

Industry BlueBook

Diagnostics & Tools

August 2023

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

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

EV MULTIPLES

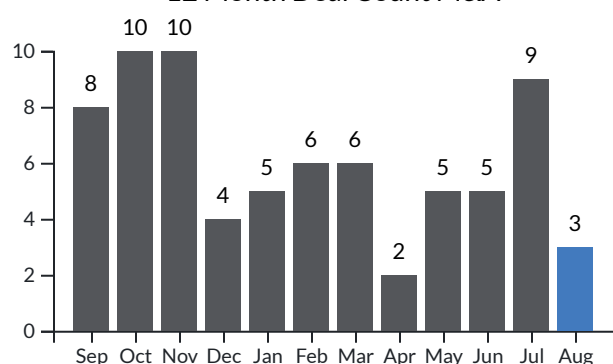
	REVENUE				EBITDA			
	LTM	%Δ	FTM	%Δ	LTM	%Δ	FTM	%Δ
In Vitro Diagnostics	3.8x	-12%	3.4x	9%	16.3x	-11%	12.9x	-3%
Diagnostic Services	2.3x	-11%	2.2x	-8%	11.9x	-4%	10.7x	0%
Life Science Tools	5.3x	-3%	5.0x	NM	23.2x	6%	18.1x	0%
In Vivo Diagnostics	3.2x	-11%	2.9x	NM	22.6x	NM	14.0x	-15%

M&A DEALS & FINANCINGS

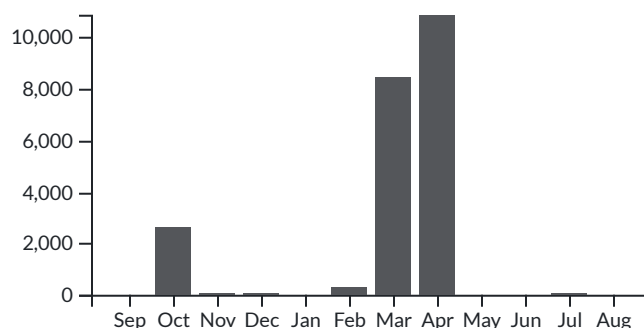
	DEAL COUNT				VOLUME (\$MM)			
	M&A	%Δ	FINANCINGS	%Δ	M&A	%Δ	FINANCINGS	%Δ
In Vitro Diagnostics	0	NM	2	-71%	0	NM	1	-98%
Diagnostic Services	1	-83%	2	-50%	0	NM	87	284%
Life Science Tools	0	NM	3	-40%	0	NM	122	1,179%
In Vivo Diagnostics	2	NM	9	13%	0	NM	63	64%

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

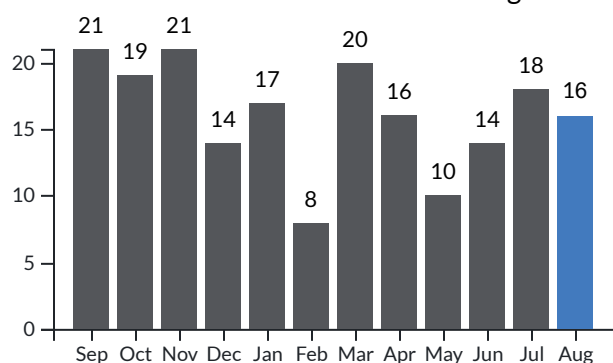
12 Month Deal Count M&A



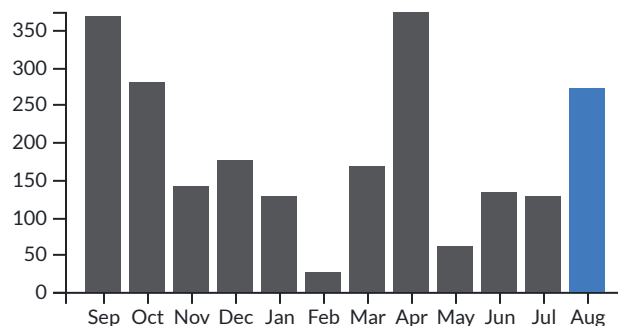
12 Month Volume M&A (\$MM)



