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## Life Sciences Software Market Snapshot

October 2020

*Strictly Confidential*

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## I. Industry Trends

# Inside The Industry

## Market Trends And Notable Transactions

### Key Industry Trends

- 1 The onset of COVID-19 has forced market incumbents and challengers to recognize the strategic imperative of virtual trial technologies, paving the way for eClinical disruption
- 2 Clinical disclosure is at the forefront of trial transparency initiatives, although passage of the FDAAA 801 "Final Rule" has been followed with lax enforcement to date
- 3 Passing of the final milestone in the SEND timeline will pave the way for conformity in pre-clinical submissions and provide further opportunity for pre-clinical vendors
- 4 Patient recruitment and engagement is evolving from a site-based "hands-on" activity to a more efficient, scalable and non-traditional digital-first approach
- 5 Although COVID-19 has forced the shutdown of live pharma conferences and other events, online event & communication technology vendors are well-positioned
- 6 While traditionally in separate domains, intensive competition amongst the Big Three (Medidata, IQVIA, Veeva) has been coupled with aggressive litigation
- 7 The Dassault / Medidata transaction led to a broader consolidation play in the eClinical market driven by both strategic acquirers and financial sponsors

### In Case You Missed These Transactions

Slide

<b>Advarra</b> acquired <b>IRBco</b> <i>AAHRPP-accredited central IRB</i>	11
<b>Bruker</b> acquired <b>Integrated Proteomics and Canopy Biosciences</b> <i>Search engine; biomarker imaging</i>	15
<b>Certara</b> acquired <b>Silico Biosciences</b> <i>Model-based pre-clinical research assets</i>	16
<b>Envision Pharma</b> recapitalized with <b>GHO</b> and acquired <b>90TEN</b> <i>Medical affairs services</i>	18
<b>ERT</b> recapitalized with <b>Astorg</b> and acquired <b>APDM</b> <i>eClinical solutions</i>	19
<b>Eversana</b> acquired <b>HVH Precision Analytics</b> <i>AI-based predictive analytics platform</i>	20
<b>Insightful Science</b> acquired <b>Statsols</b> <i>Sample size software</i>	21
<b>Instem</b> acquired <b>Leadscope</b> <i>Informatics, predication technology and database solutions</i>	22
<b>IntegriChain</b> acquired assets from <b>Cumberland Life Sciences Division</b> <i>Pricing and revenue management services</i>	23
<b>PRA</b> acquired <b>Care Innovations</b> <i>Remote patient monitoring and other virtual solutions</i>	27
<b>Sartorius</b> acquired assets from <b>Danaher Life Sciences</b> <i>Bioanalytics solutions</i>	28
<b>Thermo Fisher</b> acquired <b>HighChem</b> <i>Mass spectrometry software</i>	30
<b>Veeva</b> acquired <b>Physicians World</b> <i>Speaker bureau services for live and virtual events</i>	31
<b>Veeva</b> acquired <b>Crossix Solutions</b> <i>Patient data analytics platform</i>	31
<b>Leonard Green</b> recapitalized <b>WCG</b> <i>Regulatory and ethical review services and software</i>	32

# Emerging Trends

MADISON PARK GROUP

## COVID-19 Drives Continued Momentum In Virtual Trials Across Multiple Domains

Public Markets



**IQVIA Holdings Inc. NYSE:IQV**  
**FQ1 2020 Earnings Call Transcripts**

Capital Markets



**Healthtech startup Medable raises \$25M funding to drive global adoption of decentralized clinical trials**

M&A Markets



**Virtual clinical trial platform VirTrial set to acquire SnapMD**  
SnapMD's Virtual Care Management platform will be rolled into VirTrial's clinical trial product.

### Strategic Commentary

*"we -- long before the crisis had been advancing our virtual trial platform and -- which is being -- was being piloted last year and which -- for which we're having a lot of demand right now, many, many clients calling to ask whether we can transition..."*

*-Ari Bousbib, Chairman / President / CEO of IQVIA (Q1 Earnings Call)*

*"As we've seen with the COVID-19 pandemic, traditional trial processes and timelines are insufficient to meet the global need for clinical research. Decentralized trials can improve access to new therapies and trials for participants, as well as reduce trial timelines."*

*-Dr. Michelle Longmire, CEO and co-founder of Medable*

*"Our acquisition of SnapMD enables us to better implement our vision of making clinical trials easier for everyone involved from sponsors to sites and patients. By offering a simplified, straight-forward user experience and the ability for sponsors to include multiple countries with extensive features, VirTrial continues to set the bar in decentralized clinical trial platforms."*

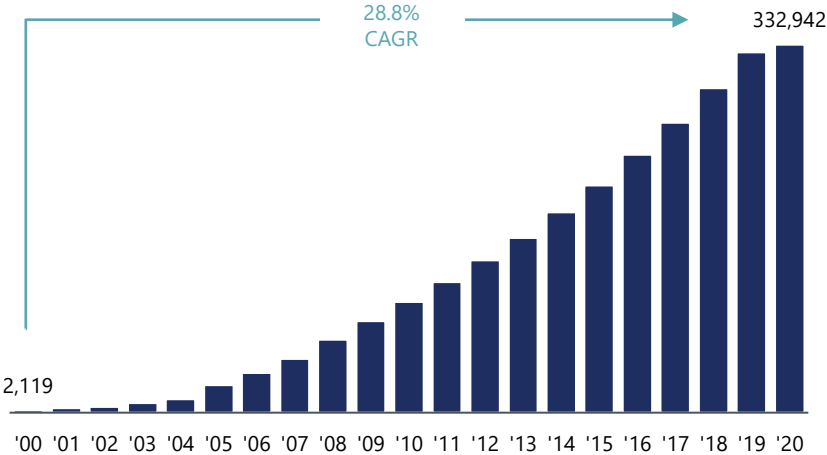
*-Mark Hanley, CEO of VirTrial*

- Pre COVID-19, virtual trials were considered an innovative "frontier" approach to executing clinical research - the approach was a convenient departure from the traditional approach of requiring patients to visit on-site clinics to participate in studies
- Virtual technologies enable sponsors to streamline and accelerate trial execution activities such as patient recruitment / retention, data collection, and monitoring, all while allowing participants to stay remote
- The virus has forced the shut down of many clinics and disease centers given social distancing initiatives, leaving virtual trials as the only path to conducting research, both on COVID-19 and other disease areas
- We are beginning to see this emerging technology permeate across both upcoming "challengers" and incumbents in the capital and M&A markets; market participants are quickly recognizing the strategic imperative of the technology and re-aligning their clinical trial technology initiatives

# Emerging Trends

## Clinical Disclosure Is At The Forefront Of Transparency Initiatives

Number of Registered Clinical Studies by Year



### Potential Clinical Disclosure Fines

**2,150**

Non-Exempt Trials Without Results

**801,766**

Total Days of Disclosure Delay

**\$12,103**

FDA Fines per Day of Disclosure Delay  
FDA Rule 333(f)(3)(B) Adj. For Inflation

**\$9,707,773,898**

Potential FDA Fines Collected

**43**

Average Days Trial Is Reported Late For  
Pharma/Industry

**142**

Average Days Trial Is Reported Late For  
Academic/Nonprofit

Regulatory Policy

**Transparency on trial: How to navigate FDAAA 801 final rule implementation and compliance**

**Policy and Regulation on ClinicalTrials.gov Registration and Reporting**

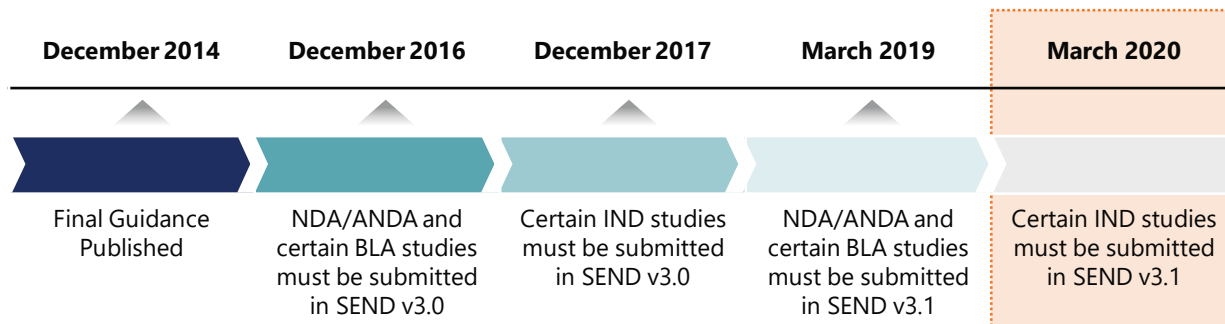
**COMPLIANCE WITH FDAAA 801. ARE TRIAL RESULTS BEING REPORTED ON TIME?**

- Since 2007, the government has required pharma sponsors and research institutions to disclose and record trial clinical trials in publicly available databases, enabling doctors and patients to assess treatment effectiveness
- In January 2018, the FDA and NIH enacted a “final rule” to enforce the 2007 ruling
- Many companies continue to remain non-compliant, creating significant potential for fees from regulators; as of September 2019, MD Anderson, for example, had 89 outstanding trials which reported on average 128 days late, creating +\$130 million of fine potential for the organization
- Strategic and regulatory imperative to remain compliant and create transparency with the public can create substantial demand for disclosure solutions

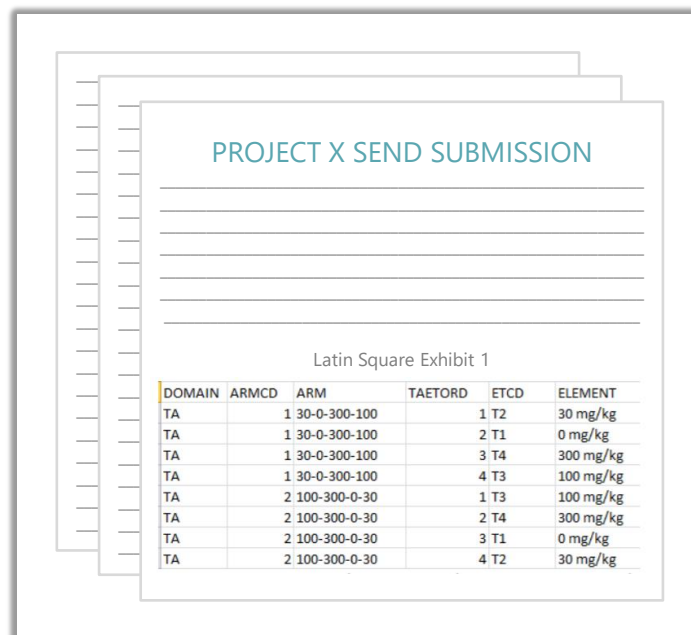
# Emerging Trends

## Passage Of Final Milestone Drives Continued SEND Momentum

### SEND 3.0 and SEND 3.1 Mandatory Timelines



### SEND Technology & Services Vendors



- The final milestone for Standard for Exchange of Nonclinical Data (SEND) submissions went into effect in March 2020
  - SEND guidelines are directed by the Clinical Data Interchange Standards Consortium (CDISC), a standards organization
- While SEND milestones in 2016 and 2017 focused on SEND v3.0, milestones in 2019 and 2020 focused on SEND 3.1 guidelines
  - SEND 3.1 changes the reporting model for cardiovascular and respiratory safety pharmacology studies & endpoints vs. SEND 3.0 guidelines
- Enactment of the latest milestone ensures SEND coverage various study types:
  - Investigational New Drug (IND)
  - New Drug Applications (NDA)
  - Abbreviated New Drug Applications (ANDA)
  - Biologics License Application (BLA)
- As SEND becomes fully enacted, vendors are leveraging technology and outsourced services to carve a niche in the pre-clinical technology market
  - Multiple market constituents, including software vendors and CROs are monopolizing on these new submission guidelines

# Emerging Trends

## Flurry Of Clinical Software M&A Following The Medidata Transaction

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### Dassault to Buy Medidata in \$5.7 Billion Health Data Push

Dassault Systèmes SE, a maker of industrial Medidata Solutions Inc. for \$5.7 billion to go market for clinical trial technology.

The deal pushes the French company further into data processing and business analysis. Medidata is a pharmaceutical and biotech trials for some drugmakers including Sanofi SA, Pfizer Inc.

"This is by far the largest acquisition we've ever made," said a financial officer of Dassault Systèmes, said of health is becoming a crucial market for the company in aerospace, defense and consumer.

The all-cash deal values New York-based Medidata at above its closing price on April 18, the last reported Dassault Systèmes' interest in the stock at 4.4% to \$90.60 in premarket trading.

### French tech company Dassault makes \$5.8B acquisition of Medidata

The deal represents the single largest acquisition in the history. A longtime player in the aviation and aerospace industries, Dassault has a stronger focus of their business number of recent acquisitions that now includes Medidata.

French software giant Dassault Systèmes, known for its 3D design and manufacturing programs, has made a major play into health care with its acquisition of clinical trial technology company Medidata.

New York-based Medidata has a cloud-based platform to design, manage and collect data from clinical trials. The company went public in 2009, earned \$636 million in 2014, and has 1,300 customers ranging from pharmaceutical companies to medical centers.

### Dassault Systèmes targets life sciences with \$5.8 billion Medidata deal

Dassault Systèmes has been doing deals to diversify its technology and software businesses further and its agreed acquisition of Medidata, its largest, follows its purchases of companies including Trace Software and Argosim.

Medidata has a market capitalization of around \$5.9 billion, Refinitiv Eikon data shows, while Dassault has a stock market value of around 36 billion euros (\$41 billion).

Although the \$92.25 per share offered marked a slight discount to Medidata's closing price of \$94.75 on June 11, analysts said that it was at a premium of 6.6% to Medidata's 50-day average price of \$86.50 over the last 50 days.

*"Medidata's leading position in clinical trials complements our life sciences solutions on the 3DEXPERIENCE collaborative platform.*

*Medidata's recent expansion into real world evidence and analytics coupled with the power of modeling and simulation demonstrates how the virtual world will catalyze the next generation of patient-inclusive therapeutics. "*

- Josh Rose, V.P. of Clinical Development Strategy and Innovation

### Transaction Commentary

Enterprise Value	\$5.8bn	• Consolidates one of the few remaining pure-play public life sciences software incumbents of scale
LTM Revenue	\$661.0mm	• Aggressively expands Dassault from its core industrial & aviation focus to another regulated industry via acquisition of a market leader
LTM EBITDA	\$85.4mm	• The transaction follows Dassault's \$750 million acquisition of scientific lifecycle management provider Accelrys in 2014
<b>EV / LTM Revenue</b>	<b>8.72x</b>	
EV / LTM EBITDA	n/m	

### Select Post-Medidata eClinical M&A Activity




























Buyer	Target	Description	EV	Multiples
Strategic Buyers				
		Research administration software	n/a	n/a
		Virtual care management	n/a	n/a
		Real world analytics	n/a	n/a
		EDC, coding, randomization, RBM & phase 1 solutions	\$80 million	3.13x Rev. 25.7x EBITDA
Financial Sponsors				
		Regulatory and ethical review	\$3.1 billion	17.7x EBITDA
		Clinical and medical affairs	\$700 million	7.00x Rev.
		Clinical trial workflow software	n/a	n/a
		Clinical trial technology	\$3.8 billion	18.0x EBITDA



# Key Participants Across Life Sciences Software

## Market Snapshot

MADISON PARK GROUP

Highlighted Companies		Inclusion Criteria			
 		<p>Madison Park Group (MPG) actively tracks the life sciences software landscape. Consolidation of a highly fragmented market continues, with a convergence of pre and post-market functions, coupled with submission &amp; compliance capabilities. The segments that MPG tracks include:</p>			
 		<div>  Pre-Clinical            Clinical            Medical Affairs            Commercial         </div>			
 		✓ Animal care information system (ACIS)	✓ Case report forms (CRF)	✓ Adverse event reporting	✓ Channel data management
  		✓ Data analysis & visualization	✓ Clinical trial management system (CTMS)	✓ Aggregate spend compliance	✓ Commercial content management
 		✓ Electronic lab notebook (ELN)	✓ Electronic data capture (EDC)	✓ Content management	✓ Customer relationship management (CRM)
 		✓ Laboratory information management systems (LIMS)	✓ Electronic patient reported outcomes (ePRO)	✓ Key opinion leader (KOL) management	✓ Events management
 		✓ R&D budgeting	✓ Electronic trial master file (eTMF)	✓ Medical information management	✓ Master data management
 		✓ SEND submissions management	✓ Interactive response technology (IRT)	✓ Product complaints	✓ Pricing management
 		✓ Toxicology resource planning	✓ Risk-based monitoring (RBM)	✓ Publication planning	✓ Territory management
 		MPG Team			
 		Rohan Khanna Managing Director rkhanna@madisonparkgrp.com	Jon Adler Managing Director jadler@madisonparkgrp.com	James Tomasullo Senior Associate jtomasullo@madisonparkgrp.com	

**Note: Click on company logos to be directed to specific coverage profiles;  
Click on Madison Park Group logo to be redirected back to home page**

## II.     Featured Companies

## Advarra

### Business Overview

(\$ in millions)

Headquarters: Columbia, MD  
 Employees (1-Year Growth): 291 (▲19%)  
 Website: [advarra.com](http://advarra.com)  
 Ownership Status: PE-Backed (*Genstar Capital*)  
 Disclosed Acquisitions: 5 (Including Entities From Merger)



Pre-Clinical



Clinical



Medical Affairs



Commercial

### Description:

Provider of institutional review board (IRB), institutional biosafety committee (IBC) and research quality compliance consulting and solutions in North America. The company serves 3,200+ research institutions, hospital systems, and academic medical centers.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Jul-19	 GENSTAR CAPITAL	\$1.3 billion (buyout)
Feb-19	 ARES ARES CAPITAL CORPORATION	Undisclosed (debt)
Nov-17	 ARES ARES CAPITAL CORPORATION	Undisclosed (debt)

## Acquisitive Amidst Executive Transition

### » Gross Roots Acquisition In IRB Services

- In April 2020, Advarra acquired IRBco, an AAHRPP-accredited central IRB focused on the US market
  - Following Advarra's acquisition of Forte Research Systems, a provider of research administration software, the acquisition of IRBco represents a return to the company's historic strategy of consolidating other IRB services vendors
  - Gadi Saarony, CEO of Advarra*, commented, "Advarra builds on its commitment to advance human health and better enable clinical trials with this acquisition. IRBco studies will be fully integrated with Advarra in a matter of weeks, and we look forward to the additional talent and board expertise this will bring to our organization. We will maintain our focus on developing altogether better capabilities that serve clients and protect research participants."

### » New Executive Appointments

- In October 2020, Advarra appointed Scott Uebele as president and chief research services officer
  - Scott was previously CFO for Advarra and will retain the role on an interim basis until a successor is appointed
- In April 2020, Advarra announced the appointment of Gadi Saarony as CEO
  - Gadi previously worked at Parexel, which he joined in 2003, and had most recently served as executive vice president and chief clinical research services

### » Addressing COVID-19 Through Partnership Initiative

- In April 2020, Advarra announced a partnership with Science 37, a provider of virtual trials technologies for optimizing patient recruitment / engagement and streamlining trial activities
- Jeff Wendell, president of Advarra, commented:
  - "We have worked closely with sponsors and CROs throughout the COVID-19 crisis to help ease the burden on research sites and provide support to local IRBs. As the industry navigates the pandemic, we will continue to find new ways to utilize our expertise and technology to advance clinical research during these challenging times. We're thrilled to partner with Science 37 to help expedite COVID-19 trials."

## Anju Software

### Business Overview

(\$ in millions)

Headquarters: Tempe, AZ

Employees (1-Year Growth): +300 (▲+30%)

Website: [anjusoftware.com](https://anjusoftware.com)

Ownership Status: PE-Backed (*Abry Partners*)

Disclosed Acquisitions: 7



### Description:

Horizontal life sciences enterprise software platform with a focus on eClinical, medical affairs and commercial technologies. The company's strategy is to consolidate vendors and create an integrated life sciences software platform.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Mar-19	<b>abry</b> <u>partners</u>	Confidential
Jun-16	<b>PROVIDENCE</b> <u>EQUITY</u>	Confidential

## New Product Launch & C-Suite Expansion Post-OmniComm Merger

### » Data & Content Management Innovation At The Forefront – Anju SAFE

- In April 2020, Anju announced a Big Data Management Platform, enabling organizations to automate and structure raw data to drive insights across clinical & medical affairs use cases
  - Kurien Jacob, Anju Chairman*, commented, "Meaningful interpretations of patient medical history, medication compliance, treatment adherence, as well as drug safety and efficacy data will empower organizations to design more effective clinical trials, precisely target the proper patient population, uncover potential safety concerns to improve product labeling, accelerate approval of label extensions for approved therapies, and more."
  - In May 2020, Anju announced an enhancement to its ta-Scan and Zephyr intelligence offerings which leverage the Anju Data Platform; the enhancement links global public data (e.g. ClinicalTrials.gov), private data (e.g. CTMS) and third-party data (e.g. IMS Health, Symphony)
  - This curated database with AI-based search and dashboard capabilities will enable optimization of clinical trials using the ta-Scan tool and rationalizing commercialization using Zephyr tools
- In October 2019, Anju announced AnjuSAFE, the first life sciences specific ECM system which can store all relevant structured and unstructured data, images and videos in a single database
  - AnjuSAFE has workflow tools, eTMF, medical information and publication planning functionality
  - Kurien* commented, "Our goal is to offer an integrated platform with built in functionality for all segments of life sciences. Using this approach, Anju can optimize time and cost to deployment for medical affairs, eClinical and publication planning. This, combined with the Anju Data Platform, provides a unique opportunity for pharma and CRO to realize strong ROI through complete lifecycle management or connecting individual solutions to external systems."

