

Industry BlueBook

Diagnostics & Tools

March 2023

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

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

EV MULTIPLES

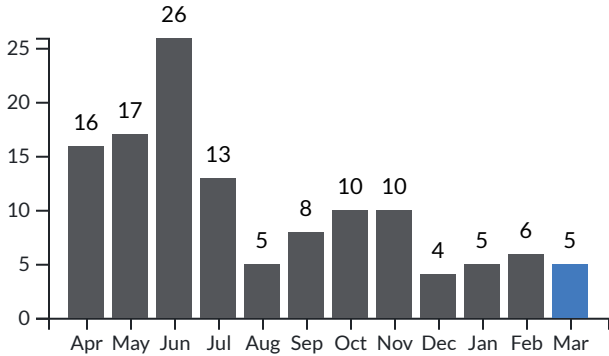
	REVENUE				EBITDA			
	LTM	%Δ	FTM	%Δ	LTM	%Δ	FTM	%Δ
In Vitro Diagnostics	4.2x	15%	3.7x	20%	17.8x	16%	13.6x	1%
Diagnostic Services	2.6x	-1%	2.2x	-3%	9.9x	3%	10.7x	0%
Life Science Tools	4.8x	1%	4.7x	2%	23.3x	-10%	19.5x	-2%
In Vivo Diagnostics	4.1x	-3%	3.7x	21%	23.9x	-11%	15.5x	14%

M&A DEALS & FINANCINGS

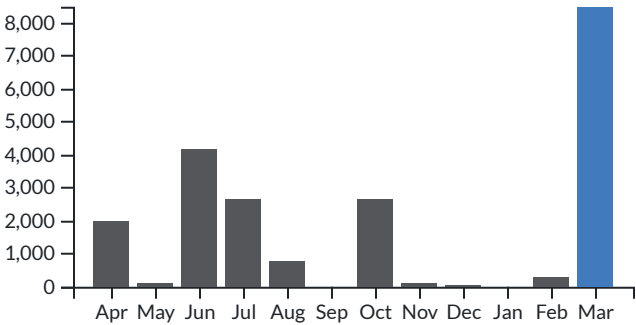
	DEAL COUNT				VOLUME (\$MM)			
	M&A	%Δ	FINANCINGS	%Δ	M&A	%Δ	FINANCINGS	%Δ
In Vitro Diagnostics	0	NM	2	100%	0	NM	6	76%
Diagnostic Services	3	50%	5	150%	5,846	NM	33	183%
Life Science Tools	2	100%	5	400%	2,608	1,010%	9	521%
In Vivo Diagnostics	0	NM	9	80%	0	NM	126	783%

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

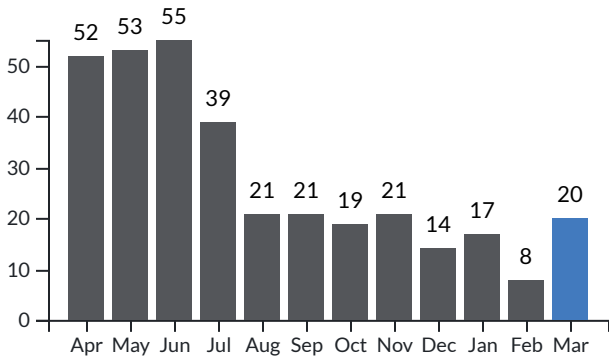
12 Month Deal Count M&A



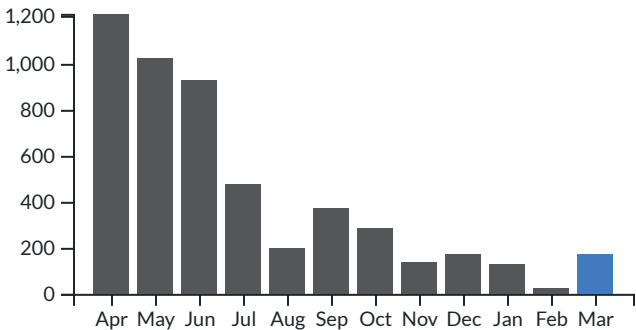
12 Month Volume M&A (\$MM)



