021	$ 26.4	$ 187.6

(1) For the allowance for expected credit losses, deductions represent bad debts charged off, net of recoveries, and other additions represent recoveries, net of bad debts charged off.

[THIS PAGE INTENTIONALLY LEFT BLANK]

Annual Report

Rajiv Gupta
Chairman of the Board, Former Chairman
and Chief Executive Officer
Rohm and Haas Company

Michael Stubblefield
President and Chief Executive Officer
Avantor, Inc.

Juan Andres
Chief Technical Operations and Quality Officer
Moderna, Inc.

John Carethers, M.D.
Professor and Chair of Internal Medicine
University of Michigan

Lan Kang
Managing Director
CBC Group

Joseph Massaro
Chief Financial Officer and Senior Vice President
Aptiv, Inc.

Mala Murthy
Chief Financial Officer
Teladoc Health, Inc.

Matthew Holt
Managing Director
New Mountain Capital, LLC

Jonathan Peacock
Lead Independent Director
Retired Corporate Executive including CFO at
Amgen Inc. and Novartis Pharma AG

Michael Severino, M.D.
Vice Chairman and President
AbbVie, Inc.

Christi Shaw
Chief Executive Officer
Kite, a Gilead Company

Greg Summe
Managing Partner
Glen Capital Partners

COMPANY AND INVESTOR INFORMATION

2022 Annual Meeting
May 12, 2022, 11:00 a.m., Eastern Daylight Time

Avantor will be hosting a virtual Annual Stockholder Meeting this year. Stockholders entitled to vote at the meeting will be able to participate by accessing: www.virtualshareholdermeeting.com/AVTR2022

Additional Information
Financial documents, such as our Annual Report on Form 10-K, quarterly reports on Form 10-Q and other reports and filings, such as the Company's Code of Ethics and Conduct, may be obtained from the Company website at ir.avantorsciences.com, or by calling the Company's Investor Relations Department at (610) 386-1524.

Stockholder Services
Our transfer agent, American Stock Transfer & Trust Company, can assist you with a variety of stockholder services, including change of address, ownership transfer and account consolidation and can be reached at:

Tel.: (800) 937-5449; outside the U.S. and Canada at (718) 921-8124

Internet: www.astfinancial.com

Mail: 6201 15th Avenue
Brooklyn, New York 11219

Email: info@astfinancial.com

Investor Relations
Stockholders, security analysts, portfolio managers and other investors desiring further information about the Company may direct questions or requests to:

Avantor, Inc.
Building One, Ste. 200
100 Matsonford Road
Radnor, PA 19087

Tel.: (610) 386-1524

Email: AvantorIR@avantorsciences.com

Independent Auditors
Deloitte & Touche LLP, Philadelphia, Pennsylvania

Stock Listing
Common stock
New York Stock Exchange | Ticker Symbol: AVTR

6.25% Mandatory Convertible Preferred Stock
New York Stock Exchange | Ticker Symbol: AVTR PRA

avantorsciences.com

avantor™

avantor™

CORPORATE HEADQUARTERS
One Radnor Corporate Center
Building One, Suite 200
100 Matsonford Road
Radnor, PA 19087
(610) 386-1700

avantor™