

May 2015

Financial Technology Partners LP FTP Securities LLC

Innovations in Capital Markets Technology

*Focusing on Open Source
Communication Networks,
Unstructured Data Analytics
and Intelligent Search*

Courtesy of:

FINANCIAL
TECHNOLOGY
PARTNERS

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Steve McLaughlin
Managing Partner
Tel: 415.992.8880

steve.mclaughlin@ftpartners.com

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Innovations in Capital Markets Technology

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B. Intelligent Search / Curated Research Tools / Information Providers



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I. Executive Summary

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Executive Summary: Overview

After years of regulatory and other market pressures, innovation in capital markets is undergoing a resurgence, particularly around open source communications, big data and intelligent search

Over the past decade, a confluence of events resulted in a notable lack of innovation in capital markets despite significant growth in Financial Technology more broadly ...

- Key factors weighing on innovation included the echo from the bursting of the technology bubble in the early 2000s and the aftermath of the financial crisis / recession in 2008 / 2009 – which resulted in a steady, multiyear decline in trading volumes – along with a heightened regulatory environment
- Perhaps, Wall Street & Technology said it best: “Firms are coding for new regulation, rather than breaking new ground” ⁽¹⁾

... however, the cold spell hovering over the capital markets is finally receding as increasingly cheaper cloud computing / storage power, greater bandwidth, multiple new sources of valuable investment data (including social media) and competitive forces leading to the constant search for alpha – along with renewed private equity and venture capital interest – are fostering a resurgence in capital markets innovation

Leading financial services data providers (Bloomberg, Thomson Reuters and others) continue to reap the benefits of their dominant legacy systems, analytical methodologies and traditional communication architectures; however, the lack of disruptive investments and acquisitions has created significant opportunities

- New entrants are disrupting historically integrated systems by targeting the most inefficient and valuable areas of the value chain and starting to “unbundle” these legacy systems

Although capital markets have previously been focused on high velocity market data, investors are shifting towards unstructured data in order to predict and capitalize on new information sources and trends

- Market participants are now demanding ways to gain much greater insight from the abundance of unstructured data available today (social media, blogs, etc.) as well as ways to better find, search and aggregate existing disparate structured data sources (SEC filings, press releases, conference call transcripts, etc.)

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Executive Summary: Areas of Focus

1. Open-Source Communication Networks

Dynamic solutions for global buy-side and sell-side firms to communicate and collaborate both internally and externally

- Landscape historically dominated by a few key players charging high annual fees and offering limited open-source capabilities
- Workflow inefficiency among traders on the buy and sell-sides is creating demand for “high-touch” online virtual collaboration technology
- Strong demand exists for solutions that can help financial institutions better solve increasingly onerous and complex compliance challenges
- Major consortium investments and other new entrants are reshaping this industry segment

2. Big Data / Unstructured Data Analytics and Intelligent Search

Sophisticated algorithmic and machine-learning engines that aggregate / process unstructured data along with real-time market data, research, news and events in order to simplify research and formulate investment strategies

- Social media, forums and blogs are becoming the fastest sources for breaking global news
- Strong demand for curated market data, research and regulatory filings
- Data optimization is not only a challenge, but a necessity to stay relevant

3. Industry Landscape, Company Profiles, Transactions, and CEO Interviews

A number of private companies are leading the charge in capital markets innovation; this report includes:

- A landscaping of the areas of focus into sub-segments including numerous example companies
- Selected M&A and financing activity in the Capital Markets Technology sector
- Five in-depth CEO interviews and perspectives
- Profiles of 17 disruptive companies

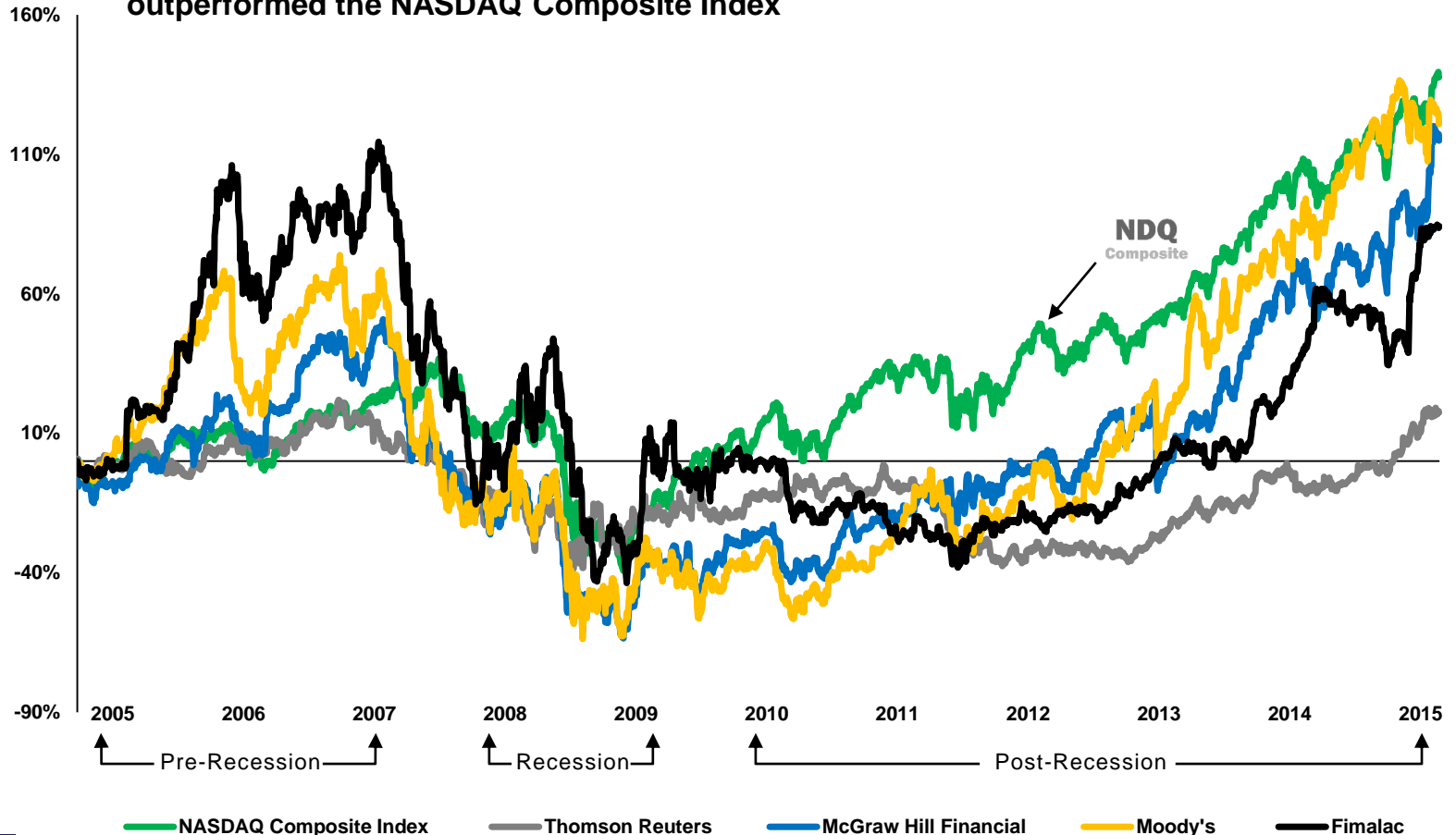
II. Industry Trends

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Industry Trends – Underperformance of Major Financial Services Info. Providers

Since 2009, the NASDAQ Composite Index has outperformed most of the major financial services information providers, whereas prior to the recession, most of these companies outperformed the NASDAQ Composite Index

Innovation among industry leaders in capital markets technology has been somewhat sluggish

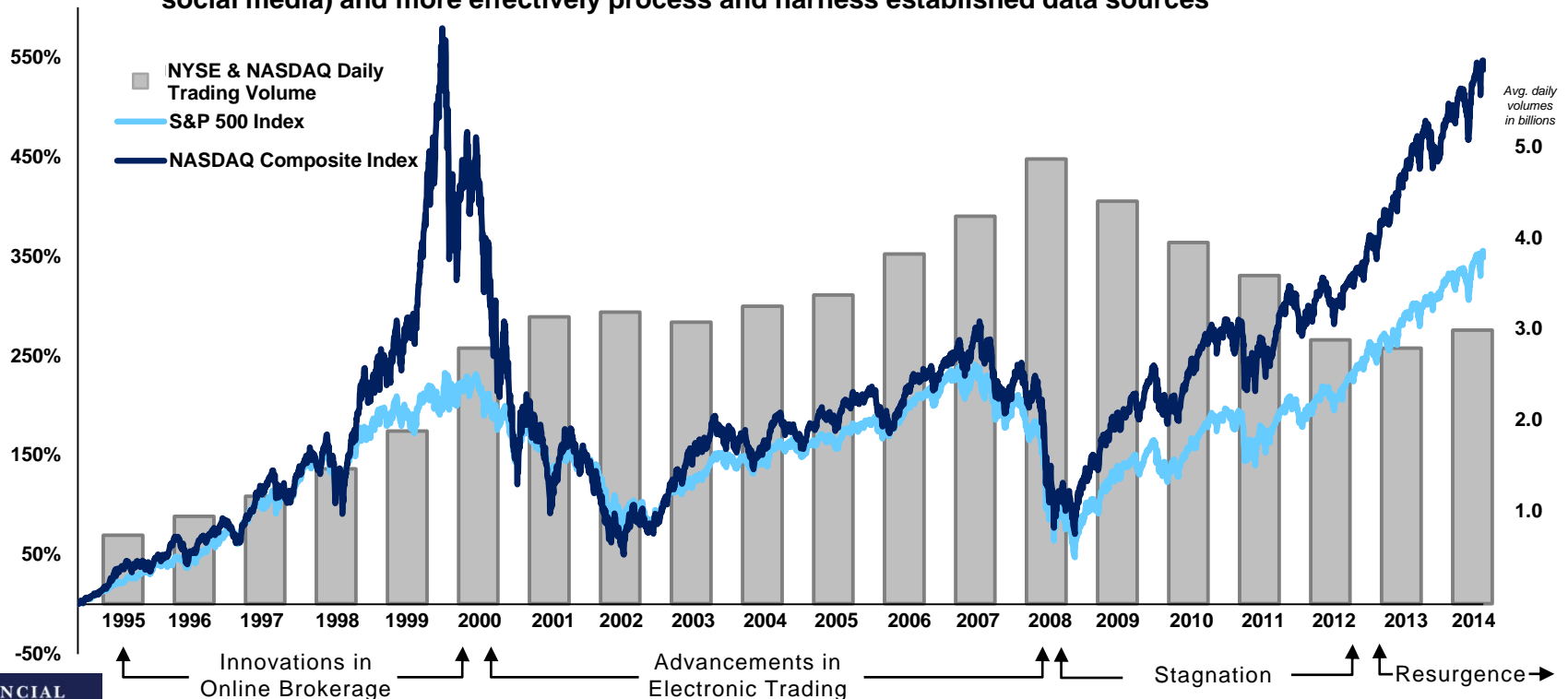


Source: Capital IQ.

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Industry Trends – The Resurgence of Innovation

1. Innovations in capital markets in the late 1990s and into the early 2000s were highly centered around online brokerage; this was then followed by a period of focus on electronic trading as ECNs and other alternative trading systems emerged as credible threats to the traditional exchanges
2. After the financial crisis in 2008 / 2009, capital markets innovation fell into a dormant period; however, the market appears to be heating up as cheaper infrastructure (computing / storage power), competitive forces leading to the constant search for alpha and a healthy private equity environment are fostering a resurgence in capital markets innovation; this innovation is allowing firms to both access new data sources (including social media) and more effectively process and harness established data sources



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Industry Trends – Tech Spending Viewed as a Path to Better Performance

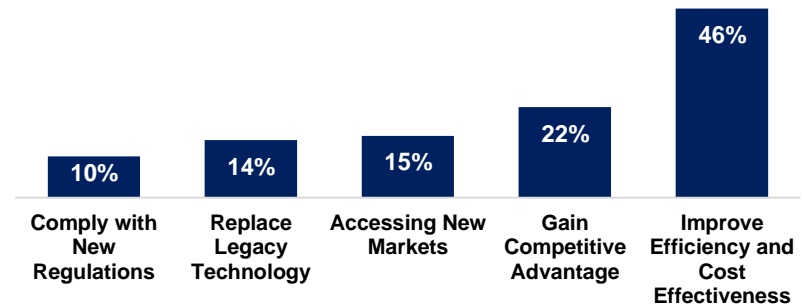
“Post financial crisis, most banks have been focusing on survival rather than innovation. That's changing, however, as more technology startups are entering the financial services scene.

After five years of stagnant growth and a constant struggle for IT budget, the number of startups looking to present the next wave of technological innovation in capital markets has exploded during the past 12 to 18 months.”

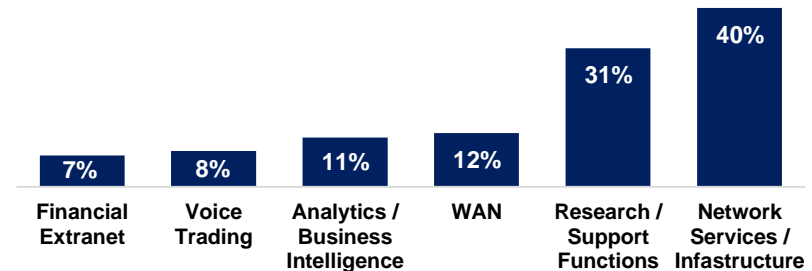
- Wall Street & Technology ⁽¹⁾

- As the trading landscape becomes increasingly competitive and heightened regulation reduces margins, institutions are now constantly turning to technology to improve performance
- In a survey of various buy-side professionals conducted by IPC, almost half predicted their firms would increase spending on technology in order to improve efficiency
- Other major reasons for the predicted increase in tech spending include gaining a competitive advantage, accessing new markets, updating legacy technology and complying with new regulations
- In particular, a large portion of the professionals surveyed predicted network services / infrastructure to be an area of increased spending in the upcoming year, while almost a third of those surveyed said research, risk analytics and support functions would also be getting increased funding
- Innovation will likely continue in the coming years as entrepreneurs seek to capitalize on the increased spending on technology in capital markets

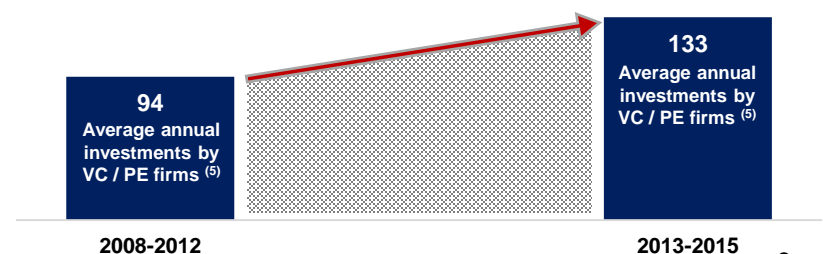
Primary Drivers for Technology Investments ^(2,3) – 2015



Capital Markets Technology Priorities ^(2,3) – 2015



Avg. Number of Financings in Capital Markets Technology ⁽⁴⁾



Source: Wall Street & Technology, IPC.

⁽¹⁾ Wall Street & Technology, “The Next Wave of Innovation in Capital Markets Technology.”

⁽²⁾ Graphs denote percentage of survey respondents selecting a particular answer.

⁽³⁾ IPC, “Efficiency and Cost Effectiveness: 2015 Drivers for Technology Spending.”

⁽⁴⁾ FT Partners proprietary database; estimated investments in 2015 are extrapolated from Q1 data.

⁽⁵⁾ Includes only minority investments made by venture capital and private equity firms.

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Industry Trends – Messaging Ripe for Change

Buy and sell-side firms frequently use industry-specific messaging services to communicate both internally and externally

Electronic communication platforms clearly bring efficiencies to organizations, but they also bring additional compliance and regulatory challenges

Incumbent providers may be vulnerable due to bundled pricing and inflexible architectures

Current State of Communication / Messaging

- Capital market messaging services have been dominated by two key players; Bloomberg and Thomson Reuters / Markit
- Demand for cheaper and easier means of communication is opening gateways for innovation in the industry
- Opportunities for customizable platforms and flexible integration
- Stringent compliance and regulatory issues surrounding record keeping requirements are creating new business opportunities
- Big data will improve operational efficiency through communication channels
 - Structured and unstructured data from instant messages, phone recordings, emails and blog entries can be consolidated into a usable database that will allow advanced pattern matching analytics to spot anomalous behavior
 - Customer service communications with institutional investors, across a multitude of channels, can be recorded and sentiment measured, leading to more proactive handling of potential issues

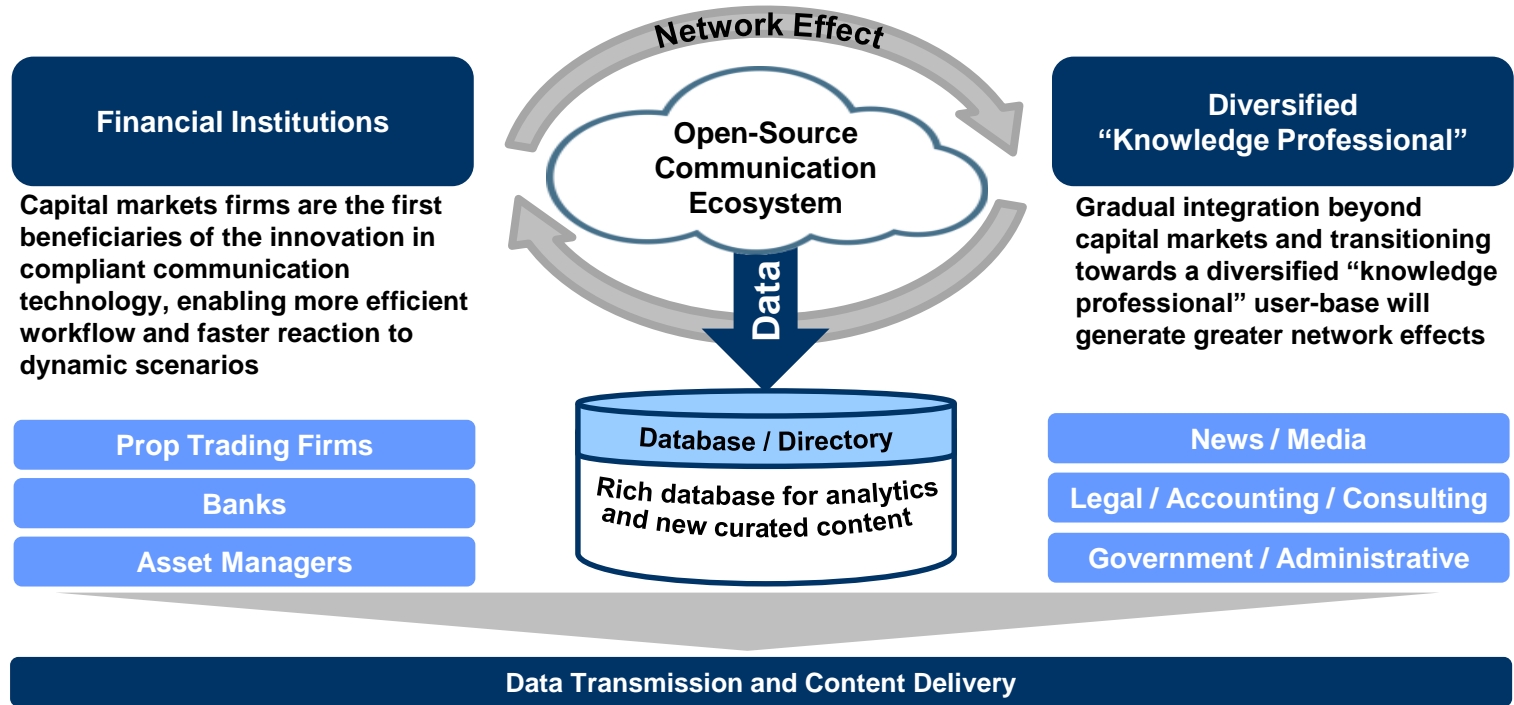
Wall Street Investing in Alternatives

- Consortium of 15 banks invest in Symphony
- Consortium of 8 banks also joined Markit and Thomson Reuters' new instant messaging network; Markit's Chat Unit was later sold to Symphony
- CME Group acquires Pivot Instant Messenger
- Investments represent an industrywide push for software that lets employees exchange messages instantly and securely
- Highlights Wall Street's desire to put pressure on one of its biggest vendors, Bloomberg
 - Bloomberg's communications service, Instant Bloomberg, has more than 325,000 users and maintains a ubiquitous presence on trading floors at approximately \$20,000 / year / terminal



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Industry Trends – Messaging Ripe for Change (cont.)