12 Month Deal Count Financings

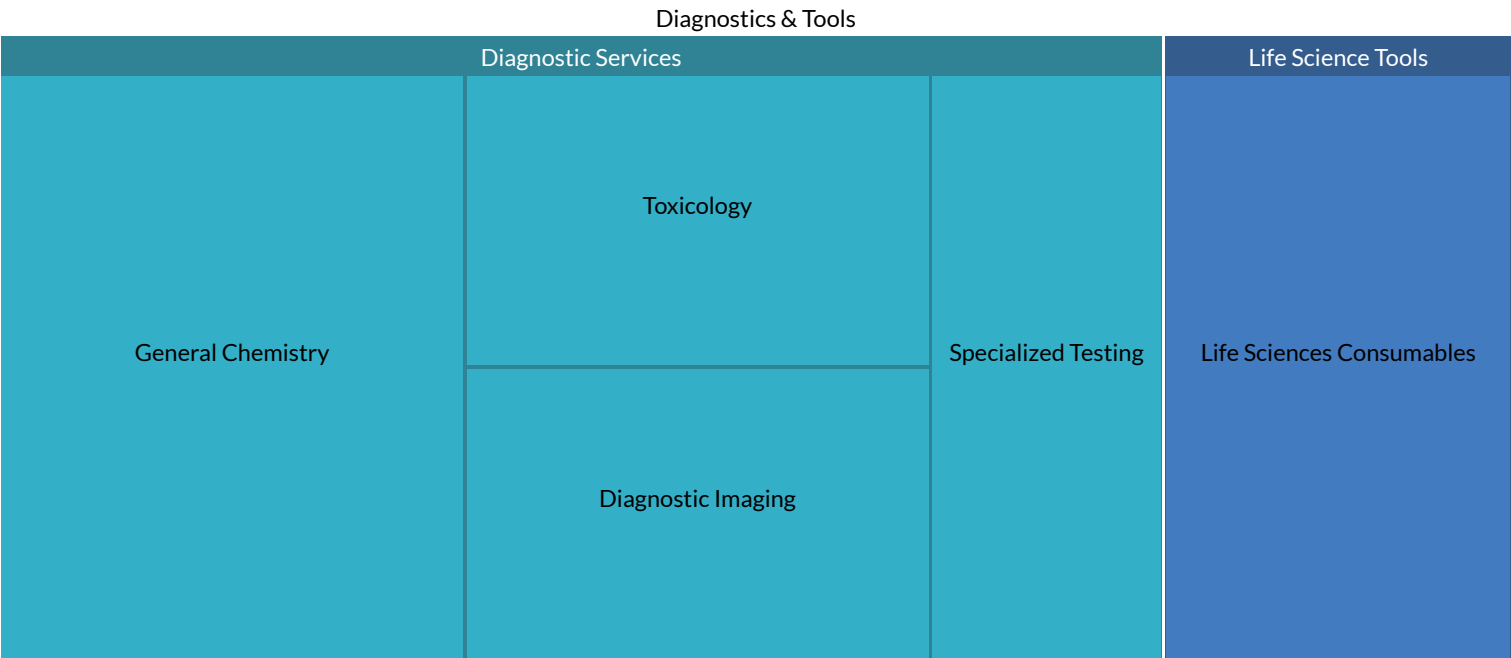


12 Month Volume Financings (\$MM)

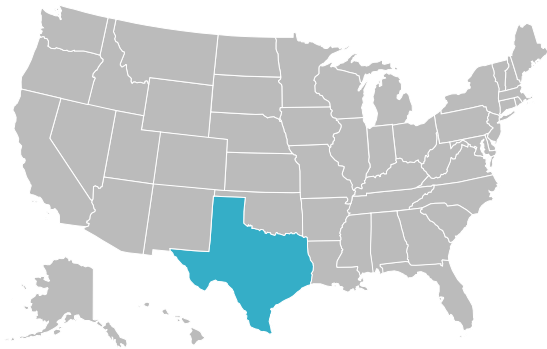


M&A ACTIVITY

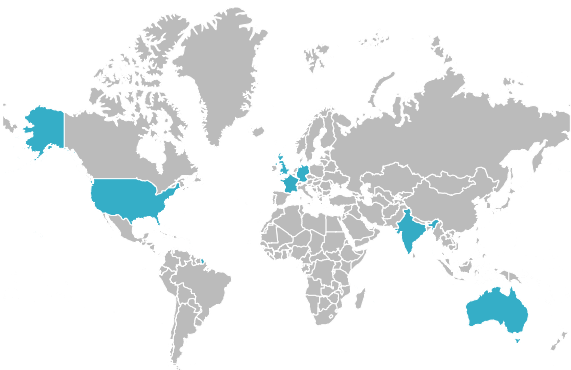
DEALS BY SEGMENT



U.S. DEALS BY STATE



WORLDWIDE DEALS BY COUNTRY

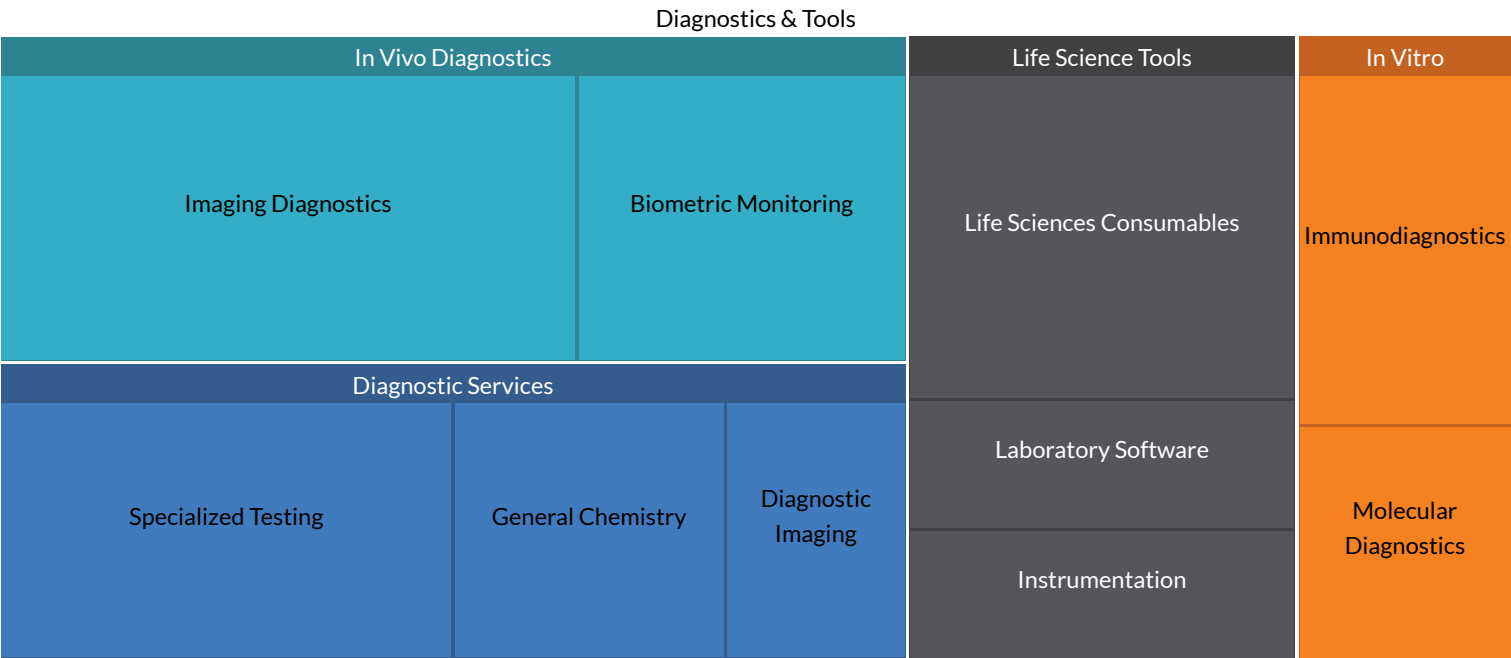


SELECTED TRANSACTIONS						
Announced Date	Segment	Sub-Segment	Target Company	Geography	Selected Buyers	Size (\$mm)
3/31/2023	Life Science Tools	Consumables	Goel Scientific Glass Works Limited	India	Klass Pack Pvt. Ltd.	-
