



Use predictive analytics to better shape firm-wide outcomes and maximize returns

Extreme scale, speed, accuracy, and security will propel the competitive advantage

Analytics: A Catalyst for Capital Markets

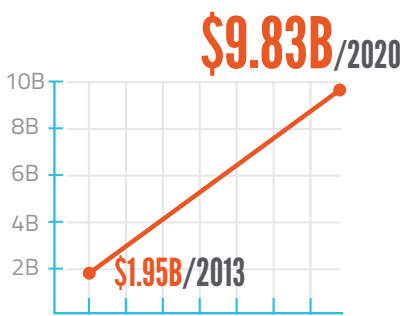
Transform data into a complete corporate picture, with opportunities and risks well defined

Action Analytics for Capital Markets

Security, Compliance, Revenue Growth

BIG DATA TECHNOLOGY AND SERVICES GROWTH RATE

A CAGR OF 26% ↑



\$6.4B 

PROJECTED 2015
BIG DATA SPEND IN
FINANCIAL SERVICES

A CAGR OF 22% ↑
THROUGH 2020

THE COMPANIES THAT
USE ANALYTICS
BEST ARE

2X MORE
LIKELY
TO HAVE

TOP-QUARTILE FINANCIAL
PERFORMANCE



Market participants today face a costly and complex labyrinth of challenges that have become the new normal. Like never before, global capital markets data, currently fragmented by asset type and class, flows in at unprecedented speed and volume. New market regulations come with increased scrutiny from regulators. Effective risk management is not only a challenge but also a business survival necessity.

In this new world of big data, many financial services firms are facing an uphill battle, still carrying the burden of legacy systems, outdated analytical methodologies, and old databases. To overcome today's challenges, and to stay competitive, financial organizations need to modernize their information management systems to overcome big data issues, slow response times, or lack of data scientists to decipher the data and figure out an appropriate level of risk with which to maximize profits and minimize loss. Overall, what is needed is better decision making via big data analytics.

Big data is a winner's game. Leaders that embrace it will learn to analyze massive data sets and leverage the insights to drive enterprise-wide revenue and efficiencies. Doing so with extreme speed, accuracy, compliance, security, and scalability will set them apart from the competition.

Action Analytics: Transforming Data to Value

Big data analytics is changing the world of capital markets and global banking. Firms deploying new analytics platforms are calculating enterprise credit and market risk in minutes versus hours, achieving close to real-time Transaction Cost Analysis (TCA), observing and anticipating fraud patterns in near real time, and introducing data sets and techniques previously not possible in the ongoing search for alpha.

In other real-world banking deployments, the Action Analytics Platform helped a global banking service provider deliver a fraud detection / forensic service to more than 100 banking customers that yielded a 30% increase in fraud detection and a 20% decrease in false positives. In yet another banking case, one of the largest global providers of banking and payments technologies now can complete market-based queries in seconds or minutes, not hours or days. This is no small feat considering its 14,000 institutions in 110 countries are processing more than 100 million daily transactions.

Working with governments, the Actian platform helped a foreign administration minimize tax evasion and improve risk analysis and data profiling from more than two million returns while gaining more than 25% savings on operational and maintenance costs. Closer to home, a U.S. government agency leveraged Actian analytics to assess the risk of cyber intrusions to its network every two seconds. This was a high hurdle to cross considering the data volumes involved and the unrelenting attempts by nefarious sources.

Actian transforms data into real-world business value – with speed, efficiency, and transformational analytics. The Actian Analytics Platform has helped global capital market firms:

- Exploit parallel processing for extreme computational performance to yield better insights
- Consolidate silos of data across front, middle, and back offices to one central view, regardless of source or format, structured or unstructured
- Present one consolidated view of all market/product data, merge with additional contextual data, analyze every granular fluctuation
- Apply established, as well as new, scientific techniques to enable a new perspective on the markets in an effort to discover alpha or potential signals of risks to avoid
- Predict or prevent business-compromising events that violate regulations or corporate ethics before they happen
- Manage and control risk by identifying and auditing firm-wide anomalous behavior

Actian leverages powerful analytical models to produce smarter trading strategies, employing a library of more than 700 analytical functions. The Actian Analytics Platform transforms data into a complete corporate picture, with opportunities and risks well defined, using predictive analytics to better shape customer outcomes and maximize returns. With Actian, banking enterprises are building a culture geared for risk management, increased profits, and with the agility to outmaneuver the competition.