- Innovative market entrants in the communications vertical are creating open-source solutions that let users build on top of their core products
- Data transferred through communication portals is stored, analyzed and curated; these proprietary data-delivery systems benefit from a complementary networking effect – larger user-base results in increased volume and quality
- With communication and directory systems in place, these startups are looking to link the two key components with a content hub where financial services professionals can share / access key relevant content
 - Financial services information providers such as Bloomberg and Thomson Reuters typically sell an “all-you-can eat” proprietary package, regardless of whether or not clients will actually utilize all the functions ⁽¹⁾

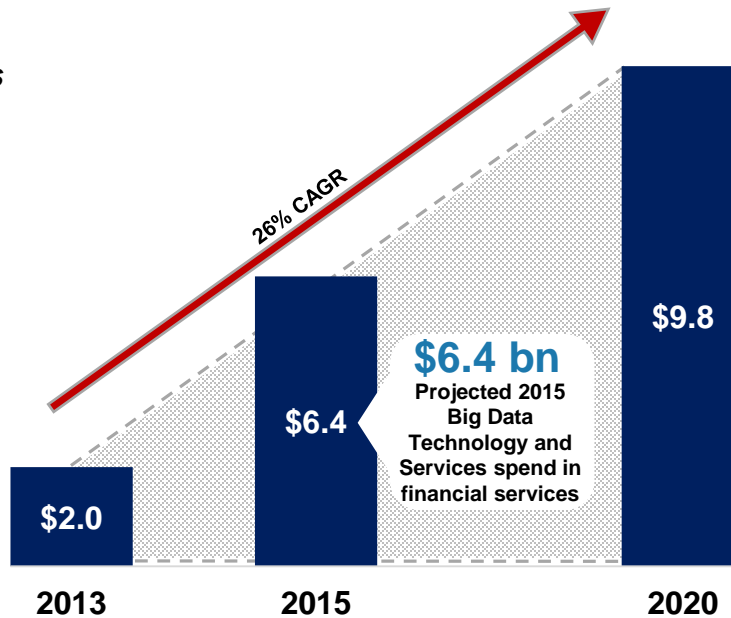
(1) Source: TechCrunch, “Wall Street-Backed Symphony Wants To Revolutionize Financial Services Communication.”

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Industry Trends – Gaining an Advantage from Unstructured Data

Big Data Technology and Services Spending ⁽¹⁾

(\$ in bn)



“The companies that use analytics best are 2x more likely to have top-quartile financial performance”

- Action ⁽¹⁾

↑ 220%

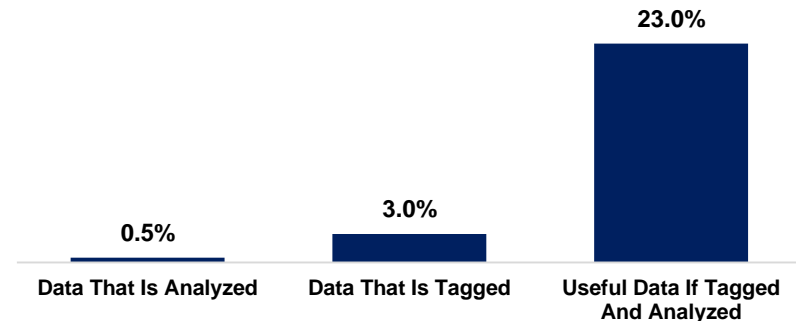
Increase in Big Data spending in 2015 over 2013

↑ 26%
CAGR

2013 to 2020

Big Data Opportunity ⁽²⁾

According to IDC, about 23% of the world’s digital information is useful in some way, but lack of technology results in only 3% being tagged / characterized and even less being analyzed



Data Implementation in Capital Markets

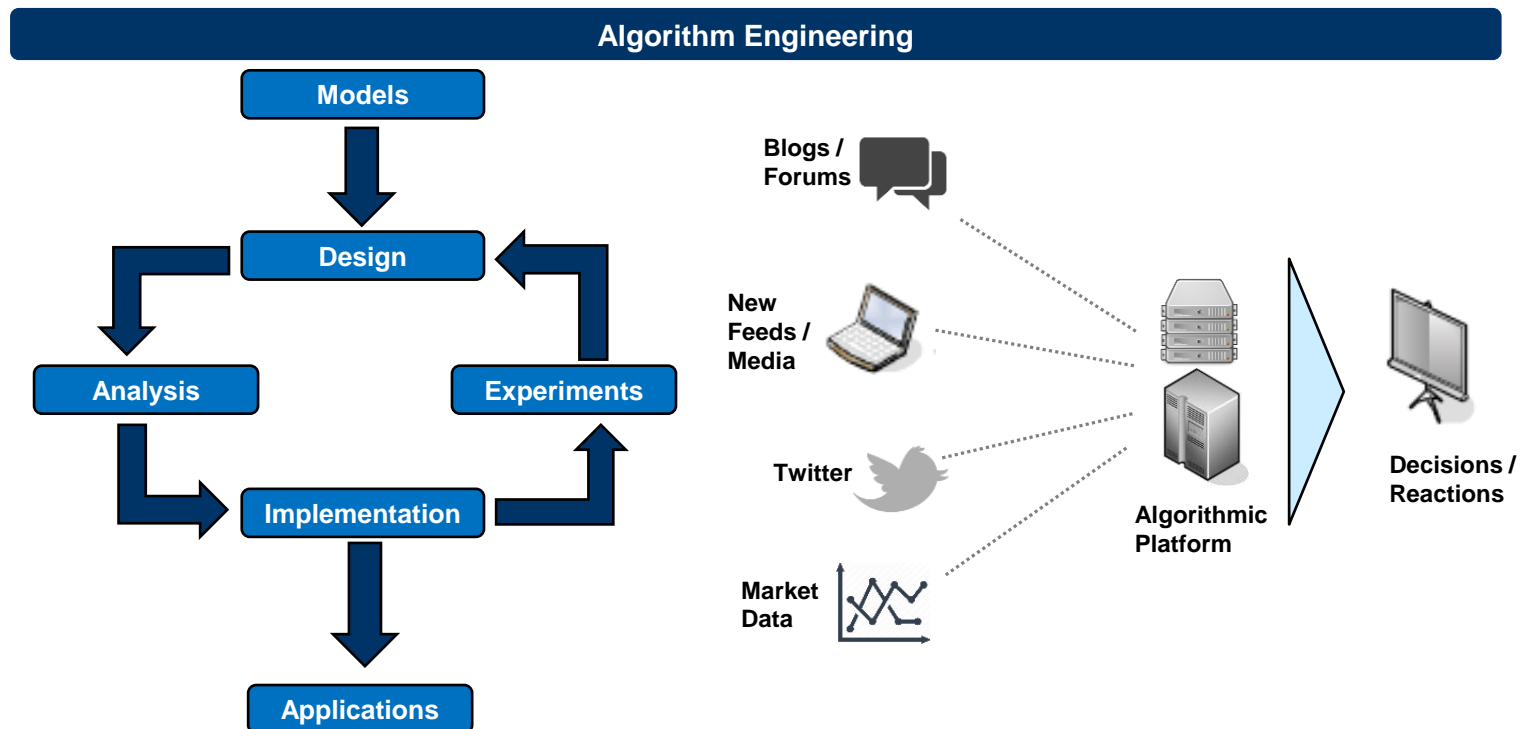
- Spending on data technology and services is expected to grow to \$9.8 billion by 2020
- Major buy-side and sell-side firms are using big data technologies for market surveillance / tracking, an activity requiring processing of vast quantities of market information
- Major global exchanges use big data technology to provide global market participants with on-demand access to data and data-mining tools for trading, analytics and risk management
- Tied to the ascendance of data, many firms are leveraging social media for investment decisions

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Industry Trends – Making Sense of Vast Amounts of Information

- New platforms are being developed that allow capital markets professionals to tap into under-utilized sources of material information
- A major challenge for data / analytics companies is turning the universe of big data into curated, structured and actionable information
- At the heart of emerging search engine platforms are algorithms that leverage tools such as linguistic analysis, contextual taxonomy and pattern monitoring to filter and refine huge amounts of data

Algorithms are the medium through which untapped data sources are being processed into curated information to give financial professionals a boost against their competition

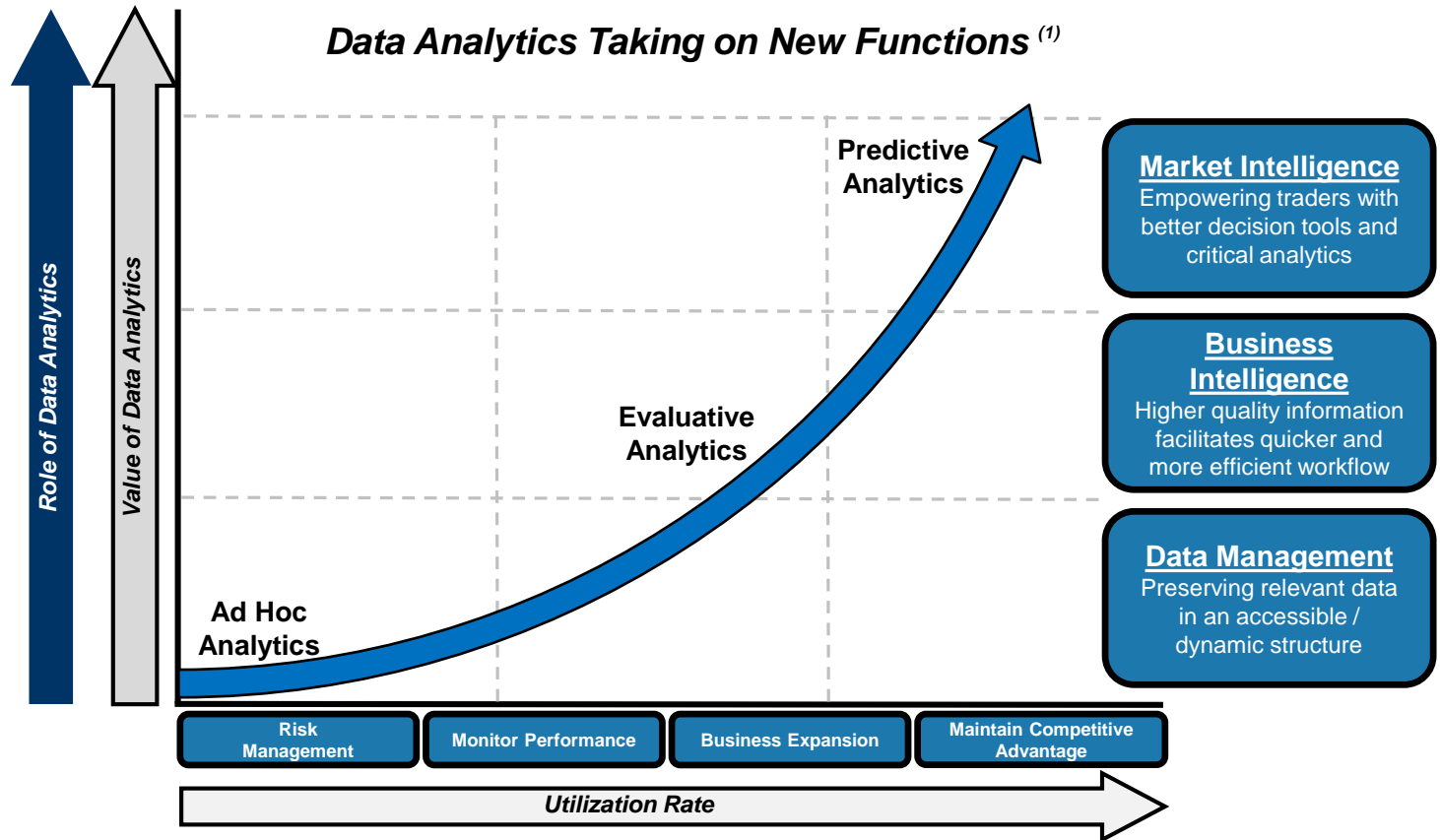


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Industry Trends – Modernized Solutions are Required to Fully Leverage New Data

Many financial services firms are carrying the burden of legacy systems, outdated analytical methodologies and old databases

To stay competitive, financial services firms need to adopt modernized solutions to overcome big data issues and slow response times to publicly available information



- Market intermediaries and data providers are seeking to exploit niches by developing solutions capable of analyzing fragmented data for capital markets clients
- Trading infrastructure across the full trade life-cycle needs to be modernized with new data analytics technology to drive business value and capitalize on the abundance of data available in capital markets ⁽²⁾
- In order to fully realize the benefits of new data analytics techniques, these firms face the challenge of integration with legacy systems and closed-end architecture ⁽²⁾

Source: Deloitte, TowerGroup.





(1) Adapted from TowerGroup, "Analytics: Broader Role, Deeper Insight in Today's Capital Markets."

(2) Deloitte Center for Financial Services, "2015 Capital Markets Outlook."

III. Innovator Landscape

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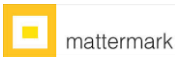



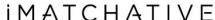




Innovator Landscape

	Communication Solutions	Curated Research Tools / Information Providers	Big Data Analytics / Unstructured Data Aggregation	Big Data Analytics / Unstructured Data Aggregation Focused on Social Media
Description	<ul style="list-style-type: none"> Solutions that enable communication between financial institutions via messaging Financial messaging solutions designed to optimize trade execution, specific to the securities business Solutions designed to enable better collaborative communications within corporations or between partners, such as online conferencing, virtual meetings, etc. 	<ul style="list-style-type: none"> Firms that provide tools for investors, corporations and others to research and sort through vast amounts of external and internal data Providers of diverse sets of news / media topics via a platform with search functions; firms that provide industry-specific news / media to corporations Data and information providers for both buy-side and sell-side professionals Social networks and forums focused on securities trading 	<ul style="list-style-type: none"> Firms that enable corporate or investment professionals to analyze large amounts of external market data Platforms that aggregate and analyze fragmented and unstructured data Technology platforms that process many simultaneous events in real-time across all layers of an organization for low-latency filtering, correlating, aggregating, and computing on real-world event data 	<ul style="list-style-type: none"> Firms that enable investment professionals and companies to analyze / mine large amounts of real-time data on social media platforms to uncover “hidden” market data and trends Technology solutions focused on gathering and analyzing social media content and connecting financial professionals and retail users
Selected Example Companies				

IV. Selected Transactions

















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Selected Transactions

Announced Date	Company	Transaction Overview	Selected Buyers / Investors	Amount (\$MM)	FinTech Database
4/11/2015	 StockTwits	StockTwits Secures \$1.2 mm in Financing	Undisclosed	\$1	Details
4/9/2015	 estimize	Estimize Secures \$3 mm in Financing	WorldQuant Ventures	5	Details
3/19/2015	 Quid	Quid Raises \$39 mm in Series D Round Led by Liberty Interactive	Liberty Interactive Group; ARTIS Ventures; Buchanan Capital Management; Subtraction Capital; Tiger Infrastructure Partners; Thomas H. Lee Partners	39	Details
3/17/2015	 Dataminr	Dataminr Secures \$130 mm in Financing Led by Fidelity Management & Research	Fidelity Management & Research; Wellington Management Company; CS NEXT Investors; Venrock; IVP	130	Details
12/16/2014	 mattermark	Mattermark Secures \$6.5 mm in Series A Financing Led by Foundry Group	Foundry Group; 500 Startups; Andreessen Horowitz; Data Collective; Felicis Ventures; AngelList; Flybridge Capital Partners; Gramercy Fund; Great Oaks Venture Capital; Height Securities; Ignition Partners; Inflection Ventures; New Enterprise Associates; Pejman Mar Ventures	7	Details
11/23/2014	 KENSHO	Kensho Secures \$15 mm in Financing Led by Goldman Sachs	Goldman Sachs; NBCUniversal Media	15	Details
11/13/2014	 quandl	Quandl Secures \$5.4 mm in Series A Financing from August Capital	August Capital	5	Details
10/28/2014	 Eagle Alpha	Eagle Alpha Secures \$1.2 mm in Financing	Undisclosed	1	Details
10/27/2014	 iMATCHATIVE	Imatchative Secures \$20 mm in Series B Financing Led by Wells Fargo and Control Empresarial de Capitales	Wells Fargo; Control Empresarial de Capitales; TPG	20	Details
10/24/2014	 estimize	Estimize Secures \$0.35 mm in Financing	Undisclosed	<1	Details
10/9/2014	 POWERLYTICS	Powerlytics Secures Financing from CME Group	CME Group	na	Details
10/1/2014	 SYMPHONY	Goldman-Led Group of Firms Acquires Perzo (now known as Symphony Communication Services) for \$66 mm	Goldman Sachs; Bank of America Corporation; BNY Mellon; BlackRock; Citadel; Citigroup; Credit Suisse; Deutsche Bank; JP Morgan Chase & Co; Jefferies & Company; Maverick Capital; Morgan Stanley; Wells Fargo; HSBC; Nomura Holdings	66	Details
7/28/2014	 Thinknum	Thinknum Secures \$1 mm in Seed Financing Led by Pejman Mar Ventures	500 Startups; HKB Capital; 645 Ventures; Green Visor Capital; Signature Capital; Pejman Mar Ventures	1	Details

















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Selected Transactions (cont.)

Announced Date	Company	Transaction Overview	Selected Buyers / Investors	Amount (\$MM)	FinTech Database
6/29/2014	 mattermark	Mattermark Secures \$2 mm in Financing	Andreessen Horowitz; Version One Ventures; Felicis Ventures; Gramercy Fund; Slow Ventures	\$2	Details
5/23/2014	 POWERLYTICS	Powerlytics Secures Approximately \$1.7 mm in Financing	Undisclosed	2	Details
3/27/2014	 estimize	Estimize Secures \$1.2 mm in Financing	Undisclosed	1	Details
3/3/2014	 DUEDIL	DueDil Secures \$17 mm in Financing Led by Oak Investment Partners	Oak Investment Partners; Notion Capital; Passion Capital	17	Details
2/28/2014	 Eagle Alpha	Eagle Alpha Secures \$1.5 mm in Financing	Undisclosed	2	Details
2/7/2014	 DataFox	DataFox Intelligence Secures Financing	Google Ventures; Undisclosed Investors	na	Details
1/22/2014	 KENSHO	Kensho Secures \$10 mm in Financing	General Catalyst Partners; New Enterprise Associates; Accel Partners; Google Ventures; Devonshire Investors; Work-Bench	10	Details
1/1/2014	 INCAPTURE TECHNOLOGIES	Incapture Secures \$10 mm in Financing	Undisclosed	10	Details
12/3/2013	 DATASIFT	Datasift Secures \$42 mm in Series C Financing Led by Insight Venture Partners	Insight Venture Partners; IA Ventures; Upfront Ventures; Daher Capital; Northgate Capital; Scale Venture Partners; Cendana Capital	42	Details
9/18/2013	 OpenExchange	OpenExchange Secures \$6 mm in Financing	Ipreo; Barclays	6	Details
7/9/2013	 StockPulse	Stockpulse Secures Financing from Next Generation Finance Invest	Next Generation Finance Invest	na	Details
6/12/2013	 Dataminr	Dataminr Secures \$30 mm in Financing Led by Venrock and IVP	Venrock; IVP; Deep Fork Capital; GSV Capital; Wharton Equity Partners	30	Details
6/10/2013	 NOVUS	Novus Secures Financing from Bain Capital Ventures and Index Ventures	Bain Capital Ventures; Index Ventures	na	Details
5/14/2013	 Capital Cube	OMT Acquires AnalytixInsight (nka: Capital Cube)	OMT	na	Details
4/11/2013	 DUEDIL	Duedil Secures \$5 mm in Financing Led by Notion Capital and Oak Investment Partners	Notion Capital; Oak Investment Partners; Passion Capital	5	Details
11/7/2012	 DATASIFT	Datasift Secures \$15 mm in Series B Financing Led by Scale Venture Partners	Scale Venture Partners; Daher Capital; Northgate Capital; IA Ventures; Upfront Ventures	15	Details





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Selected Transactions (cont.)

