

Industry BlueBook

Diagnostics & Tools

April 2023

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

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

EV MULTIPLES

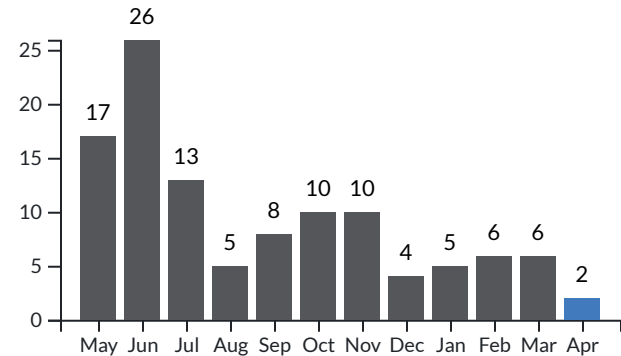
	REVENUE				EBITDA			
	LTM	%Δ	FTM	%Δ	LTM	%Δ	FTM	%Δ
In Vitro Diagnostics	4.4x	3%	3.4x	-8%	17.9x	1%	13.3x	-2%
Diagnostic Services	2.7x	4%	2.3x	3%	12.6x	28%	11.3x	6%
Life Science Tools	5.0x	3%	4.8x	4%	22.9x	-2%	20.1x	3%
In Vivo Diagnostics	3.8x	-10%	3.5x	-6%	31.3x	31%	14.5x	-7%

M&A DEALS & FINANCINGS

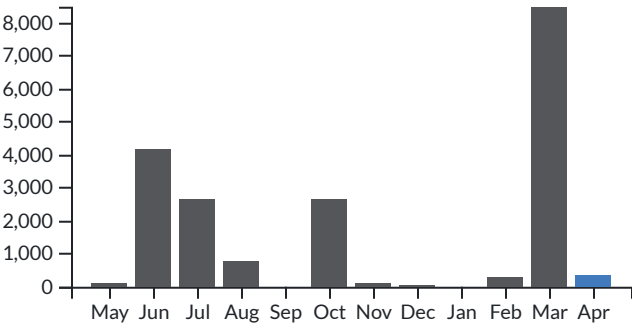
	DEAL COUNT				VOLUME (\$MM)			
	M&A	%Δ	FINANCINGS	%Δ	M&A	%Δ	FINANCINGS	%Δ
In Vitro Diagnostics	0	NM	NM	NM	0	NM	NM	NM
Diagnostic Services	2	-50%	3	-40%	338	-94%	33	1%
Life Science Tools	0	NM	6	20%	0	NM	301	3,201%
In Vivo Diagnostics	0	NM	7	-22%	0	NM	38	-70%

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

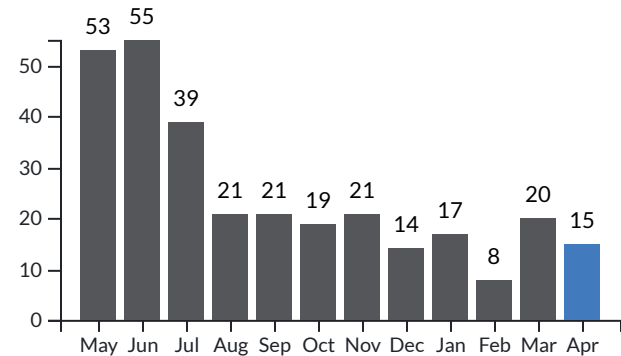
12 Month Deal Count M&A



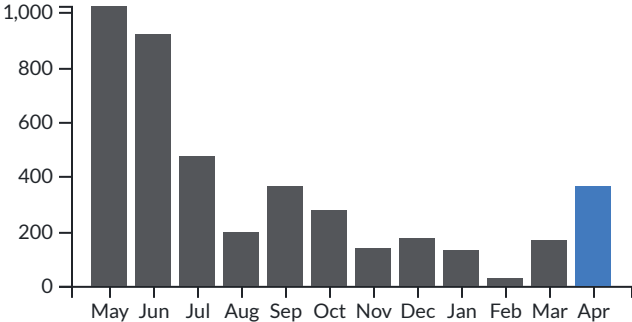
12 Month Volume M&A (\$MM)



