

RiskTech[®] 100

2018

Vendor Highlights: Murex



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Independent research by

 **Chartis**

About Chartis

Chartis Research is the leading provider of research and analysis on the global market for risk technology. It is part of Infopro Digital, which owns market-leading brands such as Risk and Waters Technology. Chartis' goal is to support enterprises as they drive business performance through improved risk management, corporate governance and compliance, and to help clients make informed technology and business decisions by providing in-depth analysis and actionable advice on virtually all aspects of risk technology. Areas of expertise include:

- Credit risk.
- Operational risk and governance, risk and compliance (GRC).
- Market risk.
- Asset and liability management (ALM) and liquidity risk.
- Energy and commodity trading risk.
- Financial crime, including trader surveillance, anti-fraud and anti-money laundering.
- Cyber risk management.
- Insurance risk.
- Regulatory requirements, including Basel 2 and 3, Dodd-Frank, MiFID II and Solvency II.

Chartis is solely focused on risk and compliance technology, which gives it a significant advantage over generic market analysts.

The firm has brought together a team of leading analysts and advisors from the risk management and financial services industries. This team has hands-on experience of implementing and developing risk management systems and programs for Fortune 500 companies and leading consulting houses.

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Introduction

This report provides an independent evaluation and description of Murex's ranking in Chartis' RiskTech100® 2018 report. It contains:

- A vendor profile for Murex.
- Murex's ranking in each assessment category, with supporting explanation.

In RiskTech100® 2018, Murex was ranked 6 overall, rising 1 place from last year's ranking.

RiskTech100® 2018

Chartis's RiskTech100® report is globally acknowledged as the most comprehensive independent study of the world's major players in risk and compliance technology.

Chartis is the leading provider of research and analysis on the global market for risk technology.

Murex: vendor profile

The company

Founded in 1986 and privately owned, Murex is a software provider for a range of Financial Institutions (FIs). It specializes in providing solutions around trading and capital markets for the front office, operations, finance and risk management functions.

Murex mainly targets sell-side and buy-side firms, covering the full chain of capital markets processes and handling large aspects of treasury business. It tackles cross-asset cash and derivatives trading with extensive coverage of Over the Counter (OTC) derivatives; investment management; treasury; operations and finance; collateral management; market risk; liquidity risk; credit risk and risk control.

Murex's base of 250+ clients, which is focused in Europe and Asia-Pacific, includes global, regional and local investment and commercial banks from Tier 1 to Tier 4 institutions, as well as corporates, asset managers, clearing houses, brokers, commodity traders and public bodies.

Murex has 2,100 employees in offices around the world, including New York, Toronto, Sao Paulo, Santiago, Dubai, Dublin, London, Luxembourg, Moscow, Beirut, Singapore, Seoul, Beijing, Hong Kong, Seoul, Tokyo and Sydney.

Murex was a Category Leader in the following Chartis Quadrants in 2017:

- Enterprise Stress Testing.
- Commodity Trading Risk Management Systems.
- Fundamental Review of the Trading Book (FRTB) Solutions.
- Sell-Side Risk Management Technology.

Category Leaders are risk technology vendors with depth and breadth of functionality, technology and content, combined with the organizational characteristics needed to capture significant market share in terms of volume and value.

In addition, Murex was a Best-of-Breed provider in the following Chartis Quadrants in 2017:

- Energy Trading Risk Management Systems.
- International Financial Reporting Standard (IFRS) 9 Technology Solutions.

Best-of-Breed firms combine best-in-class point solution capabilities with the organizational characteristics needed to capture significant market share in chosen target markets.

The offerings

Murex provides an integrated platform, MX.3, that covers a wide range of classes (Foreign Exchange and Money Market [FXMM], Fixed Income [FI], Security Finance, Interest Rate Derivatives [IRD],

FX Derivatives [FXD], Equity Derivatives [EQD], Credit Derivatives [CRD], Commodities [energy, metals, softs, hybrids] and product types [cash OTC, securities, listed and OTC derivatives, structures and country-specific products]), and front-to-back risk function coverage (e-distribution, pricing and structuring, portfolio management, portfolio simulation, credit risk, market risk, liquidity risk, global limits, enterprise collateral management, clearing services, middle office, full processing and Straight-Through Processing [STP]). The platform is used as an integrated front-to-back to risk solution, or as a pure risk management installation.