Announced Date	Company	Transaction Overview	Selected Buyers / Investors	Amount (\$MM)	FinTech Database
9/24/2012	 Dataminr	Dataminr Secures \$16.5 mm in Financing	Undisclosed	\$17	Details
9/11/2012	 estimize	Estimize Secures \$1.2 mm in Financing from Contour Ventures and Longworth Ventures	Contour Venture Partners; Longworth Venture Partners	1	Details
8/14/2012	 DUEDIL	Duedil Secures Financing from Passion Capital	Passion Capital	na	Details
8/6/2012	 OpenExchange	OpenExchange Secures \$3.13 mm in Financing	Undisclosed	3	Details
7/31/2012	 pivot	CME Group Acquires Pivot	CME Group	na	Details
6/27/2012	 DATASIFT	Datasift Secures \$5.7 mm in Series A Financing Led by IA Ventures and Upfront Ventures	IA Ventures; Upfront Ventures	6	Details
2/22/2012	 StockPulse	Stockpulse Secures Financing from Next Generation Finance Invest	Next Generation Finance Invest	na	Details
12/14/2011	 DUEDIL	Duedil Secures Seed Financing	Undisclosed	na	Details
11/17/2011	 OpenExchange	OpenExchange Secures \$1.25 mm in Financing	Undisclosed	1	Details
7/25/2011	 Quid	Quid Secures \$10 mm in Financing	Atomico Partners; SV Angel; Founders Fund; Endeavour Vision; Infocomm Investments	10	Details
7/22/2011	 CB INSIGHTS..	CB Insights Secures \$0.03 mm in Financing	FinTech Innovation Lab	<1	Details
4/28/2011	 OpenExchange	OpenExchange Secures \$1.43 mm in Financing	Undisclosed	1	Details
4/13/2011	 Dataminr	Dataminr Secures \$1.08 mm in Financing from BoxGroup	BoxGroup	1	Details
10/19/2010	 StockTwits	StockTwits Secures \$4 mm in Financing from Foundry Group and True Ventures	Foundry Group; True Ventures	4	Details
8/16/2010	 Dataminr	Dataminr Secures \$1.9 mm in Financing	Undisclosed	2	Details
12/1/2009	 StockTwits	StockTwits Secures \$3 mm in Financing from Foundry Group and True Ventures	Foundry Group; True Ventures	3	Details

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Selected Transactions (cont.)

Announced Date	Company	Transaction Overview	Selected Buyers / Investors	Amount (\$MM)	FinTech Database
5/18/2009		StockTwits Secures \$0.8 mm in Financing from True Ventures	True Ventures	\$1	Details
12/17/2008		StockTwits Secures \$0.8 mm in Financing from Betaworks and IA Capital Group	Betaworks; IA Capital Group	1	Details
9/23/2008		StockTwits Secures Seed Financing	Private Individuals	na	Details
4/10/2006		Pivot Solutions Secures \$8 mm in Financing Led by SoftBank Capital	Softbank Capital; Draper Fisher Jurvetson Gotham Ventures; Hudson Ventures; EPIC Ventures; Boldcap Ventures; Eze Castle Integration, Inc.	8	Details

V. CEO Q&A

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CEO Q&A – Bios

 Jack Kokko		<ul style="list-style-type: none">■ Jack Kokko is the founder and CEO of AlphaSense■ Prior to AlphaSense, Jack was the founding CEO of Silecs and a senior analyst at Morgan Stanley■ He holds a Wharton MBA and a MSc. Degree in Engineering
 Anthony Tassone		<ul style="list-style-type: none">■ Anthony Tassone is the founder and CEO of Green Key Technology■ He has over a decade of experience on the trading floor, previously working at Buttonwood Group Trading, RTS and the US Futures Exchange■ Anthony earned his BA in Computer Science from DePaul University
 Emmett Kilduff		<ul style="list-style-type: none">■ Emmett Kilduff is the founder and CEO of Eagle Alpha■ He was a former investment banking director at Credit Suisse in the equity capital markets and corporate broking departments■ Emmitt has a Masters in Internet from the Michael Smurfit Graduate School of Business
 Mark Loehr		<ul style="list-style-type: none">■ Mark Loehr serves as the CEO of Open Exchange■ He was previously the CEO of SoundView Technology Group and former head of investment banking at Wit Capital■ Mark earned his BA in Economics from Cornell University
 Igor Gonta		<ul style="list-style-type: none">■ Igor Gonta is the CEO of Market Prophit■ Prior to Market Prophit, Igor spent 13 years in commodities sales and trading at Goldman Sachs, Barclays and Credit Suisse, focusing on the energy and power industries■ Igor holds a Masters in Electrical Engineering and Computer Science from MIT

Innovations in Capital Markets Technology

CEO Q&A with Jack Kokko, AlphaSense



Jack Kokko
CEO

“Our intelligent search technology helps users rapidly find relevant results within the ocean of unstructured content, and cuts out the noise from research. This helps analysts catch what others miss, and generate better investment ideas.”

Please describe AlphaSense's business to us.

AlphaSense provides a search engine for knowledge professionals. Today, investment firms form the majority of our client base of nearly 300 firms, but over time, we expect to serve all verticals where knowledge professionals need rapid access to relevant information. Our mission is to curate and index the world's investment and market research content, including the vast high-value content sets that traditional web search engines can't reach. We help users to rapidly search and discover key data points and trends, and track impactful new information with automated alerts. This helps clients become dramatically more productive, and gain an information edge by discovering critical data points and trends that others miss. Our product is a web-based subscription service, sold by a direct sales force.

Why is now the right time for AlphaSense? Why are financial professionals looking for an intelligent way to search, collect and collaborate on the data they may already have access to?

People have access to every page on the web even without search engines, but they still choose to use Google to find the right pages to look at. The same logic applies here: while financial professionals do have access to a lot of content, it's generally poorly indexed for searching, and it's very hard to filter down to just the relevant parts from the firehose of available information. We provide an intelligent search engine for this content, helping analysts screen out the noise and instantly find the information that matters.

Personally I can only imagine how much easier my job as an analyst at Morgan Stanley in the late 90's would have been if I'd had access to AlphaSense. But a lot of what AlphaSense does wouldn't have been possible then, and is only really becoming possible today. We are particularly excited about three recent trends that enable our value proposition to really come to fruition:

1. New technologies: Search indexing, cloud computing and advanced NLP and deep machine learning technologies have only really emerged in the past decade or so, and are still improving rapidly. These are critical enablers for our offering.
2. Cloud and consumer app adoption: Evernote, Dropbox and other consumer apps have been adopted by analysts all across the buy-side, with or without their firms sanctioning. In parallel, CIOs and CTOs at funds have warmed up to and broadly adopted cloud computing. All this has broken down barriers in the way of hosting internal research content in the cloud. This allows us to offer a secure cloud based service where clients upload their in-house content, while in the past fund CTOs would have insisted that all data has to sit within their in-house servers. Being able to index clients' own content streams alongside external document databases just makes our service much more powerful.
3. Mobile adoption: Just about every analyst now walks around with an iPad, which allows us to empower them and keep them productive wherever they are, whether at a meeting, commuting on a train, flying to or sitting at a conference, or reading research at home. By allowing analysts to read, annotate and collaborate on research content anywhere they are, the whole value proposition becomes much stronger, and clients start to really build and store their institutional knowledge within AlphaSense, rather than leaving it sitting in disparate notebooks or electronic files, or in people's heads.

Innovations in Capital Markets Technology

CEO Q&A with Jack Kokko, AlphaSense (cont.)



Jack Kokko
CEO

What new technologies have enabled AlphaSense to launch its service?

We are benefiting from a number of new technology waves that are key enablers for our service. The key ones include:

1. **Advanced cloud computing:** Without Amazon Web Services, we probably couldn't exist, or our service would be much more limited. AWS allows us to host our service on a high performance server farm without spending millions building and managing a massive in-house data center. We can summon thousands of machines on demand to perform heavy algorithmic or content processing tasks in minutes or hours that would have taken months to run on traditional individual servers. And with all the competition that AWS now has from Google, Salesforce and all other cloud players, and with continuous technology advances, their server prices are dropping constantly, so while what we do continues to grow in complexity, computing costs remain very reasonable.
2. **NLP and Machine Learning:** Key breakthroughs in recent years in both Natural Language Processing and advanced Machine Learning utilizing neural networks, have enabled us to build algorithms for advanced semantic understanding of text. This enables us build that understanding into our product and to help users find content in new ways that wouldn't have been possible before. For example, these algorithms help our system to algorithmically deduce the relationships between millions of financial terms, determining that terms like "bookings growth" and "increasing orders" are talking about the same thing. This means that users don't have to think of all the synonyms for the search terms they are typing in, allowing them to find all the information they need despite language variation.
3. **Search technology:** With the emergence of web search engines, the understanding of efficient indexing of massive content sets has grown tremendously. Being able to leverage that vast foundational knowledge allows us to focus our efforts on pushing the boundaries of the technology rather than building the basics from scratch.

Why aren't other large data providers like Bloomberg, Thomson Reuters and others doing this today?

What we do is technically very difficult, and besides very smart PhD's and engineers, it takes singular focus to really get it right. The Bloomberg terminal has over 30,000 functions, and they need to continue making incremental improvements across the board to keep their vast existing user base happy, rather than the kind of dedication and innovation that's required to do one thing really well. Their legacy software infrastructure that supports that massive feature set is another constraint on the ability to significantly innovate in any particular area. We do see some of the large data vendors taking incremental steps to try to address this need, but we haven't seen anything that would really move the needle.

What additional content will be added to the platform?

We already ingest all the core content sets that the majority of our current client base cares about, but we have a heavy focus on constantly expanding our content coverage, both to serve our current market better and to enable expansion into new markets. We recently added coverage of broker research from over 1,000 providers from the top Wall Street firms to smaller boutiques. Key areas where we are now building broader coverage include news, credit, macro, emerging markets and primary research content. We also recently added the capability for clients to stream in their own proprietary content, and we are building additional ways for them to do that easily.

Innovations in Capital Markets Technology

CEO Q&A with Jack Kokko, AlphaSense (cont.)



Jack Kokko
CEO

What other challenges are out there for a company like AlphaSense? Why isn't everyone using this?

We are seeing awareness building up in the market and that is starting to help open doors, but sales and marketing is still always a challenge. Financial professionals are incredibly busy and get bombarded by so many vendors that the hardest thing for us is getting a foot in the door. Once we get a chance to demonstrate our product, people get excited and the rest is much easier.

Also, adopting any new tool changes people's processes, and even if it's for the better, there is always some natural friction involved. People didn't automatically move to using spreadsheets when they were launched – some stuck with their calculators longer than others. So as we continue to go from the early adopters to the masses, we need to continuously keep our focus on reducing the adoption threshold, making it as easy to start using our product as possible.

What are your key growth drivers?

There are a number of significant growth catalysts for us currently, mainly in three areas:

1. **Product/content:** We are very much a product-driven company and are releasing enhancements constantly that will keep driving increased adoption for our platform. Currently our product is going through particularly significant expansion, including the ability for clients to index their own proprietary content streams, making all content interactive to facilitate annotation and collaboration among users at a firm, and giving users full AlphaSense functionality on the road with our iPad app. All this and other major enhancements we have in store for the coming year will drive substantial growth acceleration for us.
2. **Sales & marketing:** Adding more resource in both sales and marketing will be driving new client acquisition, both in our core market as well as new geographies and adjacent market segments.
3. **Upselling:** With nearly 300 premier investment firms subscribing to our service, already about half of our sales are coming from increased adoption within our existing client base. We expect this to accelerate with some of the collaboration and in-house content indexing capabilities that we are rolling out, which will increasingly lead to team and firm wide adoption at many of our clients.

How big is the market opportunity?

Our total addressable market is a \$15 billion annual opportunity. Beyond our core market in selling to financial professionals, this includes expanding our service to knowledge professionals in other segments, such as corporates, market research and consulting firms. This definition of our market represents just 1% of the world's over 600 million information workers as estimated by Forrester, so the ultimate market potential for our platform is considerably higher than what we include in our TAM today.

Innovations in Capital Markets Technology

CEO Q&A with Jack Kokko, AlphaSense (cont.)



Jack Kokko
CEO

What is AlphaSense's revenue model?

It's a SaaS / subscription model.

Are there other verticals the Company is targeting?

We are building a versatile multi-vertical platform that allows us to serve many end markets with relatively limited customization. We started out by targeting only buy-side and sell-side analysts, and have since signed up users in adjacent segments including investment banking, consulting, private equity and law firms, as well as multiple roles and departments within corporations. So far this has been user-driven and based mostly on word-of-mouth, but going forward we will start going after these and other knowledge professional markets more proactively, by expanding our content sets to properly serve each group of users, and building sales and marketing teams to systematically address each vertical market.

Thank you Jack.

Innovations in Capital Markets Technology

CEO Q&A with Anthony Tassone, Green Key Technologies



Anthony Tassone
CEO

“Banks & Brokerage firms are under tremendous pressure to cut costs while improving compliance capabilities to deal with the increasingly burdensome regulatory environment. Green Key offers them a way to do both. ”

Please describe Green Key Technologies' business to us.

Green Key is like Skype, but designed specifically for the financial markets. We have a front end software client that emulates the trader voice functionality of a turret & we have a military grade VoIP network back end with integrated encryption, recording and transcription. Our entire application can be run as a managed service or installed as a private cluster behind a bank or brokerage firm's firewall on hardware they own and within their existing network policies.

Why is now the right time for Green Key's solutions?

The current telecom infrastructure used in the financial markets is 30 year old technology. The industry relies on tens of thousands of T1 lines, which are 1.5 mb of bandwidth connecting to \$10,000 telephones-on-steroids called "turrets". This set up is decrepit, extremely expensive to maintain and impossible to keep secure and compliant with the evolving regulatory landscape. Green Key offers a software solution that communicates over a firm's existing internet bandwidth as a managed cloud or private installation. By moving voice to the PC, we can integrate telephony into the trader or brokers work flow allowing for greater efficiency as well as enhanced compliance capabilities. Compliance officers can monitor calls in real time as well as search recordings by key words or be alerted to events.

What technologies have advanced to enable the Company's business model?

VoIP has come a long way. From increasingly cheaper bandwidth, high definition audio codecs, military grade encryption to the SIP protocol, VoIP has quickly taken over the world. However, it really has been the advent of cloud computing and collaboration tools that have allowed Green Key to create a highly cross functional team of developers.

What industry trends are providing tailwinds for Green Key?

Banks & Brokerage firms are under tremendous pressure to cut costs while improving compliance capabilities to deal with the increasingly burdensome regulatory environment. Green Key offers them a way to do both. We stream line telecommunications onto a SaaS model while offering an entirely new set of compliance capabilities that enable firms to be more proactive in identifying abuses that may lead to further SEC & CFTC fines.

How do the economics of Green Key's solutions compare to incumbent solutions?

We are 1/20th of the cost of the incumbent solutions with none of the headache. This does not include the cost saving realized by fewer staff and compliance folks who are currently employed to deal with the manual intensive process of provisioning T1 lines and installing and maintaining hardware as well as physically listening to phone call recordings.

Innovations in Capital Markets Technology

CEO Q&A with Anthony Tassone, Green Key Technologies (cont.)



Anthony Tassone
CEO

Are there any key limitations to VOIP technology compared to analog?

The biggest limitation is that VoIP can be overwhelming at first and require a different set of skills to set up and maintain. Analog is super simple signal transmission over copper wire. A VoIP solution will allow for more features, customization and integration into a firm's existing applications and therefore requires some planning. It's like switching from a rotary phone to an iPhone. You may be intimidated by the possibilities at first, but the production efficiencies gained are worth the risk.

How do you expect incumbents to respond if Green Key starts taking significant market share?

50% of IPC revenues come from renting T1 lines to brokers and traders at \$50 - \$500 per line. To put this in perspective, I pay Comcast \$100 a month for 150mb of bandwidth, which is the equivalent of having 100 T1 Lines. So I pay \$1 per T1 while Goldman Sachs may pay 500x more the cost for the equivalent bandwidth depending on where the other end terminates. This is a fantastic business for IPC with incredible margins that I don't think they will want to depart with anytime soon. I don't see how or why they would be willing to switch to a VoIP model that would effectively cannibalize their current model. Green Key is a classic case of "Big Bang Disruption". We utilize technologies seemingly unrelated to achieve a dramatically better value proposition.

What are the key hurdles / challenges that Green Key must overcome for greater user adoption?

A network in the financial markets by definition consists of more than one firm. The biggest obstacle for Green Key is creating a network effect with a positive feedback loop that gets us over critical mass. Since the value of Green Key increases exponentially as more users join the network, we are working hard getting the network to be as big as possible as fast as possible.

What is Green Key's revenue model?

Green Key does not charge for its product offering in 2015. In 2016 we will charge the sell side only \$250 per user per month. The buy side will remain free for the foreseeable future.

Are there other areas of capital markets that you see that are ripe for innovation?

The capital markets in general are ripe for innovation. From payment processing, student lending to cryptography the capital markets will not escape the disruption happening in other markets globally. The cost to innovate has never been lower. Storage, CPU and development can all be outsourced for pennies on the dollar. The capital markets may in fact be more vulnerable given the regulatory pressures to become more proactive in curbing abuses.

Thank you Anthony.

Innovations in Capital Markets Technology

CEO Q&A with Emmett Kilduff, Eagle Alpha



Emmett Kilduff
CEO

“Eagle Alpha is the leading provider of fundamental insights from the Web to Wall Street. Insights are provided through research, tools and a data platform. The majority of our clients are fundamental buyside firms”

Please describe Eagle Alpha's business to us.

Eagle Alpha is the leading provider of insights from the Web to Wall Street. We analyze the entire web for insights, primarily for fundamental fund managers. Insights are provided through research, tools and a data platform:

1. Research: our research analysts are empowered with algorithms, data, data scientists, technologies and engineers. For example, we recently published a note on the Apple Watch that had insights from 3,000 customers we identified by analysing 3,000,000 tweets.
2. Tools: we have built, and are building, specific tools for users to do their own proprietary analysis. For example, we recently launched a tool called 'Expert Identifier'. Clients use it to identify experts on any topic – it is a type of Gerson Lehrman Group meets Twitter.
3. Data Platform: we are building a data platform that will enable clients to access the same tools and data sources that our research analysts use. This will enable users to conduct their own proprietary analysis of web data.

Why is now the right time for Eagle Alpha's solutions?

70% of 472 buy-side and sell-side individuals surveyed believe that digital media will play an increasing role in future investment strategy (source: Brunswick, 2014).

Why can't investment managers curate information across the web themselves?

Eagle Alpha currently has 20 employees. Within 18 to 24 months we will expand our team to 70 people. The team will include technology engineers, data science engineers and research analysts. The significant majority of investment managers will not finance a team of 70 people.

How is Eagle Alpha differentiated against potential competitors like Dataminr?