### » New Executive Hires To Drive Product And Go-To-Market

- In 2020, Anju made multiple key executive hires:
  - Bill Leander (CMO)**: Previously CSO of Santa Rosa Consulting
  - Nicholas Campbell (CRO)**: Previously Global VP of Sales & Strategy at ERT (eClinical vendor)
  - Adam Fleming (CFO)**: Previously Finance Director at Marlin Equity Partners
  - Beena Wood (VP Product Management, Medical Affairs)**: Previously with Oracle Argus
  - Wendy Morahan (VP Product Management, eClinical)**: Previously with Medidata

## ArisGlobal

### Business Overview

(\$ in millions)

Headquarters:	Miami, FL
Employees (1-Year Growth):	1,571 (▲3%)
Website:	<a href="https://arisglobal.com">arisglobal.com</a>
Ownership Status:	PE-Backed ( <i>Nordic Capital</i> )
Disclosed Acquisitions:	1



Pre-Clinical



Clinical



Medical Affairs



Commercial

### Description:

Provider of cloud-based software solutions for pharmacovigilance and drug safety, clinical development, regulatory, and medical affairs.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Jun-19	<b>NORDIC CAPITAL</b>	\$700.0 million (buyout)

## Augmenting The Leadership Team

### » New Executive Team And Board Additions

- In June 2020, ArisGlobal made two additions to the Board of Directors:
  - Mike Gordan (Chairman): Most recently CEO of Callcredit Information Group (consumer credit bureau, acquired by TransUnion)
  - Dr. Rob Scott (Director): Previously Chief Medical Officer and Head of Development at AbbVie
- In February 2020, ArisGlobal announced a series of executive hires to bolster its leadership bench
  - Rick Simpon (CFO): Rick previously served as CFO for multiple software enterprises, including Vispero, an assistive technology provider, and Kibo Commerce, a provider of ecommerce, order management, and mobile POS solutions
  - Andras Berta (Chief Strategy Officer): Andras previously functioned as an executive at Gedeon Richter, a Hungarian global pharmaceutical and biotechnology company
  - Clint Wolfe (Chief HR Officer): Clint was previously an EVP of Global HR with Bioclinica, a clinical research technology provider

### » Growth Through Innovative New Product Offerings

- In April 2020, ArisGlobal released LifeSphere CTMS10, a clinical trial management system
  - The product enables clients to plan, track and all trial set-up, conduct and closeout activities; the product also includes out-of-the-box payments and monitoring modules
  - Sondra Pepe, ArisGlobal Senior Director of Clinical Product Management*, commented on the product release, "Trials have grown in cost and complexity, and it is increasingly difficult for teams to manage stakeholders, maintain oversight, and meet tight timelines. LifeSphere CTMS10 was designed to solve these challenges through simplicity and an all-in-one approach that includes everything an organization needs to run an efficient, streamlined trial out-of-the-box."
- In October 2019, ArisGlobal announced the release of two new medical affairs products
  - LifeSphere MultiVigilance*, an end-to-end safety system with product ready automation
  - LifeSphere LitPro*, a medical literature monitoring (MLM) automation platform

## Bioclinica

### Business Overview

(\$ in millions)

Headquarters:	Princeton, NJ
Employees (1-Year Growth):	2,877 (▲4%)
Website:	<a href="https://bioclinica.com">bioclinica.com</a>
Ownership Status:	PE-Backed (Cinven)
Disclosed Acquisitions:	15



Pre-Clinical



Clinical



Medical Affairs





Commercial

### Description:

Provider of clinical development technologies. The company's suite of eClinical solutions span patient engagement, risk-based monitoring, randomization, EDC, CTMS, medical imaging, and cardiac safety.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Oct-16	<b>Cinven</b>	\$1.4 billion (buyout)
Sep-15		\$4.2 million (debt)
Dec-14		\$2.5 million (debt)
Mar-14	<b>TCG   BDC</b> <small>CARLYLE GLOBAL CREDIT</small>	\$13.4 million (debt)
Mar-13	<b>WATER STREET</b>	\$123.0 million (buyout)

Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn

## Refining Strategy Through Portfolio Management

### » Leadership Shuffling Aimed At Global Expansion

- In December 2019, Bioclinica announced Euan Menzies as Executive Chairman and Interim CEO, replacing former-CEO David Herron
  - Euan Menzies was previously the CEO of Vertafore, a provider of insurance distribution software and information services for carrier, agencies, brokers, MGAs and MGUs
- In 2020, the Company announced a series of executive hires and promotions:
  - Chuck Bodner (EVP, COO & CFO): Previously CFO & SVP of Becton, Dickinson & Co. (BD)
  - Guy Crossley (President, Software Solutions): Previously VP Product Management at R1 RCM
  - Richard Murg (VP Global Business Development): Previously CRO of MedNet Solutions (eClinical solutions provider)
  - Kevin Smith (Managing Director, Software Solutions): Previously Senior Director of Life Sciences Solution Sales at Saama (life sciences analytics solutions provider)
  - Maureen Marchek (SVP Finance): Promoted from Corporate Controller position
  - Robert Ford, MD (Senior Advisor, Chief Medical Officer Emeritus): Principal of Clinical Trials Imaging Consulting (medical imaging consulting services)
  - Michael O'Neal, MD (Chief Medical Officer): Expanded role within Bioclinica
  - Dan Gebow, PhD (Chief Innovation Officer): Promotion; was previously with MDDX Research and Informatics (acquired by Bioclinica in 2017)

### » Refining Growth Strategy And Business Unit Portfolio

- In May 2020, Bioclinica announced a COVID-19 Clinical Endpoint Adjudication solution to help researchers discern COVID-related adverse events from non COVID-related incidents
- In September 2019, Bioclinica outlined the company's next phase of growth that stressed further penetration of medical imaging solutions and providing clinical services to the APAC region
- In parallel, Bioclinica divested its clinical research site business to PPD
  - The business unit had been rumored to be contemplating a sale since November 2018
  - The divestiture will enable Bioclinica to focus on growing its core software offerings in medical imaging, cardiovascular safety, clinical trial management and drug safety



## Bruker

### Business Overview

(\$ in millions)

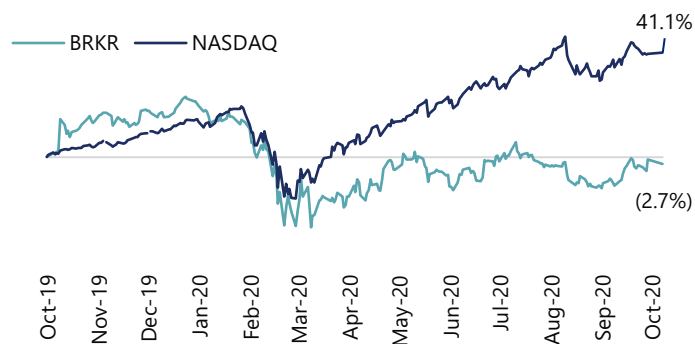
Headquarters:	Billerica, MA
Employees (1-Year Growth):	2,893 (▲4.8%)
Website:	<a href="https://www.bruker.com">bruker.com</a>
Ownership Status:	Public (NAS: BRKR)
Disclosed Acquisitions:	44
LTM June 2020 Revenue	\$1,969.6



### Description:

Bruker develops scientific instruments based on magnetic resonance, mass spectrometry, and X-ray technologies. The company also manufactures superconducting materials primarily used in magnetic resonance imaging, nuclear magnetic resonance, and fusion energy research.

### TTM October 2020 Market Pricing



## Pre-Clinical Software Driving Strategic M&A Agenda

### » Utilizing M&A to Reinforce Imaging Solutions & Workflow Management

- In September 2020, Bruker announced the acquisitions of Integrated Proteomics (search engine and proteomics workflow) and Canopy Biosciences (biomarker imaging and gene editing)
- In July 2019, Bruker announced the acquisition of Switzerland-based, PMOD Technologies, a provider of pre-clinical and molecular imaging solutions
  - The Company's extends Bruker's portfolio of imaging solutions, which now includes imaging research software packages used in magnetic resonance imaging (MRI) and nuclear molecular imaging (NMI) translational research, *ParaVision® 360* and *PMOD*
  - PMOD's operations will continue to be led by its existing executive management and its software will remain platform-independent
  - Dr. Wulf Jung, President of Bruker's Preclinical Imaging Division*, commented, "With the PMOD acquisition, Bruker is broadening its support for translational research with outstanding imaging tools, from highest-performance preclinical MRI, PET/SPECT and microCT systems to state-of-the-art software. Preclinical PET/MR is a fast-growing market, and the expertise of the PMOD team will further strengthen our quantitative molecular imaging solutions."
- In March 2019, Bruker announced the acquisition of Arxspan, a provider of scientific data management and workflow solutions for pharmaceutical and biopharma customers
  - The acquisition supplements *Bruker's existing partnership with Mestrelab*, allowing Bruker to offer advanced chemistry and biopharma software for drug discovery and development

### » Product Launch Sets Milestone for High-Speed Image Scanning

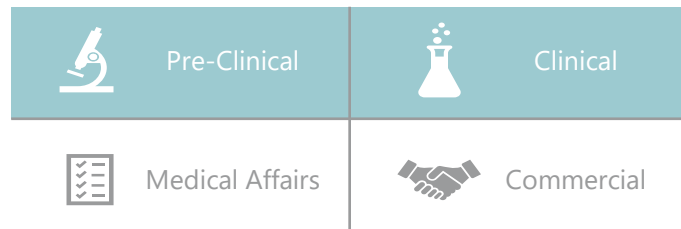
- In August 2020, Bruker announced the release of its NanoRacer AFM system used for high-speed image scanning to enable real-time visualization of biological processes
  - The product will provide additional insights into single-molecule behavior and dynamic processes in biochemistry, molecular biology, and biomedicine
  - NanoRacer captures images at a speed of 50 frames / second, setting a new milestone in high-speed scanning capabilities

## Certara

### Business Overview

(\$ in millions)

Headquarters:	Wayne, PA
Employees (1-Year Growth):	819 (▲6%)
Website:	<a href="https://certara.com">certara.com</a>
Ownership Status:	PE-Backed ( <i>EQT Partners</i> )
Disclosed Acquisitions:	11



### Description:

Provider of drug development technology and consulting services spanning the discovery, preclinical and clinical stages of drug development. The company also provides software for drug modeling and simulation.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Mar-18	<b>Jefferies</b>	\$40.0 million (debt)
Aug-17	<b>IEQT</b>	\$850.0 million (buyout)
Dec-13	<b>ARSENAL CAPITAL PARTNERS</b>	\$190.0 million (buyout)
Mar-07	<b>VECTOR CAPITAL</b>	\$26.2 million (buyout)

## New IPO Candidate In The Pre-Clinical Market

### » IPO Documentation Under SEC Review

- In October 2020, Certara announced that it submitted a draft registration statement for an IPO
- The IPO process will commence following SEC review

### » Acquisition Of Modeling & Simulation Tools

- In February 2020, Certara announced that it acquired multiple modeling and simulation solutions from In Silico Biosciences, a provider of model-based pre-clinical research
  - Assets acquired include quantitative systems pharmacology (QSP) modules of brain physiology and pathology utilized for studying Alzheimer's, Parkinson's and Huntington's disease
  - The assets will be folded into Certara's Simcyp division, a leader in mechanistic modeling for QSP
  - Following the acquisition, the Company named Dr. Hugo Geerts, former Chief Scientist of In Silico Biosciences, as the leader of Certara's neuroscience team
  - *Dr. Piet van der Graaf, Senior Vice President of QSP*, commented, "QSP is a transformative technology that combines computational and experimental methods to elucidate, validate and apply new pharmacological concepts to determine the mechanisms of action of new and existing drugs in preclinical and animal models and in patients. It is the right technology at the right time for neurodegenerative disease drug development."

### » Supplementary Expansion Of Product Portfolio

- In November 2019, the Company announced the availability of PK Submit, a solution utilized to automate the creation of PK Clinical Data Interchange Standards Consortium (CDISC) domains during Non-Compartmental Analysis (NCA)
- In October 2019, Certara announced the launch of BaseCase Data Studio, enabling pharma clients to build mobile apps using real-world data sources and perform sophisticated analyses
- In September 2019, Certara announced the launch of Phoenix 8.2, a pharmacokinetic / pharmacodynamic (PK/PD) modeling and simulation software for drug development



## Dassault Systèmes / Medidata

### Business Overview

(\$ in millions)

Headquarters:	Vélizy-Villacoublay, France
Employees (1-Year Growth):	16,775 (▲2%)
Websites:	<a href="https://3ds.com">3ds.com</a> , <a href="https://medidata.com">medidata.com</a>
Ownership Status:	Public (PAR: DSY)
Disclosed Acquisitions:	58 (Dassault + Medidata)
LTM Sept 2020 Revenue:	\$5,227.4



Pre-Clinical



Clinical



Medical Affairs

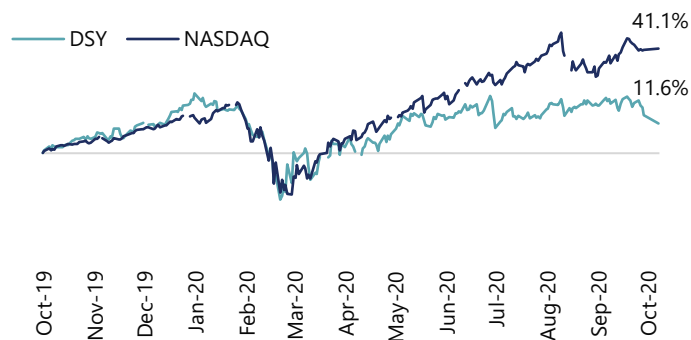


Commercial

### Description:

Provider of 3D design and engineering software. The company's products serve multiple regulated industries, such as aerospace and defense, life sciences, industrial equipment, marine and offshore, and consumer goods.

### TTM October 2020 Market Pricing



Source: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

Note: Financial data is translated into USD at an exchange rate of 1.18371 USD/EUR

## Responding To COVID With Remote Trial Applications And AI

### » Product Launches And Branding Initiatives

- In August 2020, Medidata announced that SHYFT Analytics will adopt the Acorn AI, by Medidata brand; SHYFT was acquired by Medidata in 2018
  - SHYFT's commercial and data analytics solutions will sit under the Commercial Data Solutions segment of the Acorn AI brand
  - The Commercial Data Solutions team will be led by Bruno Lempennesse, previously CEO of Inflexion (clinical assessment tools and analytics)
- In August 2020, Medidata launched Medidata Detect, a cloud-based centralized statistical monitoring solution
  - The product assists with site performance monitoring, patient safety and data quality
- In April 2020, Medidata announced the launch of its myMedidata patient portal platform, enabling increased accessibility for patients to participate in clinical trials for new medicines and vaccines
  - The product includes eConsent, eCOA, and ePRO, allowing patients to collect, assess, and report outcomes through the mobile application; the system works with virtual trials and sensors
  - The product includes a COVID-19 symptom tracker, enabling support studies and advanced insights of the virus

### » Partnership Aimed To Enhance Clinical Trial Imaging

- In March 2020, Medidata partnered with Medpace, an Ohio-based CRO imaging lab, to integrate Medidata Rave imaging with Medpace's clinical imaging and workflow offerings; Medidata's Rave imaging solution provides end-to-end image management for clinical trials to help ensure risk, complexity, and accuracy in clinical studies
  - The partnership enables users to streamline workflows, reduce manual reconciliation, extend its existing imaging capabilities, and create a single data repository for increased data visibility
  - Medpace Chief Medical Officer, Daniel O'Leary*, commented, "Through our partnership with Medidata, Medpace is now able to provide seamless integration of our quantitative image analysis pipelines with Medidata's Rave Imaging system and database. The combination of these tools produces the most powerful imaging trial management environment currently available to the clinical trial market."

## Envision Pharma Group

### Business Overview

(\$ in millions)

Headquarters:	London, U.K.
Employees (1-Year Growth):	701 (▲6%)
Website:	<a href="http://envisionpharmagroup.com">envisionpharmagroup.com</a>
Ownership Status:	PE-Backed ( <i>GHO Capital</i> )
Disclosed Acquisitions:	5

 Pre-Clinical	 Clinical
 Medical Affairs	 Commercial

### Description:

Provider of technology and scientific communication solutions to the life sciences community. The company's medical affairs offerings include publication planning, project management, journal databases and medical strategy.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Sep-20		n/a (recap)
Jul-16		\$368.0 million (buyout)
Jun-13		n/a (buyout)
Apr-08		n/a (buyout)

## Pushing For Growth Under New Leadership And Ownership

### » Existing owner GHO buys out Ardian Stake and receives Sovereign Fund Co-Investment

- In September 2020, GHO announced that it was buying out Ardian's stake in Envision Pharma in a deal valued at more than \$750 million; the two firms had jointly acquired the company in 2016<sup>(1)</sup>
- Abu Dhabi's Mubadala Investment Co. PJSC will co-invest with GHO
- The deal comes off the heels of news that Envision had been approached in May by an anonymous suitor in a potential deal that valued the business at more than \$500 million<sup>(1)</sup>

### » Acquisition Of Global Healthcare Communications Consultancy

- In April 2020, Envision acquired 90TEN, a provider of PR, medical communications and patient advocacy services that utilize insight-led behavioral science methods
  - 90TEN employs approximately 70 staff members and works with over half of the top 20 pharma companies across North America and Europe; 90TEN will continue to be managed by existing co-founders, *Paul Tanner* and *Carole North*
  - *David Thompson, Envision Pharma CEO*, commented, "90TEN will add its expertise across new verticals for the group – in corporate communications and public relations, while extending Envision's current footprint in patient engagement and medical communications with its behavioral science methodology. This move bolsters our industry-leading scientific communications capabilities and enables us to strengthen our offering to clients across the product life cycle."

### » Shift In Executive Leadership

- In January 2020, Envision officially promoted David Thompson to CEO; former-CEO Brian Hepburn was appointed as Executive Co-Chair following the end of his CEO term
  - *Brian Hepburn*, commented, "I can think of no one better to take over the mantle of the CEO for the Group. David has been with the organization for 4 years now and truly understands its DNA, which is often the biggest challenge for any incoming CEO. In addition, he brings an energy and 'can-do' attitude to the table which will ensure we continue to innovate and challenge the norm. This planned transition has been in the making for some time now and I look forward to working with him closely on this new phase of the journey for Envision."

## ERT

## Business Overview

(\$ in millions)

Headquarters:	Philadelphia, PA
Employees (1-Year Growth):	2,713 (▲3%)
Website:	<a href="http://ert.com">ert.com</a>
Ownership Status:	PE-Backed ( <i>Nordic Capital</i> )
Disclosed Acquisitions:	10



Pre-Clinical



Clinical



Medical Affairs



Commercial

## Description:

Provider of clinical solutions to minimize risk and uncertainty in trials. Offerings span trial oversight, site optimization, patient engagement and safety & efficacy. Solutions are powered by the company's underlying ERT EXPERT platform.

## Select Funding / Transaction History

Date	Lead Investor	Amount
Nov-19		n/a (recap)
Apr-16		\$1.8 billion (buyout)
Apr-12		\$400.0 million (buyout)

Source: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn

(1) "Astorg Investment In Nordic's ERT Values eClinical Company At \$3.8 Bln" (Buyouts, 10/21/2019)

## Moving Forward Under New Leadership And Ownership

## » Leadership Transition

- In October 2020, ERT announced that Joe Eazor will succeed Jim Corrigan as President and CEO
- Joe previously held multiple CEO positions, including Conifer Health (healthcare solutions), Rackspace (managed cloud computing) and EarthLink (internet and security services provider)
- Joe commented on his appointment, "My commitment to ERT's clients and employees is to bring more rapid innovation to the market with an unrelenting focus on quality and service delivery. ERT is already a well-established global leader across the eClinical space, and I am excited to partner with our clients as we further accelerate our journey toward also becoming the end-to-end virtual trial market leader."

## » Wearables Acquisition Reinvents ERT's Endpoint Measurement Capabilities

- In June 2020, ERT announced the acquisition of APDM Wearable Technologies, a provider of wearables and digital biomarkers; ADPM's sensor technology provides precision motion data which is relevant for trials related to movement disorders (Parkinson's, Multiple Sclerosis, Ataxia)
- Dr. Mateo Aboy, Co-Founder & Chairman of APDM*, commented, "We are thrilled that our advanced wearable platform will be added to ERT's suite of proven eClinical technologies to help innovative clinical trial sponsors minimize uncertainty and risk in the development of CNS and movement disorder treatments, ultimately improving patients' lives."

## » Astorg Makes Bet On ERT

- In October 2019, ERT was recapitalized by Astorg, a Paris-based private equity firm with \$9.0 billion in AUM; the deal was valued at \$3.8 million (~18x EV / EBITDA)<sup>(1)</sup>
  - Existing investors Nordic Capital and Novo Holdings will retain minority stakes
  - Nordic Capital and Novo Holdings first acquired ERT in April 2016 from Genstar Capital; since then, the Company has doubled revenues with a focus on operations and add-on acquisitions
  - Judith Charpentier, Partner and Head of Healthcare at Astorg*, commented: "We have been actively monitoring developments in the eClinical space, and in particular at ERT, for many years, and have been very impressed by their proven ability to drive innovation in clinical trials, ensuring a safer and more efficient drug development process."

