

Industry BlueBook

Diagnostics & Tools

September 2023

The industry's authoritative information resource for
valuations, M&A transactions, and Financings

DASHBOARD^{1,2,3,4,5}

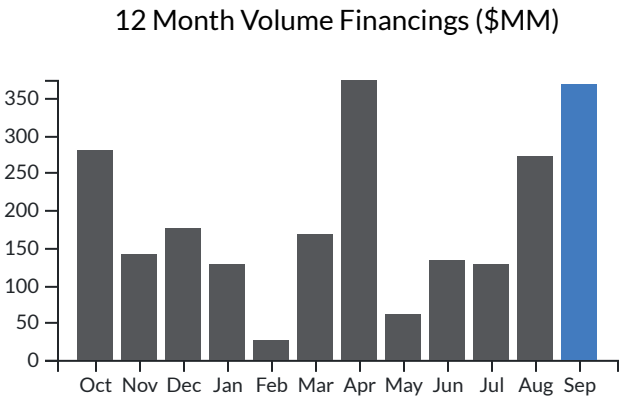
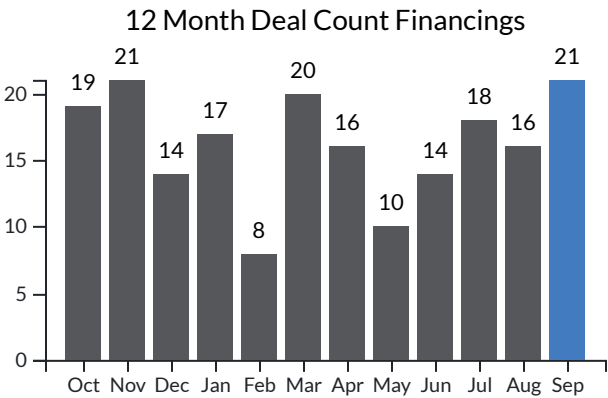
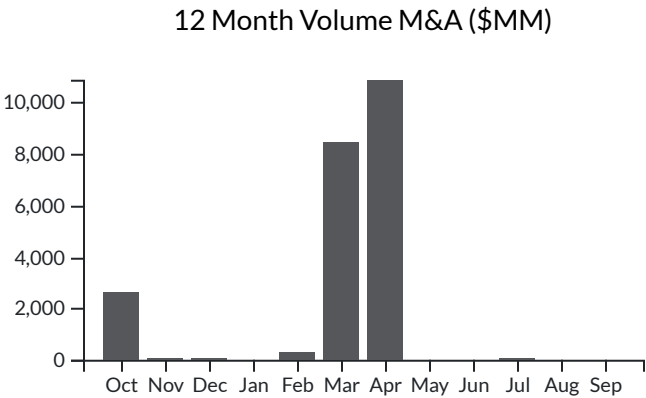
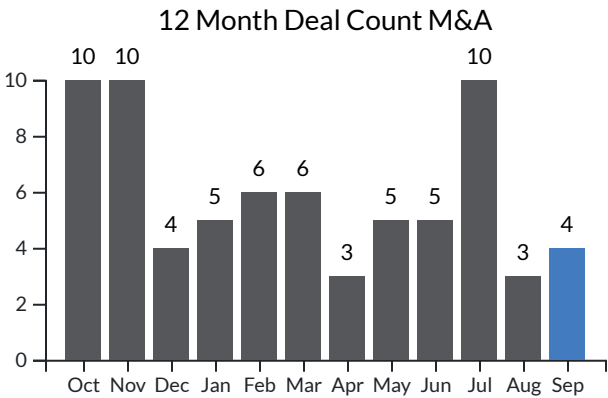
EV MULTIPLES

	REVENUE				EBITDA			
	LTM	%Δ	FTM	%Δ	LTM	%Δ	FTM	%Δ
In Vitro Diagnostics	3.7x	-2%	3.1x	-9%	15.7x	-4%	11.9x	-8%
Diagnostic Services	2.3x	-2%	2.1x	-3%	11.3x	-5%	10.5x	-2%
Life Science Tools	4.8x	-9%	4.5x	-10%	20.8x	-10%	16.5x	-9%
In Vivo Diagnostics	3.3x	4%	3.1x	5%	20.5x	-9%	14.7x	4%