12 Month Deal Count Financings

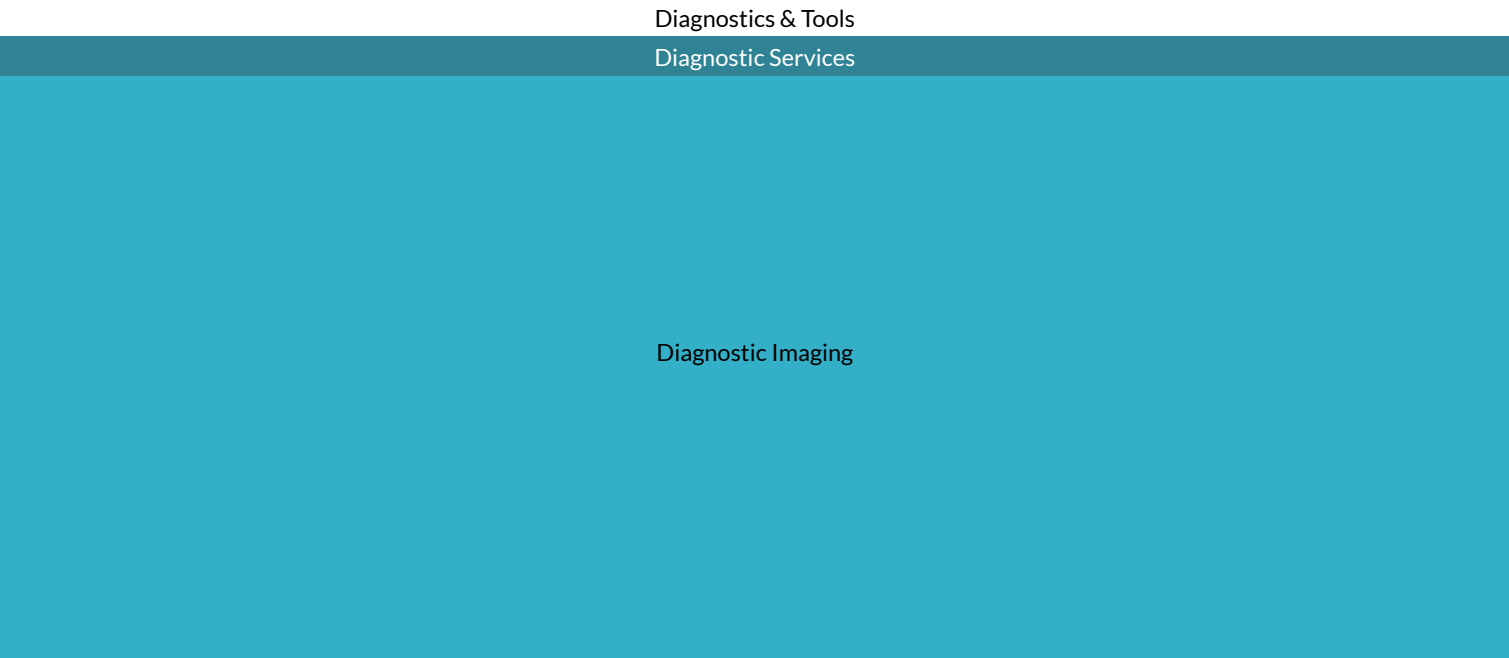


12 Month Volume Financings (\$MM)

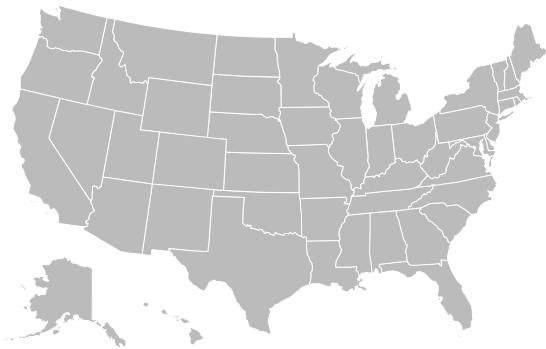


M&A ACTIVITY

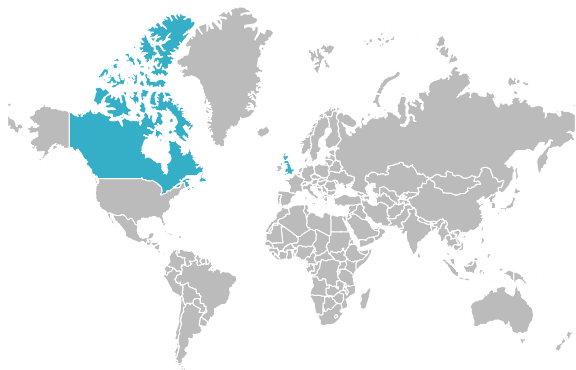
DEALS BY SEGMENT



U.S. DEALS BY STATE



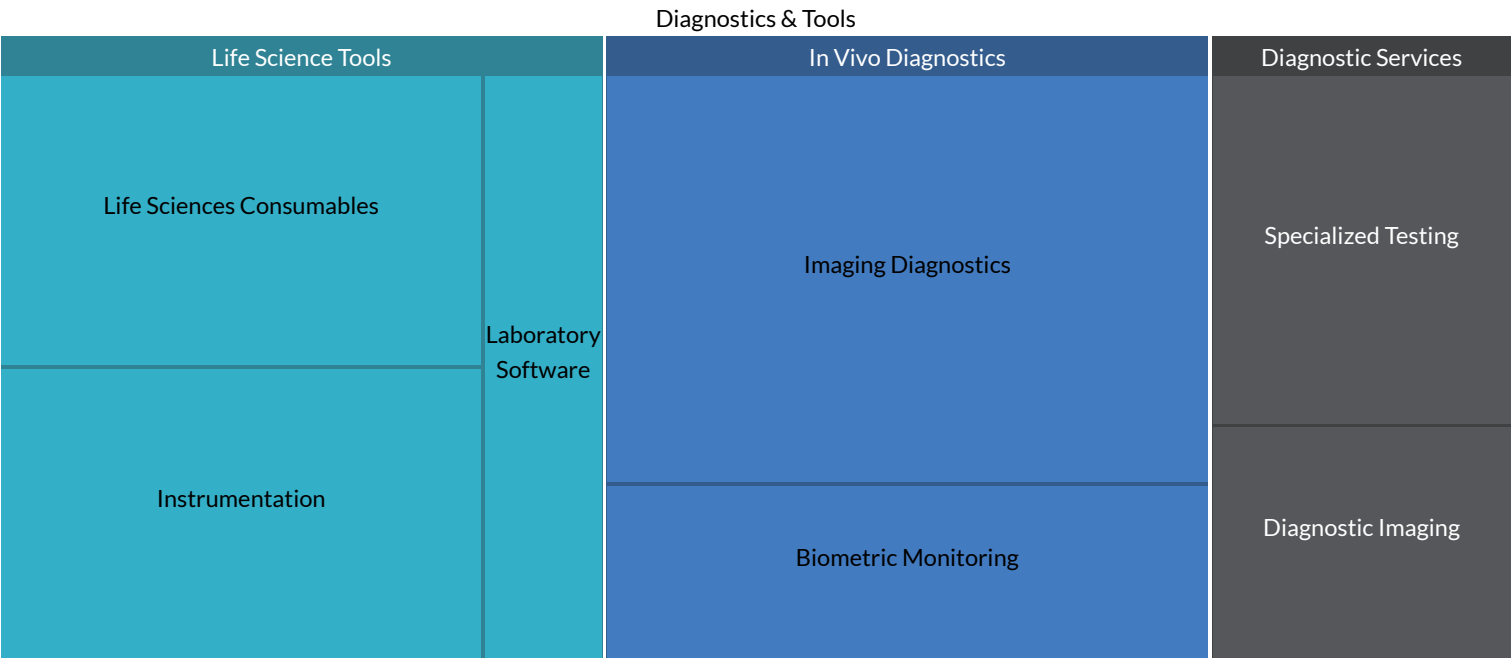
WORLDWIDE DEALS BY COUNTRY



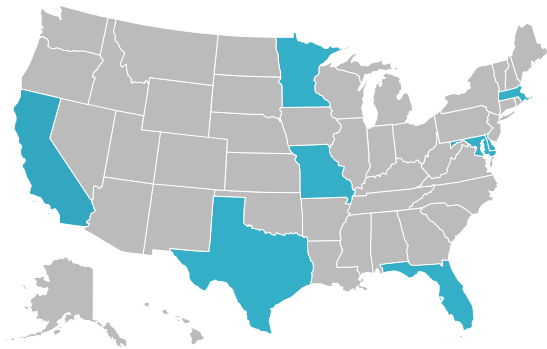
SELECTED TRANSACTIONS						
Announced Date	Segment	Sub-Segment	Target Company	Geography	Selected Buyers	Size (\$mm)