## Eversana

### Business Overview

(\$ in millions)

Headquarters:	Milwaukee, WI
Employees (1-Year Growth):	1,385 (▲18%)
Website:	<a href="https://eversana.com">eversana.com</a>
Ownership Status:	PE-Backed ( <i>JLL, Water Street</i> )
Disclosed Acquisitions:	11 (Including Entities From Merger)



Pre-Clinical



Clinical



Medical Affairs





Commercial

### Description:

Provider of commercialization software and services for patient engagement, market pricing and access, branding, and channel partner distribution. Eversana was formed as a platform backed by JLL Partners and Water Street Healthcare Partners. In October 2018, the two investment groups merged Dohmen Life Sciences Services, The Access Group, Alliance Life Sciences, Health Strategies Group, Triplefin, and Patient Experience Project.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Oct-18	 <b>JLL Partners</b>  <b>WATER STREET</b>	n/a (Platform Creation)

## Building The Executive Foundation For A Data-Driven Expansion

### » Leadership Appointments Targets Expansion Of Advanced Data & Analytics

- In April 2020, Eversana announced *Brigham Hyde, Ph.D. as President of Data & Analytics*; Hyde will lead the data and analytics strategy focused on integrating patient level data, solutions, and commercial analytics services across the patient journey to model value-based care
  - The appointment strengthens the Company's commitment to investing in data and analytics services, and software solutions
  - Brigham Hyde*, commented, "Most AI and ML platform solutions are disjointed from the services and interfaces that create meaningful impact for patients. By providing a prediction platform, built on integrated patient data, combined with our best-in-class patient engagement solutions, commercial services, market access, and distribution, we have the ability to make predictions and take actions within the same organization."
- In May 2020, EVERSANA announced Kelly Baker as CFO following her role as SVP, Finance at DuPage Medical Group, a multi-specialty healthcare services group with +700 physicians
  - Kelly's background also includes her financial leadership role at OptumRx, a medical prescription management software provider, and analyst roles with Goldman Sachs

### » Continued Acquisition Spree Following Initial Merger

- In September 2020, Eversana acquired Alkemy Partners, a full-service provider of field learning and training for market access, sales & clinical use cases
- In July 2020, Eversana acquired HVH Precision Analytics, an AI-based predictive analytics platform
  - HVH leadership will report to Brigham Hyde, Ph.D., President, Data and Analytics
  - Steve Costalas, CEO, HVH Precision Analytics*, commented, "Our technology and talented team are at the forefront of the industry and are already propelling faster analysis and actions for EVERSANA clients. The fit is seamless, and we are onboarding new programs right now."
- In October 2019, EVERSANA acquired Cornerstone Research Group, a provider of Health Economics and Outcomes Research (HEOR) services
  - Melissa Thompson, SVP, Value & Evidence Division*, commented, "The need for evidence-based research has never been greater than in today's pharmaceutical industry. EVERSANA's integrated platform gives our current clients immediate access to expanded services and solutions...."

## Insightful Science

### Business Overview

(\$ in millions)

Headquarters:	San Diego, CA
Website:	<a href="https://insightfulscience.com">insightfulscience.com</a>
Ownership Status:	PE-Backed ( <i>Insight Partners</i> )
Disclosed Acquisitions:	5 (Including Merged Entities)

 Pre-Clinical	 Clinical
 Medical Affairs	 Commercial

### Description:

Provider of visualization, graphics, and bioinformatics data management solutions to the scientific research community. Insightful Sciences is the parent entity of four brands across two divisions, Data Analysis & Visualization and Bioinformatics.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Jul-19	 MADISON CAPITAL FUNDING <small>A NEW YORK LIFE INVESTMENTS COMPANY</small>	n/a (debt)
Apr-19	 BARINGS	n/a (debt)
Nov-17	 INSIGHT PARTNERS	n/a (buyout)

## Portfolio Repositioning To Support Continued M&A

### » Review Of Initial Merger

- In August 2019, Insightful Science was formed following the merger of Insight's portfolio company, GraphPad Software, and SnapGene, a molecular biology procedure management software provider
  - GraphPad and Geneious divisions were operating as individual brands prior to the announcement; GraphPad will now lead the Data Analysis & Visualization division, while Geneious and SnapGene will be a part of the Bioinformatics division

### » Recent M&A In Statistics And Bioinformatics

- In June 2020, Insightful Science acquired Statsols, a provider of sample size software
  - nQuery is utilized by 90% of organizations with FDA approved clinical trials for study designs
  - Thomas Swalla, CEO of Insightful Science, commented, "It's an excellent fit for our company as we continue to expand our capabilities from the pre-clinical market into the clinical ecosystem."
- In May 2020, Insightful Science acquired Cytapex, a contract research services provider for cytometry informatics research, biomarker discovery, and clinical trials
  - The acquisition supplements its existing Geneious solutions; Geneious Prime and Biologics provides bioinformatics solutions utilized for sequencing data analysis
  - Thomas Swalla, commented, "We were immediately impressed with the bioinformatics expertise of the Cytapex team. Pharmaceutical customers are increasingly looking to outsource core functions of the research and development process, and reputation and trust are critical."

### » Aggressive Expansion Into China

- In April 2020, the Company announced a strategy to accelerate growth in China, beginning with a dedicated website and expansion of its local channel partner program
  - GraphPad currently services many Chinese parties, but payment barriers make it difficult to purchase products; the website and expanded reseller program are the first steps of enabling scientists to access products globally

## Instem

### Business Overview

(\$ in millions)

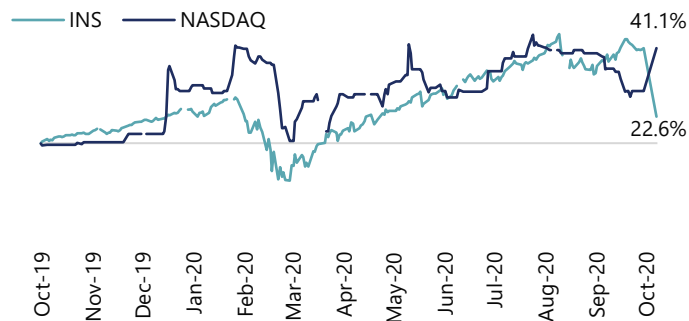
Headquarters:	Staffordshire, U.K.
Employees (1-Year Growth):	237 (▲8%)
Website:	<a href="http://instem.com">instem.com</a>
Ownership Status:	Public (AIM: INS)
Disclosed Acquisitions:	6
LTM June 2020 Revenue:	\$36.7



### Description:

Provider of drug research & development solutions for the pre-clinical and clinical markets. Products include animal care information systems, electronic lab notebooks, genetic toxicology and regulatory information management.

### TTM October 2020 Market Pricing



Source: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

Note: Financial data is translated into USD at an exchange rate of 1.30468 USD/GBP

## Resurgence In M&A To Extend Product Suite

### » Acquisition Aimed At Obtaining In Silico Safe Assessment Tools

- In November 2019, Instem acquired Leadscope, a provider of advanced informatics, predication technology, and database solutions
  - The combination of Instem and Leadscope's technologies will provide solutions for the integration of public data and proprietary information to support the discovery and development of pharmaceuticals and other chemical products
  - Leadscope management team will remain a part of Instem's Scientific division, which currently is providing Target Safety Assessment (TSA) services through its KnowledgeScan™ offering
  - Instem CEO, Phil Reason*, commented, "This acquisition is a great fit for us, and the synergies created will further help us enable clients to make better informed decisions. We have been in regular dialogue with Glenn and the Leadscope team for over 10 years, and with the increasing needs of the market for in silico tools, both in regulatory submissions and in safety profile screening, the timing is perfect. They have built a deep relationship with the regulatory authorities, a fantastic client base and have an excellent reputation in the market as true collaborators."

### » Increased SEND Marketing Efforts

- In October 2020, Instem announced the launch of Sendible SEND, a bi-weekly blog authored by SEND Specialist Marc Ellison, Instem's Director of SEND Solutions
- The blog provides insights, observations and opinions on challenges and opportunities of SEND
- Marc leads Instem's SEND software and outsourced services portfolio

### » Product Portfolio Expansion With Enhanced Study Collaboration

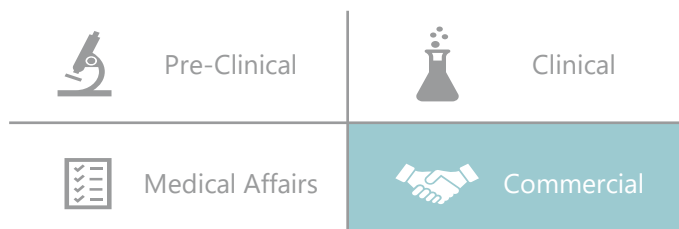
- In September 2019, Instem announced the addition of NOTOCORD-sense™, a cloud-based open collaboration platform analysis and sharing of experimental data
  - The product allows users to aggregate data into a singular platform, search across studies to run various analyses, and features a public API to integrate with existing solutions

## IntegriChain

### Business Overview

(\$ in millions)

Headquarters:	Philadelphia, PA
Employees (1-Year Growth):	309 (▲44%)
Website:	<a href="https://integrichain.com">integrichain.com</a>
Ownership Status:	PE-Backed ( <i>Accel-KKR</i> )
Disclosed Acquisitions:	4



### Description:

Provider of commercial data and analytics solutions for life sciences manufacturers to derive insights from payer, patient and distribution data. The company services organizations in the pharma, biopharma, generics and medtech sectors.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Feb-16	 AKKR	n/a (buyout)
Sep-15	 Saas CAPITAL	\$6.0 million (debt)
Apr-11	 CRIMSON	\$3.0 million
Jul-09	 MILESTONE VENTURE PARTNERS	\$2.0 million
Oct-06	 NJITC VENTURE FUND	\$2.1 million

Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn

## Strategic Carveout Enhances Revenue Management Platform

### » Acquisition Cements IntegriChain As One Of The Largest Commercial Process Platform

- In April 2020, IntegriChain announced the acquisition of Cumberland's Life Sciences Division, a provider of managed services, advisory services and systems integration for contracts, pricing, and revenue management
  - The acquisition positions IntegriChain as a comprehensive business process platform for commercialization and market access of cell and gene therapy, specialty, and retail pharmaceuticals
  - Jeff Lee*, former Managing Partner Cumberland's Life Sciences Division will transition into SVP of Account Management & Sales at IntegriChain

### » New Analytics Product Launch

- In October 2020, IntegriChain announced the launch of GTN Analytics as a complement to the company's existing software and managed services offerings
- The solution integrates financial, channel and patient data to improve accuracy and predictability of accruals and forecasts

### » Leadership Enhancement To Cultivate Talent

- In April 2020, IntegriChain appointed Vickie Kozhushchenko as SVP of People and Culture
  - Vickie was most recently CEO of VLK Consulting Group, a boutique HR advisory firm, and previously held executive roles Clean Earth, Aramark, Turner Broadcasting System, Comcast and Coordinated Health
  - Kevin Leininger, IntegriChain Co-Founder & CEO, commented, "After four acquisitions in the last four years, we now have a global team of more than 370 professionals, and we recognized the need for a voice on our executive leadership team focused specifically on our talent need. Vickie offers the experience and insight to effectively bring organizations together and build them into high-performing teams, equipping each of our professionals with the tools, insights and knowledge to successfully manage their careers and ensure they are seen, heard and recognized for their capabilities, knowledge and potential."



# IQVIA

## Business Overview

(\$ in millions)

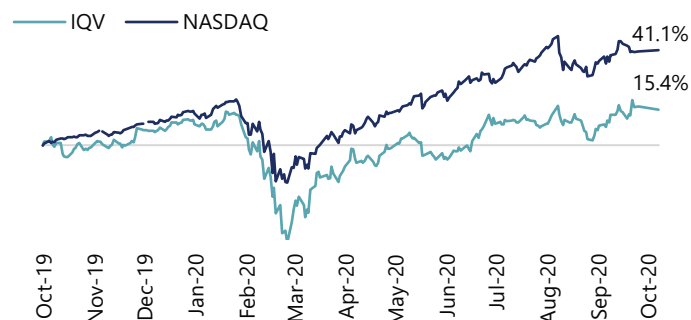
Headquarters:	Durham, NC
Employees (1-Year Growth):	52,445 (▲6%)
Website:	<a href="http://iqvia.com">iqvia.com</a>
Ownership Status:	Public (NYS: IQV)
Disclosed Acquisitions:	84
LTM Sept 2020 Revenue:	\$10,956.0



## Description:

Comprehensive provider of software and CRO services to the life sciences market. The company's technology offerings horizontally span pre-market and post-market functions such as clinical, manufacturing, medical affairs and commercial.

## TTM October 2020 Market Pricing



Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

(1) PitchBook

(2) IQVIA earnings transcripts

## Continued Organic & Inorganic Growth Despite COVID-19

### Recent Acquisitions And Investments

- Although IQVIA does not typically disclose its transactions through press releases, we have identified the following transactions since the release of MPG's H1 2019 market update report:
  - ObvioHealth (App for site-less trial design, April 2020): IQVIA led a \$16.8 million Series A<sup>(1)</sup>
  - HelpAround (Behavioral data capture, January 2020): IQVIA led a \$6.0 million Series A1<sup>(1)</sup>
  - BC Platforms (Genome data management, December 2019): IQVIA led a \$15.0 million Series C<sup>(1)</sup>
  - GCE Solutions (CRO services, September 2019): Acquired for \$200.0 million<sup>(1)</sup>
  - CoreZetta (South Korean drug discovery & data technology provider, August 2019): Acquired
- IQVIA has recently focused on investments in companies rather than outright acquisitions

### Product Innovation And Accolades

- The Company has unveiled multiple products to combat COVID-19 :
  - (i) c19trials.com, a tech-enabled COVID-19 trial matching solution
  - (ii) IQVIA CARE Project registry, a registry and trial matching tool
  - (iii) FluSTAR, a mobile app that helps consumers manage their health during flu season (released before the COVID outbreak)
- In February 2020, management cited they were supporting 10-20 remote trials; as of April, management noted that ~50% of trials had pivoted to remote monitoring in light of COVID-19<sup>(2)</sup>
- Management is also targeting a new CTMS product by the end of 2020, further positioning IQVIA to compete head to head with Medidata and Veeva in the eClinical domain
- In September 2020, the company's eCOA solution received the 2020 Fierce Innovation Award
- In August 2020, IQVIA's RIM solution was awarded the Gold Steve Award for Technical Innovation of the Year; IQVIA also won a Silver Stevie Award for Most Innovative Company of the Year
- In May 2020, IQVIA launched a new HCP/O Engagement Management, a solution which manages interactions with healthcare professionals and organizations



## Model N

### Business Overview

(\$ in millions)

Headquarters:	San Mateo, CA
Employees (1-Year Growth):	1,225 (▲13%)
Website:	<a href="https://modeln.com">modeln.com</a>
Ownership Status:	Public (NAS: MODN)
Disclosed Acquisitions:	4
LTM June 2020 Revenue:	\$156.2



Pre-Clinical



Clinical



Medical Affairs

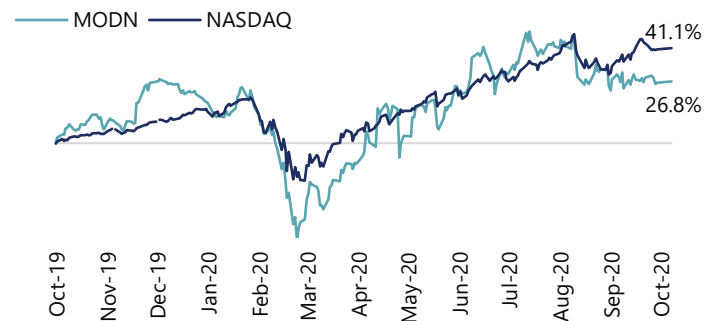


Commercial

### Description:

Provider of enterprise revenue management and configure-price-quote (CPQ) solutions to the life sciences, manufacturing and high-tech industries. Pharma-specific offerings include pricing management, provider management and payer management.

### TTM October 2020 Market Pricing



Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

## New Leadership And Revenue Management Capabilities

### » Proprietary New Products Driven by Change In Leadership

- Model N announced a series of executive leadership appointments:
  - Kimberly DeCarlis (Board Member, January 2020): Currently Chief Marketing Officer of PerimeterX, an application protection cybersecurity technology provider
  - Dave Michaud (Chief Marketing Officer, November 2019): Previously senior vice president of marketing Plex Systems, a manufacturing software provider
  - Suresh Kannan (SVP & Chief Product Officer, September 2019): Previously created and led the Content Management Solutions business of IQVIA, and played a key role in the IMS / Quintiles in May 2016

### » Extended Revenue Management Capabilities

- May 2020 announcement: New features for Model N's high-tech focused product offerings powered by AI and machine learning technology; the new features enable high tech companies to make real-time pricing decisions
- March 2020 announcement: New release of Model N's cloud-based revenue management offerings; functionality that addresses a range of compliance, pricing, payment issues, and revenue leakage for pharmaceutical and medical technology regulatory requirements
  - The company's spring 2020 product release enabled new integrations with Oracle, IBM, Cognos and Open JDK; the release also came with an enhanced user interface

### » Multiple Wins In Life Sciences

- In August 2020, Model N announced its continued traction and notable achievements in the life sciences vertical
- Recent customer wins, implementations and SaaS transitions include a top 15 F500 global medtech company, EMD Serono, Pfizer, Gilead, Biogen, Ipsen and Novo Nordisk

## Oracle

### Business Overview

(\$ in millions)

Headquarters:	Redwood City, CA
Employees (1-Year Growth):	184,150 (▲2%)
Website:	<a href="https://oracle.com">oracle.com</a>
Ownership Status:	Public (NYS: ORCL)
Disclosed Acquisitions:	121
LTM August 2020 Revenue:	\$39,217.0



Pre-Clinical



Clinical



Medical Affairs

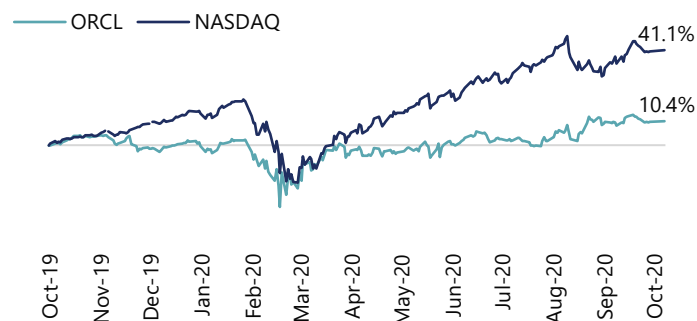


Commercial

### Description:

Provider of on-premise and cloud-based enterprise software applications and platform services. The company has life sciences specific offerings, including clinical trial management and pharmacovigilance.

### TTM October 2020 Market Pricing



Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

## Recent Wins And Partnerships In Life Sciences

### » Life Sciences Partnership For Clinical Trial Compliance

- In October 2020, Oracle announced a partnership with USDM Life Sciences, a technology consulting firm for the life sciences sector
  - The partnership will combine USDM's Cloud Assurance subscription service with Oracle's Clinical One platform to help clients meet FDA 21 CFR Part 11 regulatory requirements
  - Drew Zwiebel, global vice president alliances & channels at Oracle Health Sciences*, commented: "Oracle Clinical One is changing how technology supports clinical research to improve efficiency and help bring breakthrough therapies to market faster. USDM Life Sciences has a long history of working with both Oracle and life sciences customers. Based on their expertise and experience, the USDM Cloud Assurance subscription service is an obvious choice to aid Oracle Clinical One customers in meeting their complex compliance needs."

### » Continued Traction In The Mid-Market

- In May 2020, Oracle announced that Peachtree BioResearch, a CRO, had chosen Oracle Health Sciences cloud solutions as its technology for trial operations
- Peachtree will use Select (site selection optimization), Activate (site workflow activation) and Siebel (clinical trial management system)
- The Peachtree win represents a continued trend of mid-sized organizations leveraging Oracle's eClinical solutions for optimizing trial activities

### » Quiet On Life Sciences M&A Since GoBalto Transaction

- The Company has not executed a life sciences software acquisition in 2019 and 2020; Oracle's prior acquisitions in the market include:
  - GoBalto (2018): Clinical trial site selection solutions
  - ClearTrial (2012): Clinical trial operations
  - Phase Forward (2010): clinical trial management
  - Relsys (2009): Adverse event reporting

## PRA Health Sciences

### Business Overview

(\$ in millions)

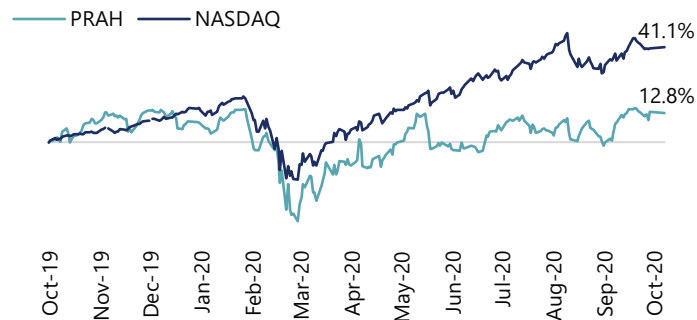
Headquarters:	Raleigh, NC
Employees (1-Year Growth):	15,334 (▲5%)
Website:	<a href="https://prahs.com">prahs.com</a>
Ownership Status:	Public (NAS: PRAH)
Disclosed Acquisitions:	11
LTM June 2020 Revenue:	\$3,094.5



### Description:

Provider of contract research services & clinical trial software and data solutions for pharmaceutical, biotechnology and medical device customers.

### TTM October 2020 Market Pricing



## Mobile-Based Product Strategy

### » Partnership Turned Acquisition In The Remote Monitoring Ecosystem

- PRA acquired Care Innovations, a provider of remote patient monitoring and other virtual solutions, near the end of 2019
  - Care Innovations' two core products are (i) Health Harmony (remote care management) and (ii) Home Sensing (patient and resident activity monitoring)
- The companies had originally formed an exclusive strategic partnership in late 2017
  - Kent Thaelke, EVP, Scientific and Medical Affairs, Safety and Commercialization Services at PRA,* commented on the partnership, "We believe that by adding the expertise of Care Innovations to our connected trials solution that PRA will enable more patients to have access to clinical trials and drive efficiencies for our sponsors," "We selected Care Innovations as our partner due to their successful history of engaging with patients in the home both across the continuum of care as well as across numerous disease states."