12 Month Deal Count Financings



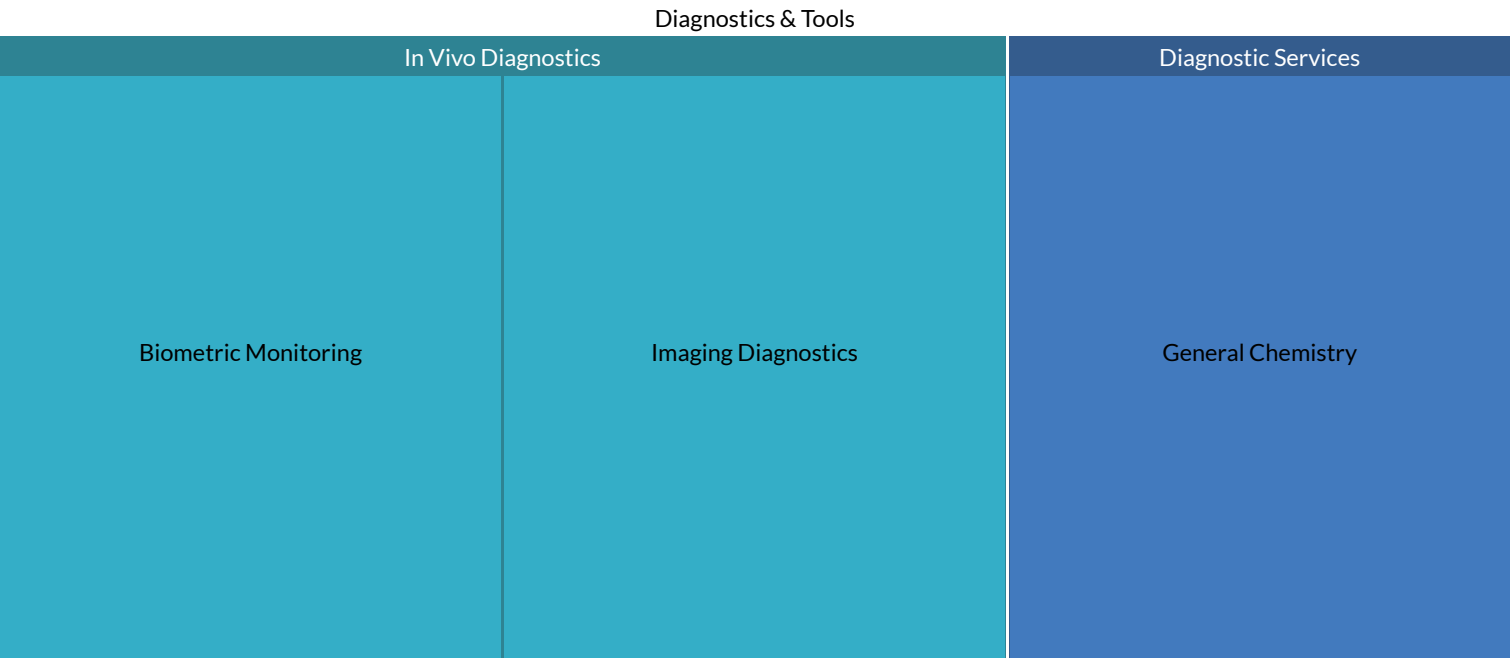
12 Month Volume Financings (\$MM)