Dataminr is not a competitor. Eagle Alpha is focused on providing fundamental long-term insights to portfolio managers and research analysts. Dataminr is focused on providing real-time information, primarily from Twitter, to traders.

Eagle Alpha has a team of analysts; what does this human element bring to the table?

Our research analysts bring several benefits to the table including: buy-side and sell-side experience, sector and macro knowledge, continuous identification of new data sources that are relevant to Wall Street, advice on new technologies to build, identification of technologies to license, the ability to write traditional research reports (with non-traditional content).

How big is the market opportunity?

Our primary target clients are buy-side firms. In addition, our product can also be leveraged by investment banks (multiple divisions), family offices, corporates, private equity firms and central banks.

Thank you Emmett.

Innovations in Capital Markets Technology

CEO Q&A with Mark Loehr, OpenExchange



Mark Loehr
CEO

“OpenExchange’s patent pending call logic uses a “dynamically created” virtual meeting room that calls out to only those participants who have been properly authenticated. ”

Please describe OpenExchange’s business to us.

OpenExchange is a community based video exchange that uses a professional network approach to simplify external video calls. Using proprietary call logic and a combination of video bridges, OpenExchange allows companies to use their existing video equipment to connect with clients and partners. By providing a centralized solution, IT departments no longer have to worry about a multitude of external connectivity methodologies. Individual users of OpenExchange benefit from the growing global directory of OE members to connect simply, securely and in a repeatable manner.

Why is now the right time for video and what’s been the limitation to widespread adoption to date?

It is way past the right time for B2B video, but until now there has not been a secure solution that offers interoperability, simplicity and a global directory.

How has the regulatory environment affected OE’s offering?

OpenExchange offers a compliant solution for participants because there is no chat or IM, so that the meeting adheres to the requirements of companies and analysts meeting with investors in a Reg. FD world.

Why are the traditional video conference players ill-equipped to serve the financial services market?

The flaw in other video solutions is that they all rely on "static" meeting rooms which participants connect into. This meeting information can be easily shared, which allows for the possibility of unknown and unseen participants. OpenExchange's patent pending call logic uses a "dynamically created" virtual meeting room that calls out to only those participants who have been properly authenticated.

How do you expect some of the larger players to respond if OpenExchange starts taking significant market share?

The authentication process requires users to connect into OpenExchange’s "gated community" of permissioned users. There are over 350 entities connected to the OpenExchange platform and each entity can provide 5-500 employees access to OE virtual meetings. To compete with OpenExchange, competitors will need to not only develop a secure call process but also develop a parallel network of participants.

What are the key hurdles / challenges that OE must overcome for greater user adoption?

There is still not a desktop video solution that excels at external video. As Web RTC, Lync, Vidyo evolve their desktop solutions, the number of possible participants on the OE network will increase significantly. Remember, OE does not make the video equipment. We just enable whatever you have to work more effectively for external calls outside your infrastructure.

Innovations in Capital Markets Technology

CEO Q&A with Mark Loehr, OpenExchange (cont.)



Mark Loehr
CEO

Are there other areas of capital markets that you see that are ripe for innovation?

We believe that just as there is voice and voicemail... there will be video and video recordings. There is so much content created every minute in financial services, but it hasn't had an efficient way to be captured and repurposed. Just like Netflix and Hulu have disintermediated major television and cable companies, we believe recording and webcasting of live meetings will replace CNBC and allow individual financial participants to choose very specific types of content to watch.

Thank you Mark.

Innovations in Capital Markets Technology

CEO Q&A with Igor Gonta, Market Prophit



Igor Gonta
CEO

“We are the first and only platform to quantitatively score and rank financial bloggers based on the accuracy of their stock market commentary in social media.”

Please describe Market Prophit's business to us:

Market Prophit analyzes financial-related chatter in social media and generates a variety of actionable intelligence for retail and institutional investors both on its web interface and through its API. Market Prophit uses sophisticated Natural Language Processing to transform unstructured conversations into meaningful signals. Importantly, we are the first service to quantitatively score and rank financial bloggers / message posters based on the accuracy of their stock market commentary. And by doing so, we automatically streamline the process for investors who are looking for the highest quality of content with the least amount of noise. Think of us as “Starmine for Social Media.”

Why is now the right time for Market Prophit's solutions?

Social media is the 21st century news feed. Market moving news is frequently breaking on social and other online channels rather than traditional media. Institutional investors already mine this data for actionable insights. And the next wave of adoption is already starting to happen with self-directed investors and brokers looking to add unique, market moving content to their platforms. We are on the cusp of the “me-too” factor when it comes to online platforms providing access to this unique data to their customers to stay competitive, offer a differentiated solution and retain their investor base.

What new technologies have enabled Market Prophit to launch its service?

There have been several broad market trends that have enabled Market Prophit to launch our service. The first is the dramatic drop in computing costs with the proliferation of the cloud, the dramatic increase in computing power as well as bandwidth. Also, advances in natural language processing theory as well machine learning technique improvements have enabled some of the sophisticated processes that Market Prophit has been able to employ.

Why can't individual and professional investors aggregate information regarding securities from Twitter themselves?

The very simple answer to this question is that it is incredibly difficult to do what Market Prophit has done. Processing unstructured data, especially in short form message platforms such as Twitter poses unique challenges even for the most sophisticated practitioners who have years of experience in Natural Language Processing (as an example). Secondly, there is a significant amount of human element and time that is needed to make any machine smart and domain specific knowledge is critical to understanding language and training your machine. So it requires a lot of resources and a lot of time to produce what Market Prophit has done and cannot be accomplished by a single individual; even if they have a background in this field.

Innovations in Capital Markets Technology

CEO Q&A with Igor Gonta, Market Prophit (cont.)



Igor Gonta
CEO

How is Market Prophit differentiated vs. other competitors in the marketplace?

Market Prophit is different than every single competitor in this marketplace because we are the first and only platform to quantitatively score and rank financial bloggers based on the accuracy of their stock market commentary in social media. Our proprietary scoring technology serves as an automatic recommendation engine that weeds through millions of messages and surfaces worthwhile bloggers / tweeters that a casual user of social media wouldn't have otherwise been able to find or know that they necessarily had valuable commentary. This engine helps investors streamline the research process and facilitates easier discovery of quality content while they are doing their investment research; more of which is happening online which is a key trend. Our engine solves the problem of noise filtration by using a reliable and independent measure of quality, which is the market itself.

What are the key hurdles / challenges that the Company must overcome for greater user adoption?

Adoption of a new product for a customer is always the key challenge; especially in a relatively new field such as social media, which has only been prevalent for a handful of years itself. This is the biggest challenge. But with any new product and any new adoption cycle, someone inadvertently goes first and then the rest follow. This is what we believe is happening in the market right now, which we describe as the "me-too" factor or the FOMO (fear of missing out). Tweets move markets and whether an investor acts on the information or doesn't isn't relevant, it's whether or not they want to be "in the know" on what might have caused the move in the price of the security. So adoption is non-linear and once a critical mass of users adopts, many follow suit.

What is Market Prophit's revenue model?

Market Prophit's revenue model is subscription based on our website, through integration with 3rd party data providers and brokers, as well as licensing revenue of our data through our API.

How big is the market opportunity?

We believe that the market for social as well as other media financial data analytics is \$1.5 – 3 billion.

Are there other areas of capital markets that you see that are ripe for innovation?

I think there are several areas that are ripe for innovation. To name a few, one would be risk management systems, which traditionally have been home grown, in-house legacy systems in financial institutions. With the proliferation of the cloud, a lot of that technology can be outsourced and converted into SaaS businesses with on-demand computing power. Another area is reducing transaction costs in areas for example like money transfer and trade clearing.

Thank you Igor.

VI. Selected Company Profiles

A. Communication Solutions

Innovations in Capital Markets Technology

CME Direct Messenger Overview



New York

Headquarters

2004

Founded



John H. Eley

Pivot Founder

Prior to starting Pivot, John Eley served as President and CEO of Hotspot FX and CFO of OnExchange; John is now on the board of various private companies and is an adjunct professor at NYU Stern School of Business



Phupinder Gill

CME CEO

Phupinder Gill became CEO of CME Group in 2012 after serving as President; he is currently on the Board of Directors of CME Group, World Federation of Exchanges and First Midwest Bancorp

CME Direct Messenger Overview

- CME Direct Messenger is an instant messaging platform designed specifically for commodity traders and brokers
 - Combines parsing technology, a highly-collaborative environment and a secure network
 - Seamless integration with CME Direct
- Direct Messenger is available for both traders and brokers
- The Company was previously known as Pivot, before being acquired by CME Group on July 31, 2012
- Customers include nearly 8,000 brokers, traders, analysts and sales traders at more than 300 top buy and sell-side banks, hedge funds, asset managers and trading companies

Financing Activity

Date	Size (\$ mm)	Investors
03/17/08	\$3.0	
04/10/06	8.0	

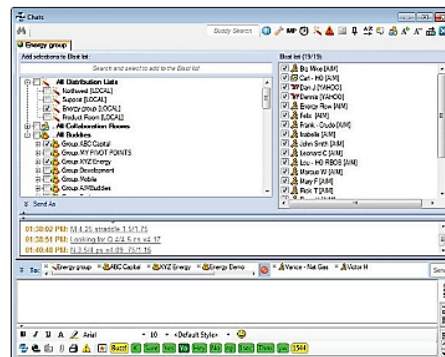
Innovations in Capital Markets Technology

CME Direct Messenger Overview (cont.)

Key Features

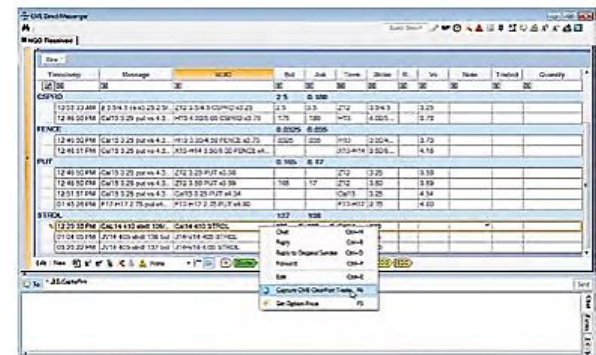
Direct Messenger for the Trader

- **Fast** – Price complex options strategies in seconds without leaving the chat window using CME's bundled service or your own proprietary models; spot opportunities and react instantly
- **Focused** – Monitors and Message Prioritizer provide alerts to what you deem important while ignoring time-consuming distractions
- **Intelligent** – Separate markets from conversations, convert text to data and capture critical market information
- **Organized** – Configure your workstation using multiple views, fonts and priorities for maximum efficiency and usability
- **Aggregated** – Link Yahoo, Twitter and Microsoft IM profiles for IM network aggregation from a single instant messaging application



Direct Messenger for the Broker

- **Fast** – Instantly broadcast instant messages to multiple customers at once; ensure customers get the right information at exactly the right moment
- **Flexible** – Configure blasts and distribution lists to meet specific trading needs and support individualized customer base
- **Efficient** – Instantly view values and Greeks for complex options strategies as you type
- **Clear** – Submit block trades in less than a minute and reduce errors with Click and Clear technology
- **Collaborative** – Share information across your trading desks and provide superior customer service with CME's rooms and Pivot Points
- **Aggregated** – Link Yahoo, Twitter and Microsoft IM profiles for IM network aggregation from a single instant messaging application



Source: Company website.

Innovations in Capital Markets Technology

Green Key Technologies Overview



New York

2013

Headquarters

Founded



Anthony Tassone
CEO & Cofounder

Previously served as Director of Volatility Trading at Buttonwood Group Trading and as VP of Algorithmic Trading Solutions at RTS Realtime Systems



Eric Detterman
CTO & Cofounder

Prior to founding Green Key Technologies, Eric Detterman founded Solid Logic Technology and served as the CEO



Steve Van Deusen
MD Compliance Technology
Former Global Head of Voice Development at Goldman Sachs



Ty Devlin
MD Europe
Former IPC Systems executive

FINANCIAL
TECHNOLOGY
PARTNERS

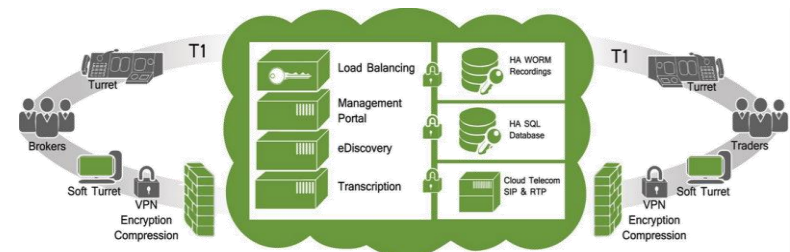
Source: Company website.

Green Key Technologies Overview

- Green Key Technologies develops secure and intelligent communications platforms for brokers and traders that replace legacy telecom hardware, turrets and the associated T1 lines
 - Green Key's flagship products are Trader Voice Box and Trader Voice Command
 - The voice software works like Skype; designed specifically to accommodate the high volume activity of traders / brokers
- Trader Voice Box mimics and exceeds the functionality of traditional hardware turrets – once the software is installed, users can utilize USB audio devices through the Green Key telecom platform
- Trader Voice Command is a web management platform that allows users to manage connection requests and contacts
- Over 150 firms are using GKT's voice network, onboarding 20 companies on average per month since launch in Oct. 2014
- The Company is privately owned by VC firm Bellicose Capital

Areas of Expertise

- | | |
|------------------------|--------------------|
| ✓ Software development | ✓ Voice over IP |
| ✓ Telecom | ✓ Encryption |
| ✓ Financial markets | ✓ Machine learning |
| ✓ Cloud Computing | |



Innovations in Capital Markets Technology

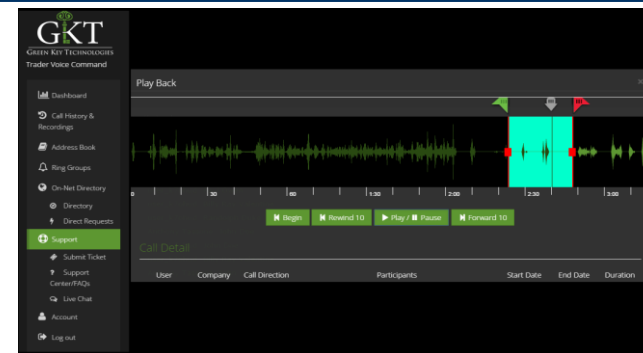
Green Key Technologies Overview (cont.)

Trader Voice



- Trader Voice turns a trader's computer into a "soft turret" with no additional hardware required
- Allows for voice-based communication between traders
- Communications are subject to encryption and two-factor authentication through Green Key's VPN server
- All communications are recorded and can be played back and analyzed at a later time

Trader Voice Command / eDiscovery



- Trader Voice Command is a platform designed specifically for compliance officers
- Browser based platform for call recordings to be searched, played and analyzed
- Also allows for contact management and can be connected to external address books
- The Green Key directory is available to all Green Key clients and contains a list of brokers' contact information that can be searched and filtered by company and / or product

Key Features



Soft Turret

Virtual Dealer Board uses a standard USB audio device to communicate between soft turrets



eDiscovery

Platform for call analysis, tagging, storage and transcription



Security

Utilizes private telecom clusters, Two-Factor authentication, and ZRTP Encryption to ensure communications are secure and private



DR Planning

Green Key's product infrastructure allows for TDM to SIP Conversion to optimize gateway flexibility

Innovations in Capital Markets Technology

OpenExchange Overview



Boston

2009

Headquarters

Founded



Mark Loehr
CEO

Previously CEO of Soundview Technology Group and Executive Vice President of Charles Schwab Corp





Doug Ashton
Founder, Vice President of Product Development

15+ years of senior-level research experience in buy & sell-side technology, media and telecommunications at Bear Stearns, Jefferies and others

OpenExchange Overview

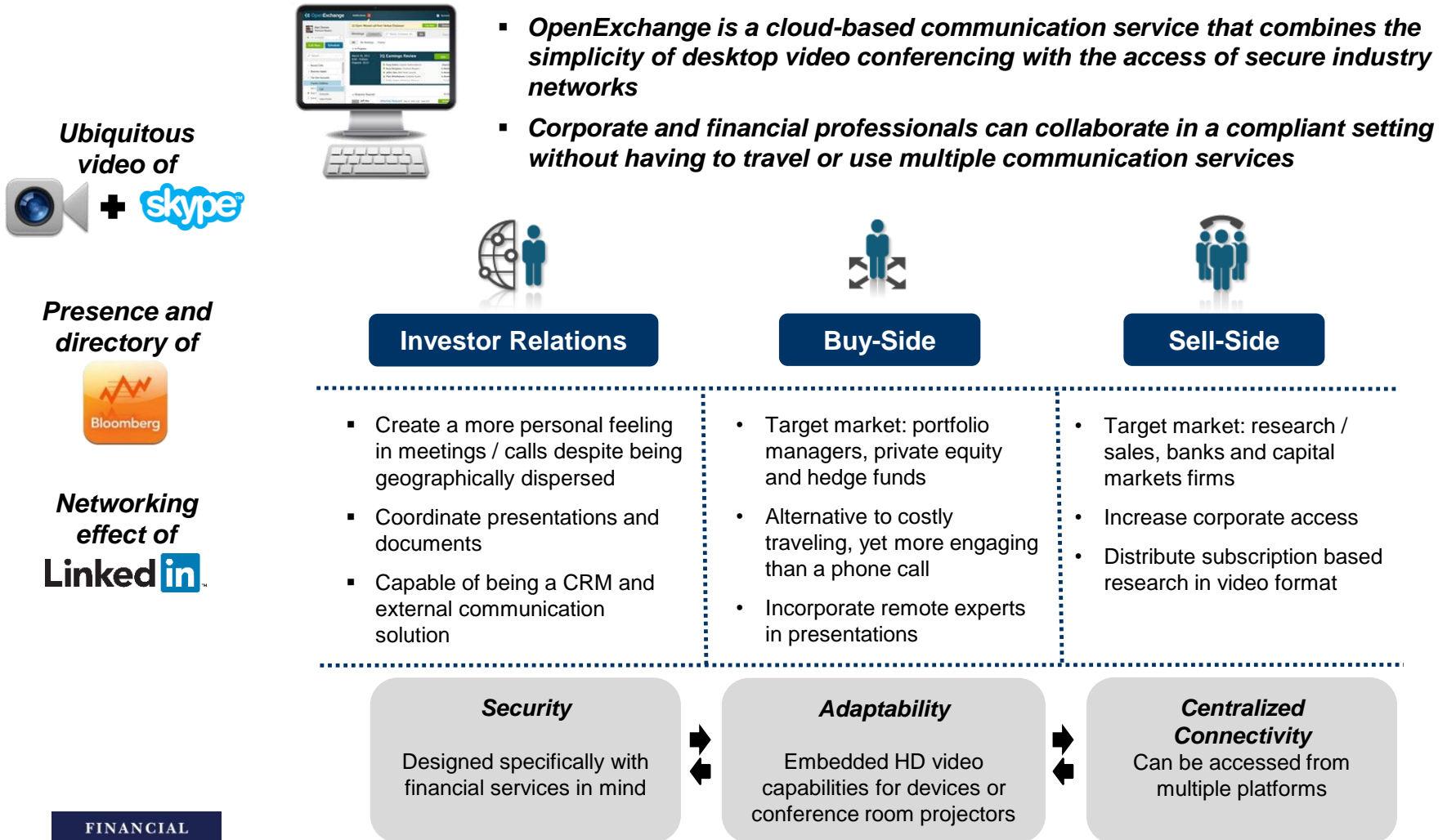
- OpenExchange is a community-based video exchange that enables users to connect easily and securely to their clients
- The Company provides a secure real-time network for institutional investors to coordinate, schedule meetings and engage from any mobile device, desktop or conference room
 - Schedule and host meetings using community based HD video exchange
 - Reduces organizational and geographical complications
 - Improves corporate access, increases participation in sales calls, and accelerates the time-frame to make decisions and collaborate
 - Profiles go through a validation process to ensure authentication
- Can be used on many different devices, including smartphones and tablets
 - Easily accessible from any video platform for multiple parties to join the meeting

Financing Activity

Date	Size (\$ mm)	Investors
09/18/13	\$6.0	 IPREO  BARCLAYS
08/06/12	3.1	Undisclosed
11/17/11	1.3	Undisclosed
04/28/11	1.4	Undisclosed

Innovations in Capital Markets Technology

OpenExchange Overview (cont.)