### » Addressing COVID-19 With Mobile Solutions

- In March 2020, PRA announced the expansion of its mobile health platform for remote clinical monitoring, adding multiple new features that address needs for COVID-19 virtual studies
  - Functionality includes eConsent/re-consent, eSignatures, form collection, remote scheduling, video consulting and survey tools
- PRA also announced the launch of an app-based Covid-19 monitoring system; a health and well-being tracking platform for employees, payers, providers and health systems

### » New Partnership Driving Increased Data Availability

- In March 2020, PRA partnered with Datavant to provide clients with an ecosystem of fit-for-purpose data assets and strategies to support the development and delivery of life-enhancing drugs
  - Travis May, Co-Founder & CEO of Datavant,* commented: "By unlocking the power of the open data ecosystem, Symphony's customers will have access to dramatically more data, and will be able to create tailored data strategies to solve the next generation of healthcare problems."

## Sartorius

### Business Overview

(\$ in millions)

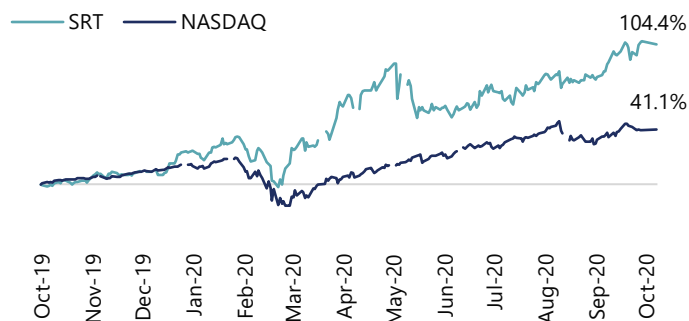
Headquarters:	Goettingen, Germany
Employees:	+ 10,000
Website:	<a href="https://www.sartorius.com">sartorius.com</a>
Ownership Status:	Public (XTRA: SRT)
Disclosed Acquisitions:	12
LTM June 2020 Revenue:	\$2,354.5



### Description:

International provider of pharmaceutical and laboratory equipment solutions. The company has two business divisions, Bioprocess Solutions and Lab Products & Services, and has +10,000 employees across +60 production and sales locations globally.

### TTM October 2020 Market Pricing



Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

(1) Sartorius press releases and investor presentations

## Aggressive M&A In Life Sciences Hardware And Software

### » BIA Acquisition Is The Latest In A Series Of M&A Initiatives

- In October 2020, Sartorius announced the acquisition of BIA Separations, a manufacturer of purification products for large biomolecules, including viruses, plasmids and mRNA
  - The acquisition is complementary to Sartorius' existing purification technology and advanced therapy portfolio; BIA's technology has significantly higher yield and avoids shearing effects which are commonly associated with traditional purification processes (chromatography)
  - While BIA is based in Slovenia, a large portion of the company's business is in the U.S.
  - Sartorius will pay €240 million upfront, €120 million in shares and three earnout payments over the next five years; BIA is expected to generate €25 million revenue in 2020<sup>(1)</sup>
- In October 2019, Sartorius announced the acquisition of three Danaher Life Sciences assets (\$825mm EV, ~\$170mm revenue, 4.85x multiple); the transaction was completed in May 2020<sup>(1)</sup>
  - (i) FortéBio, provider of protein analysis instruments, biosensors, and reagents for drug discovery; the asset will integrate into Sartorius' bioanalytics unit within its Lab Products & Services division
  - (ii) Chromatography hardware and resins; the assets will be folded into Sartorius' Bioprocess Solutions division
  - (iii) SoloHill, provider of microcarrier technology and particle validation standards
- In April 2017, the Company acquired Essen Bioscience, a provider of cell-based assays and instrumentation used for drug discovery and research applications
  - The transaction valued Essen at \$320 million (5.33x multiple on ~\$60 million revenue)<sup>(1)</sup>
  - The acquisition accelerated Sartorius' bioanalytics capabilities, a strategy initially deployed with their acquisition of IntelliCyt in June 2016
  - Dr. Joachim Kreuzburg*, commented, "This powerful technology offers important synergies with our IntelliCyt business. Going forward, Sartorius will be able to provide our customers the broadest and, we believe, the most innovative portfolio for cell analysis in the industry."

## Signant Health

### Business Overview

(\$ in millions)

Headquarters:	Plymouth Meeting, PA
Employees (1-Year Growth):	1,567 (▼4%)
Website:	<a href="http://signanthealth.com">signanthealth.com</a>
Ownership Status:	PE-Backed ( <i>Genstar Capital</i> )
Disclosed Acquisitions:	5



### Description:

Provider of clinical research development solutions. The company's offerings include electronic clinical outcomes assessments, randomization and trial supply management, rater training & quality assurance and patient engagement.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Mar-20	 Antares Capital	\$26.7 million (debt)
Jul-18	 OAKTREE OCSL   Specialty Lending Corporation	\$815.0 million (debt)
Oct-17	 Antares Capital	\$17.5 million (debt)
Mar-17	 GENSTAR CAPITAL	\$452.9 million (buyout)
Aug-13	 PARTHENON CAPITAL PARTNERS	n/a (buyout)

Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn

## Growth Initiatives On Multiple Fronts

### » Adjustment In Executive Leadership

- The Company announced a series of leadership appointments in 2019 / 2020:
  - Roger Smith (CEO, July 2020): Previously Senior VP and General Manager of Accelerated Enrollment Solutions (AES) at PPD; Roger will replace former Interim CEO & Chairman John Hubbard, Ph.D.
  - Ian Jennings (CCO, March 2020): Previously an independent consultant for clinical and healthcare technology companies; also served as a Group Vice President of European and APAC Sales at ERT following the acquisition of Exco InTouch, where Ian was CCO until December 2016
  - Paul Drake (Chief Compliance & Security Officer, December 2019): Previously provided interim CISO capabilities to various industries; also served in Information & Security roles at Coca-Cola European Partners, GEANT, IHS Markit, GSK, Whitbread and Cambridgeshire County Council

### » Opening of New Philadelphia Office Space

- In February 2020, Signant Health announced the opening of a facility in Blue Bells, PA built to house 600 employees, representing the third facility investment by the company in the last twelve months
  - The office will be the company's largest and would serve as a technology hub, featuring advanced connectivity and collaboration solutions connecting all other Signant Health locations
  - Mike Nolte, commented, "Moving to our new Blue Bell location marks an important moment for Signant Health. I'm personally very excited as I believe it is a space that allows our teams to more effectively collaborate around innovative ways to support our customers' important work. It reflects our business and cultural aspirations while also bringing together teams that had previously been located in other, space constrained locations in the Philadelphia area."

### » eCOA & Remote Sensor Product Enhancement

- In January 2020, Signant Health announced a new audit trail reviewing and reporting capability for TrialMax, the company's electronic clinical outcome assessment (eCOA) and remote sensor platform
- Other features included standardized KPIs on data updates and dashboards of the platform feature data visualizations to support the identification of key data integrity metrics

## Thermo Fisher Scientific

### Business Overview

(\$ in millions)

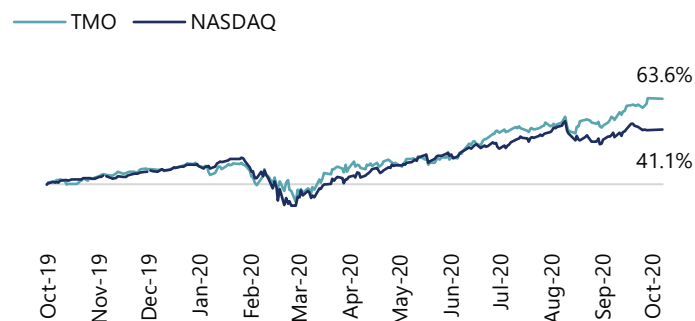
Headquarters:	Waltham, MA
Employees:	~70,000
Website:	<a href="https://thermofisher.com">thermofisher.com</a>
Ownership Status:	Public (NYSE: TMO)
Disclosed Acquisitions:	69
LTM Sept 2020 Revenue:	\$28,497



### Description:

Thermo Fisher develops scientific instruments, services, and software solutions to the life sciences and healthcare community. Thermo Fisher operates under multiple brands, including Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific, and Unity Lab Services.

### TTM October 2020 Market Pricing



Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

(1) "Thermo Fisher-Qiagen deal falls apart after failing to secure shareholder support" (MedTechDive, 8/13/2020)

## Software-Driven Approach Shifting An Instrument Incumbent

### » Transformative Molecular Diagnostics Acquisition Falls Through

- In March 2020, Thermo Fisher announced the acquisition of QIAGEN (NYSE: QGEN), a global provider of molecular diagnostics and sample preparation technologies; however, the deal fell apart in August 2020 and Thermo was required to pay QIAGEN a \$95 million termination fee<sup>(1)</sup>
  - Strategic rationale for the transaction: expands specialty diagnostics portfolio (e.g. infectious disease testing), complementary sample preparation / assay / bioinformatics technologies, cross-sell potential between Thermo / QIAGEN and attractive financial benefits
  - The transaction originally valued QIAGEN at \$11.5 billion, including the assumption of \$1.4 billion of debt (7.67x LTM revenue, 23.8x LTM EBITDA)<sup>(1)</sup>
  - Thermo expected to generate ~\$150 million of cost synergies and ~\$50 million of revenue synergies by year three following the close<sup>(1)</sup>
  - The valuation was disputed by QIAGEN shareholders, particularly hedge fund Davidson Kempner, who argued the stock was worth more
  - Although Thermo offered an additional \$1 billion of consideration in July 2020, the revised offer still did not receive the required threshold for shareholder approval<sup>(1)</sup>

### » Advancing Mass Spectrometry Capabilities

- In June 2019, Thermo Fisher announced the acquisition of Slovakian-based HighChem, a provider of mass spectrometry software used to analyze complex data and identify molecules in pharmaceutical and metabolomics laboratories
  - HighChem's software will be integrated into the chromatography and mass spectrometry division within Thermo Fisher's Analytical Instruments Segment
  - Mitch Kennedy, Division President at Thermo Fisher Scientific*, commented, "Our customers rely on us to provide advanced software solutions that interpret data quickly and accurately to make compound identification simple and understandable. The addition of HighChem's software solutions to our existing mass spectrometry software portfolio will enable us to deliver greater value for our mass spectrometry customers."

# Veeva Systems

## Business Overview

(\$ in millions)

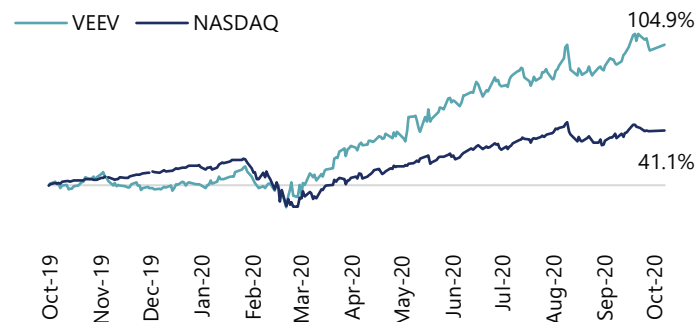
Headquarters:	Pleasanton, CA
Employees (1-Year Growth):	3,936 (▲29%)
Website:	<a href="http://veeva.com">veeva.com</a>
Ownership Status:	Public (NYS: VEEV)
Disclosed Acquisitions:	7
LTM July 2020 Revenue:	\$1,283.2



## Description:

Provider of cloud-based solutions for the global life sciences industry. While the company's core product is a CRM platform, Veeva has expanded its product portfolio to encompass a suite of solutions spanning clinical, regulatory, quality, safety, medical and commercial solutions.

## TTM October 2020 Market Pricing



Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn, market data as of 10/23/2020

(1) Transaction press releases

## Aggressive Moves Against Other Incumbents

### » Veeva Gains Support In Antitrust Lawsuit Against IQVIA

- In February 2020, Veeva announced that the company is gaining significant support from the industry for its antitrust lawsuit against IQVIA
  - Support comes from six global pharmaceuticals and more than 70 industry constituents
  - Notable points of contention against IQVIA include restrictions against utilizing data with Veeva's Nitro commercial data warehouse, and Veeva Andi, an AI-based customer engagement platform
  - Keith Sharfman, professor at St. John's University School of Law, said, "Antitrust law has long protected consumers from platform providers like IQVIA who attempt to extend their market dominance from one product to another by denying their customers access to alternative, better solutions from competing vendors. If successful, Veeva's case against IQVIA will free customers who are currently prevented from using the data and software of their choice."
  - The trial is expected to take place in late 2021

### » Resurgence In M&A And Investment Activity After Four-Year Hiatus

- Veeva announced two acquisitions in late 2019, representing a renewed interest in M&A four years after Veeva's 2015 acquisition of Zinc Ahead, a commercial content compliance technology provider
  - Physicians World (November 2019): Provider of speaker bureau services to execute live and virtual events for healthcare professionals; Physicians World's services will complement Veeva's CRM Events Management, providing an end-to-end offering for event planning and compliance
  - Crossix (September 2019): Provider of privacy-safe U.S. patient data and analytics for pharma marketers; Veeva acquired the company for \$550 million including \$120 million in long-term equity retention grants to employees; Crossix data includes Rx, OTC, clinical, claims, consumer, hospital and media data<sup>(1)</sup>
- In July 2020, Veeva made a minority investment in Conexus Solutions, a provider a commercial operations, marketing and data science solutions
  - Conexus has performed more than 30 Veeva implementations spanning Veeva CRM, Veeva CRM Engage Meeting and Veeva Vault PromoMats
  - Concurrent with the investment, Conexus launched its cloud services business unit



## WCG

### Business Overview

(\$ in millions)

Headquarters:	Princeton, NJ
Employees:	~2,000
Website:	<a href="http://wgcclinical.com">wgcclinical.com</a>
Ownership Status:	PE-Backed ( <i>Leonard Green, Arsenal</i> )
Disclosed Acquisitions:	26



### Description:

Provider of regulatory and ethical review services for human research. The company also offers complementary software products with capabilities spanning patient consent, electronic data management and clinical outcome assessment.

### Select Funding / Transaction History

Date	Lead Investor	Amount
Nov-19	<b>LGP</b>   LEONARD GREEN & PARTNERS	\$3.2 billion (buyout)
Apr-18	 Churchill Asset Management	\$135.0 million (debt)
Apr-17	 Churchill Asset Management	\$115.5 million (debt)
Aug-16	 ARSENAL CAPITAL PARTNERS	n/a
Jan-13	<b>maranon</b>	\$1.4 billion (debt)

Sources: Pitchbook, Capital IQ, corporate websites, press releases, LinkedIn

(1) "Leonard Green to invest in U.S. clinical trial services firm WCG" (Reuters, 11/14/2019)

## Leonard Green PE Enters The Life Sciences Technology Landscape

### » Recapitalization In Review

- In November 2019, Leonard Green & Partners (LGP), a Los Angeles-based private equity firm with \$23.0 billion in AUM, led the recapitalization of WCG; Arsenal Capital retains minority ownership
  - The transaction valued the company at \$3.2 billion, with an implied EV / EBITDA multiple of 18.1x (\$175.0 million EBITDA)<sup>(1)</sup>
  - Partner of LGP, Peter Zippelius*, commented, "We are thrilled to have the opportunity to help support WCG in its mission to accelerate the scientific advancement of human health. WCG fits squarely within LGP's investment strategy of partnering with world-class management teams to support market-leading growth companies. WCG has not only achieved tremendous cash flow growth over the years, but has dramatically improved the efficiency of the clinical trial process for patients, sponsors, and sites."

### » Acquisition Broadens Specialized Services Offered To Clinical Trial Sponsors

- In January 2020, WCG announced the acquisition of Statistical Collaborative, a biostatistical consultancy with specialized services targeting pharmaceutical and biologics clinical trials
  - Statistical Collaborative primarily provides services to late-stage clinical trials, where it supplements trial design, Data Monitoring Committee reporting, analysis, and consultation for FDA presentations
  - Donald A. Deieso, PhD, WCG Executive Chairman & CEO*, commented: "We quickly recognized Statistics Collaborative as a company with a similar work ethic, employee culture, and industry goals. Statistics Collaborative's exceptional reputation as a leader in biostatistical analysis and consulting for pharmaceutical and biotechnology companies made it a treasured partner to welcome into WCG."

### » Endpoint Adjudication Enhancement

- In December 2019, WCG announced the latest release of its AIMS® (Adjudication Information Management System) platform, providing enhanced workflows for endpoint adjudication



### III. Appendix

#### Market Comparables

# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview				Deal		Deal Value / Estimated Revenue	EBITDA
Anju Software	Announced	Target	Description	Revenue	EBITDA	Value				
ArisGlobal	Total Disclosed M&A Deal Value: n/a									
Bioclinica	May-20	IRB Company	IRB services	n/a	n/a	n/a	n/a	n/a		
Bruker	Sep-19	Forte Research Systems	Clinical research management software	n/a	n/a	n/a	n/a	n/a		
	Mar-19	Quorum Review IRB	IRB services & Kinetiq tech consulting division	n/a	n/a	n/a	n/a	n/a		
	Nov-17	Chesapeake IRB	IRB services (merged with Schulman)	n/a	n/a	n/a	n/a	n/a		
Certara	Nov-17	Schulman Associates IRB	IRB services (merged with Chesapeake)	n/a	n/a	n/a	n/a	n/a		
Dassault / Medidata	Total Disclosed M&A Deal Value: \$80.0 Million									
Envision Pharma	Sep-19	OmniComm	eClinical software and services	\$25.6	\$2.0	\$80.0	3.13x	n/m		
ERT	Oct-18	Zephyr Health	Commercial and medical affairs intelligence	Confid.	Confid.	Confid.	Confid.	Confid.		
	Jun-18	MDCPartners	Clinical optimization and KOL intelligence	Confid.	Confid.	Confid.	Confid.	Confid.		
Eversana	Mar-18	Sylogent	Publication planning and clinical disclosure	Confid.	Confid.	Confid.	Confid.	Confid.		
	Jul-17	ClinPlus	eClinical solutions including CTMS and EDC	Confid.	Confid.	Confid.	Confid.	Confid.		
	Apr-17	OpenQ	Key opinion leader (KOL) management	Confid.	Confid.	Confid.	Confid.	Confid.		
Insightful Science	Jun-16	Online Business Applications	Medical information management software	Confid.	Confid.	Confid.	Confid.	Confid.		
Instem	Total Disclosed M&A Deal Value: n/a									
IntegriChain	Jun-15	Medsight Solutions	Risk-assessment, reporting and compliance	n/a	n/a	n/a	n/a	n/a		
IQVIA	Total Disclosed M&A Deal Value: \$38.0 Million									
Model N	Nov-17	MDDX Research & Informatics	Medical research image management	n/a	n/a	n/a	n/a	n/a		
	Jul-16	Compass Research	Clinical research services	n/a	n/a	n/a	n/a	n/a		
Oracle	Jan-16	Clinverse	Online platform for clinical payments	n/a	n/a	n/a	n/a	n/a		
	Sep-15	Synowledge	Drug safety and regulatory affairs	n/a	n/a	n/a	n/a	n/a		
PRA Health Sciences	Jul-15	MediciGlobal	Patient recruitment and retention services	n/a	n/a	n/a	n/a	n/a		
	Jun-14	Blueprint Clinical	Risk based monitoring technology	n/a	n/a	n/a	n/a	n/a		
	Mar-14	SYNARC	Medical image analysis	n/a	n/a	n/a	n/a	n/a		
Sartorius	Mar-13	CoreLab Partners	Cardiac safety monitoring and imaging	n/a	n/a	n/a	n/a	n/a		
	Mar-10	TranSenda International	Clinical management software	\$1.0	(\$0.5)	\$2.5	2.50x	n/m		
Signant Health	Sep-09	Tourtellotte Solutions	Interactive voice response technology	\$5.0	n/a	\$6.6	1.32x	n/a		
	Sep-09	CardioNow	Medical image transmission	n/a	n/a	\$1.0	n/a	n/a		
Thermo Fisher Scientific	Mar-08	Phoenix Data Systems	Electronic data capture	\$12.1	\$1.4	\$24.0	1.98x	17.1x		
	Feb-07	Theralys	Imaging CRO services	n/a	n/a	\$3.9	n/a	n/a		
	Dec-04	Heart Core	Quantitative image analysis services	n/a	n/a	n/a	n/a	n/a		
Veeva	May-99	Bona Fide	Quality assurance and quality control	n/a	n/a	n/a	n/a	n/a		
WCG	Total Disclosed M&A Deal Value: \$1.7 Billion									
Other	Sep-20	Integrated Proteomics	Search engine and proteomics workflow	n/a	n/a	n/a	n/a	n/a		
	Sep-20	Canopy Biosciences	Biomarker imaging and gene editing	n/a	n/a	n/a	n/a	n/a		
	Oct-19	Magenetech	Electronic measuring instruments	n/a	n/a	\$9.5	n/a	n/a		
	Jul-19	PMOD Technologies LLC	Research-use-only medical imaging	n/a	n/a	\$10.0	n/a	n/a		

Sources: Capital IQ, Public Filings, Press Releases, PitchBook, proprietary Madison Park Group research based on publicly available information  
Note: All EBITDA Multiples >30x are considered not to be meaningful as valuation of business clearly influenced by factors other than profitability

# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

	(\$ in Millions)		Target Overview		Estimated		Deal		Deal Value / Estimated
	Announced	Target	Description	Revenue	EBITDA	Revenue	EBITDA	Revenue	EBITDA
Advarra									
Anju Software									
ArisGlobal									
Bioclinica									
Brucker									
Certara									
Dassault / Medidata									
Envision Pharma									
ERT									
Eversana									
Insightful Science									
Instem									
IntegriChain									
IQVIA									
Model N									
Oracle									
PRA Health Sciences									
Sartorius									
Signant Health									
Thermo Fisher Scientific									
Veeva									
WCG									
Other									

Sources: Capital IQ, Public Filings, Press Releases, PitchBook, proprietary Madison Park Group research based on publicly available information  
Note: All EBITDA Multiples >30x are considered not to be meaningful as valuation of business clearly influenced by factors other than profitability

# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview					
Anju Software	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA	
ArisGlobal	CertaraTotal Disclosed M&A Deal Value: \$89.0 Million							
Bioclinica	Sep-18	Pirana	Pharmacometrics modeling workbench	n/a	n/a	n/a	n/a	n/a
	Apr-18	Analytica Laser	Tech-enabled drug value assessment	n/a	n/a	n/a	n/a	n/a
	Feb-18	BaseCase	Data visualization software	n/a	n/a	n/a	n/a	n/a
Bruker	Sep-16	d3 Medicine	Drug development program planning	n/a	n/a	n/a	n/a	n/a
Certara	Dec-15	Xenologiq	Quantitative systems consulting	n/a	n/a	n/a	n/a	n/a
	Mar-17	GlobalSubmit (Synchrogenix)	Regulatory submissions software	n/a	n/a	n/a	n/a	n/a
Dassault / Medidata	Dec-14	ClinGenuity (Synchrogenix)	AI-powered clinical trial reporting	n/a	n/a	n/a	n/a	n/a
	Apr-14	Synchrogenix	Strategic regulatory services	n/a	n/a	n/a	n/a	n/a
Envision Pharma	Aug-13	Great Lakes Drug Develop.	Support services for drug development	n/a	n/a	n/a	n/a	n/a
ERT	Feb-12	Simcyp	Drug modeling and simulation platform	n/a	n/a	\$32.0	n/a	n/a
	Nov-08	Pharsight	Drug development software and services	\$28.8	\$1.9	\$57.0	1.98x	n/m
Eversana	Dassault / MedidataTotal Disclosed M&A Deal Value: \$11.5 Billion							
Insightful Science	Jul-20	Proxem	AI-based semantic processing software	n/a	n/a	n/a	n/a	n/a
	Jun-19	Medidata	eClinical solutions	\$661.0	\$85.4	\$5,763.8	8.72x	n/m
	Feb-19	Elecwork Assets of Trace Software	Electrical design, product line & IP assets	n/a	n/a	n/a	n/a	n/a
Instem	Jan-19	IQMS	Manufacturing ERP software & SaaS	\$56.0	n/a	\$425.0	7.59x	n/a
	Dec-19	COSMOlogic	Fluid phase computational chemistry software	n/a	n/a	n/a	n/a	n/a
IntegriChain	Jul-18	Centric Software	PLM software for operations management	n/a	n/a	\$228.1	n/a	n/a
	Jun-18	No Magic	BPM software & SaaS	n/a	n/a	n/a	n/a	n/a
IQVIA	Jun-18	SHYFT Analytics (Medidata)	Commercial and clinical analytics solutions	\$20.0	n/a	\$195.0	9.75x	n/a
	Nov-17	Exa Corporation	Simulation & engineering software & SaaS	\$73.0	\$1.5	\$400.0	5.48x	n/m
Model N	Jun-17	Outscale	Provider of IaaS	n/a	n/a	n/a	n/a	n/a
	Jun-17	AITAC	Marine and offshore engineering software	n/a	n/a	n/a	n/a	n/a
Oracle	Apr-17	Mytrus (Medidata)	Patient consent solutions	n/a	n/a	n/a	n/a	n/a
	Feb-17	Chita (Medidata)	Content management and collaboration	n/a	n/a	\$14.7	n/a	n/a
PRA Health Sciences	Dec-16	Next Limit Dynamics	Graphics simulation software asset	n/a	n/a	n/a	n/a	n/a
	Jul-16	CST	Electromagnetic field simulation software	\$47.0	n/a	\$243.7	5.18x	n/a
Sartorius	Jun-16	Ortems	Manufacturing planning software & SaaS	n/a	n/a	n/a	n/a	n/a
	Apr-16	Intelemage (Medidata)	Clinical trial image file sharing	n/a	n/a	\$17.1	n/a	n/a
Signant Health	Apr-16	3DPLM Software Solutions	Software development & implementation	n/a	n/a	n/a	n/a	n/a
	Apr-15	Modelon	German engineering CAD & simulation	n/a	n/a	n/a	n/a	n/a
Thermo Fisher Scientific	Oct-14	Patient Profiles (Medidata)	Patient report software	n/a	n/a	n/a	n/a	n/a
	Jul-14	Quitiq	Supply planning & optimization software	\$96.0	n/a	\$337.0	3.51x	n/a
Veeva	Jul-14	SIMPACK	Multi-body simulation software provide	n/a	n/a	n/a	n/a	n/a
	Jan-14	Accelrys	Scientific PLM software	\$166.0	n/a	\$750.0	4.52x	n/a
WCG	Jan-14	Real time Technology	3D visualization technology	n/a	n/a	\$245.4	n/a	n/a
	Oct-13	Inceptra	Horizontal PLM software	n/a	n/a	n/a	n/a	n/a
Other	Sep-13	Safety Technology	Supplier of safety training and equipment	n/a	n/a	\$1.0	n/a	n/a

Sources: Capital IQ, Public Filings, Press Releases, PitchBook, proprietary Madison Park Group research based on publicly available information  
Note: All EBITDA Multiples >30x are considered not to be meaningful as valuation of business clearly influenced by factors other than profitability

# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

	(\$ in Millions)		Target Overview			Deal Value / Estimated		
	Announced	Target	Description	Revenue	EBITDA	Value	Revenue	EBITDA
Advarra	Dassault / Medidata		Total Disclosed M&A Deal Value: \$11.5 Billion					
Anju Software	Jul-13	SFE	CAE-driven development software	n/a	n/a	n/a	n/a	n/a
ArisGlobal	Jul-13	Apriso	Manufacturing execution system	n/a	n/a	\$205.0	n/a	n/a
Bioclinica	Apr-13	Archividéo	Production of 3D images for construction	\$1.3	n/a	n/a	n/a	n/a
Bruker	Apr-13	Fe-Design	Simulation and automation software	n/a	n/a	n/a	n/a	n/a
Certara	Apr-13	Simpoe	Plastic injection-molding simulation software	n/a	n/a	n/a	n/a	n/a
Dassault / Medidata	Jan-13	SquareClock	Provides 3D space planning solutions	\$2.7	n/a	n/a	n/a	n/a
	Dec-12	Tuscany Design Automation	Engineering software for circuit design	n/a	n/a	n/a	n/a	n/a
Envision Pharma	Jul-12	Dassault Systèmes GEOVIA	Supplier of mining productivity solutions	n/a	n/a	\$354.9	n/a	n/a
	Feb-12	Netvibes	Personalized dashboard publishing platform	\$2.8	(\$2.5)	n/a	n/a	n/a
ERT	Oct-11	Elsys International	Collaborative management software	\$0.7	(\$0.2)	n/a	n/a	n/a
	Oct-11	Simulayt	Draping simulation technology services	\$1.1	\$3.0	n/a	n/a	n/a
Eversana	Jun-11	Clinical Force (Medidata)	SaaS-based CTMS	n/a	n/a	\$7.8	n/a	n/a
Insightful Science	Apr-11	Engenuity PLM	R&D software for chemical companies	n/a	n/a	n/a	n/a	n/a
	Mar-11	Intercim	Provider of operations management software	n/a	n/a	\$36.5	n/a	n/a
Instem	Jun-10	Geensoft	Design tools and services for software	n/a	n/a	\$6.7	n/a	n/a
	Jun-10	Exalead	Unified search technology platform	n/a	n/a	\$164.9	n/a	n/a
IntegrChain	Apr-10	IBM (PLM Sales & Support Operations)	Support services for PLM software	n/a	n/a	\$600.0	n/a	n/a
	Jul-08	Engineous Software	Process integration and design optimization	n/a	n/a	\$40.0	n/a	n/a
IQVIA	Mar-08	Fast Track Systems (Medidata)	Clinical trial document solutions	n/a	n/a	\$18.1	n/a	n/a
	Jan-08	Deneb Robotics	Digital manufacturing software	n/a	n/a	\$105.0	n/a	n/a
Model N	Sep-07	Seemage	Software for 3D CAD models	\$2.6	(\$2.4)	n/a	n/a	n/a
	Jun-07	ICEM	Modeling, analysis, and design software	n/a	n/a	\$108.2	n/a	n/a
Oracle	May-06	MatrixOne	Collaborative PLM software	\$135.5	(\$11.3)	\$410.0	3.03x	n/m
	Oct-05	Dassault Systèmes Simulia	Software for advanced finite element analysis	n/a	n/a	\$413.0	n/a	n/a
PRA Health Sciences	Jul-05	Virtools	Real-time 3D and multi-user applications	\$3.9	(\$1.2)	\$14.5	3.72x	n/m
	Jan-05	Transcat PLM	PLM software	n/a	n/a	n/a	n/a	n/a
Sartorius	Jul-04	Inceptra	PLM software	n/a	n/a	n/a	n/a	n/a
	May-03	Athys	Workcell control software	n/a	n/a	\$3.8	n/a	n/a
Signant Health	Apr-02	Ortems	Supply-chain advanced planning software	n/a	n/a	\$8.9	n/a	n/a
	Nov-00	Spatial (3D Modeling)	3D modeling for application development	n/a	n/a	n/a	n/a	n/a
Thermo Fisher Scientific	Jan-00	Structural Research & Analysis	Analysis for computer aided design (CAD)	n/a	n/a	\$22.0	n/a	n/a
	Jul-97	Solidworks	Mechanical design software for Windows	n/a	n/a	\$325.0	n/a	n/a
Veeva	Envision Pharma		Total Disclosed M&A Deal Value: n/a					
WCG	Apr-20	90ten	Healthcare communication consultancy	n/a	n/a	n/a	n/a	n/a
	Nov-17	EndPoint Technologies	Medical affairs specialty consulting	n/a	n/a	n/a	n/a	n/a
Other	Jan-17	Curo Consulting	Pharma market access consultancy	n/a	n/a	n/a	n/a	n/a
	Sep-15	Alligent Biopharm Consulting	Medical affair agency services	n/a	n/a	n/a	n/a	n/a
	Jan-14	ProScribe	Medical writing services	n/a	n/a	n/a	n/a	n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview					
Anju Software	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA	
ArisGlobal	ERT							
	Total Disclosed M&A Deal Value: \$321.3 Million							
Bioclinica	Jun-20	APDM Wearable Technologies	Movement monitoring technologies	n/a	n/a	\$6.3	n/a	n/a
	Dec-17	iCardiac	Cardiac safety solutions	\$20.5	n/a	n/a	n/a	n/a
Bruker	Sep-17	Biomedical Systems	Imaging solutions	n/a	n/a	\$185.0	n/a	n/a
	May-17	ImagelQ	Cloud-based imaging technology	n/a	n/a	n/a	n/a	n/a
Certara	Dec-16	Exco inTouch	Patient engagement and data capture	\$17.7	(\$1.6)	n/a	n/a	n/a
	May-15	PHT	Electronic patient reported outcomes	n/a	n/a	n/a	n/a	n/a
Dassault / Medidata	Nov-14	eClinical Insights	Clinical trials management software	n/a	n/a	n/a	n/a	n/a
	Jul-12	Inivodata	Electronic patient reported outcomes	n/a	n/a	n/a	n/a	n/a
Envision Pharma	Jun-10	CareFusion (Assets)	Research services division	n/a	n/a	\$80.8	n/a	n/a
	Nov-07	Covance Cardiac Safety Serv.	Cardiac safety services	n/a	n/a	\$49.2	n/a	n/a
ERT	Eversana							
	Total Disclosed M&A Deal Value: n/a							
Eversana	Jul-20	HVH Precision Analytics	AI-based predictive analytics platform	n/a	n/a	n/a	n/a	n/a
	Nov-19	Cornerstone Research Group	Health economics and market research	n/a	n/a	n/a	n/a	n/a
Insightful Science	May-19	Alamo Pharma Services	Sales, marketing and clinical services	\$144.0	n/a	n/a	n/a	n/a
	May-19	BexR Logistix	Logistical support and management services	n/a	n/a	n/a	n/a	n/a
Instem	Oct-18	Seeker Health	Patient identification technology platform	n/a	n/a	n/a	n/a	n/a
	Oct-18	Dohmen Life Science Services	Medical communication services	n/a	n/a	n/a	n/a	n/a
IntegriChain	Oct-18	The Access Group	Communications and consulting	n/a	n/a	n/a	n/a	n/a
	May-18	The Patient Experience Project	Patient-centric communication services	\$16.9	n/a	n/a	n/a	n/a
IQVIA	May-18	Triplefin	Reimbursement and patient assistance	n/a	n/a	n/a	n/a	n/a
	Dec-17	Alliance Life Sciences	Pricing software and services	n/a	n/a	n/a	n/a	n/a
Model N	Dec-17	Health Strategies Group	Market research solutions	n/a	n/a	n/a	n/a	n/a
Oracle	Insightful Science							
	Total Disclosed M&A Deal Value: n/a							
PRA Health Sciences	Jun-20	Statsols	Provider a nQuery sample size software	\$1.6	n/a	n/a	n/a	n/a
	May-20	Cytapex Bioinformatics	Bioinformatics CRO	n/a	n/a	n/a	n/a	n/a
Sartorius	Aug-19	SnapGene	Bioinformatics technology	n/a	n/a	n/a	n/a	n/a
	Apr-19	Biomatters	Geneious DNA data analysis solutions	n/a	n/a	n/a	n/a	n/a
Signant Health	Nov-17	GraphPad	Data analysis, statistics and graphing software	n/a	n/a	n/a	n/a	n/a
	Instem							
	Total Disclosed M&A Deal Value: \$21.9 Million							
Thermo Fisher Scientific	Nov-19	Leadscope	Advanced informatics and prediction	\$1.9	\$0.4	\$3.4	1.76x	8.4x
	Sep-16	Notocord	New drug development data analysis	\$2.4	\$0.5	\$4.9	2.04x	9.2x
Veeva	May-16	Samarind RMS	Regulatory information management	\$1.2	n/a	\$3.3	2.73x	n/a
	Nov-13	Perceptive Instruments	Image analysis for toxicology assays	\$1.1	\$0.4	\$1.8	1.57x	4.6x
WCG	May-13	Logos Technologies	Electronic data capture software	\$1.9	\$0.4	\$6.7	3.53x	16.8x
	May-11	Biowisdom	Healthcare intelligence solutions	\$1.8	\$0.4	\$1.9	1.06x	5.3x
Other								

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview					
Anju Software	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue	EBITDA
ArisGlobal	IntegriChain					Total Disclosed M&A Deal Value: n/a		
Bioclinica	May-20	Cumberland	Revenue management services	n/a	n/a	n/a	n/a	n/a
Bruker	Mar-19	daVIZta	G2N automation and government pricing	n/a	n/a	n/a	n/a	n/a
	Feb-18	Medical Communication Tech.	Government pricing and contracting solutions	n/a	n/a	n/a	n/a	n/a
Certara	Apr-17	PharmaMetrics	Contract operations outsourcing solutions	n/a	n/a	n/a	n/a	n/a
	IQVIA					Total Disclosed M&A Deal Value: \$10.1 Billion		
Dassault / Medidata	Sep-19	GCE Solutions	Bio-metrics clinical research organization	n/a	n/a	\$200.0	n/a	n/a
Envision Pharma	Aug-19	CoreZetta	Healthcare technology provider	n/a	n/a	n/a	n/a	n/a
	Aug-19	Jäger Health Group	OTC healthcare marketing agency	n/a	n/a	n/a	n/a	n/a
ERT	Aug-19	Aposphäre	Educational training for pharmacists	n/a	n/a	n/a	n/a	n/a
	Feb-19	Linguamatics	NLP solutions for patient insights	n/a	n/a	n/a	n/a	n/a
Eversana	Nov-18	ValueCentric	BI for pharma manufacturers	n/a	n/a	n/a	n/a	n/a
	Jul-18	Acuta	Regulatory information management	n/a	n/a	n/a	n/a	n/a
Insightful Science	May-18	Statfinn	Clinical trial data management services	n/a	n/a	n/a	n/a	n/a
	May-18	Advanced Health Media	HCP engagement software	n/a	n/a	\$127.5	n/a	n/a
Instem	Apr-18	159 Solutions	Commercial analytics	n/a	n/a	\$13.0	n/a	n/a
	Mar-18	Optimum Contact	Audit compliance SaaS system	n/a	n/a	n/a	n/a	n/a
IntegriChain	Nov-17	Chemical Information Serv.	Chemical & pharmaceutical marketplace	n/a	n/a	n/a	n/a	n/a
	Oct-17	Pilgrim Quality Solutions	Quality & compliance management	n/a	n/a	n/a	n/a	n/a
IQVIA	Oct-17	HighPoint Solutions	Life sciences IT systems integration	n/a	n/a	n/a	n/a	n/a
	Jul-17	DrugDev	Clinical site data sharing platform	n/a	n/a	n/a	+5.00x	n/a
Model N	Jul-17	Cote Orphan	Orphan drug regulatory services	n/a	n/a	n/a	n/a	n/a
	May-17	Polaris Management	Spend compliance software and consulting	Confid.	Confid.	Confid.	Confid.	Confid.
Oracle	Apr-17	Themis Analytics	Pharma data management	n/a	n/a	n/a	n/a	n/a
	Mar-17	Wingspan	eTMF software	n/a	n/a	n/a	n/a	n/a
PRA Health Sciences	Feb-17	STI Technologies	Patient support program technology	n/a	n/a	\$200.0	n/a	n/a
	Dec-16	TKL Research	Clinical research services	n/a	n/a	n/a	n/a	n/a
Sartorius	Nov-16	Kadridge	eDetailing & multi-channel promotions	n/a	n/a	n/a	n/a	n/a
	May-16	Quintiles	Clinical data management & trial services	\$5,737.6	\$774.4	\$8,900.0	1.55x	11.5x
Signant Health	Sep-16	Healthcost	Healthcare costing consulting	n/a	n/a	n/a	n/a	n/a
	May-16	Privacy Analytics	Health data anonymization software	n/a	n/a	n/a	n/a	n/a
Thermo Fisher Scientific	Feb-16	Dimensions Healthcare	Healthcare informatics & consulting	n/a	n/a	n/a	n/a	n/a
	Feb-16	AlphaImpactRx	Primary biopharma research & analysis	n/a	n/a	n/a	n/a	n/a
Veeva	Dec-15	lasist	Clinical & economic information	n/a	n/a	n/a	n/a	n/a
	Sep-15	R-Squared	Spend management & compliance	Confid.	Confid.	Confid.	Confid.	Confid.
WCG	Aug-15	Boston Biomedical	In Vitro Diagnostics consulting	n/a	n/a	n/a	n/a	n/a
	Aug-15	MediMedia Health Solutions	Multi-channel marketing services	n/a	n/a	n/a	n/a	n/a
Other	Jul-15	Healthcare Data Solutions	Healthcare data services	n/a	n/a	n/a	n/a	n/a
	Jul-15	Effektor	SQL software	n/a	n/a	n/a	n/a	n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview					
Anju Software	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA	
ArisGlobal	Total Disclosed M&A Deal Value: \$10.1 Billion							
Bioclinica	Jul-15	Effektor	SQL software	n/a	n/a	n/a	n/a	n/a
	Jul-15	Rehfeld Partners	Data maintenance software	n/a	n/a	n/a	n/a	n/a
	Jun-15	VIS Research	Online feasibility platform	n/a	n/a	n/a	n/a	n/a
Bruker	Jun-15	Mercurial	Sales & marketing consulting	n/a	n/a	n/a	n/a	n/a
Certara	May-15	Dataline Software	Big data healthcare analytics	n/a	n/a	n/a	n/a	n/a
	Apr-15	Cegedim (Assets)	Customer relationship management	\$465.0	\$72.0	\$415.5	0.89x	5.8x
Dassault / Medidata	Aug-14	GCMS	Multi-channel marketing services	n/a	n/a	n/a	n/a	n/a
	Jul-14	Aileron Solutions	Healthcare data analytics	n/a	n/a	n/a	n/a	n/a
Envision Pharma	May-14	Forcea	Hospital business intelligence	n/a	n/a	n/a	n/a	n/a
	Apr-14	Semantelli	Healthcare social media analytics	n/a	n/a	n/a	n/a	n/a
ERT	Dec-13	Pygargus	Pharma market research consulting	n/a	n/a	n/a	n/a	n/a
	Dec-13	HGS Europe	Pharma market access services	n/a	n/a	n/a	n/a	n/a
Eversana	Dec-13	The Amundsen Group	Pharma strategic consulting	n/a	n/a	n/a	n/a	n/a
	Oct-13	HCM BIOS	Pharma business intelligence	n/a	n/a	n/a	n/a	n/a
Insightful Science	Sep-13	BroadReach Healthcare	Pharma / biotech program management	n/a	n/a	n/a	n/a	n/a
	Sep-13	Diversinet	Mobile care coordination platform	n/a	n/a	n/a	n/a	n/a
Instem	Jun-13	Incential Software	Medical sales performance management	n/a	n/a	n/a	n/a	n/a
	May-13	360 Vantage	Life sciences sales & marketing technology	n/a	n/a	n/a	n/a	n/a
IntegriChain	Mar-13	Appature	Enterprise healthcare marketing technology	n/a	n/a	n/a	n/a	n/a
	Jan-13	Nielsen (Consumer Health Assets)	European consumer health services	n/a	n/a	n/a	n/a	n/a
IQVIA	Dec-12	Vedere Group	Sales & marketing performance tools	n/a	n/a	n/a	n/a	n/a
	Nov-12	Pharmexpert Group	Pharma market intelligence	n/a	n/a	n/a	n/a	n/a
Model N	Aug-12	Life Science Partners	Healthcare / biotech services	n/a	n/a	n/a	n/a	n/a
	Aug-12	TTC	Clinical grant database & benchmarking	n/a	n/a	n/a	n/a	n/a
Oracle	Aug-12	Pharmadeals	Pharma / biotech industry research	n/a	n/a	n/a	n/a	n/a
	Apr-12	DecisionView	Clinical optimization solutions	n/a	n/a	n/a	n/a	n/a
PRA Health Sciences	Jan-12	PharmARC Analytics	Life sciences commercial analytics	n/a	n/a	n/a	n/a	n/a
	Jan-12	Marina Consulting	Pharma / biotech consulting services	n/a	n/a	n/a	n/a	n/a
Sartorius	Jan-12	Pharmadata	Pharma data solutions	n/a	n/a	n/a	n/a	n/a
	Jan-12	SLD	Pharma market data	n/a	n/a	n/a	n/a	n/a
Signant Health	Oct-11	SDI Health	Healthcare data & market research	n/a	n/a	n/a	n/a	n/a
	Aug-11	Ardentia	Healthcare data management platform	n/a	n/a	n/a	n/a	n/a
Thermo Fisher Scientific	Jun-11	Med-Vantage	Consumer health transparency analytics	n/a	n/a	n/a	n/a	n/a
	Jul-10	Brogan	Healthcare IT research & consulting	n/a	n/a	n/a	n/a	n/a
Veeva	Jun-10	ORG	Proprietary healthcare research apps	n/a	n/a	n/a	n/a	n/a
	Oct-08	Skura (Assets)	Life sciences services & consulting	n/a	n/a	n/a	n/a	n/a
WCG	Apr-08	Health Benchmarks	Healthcare data research services	n/a	n/a	n/a	n/a	n/a
	Mar-08	Robinson & James Research	Medical research center	n/a	n/a	n/a	n/a	n/a
Other	Jan-08	RMBC Pharma	Pharma market intelligence	n/a	n/a	\$7.8	n/a	n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