4/24/2023	Diagnostic Services	Diagnostic Imaging	Medica Group Plc (LSE:MGP)	United Kingdom	IK Partners	337.6
4/18/2023	Diagnostic Services	Diagnostic Imaging	Women's Ultrasound Clinic	Canada	Canada Diagnostic Centres	-

FINANCINGS

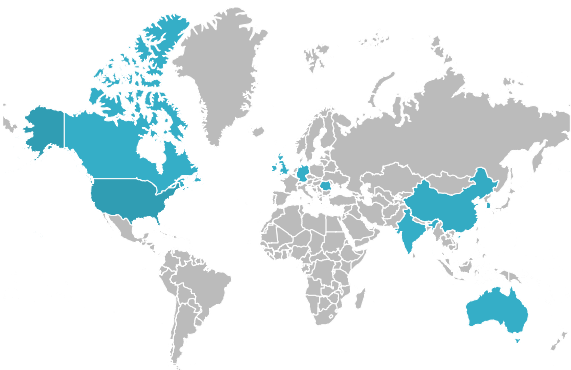
DEALS BY SEGMENT



U.S. DEALS BY STATE



WORLDWIDE DEALS BY COUNTRY



SELECTED TRANSACTIONS						
Closed Date	Segment	Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
4/27/2023	Life Science Tools	Lab Software	AlxMed, Inc.	United States	Undisclosed	2.8
4/26/2023	In Vivo Diagnostics	Imaging Diagnostics	Medicai	Romania	Undisclosed	0.1
4/20/2023	Life Science Tools	Consumables	PanGen Biotech Inc. (KOSDAQ:A222110)	Korea (Republic of)	Eugene Investment & Securities Co.,Ltd. (KOSE:A001200), Eugene Investment & Securities Co.,Ltd. (KOSE:A001200)	2.4

