

# IN SIGHT

IN THIS ISSUE:

Quantifi Releases Version 19

Quantifi Voted Best Integrated Middle-Office Platform

Industry Survey: The Evolution of Credit Trading

Interview: Quantifi Targets Broader Markets

# ACCELERATE DERIVATIVES VALUATIONS BY 700X



## Message from the CEO

On heading back into the UK office after more than a year of working from home, it was a bit like going into a time capsule. Notes on the desk, items in the drawer – all left on the assumption of a quick return to the office after a short lockdown. I've heard of others having the same experience.

Adjusting to some sense of 'new normal' in the UK, it's a chance to appreciate the things we used to take for granted. For me personally, I was delighted to be able to take part in the London Marathon after a two-year hiatus. It was the largest mass participation event since lockdown; an amazing experience and inspiring to see so many runners raise money for a diverse range of charities, including my chosen charity, Brain Research UK.

While the capital markets have performed well through the pandemic, there remains a level of uncertainty with inherent challenges and opportunities. As firms look to 2022, they're rethinking technology strategies in response to the change in market and social behaviours. An increased focus on ESG, accelerating cost reduction and increasing fintech adoption and innovation are some of the themes driving this change.

The sustained growth that Quantifi has experienced during the pandemic is a testament to the strength of our solution and our commitment to partner with our clients. We have maintained a strategic focus on technology innovation with our extensive adoption of data science and a cloud-native technology stack. This edition of InSight includes an article on the work we have done with Intel to accelerate derivatives valuations by 700x with the use of machine learning.

This issue also includes findings from a recent survey on 'The Evolution of Credit Trading' that was conducted during a recent Quantifi webinar featuring Celent and 7 Chord. The webinar was part of a series of thought leadership pieces from Quantifi on the credit markets, including the impact of COVID-19. Also in this issue is an interview with ComTech Advisory on the trends creating interest in risk management in commodities.

I'm excited about what 2022 has in store for us all and I believe it'll be a year of growth and new opportunities. By understanding and embracing our clients' business challenges and goals we will be able to build stronger and lasting relationships.

A handwritten signature in black ink, appearing to read 'Rohan Douglas', written in a cursive style.

Rohan Douglas, CEO, Quantifi

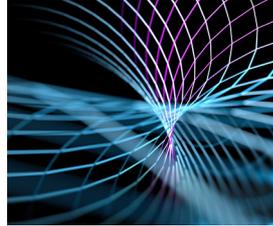
# CONTENTS

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04

## Quantifi Releases Version 19

This latest release includes major enhancements to VaR, Live Risk, AI/ML Integration and ARR.



05

## Quantifi Wins Best Integrated Middle-Office Platform

Quantifi wins coveted award at the WatersTechnology Buy-Side Awards 2021.



06

## Accelerate Derivatives Valuations by 700x

Using Intel Processors, Quantifi is able to successfully model and deliver real-time pricing via Artificial Neural Network models.

10

## Quantifi Survey: The Evolution of Credit Trading

This survey was conducted during a webinar on "The Evolution of Credit Trading: Technology, Analytics, and Data," hosted by Quantifi.



14

## Quantifi Targets Broader Markets

Commodity Technology Advisory interviews Avadhut Naik, Head of Solutions at Quantifi.

# QUANTIFI RELEASES VERSION 19 WITH MAJOR ENHANCEMENTS

Quantifi has announced the latest release of its software, Version 19, which contains new features and enhancements. Version 19 provides clients with next-generation Value-at-Risk (VaR), Cloud-based live risk, high performance integration with AI/ML and tools to seamlessly navigate the IBOR transition.

Technology is transforming how firms trade, invest and operate. Financial institutions are set to benefit from increased profitability and efficiency with the adoption of new technologies that can automate and improve their risk architecture. In addition to technology demands, firms are also under pressure to keep their risk management framework up-to-date with the latest regulatory and market developments. V19 incorporates a broad range of new functionality to help Quantifi clients optimise capital, costs and resources.