### MADISON PARK GROUP

#### Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview					
Anju Software	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA	
ArisGlobal	IQVIA Total Disclosed M&A Deal Value: \$10.1 Billion							
Bioclinica	Dec-07	Aremis Consultants	Health economic consulting services	n/a	n/a	n/a	n/a	n/a
	Nov-07	MIHS Holdings	Healthcare analytics holding company	n/a	n/a	\$80.0	n/a	n/a
Bruker	Mar-07	ValueMedics Research	Life sciences research & communications	n/a	n/a	n/a	n/a	n/a
	Jan-07	Brynlake	Data research & consulting services	n/a	n/a	n/a	n/a	n/a
Certara	Jan-07	Datasurf	Japanese healthcare services	n/a	n/a	n/a	n/a	n/a
	Jan-07	GCE Servicos	Healthcare device manufacturer	n/a	n/a	n/a	n/a	n/a
Dassault / Medidata	Jan-07	Merg Forschungsgruppe	Medical research services	n/a	n/a	n/a	n/a	n/a
	Dec-06	Strategic Decisions Group	Life sciences strategic consulting	n/a	n/a	n/a	n/a	n/a
Envision Pharma	Aug-05	PharMetrics	Pharma market & managed care insights	n/a	n/a	n/a	n/a	n/a
	Dec-03	ORG IMS Research	Healthcare research services	n/a	n/a	n/a	n/a	n/a
ERT	Jun-03	AzyX Geopharma	Europeans pharma marketing information	n/a	n/a	\$18.1	n/a	n/a
	Jun-98	Walsh International	Pharma information management system	n/a	n/a	\$177.0	n/a	n/a
Eversana	Jan-73	Cambridge Computer	Drug distribution data	n/a	n/a	n/a	n/a	n/a
Insightful Science	Model N Total Disclosed M&A Deal Value: \$75.6 Million							
	Jan-17	Revitas	Revenue and compliance management	\$30.0	n/a	\$60.0	2.00x	n/a
Instem	Oct-15	Channelinsight	Channel sales CRM	n/a	n/a	\$12.6	n/a	n/a
	Feb-12	LeapFrogRx	Marketing analytics and BI	n/a	n/a	\$3.0	n/a	n/a
IntegriChain	Mar-06	Azerity	Pricing and quoting software	n/a	n/a	n/a	n/a	n/a
IQVIA	Oracle Total Disclosed M&A Deal Value: \$61.2 Billion							
Model N	Apr-20	Sauce Video	Provider of video content creation solutions	n/a	n/a	n/a	n/a	n/a
	May-20	LiveData Utilities	Real time data solution provider to utility	n/a	n/a	n/a	n/a	n/a
Oracle	Nov-19	CrowdTwist	Cloud based customer loyalty platform	n/a	n/a	n/a	n/a	n/a
	Jul-19	Sonantic	Speech driven communication software	n/a	n/a	n/a	n/a	n/a
PRA Health Sciences	Jun-19	Oxygen Systems (Brazil)	Provider of localization solutions in Brazil	n/a	n/a	n/a	n/a	n/a
	Dec-18	goBalto	Clinical feasibility solutions	n/a	n/a	n/a	n/a	n/a
Sartorius	Nov-18	Talari Networks	Wide area network technology	n/a	n/a	n/a	n/a	n/a
	Nov-18	DataFox	Company research platform	n/a	n/a	n/a	n/a	n/a
Signant Health	Oct-18	Iridize	Customer training and on-boarding	n/a	n/a	n/a	n/a	n/a
	Jun-18	Datascience.com	Data science platform	n/a	n/a	n/a	n/a	n/a
Thermo Fisher Scientific	May-18	Grapeshot	Content placement optimization	\$30.6	\$4.2	\$400.0	13.07x	n/m
	Apr-18	Vocado	Financial aid management platform	n/a	n/a	\$139.0	n/a	n/a
Veeva	Apr-18	Sparkline Data	Provider of data warehouse platform	n/a	n/a	n/a	n/a	n/a
	Dec-17	Aconex	Construction document management	\$122.3	\$5.7	\$1,198.7	9.80x	n/m
WCG	Apr-17	Moat	Marketing analytics platform	n/a	n/a	\$850.0	n/a	n/a
	Apr-17	Wercker	Code deployment platform	n/a	n/a	n/a	n/a	n/a
Other	Apr-17	Webtrends (Infinity)	Big data analytics	n/a	n/a	n/a	n/a	n/a
	Jan-17	apiary	API documentation development	n/a	n/a	n/a	n/a	n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

	(\$ in Millions)		Target Overview					
	Announced	Target	Description	Estimated Revenue	Estimated EBITDA	Deal Value	Deal Value / Estimated Revenue	Deal Value / Estimated EBITDA
Advarra	Oracle		Total Disclosed M&A Deal Value: \$61.2 Billion					
Anju Software	Nov-16	Dyn	Internet performance management	\$100.0	n/a	\$650.0	6.50x	n/a
ArisGlobal	Nov-16	NetSuite	ERP solutions for SMB	\$897.5	(\$55.6)	\$8,838.9	9.85x	n/m
Bioclinica	Sep-16	Palerra	Cloud security automation	n/a	n/a	n/a	n/a	n/a
Bruker	Sep-16	LogFire	Warehousing & in-store inventory platform	n/a	n/a	\$36.0	n/a	n/a
Certara	May-16	Opower	Utilities customer engagement	\$152.0	(\$32.8)	\$471.2	3.10x	n/m
Dassault / Medidata	Apr-16	Textura	Commercial construction collaboration	\$92.2	(\$5.4)	\$698.3	7.57x	n/m
Envision Pharma	Apr-16	Crosswise (Assets)	Cross device data services	n/a	n/a	\$50.0	n/a	n/a
ERT	Feb-16	Ravello Systems	Nested virtualization software	n/a	n/a	\$500.0	n/a	n/a
Eversana	Jan-16	AddThis	Social infrastructure and data platform	n/a	n/a	\$200.0	n/a	n/a
Insightful Science	Dec-15	StackEngine	Docker management platform	n/a	n/a	n/a	n/a	n/a
Instem	Sep-15	Maxymiser	Multivariate testing & personalization	n/a	n/a	n/a	n/a	n/a
IntegriChain	Aug-15	CloudMonkey Mobile	Mobile software application testing	n/a	n/a	n/a	n/a	n/a
IQVIA	Jan-15	Datalogix	Online advertising data & technology	\$125.0	n/a	\$1,200.0	9.60x	n/a
Model N	Oct-14	Front Porch Digital	Content storage management	n/a	n/a	n/a	n/a	n/a
Oracle	Sep-14	MICROS Systems	Hospitality & retail management solutions	\$1,405.4	\$291.3	\$5,701.2	4.06x	19.6x
PRA Health Sciences	Jul-14	TOA Technologies	Mobile workforce software	n/a	n/a	n/a	n/a	n/a
Sartorius	Jul-14	BlueKai	Enterprise marketing data activation	n/a	n/a	\$425.0	n/a	n/a
Signant Health	Jun-14	LiveLOOK	Customer collaboration tools	n/a	n/a	n/a	n/a	n/a
Thermo Fisher Scientific	Jun-14	GreenBytes	Desktop virtualization	n/a	n/a	n/a	n/a	n/a
Veeva	Mar-14	Corente	Enterprise network security	n/a	n/a	n/a	n/a	n/a
WCG	Dec-13	Responsys	Email marketing	\$194.3	\$13.8	\$1,500.0	7.72x	n/m
Other	Dec-13	Nirvanix	Internet storage services	n/a	n/a	n/a	n/a	n/a
	Nov-13	BigMachines	Product configuration & quoting	\$58.0	n/a	\$400.0	6.90x	n/a
	Nov-13	Bitzer Mobile	Enterprise mobility management	n/a	n/a	n/a	n/a	n/a
	Oct-13	Compendium	Content marketing start-up	n/a	n/a	n/a	n/a	n/a
	Jun-13	Tekelec	Network signaling applications	n/a	n/a	n/a	n/a	n/a
	Mar-13	Acme Packet	Session delivery network	\$274.4	\$8.4	\$1,741.5	6.35x	n/m
	Mar-13	Eloqua	Marketing automation software	\$95.8	(\$8.6)	\$871.0	9.10x	n/m
	Mar-13	Nimbula	Cloud infrastructure software	n/a	n/a	\$100.0	n/a	n/a
	Dec-12	DataRaker	Utilities big data analytics	n/a	n/a	n/a	n/a	n/a
	Nov-12	Instantis	Project portfolio management	n/a	n/a	n/a	n/a	n/a
	Sep-12	SelectMinds	Social talent sourcing	n/a	n/a	n/a	n/a	n/a
	Aug-12	Involver	Video campaign marketing	n/a	n/a	n/a	n/a	n/a
	Jul-12	Xsigo Systems	Virtualized infrastructure services	n/a	n/a	n/a	n/a	n/a
	Jul-12	Skire	Facility management solutions	n/a	n/a	n/a	n/a	n/a
	Jul-12	Collective Intent	Social media analytics	n/a	n/a	n/a	n/a	n/a
	May-12	Vitrue	Social media marketing services	n/a	n/a	\$300.0	n/a	n/a
	Apr-12	ClearTrial	Clinical trials operations	n/a	n/a	n/a	n/a	n/a
	Apr-12	Taleo	Talent management software	\$308.9	\$16.2	\$608.1	1.97x	n/m

Sources: Capital IQ, Public Filings, Press Releases, PitchBook, proprietary Madison Park Group research based on publicly available information  
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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview					
Anju Software	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA	
ArisGlobal	Oracle							
	Total Disclosed M&A Deal Value: \$61.2 Billion							
Bioclinica	Jan-12	RightNow Tech.	CRM and customer service software	\$216.2	\$22.3	\$1,500.0	6.94x	n/m
	Dec-11	Endeca Technologies	Information management software	n/a	n/a	\$1,080.0	n/a	n/a
	Oct-11	GoAhead	Integrated middleware for manufacturers	n/a	n/a	n/a	n/a	n/a
Bruker	Jul-11	InQuira	Natural language search	n/a	n/a	n/a	n/a	n/a
Certara	Jul-11	Ksplice	Linux update software	n/a	n/a	n/a	n/a	n/a
	Jul-11	Pillar Data Systems	Network storage systems	n/a	n/a	n/a	n/a	n/a
	Jun-11	FatWire Software	Web experience management	n/a	n/a	n/a	n/a	n/a
Dassault / Medidata	Jun-11	Datanomic	Compliance screening software	n/a	n/a	n/a	n/a	n/a
	Jan-11	Art Technology Group	Cross-channel commerce	\$193.9	\$25.5	\$848.0	4.37x	n/m
Envision Pharma	Oct-10	Passlogix	Single sign on services	n/a	n/a	n/a	n/a	n/a
	Aug-10	Phase Forward	Clinical research software	\$227.7	\$14.5	\$744.6	3.27x	n/m
	Aug-10	eServGlobal	Telecom software	\$55.5	n/a	\$96.4	1.74x	n/a
	May-10	Market2Lead	Marketing automation software	n/a	n/a	n/a	n/a	n/a
Eversana	May-10	Secerno	Database security and compliance	n/a	n/a	n/a	n/a	n/a
	Feb-10	Convergin	Network service mediation	n/a	n/a	n/a	n/a	n/a
Insightful Science	Feb-10	AmberPoint	SOA visibility and management	n/a	n/a	n/a	n/a	n/a
	Jan-10	Sun Microsystems	Network infrastructure services	\$10,702.0	\$50.0	\$5,019.0	0.47x	n/m
	Jan-10	Silver Creek Systems	Data usability solutions	n/a	n/a	n/a	n/a	n/a
	Oct-09	Sophoi	IP rights & royalty management	n/a	n/a	n/a	n/a	n/a
IntegriChain	Sep-09	HyperRoll	Data warehouse performance management	n/a	n/a	n/a	n/a	n/a
	Jul-09	GoldenGate Software	Transactional data management	n/a	n/a	n/a	n/a	n/a
	Jul-09	Relsys International	Drug safety solutions	n/a	n/a	n/a	n/a	n/a
	Jun-09	mValent	Application configuration management	n/a	n/a	n/a	n/a	n/a
	Jun-09	Conformia Software	Life sciences PLM	n/a	n/a	n/a	n/a	n/a
	May-09	Virtual Iron Software	Server virtualization	n/a	n/a	n/a	n/a	n/a
Oracle	Nov-08	Tacit Software	Email analysis and information sharing	n/a	n/a	n/a	n/a	n/a
	Oct-08	Ruleburst Holdings	Policy automation software	n/a	n/a	\$103.2	n/a	n/a
PRA Health Sciences	Oct-08	Primavera	Project portfolio management	n/a	n/a	n/a	n/a	n/a
	Oct-08	Visual Technology	3D space planning	n/a	n/a	n/a	n/a	n/a
Sartorius	Sep-08	GKS	Self-service training automation	n/a	n/a	n/a	n/a	n/a
	Sep-08	ClearApp	Advertising measurement	n/a	n/a	n/a	n/a	n/a
	Jun-08	Skywire Software	Policy lifecycle support	\$95.2	n/a	\$240.0	2.52x	n/a
Thermo Fisher Scientific	Apr-08	BEA Systems	Application server software	\$1,535.8	\$347.4	\$6,998.3	4.56x	20.1x
	Mar-08	Empirix (Assets)	Software testing	n/a	n/a	n/a	n/a	n/a
	Oct-07	Interlace Systems	Business planning software	n/a	n/a	n/a	n/a	n/a
	Oct-07	LogicalApps	Enterprise GRC	n/a	n/a	n/a	n/a	n/a
WCG	Sep-07	Bridgestream	Business roles automation	n/a	n/a	n/a	n/a	n/a
	Sep-07	Netsure Telecom	Network intelligence	n/a	n/a	n/a	n/a	n/a
Other	Sep-07	Active Reasoning	IT controls automation	n/a	n/a	n/a	n/a	n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

	(\$ in Millions)		Target Overview				
	Announced	Target	Description	Estimated Revenue	Estimated EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA
Advarra	Oracle		Total Disclosed M&A Deal Value: \$61.2 Billion				
Anju Software	Jul-07	Agile Software	PLM software	\$130.1	(\$22.0)	\$330.6	2.54x n/m
ArisGlobal	Jun-07	Revenue Tech.	Business management software	n/a	n/a	n/a	n/a
Bioclinica	Apr-07	AppForge	Software development platform	n/a	n/a	n/a	n/a
Bruker	Apr-07	Lodestar	Energy management software	n/a	n/a	n/a	n/a
Certara	Apr-07	Hyperion Solutions	Business performance management	\$830.9	\$142.3	\$2,813.6	3.39x 19.8x
	Dec-06	MetaSolv	CRM & order management	\$95.6	\$1.9	\$157.6	1.65x n/m
Dassault / Medidata	Nov-06	SPL WorldGroup	Utilities asset management	n/a	n/a	n/a	n/a
	Jul-06	Portal Software	Revenue management	\$93.7	(\$77.2)	\$178.5	1.91x n/m
Envision Pharma	Jun-06	Demantra	POS platform	n/a	n/a	\$41.0	n/a
	Apr-06	Net4Call	Telecom data communication	n/a	n/a	n/a	n/a
ERT	Feb-06	HotSip	eCommerce internet protocol	n/a	n/a	n/a	n/a
Eversana	Jan-06	Siebel Systems	Front office business applications	\$1,429.1	\$58.6	\$5,600.0	3.92x n/m
	Jan-06	360Commerce	Retail workforce & store management	n/a	n/a	n/a	n/a
	Nov-05	Thor Technologies	Access rights management	n/a	n/a	n/a	n/a
Insightful Science	Nov-05	G-Log	Logistics management	n/a	n/a	\$90.0	n/a
	Aug-05	Context Media	Enterprise content integration	n/a	n/a	n/a	n/a
Instem	Jul-05	ProfitLogic	Retail profit optimization	n/a	n/a	n/a	n/a
	Jun-05	TimesTen	Infrastructure management	n/a	n/a	n/a	n/a
IntegriChain	Mar-05	Oblix	Security infrastructure	n/a	n/a	n/a	n/a
	Jan-05	PeopleSoft	CRM & HR management	\$2,674.4	\$311.1	\$8,329.3	3.11x 26.8x
IQVIA	Jan-03	UpShot	Hosted CRM service	n/a	n/a	\$56.0	n/a
	Feb-02	NetForce	Drug safety monitoring	n/a	n/a	n/a	n/a
Model N	Mar-00	Fibermarket.com	Forest products eCommerce	n/a	n/a	n/a	n/a
	Aug-98	Versatility	Customer interaction software	n/a	n/a	\$11.6	n/a
Oracle	Jan-97	Datalogix	Mobile asset tracking	n/a	n/a	\$94.0	n/a
PRA Health Sciences	PRA Health Sciences		Total Disclosed M&A Deal Value: \$1.2 Billion				
	Jan-20	Care Innovations	Patient monitoring platform	n/a	n/a	\$211.4	n/a
Sartorius	Jun-19	Takeda PRA Development Center	JV buyout of Takeda Pharmaceutical	n/a	n/a	n/a	n/a
	Sep-17	Symphony Health	Pharmaceutical market intelligence	\$200.0	n/a	\$530.0	2.65x n/a
Signant Health	May-17	Parallel 6	Patient engagement software	n/a	n/a	\$39.4	n/a
	Mar-16	Nextrials	Clinical trial management solutions	n/a	n/a	\$7.7	n/a
Thermo Fisher Scientific	Jul-15	Value Health Solutions	Clinical development software	n/a	n/a	\$2.5	n/a
	Nov-13	CRI Worldwide	Clinical research service	n/a	n/a	n/a	n/a
Veeva	Sep-13	ReSearch Pharm. Services	Clinical development services	n/a	n/a	\$350.0	n/a
	Mar-13	Clinstar	Clinical research and enrollment services	n/a	n/a	n/a	n/a
WCG	May-11	Kinship Technologies	Clinical data management	n/a	n/a	n/a	n/a
Other	Jul-06	Pharma Bio-Research	CRO services	n/a	n/a	\$108.0	n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

