

Smart Data

Predictive & Advanced Analytics Market Overview

June 2017

Smart Data: The Context

As the use of big data has exploded across all sectors of the economy, driven by rapid technological innovation and the availability of new and varied types of data, organizations large and small have embraced data as a key value driver for their business.

This trend has promoted capital availability for rapid startup creation and expansion. The result is a market that has given birth to more than 1,000 private companies that have collectively raised nearly \$27 billion.

This crowded and fragmented market is causing confusion for potential customers, partners, acquirers, and investors.

Catapult Advisors' Smart Data initiative is our proactive approach to understanding and analyzing the broader big data market.

We have categorized the big data and analytics offerings of the large public vendors and private companies into a taxonomy comprised of four sectors and 55+ subsectors.

By combining our deep sector expertise with our extensive transaction, corporate development, and operational experience, we are able to provide value-added insights and advice to our clients.

Crowded & Fragmented Market



Frenzied Financing





Catapult Advisors' Smart Data Taxonomy

Applications				
Vertical				Horizontal
Agriculture	Gaming	Legal	Retail	Fraud
CPG	Government	Manufacturing	Telecom	HR
Education	Healthcare	Media	Logistics	IT
Energy	Hospitality	Pharma	Weather	Security
Finance	Law Enforcement	Real Estate		
Analytics				
BI	Advanced Analytics		Customer Analytics	
BI Platform Embedded BI Dashboards Performance Management	AI/Cognitive Collaborative Analytics Deep Learning Geo Intel Image Analytics Interactive Visualization Log Analytics	Machine Learning Platforms Predictive Analytics Real-Time Statistical Text Analytics Voice Analytics	A/B Testing Campaign eCommerce Mobile Personalization	Predictive/CLV Sales Social VoC Web
Data Governance				
Data Management		Data Policies		Data Sources
Data Discovery Data Prep Data Virtualization Data Integration & ETL	Master Data Management Metadata Management Quality & Cleansing Search & Indexing	BPM & CEP Data Masking Data Security	Data Exchange IoT & Sensor Data Provider & DaaS	
Data Infrastructure				
Databases		Cluster Services	Other	
DBaaS Graph IMDG In-Memory	NewSQL NoSQL MPP SQL-on-Hadoop	Hadoop & HaaS Spark & SpaaS	On-prem EDW Cloud EDW Data Lake PaaS	

Predictive & Advanced Analytics Market Overview

Predictive & Advanced Analytics: Market Overview & Key Trends

Recent advances in data processing and mathematical computation have enabled unparalleled predictive accuracy in data analytics. As a result, predictive analytics, and its varying methodologies, has attracted significant investor and acquirer interest, with the predictive analytics market seeing the most strategically valued transactions of any category in our Smart Data stack.

Predictive & Advanced Analytics By the Numbers

2017 TAM: \$17.5bn*

4 Year CAGR: 13.4%*

Number of Private Companies: 310+

Predictive & Advanced Analytics Key Trends

Generational Divide



- Older analysts grew up with SAS and SPSS, but younger generations are favoring next-gen architectures, open source tools, and simpler user interfaces.

Analytics + Data Prep = Full Analytics Workflow



- Predictive analytics vendors are realizing that analytics is only a portion of what customers need. Sector leaders are expanding into data preparation to provide a full analytics workflow solution.

Rise of the Machine



- Data volume and variety, combined with cloud elasticity and advanced computing, is enabling sophisticated data analytics via machine learning and artificial intelligence. Model automation is improving data science efficiency and enabling the use of these tools by less savvy analysts.

Democratization & Collaboration



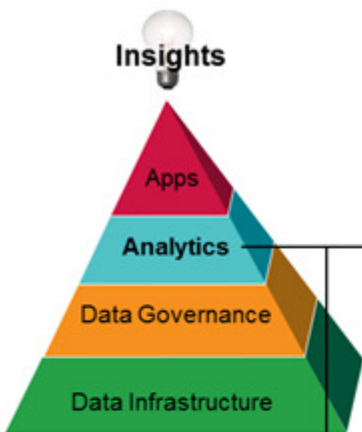
- For predictive analytics, the self-serve mantra is giving way to a more collaborative approach. Platforms that bridge data scientists and business users are becoming the preferred choice.