M&A DEALS & FINANCINGS

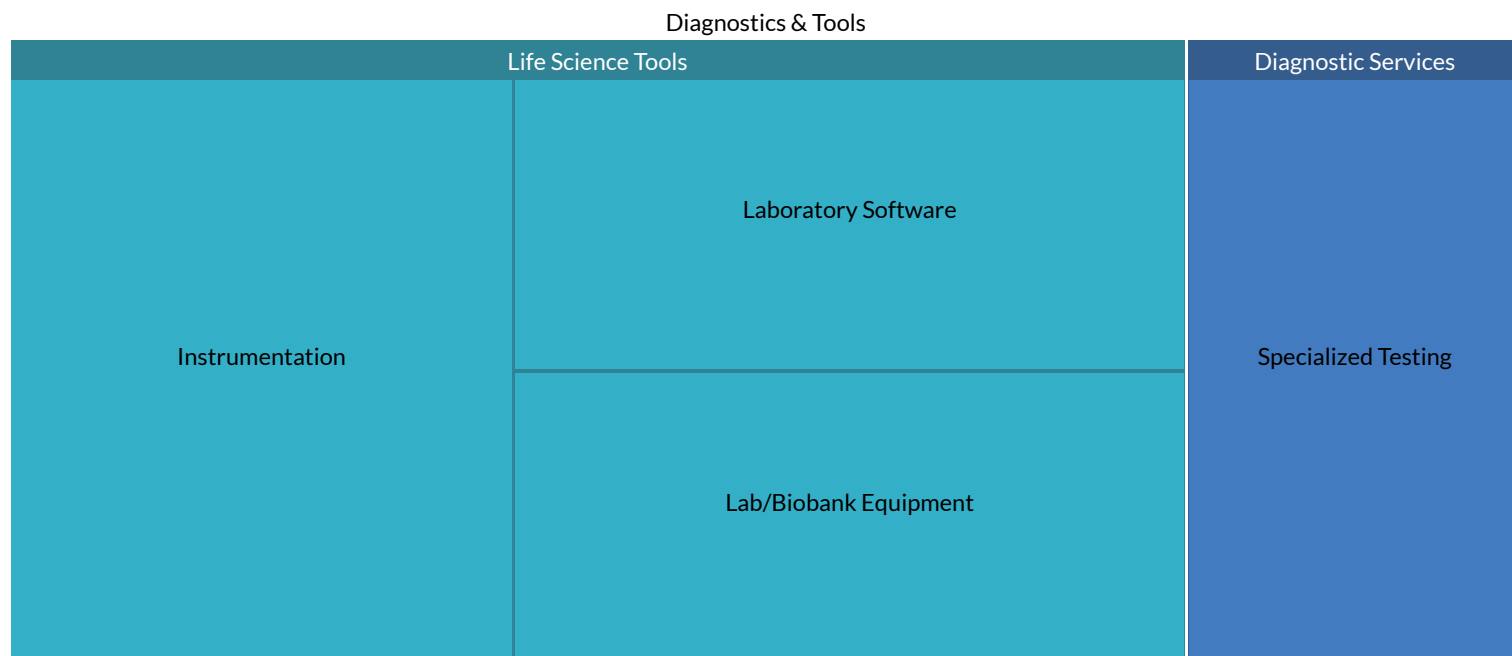
	DEAL COUNT				VOLUME (\$MM)			
	M&A	%Δ	FINANCINGS	%Δ	M&A	%Δ	FINANCINGS	%Δ
In Vitro Diagnostics	0	NM	4	100%	0	NM	73	7,298%
Diagnostic Services	1	0%	6	200%	0	NM	224	158%
Life Science Tools	3	NM	8	167%	0	NM	110	-10%
In Vivo Diagnostics	0	NM	5	-44%	0	NM	31	-51%