3/31/2023	Life Science Tools	Consumables	Polyplus-transfection SA	France	Sartorius Stedim Biotech S.A. (ENXTPA:DIM)	2,607.6
3/23/2023	Diagnostic Services	Toxicology Specialized Testing General Chemistry	Advanced Diagnostic Laboratory LLC	United States	Undisclosed	1.6

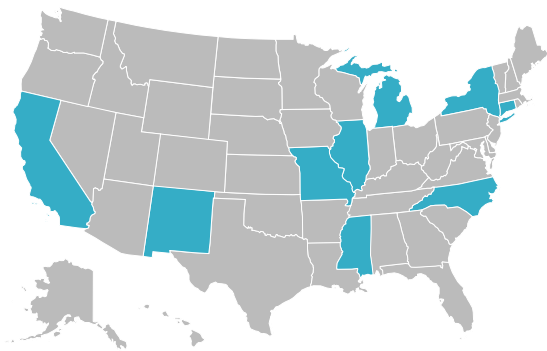
Announced Date Segment		Sub-Segment	Target Company	Geography	Selected Buyers	Size (\$mm)
3/20/2023	Diagnostic Services	Diagnostic Imaging General Chemistry	Healius Limited (ASX:HLS)	Australia	Australian Clinical Labs Limited (ASX:ACL)	2,290.5
3/13/2023	Diagnostic Services	General Chemistry	SYNLAB AG (DB:SYAB)	Germany	Cinven Limited	3,553.8