Capital Markets are using the Actian Analytics platform for:

Trading Analytics: **Revenue Growth through Greater Telemetry**

Trading analysis clearly needs to center around the trade itself. All the tick and transaction data, however, must be enhanced with all of the contextual data that tells the complete story at the time of the trade. This includes items such as routing data, external data, venue data, and a whole lot more. Today, most analytical cycles occur once a day or overnight due to the challenges that institutions face in capturing massive volumes of traditional data.

To stay ahead of the competition, Actian is helping companies move to intraday and near real-time data capture and collection frameworks, with near real-time analytics computation. Brokers can better serve trading customers and maximize their potential for brokerage revenues while buy-side firms gain greater visibility into the trade lifecycle in order to make better investment decisions and maximize portfolio returns.

Market Data Analytics: **Increase Market Data ROI**

To extract maximum value, companies need to collect syndicated market feeds and streams, gain the highest fidelity (full depth of book) of this data, combine it with massive historical data, and then further enrich it with additional data that might provide deeper context. The data for more esoteric asset classes is much more scattered and requires more specific derivation of value to provide proprietary insights on which to base trading decisions.

The Actian platform enables historical analysis and back testing of newly derived strategies and then provides ongoing analytical insights in near real time to make necessary adjustments to better exploit market changes. This allows companies to align trading strategies to market behavior with right-time adjustments.

Risk Analytics:

Complying with New Regulations Creates New Opportunities

Regulations shaping how risk is measured and managed (i.e., Dodd-Frank, Basel III, Market Access Rule, etc.) are evolving rapidly. The common theme is an increasing degree of transparency and control over all exposures to risk. The number of variables, inputs, and calculations required to evaluate all assets, along with the requirement for increased precision, regulatory oversight, and shorter analysis cycles, creates a data- and compute-intensive challenge that is too much for traditional systems to bear.

The Actian Analytics Platform provides a flexible, scalable framework that pulls in data from all required input sources, formats, and locations. It then applies high-speed, parallelized data integration, computation, and aggregation in order to generate complete hierarchical views of market risk for internal controls, compliance, and analysis. The platform enables ad hoc analysis at extreme speeds, the generation of signals/alerts on threshold breaches at any level, visibility to threats and regulatory issues as they arise, and faster mitigation to those threats.

Surveillance:

Warning System for Fraudulent Trading, Cyber Vulnerability

The need for continuous oversight operations has a sound financial basis. Along with the obvious monetary risks, cyber vulnerability and fraud have a negative impact on a company's brand (negative reputational profile) and can invoke regulatory fines.

To maintain integrity, security, and uptime, technology leaders need to first recognize the problem as it happens or, better yet, to predict it will happen so as to defend against it. Capturing and analyzing data from all customer touch points becomes the first mega challenge. Then one needs the ability to analyze this data with the tidal wave of historical information in



order to model behavioral patterns (both human and machinery). The last task is to observe all data as it is born and then be able to identify and mitigate the next fiasco before it happens.

The Actian Analytics Platform helps capital market firms collect all the granular data (communications, trade flow, infrastructure log data) and analyze it for signals of human and/or machine behaviors that represent threats towards regulatory compliance, institutional controls, or security of the firm. Designed for big data, the Actian platform addresses security and surveillance requirements with a proactive approach towards threat management.

Getting in the Game

Unsure of next steps but wanting to speed up the process? Actian's analytics blueprints deliver a complete roadmap to address specific big data business challenges. The blueprint program employs proven methodologies and follows workflows that accelerate and clarify business actions, providing deeper analysis with better accuracy for organizations that want to use all available data.



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