- 1. Enterprise value (EV) equals equity market value (market capitalization) plus debt, plus preferred stock, minus cash and cash equivalents
- 2. Deals counted once in total if included in multiple segments
- 3. LTM = last twelve months; FTM = forward twelve months
- 4. %Δ – percent change month over month
- 5. NM – Not Meaningful



M&A ACTIVITY

DEALS BY SEGMENT

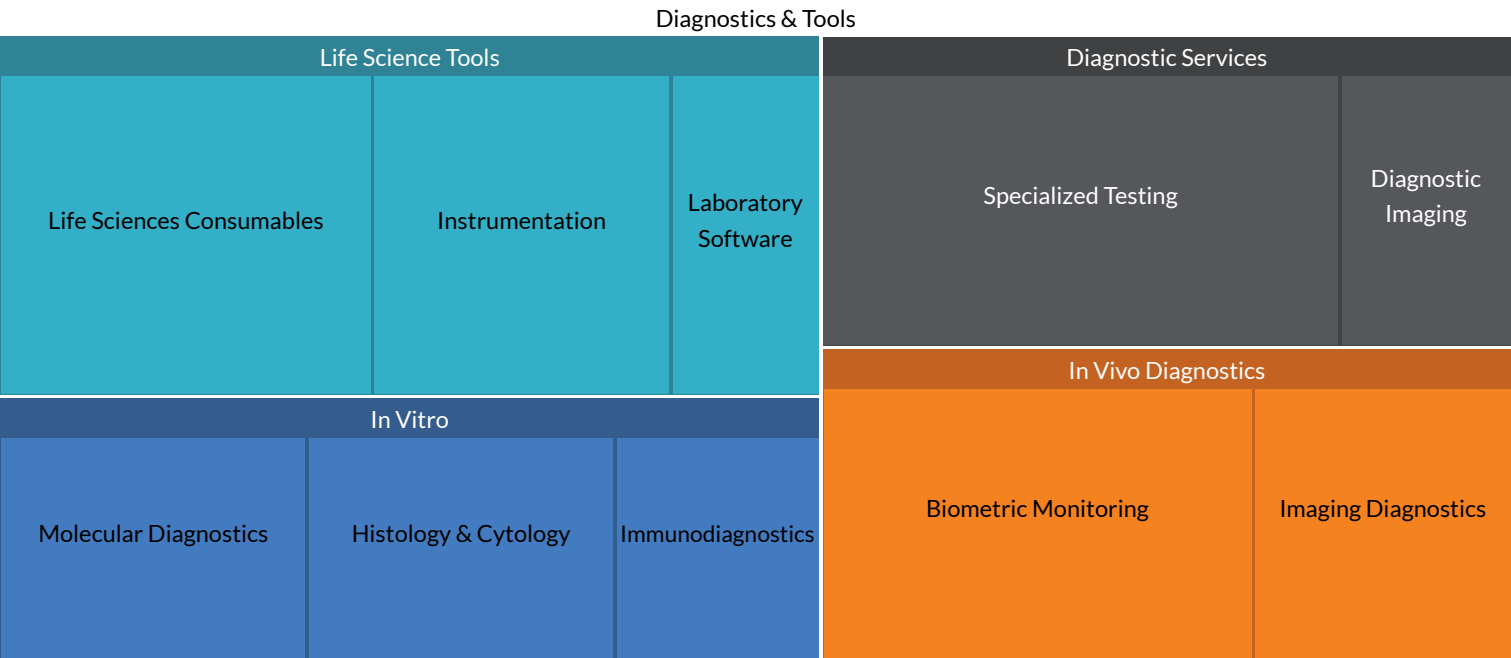


SELECTED TRANSACTIONS

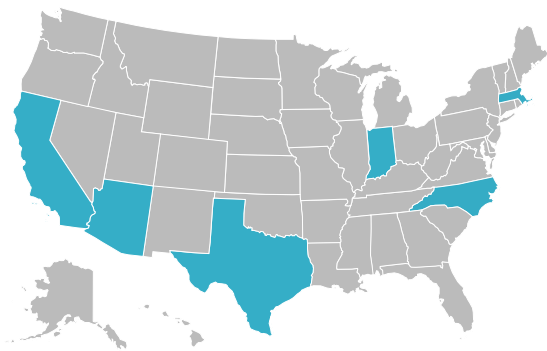
Announced Date	Segment	Sub-Segment	Target Company	Geography	Selected Buyers	Size (\$mm)
9/29/2023	Diagnostic Services	Specialized Testing	GEDi Cube	-	Renovaro Biosciences Inc. (NasdaqCM:RENB)	-
9/26/2023	Life Science Tools	Instrumentation Lab/Biobank Equipment	Metenova AB	Sweden	Repligen Corporation (NasdaqGS:RGEN)	-