FINANCINGS

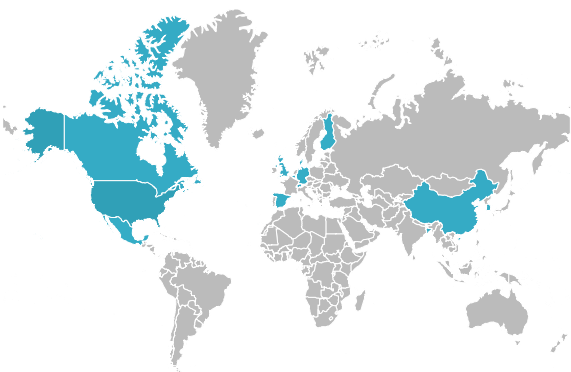
DEALS BY SEGMENT



U.S. DEALS BY STATE



WORLDWIDE DEALS BY COUNTRY



SELECTED TRANSACTIONS						
Closed Date	Segment	Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
3/31/2023	Life Science Tools	Consumables	InSphero AG	Switzerland	Zeiss Ventures	-
3/30/2023	Life Science Tools	Consumables Instrumentation	Samplix ApS	Denmark	Undisclosed	5.5
3/30/2023	Life Science Tools	Consumables	Cronex Co., Ltd. (XKON:A215570)	Korea (Republic of)	Undisclosed	0.8
3/30/2023	In Vivo Diagnostics	Imaging Diagnostics	SentiAR, Inc.	United States	Undisclosed	5.8