Verticalization & Specialization



- One-size-fits-all is being replaced by industry-specific requirements. Strategic acquirers and investors are now emphasizing vertical solutions, and seeking promising companies targeting these stickier and less crowded markets.

Select Vendors in Predictive & Advanced Analytics



Smart Data Stack

BI

Customer Analytics
Customer Experience Overview

Advanced Analytics

= Acquired

Subsectors Covered			
Predictive & Advanced Analytics			
<ul style="list-style-type: none"> Analytics Platform Interactive Data Visualization Predictive Analytics 	<ul style="list-style-type: none"> IT/Log Analytics Real-time Machine Learning AI / Cognitive 	<ul style="list-style-type: none"> Text Analytics Statistical Geo Intelligence Voice Analytics 	<ul style="list-style-type: none"> Image Analytics Collaborative Analytics
<p>DecisionNext rapidminer TERALYTICS Predixion Predictive Analytics ENTHOUGHT CONTINUUM CIVIS</p> <p>kxen SPSS KNIME ZEMENTIS QUITERIAN APT Rapid Insight IVA SCIENCE Angoss ALPINE DATA</p>			
<p>Interactive Data Visualization</p> <p>GOOMDATA centrifuge AVS DataHero platforma vibrantdata SALIENT Spotfire +bleau visual.ly EdgeSpring</p>			
<p>Machine Learning</p> <p>sparkcognition Brighterion ersatz emcien turi rulex</p> <p>arago PredictionIQ H2O.ai SKYTREE WISEIO bigml DataRobot YOTTAMINE ANALYTICS AYASDI</p>			
<p>Analytics Platform</p> <p>ClearStory Qaction UPTAKE Datameer alteryx PERCEIVANT SAGGEZZA data iku paradigm4</p> <p>New Relic Palantir Kitenga aginity</p>			
<p>Statistical</p> <p>REVOLUTION ANALYTICS SALFORD SYSTEMS R Studio STATWING StatSoft Qtonian MathWorks Minitab STATA plotly</p>			
<p>Real-time Analytics</p> <p>ARGYLE DATATORRENT Algorithms.io VITRIA guavus nodeable</p>			
<p>AI & Cognitive</p> <p>skymind [PERSADO] Affective Keygen Labs GROKSTYLE PETUUM NarrativeScience</p> <p>Cognitive Scale sentient vicarious SI SCALED REFERENCE pilot.ai Numenta SPARKBEYOND clarifai KOAGENTIX yseop</p> <p>nervana MindMeld saffron ai AUTOMATED Quid DATARPM BeyondCORE Digital Reasoning</p>			
<p>Text Analytics</p> <p>LUMINOSE TREPAREL ouReveal equivio sapl pingar PROVALIS Bitext.com Smartlogic Megaputer Contain Analyst AchemyAPI</p>			
<p>IT/Log Analytics</p> <p>yrocana papertrail SCALYR loggly graylog loglogic Keen IO splunk> APPFLUENT logdna sumologic X15 logentrics</p>			
<p>Image Analytics</p> <p>ditto ditto Moodstocks Orbeus</p> <p>MapBox HUMAN GEO CARTOBS esri CURALATE tubular face.com</p>		<p>Collaborative Analytics</p> <p>sense ARIMO MODE yhat DOMINO looker</p>	
<p>Voice Analytics</p> <p>Mathersight VPI nexidia Callminer</p>			