9/20/2023	Life Science Tools	Lab Software	DB Soft SL	Spain	PARATUS Holding GmbH	-
9/4/2023	Life Science Tools	Instrumentation	YMIT Co., Ltd.	Japan	Basic Capital Management, Limited	-

FINANCINGS

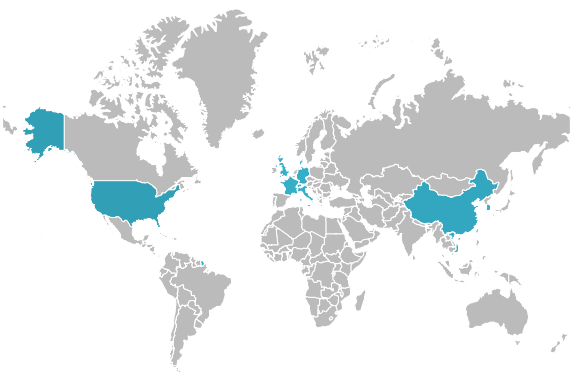
DEALS BY SEGMENT



U.S. DEALS BY STATE



WORLDWIDE DEALS BY COUNTRY



SELECTED TRANSACTIONS							
Closed Date		Segment	Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
9/28/2023	Life Science Tools	Instrumentation		Nagi Bioscience SA	Switzerland	Swisscanto Holding AG, Hardware Club, Verve Capital Partners AG, Hardware Club, Excellis Holding S.R.L.	13.5
9/28/2023	In Vitro		Histology & Cytology Immunodiagnostics	CellPly s.r.l.	Italy	Recomec Societa A Responsabilita Limitata In Sigla: Recomec S.R.L., Liftt S.P.A., Schia Ventures	3.8