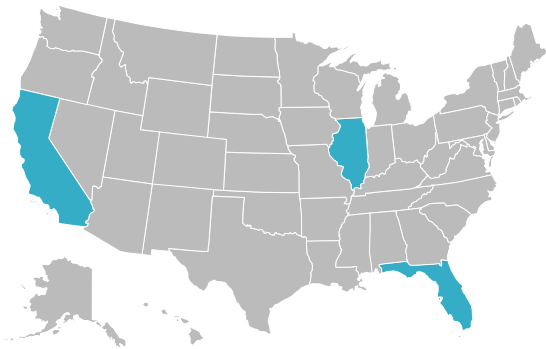
CROSSTREE

M&A ACTIVITY

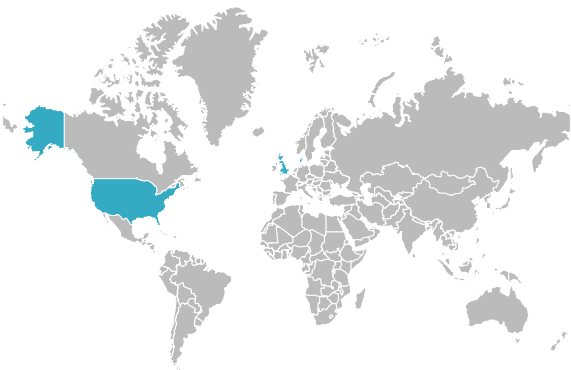
DEALS BY SEGMENT



U.S. DEALS BY STATE



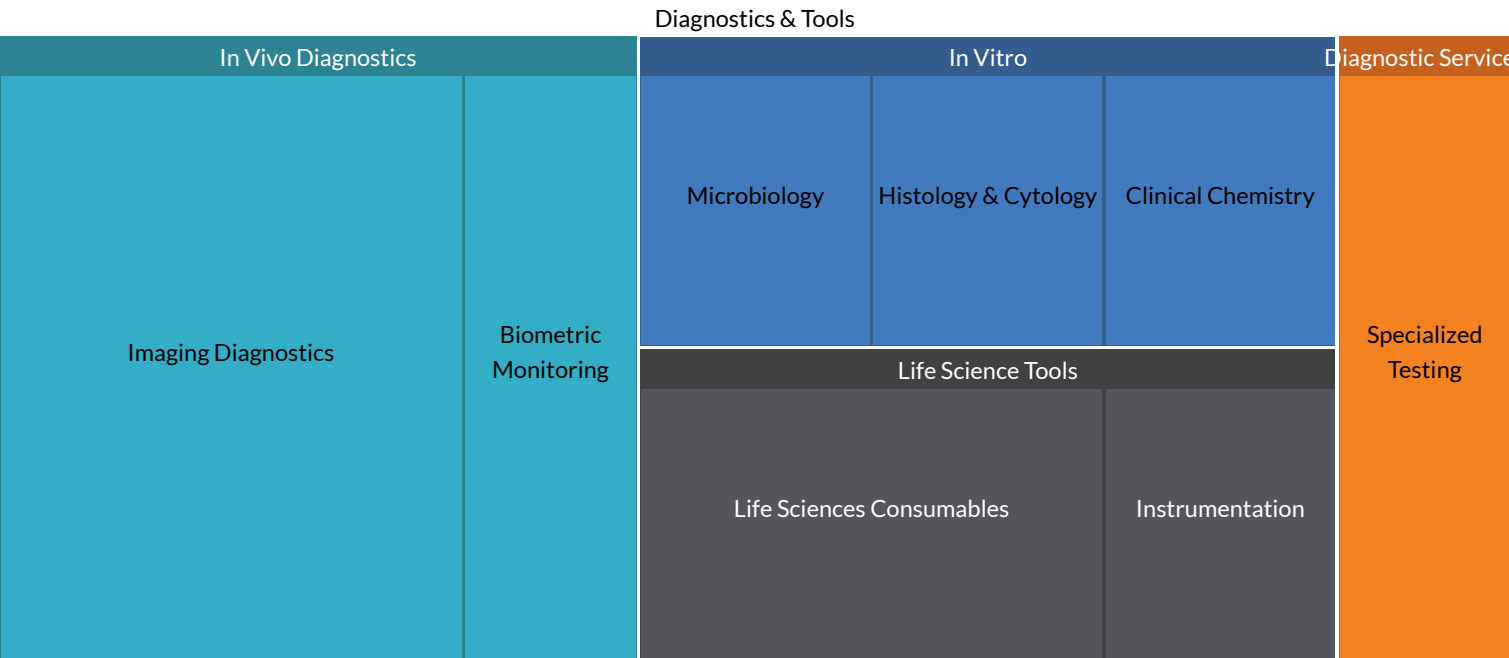
WORLDWIDE DEALS BY COUNTRY



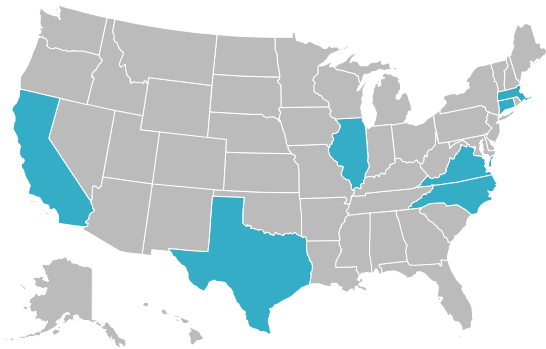
SELECTED TRANSACTIONS						
Announced Date	Segment	Sub-Segment	Target Company	Geography	Selected Buyers	Size (\$mm)
8/18/2023	In Vivo Diagnostics	Biometric Monitoring	OpenTeleHealth ApS	Denmark	Doccla LTD	-
8/16/2023	Diagnostic Services	Anatomic Pathology	QDx Pathology	-	LabGenomics	-
8/14/2023	In Vivo Diagnostics	Imaging Diagnostics	OnePacs, LLC	United States	Experity, Inc.	-