Predictive & Advanced Analytics Gap Analysis: Select Large Strategics

Vendor	BI				Advanced Analytics											Select Relevant Acquisitions	
	BI Tools	Performance Management	Embedded BI	BI Platform	Analytics Platform	Interactive Data Visualization	Predictive Analytics	IT/Log Analytics	Real-time Analytics	Machine Learning	AI / Cognitive Computing	Text Analytics	Statistical Computing	Geo Intelligence	Voice Analytics		Image Analytics
IBM	Strong	Limited	Good	Strong	Strong	Good	Strong	Good	Strong	Strong	Strong	Strong	Strong	Good			Cognos, SPSS, Alchemics, i2, Alphablox, AlchemyAPI
Oracle	Strong	Good	Limited	Strong	Strong	Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Good			Hyperion, Endeca, DataRaker
SAP	Strong	Strong	Limited	Strong	Strong	Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Good			Business Objects, KXEN, Pilot Software, Roambi
Microsoft	Strong		Good	Strong	Strong	Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Good			ProClarity, FAST, 90 Degree, Altamira, Revolution, Datazen, Equivio, Wand, Maluuba
Tibco	Good		Good			Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Good			Statistica, JasperSoft, Spotfire, LogLogic, Maporama, Insightful
SAS	Good	Limited		Strong	Strong	Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong			aiMatch, Teragram
Salesforce.com	Good					Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong			EdgeSpring, RelateIQ, BlueTail, PredictionIO, MetaMind, BeyondCore
Google					Strong	Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Good		Strong	Deepmind, Waze, Moodstocks
MicroStrategy	Strong		Limited	Strong	Strong	Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong			
Amazon	Good			Good	Good	Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong			Safaba, Orbeus, Amiato
Software AG	Limited	Limited				Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong			Jackbe, Terracotta, Zementis
Palantir					Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong			
Qlik	Strong		Limited			Good	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Good			NComVA, Vizubi, Idevio
Tableau	Good					Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Good			InfoActive, HyPer
FICO						Limited	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Strong			Entiera, Adepra, HNC Software, InfoCentricity

= No Presence
 = Limited Presence
 = Good Presence
 = Strong Presence

Key Transaction Trends & Marquee M&A

Key Transaction Trends

Broadening of the Buyer Pool

- As data becomes a highly valued asset across all industries, the buyer pool for attractive startups has grown to include atypical acquirers paying premium valuations.
- Startups proving success in one or more vertical will see increased bidding competition, leading to higher valuations.

Competitive Dynamics Driving M&A

- Lofty public statements, particularly around machine learning and AI, as well as new product announcements, are causing an arms race amongst acquirers.
- Some startups, meanwhile, are beginning to consider their strategic options after seeing their peers announce high-profile financings.

Robust Valuations & Market Timing

- The predictive analytics market has seen more strategically valued acquisitions—transactions that were highly valued based on the technology rather than commercial traction—than any other Smart Data category.
- As a result, startup CEOs are becoming increasingly confident that now may be the time for an optimal exit.



EXCLUSIVE PREMIUM
SAP Guns for Market Leadership in Machine Learning

Google's next-generation AI training system is monstrously fast
The TPU V2 could be a huge boon to Google's cloud computing platform





















Jeff Bezos explains Amazon's artificial intelligence and machine learning strategy

LOOKER CATCHES THE FANCY OF CAPITALG, GOLDMAN AND GEODESIC WITH \$81.5M SERIES D
Automated machine learning company DataRobot raises \$54m
DataRobot has raised \$54 million in a Series C round, bringing its total investment to \$111 million.

\$1.6 Billion Worth of Acquisitions Less than \$50MM of Revenue

- Since January 2015, acquirers have collectively spent \$1.6bn on nine strategically valued deals.
- Those targets, in aggregate, generated less than \$50MM of annual revenue prior to their sale.

Marquee M&A in Predictive & Advanced Analytics

Transaction	Date	Price (\$MM)	Price / Rev	Description
 / 	5/13/17	200.0*	NM	▪ Advanced analytics via turning “dark data” into structured data
 / 	5/11/17	125.0	NM	▪ Conversational AI & machine learning
 / 	8/15/16	110.0	NM	▪ Predictive analytics & hyperactive algorithm retraining
 / 	8/9/16	400.0*	NM	▪ Deep learning & machine learning ▪ Specialized CPU acceleration
 / 	8/5/16	200.0*	NM	▪ Machine learning with storage optimization specialization
 / 	7/9/15	190.0	NM	▪ Machine learning for cybersecurity & behavioral analytics
 / 	6/17/15	105.0*	15.0*	▪ Machine learning & AI software for product testing & debugging
 / 	5/5/15	105.0	17.5*	▪ Machine learning & predictive analytics ▪ Vertical specialization
 / 	4/27/15	600.0	N/A	▪ Predictive analytics for financial institutions
 / 	1/23/15	120.0*	8.0*	▪ Open source R statistical distribution package