Source: Company website.

Innovations in Capital Markets Technology

Symphony Communication Overview



Palo Alto

2012

50+

Headquarters

Founded

Employees



David Gurle
Founder, CEO

David has influenced major trends in enterprise communications over the last 15 years – he defined Microsoft's Lync and as head of collaboration services at Thomson Reuters introduced federated communications to the financial services industry; before founding Symphony, he was VP and GM of Skype's Enterprise Business



Mike Harmon
CTO

With 22 years of experience at various start-ups, Mike is the technologist behind the successful exits of Assured Access, Verlink, Madge Networks and Teleos Communication

Symphony Overview

- **Symphony is an open, secure communications platform that connects markets and individuals, promoting collaboration and increasing workflow productivity while maintaining organizational compliance and privacy**
 - Enterprise communication with compliant and customizable workflows and information feeds
 - Unique privacy protection with end-to-end encryption controlled by the customer-owned key systems
 - Active compliance with keyword blocking, disclaimers and information barriers
 - Transparent, open-source foundation comprising multiple financial service firms
- **Symphony will be available as an enterprise solution for a variety of industries**
- **Received a \$66 million investment on October 1, 2014 from a consortium of financial firms**
 - Investors include: Bank of America, Merrill Lynch, BNY Mellon, BlackRock, Citadel, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, Jefferies, JPMorgan, Maverick, Morgan Stanley, Nomura, and Wells Fargo
 - The investors are already implementing the pre-GA version of the platform
- **Symphony acquired Markit's Collaboration Services on December 2, 2014**
 - With the acquired technology, Symphony will provide a secure mechanism for managing industry-specific directory services

Key Highlights ⁽¹⁾

\$30
Monthly
cost per user

~50,000
Users on the
beta platform

100,000+
Estimated
users by 2016

Source: Company website, Capital IQ.

(1) Institutional Investor, "Is David Gurle's Symphony a Big Threat to Bloomberg?"

Innovations in Capital Markets Technology

Symphony Communication Overview (cont.)

The Symphony Platform



Data Ownership

- Symphony never has access to your data
- Provides guaranteed data deletion and extensive account protection



Security and Compliance

- Messages use Authentic Key Exchange protocols and AES-256 encryption
- Data in motion and data at rest encrypted by server in addition to user encryption
- Meets regulatory and corporate requirements for communication and workflow in the financial services industry



Collaboration

- Collaboration from enterprise clients, partners and independent developers allow for accelerated product enhancements for users
- APIs and SDKs for managing, integrating, extending and enriching Symphony



SaaS Hosting

- Messaging and workflow software are served on a SaaS subscription to provide unmatched scalability and access
- 99.995% uptime guarantee using direct connections and VPN's



Ubiquity

- Symphony is available everywhere; can be accessed from your computer, tablet or mobile device
- The platform can stand alone or integrate with existing tools and applications

B. Intelligent Search / Curated Research Tools / Information Providers

Innovations in Capital Markets Technology

AlphaSense Overview

“Our intelligent search technology helps users rapidly find relevant results within the ocean of unstructured content and cuts out the noise from research. This helps analysts catch what others miss and generate better investment ideas.”

—Jack Kokko
Founder & CEO



San Francisco

2008

Headquarters

Founded



Jack Kokko
Founder, CEO



Raj Neervannan
Founder, CTO



John Garofoli
VP of Sales



Lee Jacobek
VP of Product

Content relationships provide unique access to sell-side research from 1000+ firms

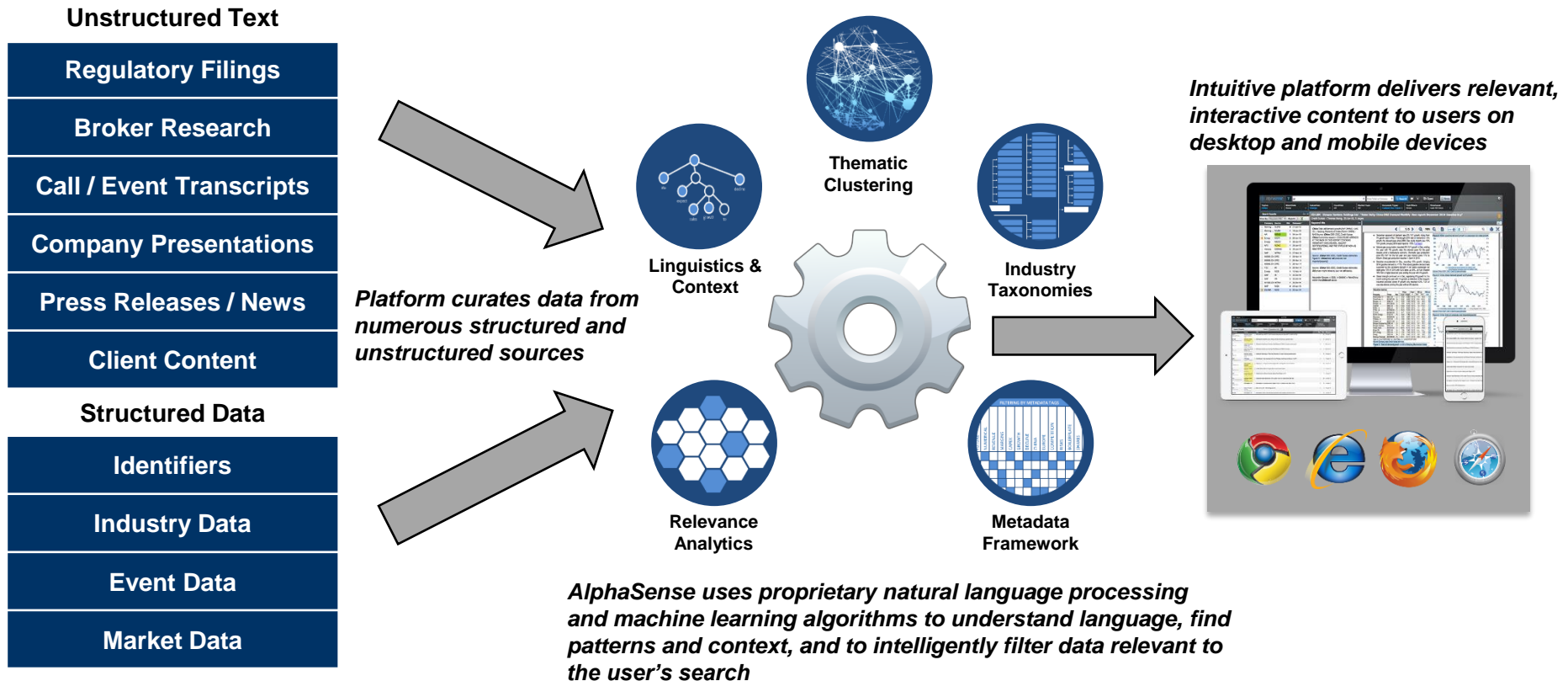
AlphaSense Overview

- **AlphaSense provides an intelligent search engine for knowledge professionals**
 - Indexes research reports, company filings, transcripts, presentations, news releases and clients' own information streams
 - Advanced search tools streamline the research process and introduce efficiency to financial document search and discovery
 - The platform automatically monitors content sets and provides real-time alerts when relevant new information is released
- **Technology utilizes linguistic search and natural language processing algorithms, enabling rapid information discovery and amplifying productivity and idea generation**
- **The Company targets a large, untapped \$15 billion market opportunity for knowledge professionals**
- **Used by over 400 client firms**
 - Clients include many of the largest global banks, investment firms, law firms and corporations
- **Platform has received multiple awards**
 - In February 2016, AlphaSense was awarded Best Mobile Product by the Hedge Fund Manager US Technology Awards
 - In November 2015, awarded Best Buy-Side Analytics Product by Waters Technology
 - In April 2014, awarded Best Sell-Side Analytics Product by Waters Technology
- **Ranked as #104 among the INC5000 fastest growing private companies in America in 2015**

Innovations in Capital Markets Technology

AlphaSense Overview (cont.)

- AlphaSense is a web based intelligent search platform, amplifying research productivity and quality
- Allows users to perform comprehensive, semantic searches across millions of research documents
- Understands language variation and captures synonyms while filtering out false positives
- Search by theme or topic along with traditional keyword search



Innovations in Capital Markets Technology

Eagle Alpha Overview



Dublin

2012

Headquarters

Founded



Emmett Kilduff
CEO, Founder

Previously worked at Morgan Stanley and Credit Suisse within the Equity Capital Markets departments focusing on technology IPOs



Owen Phelan
CTO

CTO Owen Phelan earned a Ph.D in Recommender Systems and Information Retrieval; he also holds two patents for identifying signals on social media

Eagle Alpha Overview

- Eagle Alpha is a financial information and data provider, using technology and research analysts to curate publicly available data on the web
 - Bringing insights from the “Web to Wall Street”
- It analyzes the entire web for actionable insights, primarily for fundamental fund managers and buy-side firms
- The Company's advisory board includes Evan Weaver, who was Twitter's technical architect
- Current shareholders include a board member of Schroders, the Chairman of CQS and a partner of Brevan Howard
- The company was founded in 2012 by a former Morgan Stanley investment banker, Emmett Kilduff

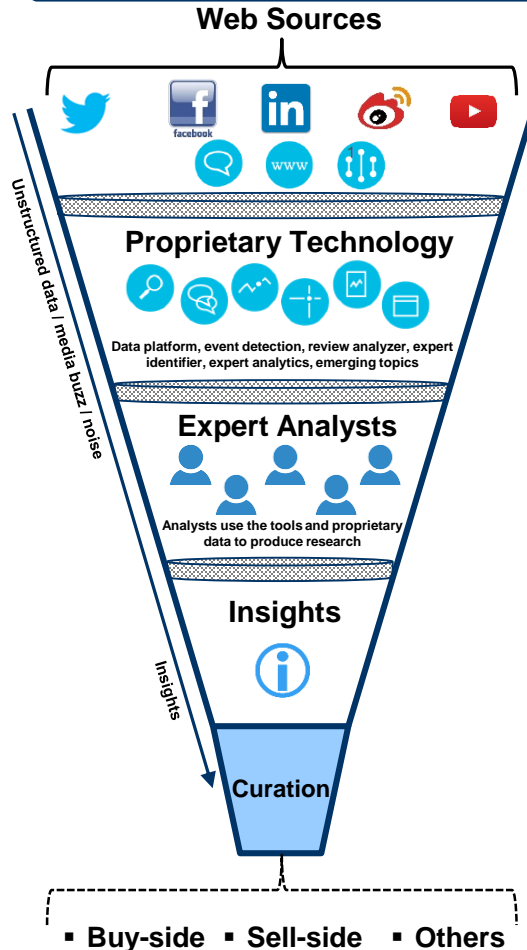
Financing Activity

Date	Size (mm)	Investors
Oct. 2014	\$1.2	Fund Managers, Investment Bankers
Feb. 2014	1.5	Fund Managers, Investment Bankers
Feb. 2013	0.3	Irish Government
Sept. 2012	0.4	CEO, Founder

Innovations in Capital Markets Technology

Eagle Alpha Overview (cont.)

Information Collection Process



Eagle Alpha is building a data platform that will enable its clients to use the same tools and data as Eagle Alpha's research analysts

Eagle Alpha Product Overview

- **Insights are provided through research, tools and a data platform**
 - **Research:** The Company's research analysts are empowered with algorithms, data scientists, technologies and engineers
 - **Tools:** Eagle Alpha has built specific tools for users to perform their own proprietary analysis
 - **Data Platform:** The Company is building a data platform that will enable clients to access the same tools and data sources that professional research analysts use

Research

- **Investment Themes:** In early May 2015, the Company began coverage of the 100 global investment themes split into the 10 global S&P sectors
- **Stock Reports:** Eagle Alpha's equity research analysts leverage technology to produce impactful insights on specific stocks (e.g. pre-IPO reports)
- **Macro Trends:** In-house macro research analysts leverage technology and data scientists to build proprietary indices on economic trends like unemployment, housing and consumption

Tools (Current)

- **Social Feeds:** A compliant way to access Twitter and includes 13,000 pre-selected experts split into 150 lists (e.g. a list of experts on US pharma)
- **Expert Identifier:** A cross between an expert network and Twitter; clients use the tool to identify experts on any topic (e.g. audiologists)
- **Web Queries:** Clients work with research analysts to develop tailored queries for review sites and forums, including Facebook, Weibo, Renren and other sources

Data Platform

- Eagle Alpha's research analysts conduct research using the tools, proprietary data and models
- Eagle Alpha is currently in the process of building a data platform that will enable clients to use the same tools and proprietary data for their own research

Innovations in Capital Markets Technology

Estimize Overview



New York

2011

Headquarters

Founded



Leigh Drogen
Founder, CEO



Brian Smith
CTO

Prior to founding Estimize, Leigh ran Surfview Capital, a New York based quantitative investment management firm trading medium frequency momentum strategies; previously worked in product and business development positions at StockTwits

Brian is a software engineer and entrepreneur with a decade of experience; he was a cofounder of QRAWR and former VP of Engineering at KidZui

Estimize Overview

- Estimize provides an online platform for crowdsourced financial estimates from hedge funds, brokers and independent analysts
- Estimize has over 7,000 contributors, resulting in coverage on over 1,500 stocks each quarter
 - Users and analysts can contribute pseudonymously under a user name and develop a ranking over time
- The Estimize consensus estimate is regularly referenced in notable financial media sources such as Forbes, Barron's, The Wall Street Journal, CNN Money, The Street, Investor's Business Daily and Business Week, amongst others
 - Estimize data is now available on major financial research platforms such as Bloomberg
- The Company offers its service for free
 - Monetize by making their data available to financial institutions through an API that incorporates the information into their investment and trading models directly

Financing Activity

Date	Size (\$ mm)	Investors
04/09/15	\$4.5	WORLDQUVNT. Ventures
10/24/14	0.4	CONTOUR VENTURE PARTNERS blueStreamLabs
03/27/14	1.2	CONTOUR VENTURE PARTNERS longworth VENTURE PARTNERS*
09/11/12	1.2	Undisclosed

Source: Company website, Capital IQ.

Innovations in Capital Markets Technology

Estimize Overview (cont.)

Contributors

- **Anyone can contribute** – *Estimize algorithms catch unreliable data*
- **Analysts on Estimize include equity researchers, traders, hedge fund professionals and asset managers as well as independent investors, students and industry experts**
- **10 estimate contributions per quarter is recommend** – *Highly ranked analysts average 50-60 stock estimates per sector*
- **Ability to contribute anonymously to prevent users from compromising themselves in any way**
- **The platform is what the analysts make of it** – *Incentivizes contributions to increase value of a high rank; therefore attracting new customers*

Review Process

- **Monitors suspicious activity such as creation of multiple accounts, random estimates and collusion**
- **Every new analyst will be manually reviewed** – *Check biographical info & evaluate reliability of first 5 estimates*
- **Flagged estimates will not be included in Estimize Consensus**
- **Flagged estimates will be reviewed before the close of each trading day to determine credibility before then being added back in or removed entirely**

Data & Ranking

- **Estimize Consensus is an un-weighted average** – *Estimize Select Consensus weights estimates based on different rank factors*
- **EPS and Revenue estimates are scored for accuracy** – *Scale of -25 to +25 based on Wall Street consensus – Analysts receive points for being more accurate and lose points when less accurate than Wall Street*
- **Rankings for analysts are then determined at the end of each month based on number of points**
- **Riskier, or more aggressive estimation is encouraged by awarding points on an exponential scale; an estimate placed aggressively outside the mean will be awarded more points if it is accurate**
- **Economic Indicator estimates provided as well**
- **Data is downloadable using the Excel add-in** – *Streaming and RESTful APIs available for Investment firms*
- **Estimize also partners with many financial data platforms such as Bloomberg**

Source: Company website.

7,000+
Contributing
analysts

2.5%
Of flagged
estimates are
deemed unreliable

100,000
Data viewers
per quarter

FINANCIAL
TECHNOLOGY
PARTNERS

Innovations in Capital Markets Technology

iMatchative Overview

iMATCHATIVE

San Francisco

2012

Headquarters

Founded



Sam Hocking
Founder, CEO

Prior to founding iMatchative, Sam Hocking served as Managing Director at BNP Paribas, where he ran the Prime Brokerage Unit





Christian McCarrick
CTO

Christian McCarrick brings to iMatchative over 18 years of experience building and leading start-up technology teams

iMatchative Overview

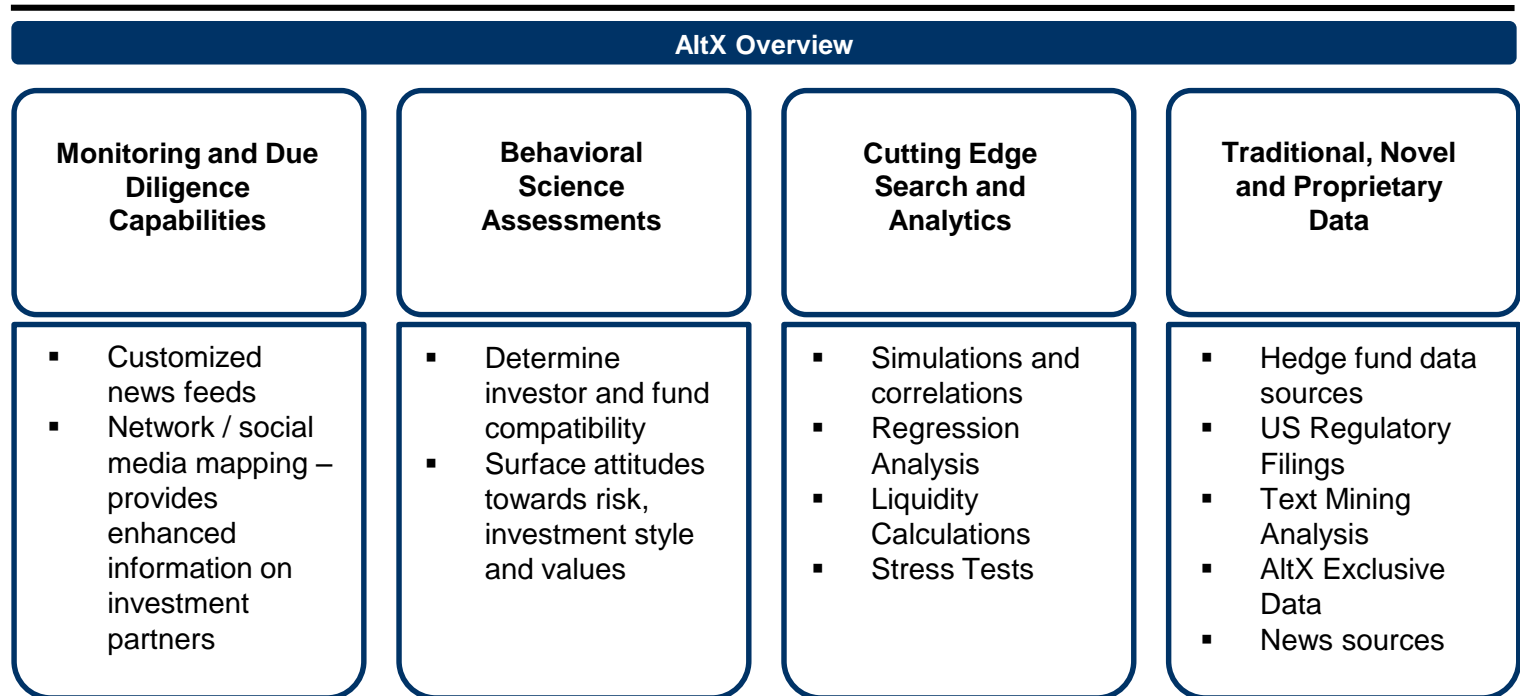
- iMatchative provides a cloud-based network to help investors and funds find more satisfying investments
 - Uses innovative algorithms, behavioral and traditional financial statistics and analysis
 - Offers instruments to determine compatibility between investors and funds beyond financial measures
- The Company's first product, AltX, uses science and technology to assess the risk tolerance, investment goals and preferences of investors in the fund selection process
 - The platform provides a more efficient and less expensive capital allocation process through a combination of Big Data, intelligent analytics and intuitive searches
 - Enables hedge funds to gain a deeper insight into the motivations and perceptions that shape investors' decision making process
- The solution is currently used by public and private pension funds, registered investment advisers, investment banks, private banks, endowments, pension funds, wealth managers, private clients, and capital introduction groups

Financing Activity

Date	Size (\$ mm)	Investors
10/27/14	\$20.0	  Control Empresarial de Capitales, S.A. de C.V.