"With an appetite for digitisation at an all-time high, financial institutions require faster approaches to leverage the broader ecosystem of services and data. We are observing more firms incorporating data science and learning-based AI approaches to deliver innovative client-centric propositions underpinned by more advanced analytics and operational dexterity," comments Cubillas Ding, Research Director at Celent's Capital Markets group.

"Client-driven features and enhancements are central to our product development roadmap. By putting our clients' needs at the centre of our business strategy, we are able to develop our products efficiently and effectively," comments Rohan Douglas, CEO, Quantifi. "Our forward-thinking approach and pace of innovation allows us to align our business strategy with new and emerging technologies. This includes extensive adoption of data science and building a cloud-native technology stack," continues Rohan.

## FEATURES & ENHANCEMENTS INCLUDE:

- **Next generation VaR** rebuilt from the ground up, leveraging the latest data science and cloud-native technologies to provide a new level of performance, flexibility and transparency.
- **Cloud-based Live Risk** along with high volume position aggregation to support high frequency and algorithmic trading strategies.
- High-performance integration with **AI and ML algorithms** based on Data Science Technologies that provide a very flexible and powerful analytical framework.
- Additional tools and functionality to facilitate a **Seamless Transition to ARR** based contracts, including support for broader index compounding and averaging methods as well as appropriate fall-backs where required.

# BEST INTEGRATED MIDDLE-OFFICE PLATFORM FOR THE BUY-SIDE

**Quantifi has won Best Integrated Middle-Office Platform at the Waters Buy-Side Technology Awards 2021. Hosted by WatersTechnology, the awards recognise the leading technologies and third-party technology providers in their areas of expertise.**

Intense competition, market volatility and a challenging regulatory environment continue to raise the stakes in investment management. To gain an advantage in today's hyper-competitive world, investment managers are under pressure to improve operations and reduce costs. Inflexible systems are often blamed for operational bottlenecks and an overreliance on manual processes. As a consequence, firms are re-evaluating their current processes and demanding more scalable and agile solutions such as Quantifi, to support their middle-office processes.

The middle-office must also support an increasingly complex set of financial instruments and be able to manage an increasing flow of unstructured data. Firms are deploying data science tools to improve risk assessment and business response strategies, and to bring more rigour to their operations. With Quantifi incorporating data science into its portfolio management solution, users benefit from complex client-driven analysis, strategy back-testing and ad hoc portfolio what-if analysis - all using mixed data sets from diverse sources.

Quantifi's front-to-back PMS provides portfolio managers with intuitive trade capture, real-time

position management and P&L, investor and regulatory reporting, market, credit, liquidity and counterparty risk management, comprehensive what-if analysis, margining management and collateral optimisation. As well as supporting the key regulatory requirements, Quantifi applies the latest technology innovations to provide new levels of usability, flexibility and ease of integration. With an open architecture, Quantifi seamlessly integrates with clients' existing processes and systems.