In the Enterprise Risk Management space, Murex provides a suite of business solutions that all rely on the MX.3 platform. They include advanced risk modeling, analysis and control tools for credit, market and liquidity risk across a wide range of asset classes. They combine sophisticated risk measures such as Stressed Value at Risk (VaR), Potential Future Exposure (PFE), xVA (including Credit Valuation Adjustment [CVA], Debt Value Adjustment [DVA] and Funding Valuation Adjustment [FVA]), liquidity ratios, stress tests, economic and regulatory capital, and a high degree of flexibility to define new metrics, risk aggregation hierarchies and exposure projection. This helps to make adapting to new requirements as they emerge a seamless process.

Using high-performance analytics and computing techniques (including the use of Graphics Processing Units [GPUs] for xVA analytics), the solutions are engineered to deliver real-time incremental risk metrics at post-trade or pre-trade level, targeting optimization of operations for collateral and regulatory capital. MX.3 also features an in-memory aggregation engine and an online business intelligence tool for the analysis of large amounts of risk data.

With an integrated enterprise limit management and compliance solution, the MX.3 platform provides real-time control functions along with real-time deal authorization workflows. It supports advanced metrics and aggregation schemes.

Ranking

Table 1 details Murex's rankings for each of Chartis' RiskTech100® assessment categories, with supporting explanations and comments. (Note that each category is ranked against those of the other 99 vendors in the RiskTech100®).

Table 1: Murex's rankings by assessment category

Assessment category	Murex's ranking	Explanation
Functionality	8	<p><i>Depth of functionality.</i> One of Murex's primary strengths is its single integrated platform for its solution sets, which contributed to its top 10 score for Functionality. This has synergies with strengths in assets and OTC derivatives, which have expanded to become a progressively more important market segment.</p> <p>The solution also includes integrated and highly scalable analytics that incorporate GPU technologies. Murex also has well-developed methodologies for model validation.</p> <p><i>Breadth of functionality.</i> Murex has increased its completeness of offering rating relative to its competitors. Its coverage of buy-side and sell-side compliance requirements in the past year has been considerable. This is the company's area of focus, backed by a significant R&D budget.</p>
Core technology	5	<p><i>Data management.</i> Murex has a top 5 ranking in Core technology. Its data management capabilities are a strong differentiator. The platform integration of solutions means that only a single data source is needed. The solution is specifically tailored to focus on market risk and liquidity data analytics.</p> <p><i>Risk analytics.</i> Murex has provided bespoke analytics in areas such as derivatives, pricing modeling and xVA. One strength is its integration capabilities for other analytics systems.</p> <p><i>Reporting and visualization.</i> Murex has provided effective regulatory coverage and reporting. Its risk reporting engine includes online analytical processing (OLAP)/pivot table-like interfaces, and user-definable aggregation capabilities.</p>

Assessment category	Murex's ranking	Explanation
Strategy	5	<p><i>Vision and leadership.</i> Murex has achieved a top 5 ranking in Strategy by demonstrating agility in providing capabilities for important compliance requirements such as FRTB and IFRS 9. The company has stated that it is also targeting clients with a solution for Basel III Standardized Approach to Counterparty Credit Risk (SA-CCR), FRTB Standardized Approach [SA], Internal Model Approach [IMA], and CVA.</p> <p><i>Ability to execute.</i> Murex has built up a large group of employee specialists and a sizable ecosystem of committed partners.</p> <p><i>Financial performance.</i> While it has grown to a size at which significant growth is a challenge, Murex has had continually high revenues and generated double-digit growth.</p>
Customer satisfaction	22	<p><i>After-sales service and support.</i> Larger companies with many clients often struggle to achieve the same customer satisfaction as smaller firms, but Murex retains a top 25 ranking. Direct references for Murex's support capabilities have been positive. In addition, Murex has demonstrated a capacity for retaining ongoing client relationships and expanding them with cross-selling.</p> <p><i>Product updates.</i> Murex is in the process of rolling out a Standard Initial Margin Model (SIMM) – non-cleared initial margin – package. Other capabilities it has updated recently include advanced scenario import functionality for FRTB, trade data synchronization capabilities, workflow management capabilities and CVA charge calculation packaging.</p>
Market presence	14	<p><i>Market penetration.</i> Murex has a notably large client base compared to many of its competitors, leading to its top 15 ranking in this category. It is relatively well-diversified across Europe, the Middle East and Africa, Asia-Pacific and North America. It is effective at cross-selling related products to clients, and is able to implement with existing sell-side institutions at lower costs. On the sell-side in particular Murex is well positioned as a category leader, with strong market potential and a complete offering.</p> <p><i>Market potential.</i> Murex's FRTB solution is a draw for large areas of the marketplace. A major component of FRTB for FIs relies on pricing and results from the front office, which Murex already has in place for many Tier 2 banks.</p> <p><i>Momentum.</i> Since 2013, Murex has aggressively expanded its market presence, and is now among those vendors with the largest market capitalizations. It has maintained this with notable client gains and retention.</p>