Closed Date	Segment	Sub-Segment	Target Company	Geography	Selected Investors	Size (\$mm)
4/19/2023	Life Science Tools	Consumables Instrumentation	Sangon Biotech Engineering (Shanghai) Company Limited	China	GL Capital Group, Greenwoods Investment, Huagai Capital Co., Ltd., CDB Technology Venture Capital Co., Ltd., CPE Yuanfeng, Beiguang Huagai Private Equity Fund Management (Beijing) Co., Ltd.	290.4
4/19/2023	In Vivo Diagnostics	Biometric Monitoring Imaging Diagnostics	Tricog Health Services Pvt Limited	India	Singapore Innovate Pte. Ltd., Inventus Capital Partners, The University of Tokyo Edge Capital Partners Co., Ltd., Sony Ventures Corporation, OMRON Healthcare India Pvt Ltd, Innovation Growth Ventures Co., Ltd.	8.5
4/18/2023	In Vivo Diagnostics	Imaging Diagnostics	Hefei DentaFilm Medical Equipment Co., Ltd.	China	Legend Capital Management Co., Ltd.	14.5
4/18/2023	Diagnostic Services	Diagnostic Imaging	Medi Whale Inc.	Korea (Republic of)	Mayo Clinic, SBI Investment Co., Ltd., MedAxiom, Inc., Innopolis Partners LLC, Woori Venture Partners Co., Ltd (KOSDAQ:A298870), BNK VENTURE CAPITAL Co., Ltd, Arizona State University, HeartX Fund, LLC, IPS Ventures	9.0
4/14/2023	Diagnostic Services	Specialized Testing	Epic Sciences, Inc.	United States	Domain Associates, L.L.C., Arsenal Capital Partners, Deerfield Management Company, L.P. Series C, Blue Ox Healthcare Partners, LLC, Labcorp Venture Fund	24.0
4/12/2023	In Vivo Diagnostics	Imaging Diagnostics	Virtonomy GmbH	Germany	Accenture plc (NYSE:ACN)	-
4/12/2023	In Vivo Diagnostics	Biometric Monitoring	EnLiSense LLC	United States	Crohn's & Colitis Foundation, Inc.	-
4/11/2023	In Vivo Diagnostics	Imaging Diagnostics	SentiAR, Inc.	United States	MedVenture Partners Co., Ltd., QRM Capital, LLC, Cultivate(MD) LLC, Techwald Holding S.P.A., Harmonix Management LLC, Harmonix Management LLC	8.5
4/11/2023	Life Science Tools	Instrumentation	Mission Bio, Inc.	United States	Fulgent Genetics, Inc. (NasdaqGM:FLGT)	-
4/11/2023	Life Science Tools In Vivo Diagnostics	Instrumentation Imaging Diagnostics	Emit Imaging, Inc.	United States	Undisclosed	5.9
4/4/2023	Life Science Tools	Consumables	Fubio (Suzhou) Biomedical Technology Co., Ltd.	China	Nantong Caleb Investment Management Center (Limited Partnership), Suzhou Industrial Park Leader Venture Capital	-
4/3/2023	Diagnostic Services	Specialized Testing	Oxford Cancer Biomarkers Ltd	United Kingdom	Esperante Ventures, Longwall Venture Partners LLP, Panacea Innovation Ltd, Plutus Investment Group LLP	-

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	1,514	12.6x	9.6x	54.9x	34.7x
Biocartis Group NV	Belgium	168	2.6x	NM	NM	NM
Dx & Vx Co., Ltd. (KOSDAQ:A180400)	Korea (Republic of)	147	6.1x	NM	49.1x	NM
Genomictree Inc.	Korea (Republic of)	142	6.4x	NM	50.9x	NM
Guangdong Hybribio Biotech Co.,Ltd.	Hong Kong	795	1.3x	1.6x	2.8x	NM
Qiagen N.V.	Netherlands	10,679	5.0x	5.2x	15.8x	14.6x
Sansure Biotech Inc.	China	782	1.0x	NM	3.5x	NM
Seegene, Inc.	Korea (Republic of)	573	0.9x	1.6x	3.1x	5.4x
Tellgen Corporation	China	444	4.4x	3.4x	19.5x	11.0x
Zhejiang Orient Gene Biotech Co., Ltd. (SHSE:688298)	China	498	0.8x	NM	5.6x	NM
Mean		1,574	4.1x	4.3x	22.8x	16.4x
Median		536	3.5x	3.4x	15.8x	12.8x

Microbiology

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Accelerate Diagnostics, Inc.	United States	120	9.4x	7.9x	NM	NM
bioMérieux S.A.	France	12,341	3.1x	3.0x	13.3x	13.4x
OraSure Technologies, Inc. (NasdaqGS:OSUR)	United States	418	1.1x	1.1x	32.9x	13.2x
QuidelOrtho Corporation	United States	8,459	2.6x	2.9x	6.5x	10.3x
Sansure Biotech Inc.	China	782	1.0x	NM	3.5x	NM
T2 Biosystems, Inc.	United States	56	2.5x	4.1x	NM	NM
Mean		3,696	3.3x	3.8x	14.0x	12.3x
Median		600	2.5x	3.0x	9.9x	13.2x