Closed Date	Segment	Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
9/28/2023	Diagnostic Services	Specialized Testing	Laverock Therapeutics Ltd.	United Kingdom	Maven Capital Partners UK LLP, Eli Lilly and Company Limited, Calculus Capital Limited, EOS Technology Investment Syndicate, Future Planet Capital, Tekfen Ventures, Mercia Ventures Limited	16.5
9/28/2023	Diagnostic Services	Specialized Testing	Harbinger Health	-	Flagship Pioneering	140.0
9/27/2023	Diagnostic Services	Specialized Testing	Evvy	-	Left Lane Capital	14.0
9/26/2023	In Vivo Diagnostics	Biometric Monitoring	QT Medical, Inc.	United States	Cathay Capital Private Equity SAS, Cathay Capital Private Equity SAS, CDIB Capital International (Hong Kong) Corporation Limited, Taiwan Capital Management Corporation	12.0
9/26/2023	Life Science Tools	Consumables	Codetta Bio Inc.	United States	Anzu Partners, LLC	-
9/24/2023	Life Science Tools	Instrumentation	Nanjing Superyears Gene Technology Co., Ltd.	China	Anhui State-owned Capital Operation Holding Group Co.,Ltd, Shanghai October Asset Management Co., Ltd.	8.2
9/21/2023	In Vivo Diagnostics	Imaging Diagnostics	MedTrace Pharma A/S	Denmark	Arbejdsmarkedets Tillægspension (Atp), Verve Capital Partners AG, Medtravest A/S, Hardware Club	19.0
9/20/2023	Diagnostic Services	Specialized Testing	GENE SOLUTIONS JOINT STOCK COMPANY	Viet Nam	Mekong Capital	21.0
9/20/2023	Diagnostic Services	Specialized Testing	Day Zero Diagnostics Inc.	United States	Undisclosed	16.0
9/19/2023	Life Science Tools	Consumables	Suzhou Acumen Biomedical Technology Co., Ltd.	China	Xiamen Borun Capital Investment Management Co., Ltd., Qiandao Investment Fund Management (Beijing) Co., Ltd.	13.7
9/18/2023	In Vivo Diagnostics	Biometric Monitoring	Ziv HealthCare Ltd.	Israel	Solardis Health Ventures	-
9/13/2023	In Vivo Diagnostics	Biometric Monitoring Imaging Diagnostics	Sichuan Chaoying Pharmaceutical Co., Ltd.	China	Northern Light Venture Capital	-
9/11/2023	Life Science Tools	Consumables	Aprinoia Therapeutics Inc.	Taiwan (Province of China)	Alzheimers Drug Discovery Foundation	4.4
9/7/2023	In Vivo Diagnostics	Biometric Monitoring	Hangzhou Leyi Biotechnology Co., Ltd	China	Leiyu Capital, Hangzhou Yuhang Financial Holding Co., Ltd.	-
9/6/2023	In Vitro Life Science Tools	Histology & Cytology Lab Software	Ibex Medical Analytics Ltd.	Israel	83North Limited, Octopus Ventures Ltd., Sienna Capital Participations S.à R.L., aMoon Fund, Dell Technologies Capital, Inc., CRDH Capital AG	55.0
9/5/2023	In Vitro	Molecular	oncgnostics GmbH	Germany	Grande Bio-tech Co. Ltd.	-
9/5/2023	Diagnostic Services	Diagnostic Imaging	TRIBVN Healthcare SAS	France	LBO France, Bpifrance Investissement SAS, Fonds Patient Autonome FPCI	16.1
9/2/2023	In Vitro Life Science Tools	Molecular Instrumentation	Pilot Gene Technology (Hangzhou) Co., Ltd.	China	Hangzhou Simiao Equity Investment Co., Ltd.	13.8
9/1/2023	Life Science Tools	Consumables	Cellumed Co., Ltd. (KOSDAQ:A049180)	Korea (Republic of)	Undisclosed	1.5

PUBLIC MARKETS¹

IN VITRO DIAGNOSTICS

Molecular Diagnostics

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Amoy Diagnostics Co., Ltd.	China	1,251	10.1x	7.8x	42.3x	27.1x
Biocartis Group NV	Belgium	163	2.5x	2.6x	NM	NM
Dx & Vx Co., Ltd.	Korea (Republic of)	161	5.1x	NM	NM	NM
Genomictree Inc.	Korea (Republic of)	297	68.9x	NM	NM	NM
Guangdong HybriBio Biotech Co.,Ltd.	Hong Kong	771	1.7x	4.3x	4.0x	NM
Qiagen N.V.	Netherlands	9,852	5.0x	4.9x	17.7x	11.7x
Sansure Biotech Inc.	China	645	1.1x	NM	4.6x	NM
Seegene, Inc.	Korea (Republic of)	463	1.4x	1.5x	39.7x	7.4x
Tellgen Corporation	China	364	4.0x	2.9x	18.1x	11.9x
Zhejiang Orient Gene Biotech Co., Ltd. (SHSE:688298)	China	315	1.1x	NM	NM	NM
Mean		1,428	10.1x	4.0x	21.1x	14.5x
Median		414	3.2x	3.6x	17.9x	11.8x