	(\$ in Millions)		Target Overview				
	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA
Advarra	Sartorius		Total Disclosed M&A Deal Value: \$2.2 Billion				
Anju Software	Oct-20	BIA Separations	Purification technology for biomolecules	\$29.4	n/a	\$424.0	14.40x n/a
ArisGlobal	May-20	Danaher (Assets)	Three units, including life sciences assets	\$170.0	n/a	\$825.0	4.85x n/a
Bioclinica	Dec-19	Biological Industries	Developer of cell culture media	n/a	n/a	\$50.0	n/a n/a
Bruker	May-17	MKS Data Analytics	Data analytics software for modeling	\$15.0	n/a	\$72.5	4.83x n/a
Certara	Mar-17	Essen BioScience	Live-cell imaging platform	\$60.0	n/a	\$320.0	5.33x n/a
Dassault / Medidata	Jul-16	kSep Systems, LLC	Single-use, scalable bio-processing	\$7.0	n/a	\$28.0	4.00x n/a
Envision Pharma	Jul-16	ViroCyt, LLC	Rapid quantification technology	n/a	n/a	\$16.0	n/a n/a
ERT	Jun-16	Intellicyt Corporation	Cell and bead-based screening	\$13.4	n/a	\$90.0	6.72x n/a
Eversana	Dec-11	Biohit (Assets)	Liquid handling business	\$40.3	n/a	\$90.9	2.26x n/a
Insightful Science	Jul-07	SSB	Biopharma fermentation tools	\$368.1	\$39.9	\$301.6	0.82x 7.6x
Instem	Jan-07	toha-plast	Plastic components	n/a	n/a	n/a	n/a n/a
IntegrChain	Aug-99	Denver Instrument	Laboratory instruments	n/a	n/a	n/a	n/a n/a
IQVIA	Signant Health		Total Disclosed M&A Deal Value: \$1.0 Billion				
Model N	Sep-18	CRF Health	eCOA and eConsent solutions	n/a	n/a	\$1,000.0	n/a n/a
Oracle	Oct-17	mProve Health	Mobile patient engagement software	n/a	n/a	n/a	4.40x n/a
PRA Health Sciences	Nov-16	CLINapps	Clinical supplies software	n/a	n/a	n/a	n/a n/a
Sartorius	Jun-15	Clintara	Clinical rater training services and technology	n/a	n/a	n/a	n/a n/a
Signant Health	Jul-11	Arrowhead Electronic Healthcare	Electronic patient reported outcomes (ePRO)	n/a	n/a	n/a	n/a n/a
Thermo Fisher Scientific	Thermo Fisher Scientific		Total Disclosed M&A Deal Value: \$42.2 Billion				
Veeva	Sep-19	GSK (Assets)	Irish API manufacturing site	n/a	n/a	\$99.2	n/a n/a
WCG	Jun-19	HighChem	Mass spectrometry software	n/a	n/a	n/a	n/a n/a
Other	Apr-19	Brammer Bio	Viral vector for gene and cell therapies	\$250.0	n/a	\$1,670.0	6.68x n/a
	Oct-18	Becton Dickinson (Assets)	Advanced bioprocessing business	\$100.0	n/a	\$477.0	4.77x n/a
	Mar-18	IntegenX	Rapid DNA technology for human identification	n/a	n/a	\$65.0	n/a n/a
	Dec-17	Phenom-World	Nanotechnology equipment	n/a	\$4.1	n/a	n/a n/a
	Dec-17	EPTEK Technology (Assets)	Air quality monitoring assets	n/a	n/a	n/a	n/a n/a
	Aug-17	Patheon	Pharma development & mfg. services	\$1,933.0	\$316.4	\$7,267.3	3.76x 23.0x
	Jul-17	Linkage Biosciences	Molecular diagnostics products	n/a	n/a	n/a	n/a n/a
	Mar-17	Core Informatics	Laboratory data management software	\$10.0	n/a	\$94.0	9.40x n/a
	Feb-17	Finesse Solutions	Bio-process mgmt software & systems	\$50.0	n/a	\$220.0	4.40x n/a
	Nov-16	MTI-GlobalStem	Human and mouse stem cell research products	n/a	n/a	n/a	n/a n/a
	Sep-16	FEI	Nanoscale imaging, analysis and prototyping	\$973.1	\$167.6	\$3,762.7	3.87x 22.4x
	Mar-16	Affymetrix	Life science tools and diagnostic products	\$359.8	\$39.3	\$1,411.2	3.92x n/m
	Feb-16	Inel	Real-time X-ray diffraction systems	\$1.4	n/a	n/a	n/a n/a
	Sep-15	Alfa Aesar	Research chemicals	\$33.4	\$9.0	\$417.0	12.48x n/m
	Feb-15	Advanced Scientifics	Bio-processing technology services	\$80.0	n/a	\$292.7	3.66x n/a
	Mar-14	Prionics	Diagnostic services for farm animal diseases	n/a	n/a	n/a	n/a n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

Advarra	(\$ in Millions)		Target Overview					
Anju Software	Announced	Target	Description	Estimated Revenue	EBITDA	Deal Value	Deal Value / Estimated Revenue EBITDA	
ArisGlobal	Thermo Fisher Scientific					Total Disclosed M&A Deal Value: \$42.2 Billion		
	Feb-14	Invitrogen	Genetic testing equipment	\$3,842.3	\$1,097.4	\$14,745.8	3.84x	13.4x
	Jan-13	picoSpin	Nuclear magnetic resonance spectrometers	n/a	n/a	n/a	n/a	n/a
	Sep-12	One Lambda	Transplant diagnostics products	n/a	n/a	\$934.3	n/a	n/a
Bruker	Jul-12	Princeton Security Technologies	Detector products	\$4.8	\$0.4	\$12.8	2.66x	n/m
	May-12	Doe & Ingalls Management	Specialty chemicals	\$110.0	n/a	\$201.1	1.83x	n/a
Certara	Sep-11	Intrinsic Bioprobes	Clinical and diagnostic assays	n/a	n/a	n/a	n/a	n/a
	Aug-11	ImmunoDiagnostics	Blood testing systems	\$0.3	n/a	\$2,470.0	n/m	n/a
Dassault / Medidata	Jul-11	Trek Diagnostic Systems	Microbiology-based diagnostic testing	n/a	n/a	n/a	n/a	n/a
	May-11	Sterilin	Plastic ware for clinical and laboratory use	n/a	n/a	n/a	n/a	n/a
Envision Pharma	May-11	Dionex	Chromatography equipment	\$457.1	\$103.1	\$2,428.7	5.31x	23.6x
	Dec-10	Lomb Scientific	Lab chemicals, consumables and instruments	n/a	n/a	n/a	n/a	n/a
ERT	Dec-10	TKA Wasseraufbereitungssysteme	Laboratory water purification systems	n/a	n/a	n/a	n/a	n/a
	Jul-10	Fermentas International	Molecular biological products	n/a	n/a	\$287.3	n/a	n/a
Eversana	May-10	Polychromix	Material analysis & chemical sensing products	n/a	n/a	n/a	n/a	n/a
Insightful Science	Apr-10	Proxeon Biosystems	Medical devices for sample purification	n/a	(\$0.8)	n/a	n/a	n/a
	Mar-10	Finnzymes	Instruments for molecular biology analysis	\$20.0	n/a	\$96.9	4.84x	n/a
Instem	Feb-10	Ahura Scientific	Handheld optical systems	\$46.2	n/a	\$212.5	4.60x	n/a
	Feb-10	NovaWave Technologies	Chemical sensors for environmental monitoring	\$4.0	n/a	n/a	n/a	n/a
IntegriChain	Nov-09	C2V	Developer of micro systems technology designe	n/a	n/a	n/a	n/a	n/a
	Oct-09	BRAHMS	In-vitro diagnostics tests	\$105.0	n/a	\$470.0	4.48x	n/a
IQVIA	Apr-09	Biolab (Instrument Distribution)	Medical instruments	n/a	n/a	\$157.4	n/a	n/a
	Apr-09	Bonsai Technologies Group	Medical, dental & hospital equipment	n/a	n/a	n/a	n/a	n/a
Model N	Nov-08	Raymond A. Lamb	Histology and anatomical pathology products	n/a	n/a	n/a	n/a	n/a
	Aug-08	Afora	Laboratory glassware	n/a	n/a	n/a	n/a	n/a
Oracle	Aug-08	AquaSensors	Water measurement systems	n/a	n/a	n/a	n/a	n/a
	Jul-08	FIBERLite Centrifuge	Centrifuge rotors	n/a	n/a	\$17.0	n/a	n/a
PRA Health Sciences	Jul-08	ABR--Affinity BioReagents	Monoclonal and polyclonal antibodies	n/a	n/a	n/a	n/a	n/a
	Jul-08	Open Biosystems	RNA interference and gene expression	\$14.0	n/a	n/a	n/a	n/a
Sartorius	Jun-08	Chemito Technologies (Assets)	Analytical tools & environment instrumentation	n/a	n/a	n/a	n/a	n/a
	Jan-08	Nascent BioSciences	Liquid handling consumables	n/a	n/a	\$10.0	n/a	n/a
Signant Health	Dec-07	La-Pha-Pack	Laboratory products	n/a	n/a	\$97.4	n/a	n/a
	Oct-07	NanoDrop Technologies	Micro volume equipment	n/a	n/a	\$158.3	n/a	n/a
Thermo Fisher Scientific	Oct-07	Priority Solutions International	Pharma supply chain management services	\$72.0	n/a	\$169.0	2.35x	n/a
	Sep-07	Davis Inotek Instruments (Assets)	Technical instruments and industrial equipment	n/a	n/a	n/a	n/a	n/a
Veeva	Sep-07	Qualigens Fine Chemicals	Laboratory chemicals and products	n/a	n/a	\$59.0	n/a	n/a
	Mar-07	Oryx Instruments	Semiconductor testing systems	n/a	n/a	n/a	n/a	n/a
WCG	Jan-07	SwissAnalytic Group	Mass spectrometry and HPLC pumps	\$22.0	n/a	n/a	n/a	n/a
	Dec-06	Cohesive Technologies	Advanced sample extraction products	\$13.5	n/a	\$70.2	5.20x	n/a
Other	Jun-06	Thermo EGS Gauging	Measurement & instruments for process control	n/a	n/a	n/a	n/a	n/a

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# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

	(\$ in Millions)		Target Overview			Deal		
	Announced	Target	Description	Estimated Revenue	EBITDA	Value	Revenue	EBITDA
Advarra	Thermo Fisher Scientific		Total Disclosed M&A Deal Value: \$42.2 Billion					
Anju Software	May-06	Thermo Electron	Analytical equipment and technology	n/a	n/a	n/a	n/a	n/a
ArisGlobal	Apr-06	Biolmage	Protein visualization tools	n/a	n/a	n/a	n/a	n/a
Bioclinica	Mar-06	Athena Diagnostics	Molecular diagnostic & immunodiagnostic tests	\$55.0	n/a	\$283.0	5.15x	n/a
Bruker	Aug-05	Eurofins Lancaster Laboratories	Commercial testing laboratory services	\$60.0	n/a	\$150.0	2.50x	n/a
Certara	Jul-05	McKesson Bioservices	Clinical supply and biological specimen mgmt	n/a	n/a	\$60.0	n/a	n/a
Dassault / Medidata	Jan-05	Cellomics	High content screening systems	\$13.0	n/a	\$49.0	3.77x	n/a
Envision Pharma	Aug-04	Apogent Technologies	Diagnostic products	\$1,168.9	\$199.8	\$2,612.0	2.23x	13.1x
ERT	Apr-04	GE Healthcare Dharmacon	Research tools for biotechnology research	n/a	n/a	\$80.0	n/a	n/a
Eversana	Feb-04	Oxoid	Microbiological products	n/a	n/a	\$325.3	n/a	n/a
Insightful Science	Sep-01	Cole-Parmer	Laboratory equipment, instruments & supplies	\$170.0	n/a	\$205.0	1.21x	n/a
Instem	May-01	Medical Analysis Systems	Diagnostic products for clinical laboratories	\$30.0	n/a	n/a	n/a	n/a
IntegrChain	Jul-96	SensorMedics	Cardio pulmonary & other medical instruments	\$69.2	n/a	\$70.0	1.01x	n/a
IQVIA	Veeva		Total Disclosed M&A Deal Value: \$754.0 Million					
Model N	Nov-19	Physicians World	Speakers bureau services	\$20.0	n/a	\$55.0	2.75x	n/a
Oracle	Sep-19	Crossix	US patient data analytics platform	\$80.0	n/a	\$550.0	6.88x	n/a
PRA Health Sciences	Sep-15	Zinc Ahead	Promotional compliance solutions	\$25.4	\$1.7	\$130.0	5.12x	n/m
Sartorius	Jul-15	Mercurio	HCP database solutions	\$16.7	n/a	n/a	n/a	n/a
Signant Health	Jul-15	Selligy	Life sciences CRM software	n/a	n/a	\$0.3	n/a	n/a
Thermo Fisher Scientific	Mar-15	Qforma (Assets)	KOL data solutions	n/a	n/a	\$9.8	n/a	n/a
Veeva	Jun-13	AdvantageMS	Healthcare data provider	n/a	n/a	\$8.9	n/a	n/a
WCG	WCG		Total Disclosed M&A Deal Value: \$257.0 Million					
Other	Jan-20	Statistics Collaborative	Biostatistical consulting service	n/a	n/a	n/a	n/a	n/a
	Sep-19	Waife & Associates	Biopharmaceutical clinical consulting service	n/a	n/a	n/a	n/a	n/a
	Aug-19	PharmaSeek	Administrative, consulting and training solutions	n/a	n/a	n/a	n/a	n/a
	Apr-19	Analgesic Solutions	Risk mitigation services for clinical trials	n/a	n/a	n/a	n/a	n/a
	Jan-19	First Clinical Research	Clinical best practice information services	n/a	n/a	n/a	n/a	n/a
	Dec-18	Velos	Clinical research administration software	~\$12.0	n/a	n/a	n/a	n/a
	Jul-18	KMR Group	Clinical research benchmarking and analytics	n/a	n/a	n/a	n/a	n/a
	Jul-18	Metrics Champion Consortium	Clinical research benchmarking and analytics	n/a	n/a	n/a	n/a	n/a
	Mar-18	ACI Clinical	Clinical trial advisory services	n/a	n/a	n/a	n/a	n/a
	Nov-17	Vigilare International	Pharmacovigilance services	n/a	n/a	n/a	n/a	n/a
	Aug-17	ConsentNow	Informed consent process software	n/a	n/a	n/a	n/a	n/a
	Jul-17	FDAnews	Regulatory, legislative and business news	n/a	n/a	n/a	n/a	n/a
	Mar-17	MedAvante	eCOA solutions	n/a	n/a	\$140.0	~3.70x	n/a
	Mar-17	ThreeWire	Patient recruitment services	n/a	n/a	\$87.0	+4.50x	+14.0x
	Dec-16	ProPhase	eSource and clinical data management	n/a	n/a	\$30.0	~2.60x	~12.9x
	Jun-16	CenterWatch	Proprietary clinical trial data	n/a	n/a	n/a	n/a	n/a

Sources: Capital IQ, Public Filings, Press Releases, PitchBook, proprietary Madison Park Group research based on publicly available information  
Note: All EBITDA Multiples >30x are considered not to be meaningful as valuation of business clearly influenced by factors other than profitability



# Precedent M&A Transactions

## Buyer-Specific Acquisitions

MADISON PARK GROUP

Life Sciences Software Acquisition

	(\$ in Millions)		Target Overview		Estimated		Deal Value / Estimated	
	Announced	Target	Description	Revenue	EBITDA	Deal Value	Revenue	EBITDA
Advarra								
Anju Software								
ArisGlobal								
Bioclinica								
Bruker								
Certara								
Dassault / Medidata								
Envision Pharma								
ERT								
Eversana								
Insightful Science								
Instem								
IntegriChain								
IQVIA								
Model N								
Oracle								
PRA Health Sciences								
Sartorius								
Signant Health								
Thermo Fisher Scientific								
Veeva								
WCG								
Other								

(\$ in Millions)		Target Overview		Estimated		Deal Value / Estimated	
Announced	Target	Description	Revenue	EBITDA	Deal Value	Revenue	EBITDA
WCG		Total Disclosed M&A Deal Value: \$257.0 Million					
Jun-16	karmadata	Clinical database and decision support	n/a	n/a	n/a	n/a	n/a
Mar-16	Acorn Applications	Analytical research solutions	n/a	n/a	n/a	n/a	n/a
Mar-16	Clintrax Global	Contract negotiation & grant management	\$7.0	n/a	n/a	n/a	n/a
Sep-14	ePharmaSolutions	eClinical solutions and tech-enabled services	n/a	n/a	n/a	+4.00x	n/a
Sep-14	New England IRB	Independent institutional review board	n/a	n/a	n/a	n/a	n/a
Jul-14	Alliance Biosciences	Biosafety and biosecurity consulting	n/a	n/a	n/a	n/a	n/a
Jun-14	Aspire IRB	Review services	n/a	n/a	n/a	n/a	n/a
Jun-14	Midlands IRB	Ethical review services for clinical research	n/a	n/a	n/a	n/a	n/a
Jan-13	Research Dataware	Software for IRBs	n/a	n/a	n/a	n/a	n/a
May-12	Copernicus Group	IRB services	n/a	n/a	n/a	n/a	n/a
Average						4.25x	14.2x
Median						3.74x	13.3x



# Precedent M&A Transactions

## Other Life Sciences Software Acquisitions: 2017-Present

	(\$ in Millions)									
					Target Overview			Transaction Summary		
	Date	Acquiror	Target	Description	Estimated Revenue	Estimated EBITDA	Enterprise Value	Deal Value / Revenue	Estimated EBITDA	
Advarra	Oct-20	Definitive Healthcare	Monocl	Medical and scientific expert data & insights	n/a	n/a	n/a	n/a	n/a	
Anju Software	Sep-20	Carlyle Group	TriNetx	Research network and clinical optimization platform	n/a	n/a	n/a	n/a	n/a	
ArisGlobal	Aug-20	GI Partners	Clinical Ink	eSource technology	n/a	n/a	n/a	n/a	n/a	
Bioclinica	Jul-20	Recursion Pharmaceuticals	Vium	Digital biomarkers for preclinical research	n/a	n/a	n/a	n/a	n/a	
Bruker	Jul-20	Excelya	Koehler eClinical	CRO services and proprietary EDC / CTMS software	n/a	n/a	n/a	n/a	n/a	
Certara	Apr-20	Simulations Plus	Lixoft	Modeling and simulation platform	\$3.4	\$1.7	\$16.5	4.85x	9.7x	
	Mar-20	Pivotal	Akcelis	Patient engagement and retention software	n/a	n/a	n/a	n/a	n/a	
	Feb-20	Parexel	Model Answers	Clinical pharmacology modeling and simulation	n/a	n/a	n/a	n/a	n/a	
Dassault / Medidata	Feb-20	Brooks Life Sciences	RURO	Lab informatics software	\$5.0	n/a	\$15.0	3.00x	n/a	
Envision Pharma	Jan-20	Clarivate Analytics	DRG	Healthcare data, analytics and insights	\$207.0	\$47.0	\$950.0	4.59x	20.2x	
	Jan-20	Brainlab	VisionTree	Cloud-based ePRO	n/a	n/a	n/a	n/a	n/a	
ERT	Jan-20	Summit Partners	eClinical Solutions	Cloud-based SaaS for clinical data services	n/a	n/a	n/a	n/a	n/a	
	Jan-20	Definitive Healthcare	PatientFinder	Patient cluster software analytics	n/a	n/a	n/a	n/a	n/a	
Eversana	Dec-19	VirTrial	SnapMD	Virtual care management platform	n/a	n/a	n/a	n/a	n/a	
	Nov-19	Leonard Green	WCG	Clinical trial services and software	n/a	\$175.0	\$3100.0	n/a	17.7x	
Insightful Science	Nov-19	Monterro	PCG Solutions	Clinical trial software	n/a	n/a	n/a	n/a	n/a	
	Nov-19	Cytel	MTEK Sciences	Biopharma consulting analytics software	n/a	n/a	n/a	n/a	n/a	
Instem	Oct-19	TrialScope	Clinical Trial Connect	Trial matching and patient management	n/a	n/a	n/a	n/a	n/a	
	Oct-19	Astorg	ERT	Clinical safety, endpoint collection & analysis	n/a	\$210.0	\$3800.0	n/a	18.0x	
IntegriChain	Sep-19	Bid Equity	XClinical	SaaS-based eClinical solutions	n/a	n/a	n/a	n/a	n/a	
	Sep-19	OptimizeRx	RMDY Health	Trial matching and patient management	\$3.0	n/a	\$16.0	5.33x	n/a	
IQVIA	Sep-19	PPD	Bioclinica (Assets)	Global Site business unit	n/a	n/a	n/a	n/a	n/a	
	Aug-19	SARORAS Private Capital	InCrowd	Mobile first, market research platform	\$15.0	n/a	n/a	n/a	n/a	
Model N	Aug-19	Saama	Comprehend	Clinical intelligence platform	n/a	n/a	n/a	n/a	n/a	
	Aug-19	GraphPad	SnapGene	Bioinformatics technology	n/a	n/a	n/a	n/a	n/a	
Oracle	Aug-19	Merck (MilliporeSigma)	BSSN Software	Data management and integration software	n/a	n/a	n/a	n/a	n/a	
	Jul-19	Genstar Capital	Advarra	Compliance solutions to the R&D process	n/a	\$72.0	\$1300.0	n/a	18.0x	
PRA Health Sciences	Jun-19	dMed	Target Health	CRO services and eClinical software	n/a	n/a	n/a	n/a	n/a	
	Jun-19	Nordic Capital	ArisGlobal	Clinical and medical affairs software solutions	\$100.0	n/a	\$700.0	7.00x	n/a	
Sartorius	Jun-19	Danaher / Beckman Coulter	Cytobank	Single cell data analysis software	n/a	n/a	n/a	n/a	n/a	
	May-19	Evidera	Medimix International	Provider of real-world evidence (RWE) insights	n/a	n/a	n/a	n/a	n/a	
Signant Health	May-19	RLDatix	iContracts	Contract management	n/a	n/a	\$200.0	n/a	n/a	
	Apr-19	Emerson	Bioproduction Group	Simulation, modeling and scheduling software	n/a	n/a	n/a	n/a	n/a	
Thermo Fisher Scientific	Mar-19	Abry Partners	Anju	Life sciences software and data	Confid.	Confid.	Confid.	Confid.	Confid.	
	Feb-19	Cayuse	NTM Consulting Services	Research management	n/a	n/a	n/a	n/a	n/a	
Veeva	Oct-18	Varian Medical	Noona	Oncology platform for mobile devices	n/a	n/a	n/a	n/a	n/a	
	Oct-18	NNIT	Valiance Partners	Data migration software	\$13.2	n/a	\$35.7	2.70x	n/a	
WCG	Aug-18	Deloitte	Qspace	Validation lifecycle management	n/a	n/a	n/a	n/a	n/a	
	Jun-18	Genpact	Commonwealth Informatics	Cloud-based pharmacovigilance analytics	n/a	n/a	n/a	n/a	n/a	
Other	May-18	Agilent	Genohm	Laboratory information management	n/a	n/a	n/a	n/a	n/a	