Assessment category	Murex's ranking	Explanation
Innovation	9	<p><i>New product development.</i> Murex has a top 10 ranking in Innovation due to its advanced technology and analytics. It has focused on specialized handling of OTC derivatives and related processes. The requirements of FRTB fit well with the company's single integrated solution model.</p> <p>Murex was an early adopter of GPU technology, which will continue to be a significant trend in the processing of big data and artificial intelligence analytics.</p> <p>Murex's xVA solution, and its extensive use of GPUs for xVA analytics, were considered differentiators. These are backed by a significant R&D budget.</p>

Note that each ranking is out of 100.
Source: Chartis Research

How to read the RiskTech100® rankings

The RiskTech100® assessment criteria comprise six equally weighted categories:

- Functionality
- Core technology
- Strategy
- Customer satisfaction
- Market presence
- Innovation

Within each category, we have weighted a number of sub-categories according to the level of importance end users and system integrators attach to these aspects of risk technology provision (see Table 2).

Table 2: RiskTech100® assessment criteria (sub-category weightings are shown in brackets)

Functionality	<ul style="list-style-type: none">• Depth of functionality (0.5). The level of sophistication and detailed features in the software product. Aspects assessed include: innovative functionality, practical relevance of features, user-friendliness, flexibility and embedded intellectual property. High scores are given to those firms that achieved an appropriate balance between sophistication and user-friendliness. In addition, functionality that links risk to performance is given a positive score.• Breadth of functionality (0.5). The spectrum of risks covered as part of an Enterprise Risk Management solution. The risk spectrum under consideration includes treasury risk management, trading risk, market risk, credit risk, operational risk, energy risk, business/strategic risk, actuarial risk, asset-liability risk, financial crime and compliance. Functionality within and integration between front-office (customer-facing) and middle-back office (compliance, supervisory and governance) risk management systems are also considered. High scores are given to those firms achieving (or approaching) integrated risk management – breaking the silos between different risk management functions.
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- Core technology**
- Chartis evaluates a vendor's overall technology stack by benchmarking it against latest best practice. Key considerations this year have been the use of Cloud and Big Data technologies, as well as the agility and openness of the overall technology architecture.
 - **Data management** (0.4). The ability of Enterprise Risk Management systems to interact with other systems and handle large volumes of data. Data quality is often cited as a critical success factor, and ease of data access, data integration, data storage and data movement capabilities are all important factors.
 - **Risk analytics** (0.35). Important factors in this category include the computational power of the core system, the ability to analyze large amounts of data in a timely manner (e.g., real-time analytics), and the ability to improve analytical performance.
 - **Reporting and visualization** (0.25). The ability to surface risk information in a timely manner. The quality and flexibility of visualization tools, and their ease of use, are important for all risk and compliance management systems.

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- Strategy**
- **Vision and leadership** (0.3). Market understanding, a scalable business model, product strategy, technology strategy and go-to-market strategy are critical success factors. Both organic and inorganic growth strategies are considered, as well as strategic alliances and partnerships.
 - **Ability to execute** (0.4). The size and quality of the sales force, the sales distribution channels, the global footprint, partnerships, differentiated messaging and positioning are all important factors. Specific consideration is given to the quality of implementation and support functions, post-sales support and training.
 - **Financial performance** (0.3). Revenue growth, profitability, sustainability, financial backing and the percentage of recurring revenues. The ratio of license to consulting revenues is key to business scalability.