Innovations in Capital Markets Technology

iMatchative Overview (cont.)



Time and Money Savings



Better Informed Decisions



Stickier Capital

Innovations in Capital Markets Technology

Mattermark Overview



San Francisco

2013

Headquarters

Founded



Danielle Morrill
CEO, Cofounder

Cofounder and former CEO of Referly, as well as former Director of Marketing at Twilio














Kevin Morrill
CTO

Also worked at Referly as CTO with a background in software engineering

Mattermark Overview

- **Mattermark is a data platform for venture capitalists, hedge funds and private equity firms to research and track private companies using data intelligence**
 - Also used by business development professionals and investment bankers for potential M&A
- **Over 1 million private companies in the database**
 - 200k have employee data and 90k have funding events
- **The platform allows users to compare, collaborate and share data, integrate it with LinkedIn and Salesforce, and receive email alerts**
 - Provides a ranking list of investors by portfolio momentum
 - The platform is also available for use on mobile devices

Financing Activity

Date	Size (\$ mm)	Investors
12/16/14	\$6.5	     
06/29/14	2.0	    

Source: Company website.

Innovations in Capital Markets Technology

Mattermark Overview (cont.)

Mattermark uses a combination of machine learning technology and data quality analysis to create an accurate database

—
With the comprehensive database, users are able to track future investment prospects



Search & Filter

Use advanced search, filtering and sorting to find the perfect company



Compare

Perform side-by-side comparisons of company information



Analyze Portfolios

View, track and follow investor portfolios



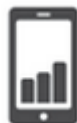
Create Lists

Save companies in lists for future study



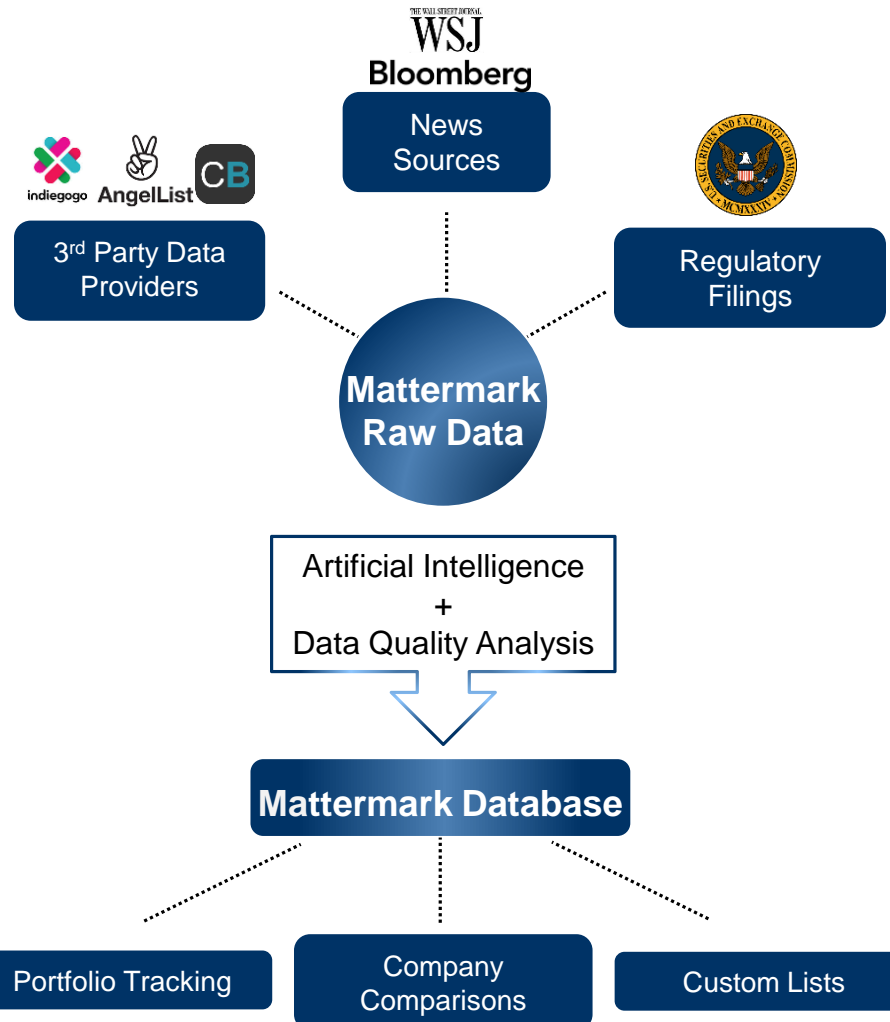
Collaborate

Share lists, searches and notes with colleagues to accelerate communication



Mobile

Mattermark's mobile platform and alerts make sure users are always in the know



Innovations in Capital Markets Technology

StockTwits Overview

StockTwits®

San Diego

2008

Headquarters

Founded



Howard Lindzon
CEO



Justin Paterno
President



Pierce Crosby
Director of Business
Development



Dave Pinke
Director of
Product

StockTwits Overview

- **StockTwits is a social-media focused research and communication platform for the investing community**
 - StockTwits created the **\$TICKER** tag enabling users to identify and organize streams of information on stocks across the web
 - Investors and analysts use the information and new ideas from the data-streams to manage their investments
- **StockTwits streams consist of ideas, links, charts and other important financial data, summarized within 140 character messages**
- **Over 300,000 investors, market professionals and public companies share information about individual stocks and markets using StockTwits**
- **StockTwits' Investor Communication Solution allows public companies to transmit messages to the public using the \$TICKER stream**

Financing Activity

Date	Size (\$ mm)	Investors
04/11/15	\$1.2	Undisclosed Investors
10/19/10	4.0	 FOUNDRY GROUP true ventures
12/01/09	3.0	 FOUNDRY GROUP true ventures
05/18/09	0.8	 true ventures
12/17/08	0.8	 betaworks <small>IA CAPITAL GROUP</small>
09/23/08	na	Private Individuals

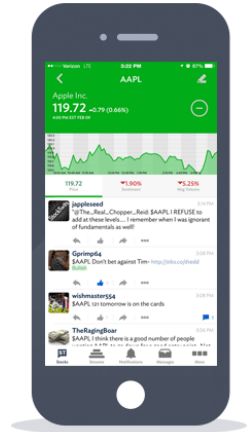
Source: Company website, FT Partners proprietary database, Capital IQ.

Innovations in Capital Markets Technology

StockTwits Overview (cont.)

Product Overview

- 300,000+ investors, public companies and financial professionals share information and ideas about the market and individual stocks using StockTwits, producing streams that are viewed by over 40 million people across the web and social media platforms
- StockTwits' platform is integrated with major social platforms, including Facebook, Twitter and LinkedIn
- Investors can follow individual stocks and specific contributors, as well as view the StockTwits stream across multiple financial sites including Yahoo Finance, CNN Money, Reuters, TheStreet.com, Bing.com and The Globe & Mail
- StockTwits offers an API for developers to build a social layer into any financial application or web site
- Users can share ideas with traders and investors in real-time, view charts / videos and access financial news via mobile apps available for Apple and Android devices



Tools

Website Widgets



- StockTwits' widgets enable users to broadcast streams into their own blogs and websites
- The widgets are customizable, allowing users to set specific parameters, messages and fields

Browser Extensions



- Link and highlight stock symbols and messages on Twitter.com or Hootsuite.com using Mozilla Firefox and Google Chrome extensions
- Share ideas across the financial web – including Yahoo Finance, Reuters, Bing and CNN Money

DittoTrade Profile



- StockTwits has partnered with DittoTrade to offer Premium Ditto Profiles to their users
- Followers on DittoTrade can participate in actual trades or receive real-time actionable trade alerts

C. Big Data / Unstructured Data Analytics

Innovations in Capital Markets Technology

DataFox Overview



Mountain View

2013

Headquarters

Founded

DataFox Founders



Alden Timme
Cofounder &
Developer



Bastiaan Janmaat
Cofounder



Mike Dorsey
Cofounder








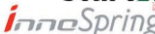

Ben Trombley
Cofounder

“DataFox is shaking up the world of big data by offering research to investors of all types and sizes at affordable prices” –CNBC

DataFox Overview

- DataFox is a unique tool whose predictive SaaS technology makes it easier for investors to source private investments
 - DataFox uses algorithms and language processing to rate private companies in a systematic way
 - The platform gives investors access to real-time data, company milestones, leads and market trends to better traverse the complex technology market
- The platform is primarily used by investors, bankers and business development professionals
- The service is subscription based with a flat monthly fee and offers various levels of membership depending on the desired features
- According to TechCrunch, firms already using the platform include Accel Partners, Google Ventures (also an investor), Bloomberg Beta and Intuit ⁽¹⁾

Financing Activity

Date	Size (\$ mm)	Investors
02/09/14	na	Google ventures  Individual Investors
10/31/13	\$1.5	Individual Investors      

Innovations in Capital Markets Technology

DataFox Overview (cont.)

Discovery Features

Q wearables

COMPANIES

SECTORS

INVESTORS

- DataFox technology allows users to scout for investment leads through keyword searches and customizable filters on its platform
- Searches can be made in the form of questions, such as “What are the top payments companies with more than 50 employees?”
- Searches can be customized to return lists based on sector, company locations, current investors, company size, etc.

Diligence and Analysis



- Company profiles are updated in real-time to contain important data points on the Company's finances, team, major events and growth
- Company profiles contain links to similar companies and competitors making it easy for users to traverse the industry landscape
- DataFox uses financings, team growth, retention, social media / news momentum and more to develop its rating for each company
- DataFox's algorithms capture the important data and track it over time to give its users novel insights into trends occurring real-time in the private tech sector

Tracking



- Not only does DataFox track relevant information for investors, it also provides convenient alerts when an important news break has occurred
- The DataFox technology parses through thousands of articles to give users the relevant news that they want to see
- Examples of alerts that users receive are M&As, large financings, changes in personnel and more
- Users can choose to follow individual companies or entire sectors

Innovations in Capital Markets Technology

Kensho Overview

KENSHO

Cambridge

2011

Headquarters

Founded



Daniel Nadler
Cofounder, CEO

Daniel Nadler is currently the Director of Research for Financial Technology at Stanford University's School of Engineering





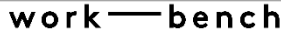





Adam Broun
COO

Prior to Kensho, Adam Broun served as the CIO of Credit Suisse, covering the investment banking, private banking and asset management divisions

Kensho Overview

- **Cloud-based statistical computing platform that utilizes high-speed search algorithms and machine learning to provide predictive analysis tools for the finance industry**
 - Allows analysts to make more informed decisions based on statistics
 - The Company shows relationships between variables that relate to financial markets that may not be obvious or more difficult to uncover through traditional methods
- **Kensho entered a strategic relationship with Goldman Sachs and NBC Universal through its latest funding round**
 - CNBC announced an editorial and product partnership with the company
 - Goldman Sachs announced the rollout of Kensho's big data analytics capabilities across the firm

Financing Activity

Date	Size (\$ mm)	Investors
11/23/14	\$15.0	 
01/22/14	10.0	     

Innovations in Capital Markets Technology

Kensho Overview (cont.)

Kensho Technology – Warren

Warren allows investors and analysts to simultaneously model the reaction of tickers, currencies, and commodities – to events that happened on specified dates

- First professional-grade financial research and analytics platform built completely on NASDAQ OMX FinCloud
- The use of a cloud computing infrastructure significantly decreases implementation time
- The Company plans to lease Warren to asset managers and buy-side firms on a subscription basis
- The Kensho team is also in the process of building a massive unstructured geopolitical and natural world event database

Real-time Statistical / Market Analysis

- Scans 90,000+ actions
 - Monetary Policy
 - Economic Reports
 - Earnings
 - Seasonality Events
 - Political Events
 - Drug Approvals

Strategy Development

- Create or test new investment strategies without software engineers and quants
- Access statistical computing and strategy simulation speed previously available only to hedge funds
- Perform back-testing against decades of multi-asset market data

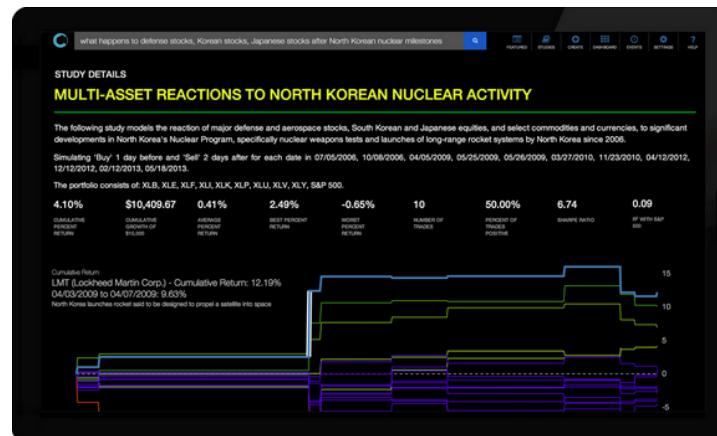
Timely Query Results with Visualizations

- Produces models of the impact to financial assets
- Answers over 65 million question combinations
- Ability to refine search by changing variables

Intuitive Graphic Interface

- Enter financial questions in plain English
- Uses simple text search box without any additional programming required

Warren Interface



Source: Business Insider, Forbes, Finovate.

Innovations in Capital Markets Technology

Quid Overview

Quid™

San Francisco

2010

Headquarters

Founded



Neville Crawley
CEO

Neville has been a management team member of multiple high-growth startups including one of the leading business information groups in China and the global expert network GLG



Bob Goodson
Co- Founder &
Chief Revenue Officer

Bob has started and developed technology companies since 2004 following his graduate studies in language theory at Oxford University

Quid Overview

- Quid is an intelligence platform that allows you to explore any custom topic in depth using interactive visual maps
- Immersive visual outputs enable you to find insights and make decisions 5-20x faster than traditional methods and business analytic tools
- The Quid platform sorts through millions of data points across more than 250,000 sources on demand, allowing you to understand the landscape of any topic quickly and easily
- Currently used by large corporations, consulting firms, hedge funds, advertising agencies and government agencies

Financing Activity

Date	Size (\$ mm)	Investors
03/19/15	\$39.0	ARTIS VENTURES Buchanan Investments LIBERTY INTERACTIVE SUBTRACTION CAPITAL THL Thomas H. Lee Partners Tiger Infrastructure Partners
07/25/11	10.0	SVAngel Infocomm Investments ATOMICO FOUNDERS FUND endeavourvision

Innovations in Capital Markets Technology

Quid Overview (cont.)

Quid Features

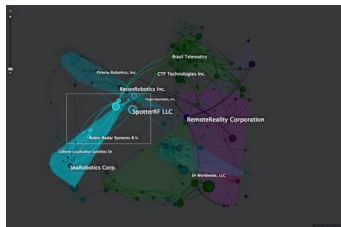
Interactive



Interactive Exploration: Powerful software allows for exploration of millions of data points around any topic including trends, markets, events and people

- Full suite of network generation and clustering algorithms at your disposal depending on the question you are looking to answer
- Anomaly detection allows the software to reveal hidden features in your data and find the signal from within the noise

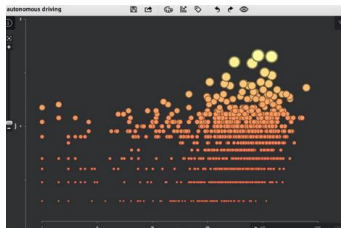
Speed



Accelerated Speed: High performance algorithms featuring powerful natural language processing and artificial intelligence allow you to tackle complex questions with little friction

- Algorithms read and structure data into query-able information streams
- Near zero latency

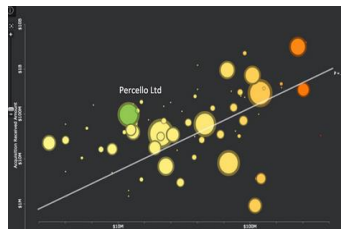
Premium Data



Premium Data: Feed an ongoing stream of premium data sets including company financials, news and blogs, and patents from more than 250,000 sources

- 1500 calculated data points per second collected and stored within the Quid system
- Index over 1.5 million pieces of content daily across sources like CapIQ, Thompson Reuters, The New York Times and MIT Technology Review
- Ability to upload proprietary information and metadata

Customization



Customizable Across Needs: An intuitive next-generation user interface with over 20,000 interactive objects on screen

- Highlight wide range of metadata including sentiment analysis, social amplification and geographical information
- Ability to create, export, and share insights across the platform

Innovations in Capital Markets Technology

Selerity Overview



New York

2009

Headquarters

Founded



Ryan Terpstra
CEO & Cofounder

Prior to Selerity, Terpstra was the Director of Quantitative News at Thomson Reuters, worked at the World Economic Forum and co-founded a biotechnology startup



Andrew Brook
CTO

Before Selerity, Andrew was Vice President responsible for Morgan Stanley's foreign exchange e-commerce platform, later being promoted to Executive Director



Brendan Gilmartin
EVP, Business Development
Most recently, Brendan was Senior Equity Market Analyst for Thomson Reuters

Selerity Overview

- Selerity's real-time data, news and content processing platform systematically analyzes multiple sources providing investors insight to make faster and better informed decisions
- Selerity currently offers two products that leverage proprietary data science and machine-learning
 - Selerity Global Insight (SGI) delivers event-driven, custom coverage on developed and emerging markets; providing proprietary analysis and meaningful data to every report
 - Real-time Event Data detects and delivers market-moving events as they are happening; designed for automated investment professionals
- The Company's intelligence platform classifies, filters, translates and ranks sources through its real-time natural language processing engine
 - Confirmed events establish data-supported context where investors are provided meaningful content on the significance of the information
 - Selerity's multilingual research team analyzes each event to provide insight and context

Financing Activity

Date	Size (\$ mm)	Investors
03/08/16	4.2	Citigroup
02/13/13	3.0	Individual Investors
02/20/09	5.1	Individual Investors

Source: Company website.

Innovations in Capital Markets Technology

Selerity Overview (cont.)

Selerity Products



- Selerity Global Insight (SGI) discovers catalyst events, such as M&A, earnings, regulation change, and corporate actions providing investors real-time, event-driven intelligence that affect investment thesis and decision making
- Global Insight intelligence reports offers impactful, forward looking opportunities using proprietary technology and expert analysis



- Real-time Event Data is designed to be incorporated into risk management and trading strategies for investing professionals
- Selerity's Intelligence Platform extracts factual, actionable information from multiple proprietary and open sources delivering incomparable data accuracy and speed

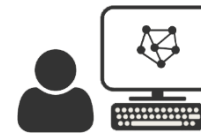
Selerity Technology



Selerity's Real-time Event Processing Platform analyzes sources in real-time



Natural language processing engine systematically classifies, filters, translates, and ranks sources



Analyst team provides confirmed events with data-supported context telling you why it matters



Selerity's Intelligence Platform delivers real-time information in an Intelligence Report or Machine-readable Event Data Feed

Twitter Earnings Pre-announced



Selerity @Selerity · Apr 28

Today's **\$TWTR** earnings release was sourced from Twitter's Investor Relations website investor.twitterinc.com. No leak. No hack.