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	303	4.4x	NM	56.6x	NM
Mean		303	4.4x	NM	56.6x	NM
Median		303	4.4x	NM	56.6x	NM

Hematology & Coagulation

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Beijing Succeder Technology Inc.	China	498	14.0x	NM	35.4x	NM
Quotient Limited	Switzerland	285	7.6x	NM	NM	NM
Sysmex Corporation	Japan	13,136	4.4x	4.0x	17.9x	15.8x
Mean		4,640	8.7x	4.0x	26.6x	15.8x
Median		498	7.6x	4.0x	26.6x	15.8x

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	1,666	2.2x	2.1x	8.5x	10.6x
Centro de Imagem Diagnósticos S.A.	Brazil	767	3.5x	NM	51.1x	NM
Integral Diagnostics Limited (ASX:IDX)	Australia	703	2.7x	2.3x	14.1x	11.3x
Medica Group Plc (LSE:MGP)	United Kingdom	329	3.4x	3.1x	20.5x	14.1x
RadNet, Inc. (NasdaqGM:RDNT)	United States	3,154	2.2x	2.0x	10.5x	14.4x
Mean		1,324	2.8x	2.4x	21.0x	12.6x
Median		767	2.7x	2.2x	14.1x	12.7x
Specialized Testing						
Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Adaptive Biotechnologies Corporation	United States	765	4.1x	3.7x	NM	NM
BGI Genomics Co., Ltd.	China	2,813	3.0x	NM	21.0x	NM
BioNexus Gene Lab Corporation	Malaysia	55	5.0x	NM	NM	NM
Burning Rock Biotech Limited	China	195	2.4x	2.0x	NM	NM
CareDx, Inc (NasdaqGM:CDNA)	United States	181	0.6x	0.6x	NM	NM
Castle Biosciences, Inc. (NasdaqGM:CSTL)	United States	359	2.6x	2.1x	NM	NM
Dx & Vx Co., Ltd. (KOSDAQ:A180400)	Korea (Republic of)	147	6.1x	NM	49.1x	NM
Exact Sciences Corporation	United States	13,347	6.4x	5.8x	NM	NM
Fulgent Genetics, Inc. (NasdaqGM:FLGT)	United States	67	0.1x	0.3x	0.3x	NM
Guardant Health, Inc.	United States	2,676	6.0x	5.0x	NM	NM
Invitae Corporation	United States	1,558	3.0x	3.1x	NM	NM
MDxHealth SA	Belgium	129	3.4x	2.0x	NM	NM
Myriad Genetics, Inc. (NasdaqGS:MYGN)	United States	1,711	2.5x	2.3x	NM	NM
Natera, Inc.	United States	5,345	6.5x	5.4x	NM	NM
NeoGenomics, Inc.	United States	2,038	4.0x	3.7x	NM	NM
Progenity, Inc. (NasdaqGM:PROG)	United States	128	NM	NM	NM	NM
Sema4 Holdings Corp.	United States	178	0.8x	0.9x	NM	NM
Veracyte, Inc.	United States	1,475	5.0x	4.5x	NM	NM
Mean		1,843	3.6x	2.9x	23.5x	NM
Median		562	3.4x	2.7x	21.0x	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	3,422	1.3x	1.2x	8.8x	6.4x
Dr. Lal PathLabs Limited (NSEI:LALPATHLAB)	India	1,956	8.0x	7.1x	34.3x	28.0x
Guangzhou Kingmed Diagnostics Group Co., Ltd.	China	5,219	2.7x	3.4x	12.6x	16.6x
H.U. Group Holdings, Inc.	Japan	1,341	0.7x	0.7x	3.4x	4.7x
Integrated Diagnostics Holdings plc	Jersey	297	2.0x	2.3x	6.4x	6.3x
Laboratory Corporation of America Holdings	United States	26,003	1.8x	1.7x	10.1x	10.0x
Medicover AB (publ) (OM:MCOV B)	Sweden	3,453	2.0x	1.8x	16.2x	12.3x