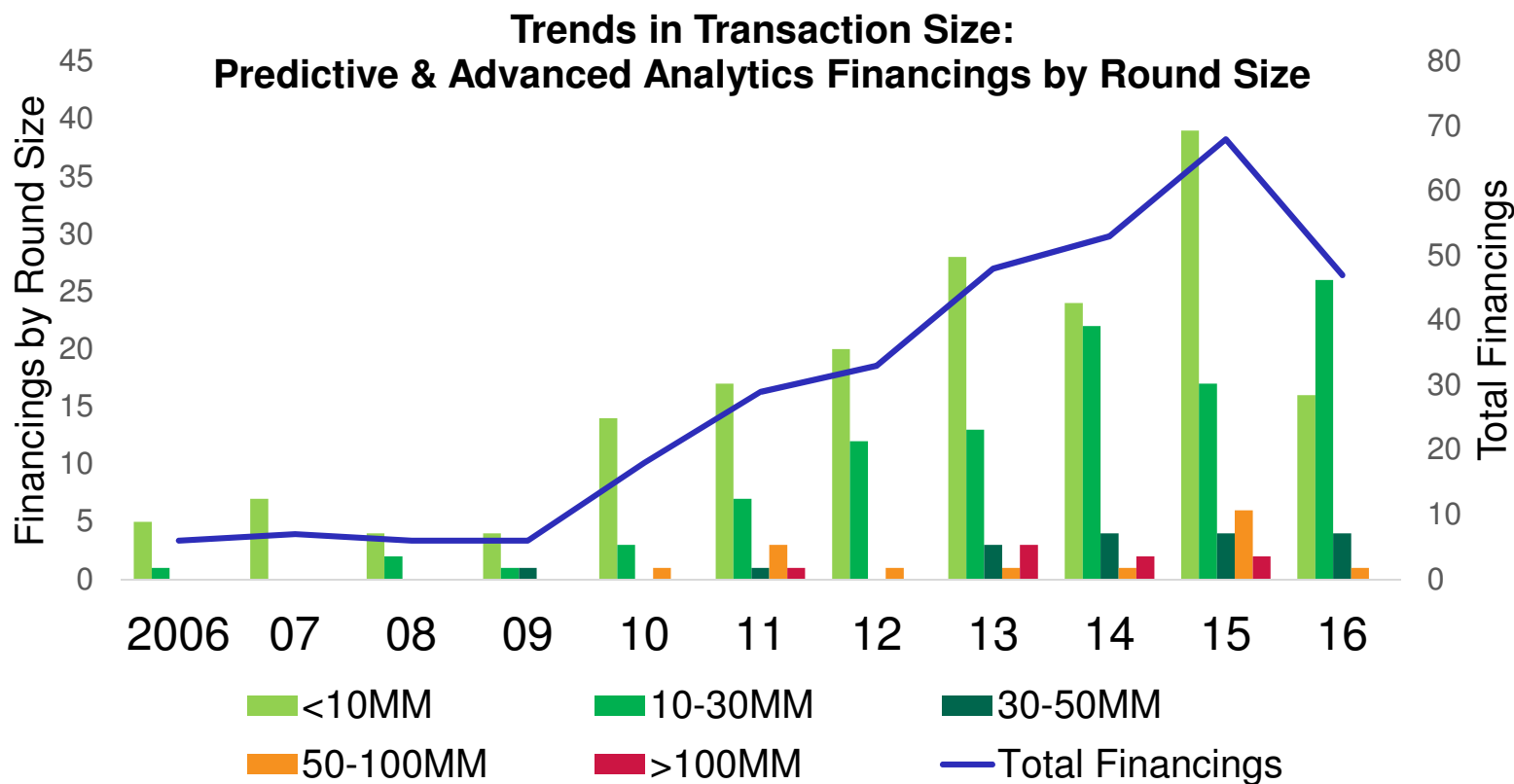
Select Advanced Analytics M&A Activity

Date	Target	Acquiror	Target Summary	Transaction	LTM Revenue	LTM Rev.
				Value		Mult.
5/15/2017	Statistica	TIBCO	Statistical analytics	N/A	N/A	N/A
5/13/2017	Lattice Data	Apple	Unstructured analytics	200.0	N/A	N/A
5/11/2017	MindMeld	Cisco	AI & machine learning	125.0	N/A	N/A
4/28/2017	Guavus	Thales Group	Real-time analytics	215.0	30.0	7.2
4/25/2017	BIRST	Infor	BI platform	N/A	N/A	N/A
3/29/2017	DataRPM	Progress Software	Predictive for IoT	30.0	2.5*	12.0*
3/20/2017	BISAM Technologies	FactSet Research	BI & CPM	205.2	28.0	7.3
3/7/2017	Tagetik	Wolters Kluwer	BI & CPM	EUR 300.0	EUR 57.0	5.3
3/6/2017	Salford Systems	Minitab	Statistical analytics	N/A	N/A	N/A
1/13/2017	Maluuba	Microsoft	Machine learning	N/A	N/A	N/A
12/2/2016	Zementis	Software AG	Predictive analytics	EUR 32.0*	N/A	N/A
11/15/2016	Wise.io	GE	Machine learning	N/A	N/A	N/A
8/15/2016	Beyondcore	Salesforce	Predictive analytics	110.0	N/A	N/A
8/9/2016	Nervana Systems	Intel	Deep learning	400.0*	N/A	N/A