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- Customer satisfaction**
- **Value for money** (0.4). The price to functionality ratio, and the total cost of ownership versus license price.
 - **After-sales service and support** (0.4). Important factors include the ease of software implementation, the level of support and the quality of training.
 - **Product updates** (0.2). Important considerations for end users include how often vendors issue updates, and how well they keep pace with best practice and regulatory changes.
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- Market presence**
- **Market penetration (0.4).** The number of customers in chosen markets, and the rate of growth relative to sector growth rate.
 - **Market potential (0.3).** Brand awareness, reputation, thought leadership, and the vendor's ability to use its current market position to expand horizontally (with new offerings) or vertically (into new sectors).
 - **Momentum (0.3).** Performance in the past 12 months, including financial performance, new product releases, quantity and quality of contract wins and moves to expand in the market.

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- Innovation**
- **New product development (0.4).** New ideas, functionality and technologies to improve risk management for target customers. Chartis assesses new product development not in absolute terms, but in relation to a vendor's closest competitors.
 - **Exploitation (0.4).** Developing new products is only the first step in generating success. Speed to market, positioning of new products and translation to incremental revenues are critical success factors.
 - **New business models (0.2).** Innovation is not limited to products. Some risk technology vendors are also actively working toward new business models to generate profitable growth.

Source: Chartis Research

Research taxonomy and methodology

The companies featured in RiskTech100® are drawn from a range of risk technology specialisms, and meet the needs of both financial and non-financial organizations. However, they share a number of qualities that rank them among the top 100 risk technology providers in the world. The rankings are determined based on the classifications illustrated in Figure 1.