Microbiology

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Accelerate Diagnostics, Inc. (NasdaqCM:AXDX)	United States	88	7.6x	5.4x	NM	NM
bioMérieux S.A.	France	11,567	3.0x	2.9x	13.7x	12.3x
OraSure Technologies, Inc. (NasdaqGS:OSUR)	United States	265	0.6x	1.1x	4.0x	NM
QuidelOrtho Corporation	United States	7,353	2.3x	2.5x	8.9x	8.9x
Sansure Biotech Inc.	China	645	1.1x	NM	4.6x	NM
T2 Biosystems, Inc. (NasdaqCM:TTOO)	United States	117	8.9x	7.7x	NM	NM
Mean		3,339	3.9x	3.9x	7.8x	10.6x
Median		455	2.6x	2.9x	6.8x	10.6x

Histology & Cytology

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Guangzhou LBP Medicine Science & Technology Co., Ltd.	China	283	4.3x	NM	66.8x	NM
Mean		283	4.3x	NM	66.8x	NM
Median		283	4.3x	NM	66.8x	NM

Hematology & Coagulation

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Beijing Succeder Technology Inc.	China	308	8.5x	7.0x	22.0x	NM
Sysmex Corporation	Japan	9,744	3.5x	3.1x	13.6x	12.3x
Mean		5,026	6.0x	5.0x	17.8x	12.3x
Median		5,026	6.0x	5.0x	17.8x	12.3x

DIAGNOSTIC SERVICES

Diagnostic Imaging

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Akumin Inc. (TSX:AKU)	United States	1,639	2.2x	NM	8.8x	NM
Centro de Imagem Diagnósticos S.A.	Brazil	474	2.1x	NM	26.7x	NM
Integral Diagnostics Limited (ASX:IDX)	Australia	646	2.3x	2.1x	12.1x	9.8x
RadNet, Inc. (NasdaqGM:RDNT)	United States	3,274	2.1x	2.0x	10.3x	14.1x
Mean		1,508	2.2x	2.0x	14.5x	12.0x
Median		1,143	2.2x	2.0x	11.2x	12.0x

Specialized Testing

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Adaptive Biotechnologies Corporation	United States	603	3.2x	2.6x	NM	NM
Aspira Women's Health Inc.	United States	53	5.8x	3.8x	NM	NM
BGI Genomics Co., Ltd.	China	2,197	2.7x	NM	23.4x	NM
Biora Therapeutics, Inc. (NasdaqGM:BIOR)	United States	156	NM	NM	NM	NM
CareDx, Inc (NasdaqGM:CDNA)	United States	133	0.4x	0.6x	NM	NM
Castle Biosciences, Inc. (NasdaqGM:CSTL)	United States	242	1.4x	1.3x	NM	NM
Dx & Vx Co., Ltd.	Korea (Republic of)	161	5.1x	NM	NM	NM
Exact Sciences Corporation	United States	14,121	6.1x	5.4x	NM	68.2x
Guardant Health, Inc.	United States	3,625	7.1x	6.1x	NM	NM
Invitae Corporation	United States	1,421	2.9x	2.8x	NM	NM
MDxHealth SA	Belgium	78	1.5x	1.1x	NM	NM
Myriad Genetics, Inc. (NasdaqGS:MYGN)	United States	1,389	2.0x	1.8x	NM	89.0x
Natera, Inc.	United States	4,956	5.3x	4.4x	NM	NM
NeoGenomics, Inc.	United States	1,769	3.2x	3.0x	NM	NM
Veracyte, Inc.	United States	1,448	4.4x	4.0x	NM	NM
Mean		2,157	3.7x	3.1x	23.4x	78.6x
Median		1,389	3.2x	2.9x	23.4x	78.6x