8/8/2016	Covalent Software	Ideagen	BI & CPM	GBP 3.6	GBP 2.2	1.6
8/5/2016	Turi (fka Dato)	Apple	Machine learning	200.0*	7.0*	28.6*
7/21/2016	Platfora	Workday	BI on Hadoop	156.0	11.0*	14.2*
6/28/2016	Predictix	Infor	Predictive for retail	150.0*	N/A	N/A
6/2/2016	Qlik	Thoma Bravo	BI	3,000.0	630.5	4.8
4/4/2016	MetaMind	Salesforce	Machine learning	32.8	N/A	N/A
3/29/2016	EagleEye Analytics	Guidewire Software	Insurance analytics	42.0	N/A	N/A
2/26/2016	Identified	Workday	HR analytics	26.3	N/A	N/A
2/19/2016	PredictionIO	Salesforce	Machine learning	N/A	N/A	N/A
2/18/2016	Truven Health Analytics	IBM	Healthcare analytics	2,600.0	N/A	N/A
1/11/2016	Nexidia	NICE Systems	Voice analytics	135.0	N/A	N/A

Source: Catapult Advisors research; *Catapult estimate; N/A = Not Available
Transaction Values and LTM Revenues are in \$MM.

Fundraising Activity

Predictive & Advanced Analytics Private Financing Trends



Source: Catapult Advisors research; Capital IQ. Excludes acquired and public companies and rounds < \$1MM. Data includes Next-Gen BI, Predictive & Advanced Analytics companies.