Figure 1: RiskTech100® Taxonomy

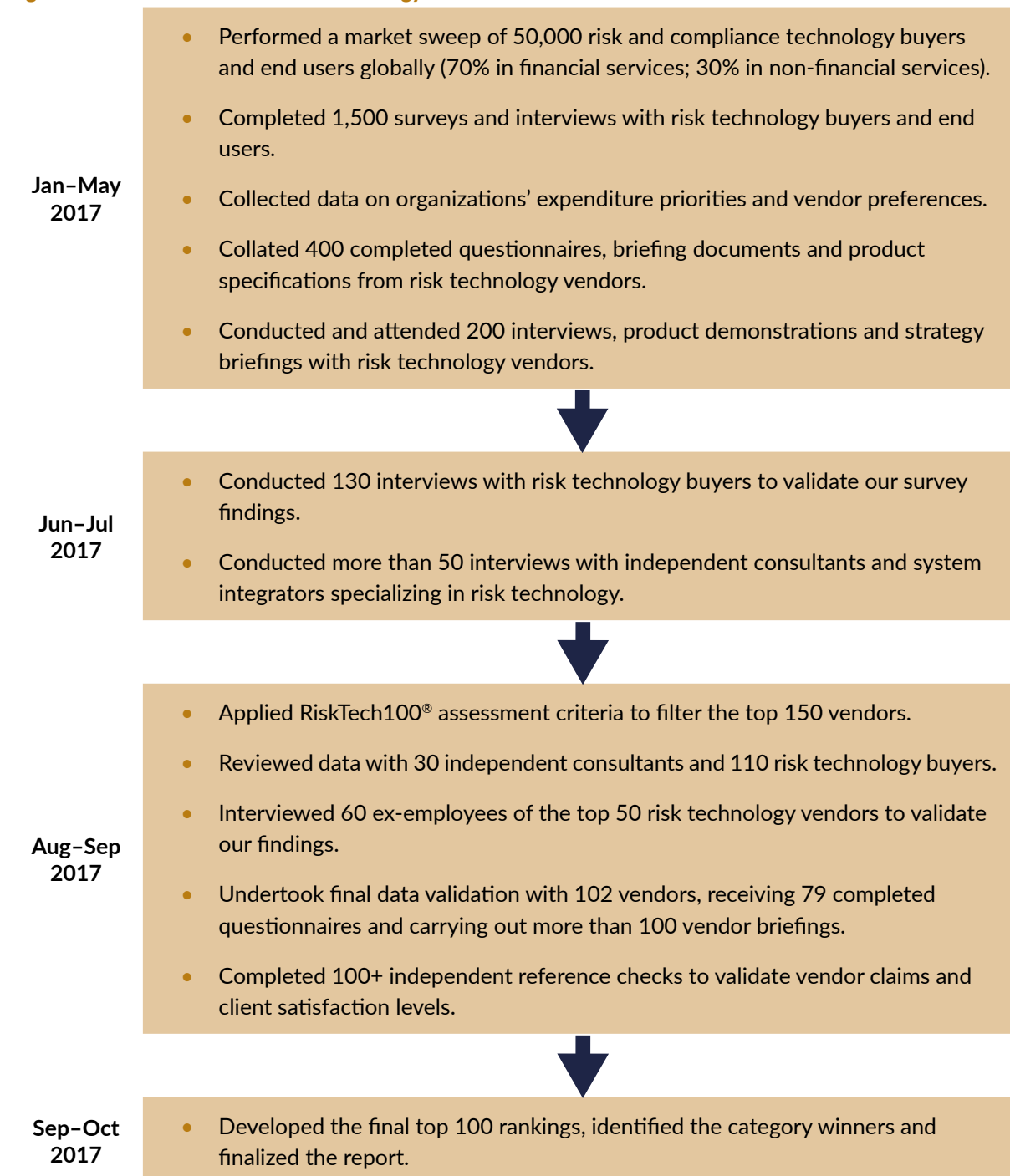


Source: Chartis Research

Research methodology

Chartis's RiskTech100® report is the most comprehensive study of its kind, and is a core element of our annual research cycle. The rankings in the report reflect our analysts' expert opinions, along with research into market trends, participants, expenditure patterns and best practices. We started collecting the data for this study in January 2017, and validated the analysis through several phases of independent verification (see Figure 2).

Figure 2: RiskTech100® research methodology



Source: Chartis Research

How to use research and services from Chartis

In addition to our flagship industry reports, Chartis also offers customized information and consulting services. Our in-depth knowledge of the risk technology market and best practice allows us to provide high-quality and cost-effective advice to our clients. If you found this report informative and useful, you may be interested in the following services from Chartis.

For risk technology buyers

If you are purchasing risk management software, Chartis's vendor selection service is designed to help you find the most appropriate risk technology solution for your needs.

We monitor the market to identify the strengths and weaknesses of the different risk technology solutions, and track the post-sales performance of companies selling and implementing these systems. Our market intelligence includes key decision criteria such as TCO (total cost of ownership) comparisons and customer satisfaction ratings.

Our research and advisory services cover a range of risk and compliance management topics such as credit risk, market risk, operational risk, GRC, financial crime, liquidity risk, asset and liability management, collateral management, regulatory compliance, risk data aggregation, risk analytics and risk Business Intelligence.

Our vendor selection services include:

- Buy vs. build decision support.
- Business and functional requirements gathering.
- Identification of suitable risk and compliance implementation partners.
- Review of vendor proposals.
- Assessment of vendor presentations and demonstrations.
- Definition and execution of Proof-of-Concept (PoC) projects.
- Due diligence activities.

For risk technology vendors

Strategy

Chartis can provide specific strategy advice for risk technology vendors and innovators, with a special focus on growth strategy, product direction, go-to-market plans, and more. Some of our specific offerings include:

- Market analysis, including market segmentation, market demands, buyer needs and competitive forces.
- Strategy sessions focused on aligning product and company direction based on analyst data, research and market intelligence.
- Advice on go-to-market positioning, messaging and lead generation.
- Advice on pricing strategy, alliance strategy and licensing/pricing models.

Thought leadership

Risk technology vendors can also engage Chartis to provide thought leadership on industry trends in the form of in-person speeches and webinars, as well as custom research and thought-leadership reports. Target audiences and objectives range from internal teams to customer and user conferences. Some recent examples include:

- Participation on a 'Panel of Experts' at a global user conference for a leading Global Enterprise Risk Management (ERM) software vendor.
- Custom research and thought-leadership paper on Basel 3 and its implications for risk technology.
- Webinar on Financial Crime Risk Management.
- Internal education of a sales team on key regulatory and business trends and engaging C-level decision makers.

Visit www.chartis-research.com for more information.

Further reading

- *RiskTech100® 2018*
- *Financial Crime Risk Management Systems: Market Update 2017*
- *Enterprise Stress Testing Systems: Market Update 2017*
- *Sell-Side Risk Management Technology: Market Update 2017*
- *Enterprise GRC Solutions: Market Update 2017*
- *Spotlight: quantifying cyber risk in financial institutions*
- *Buy-Side Risk Management Technology: Market Update 2016*
- *Data Integrity and Control Solutions in Financial Services 2016*

For all these reports see www.chartis-research.com.