"Selerity broke news that Twitter missed its revenue expectations and that its users grew. Between the leak and the bad numbers, the incident quickly drove Twitter's stock down around 18 percent" ⁽¹⁾

Innovations in Capital Markets Technology

Thinknum Overview



New York

2013

Headquarters

Founded

Thinknum Founders



Gregory Ugwi
CEO and Cofounder



Justin Zhen
Cofounder

“Using the web, Thinknum is revolutionizing the way in which investors value companies.” –New York Times

Thinknum Overview

- **Thinknum is a web platform that investors can leverage to make more informed investment decisions**
 - The platform functions as an online repository of financial data and models that can be accessed by its users
 - Data on public companies is extracted from thousands of APIs and plug-ins
 - The site makes it easier to value companies and evaluate datasets by providing a database of models for users to build on
- **The tools are marketed towards investment banks, hedge funds and asset managers who can use the platform to make the modeling process simpler and more efficient**
- **Thinknum offers two main tools: Cashflow Model allows users to develop and share valuation models, while Plotter helps users to interpret economic indices and datasets**
 - The Company intends to add fixed income and commodities data in the near future
- **According to the New York Times, Thinknum plans to monetize by offering a fee-based product to financial institutions that would allow users to share models and collaborate**

Financing Activity

Date	Size (\$ mm)	Investors
07/28/14	\$1.0	PejmanMar VENTURES, SIGNATURES CAPITAL, 645 VENTURES, 500 startups
04/30/14	0.1	500 startups

Innovations in Capital Markets Technology

Thinknum Overview (cont.)

Thinknum Database

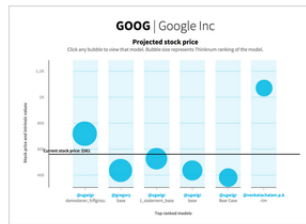


Sources:
Thinknum has digitized financial filings from over 2,000 sources to produce a database of relevant information for investors and analysts

	2012	2013	2014
Revenue	\$37,200.00	\$50,175.00	\$57,200.00
% Growth		32.4%	14.1%
Cost of Goods Sold	\$12,200.00	\$11,790.40	\$12,500.00
Gross Profit	\$25,000.00	\$38,384.60	\$44,700.00
% Gross Profit Margin	67.2%	76.5%	78.1%
SG&A	\$8,000.00	\$3,300.00	\$3,500.00
SG&A	\$8,000.00	\$3,300.00	\$3,500.00
Depreciation and Amortization	\$1,000.00	\$1,000.00	\$1,000.00
EBIT	\$16,000.00	\$20,000.00	\$27,000.00
% EBIT Margin	43.0%	40.0%	47.2%
Interest Expense	\$0.00	\$0.00	\$0.00
Other Non-Operating Income	\$4,000.00	\$10,000.00	

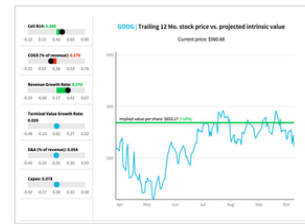
Ease of Access:
Models can be created from scratch or uploaded from Excel and can be accessed from anywhere through the Thinknum platform

Collaboration



Share models between the thousands of users on the platform to create a collaborative learning environment

QuickBuilder



QuickBuilder can be used to make quick alterations to a model making it easier to predict the effects of real-world events

Portfolio Tracking

Ticker	Group	Market P...	Quantity
GOOG	Tech	\$560.88	1
AAPL	Tech	\$101.02	1
AMZN	Tech	\$315.37	1
TSLA	Tech	\$257.01	1
FB	Tech	\$75.91	1
SUM			5

Thinknum also provides users with a feature for tracking portfolio performance and finding stock picks based upon customizable filters

Institutional Membership

Model name	Ticker
KO Model	KO
Costco base	COST
FDO model	FDO
WM base	WM

Institutional membership allows for creation of private groups and workspaces for confidential collaboration within a single company

Alternative Data

Thinknum's Alternative Data platform has the ability to extract critical information from public companies through APIs / plug-ins, enabling users to generate heat-maps, statistics and market share data for competitive analysis – users can then link the data to their quantitative models

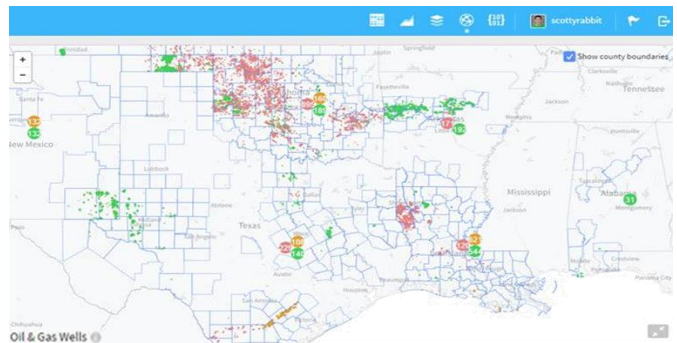


Exhibit 1 – Energy: Track individual oil / gas well production and study major plays for Chesapeake, Conoco Phillips and Exxon Mobil

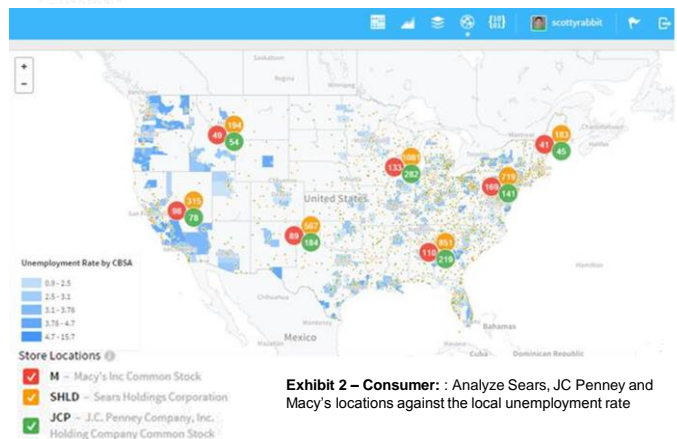


Exhibit 2 – Consumer: Analyze Sears, JC Penney and Macy's locations against the local unemployment rate

D. Big Data / Unstructured Data Analytics Focused On Social Media

Innovations in Capital Markets Technology

Dataminr Overview



New York

2009

Headquarters

Founded



Ted Bailey
Cofounder, CEO



Jeff Kinsey
Cofounder, CTO



Partnership with Twitter includes
real-time access to all public tweets

Dataminr Overview

- **Dataminr is a real-time information discovery company for enterprise use**
 - Using powerful proprietary algorithms, Dataminr processes public Twitter streams into actionable signals, identifying the most relevant information in real-time for clients in finance, news and the public sector
- **Partnered with Twitter to develop Dataminr for News, a tool that alerts journalists to breaking events and developing stories based on topics of focus**
- **The technology is used by 50+ buy-side and sell-side firms with over \$500 billion combined assets under management**
- **In Dataminr's most recent financing round, it raised \$130 million at a \$700 million valuation according to the WSJ**

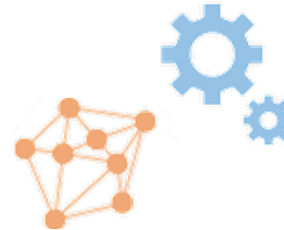
Financing Activity

Date	Size (\$ mm)	Investors
03/17/15	\$130.0	Venrock, GLYNN CAPITAL, CREDIT SUISSE, WELLINGTON MANAGEMENT, IVP, Fidelity, Goldman Sachs
06/12/13	30.0	Venrock, GSV Capital, DEEP FORK CAPITAL, WHARTON EQUITY PARTNERS, IVP
09/24/12	16.5	WHARTON EQUITY PARTNERS, Viceroy Capital, DEEP FORK CAPITAL, GSV Capital
07/26/11	1.1	BOXGROUP, Andreas Wuerfel
08/11/10	2.0	Andreas Wuerfel

Innovations in Capital Markets Technology

Dataminr Overview (cont.)

Dataminr Technology



Dataminr's clustering and event processing engine distills over 500 million tweets per day to the handful of signals that are valuable

Classifies signals based on geographic location, topic relevancy and market moving implications and ranks them by level of urgency

Real-time signals are delivered via a web browser, instant messenger, e-mail, mobile app or can be integrated into workflows using a custom API

Industry Specific Products

News



Dataminr for News is an enterprise application that alerts journalist to real-time story leads; signals are delivered automatically via application, email, instant message and integration into internal systems

Finance



Provides early market moving information such as M&A speculation, significant market events, market insight / trends and company updates; provides financial users with a new source of alpha that is customizable based on set parameters

Public Sector



Instant aggregation of real-time news events based on geographic location (natural disasters, transportation disruption, politics and public safety); through its map-based dashboard, Dataminr delivers customizable real-time signals on events as they develop via email, instant messaging and integration into internal warning systems

Innovations in Capital Markets Technology

DataSift Overview

DATA SIFT

San Francisco

2010

Headquarters

Founded



Nick Halstead
Founder, CEO



Steven Pease
COO & CFO



Tim Barker
CPO



Lorenzo Alberton
CTO



"The new partnership with Facebook leverages DataSift's technology to aggregate and deliver summary results from topic data" ⁽¹⁾

FINANCIAL
TECHNOLOGY
PARTNERS

Datasift Overview

- Datasift enables companies to capture, analyze and act on all types of human-generated data, without compromising consumer trust; the platform filters and extracts information from billions of social posts, new sources and blogs
 - Provides both real-time and historical data
 - Datasift is delivered as a cloud platform that does the media monitoring and processing for the client before passing along important information
- DataSift provides insight and finds trends in everything from brands, businesses, financial markets, news and public opinion
- Current clients of DataSift include large companies like Dell and CBS Interactive as well as social media focused companies such as Hootsuite and WPP
- In March 2015, the Company announced its partnership with Facebook, providing marketers and brands with access to anonymized and aggregated Facebook topic data

Financing Activity

Date	Size (\$ mm)	Investors
12/03/13	\$42.0	SCALE Ventures Partners, IA VENTURES, dahercapital, NORTHGATE, cendana capital, INSIGHT VENTURES, upfront VENTURES
11/12/12	15.3	upfront VENTURES, dahercapital, NORTHGATE, SCALE Ventures Partners, IA VENTURES
05/02/12	7.2	upfront VENTURES, IA VENTURES
07/11/11	6.0	Hermann Hauser, upfront VENTURES, IA VENTURES
01/01/10	1.5	David Richmond, the FSC Group

Source: Company website, Wall Street Journal, Capital IQ.

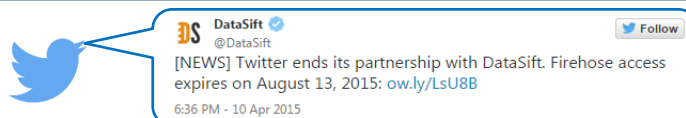
Innovations in Capital Markets Technology

DataSift Overview (cont.)

DataSift Platform

- DataSift's technology monitors a large variety of social data, including popular social media websites, blogs, online databases, forums and more while meeting licensing and compliance standards
- The platform then enriches its raw data by adding context, and taking into account things such as language, demographic, sentiment, topic and source to add meaning
 - Data can be filtered based on more than keywords; the platform can take into account author, demographic, language and location
 - Advanced operations such as filtering by regular expressions, context, pattern matching, and substrings allows users to find the info relevant to them more efficiently
- The DataSift platform is compatible with various developer tools and applications to make it easy to integrate into custom systems – users can access DataSift's APIs to stream data into their own applications or pull specifically targeted data
- DataSift has partnerships with over 20 social, news and blog networks (including Facebook) and serves over 1,000 companies with the Human Data platform

Twitter Data License

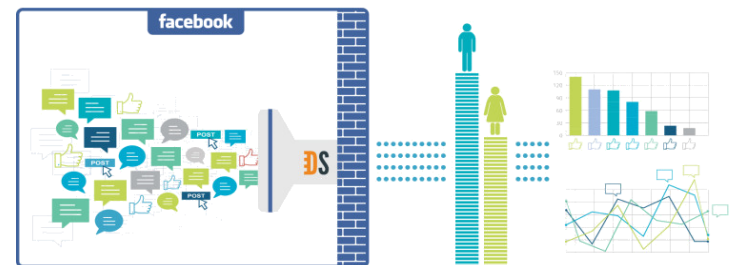


Twitter plans to cut off its “Firehose” data access to independent data partners and resellers; after acquiring Gnip in 2014, Twitter will gradually bring data activity in-house “in-order to better serve [its] customers and partners” (1)

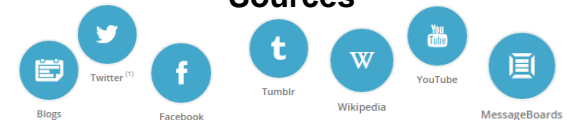
Source: Company website, Company press release.
(1) Recode.net.

Topic Data Ecosystem

DataSift's partnership with Facebook leverages the Company's technology to aggregate and convey summary results from topic data, giving developers a tool to build innovative marketing applications that surface insights into what audiences are saying on Facebook



Sources



Enrichments Categorization

Filter

Destinations



Innovations in Capital Markets Technology

Market Prophit Overview



New York

2011

Headquarters

Founded



Igor Gonta
CEO

Igor Gonta brings 13 years of Wall Street experience to Market Prophit; he originally worked in commodities sales & trading and has worked at Goldman Sachs, Barclays and Credit Suisse



Brandon Hood
CTO

Brandon Hood spent 10 years on Wall Street in equities and fixed income trading at Deutsche Bank and in Market Analysis at the Federal Reserve Bank of New York

Market Prophit Overview

- Market Prophit provides real-time intelligence on publicly traded stocks, currencies, commodities and futures by identifying high performing financial bloggers and aggregating their stock market commentary in social media
 - Proprietary quantitative engine that measures the accuracy of financial bloggers' / tweeters' stock calls and track record of predictions
 - Custom natural language processing software that understands a wide range of trading-related language
- Calls on individual securities from highly ranked financial bloggers are used to provide critical intelligence and market-leading insight
- Market Prophit's key differentiator is its automatic recommendation engine that identifies those bloggers / tweeters with high quality content for investors, thereby streamlining the research process and reducing noise in the social media stream
- Market Prophit generates custom indices of sentiment crowd sourced from not only the general population of bloggers/tweeters but separately from only those bloggers that have the highest Market Prophit Scores

Financing Activity

Date	Size (mm)	Investors
April 2011	\$0.6	Self-funded

Innovations in Capital Markets Technology

Market Prophit Overview (cont.)

Product Offerings

Sentiment



Stock	Volume	Sentiment	Recent Sentiment Change
Apple Inc.	1,234,567	0.85	0.12
Microsoft Corp.	987,654	0.72	0.08
Amazon.com	876,543	0.65	0.15
Facebook Inc.	765,432	0.58	0.10
Google Inc.	654,321	0.51	0.09

- Securities are ranked on a number of different metrics associated with Twitter signals including volume (“buzz”), sentiment and recent sentiment change
- Scores are updated every minute
- The platform allows users to switch between rankings determined from all bloggers / tweeters (“The Crowd”) and rankings determined from only highly ranked financial bloggers (“Market Prophits”)

Heat Maps



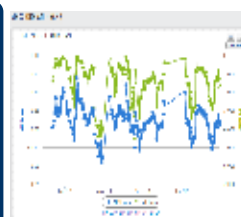
- Allows users to cut and analyze sentiment and buzz data by exchange and sector
- Can filter the entire stock universe and view sentiment / buzz for stocks that are in a particular exchange or sector, with each box representing a single stock
- Each heat map can be switched between “Crowd” aggregate consensus and “Market Prophit” aggregate consensus
- Squares directly link to their individual stock pages for easy “drill down” / research

Securities Page



- On the security-specific page, users can find a stock’s key fundamental metrics, recent news and analysis of Market Prophit’s various signals derived from social media chatter
- The page has graphs of sentiment, buzz, price and other metrics for the individual securities as well as historical data for each metric
- Users can add securities to their dashboard to track their personalized portfolio and set email alerts for when any of Market Prophit’s indicators / indices reach pre-defined, custom levels set by the user
- Users can also receive alerts from the highest ranked bloggers for a specific security that they mention

Tweeter Page



- The tweeter / blogger page provides statistics for each blogger that Market Prophit computes a quantitative score for
- Users can see a tweeters / bloggers securities that they mentioned in different time periods, hypothetical returns of those predictions, ranks of those tweeters across the entire universe of tweeters tracked by Market Prophit
- Users can also see a plot of the historical Market Prophit score for a tweeter / blogger showing their track record of predictions

Innovations in Capital Markets Technology

PsychSignal Overview



PsychSignal

Miami

2013

Headquarters

Founded



James Crane-Baker
CEO & Co-founder

James spent 10 years on Wall Street with Broadway Trading, before building a classified ad network called RedeParede



Leonardo Almeida
CTO & Co-founder

Prior, Leonardo was the CTO at RedeParede and later shifted onto being a web developer at TeleListas



Ramon Bispo

Developer & Co-founder

Ramon is a full stack developer, visual / graphic designer, and rapper



Bjorn Simundson

CMO

Prior to PsychSignal, Bjorn held the position as Managing Director at JSH Capital

PsychSignal Overview

- PsychSignal is the provider of social media derived financial sentiment
- The Company quantifies the real world psychology of the investment crowd by listening to social media conversations instead of the trading floor
 - Natural Language Processing Engine API delivers the public's real-time opinions about stocks and other financial securities
- PsychSignal aggregates millions of expressions then establishes a structure of world mood by aggregating and scoring emotions
 - Categorizes and quantifies the millions of "tweets" and "messages" retrieved from Twitter, StockTwits, T3Live chat room, and other social media sources
- PsychCycle is the key differentiating algorithmic engine that extracts signals from social-media sentiment data to dramatically improve traders' ability to objectively anticipate market turns
- PsychSignal's proprietary engine continually generates real-time scores for each emotion or attitude to determine the degree present; this creates a nuance and detailed picture of crowd mood

Financing Activity

Date	Size (mm)	Investors
Q4, 2014	na	WORLDQUANT Ventures

Innovations in Capital Markets Technology

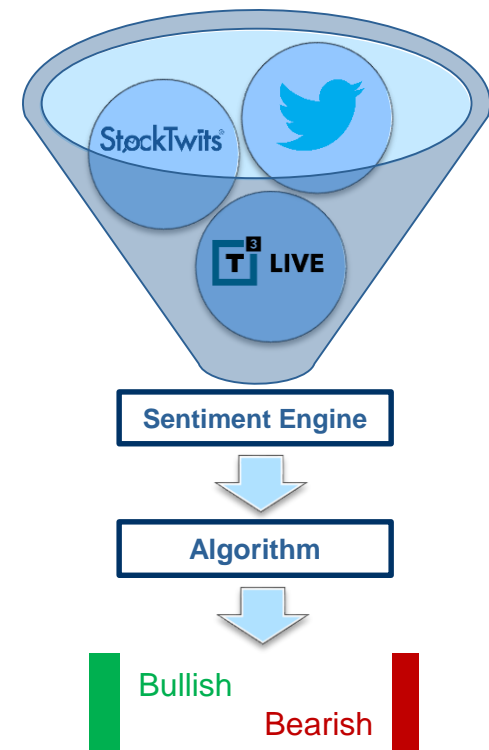
PsychSignal Overview (cont.)