FINANCINGS

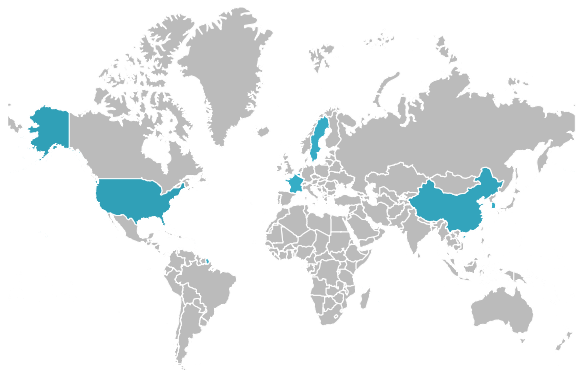
DEALS BY SEGMENT



U.S. DEALS BY STATE



WORLDWIDE DEALS BY COUNTRY



SELECTED TRANSACTIONS						
Closed Date	Segment	Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
8/29/2023	In Vivo Diagnostics	Biometric Monitoring	Vytal.ai Inc	United States	Undisclosed	1.2
8/28/2023	Life Science Tools	Consumables	Regenerative Medical Solutions, Inc.	United States	Undisclosed	5.0
8/28/2023	Life Science Tools	Consumables Instrumentation	HC Scientific Technology Co., Ltd.	China	Legend Capital Management Co., Ltd., GTJA Innovation Investment Co., Ltd., Lyfe Capital, Dalton Venture, Lake Bleu Capital (Hong Kong) Limited, Chengdu Bio-town Equity Investment Co., Ltd.	41.1

Closed Date Segment		Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
8/28/2023	In Vivo Diagnostics	Imaging Diagnostics	Collective Minds Radiology AB	Sweden	Tradecity AB, Brightly Ventures AB, Crista Galli Ventures, Segulah Medical Acceleration AB	7.6
8/28/2023	In Vivo Diagnostics	Imaging Diagnostics	CSH Medical Equipment (Shanghai) Co., Ltd.	China	Beijing Xinding Rongsheng Capital Management Co., Ltd.	-
8/26/2023	Diagnostic Services	Specialized Testing	Shanghai Bioprofile	China	Shanghai Chuangye Jieli Fund Venture Capital Management Co., Ltd., Shanghai Zhonghuijin Investment Co., Ltd.	-
8/25/2023	In Vivo Diagnostics	Imaging Diagnostics	Inventure, LLC	United States	Undisclosed	0.3
8/19/2023	In Vivo Diagnostics	Imaging Diagnostics	Shiwei Imaging (Henan) Technology Co., Ltd.	China	Undisclosed	-
8/18/2023	Diagnostic Services	Specialized Testing	Viome, Inc.	United States	Khosla Ventures, LLC, Bold Capital Management, LLC	86.5
8/9/2023	Life Science Tools	Consumables	ST Pharm Co.,Ltd.	Korea (Republic of)	Undisclosed	76.0
8/8/2023	In Vivo Diagnostics	Imaging Diagnostics	Chongqing Zhijian Life Science and Technology Co., Ltd.	China	Fujian Yangming Venture Capital Co., Ltd.	1.4
8/7/2023	In Vivo Diagnostics	Biometric Monitoring	Allurion Technologies Inc.	United States	RTW Investments, LP	37.9
8/4/2023	In Vivo Diagnostics	Imaging Diagnostics	Kunshan Yiyuan Medical Technology Co., Ltd.	China	Jiangsu Tech industry Investment Corp., Beijing Langmafeng Venture Capital Management Co., Ltd., Riverhead Capital Investment Management Co., Ltd.	13.9
8/3/2023	In Vitro	Histology & Cytology	Ikonisys S.A.	France	Undisclosed	0.5
8/3/2023	In Vitro	Microbiology Chemistry	Qlife Holding AB (publ)	Sweden	Pensys AB, Jinderman & Partners AB	0.4
8/2/2023	In Vivo Diagnostics	Imaging Diagnostics	Galileo CDS, Inc.	United States	Undisclosed	0.5