Metropolis Healthcare Limited (NSEI:METROPOLIS)	India	804	5.6x	5.4x	24.3x	20.3x
Quest Diagnostics Incorporated	United States	20,110	2.1x	2.2x	9.3x	11.1x
Sonic Healthcare Limited	Australia	12,631	2.2x	2.3x	8.9x	10.5x
Thyrocare Technologies Limited	India	274	4.3x	3.8x	18.2x	14.2x
Mean		6,865	3.0x	2.9x	13.9x	12.8x
Median		3,422	2.1x	2.3x	10.1x	11.1x

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	305	11.3x	26.1x	NM	NM
Schrödinger, Inc.	United States	1,777	9.8x	7.5x	NM	NM
Simulations Plus, Inc.	United States	721	13.3x	11.3x	54.0x	35.9x
SyntekaBio, Inc.	Korea (Republic of)	57	NM	NM	NM	NM
Mean		715	11.5x	15.0x	54.0x	35.9x
Median		513	11.3x	11.3x	54.0x	35.9x

Life Sciences Consumables

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
Abcam plc	United Kingdom	3,894	8.9x	7.2x	33.1x	21.3x
Abnova (Taiwan) Corporation	Taiwan (Province of China)	59	4.4x	NM	20.0x	NM
Adaptive Biotechnologies Corporation	United States	765	4.1x	3.7x	NM	NM
Avantor, Inc.	United States	18,898	2.6x	2.5x	12.5x	12.4x
Bio-Techne Corporation	United States	12,656	11.3x	10.3x	34.2x	26.1x
Bioneer Corporation	Korea (Republic of)	1,087	6.7x	NM	77.3x	NM
Borosil Limited (BSE:543212)	India	567	4.7x	NM	35.4x	NM
Cellectis S.A.	France	102	3.8x	4.5x	NM	NM
Genscript Biotech Corporation	China	5,103	8.2x	6.2x	NM	NM
Guangzhou Jet Bio-Filtration Co., Ltd.	China	378	5.3x	2.6x	21.2x	NM
Guerbet SA (ENXTPA:GBT)	France	530	0.6x	0.6x	5.4x	4.9x
NKMAX CO., Ltd.	Korea (Republic of)	373	44.3x	NM	NM	NM
Porton Pharma Solutions Ltd.	China	2,542	2.5x	3.7x	7.4x	12.2x
Qiagen N.V.	Netherlands	10,679	5.0x	5.2x	15.8x	14.6x
Repligen Corporation (NasdaqGS:RGEN)	United States	8,237	10.3x	10.6x	29.6x	38.4x
Twist Bioscience Corporation	United States	365	1.7x	1.3x	NM	NM
Vitrolife AB (publ)	Sweden	3,191	9.8x	8.7x	31.1x	25.4x
Viva Biotech Holdings	China	700	2.0x	NM	10.8x	NM
Mean		3,896	7.6x	5.2x	25.7x	19.4x
Median		926	4.8x	4.5x	21.2x	18.0x

Instrumentation

Company Name	Geography	Enterprise Value (\$mm)	xRevenue		xEBITDA	
			LTM EV	FTM EV	LTM EV	FTM EV
10x Genomics, Inc.	United States	5,757	11.2x	9.7x	NM	NM