General Chemistry

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Diagnósticos da América S.A. (BOVESPA:DASA3)	Brazil	4,247	1.5x	1.4x	10.5x	7.4x
Dr. Lal PathLabs Limited (NSEI:LALPATHLAB)	India	2,479	10.0x	8.6x	38.1x	33.7x
Guangzhou Kingmed Diagnostics Group Co., Ltd.	China	3,818	2.4x	2.6x	13.4x	14.7x
H.U. Group Holdings, Inc.	Japan	1,195	0.7x	0.7x	5.6x	5.7x
Integrated Diagnostics Holdings plc	Jersey	258	2.3x	1.9x	8.9x	6.2x
Laboratory Corporation of America Holdings (NYSE:LH)	United States	22,211	1.5x	1.8x	8.9x	10.5x
Medicover AB (publ) (OM:MCOV B)	Sweden	2,999	1.7x	1.5x	12.8x	10.2x
Metropolis Healthcare Limited (NSEI:METROPOLIS)	India	921	6.7x	6.2x	27.3x	24.2x
Quest Diagnostics Incorporated	United States	18,625	2.0x	2.0x	8.8x	10.1x
Sonic Healthcare Limited	Australia	10,726	2.0x	1.9x	10.1x	9.4x
Thyrocare Technologies Limited	India	349	5.4x	4.8x	24.4x	18.4x

Mean	6,166	3.3x	3.1x	15.3x	13.7x
Median	2,999	2.0x	1.9x	10.5x	10.2x

LIFE SCIENCE TOOLS

Laboratory Software

Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
Precigen, Inc. (NasdaqGS:PGEN)	United States	282	12.8x	49.5x	NM	NM
Schrödinger, Inc.	United States	1,605	8.3x	6.8x	NM	NM
Simulations Plus, Inc. (NasdaqGS:SLP)	United States	710	12.7x	10.5x	57.0x	29.3x
SyntekBio, Inc.	Korea (Republic of)	135	NM	NM	NM	NM
Mean		683	11.3x	22.3x	57.0x	29.3x
Median		496	12.7x	10.5x	57.0x	29.3x

Life Sciences Consumables

Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
Abcam plc	United Kingdom	5,382	11.2x	10.0x	36.2x	25.0x
Adaptive Biotechnologies Corporation	United States	603	3.2x	2.6x	NM	NM
Avantor, Inc.	United States	19,867	2.8x	2.8x	13.6x	14.9x
Bio-Techne Corporation	United States	11,022	9.7x	8.9x	30.4x	24.6x
Bioneer Corporation	Korea (Republic of)	642	3.8x	NM	61.2x	NM
Borosil Limited (BSE:543212)	India	541	4.2x	NM	37.6x	NM
Collectis S.A.	France	89	3.7x	4.1x	NM	NM
Genscript Biotech Corporation	China	5,060	7.2x	5.9x	NM	NM
Guangzhou Jet Bio-Filtration Co., Ltd. (SHSE:688026)	China	299	4.8x	4.2x	32.6x	27.3x
Guerbet SA (ENXTPA:GBT)	France	587	0.7x	0.7x	5.9x	5.4x
NKMAX CO., Ltd.	Korea (Republic of)	455	55.7x	NM	NM	NM
Porton Pharma Solutions Ltd.	China	2,016	2.7x	4.2x	9.7x	12.0x
Qiagen N.V.	Netherlands	9,852	5.0x	4.9x	17.7x	11.7x
Repligen Corporation (NasdaqGS:RGEN)	United States	8,685	11.9x	13.0x	36.2x	60.6x
Twist Bioscience Corporation	United States	899	3.8x	3.3x	NM	NM
Vitrolife AB (publ)	Sweden	1,972	6.3x	5.6x	20.1x	16.5x
Viva Biotech Holdings	China	560	1.7x	1.5x	8.2x	7.5x
Mean		4,031	8.1x	5.1x	25.8x	20.6x
Median		899	4.2x	4.2x	25.2x	15.7x

Instrumentation

Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
10x Genomics, Inc.	United States	4,552	8.0x	6.9x	NM	NM
AnHui Wanyi Science and Technology Co., Ltd.	China	301	3.1x	2.1x	NM	14.5x
Biotage AB (publ) (OM:BIOT)	Sweden	782	5.5x	4.5x	24.3x	20.5x
Bruker Cellular Analysis, Inc.	United States	98	1.4x	1.2x	NM	NM
Bruker Corporation	United States	9,850	3.6x	3.3x	16.2x	14.9x
Harvard Bioscience, Inc.	United States	227	2.0x	1.9x	24.6x	11.6x