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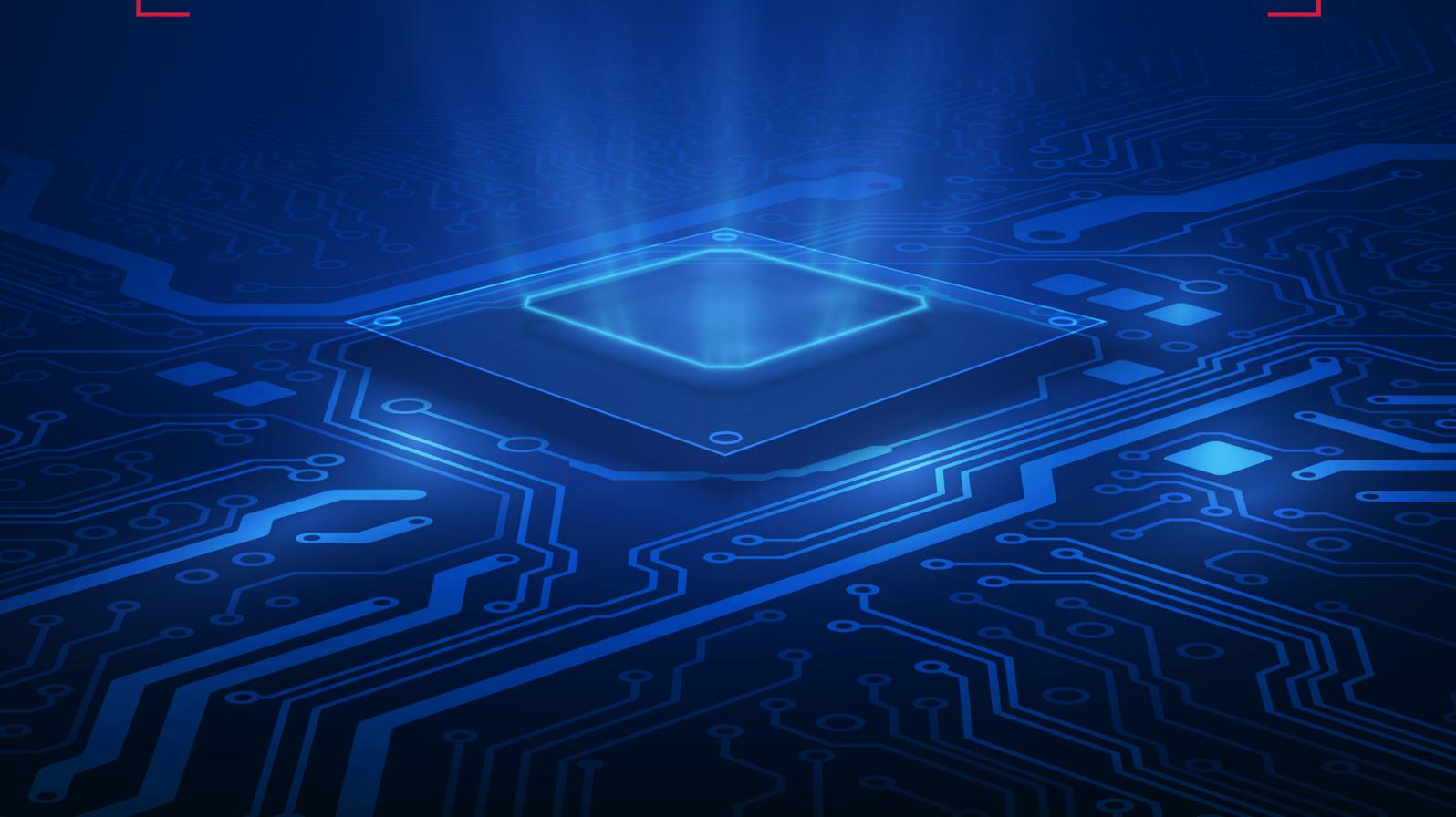
**"At Quantifi, we continue to innovate by improving efficiency and performance with modern, functionally-rich and intuitive tools."**

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"Thank you to the WatersTechnology judging panel for this award recognising Quantifi's support for the middle office. Our clients are looking for a high level of integration between front, middle and back office systems across a wide range of asset classes. Quantifi delivers comprehensive risk management, accurate analytics and efficient trading, providing consistency front-to-back," commented Rohan Douglas, CEO, Quantifi. "At Quantifi we continue to innovate by improving efficiency and performance with modern, functionally-rich and intuitive tools," continued Rohan.

# ACCELERATE DERIVATIVES VALUATIONS BY 700X

This article reports the successful use of Artificial Neural Network models (ANNs) by Quantifi to model and deliver real-time pricing with an accuracy considered equivalent to conventional approaches such as numerical integration and Monte Carlo methods, which will be referred to as the conventional model in this article.



Portfolio managers and traders that use over the counter (OTC) derivatives often lack an accurate real-time view of the valuations and risk of their derivative positions, especially when trading exotic derivatives. Unlike liquid securities or exchange traded products, there is not always a market price available for OTC derivatives. These products therefore need to be valued according to models that accurately calculate their theoretical fair value. Obtaining real-time risk metrics for a portfolio of derivatives has been challenging as the commonly used valuation techniques for these products are computationally expensive and require significant machine time. Portfolio valuations and risk calculations typically require overnight runs in a data center or the cloud.