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	1,204	9.6x	7.5x	40.5x	26.0x
Biocartis Group NV	Belgium	138	2.2x	2.2x	NM	NM
Dx & Vx Co., Ltd.	Korea (Republic of)	185	5.7x	NM	NM	NM
Genomictree Inc.	Korea (Republic of)	390	89.2x	NM	NM	NM
Guangdong HybriBio Biotech Co.,Ltd.	Hong Kong	750	1.6x	4.1x	3.9x	NM
Qiagen N.V.	Netherlands	10,990	5.6x	5.4x	19.8x	13.1x
Sansure Biotech Inc.	China	666	1.2x	NM	4.7x	NM
Seegene, Inc.	Korea (Republic of)	500	1.5x	1.6x	42.2x	7.9x
Tellgen Corporation	China	354	3.8x	2.8x	17.5x	11.5x
Zhejiang Orient Gene Biotech Co., Ltd. (SHSE:688298)	China	317	1.1x	NM	NM	NM
Mean		1,549	12.1x	3.9x	21.4x	14.6x
Median		445	3.0x	3.5x	18.7x	12.3x

Microbiology

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Accelerate Diagnostics, Inc. (NasdaqCM:AXDX)	United States	107	9.1x	6.5x	NM	NM
bioMérieux S.A.	France	12,316	3.1x	3.0x	15.0x	12.8x
OraSure Technologies, Inc. (NasdaqGS:OSUR)	United States	304	0.6x	1.3x	4.6x	121.5x
QuidelOrtho Corporation	United States	7,976	2.5x	2.7x	9.7x	9.7x
Sansure Biotech Inc.	China	666	1.2x	NM	4.7x	NM
T2 Biosystems, Inc. (NasdaqCM:TTOO)	United States	148	11.2x	10.5x	NM	NM
Mean		3,586	4.6x	4.8x	8.5x	48.0x
Median		485	2.8x	3.0x	7.2x	12.8x

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	276	4.2x	NM	64.8x	NM
Mean		276	4.2x	NM	64.8x	NM
Median		276	4.2x	NM	64.8x	NM

Hematology & Coagulation

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Beijing Succeder Technology Inc.	China	300	8.2x	6.8x	21.4x	NM
Sysmex Corporation	Japan	10,881	3.8x	3.4x	14.8x	13.4x
Mean		5,591	6.0x	5.1x	18.1x	13.4x
Median		5,591	6.0x	5.1x	18.1x	13.4x