Illumina, Inc.	United States	23,220	5.2x	4.8x	66.6x	41.1x
Mettler-Toledo International Inc. (NYSE:MTD)	United States	26,297	6.7x	6.6x	20.2x	20.0x
NanoString Technologies, Inc.	United States	213	1.5x	1.1x	NM	NM
Pacific Biosciences of California, Inc.	United States	2,201	15.1x	10.2x	NM	NM
Quanterix Corporation (NasdaqGM:QTRX)	United States	733	6.6x	6.2x	NM	NM
Standard BioTools Inc. (NasdaqGS:LAB)	United States	499	4.7x	4.6x	NM	NM
Waters Corporation	United States	18,605	6.2x	5.9x	18.0x	16.5x
Mean		6,737	5.3x	4.6x	28.3x	19.9x
Median		782	5.2x	4.6x	22.3x	16.5x

Lab/Biobank Equipment

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
BICO Group AB (publ)	Sweden	309	1.4x	1.4x	NM	15.2x
Sartorius Aktiengesellschaft	Germany	24,682	6.1x	6.0x	19.4x	19.4x
Stratec SE	Germany	618	2.2x	2.0x	14.0x	11.6x
Tecan Group Ltd. (SWX:TECN)	Switzerland	4,308	3.6x	3.4x	21.4x	16.9x
Mean		7,479	3.3x	3.2x	18.3x	15.8x
Median		2,463	2.9x	2.7x	19.4x	16.1x

IN VIVO DIAGNOSTICS

Biometric Monitoring

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Contec Medical Systems Co.,Ltd	China	1,082	9.0x	NM	33.3x	NM
Guangdong Transtek Medical Electronics Co., Ltd	China	267	2.1x	2.2x	NM	30.5x
iRhythm Technologies, Inc.	United States	2,847	6.3x	5.4x	NM	NM
TaiDoc Technology Corporation	Taiwan (Province of China)	308	1.4x	2.3x	4.4x	7.9x
Zhejiang Starry Pharmaceutical Co.,Ltd.	China	1,053	3.4x	3.1x	27.7x	14.7x
Mean		1,111	4.5x	3.2x	21.8x	17.7x
Median		1,053	3.4x	2.7x	27.7x	14.7x

Imaging Diagnostics

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
4DMedical Limited	Australia	59	NM	19.6x	NM	NM
Detection Technology Oyj	Finland	165	1.5x	1.4x	17.7x	10.1x
iRay Technology Company Limited	China	3,277	13.4x	10.2x	39.0x	23.1x
Nano-X Imaging Ltd. (NasdaqGM:NNOX)	Israel	303	31.6x	15.2x	NM	NM
Ray Co., Ltd.	Korea (Republic of)	280	2.7x	2.0x	18.4x	11.3x
Siemens Healthineers AG	Germany	72,729	3.2x	3.0x	20.5x	15.1x
SonoScape Medical Corp.	China	2,663	9.9x	7.7x	42.3x	28.1x
Varex Imaging Corporation (NasdaqGS:VREX)	United States	1,090	1.2x	1.2x	9.6x	7.3x
Mean		10,071	9.1x	7.5x	24.6x	15.8x
Median		697	3.2x	5.4x	19.5x	13.2x

1. NM - Not Meaningful

RECENT CROSSTREE TRANSACTIONS

Crosstree Capital Partners provides mergers and acquisitions and financing advisory services exclusively to leading Health Sciences companies. Since inception, the firm has been a consistent leader within our focus areas, closing more than 100 successful transactions with companies ranging from private equity-backed consolidators to Fortune 500 publicly-traded companies. In the process, we have represented clients on five continents, and roughly 35% of our transactions have been cross-border.



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