Select Recent Private Financings

<u>Date</u>	<u>Company</u>	<u>Investors</u>	<u>Amount</u>
3/31/2017	Mode Analytics	Foundation Capital; REV; Goldcrest Investments	13.0
3/23/2017	DataRobot	NEA	54.0
3/22/2017	Virtualitics	The Venture Reality Fund, LLC	4.5
3/16/2017	Looker Data Sciences	Goldman Sachs; KPCB; MeriTech; Redpoint; Sapphire; CapitalG; Geodesic	81.5
3/15/2017	KNIME.com AG	The Invus Group, LLC	21.3
2/27/2017	Preved'ere	Norwest; Rev1 Ventures; Microsoft Accelerator; PointGuard Ventures	10.0
2/15/2017	SlamData	Access VP; Flywheel; Shasta; True Ventures; Seven Peaks Ventures	6.7
2/13/2017	Predikto	TechOperators; Fidelis Capital	4.0
1/27/2017	Uptake Technologies	Revolution Growth	90.0
1/10/2017	Logtrust S.L.	Atlantic Bridge; Investing PROFit Wisely; Kibo Ventures	11.0
1/10/2017	Mighty AI	Madrona Venture Group; NEA; Intel Capital; Foundry Group; GV; Accenture	14.0
1/5/2017	Klipfolio	BDC; Converge Venture Partners; Acadia Woods; BOLDstart; OMERS; Mistral VP	9.1
12/15/2016	HyperScience	FirstMark; Felicis; BoxGroup; Slow Ventures; AME; Acequia Capital; Third Kind	18.0
12/14/2016	Neurala	DFJ; Pelion VP; IDInvest; Motorola Solutions; 360° Capital; SKVentures; Sherpa Ventures	14.0
11/30/2016	Civis Analytics	Wind Point Partners; Verizon Ventures; Drive Capital	22.0
11/17/2016	Domino Data Lab	Sequoia; In-Q-Tel, Inc.; Bloomberg Beta; Zetta VP	10.5
11/16/2016	Petuum	Intertrust; Northern Light VC; Oriza Ventures; Tencent	15.0
11/15/2016	LogsHero	83 North; Giza Venture Capital; OpenView	16.0
11/7/2016	Periscope Data	Bessemer; DFJ; Innovation Endeavors; AngelPad; Susa Ventures	25.0
11/1/2016	Voyager Labs	Horizons Ventures	100.0
10/25/2016	DataIKU	FirstMark; Alven Capital Partners; Serena Capital	14.0
10/12/2016	Clarifai	Menlo; Osage Partners; QUALCOMM Ventures; Lux Capital; Union Square Ventures	30.0
10/11/2016	Cloverpop	TDF Ventures; True Ventures; Next Coast Ventures	6.2
10/4/2016	Wavefront	Sequoia; Sutter Hill Ventures; Tenaya Capital	52.0

Source: Catapult Advisors research; CapitalIQ.
Amount raised is in \$MM.

Catapult Advisors Overview

The Catapult Difference

Smart Data: Big Data & Analytics

Sector Expertise	Unique Perspective	Ongoing M&A Dialogue	Focused Investor Relationships
<ul style="list-style-type: none"> Tracking 1,000+ private Smart Data companies Detailed market landscapes, trends & sector analyses 	<ul style="list-style-type: none"> Infrastructure Governance Analytics Apps IoT And 55 subsectors 	<ul style="list-style-type: none"> Proactive and relationship-driven Constantly speaking with traditional tech & non-traditional partners 	<ul style="list-style-type: none"> Ongoing communication with expansion-stage VCs & strategic investors in Smart Data



Catapult Overview

Banking the Data-driven Economy

- Smart Data: Big Data & Analytics
- IoT & Communications
- Next-Gen MarTech

Unique Experience

- Founded in 2001
- 100+ Partner Years of Experience
- Investment Banking + Corporate Development + Market Intelligence

Mergers & Acquisitions

- Sell-side, Buy-side, Corporate Divestitures

Growth Capital

- Strategic Investment, Growth VC & PE

Corporate Development Advisory

- Outsourced Corporate Development

Senior Leadership

Ron Lissak, Managing Partner

- 30+ Years Experience



Bob Harris, Partner

- 35+ Years Experience



Barry Newman, Partner

- 30+ Years Experience



Ben Kolada, Vice President

- 10+ Years Experience



Ron Lissak Managing Partner



Ron founded Catapult Advisors in 2001 and specializes in advising CEOs and boards of software and internet companies on their capital raising and M&A strategies (both buy-side and sell-side). Ron has been a frequent speaker on the topics of software M&A and venture capital, and is often quoted in the press on these topics. Prior to founding Catapult, Ron focused on raising public and private equity for venture-backed growth companies. Most recently, he served as Managing Director and Head of the Private Equity Group at Banc of America Securities (formerly Montgomery Securities). In that position, Ron was responsible for all private equity capital raising activity for Bank of America globally. Previously, Ron was Co-Head of Montgomery Securities' international division where, for nine years, he and his team assisted public and private venture-backed companies in accessing capital from international institutions. Ron began his business career with Salomon Brothers in New York and London, where he was responsible for raising capital from institutional investors throughout Europe.

Ron lives in San Francisco with his wife and three children. When he's not in the office, he's usually in a board meeting for one of the non-profits he is affiliated with or shuttling his kids between lacrosse tournaments, horse shows and rowing regattas. Ron holds a BA in Philosophy from the University of California, Berkeley and an MA in International Economics and International Relations from The Johns Hopkins University, School of Advanced International Studies (SAIS).