PsychSignal Overview

- The Core team is comprised of experts in the fields of crowd psychology, natural language processing, securities trading, quantitative analysis, web engineering, and data science
- Covers ten thousand+ symbols via sources such as Twitter, StockTwits, private chat rooms and a historic data set going back to mid 2009, PsychSignal's data offers breath of coverage and parameters unavailable from any other platform on the market

PsychSignal Technology

- PsychSignal's technology was developed based on the theory that measuring and aggregating millions of individual expressions will generate a picture of crowd mood
 - PsychSignal provides sentiment scores in real time
- Once identified and aggregated, PsychSignal's custom built financial sentiment engine scores each emotion or attitude to determine the degree present and provide insight on crowd mood
 - Data goes through very little filtering or derivative analysis
 - The raw and unfiltered output allows users to analyze and process the data with their own unique methods
 - Using PsychSignal's data, custom list of symbols, algorithm, or charts, graphs and stats, provides users the ability to feature more advanced and unique applications in their data
- PsychSignal's theory does not believe in sentiment being just positive negative or neutral, their sentiment engine was designed specifically with the goal of measuring the attitudes "bullishness" and "bearishness"



VII. Overview of FT Partners

Overview of FT Partners

The FT Partners Senior Banker Team

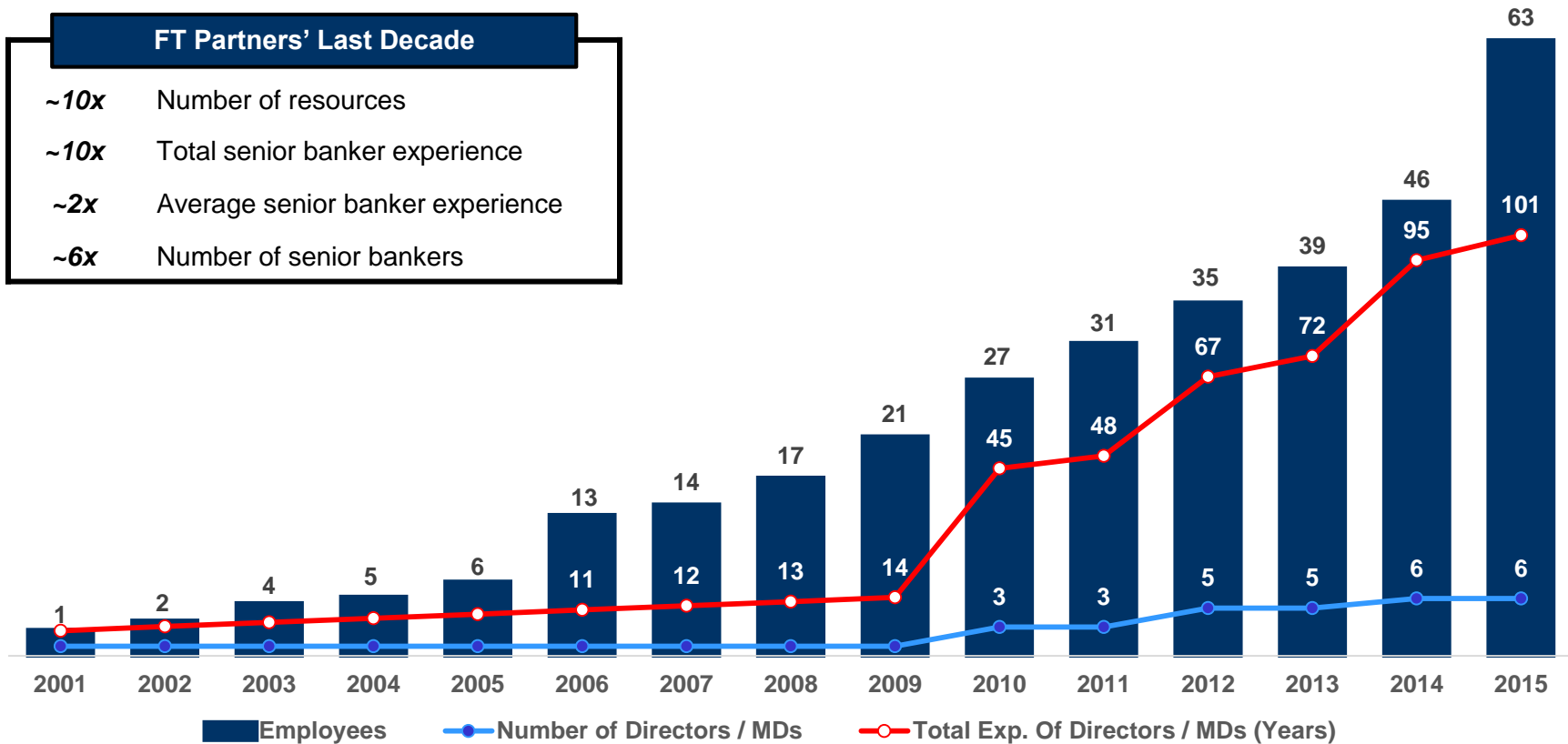
Name / Position	Prior Background	Experience / Education	Years of Experience
Steve McLaughlin <i>Founder, CEO and Managing Partner</i>		<ul style="list-style-type: none"> Formerly with Goldman, Sachs & Co. in New York and San Francisco from 1995-2002 Formerly Co-Head of Goldman Sachs' Financial Technology Group (#1 market share) Wharton M.B.A. 	20
Larry Furlong <i>Managing Director</i>		<ul style="list-style-type: none"> Formerly with Goldman, Sachs & Co. in New York, London and Los Angeles beginning in 1995 Wharton M.B.A. 	20
Greg Smith <i>Managing Director</i>		<ul style="list-style-type: none"> Formerly award winning Equity Research Analyst at Merrill Lynch / J.P. Morgan / Sterne Agee Recent coverage included V, MA, DST, ENV, GPN, HPY, FIS & FISV among others 	19
Miguel Uria <i>Director</i>		<ul style="list-style-type: none"> Formerly with Credit Suisse Technology Investment Banking Wharton M.B.A. 	20
Tim Wolfe <i>Director</i>		<ul style="list-style-type: none"> Formerly with Goldman, Sachs & Co. beginning in 2000 40 Under 40 M&A Advisor Award Winner 2013 Harvard M.B.A. 	13
Andrew McLaughlin <i>Director, Research & Business Development</i>		<ul style="list-style-type: none"> Leads FT Partners' Research and Business Development Team Formerly with Deloitte Consulting 	9

Overview of FT Partners

Platform of Choice for Clients and Bankers Alike

FT Partners' Last Decade

- ~10x Number of resources
- ~10x Total senior banker experience
- ~2x Average senior banker experience
- ~6x Number of senior bankers



Avg Years of Director / MD Experience



Selected Case Studies

FT Partners Advises Liquidnet on its Minority Financing

Transaction Overview and Rationale

Overview of Transaction

- Liquidnet announced it had raised \$250 million in financing from Technology Crossover Ventures and Summit Partners
- Liquidnet provides liquidity to traders through global alternative trading system that crosses buy and sell orders anonymously
- After less than four years, Liquidnet is ranked as one of the top 14 largest NYSE institutional brokers and the 15th largest NASDAQ broker⁽¹⁾
- Technology Crossover Ventures is a California-headquartered venture fund focusing on technology investments
- Summit Partners is a principal investment firm specializing in later stage venture capital, private equity, and mezzanine debt financings

Significance of Transaction

- Transaction represented the largest ever U.S.-based minority private equity investment in technology / financial services sector (Thomson Venture Economics / NVCA)
- At the time, largest single investment by Technology Crossover Ventures and Summit Partners
- Highly sought after transaction; numerous top-tier private equity investors submitted bids

FT Partners' Role

- FT Partners acted as sole strategic and financial advisor to Liquidnet and its Board of Directors
- Assignment was highly sought after by bulge bracket investment banks
- FT Partners' knowledge of the industry in combination with its knowledge of the potential investor universe helped the Company reach a highly successful transaction

Financial Technology Partners LP FTP Securities LLC

*is pleased to announce its exclusive role as
sole strategic and financial advisor to*



in its financing for approximately

\$ 250,000,000

valued at approximately

\$ 1,800,000,000

FINANCIAL
TECHNOLOGY
PARTNERS

*The Only Investment Bank
Focused Exclusively on Financial Technology*

Selected Case Studies

FT Partners Advises Automated Trading Desk on its Sale to Citi

Transaction Overview and Rationale

Overview of Transaction

- Automated Trading Desk, Inc. ("ATD") announced its sale to Citi for total consideration of approximately \$680 million in cash and stock
- ATD is a trading-technology company that pioneered the development and creation of systems and software for automated limit-order trading
- Citi is a leading global financial services company that provides consumers, corporations, governments and institutions with a broad range of financial products and services

Significance of Transaction

- The acquisition allowed Citi to gain traction in the fast growing automated trading market, including equities and options
 - Citi leveraged ATD's strong technological expertise to ensure best execution prices and realize significant time and cost savings
- Citi was able to expand its market-making capabilities in listed equity and options
 - ATD offers automated execution solutions in all domestic equity markets, including the listed, over-the-counter, exchange-traded fund and bulletin board markets
- The acquisition allowed Citi to gain access to and strengthen its relationships with a broader client base

FT Partners' Role

- FT Partners served as exclusive strategic and financial advisor to ATD and its Board of Directors

Financial Technology Partners LP FTP Securities LLC

*is pleased to announce its exclusive role as
sole strategic and financial advisor to*



in its sale to



for cash and stock consideration of approximately

\$ 700,000,000



***The Only Investment Bank
Focused Exclusively on Financial Technology***

Selected Case Studies

FT Partners Advises TheMarkets.com on its \$300 Million Sale to Capital IQ

Transaction Overview and Rationale

Overview of Transaction

- TheMarkets.com announced its cash sale of substantially all of its assets to Capital IQ, a Standard & Poor's ("S&P") business for \$300 million⁽¹⁾
 - S&P is a division of The McGraw-Hill Companies, Inc. (NYSE: MHP)
- TheMarkets.com was a leading, subscription-based provider of third-party equity and fixed-income research, economic and strategy reports, sector and industry overviews, financial estimates and related information tools and models
- Capital IQ delivers comprehensive fundamental and quantitative research and analysis solutions to firms worldwide

Significance of Transaction

- The transaction brought together Capital IQ and TheMarkets.com, two of the fastest growing entities in the financial information services sector
- The combination enabled Capital IQ to better serve and grow its buy-side customer base globally
- Represents a highly successful outcome for TheMarkets.com's founders and owners, a consortium of the largest and most prestigious global investment banks

FT Partners' Role

- FT Partners was the exclusive strategic and financial advisor to TheMarkets.com and its Board of Directors and guided the Company through an evaluation of strategic alternatives and eventual selection of Capital IQ as a long-term partner
- This is another significant transaction, among many, that highlights FT Partners' unparalleled ability to help companies in the Securities & Capital Markets Technology sector find the best strategic partners at premium valuations

Financial Technology Partners LP FTP Securities LLC

*is pleased to announce its exclusive role as
sole strategic and financial advisor to*



in its sale to

Capital IQ

A Division of Standard & Poor's

for total consideration of approximately

\$ 300,000,000

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TECHNOLOGY
PARTNERS

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(1) As reported by The Wall Street Journal, "Capital IQ Buys Rival Firm", September 21, 2010.

Selected Case Studies

Significant Experience in Capital Markets Technology

Wealth Management

Financial Technology Partners LP
FTP Securities LLC
*is pleased to announce its exclusive role as
Capital Markets & IPO Advisor to*

ENVESTNET

In its

\$69,000,000
Initial Public Offering

valuing the equity at approximately

\$ 300,000,000

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Financial Technology Partners LP
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sole strategic and financial advisor to*

EISI

In its sale to

ZYWAVE

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FTP Securities LLC
*is pleased to announce its exclusive role as
sole strategic and financial advisor to*

FORTIGENT[®]

In its strategic capital raise with

AMG

for approximately

\$ 11,000,000

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Data / Analytics

Financial Technology Partners LP
FTP Securities LLC
*is pleased to announce its exclusive role as
sole strategic and financial advisor to*

Zephyr
ASSOCIATES, INC.

In its sale to

informa

for total cash consideration of

\$ 62,000,000

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Financial Technology Partners LP
FTP Securities LLC
*is pleased to announce its exclusive role as
sole strategic and financial advisor to*

THE MARKETS.com

in its sale to

Capital IQ
A Division of Standard & Poor's

for total consideration of approximately

\$ 300,000,000

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FTP Securities LLC
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sole strategic and financial advisor to*

MERGENT

In the sale of its Index Business to

NASDAQ OMX

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High Frequency Trading

Financial Technology Partners LP
FTP Securities LLC
*is pleased to announce its exclusive role as
sole strategic and financial advisor to*

ATD
Automated Trading Partners, LLC

in its sale to

citi

*for cash and stock consideration of
approximately*

\$ 700,000,000

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Financial Technology Partners LP
FTP Securities LLC
*is pleased to announce its exclusive role as
sole strategic and financial advisor to*

QUANTHOUSE
SOLUTIONS FOR YOUR FIRM

In its growth financing with

ViewPoint.
Capital Partners

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The Only Investment Bank
Focused Exclusively on Financial Technology

Financial Technology Partners LP
FTP Securities LLC
*is pleased to announce its exclusive role as
sole strategic and financial advisor to*

WOMBAT
FINANCIAL SOFTWARE

in its sale to

NYSE Euronext

for total consideration of approximately

\$ 225,000,000

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Focused Exclusively on Financial Technology

Selected Case Studies

Significant Experience in Capital Markets Technology

Trading Technology

Financial Technology Partners LP
FTP Securities LLC

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sole strategic and financial advisor to

 INVESTMENT
TECHNOLOGY
GROUP

In its acquisition of

 macgregor

for cash consideration of approximately

\$ 230,000,000

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TECHNOLOGY
PARTNERS

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Focused Exclusively on Financial Technology

Financial Technology Partners LP
FTP Securities LLC

is pleased to announce its exclusive role as
sole strategic and financial advisor to

TORA 

TECHNOLOGY. TRADING. LIQUIDITY.™

In its minority capital raise with

 Goldman
Sachs

 Bank of America
Merrill Lynch

 FINANCIAL
TECHNOLOGY
PARTNERS

The Only Investment Bank
Focused Exclusively on Financial Technology

Financial Technology Partners LP
FTP Securities LLC

is pleased to announce its exclusive role as
sole strategic and financial advisor to

 TradingScreen

SIMPLIFYING GLOBAL MARKETS®

In its minority recapitalization for

\$ 110,000,000

 FINANCIAL
TECHNOLOGY
PARTNERS

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Focused Exclusively on Financial Technology

Other Capital Markets Technology

Financial Technology Partners LP
FTP Securities LLC

is pleased to announce its exclusive role as
sole strategic and financial advisor to

 MajesticResearch

In its sale to

 INVESTMENT
TECHNOLOGY
GROUP

for total consideration of approximately

\$ 56,000,000

 FINANCIAL
TECHNOLOGY
PARTNERS

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Focused Exclusively on Financial Technology

Financial Technology Partners LP
FTP Securities LLC

is pleased to announce its exclusive role as
sole strategic and financial advisor to

chi-x

In its sale of a minority stake to

 Bank of America
Merrill Lynch

 GETCO

 Goldman
Sachs

 Morgan Stanley

 QUANTLIB FINANCIAL, LLC

 FINANCIAL
TECHNOLOGY
PARTNERS

The Only Investment Bank
Focused Exclusively on Financial Technology

Financial Technology Partners LP
FTP Securities LLC

is pleased to announce its exclusive role as
sole strategic and financial advisor to

INSTINET

In the sale of its stake in

CHIX EUROPE

to

 BATS

Making Markets Better

for total consideration of approximately

\$ 305,000,000

 FINANCIAL
TECHNOLOGY
PARTNERS

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Focused Exclusively on Financial Technology

Overview of FT Partners

Award-Winning Investment Banking Franchise Focused on Superior Client Results

FT Partners has been recognized as Investment Banking Firm of the Year and regularly achieves Merger and Financing Deal of the Year recognition



M&A Advisor Awards

- | | |
|------|--|
| 2014 | <ul style="list-style-type: none"> ■ Equity Financing Deal of the Year ■ Professional Services Deal of the Year, Above \$100mm |
| 2012 | <ul style="list-style-type: none"> ■ Dealmaker of the Year ■ Professional Services Deal of the Year, Above \$100 mm |
| 2011 | <ul style="list-style-type: none"> ■ Boutique Investment Bank of the Year ■ Deal of the Decade ■ <i>10 Deal of the Year Nominations Across 9 Categories</i> |
| 2010 | <ul style="list-style-type: none"> ■ Upper Middle Market Deal of the Year, Above \$500 mm ■ IT Services Deal of the Year, Below \$500mm ■ Cross-Border Deal of the Year, Below \$500mm |
| 2007 | <ul style="list-style-type: none"> ■ Dealmaker of the Year – Steve McLaughlin ■ Business to Business Services Deal of the Year ■ Computer and Information Technology Deal of the Year, Above \$100mm ■ Financial Services Deal of the Year, Above \$100mm |



- | | |
|-----------|---|
| 2006-2008 | <ul style="list-style-type: none"> ■ Steve McLaughlin consecutively ranked (2006, 2007 and 2008) among the top Bankers in Financial Technology |
|-----------|---|



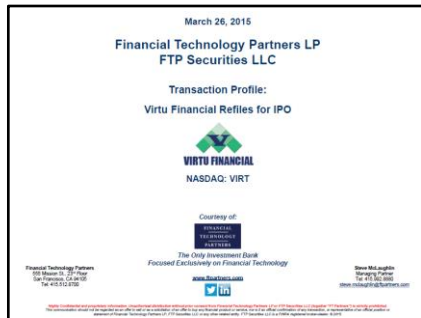
Middle Market Financing Awards

- | | |
|------|--|
| 2008 | <ul style="list-style-type: none"> ■ Equity Financing Dealmaker of the Year – Steve McLaughlin ■ Information Technology Deal of the Year ■ Financial Services Deal of the Year |
| 2006 | <ul style="list-style-type: none"> ■ Financing Professional of the Year – Steve McLaughlin ■ <i>Financing Deal of the Year - Equity</i> ■ <i>Financing Deal of the Year - Debt</i> |

Note: **Bold** represents awards that FT Partners has won, *italics* represents nominations.

Overview of FT Partners

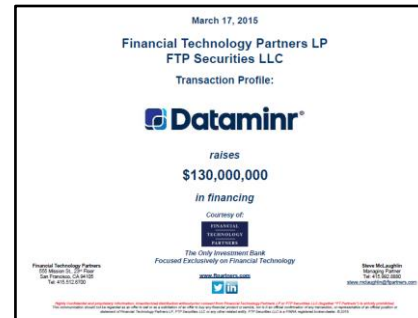
Selected FT Partners' Capital Markets Technology Research (click to view)



Virtu Financial Refiles for IPO



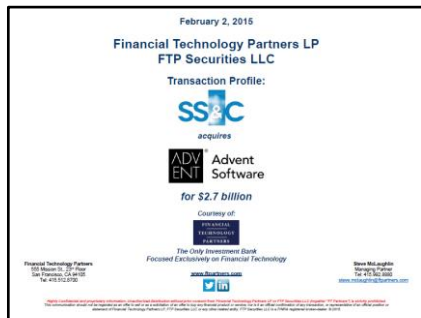
Northwestern Mutual Acquires LearnVest



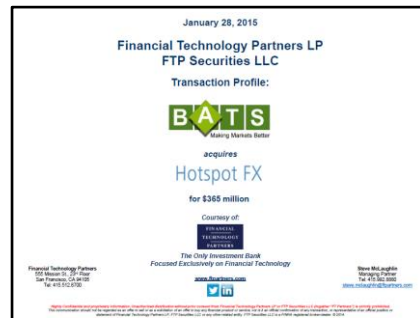
Dataminr Raises \$130 mm in Financing



Betterment Raises \$60 mm in Financing



SS&C Acquires Advent Software for \$2.7 bn



BATS Acquires HotSpot FX for \$365 mm



Centerbridge Acquires IPC Systems



The Carlyle Group Acquires Dealogic

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