Sources: Capital IQ, Public Filings, Press Releases, PitchBook, proprietary Madison Park Group research based on publicly available information  
Note: All EBITDA Multiples >30x are considered not to be meaningful as valuation of business clearly influenced by factors other than profitability

# Precedent M&A Transactions

## Other Life Sciences Software Acquisitions: 2017-Present

MADISON PARK GROUP

	(\$ in Millions)									
					Target Overview			Transaction Summary		
	Date	Acquiror	Target	Description	Estimated Revenue	Estimated EBITDA	Enterprise Value	Deal Value / Revenue	Estimated EBITDA	
Advarra	May-18	Elligo Health Research	ePatientFinder	Clinical trial solutions and practice network	n/a	n/a	n/a	n/a	n/a	
Anju Software	May-18	Q <sup>2</sup> Solutions	BioFortis	Trial sample, consent tracking and biobanking	n/a	n/a	n/a	n/a	n/a	
ArisGlobal	May-18	NovaQuest	Clinical Ink	eSource technology	n/a	n/a	n/a	n/a	n/a	
Bioclinica	Apr-18	Roche	Flatiron	Oncology-focused electronic health records (EHR)	\$47.5	n/a	\$1900.0	n/m	n/a	
Bruker	Jan-18	Wilmington	Interactive Media	Life sciences sales & marketing solutions	n/a	n/a	\$5.3	n/a	n/a	
Certara	Jan-18	Inspirata	AIM	AI and NLP for clinical documents	n/a	n/a	n/a	n/a	n/a	
	Dec-17	iContracts	Educadium	Learning management platform	n/a	n/a	n/a	n/a	n/a	
	Dec-17	SciBite	FactBio	Semantic technology for data management	n/a	n/a	n/a	n/a	n/a	
Dassault / Medidata	Dec-17	The Access Group	Alliance Life Sciences	Pricing software and services	n/a	n/a	n/a	n/a	n/a	
Envision Pharma	Dec-17	The Access Group	Health Strategies Group	Market research solutions	n/a	n/a	n/a	n/a	n/a	
	Dec-17	rfxcel	Frequentz	Serialization and traceability solutions	n/a	n/a	n/a	n/a	n/a	
ERT	Dec-17	Ennov	AtEvent	Regulatory compliance software	n/a	n/a	n/a	n/a	n/a	
	Nov-17	ILUM Health Solutions	Teqqa	Precision analytics for infectious diseases	n/a	n/a	n/a	n/a	n/a	
Eversana	Nov-17	Insight Venture Partners	GraphPad	Data analysis, statistics and graphing software	n/a	n/a	n/a	n/a	n/a	
	Oct-17	Danaher	ID Business Solutions	Drug R&D solutions	\$41.1	\$3.9	n/a	n/a	n/a	
Insightful Science	Sep-17	Datix	RiskMan International	Australia-based patient safety software	n/a	n/a	n/a	n/a	n/a	
	Sep-17	Adecco Group	Biobridges	Life sciences workforce & career management	n/a	n/a	n/a	n/a	n/a	
Instem	Aug-17	Brooks Life Sciences	RURO	Lab informatics software	n/a	n/a	n/a	n/a	n/a	
	Aug-17	New Mountain Capital	Sparta Systems	Quality management	n/a	n/a	n/a	n/a	n/a	
IntegrChain	Aug-17	TraceLink	ROC IT Solutions	Pharmaceutical supply chain tracking	n/a	n/a	n/a	n/a	n/a	
	Jul-17	EQT Partners	Certara	Drug development software and services	n/a	n/a	\$850.0	n/a	n/a	
IQVIA	Jun-17	Besse Medical	Podis	Cloud-based inventory and billing reconciliation	n/a	n/a	n/a	n/a	n/a	
	Jun-17	Pharmarise Holdings	Mythos Software	Pharma CRM and SFA software	n/a	n/a	n/a	n/a	n/a	
Model N	Jun-17	Accenture	LabAnswer	Laboratory informatics consultancy services	n/a	n/a	n/a	n/a	n/a	
	May-17	iContracts	PolicyStat	Policy lifecycle management solutions	n/a	n/a	n/a	n/a	n/a	
Oracle	May-17	Simulations Plus	DILlsm Services	Drug-induced liver injury simulation software	\$3.0	n/a	\$10.0	3.33x	n/a	
	Mar-17	Genstar	Bracket Global	Clinical research development software	n/a	n/a	n/a	n/a	n/a	
PRA Health Sciences	Jan-17	DrFirst	VisibilityRx	Clinical trial recruitment services	n/a	n/a	n/a	n/a	n/a	
	Jan-17	Sarah Cannon Research	GenoSpace	Reporting tools for clinical labs	n/a	n/a	n/a	n/a	n/a	
Sartorius	Jan-17	QIAGEN	OmicSoft	Biomarker data management	n/a	n/a	n/a	n/a	n/a	
Signant Health	Average							4.40x	16.7x	
Thermo Fisher Scientific	Median							4.59x	18.0x	
Veeva										
WCG										
Other										

Sources: Capital IQ, Public Filings, Press Releases, PitchBook, proprietary Madison Park Group research based on publicly available information  
Note: All EBITDA Multiples >30x are considered not to be meaningful as valuation of business clearly influenced by factors other than profitability

# Precedent Fundraising Transactions

## Life Sciences Software: 2017-Present

(\$ in Millions)										
Company Overview						Fundraise Summary				
Date	Company	Employees (10/23/2020)	Description	Lead Investor	Type	Amount Raised	Pre-Money Valuation	Implied Ownership	Multiple Of Last Rd	Raised To-Date
Oct-20	Ovation Life Sciences	58	Cloud-based laboratory information management	Undisclosed	Venture	\$21.3	n/a	n/a	n/a	\$11.8
Oct-20	Labforward	29	Electronic lab notebook and IoT platform	Undisclosed	Venture	\$5.9	n/a	n/a	n/a	\$8.2
Sep-20	Blue Mountain	64	Life sciences focused enterprise asset management	Accel-KKR	Growth / Recap	n/a	n/a	n/a	n/a	n/a
Sep-20	CluePoints	68	Risk-based quality management software	Summit Partners	Growth / Recap	\$22.6	n/a	n/a	n/a	\$26.8
Aug-20	Castor	155	EDC, eConsent, ePRO and study management	Two Sigma Ventures	Venture	\$12.0	n/a	n/a	n/a	\$18.3
Jun-20	Qualio	52	Quality management platform	Storm Ventures	Venture	\$11.0	n/a	n/a	n/a	\$16.7
Jun-20	DNAexus	140	Genome informatics and data management	Perceptive Advisors	Venture	\$100.0	\$180.0	35.7%	1.0x	\$272.6
May-20	Benchling	284	Cloud-based informatics platform	Alkeon Capital	Venture	\$50.0	\$850.0	5.6%	2.0x	\$111.8
May-20	Medable	161	Decentralized trial platform	GSR Ventures	Venture	\$25.0	n/a	n/a	n/a	\$61.6
Apr-20	TrialBee	32	Patient recruitment and retention solutions	MTIP	Venture	\$12.0	n/a	n/a	n/a	\$21.2
Apr-20	ObvioHealth	26	Digital recruitment and siteless / hybrid trials	IQVIA	Venture	\$16.8	n/a	n/a	n/a	\$20.9
Feb-20	Verana Health	107	De-identified clinical data sets	Google Ventures	Venture	\$100.0	\$150.0	40.0%	n/a	\$138.8
Jan-20	HelpAround	16	Patient concierge platform	IQVIA	Venture	\$6.0	\$19.9	23.2%	n/a	\$6.8
Jan-20	eClinical Solutions	229	Cloud-based clinical data services	Summit Partners	Growth / Recap	n/a	n/a	n/a	n/a	n/a
Dec-19	BC Platforms	67	Genome data management	IQVIA	Venture	\$15.0	n/a	n/a	n/a	\$24.7
Dec-19	Suvoda	406	Randomization and trial supply management	LLR Partners	Growth / Recap	\$40.0	n/a	n/a	n/a	\$40.0
Nov-19	4G Clinical	165	Randomization and trial supply management	Schooner Capital	Venture	\$14.6	n/a	n/a	n/a	\$15.6
Nov-19	Deep 6 AI	48	AI-enabled patient trial matching platform	Point72 Ventures	Venture	\$17.0	\$51.0	25.0%	n/a	\$22.0
Oct-19	Sensely	16	Remote assessment/virtual clinical assistant hub	Aflac Ventures	Venture	\$15.0	\$35.0	30.0%	1.2x	\$27.7
Oct-19	Trials.ai	6	Protocol technology platform	Teal Ventures	Seed	\$1.3	n/a	n/a	n/a	\$1.4
Sep-19	Longboat Clinical	80	Clinical trial conduct management	Enterprise Ireland	Venture	n/a	n/a	n/a	n/a	n/a
Sep-19	Florence Healthcare	67	Clinical trial document management	Fulcrum Equity	Venture	\$7.1	n/a	n/a	n/a	\$8.8
Jul-19	Benchling	284	Cloud-based informatics platform	Menlo Ventures	Venture	\$34.5	\$380.5	8.3%	5.1x	\$61.8
Jul-19	Qualio	52	Quality management platform	MHS Capital Management	Seed	\$2.6	n/a	n/a	n/a	\$5.6
Jul-19	Monocl	74	Stakeholder management	GP Bullhound	Venture	\$3.4	n/a	n/a	n/a	\$5.1
May-19	ScienceMedia	33	Learning content for clinical and medical affairs	Undisclosed	Venture	\$1.6	\$6.0	21.3%	1.4x	\$2.2
May-19	Riffyn	48	Scientific development environment platform	M Ventures	Venture	\$15.1	\$37.5	28.7%	1.5x	\$27.5
May-19	Axiom Metrics	177	eClinical software suite	Great Point Partners	Growth / Recap	n/a	n/a	n/a	n/a	n/a
May-19	Elligo Health Research	123	Clinical research infrastructure services & technology	Piper Jaffray Merchant Banking	Venture	\$20.0	\$39.0	33.9%	1.3x	\$41.0
Feb-19	TriNetx	142	Research network and clinical optimization platform	Merck Innovation Fund	Venture	\$40.0	\$120.0	25.0%	1.2x	\$102.0
Feb-19	Complion	54	eRegulatory for research sites	Beringea	Venture	\$7.0	\$15.0	31.8%	2.0x	\$13.3
Feb-19	doDoc	19	Content authoring	Cactus Sky Communications	Seed	\$1.5	\$5.5	21.4%	n/a	\$3.5
Jan-19	Clinithink	38	Clinical data solutions	TripleTree Capital Partners	Growth / Recap	\$15.6	\$30.6	33.8%	1.7x	\$41.1
Jan-19	Invio	3	Clinical trial document management	Elevate Capital	Seed	\$0.1	\$6.4	1.5%	n/a	\$0.5
Jan-19	Teckro	134	Clinical trials processing platform	Northpond Ventures	Venture	\$25.0	n/a	n/a	n/a	\$42.8
Oct-18	Comprehend Systems	16	Cloud-based clinical intelligence platform	Eminence Capital	Venture	\$29.7	\$45.7	39.4%	0.5x	\$62.0
Oct-18	TRI	29	Risk-based quality management software	Octopus	Growth / Recap	n/a	n/a	n/a	n/a	n/a
Oct-18	Aktana	341	Decision support for commercial teams	Leerink Transformation Partners	Venture	\$21.1	\$93.6	18.4%	2.0x	\$49.2
Sep-18	Inova Software	85	SaaS-based partnering platform	NextStage AM	Growth / Recap	\$6.9	n/a	n/a	n/a	\$8.1
Sep-18	TrialScope	44	Clinical disclosure and patient engagement software	Undisclosed	Venture	\$4.0	n/a	n/a	n/a	\$20.3
Jul-18	Verana Health	107	De-identified clinical data sets	Google Ventures	Venture	\$30.0	n/a	n/a	n/a	\$38.8
Jul-18	Castor	155	EDC, eConsent, ePRO and study management	INKEF Capital	Seed	\$6.3	n/a	n/a	n/a	\$6.3
Jun-18	Vium	16	Digital biomarkers for preclinical research	Lux Capital Management	Venture	\$24.0	n/a	n/a	n/a	\$53.9
Jun-18	Benchling	284	Cloud-based informatics platform	Benchmark	Venture	\$14.5	\$60.0	19.5%	1.5x	\$27.3
Jun-18	nPhase / RedCap	40	Clinical data management	Undisclosed	Seed	\$1.5	n/a	n/a	n/a	\$3.1
May-18	TrialBee	32	Patient recruitment and retention solutions	Industrifonden	Venture	n/a	n/a	n/a	n/a	\$9.2
Mar-18	ClinCapture / Clinovo	30	EDC software and clinical services	Rock Health	Seed	\$1.9	\$9.1	17.3%	1.2x	\$3.4

# Precedent Fundraising Transactions

## Life Sciences Software: 2017-Present

MADISON PARK GROUP

(\$ in Millions)										
Company Overview						Fundraise Summary				
Date	Company	Employees (10/23/2020)	Description	Lead Investor	Type	Amount Raised	Pre-Money Valuation	Implied Ownership	Multiple Of Last Rd	Raised To-Date
Mar-18	ObvioHealth	26	Digital recruitment and siteless / hybrid trials	SPRIM Ventures	Venture	\$3.0	n/a	n/a	n/a	\$4.1
Mar-18	Elligo Health Research	123	Clinical research infrastructure services & technology	Nor-Moseley Partners	Venture	\$16.0	\$15.0	51.6%	0.3x	\$21.0
Feb-18	PatientWing	10	Patient engagement	Ben Franklin Technology Partners	Seed	\$0.6	n/a	n/a	n/a	\$0.7
Feb-18	COTA	80	Healthcare informatics and precision analytics	IQVIA	Growth / Recap	\$40.0	n/a	n/a	n/a	\$61.7
Jan-18	doDoc	19	Content authoring	Right Side Capital Management	Seed	\$1.4	n/a	n/a	n/a	\$2.0
Dec-17	TPS	29	Virtual monitoring services and technology	The Argentum Group	Growth / Recap	\$4.0	n/a	n/a	n/a	\$4.0
Oct-17	Cytel	1029	Statistical data management and CRO services	New Mountain Capital	Growth / Recap	n/a	n/a	n/a	n/a	n/a
Oct-17	Riffyn	48	Scientific development environment platform	Next47	Venture	\$6.0	\$19.0	24.0%	1.5x	\$12.4
Sep-17	Antidote	52	Patient recruitment services and software	Merck Innovation Fund	Venture	\$11.0	n/a	n/a	n/a	\$30.4
Aug-17	Teckro	134	Clinical trials processing platform	Sands Capital Ventures	Venture	\$10.0	n/a	n/a	n/a	\$17.8
Jul-17	Sensely	16	Remote assessment/virtual clinical assistant hub	Mayo Clinic	Venture	\$8.0	\$22.0	26.7%	n/a	\$12.7
May-17	Medrio	150	Electronic data capture	Questa Capital	Growth / Recap	\$30.0	\$70.0	30.0%	1.9x	\$33.6
May-17	BC Platforms	67	Genome data management	Debiopharm Innovation Fund	Venture	\$9.7	\$15.9	37.8%	n/a	\$9.7
Apr-17	TrialScope	44	Clinical disclosure and patient engagement software	Undisclosed	Venture	\$3.6	n/a	n/a	n/a	\$16.3
Jan-17	Qualio	52	Quality management platform	Enterprise Ireland	Seed	\$2.5	n/a	n/a	n/a	\$3.0
Seed Median		25				\$1.5	\$6.4	17.3%	1.2x	\$3.1
Venture Median		63				\$14.8	\$39.0	26.7%	1.4x	\$21.0
Growth / Recap Median		83				\$22.6	\$50.3	31.9%	1.8x	\$33.6
Overall Median		56				\$12.0	\$36.3	25.8%	1.5x	\$18.0

# Public Comparables

## Life Sciences Software Vendors

(\$ in Millions)															
Company	Market Data		Operating Metrics							Valuation Metrics					
	Price \$	Enterprise	Revenue Growth		Last Fiscal Year		CY EBITDA Margin			EV / CY Revenue			EV / CY EBITDA		
	10/23/2020	Value	'19-'20	'20-'21	Rec. Rev. %	GM %	LTM	2020E	2021E	LTM	2020E	2021E	LTM	2020E	2021E
Dassault Systemes	\$175.37	\$48,221	11.3%	9.8%	63.2%	84.2%	19.1%	33.2%	33.8%	9.22x	9.11x	8.30x	n/m	27.5x	24.5x
IQVIA Holdings	\$167.47	\$43,886	1.1%	11.8%	n/a	34.2%	16.2%	20.9%	22.0%	4.01x	3.92x	3.50x	24.8x	18.7x	15.9x
Model N	\$35.38	\$1,146	12.2%	9.5%	74.5%	53.2%	(4.0%)	12.3%	13.6%	7.34x	7.00x	6.39x	n/m	n/m	n/m
Veeva Systems	\$296.85	\$43,335	28.6%	20.3%	81.2%	72.5%	27.1%	39.1%	39.1%	33.77x	31.09x	25.84x	n/m	n/m	n/m
Median			11.7%	10.8%	74.5%	62.9%	17.6%	27.1%	27.9%	8.28x	8.06x	7.34x	24.8x	23.1x	20.2x

Sources: Capital IQ, Public Filings

Note: All EBITDA Multiples > 30x are considered not to be meaningful as valuation of business clearly influenced by factors other than profitability.

Note: Dassault currency adjusted from EUR to USD using an exchange rate of US / EUR 1 = 1.18371

Note: Model N and Veeva fiscal years ending September and January respectively have been calendarized for better comparison with IQVIA and Dassault

## IV. Appendix

















### About MPG

# Trusted Advisor to the Life Sciences Software Market

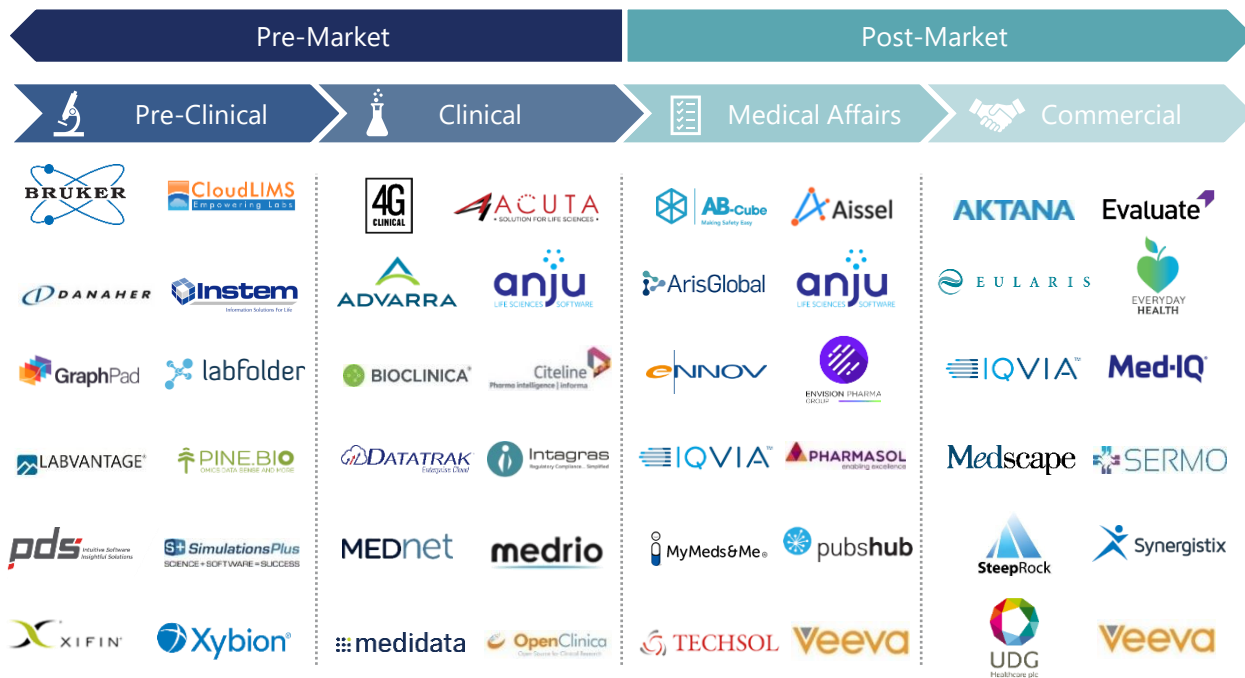
## Coverage Model: Symbiotic Dialogue With All Market Constituents

MADISON PARK GROUP

### Extensive Track Record

 <b>Recapitalization</b>  Life Sciences Software  <b>Strategic Sale</b>  HCP Contract Compliance  <b>Strategic Sale</b>  Sunshine Act Compliance  <b>Strategic Sale</b>  Pharma Branding Analytics	 <b>7 Acquisitions</b>  Physician/Clinical Sites  <b>7 Acquisitions</b>  Clinical & Med. Affairs Data  <b>Strategic Sale</b>  Clinical Content Mgmt.  <b>Strategic Sale</b>  Healthcare Analytics
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### Constant Dialogue with Potential Acquirers, Partners & Targets



*"We are witnessing accelerated innovation and investment in the life sciences market and are excited about the opportunities it presents, both for established players and rising stars. Our constant market monitoring coupled with deep transaction experience enables us to guide clients as they navigate through a rapidly changing ecosystem and pursue their long-term strategic goals."*

*Rohan Khanna, Managing Director*

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