Comparative testing shows that both the conventional and Quantifi ANN models exhibit a less than 0.01% deviation when compared to the theoretical fair value for the derivative.<sup>1</sup> A deviation of less than 0.01% lies well within the bid-offer spread for credit options, which is the economically relevant comparison for a credit option trader.<sup>2</sup> The ANN model is also orders-of-magnitude faster and can deliver real-time valuations. These accuracy and order-of-magnitude performance improvements are consistent with those observed when replacing Monte Carlo methods with ANNs in scientific fields such as High Energy Physics (HEP).<sup>3</sup>

The Intel benchmarks show that the recently launched 3rd Generation Intel Xeon Scalable processors run the Quantifi ANN model 1.56x faster than previous 2nd Generation Intel Xeon Scalable processors—in part due to their greater core count. Overall, these new processors can generate accurate valuations 700x faster than the conventional model, which is sufficient to provide real-time results for common valuation workloads.

To establish that traders can receive fair value pricing in real-time without requiring specialised computational hardware, Quantifi partnered with Intel to evaluate the performance of their AI technology on CPU-based servers. As will be discussed in this whitepaper, the Intel benchmarks show that the recently launched 3rd Generation Intel

“The switch to AI technology has the potential to transform the industry.”

- Sebastian Hahn, AI and ML Lead at Quantifi

Xeon Scalable processors, run the Quantifi ANN model 1.56x faster than previous 2nd Generation Intel Xeon Scalable processors<sup>4</sup>- in part due to their greater core count. Overall, these new processors can generate accurate valuations 700x faster than the conventional model,<sup>5</sup> which paves the path toward real-time results for common valuation workloads.<sup>6</sup>

Orders-of-magnitude faster performance means that financial institutions can receive an accurate real-time view of their portfolio valuations without requiring specialised hardware. Instead, traders can quickly evaluate the risk in their derivative positions utilising servers running 3rd Generation Intel Xeon Scalable processors in their local data centers, private cloud, or externally via a public cloud provider.

### A New Paradigm: Managing OTC Derivative Risk with Real-time Pricing

This research into using AI as a replacement for conventional methods is transformative as it changes how risk is managed. Currently, traders often have to rely on risk metrics that are calculated in an overnight batch calculation based on the positions and market data obtained at the end of the previous day. These batch calculations can take anywhere between minutes and hours depending on the complexity of the portfolio and available hardware. During the day, traders then selectively request ad hoc risk calculations or try to approximate their current risk based on yesterday risks and changes in market data and positions. The Quantifi AI model introduces a new paradigm for financial management where portfolio managers can see a comprehensive set of real-time risk metrics on their whole portfolio.

These accelerated derivative valuations are also important for electronic market-making desks that need to automate trading decisions in fractions of seconds and monitor risks in real-time. Most risk metrics that traders are interested in, such as scenarios and sensitivities, can be thought of as valuing derivatives with different sets of hypothetical market data. Real-time valuations will therefore accelerate risk calculations across a wide range of metrics. While this whitepaper focuses on valuations, it should be realised that the results reported here have much wider implications for risk management. An example of a risk metric that is particularly computationally demanding are XVA calculations for banks, which are usually performed via Monte Carlo simulation. Simulating a portfolio of 40,000 trades across 80 time steps on 2,000 paths, for example, produces more than 6 billion valuations as discussed in the Quantifi whitepaper *How to Accelerate XVA Performance*. As the number of valuations increases to these magnitudes fast models become of utmost importance.

### What are the Conventional Methods for Valuing Derivatives?

Derivatives are valued using no-arbitrage pricing theory. The price of a derivative should be equal to the value of a replicating portfolio of simpler assets. When devising a valuation model based on no-arbitrage pricing theory, researchers usually need to make assumptions about the stochastic processes that drive the price of these simpler assets. Numerical integration and Monte Carlo simulations are frequently used to solve the resulting valuation problem. This approach has produced a wide range of sophisticated and incredibly useful valuation models.