Closed Date	Segment	Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
3/28/2023	Diagnostic Services	Diagnostic Imaging	Mamotest	Mexico	Banco Comafi S.A., Merck Sharp & Dohme Corp., Sonen Capital LLC, Sky High, Johnson & Johnson Impact Ventures	3.3
3/28/2023	In Vivo Diagnostics	Imaging Diagnostics	deepc GmbH	Germany	Sofinnova Partners SAS, Bertelsmann Investments, Winning Mindset Ventures GmbH	13.0
3/27/2023	In Vitro	Immunodiagnosics	Gemina Laboratories Ltd. (CNSX:GLAB)	Canada	Undisclosed	1.9
3/23/2023	In Vivo Diagnostics	Imaging Diagnostics	MVision	Finland	J12 Ventures AB, Voima Ventures	5.9
3/17/2023	In Vivo Diagnostics	Biometric Monitoring	Byteflies NV	Belgium	Sensinnovat bvba	4.8
3/15/2023	In Vivo Diagnostics	Imaging Diagnostics	Inventure LLC	United States	Undisclosed	2.1
3/15/2023	Life Science Tools	Lab Software	Intellect Company Pte. Ltd.	Singapore	IHH Healthcare Berhad (KLSE:IHH)	-
3/13/2023	In Vivo Diagnostics	Imaging Diagnostics	Synaptive Medical Inc.	Canada	Export Development Canada	50.0
3/10/2023	In Vitro Diagnostic Services	Molecular Immunodiagnosics Specialized Testing	Virax Biolabs Group Limited (NasdaqCM:VRAX)	United Kingdom	Undisclosed	4.0
3/9/2023	In Vivo Diagnostics	Biometric Monitoring	Olive Diagnostics	Israel	Mekorot Water Company Ltd.	-
3/8/2023	In Vivo Diagnostics	Imaging Diagnostics	SVision Imaging, Ltd.	China	Shenzhen Capital Group Co., Ltd., China Life Pension Company Limited, Ming Capital, CD Capital, Qianhai FoF Equity Investments (Shenzhen) Co., Ltd	43.0
3/7/2023	In Vivo Diagnostics	Biometric Monitoring	Bearmind SA	Switzerland	State of Vaud, Venture Kick, Venturelab AG, H. Hentsch Asset Management Sa, Innosuisse - Schweizerische Agentur für Innovationsförderung, AVANTECA Partners AG, Swisspreneur, NP Consulting, Ecole polytechnique fédérale de Lausanne	1.4
3/6/2023	Life Science Tools	Consumables	Hangzhou Tingke Biotechnology Co., Ltd.	China	Shanghai Pan-Lin Asset Management Co., Ltd.	2.9
3/6/2023	Diagnostic Services	Specialized Testing	NantHealth, Inc. (NasdaqGS:NH)	United States	Highbridge Capital Management, LLC, Nant Capital, LLC	22.5
3/2/2023	Diagnostic Services	Specialized Testing General Chemistry	MultiplAI Health Ltd.	United Kingdom	Time Partners Limited, SF500, SF500	2.7
3/1/2023	Diagnostic Services	Specialized Testing General Chemistry	AmarLab Limited	Bangladesh	StartUp Bangladesh Limited	0.1

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	1,533	12.1x	10.8x	54.9x	33.5x
Applied BioCode Corporation	United States	52	4.1x	3.4x	NM	NM
Biocartis Group NV	Belgium	161	2.6x	NM	NM	NM
Dx & Vx Co., Ltd.	Korea (Republic of)	148	6.0x	NM	48.3x	NM
Genomictree Inc.	Korea (Republic of)	119	5.2x	NM	41.3x	NM
Guangdong HybriBio Biotech Co.,Ltd.	Hong Kong	1,015	1.4x	1.3x	3.0x	NM
Qiagen N.V.	Netherlands	11,033	5.2x	5.4x	13.7x	15.0x
Sansure Biotech Inc.	China	1,229	1.3x	NM	3.4x	NM
Seegene, Inc.	Korea (Republic of)	607	0.9x	1.6x	3.2x	5.6x
Tellgen Corporation	China	486	4.6x	4.3x	20.8x	13.9x
Zhejiang Orient Gene Biotech Co., Ltd. (SHSE:688298)	China	651	0.5x	NM	1.3x	NM
Mean		1,549	4.0x	4.5x	21.1x	17.0x
Median		607	4.1x	3.9x	13.7x	14.4x