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	2.1x	8.8x	9.7x
Centro de Imagem Diagnósticos S.A.	Brazil	438	1.9x	NM	24.4x	NM
Integral Diagnostics Limited (ASX:IDX)	Australia	666	2.3x	2.1x	12.4x	10.1x
RadNet, Inc. (NasdaqGM:RDNT)	United States	3,628	2.4x	2.2x	11.5x	15.6x
Mean		1,593	2.2x	2.1x	14.3x	11.8x
Median		1,153	2.3x	2.1x	11.9x	10.1x
Specialized Testing						
Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Adaptive Biotechnologies Corporation	United States	794	4.2x	3.5x	NM	NM
BGI Genomics Co., Ltd.	China	2,296	2.8x	NM	24.4x	NM
Biora Therapeutics, Inc. (NasdaqGM:BIOR)	United States	147	NM	NM	NM	NM
CareDx, Inc (NasdaqGM:CDNA)	United States	258	0.8x	1.1x	NM	NM
Castle Biosciences, Inc. (NasdaqGM:CSTL)	United States	323	1.9x	1.7x	NM	NM
Dx & Vx Co., Ltd.	Korea (Republic of)	185	5.7x	NM	NM	NM
Exact Sciences Corporation	United States	16,912	7.4x	6.5x	NM	81.7x
Fulgent Genetics, Inc. (NasdaqGM:FLGT)	United States	158	0.5x	0.6x	NM	NM
Genetron Holdings Limited	China	62	0.7x	NM	NM	NM
Guardant Health, Inc.	United States	4,736	9.3x	7.9x	NM	NM
Invitae Corporation	United States	1,507	3.1x	3.0x	NM	NM
MDxHealth SA	Belgium	86	1.6x	1.2x	NM	NM
Myriad Genetics, Inc. (NasdaqGS:MYGN)	United States	1,538	2.2x	2.0x	NM	NM
Natera, Inc.	United States	6,421	6.9x	5.6x	NM	NM
NeoGenomics, Inc.	United States	2,117	3.8x	3.6x	NM	NM
Veracyte, Inc.	United States	1,745	5.3x	4.8x	NM	NM
Mean		2,455	3.7x	3.4x	24.4x	81.7x
Median		1,151	3.1x	3.2x	24.4x	81.7x
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	4,093	1.5x	1.3x	10.0x	7.0x
Dr. Lal PathLabs Limited (NSEI:LALPATHLAB)	India	2,141	8.6x	7.6x	32.7x	29.1x
Guangzhou Kingmed Diagnostics Group Co., Ltd.	China	3,664	2.3x	2.5x	12.8x	13.7x
H.U. Group Holdings, Inc.	Japan	1,264	0.7x	0.8x	5.8x	5.8x
Integrated Diagnostics Holdings plc	Jersey	309	2.7x	2.4x	10.7x	7.5x
Laboratory Corporation of America Holdings	United States	22,836	1.5x	1.9x	9.1x	10.7x
Medicover AB (publ) (OM:MCOV B)	Sweden	3,185	1.8x	1.6x	13.7x	10.5x
Metropolis Healthcare Limited (NSEI:METROPOLIS)	India	852	6.2x	5.7x	25.1x	22.2x
Quest Diagnostics Incorporated	United States	19,707	2.1x	2.1x	9.3x	10.7x
Sonic Healthcare Limited	Australia	11,453	2.2x	2.0x	10.3x	10.1x

Thyrocare Technologies Limited	India	329	5.1x	4.5x	22.9x	17.3x
Mean		6,348	3.2x	2.9x	14.7x	13.1x
Median		3,185	2.2x	2.1x	10.7x	10.7x

LIFE SCIENCE TOOLS

Laboratory Software

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Precigen, Inc. (NasdaqGS:PGEN)	United States	367	16.6x	64.3x	NM	NM
Schrödinger, Inc.	United States	2,224	11.5x	9.4x	NM	NM
Simulations Plus, Inc. (NasdaqGS:SLP)	United States	765	13.7x	11.3x	61.4x	31.6x
SyntekaBio, Inc.	Korea (Republic of)	169	NM	NM	NM	NM
Mean		881	13.9x	28.3x	61.4x	31.6x
Median		566	13.7x	11.3x	61.4x	31.6x

Life Sciences Consumables

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Abcam plc	United Kingdom	5,370	11.1x	9.4x	36.1x	23.3x
Adaptive Biotechnologies Corporation	United States	794	4.2x	3.5x	NM	NM
Avantor, Inc.	United States	20,253	2.8x	2.9x	13.9x	15.2x
Bio-Techne Corporation	United States	12,652	11.1x	10.3x	34.8x	28.3x
Bioneer Corporation	Korea (Republic of)	804	4.6x	NM	75.5x	NM
Borosil Limited (BSE:543212)	India	600	4.7x	NM	41.6x	NM
Cellectis S.A.	France	120	4.9x	5.6x	NM	NM
Genscript Biotech Corporation	China	4,437	6.3x	5.2x	NM	NM
Guangzhou Jet Bio-Filtration Co., Ltd.	China	312	5.0x	4.3x	33.8x	24.6x
Guerbet SA (ENXTPA:GBT)	France	591	0.7x	0.7x	5.5x	5.6x
NKMAX CO., Ltd.	Korea (Republic of)	500	60.2x	NM	NM	NM
PanGen Biotech Inc. (KOSDAQ:A222110)	Korea (Republic of)	50	14.7x	NM	NM	NM
Porton Pharma Solutions Ltd.	China	1,753	2.3x	3.7x	8.4x	10.1x
Qiagen N.V.	Netherlands	10,990	5.6x	5.4x	19.8x	13.1x
Repligen Corporation (NasdaqGS:RGEN)	United States	9,516	13.1x	14.2x	39.6x	66.0x
Twist Bioscience Corporation	United States	998	4.2x	3.6x	NM	NM
Vitrolife AB (publ)	Sweden	1,995	6.4x	5.7x	20.4x	16.7x
Viva Biotech Holdings	China	608	1.8x	1.6x	8.9x	8.1x
Mean		4,019	9.1x	5.4x	28.2x	21.1x
Median		901	4.9x	4.7x	27.1x	15.9x