### How can AI be used to Accelerate Valuations?

Quantifi has taken an approach in developing the ANN model that is agnostic towards the theoretical foundations of the valuation function. As such, it is entirely consistent with mainstream no-arbitrage pricing theory. This approach asks the question:

given a valuation function that can compute the fair value of a derivative based on a range of inputs, how can one speed up the computation?

To answer this question, an Artificial Neural Network (ANN) was trained to approximate a known valuation function using data from one of Quantifi's proprietary models that uses numerical integration to compute derivative prices. The ANN was then trained until it was able to value derivatives with an accuracy that is economically equivalent to the conventional model.

This approach differs from previous studies in the literature that have evaluated the potential of machine learning to speed up derivative valuations for equity products such as equity basket options. At this time, very little research seems to have focused on using ANNs to speed derivative valuations on credit derivatives. In this research, Quantifi focused on credit index options.

### Transforming a Conventional Model into an Artificial Neural Network

It has been known since 1987 that ANNs can approximate very complex multi-dimensional functions<sup>7</sup> by essentially fitting a multidimensional surface to the training data.<sup>8</sup> While the training process is computationally expensive and requires large amounts of data to describe all the important points of inflection on this surface accurately for a complex problem, the inference operation tends to be very fast as the trained ANN simply needs to calculate a single point on the surface for one set of input values.<sup>9</sup>

Recent work by CERN in 2018 demonstrated that orders of magnitude speedups are possible when using trained ANN models to replace Monte Carlo methods in HEP models.<sup>10</sup> The emergence of powerful hardware has further reduced the cost of training and broadened the applicability of ANNs in a variety of scientific and commercial fields for a wide range of extremely complex applications including computer vision, natural language processing and speech recognition. Quantifi has leveraged these AI and computer technology advances to benefit their customers.

“The current 3rd Generation Intel Xeon Scalable processors delivers the performance needed to produce real-time results using the Quantifi ANN model in the data center and cloud without requiring an accelerator.”

- Mahesh Bhat, Principal Engineer at Intel

In order to train the ANN to approximate a known derivative valuation function, the Quantifi team generated a supervised learning dataset for ANN training that maps input values such as market data and contractual information of the derivative to the desired output – in this case the fair value of the derivative. Specific inputs provided to the ANN to value credit index options include the index level, interest rates, the volatility, the number of names that have already defaulted, the strike price and maturity of the option among others.

Quantifi has the ability to generate arbitrarily large training sets through the use of their proprietary valuation model for credit options which is able to determine a fair value for each input vector. This means Quantifi can simulate a realistic range of input values, over which the ANN has to be accurate, and calculate prices based on the known valuation function, to generate an appropriate training data set. A variety of statistical distributions were utilised to generate the results in this whitepaper including uniform, normal and beta distributions, which were based on a 10 million example training set.