Microbiology

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Accelerate Diagnostics, Inc.	United States	100	7.9x	6.7x	NM	NM
bioMérieux S.A.	France	12,466	3.2x	3.1x	13.3x	13.3x
OraSure Technologies, Inc. (NasdaqGS:OSUR)	United States	345	0.9x	1.0x	27.2x	10.3x
QuidelOrtho Corporation	United States	8,394	2.6x	2.8x	6.4x	10.1x
Sansure Biotech Inc.	China	1,229	1.3x	NM	3.4x	NM
T2 Biosystems, Inc.	United States	57	2.5x	4.1x	NM	NM
Mean		3,765	3.1x	3.5x	12.6x	11.2x
Median		787	2.6x	3.1x	9.9x	10.3x

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	348	4.7x	NM	51.2x	NM
Mean		348	4.7x	NM	51.2x	NM
Median		348	4.7x	NM	51.2x	NM

Hematology & Coagulation

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Beijing Succeeder Technology Inc.	China	393	11.8x	NM	22.0x	NM
Quotient Limited	Switzerland	285	7.6x	NM	NM	NM
Sysmex Corporation	Japan	13,352	4.4x	4.0x	17.8x	15.7x
Mean		4,677	7.9x	4.0x	19.9x	15.7x

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	1,669	2.2x	2.1x	8.5x	10.6x
Centro de Imagem Diagnósticos S.A.	Brazil	751	3.5x	NM	44.4x	NM
Integral Diagnostics Limited (ASX:IDX)	Australia	679	2.6x	2.2x	13.5x	10.8x
Medica Group Plc (LSE:MGP)	United Kingdom	237	2.5x	2.2x	15.0x	10.0x
RadNet, Inc. (NasdaqGM:RDNT)	United States	2,992	2.1x	2.0x	10.0x	13.9x
Mean		1,266	2.6x	2.1x	18.3x	11.3x
Median		751	2.5x	2.2x	13.5x	10.7x

Specialized Testing

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Adaptive Biotechnologies Corporation	United States	874	4.7x	4.2x	NM	NM
BGI Genomics Co., Ltd.	China	3,152	3.0x	NM	16.4x	NM
BioNexus Gene Lab Corporation	Malaysia	92	8.2x	NM	NM	NM
Burning Rock Biotech Limited	China	172	2.1x	1.7x	NM	NM
CareDx, Inc (NasdaqGM:CDNA)	United States	236	0.7x	0.8x	NM	NM
Castle Biosciences, Inc. (NasdaqGM:CSTL)	United States	359	2.6x	2.1x	NM	NM
Dx & Vx Co., Ltd.	Korea (Republic of)	148	6.0x	NM	48.3x	NM
Exact Sciences Corporation	United States	13,910	6.7x	6.1x	NM	NM
Fulgent Genetics, Inc.	United States	110	0.2x	0.4x	0.5x	NM
Guardant Health, Inc.	United States	2,764	6.2x	5.2x	NM	NM
Invitae Corporation	United States	1,536	3.0x	3.1x	NM	NM
MDxHealth SA	Belgium	113	3.0x	1.7x	NM	NM
Myriad Genetics, Inc. (NasdaqGS:MYGN)	United States	1,862	2.7x	2.5x	NM	NM
Natera, Inc.	United States	5,838	7.1x	5.9x	NM	NM
NeoGenomics, Inc.	United States	2,392	4.7x	4.4x	NM	NM
Progenity, Inc. (NasdaqGM:PROG)	United States	130	NM	NM	NM	NM
Sema4 Holdings Corp.	United States	245	1.0x	1.2x	NM	NM
Veracyte, Inc.	United States	1,446	4.9x	4.4x	NM	NM
Mean		1,966	3.9x	3.1x	21.7x	NM
Median		617	3.0x	2.8x	16.4x	NM