Instrumentation

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
10x Genomics, Inc.	United States	5,796	10.2x	8.8x	NM	NM
AnHui Wanyi Science and Technology Co., Ltd.	China	313	3.2x	2.2x	NM	15.0x
Biotage AB (publ) (OM:BIOT)	Sweden	864	6.1x	4.9x	26.9x	20.3x
Bruker Corporation	United States	10,335	3.8x	3.5x	17.0x	15.6x

Harvard Bioscience, Inc.	United States	232	2.0x	2.0x	25.1x	11.8x
Illumina, Inc.	United States	27,643	6.2x	5.7x	79.3x	52.2x
Mettler-Toledo International Inc. (NYSE:MTD)	United States	28,602	7.2x	7.2x	22.0x	21.7x
NanoString Technologies, Inc.	United States	253	1.8x	1.3x	NM	NM
Pacific Biosciences of California, Inc.	United States	2,935	20.1x	13.6x	NM	NM
PhenomeX Inc. (NasdaqGS:CELL)	United States	93	1.3x	1.1x	NM	NM
Quanterix Corporation (NasdaqGM:QTRX)	United States	720	6.4x	6.1x	NM	NM
Standard BioTools Inc.	United States	507	4.8x	4.6x	NM	NM
Waters Corporation	United States	18,995	6.4x	6.0x	18.4x	16.9x
Mean		7,484	6.1x	5.2x	31.5x	21.9x
Median		864	6.1x	4.9x	23.6x	16.9x

Lab/Biobank Equipment

Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
BICO Group AB (publ)	Sweden	398	1.8x	1.8x	NM	27.0x
Sartorius Aktiengesellschaft	Germany	28,709	6.9x	6.8x	22.1x	22.1x
Stratec SE	Germany	707	2.5x	2.3x	15.6x	13.4x
Tecan Group Ltd. (SWX:TECN)	Switzerland	5,091	4.1x	3.9x	24.4x	19.4x
Mean		8,726	3.8x	3.7x	20.7x	20.4x
Median		2,899	3.3x	3.1x	22.1x	20.7x

IN VIVO DIAGNOSTICS

Biometric Monitoring

Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
Contec Medical Systems Co.,Ltd	China	1,079	9.0x	NM	33.0x	NM
Guangdong Transtek Medical Electronics Co., Ltd	China	245	2.0x	NM	NM	NM
iRhythm Technologies, Inc.	United States	3,125	6.9x	5.9x	NM	NM
TaiDoc Technology Corporation	Taiwan (Province of China)	380	1.8x	2.8x	5.4x	9.6x
Zhejiang Starry Pharmaceutical Co.,Ltd.	China	989	3.2x	2.9x	25.9x	13.7x
Mean		1,164	4.5x	3.9x	21.4x	11.7x
Median		989	3.2x	2.9x	25.9x	11.7x

Imaging Diagnostics

Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
4DMedical Limited	Australia	108	NM	29.3x	NM	NM
Detection Technology Oyj	Finland	194	1.7x	1.6x	20.4x	11.2x
iRay Technology Company Limited	China	3,308	13.5x	10.2x	39.2x	22.3x
Kromek Group plc	United Kingdom	54	2.5x	2.0x	NM	47.3x
Nano-X Imaging Ltd. (NasdaqGM:NNOX)	Israel	405	42.2x	15.7x	NM	NM
Ray Co., Ltd.	Korea (Republic of)	350	3.3x	2.5x	22.6x	14.0x
Siemens Healthineers AG	Germany	72,402	3.1x	2.9x	19.9x	14.5x
SonoScape Medical Corp.	China	2,451	9.0x	7.1x	38.7x	25.6x
Varex Imaging Corporation (NasdaqGS:VREX)	United States	1,126	1.3x	1.2x	10.0x	7.6x

Mean	8,933	9.6x	8.1x	25.1x	20.3x
Median	405	3.2x	2.9x	21.5x	14.5x

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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