Barry Newman, Partner



Barry A. Newman joined Catapult Advisors in April of 2017 and was the Managing Partner of Rutberg & Company from 2012 until 2017. Barry has extensive experience in business strategy, corporate finance and mergers and acquisitions. From 2006 through 2011, Barry was a Managing Director at NeoCarta Ventures. Previously, he was Vice Chairman of the Technology Group at Bear Stearns, the Head of Global Technology Corporate and Investment Banking at Banc of America Securities and the head of Global Technology Corporate Finance at Salomon Brothers and Salomon Smith Barney. During his career he has been the primary M&A advisor to many of the largest technology and media companies in the world.

Barry holds BS degrees in both Chemical Engineering and Life Sciences from MIT, MBA and JD degrees from Stanford University and a Master of Laws (Taxation) from NYU.

Robert C. Harris, Partner



Robert C. Harris, Jr. joined Catapult Advisors in April of 2017 and was previously the Vice Chairman of Investment Banking at Rutberg & Company and a Partner and founding member of Stone Key Partners. Mr. Harris was also a Senior Managing Director at Bear Stearns where he was Vice Chairman, Head of the Technology Group and Co-Head of the Global Technology, Media and Telecom Group. Mr. Harris also helped build Bear Stearns' investment banking efforts in China and India. Prior to joining Bear Stearns in 1998, Mr. Harris was the founder of Unterberg Harris, a full service investment bank and a General Partner, Managing Director and a Member of the Board of Directors of Alex. Brown & Sons, where he established the firm's West Coast operations.

Mr. Harris is well known in the technology sector and has advised many of the industry leaders across all the major areas of technology, including: Microsoft, Oracle, IBM, HP, Sun Microsystems, Cisco, ZTE, Tellabs, 3Com, Cypress, KLA, ASMI, Applied Materials, ASML, Varian, Cadence, Mentor Graphics, Flextronics, Solectron, Activision, Electronic Arts, Take-Two Software and many others.

Mr. Harris has served on numerous public and private Boards of Directors, and has been active in Bay Area charities. He served in the US Army and received B.S. and M.B.A. degrees from University of California at Berkeley.

Ben Kolada, Vice President



Ben joined Catapult Advisors in 2014 to build out the firm's Smart Data initiative. A career research analyst, Ben was previously Research Manager of The 451 Group's M&A KnowledgeBase division. He started at The 451 as a Research Associate, covering M&A transactions, valuations and trends throughout the enterprise software market. Before The 451, Ben was an Industry Analyst at boutique research firm NPRG in Chicago. At NPRG, he covered telecommunications competitive strategy and technology trends and created market sizing forecasts for several telecom sectors.

A Midwest native, Ben currently lives in San Francisco and received his BA in Political Science from Loyola University Chicago. Outside the office, he can be found rock climbing or occasionally rowing with the Iron Oars Rowing Club.

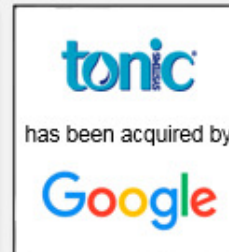


Senior Level Attention – Deep Industry Experience – Unique Perspective

Advisory Services and Selected Transactions

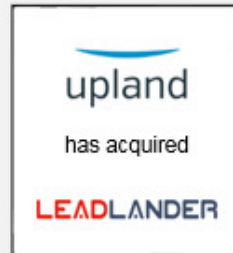
Mergers & Acquisitions

- Sell-side Advisory
- Buy-side Advisory
- Corporate Divestitures



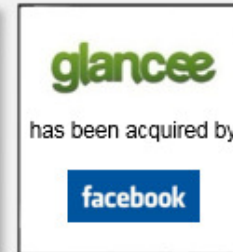
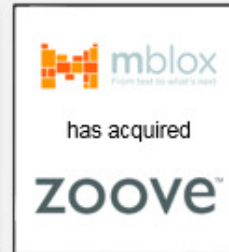
Growth Capital

- Strategic Investment
- Expansion-stage VC
- Private Equity



Corporate Strategy

- Corporate Development Advisory
- Strategic Visibility Enhancement



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