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	3,281	1.3x	1.2x	8.6x	6.2x
Dr. Lal PathLabs Limited (NSEI:LALPATHLAB)	India	1,820	7.4x	6.6x	32.0x	26.1x
Guangzhou Kingmed Diagnostics Group Co., Ltd.	China	5,712	2.5x	3.3x	9.7x	12.2x
H.U. Group Holdings, Inc.	Japan	1,339	0.6x	0.7x	3.3x	4.5x
Instituto Hermes Pardini S.A.	Brazil	603	1.5x	1.4x	6.8x	6.7x

Integrated Diagnostics Holdings plc	Jersey	304	1.4x	2.4x	4.0x	6.7x
Laboratory Corporation of America Holdings	United States	26,267	1.8x	1.7x	8.9x	10.2x
Medicover AB (publ) (OM:MCOV B)	Sweden	3,412	2.1x	1.8x	14.5x	13.1x
Metropolis Healthcare Limited (NSEI:METROPOLIS)	India	799	5.6x	5.4x	24.3x	20.2x
Quest Diagnostics Incorporated	United States	20,263	2.1x	2.3x	8.5x	11.2x
Sonic Healthcare Limited	Australia	12,616	2.2x	2.3x	8.7x	10.4x
Thyrocare Technologies Limited	India	265	4.2x	3.6x	17.7x	13.8x
Mean		6,390	2.7x	2.7x	12.2x	11.8x
Median		2,551	2.1x	2.3x	8.8x	10.8x

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	263	9.8x	22.5x	NM	NM
Schrödinger, Inc.	United States	1,548	8.6x	6.5x	NM	NM
Simulations Plus, Inc.	United States	763	14.3x	12.2x	51.4x	38.1x
SyntekaBio, Inc.	Korea (Republic of)	71	NM	NM	NM	NM
Mean		661	10.9x	13.8x	51.4x	38.1x
Median		513	9.8x	12.2x	51.4x	38.1x

Life Sciences Consumables

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Guangzhou Jet Bio-Filtration Co., Ltd. (SHSE:688026)	China	433	4.9x	3.0x	20.7x	NM
Abcam plc	United Kingdom	3,245	7.5x	6.1x	27.6x	18.5x
Abnova (Taiwan) Corporation	Taiwan (Province of China)	61	4.5x	NM	20.5x	NM
Adaptive Biotechnologies Corporation	United States	874	4.7x	4.2x	NM	NM
Avantor, Inc.	United States	20,268	2.7x	2.7x	12.6x	12.8x
Bio-Techne Corporation	United States	11,761	10.5x	9.6x	31.8x	24.3x
Bioneer Corporation	Korea (Republic of)	824	4.9x	3.6x	57.1x	NM
Borosil Limited (BSE:543212)	India	456	3.8x	NM	28.6x	NM
Collectis S.A.	France	104	4.0x	4.8x	NM	NM
Genscript Biotech Corporation	China	4,077	6.6x	4.0x	NM	NM
Guerbet SA (ENXTPA:GBT)	France	523	0.6x	0.6x	17.4x	5.0x
NKMAX CO., Ltd.	Korea (Republic of)	349	40.4x	NM	NM	NM
Porton Pharma Solutions Ltd.	China	2,736	2.7x	4.5x	7.6x	10.3x
Qiagen N.V.	Netherlands	11,033	5.2x	5.4x	13.7x	15.0x
Repligen Corporation (NasdaqGS:RGEN)	United States	9,167	11.4x	11.8x	32.9x	42.7x
Twist Bioscience Corporation	United States	513	2.4x	1.8x	NM	NM
Vitrolife AB (publ)	Sweden	2,973	9.5x	8.4x	30.2x	24.9x
Viva Biotech Holdings	China	671	2.0x	NM	11.7x	NM