AnHui Wanyi Science and Technology Co., Ltd.	China	486	4.8x	NM	NM	NM
Biotage AB (publ) (OM:BIOT)	Sweden	800	5.3x	4.5x	22.9x	18.0x
Bruker Corporation	United States	12,254	4.8x	4.3x	21.5x	20.1x
Harvard Bioscience, Inc.	United States	289	2.5x	2.4x	37.6x	14.5x
Illumina, Inc.	United States	33,943	7.6x	6.6x	72.2x	56.4x
Mettler-Toledo International Inc.	United States	34,952	8.9x	8.5x	27.8x	25.7x
NanoString Technologies, Inc.	United States	518	4.1x	3.0x	NM	NM
Pacific Biosciences of California, Inc.	United States	2,825	22.0x	16.3x	NM	NM
Quanterix Corporation (NasdaqGM:QTRX)	United States	178	1.7x	1.7x	NM	NM
Standard BioTools Inc.	United States	382	3.9x	NM	NM	NM
Waters Corporation	United States	18,914	6.4x	5.9x	18.0x	17.1x
Mean		9,275	6.9x	6.3x	33.3x	25.3x
Median		1,813	5.1x	5.2x	25.3x	19.0x

Lab/Biobank Equipment

Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
BICO Group AB (publ)	Sweden	514	2.1x	2.1x	NM	30.6x
Sartorius Aktiengesellschaft	Germany	27,303	6.1x	5.6x	18.5x	16.7x
Stratec SE	Germany	901	3.1x	2.7x	18.0x	12.9x
Tecan Group Ltd. (SWX:TECN)	Switzerland	5,578	4.3x	4.2x	24.5x	22.1x
Mean		8,574	3.9x	3.6x	20.3x	20.6x
Median		3,240	3.7x	3.5x	18.5x	19.4x

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	1,532	16.3x	NM	89.3x	NM
Guangdong Transtek Medical Electronics Co., Ltd	China	229	1.1x	NM	NM	NM
iRhythm Technologies, Inc.	United States	3,921	9.5x	8.2x	NM	NM
TaiDoc Technology Corporation	Taiwan (Province of China)	438	1.4x	2.2x	3.1x	7.1x
Zhejiang Starry Pharmaceutical Co.,Ltd. (SHSE:603520)	China	1,182	3.8x	3.3x	34.2x	14.4x
Mean		1,460	6.4x	4.6x	42.2x	10.8x
Median		1,182	3.8x	3.3x	34.2x	10.8x

Imaging Diagnostics

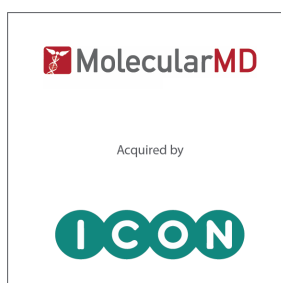
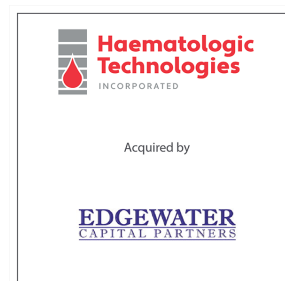
Company Name	Geography	Enterprise Value	xRevenue		xEBITDA	
		(\$mm)	LTM EV	FTM EV	LTM EV	FTM EV
4DMedical Limited	Australia	139	NM	21.6x	NM	NM
Detection Technology Oyj	Finland	290	2.7x	2.2x	31.3x	13.9x
iRay Technology Company Limited	China	3,843	16.0x	11.9x	45.3x	27.6x
Kromek Group plc	United Kingdom	52	3.0x	2.1x	NM	NM

Nano-X Imaging Ltd. (NasdaqGM:NNOX)	Israel	238	27.8x	13.5x	NM	NM
Perimeter Medical Imaging AI, Inc.	Canada	71	NM	87.8x	NM	NM
Ray Co., Ltd.	Korea (Republic of)	401	4.2x	3.1x	23.8x	14.5x
Siemens Healthineers AG	Germany	86,034	3.6x	3.5x	19.5x	17.9x
SonoScape Medical Corp.	China	3,181	11.8x	9.3x	48.7x	36.2x
Varex Imaging Corporation (NasdaqGS:VREX)	United States	1,089	1.3x	1.2x	8.7x	8.3x
Mean		9,534	8.8x	15.6x	29.6x	19.7x
Median		346	3.9x	6.4x	27.5x	16.2x

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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