Mean		3,893	7.1x	5.0x	24.0x	19.2x
Median		849	4.8x	4.4x	20.7x	16.7x
Instrumentation						
Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
10x Genomics, Inc.	United States	6,101	11.8x	10.3x	NM	NM
AnHui Wanyi Science and Technology Co., Ltd.	China	449	4.6x	NM	63.0x	NM
Applied BioCode Corporation	United States	52	4.1x	3.4x	NM	NM
Biotage AB (publ) (OM:BIOT)	Sweden	822	5.4x	4.8x	20.7x	18.9x
Bruker Corporation	United States	12,209	4.8x	4.3x	21.4x	20.0x
Harvard Bioscience, Inc.	United States	227	2.0x	1.9x	50.6x	NM
Illumina, Inc.	United States	38,261	8.4x	7.7x	57.5x	63.4x
Mettler-Toledo International Inc.	United States	35,807	9.1x	8.7x	28.4x	26.3x
NanoString Technologies, Inc.	United States	518	4.1x	3.0x	NM	NM
Pacific Biosciences of California, Inc.	United States	3,047	23.8x	17.6x	NM	NM
Quanterix Corporation (NasdaqGM:QTRX)	United States	125	1.2x	1.2x	NM	NM
Standard BioTools Inc.	United States	402	4.1x	NM	NM	NM
Waters Corporation	United States	19,438	6.5x	6.1x	18.5x	17.6x
Mean		9,035	6.9x	6.3x	37.2x	29.2x
Median		822	4.8x	4.8x	28.4x	20.0x
Lab/Biobank Equipment						
Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
BICO Group AB (publ)	Sweden	461	1.9x	1.9x	NM	27.7x
Sartorius Aktiengesellschaft	Germany	29,456	6.5x	6.2x	19.0x	18.5x
Stratec SE	Germany	890	3.0x	2.8x	14.1x	13.5x
Tecan Group Ltd. (SWX:TECN)	Switzerland	5,588	4.5x	4.4x	25.2x	22.7x
Mean		9,099	4.0x	3.8x	19.4x	20.6x
Median		3,239	3.7x	3.6x	19.0x	20.6x

IN VIVO DIAGNOSTICS

Biometric Monitoring

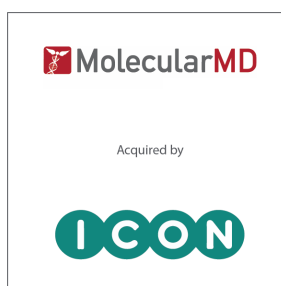
Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
Contec Medical Systems Co.,Ltd	China	1,405	14.8x	NM	82.0x	NM
Guangdong Transtek Medical Electronics Co., Ltd	China	273	1.4x	NM	NM	NM
iRhythm Technologies, Inc.	United States	3,666	8.9x	7.6x	NM	NM
TaiDoc Technology Corporation	Taiwan (Province of China)	444	1.4x	2.2x	3.1x	7.2x
Zhejiang Starry Pharmaceutical Co.,Ltd. (SHSE:603520)	China	1,240	4.1x	4.1x	21.8x	19.1x
Mean		1,406	6.1x	4.7x	35.6x	13.2x

Median		1,240	4.1x	4.1x	21.8x	13.2x
Imaging Diagnostics						
Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
Detection Technology Oyj	Finland	287	2.7x	2.3x	31.4x	14.1x
iRay Technology Company Limited	China	3,553	15.8x	11.7x	45.2x	26.9x
Nano-X Imaging Ltd. (NasdaqGM:NNOX)	Israel	220	25.6x	12.5x	NM	NM
Ray Co., Ltd.	Korea (Republic of)	413	4.2x	3.1x	23.9x	12.0x
Siemens Healthineers AG	Germany	80,562	3.4x	3.3x	18.6x	17.0x
SonoScape Medical Corp.	China	3,248	12.7x	12.6x	61.1x	51.4x
Varex Imaging Corporation (NasdaqGS:VREX)	United States	1,107	1.3x	1.2x	8.8x	8.4x
Mean		12,770	9.4x	6.7x	31.5x	21.6x
Median		1,107	4.2x	3.3x	27.6x	15.5x

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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