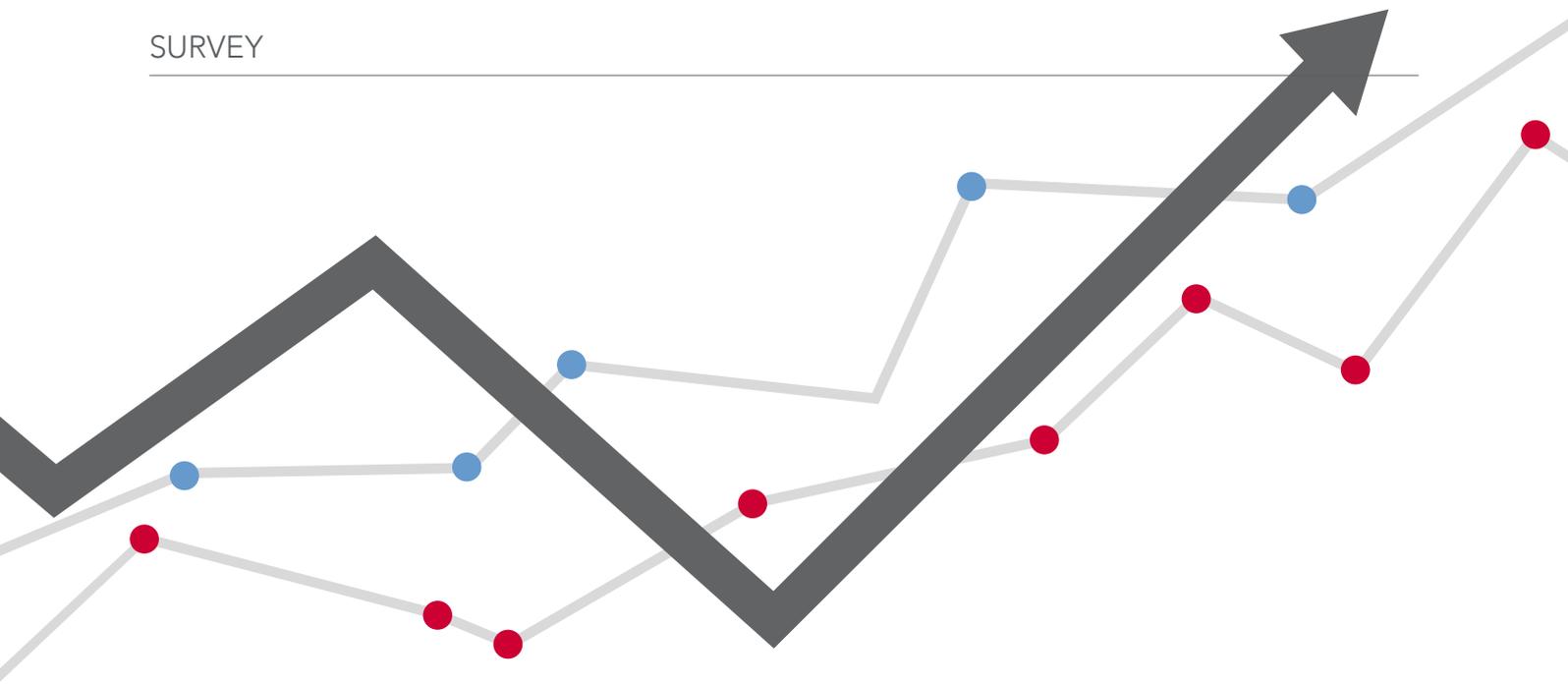
Quantifi partnered with Intel to determine the usefulness of this trained ANN model for traders in the field who typically use institutional data centers and cloud-based computing resources.

## Conclusions

This article reports the successful use of ANNs by Quantifi to model and deliver real-time pricing with an accuracy that exhibits a less than 0.01% deviation when compared to the theoretical fair value for the derivative. This real-time performance was obtained without the use of accelerators, which means portfolio managers and traders can get real-time reports from CPU-based servers running locally or in the public cloud.

## References

- <sup>1</sup> Source Quantifi.
- <sup>2</sup> Source Quantifi.
- <sup>3</sup> Using ANNs to replace Monte Carlo methods has recently become an accepted practice by the scientific community. CERN, for example, is using ANNs to realize orders-of-magnitude speedups in some of their higher energy particle simulations <https://www.hpcwire.com/2018/08/14/cern-incorporates-ai-into-physics-based-simulations/>
- <sup>4</sup> 1.56x higher performance on gen 3 Intel Xeon Scalable Processors: Gen-3: 1-node, 2x 3rd Gen Intel Xeon Platinum 8380 on Intel Reference Platform (Coyote Pass) with 512 GB (16 slots / 32 GB / 3200) total memory, BIOS: SE5C6200.86B.0022.D08.2103221623, HT on, Turbo on, with CentOS Linux Version 8, 4.18.0-240.15.1.el8\_3.x86\_64 1x 480GB SSD boot drive, 2x3.2T P4610 data, 1Gbps NIC, Quantifi Credit Option Pricing AI Inference 1.0, Intel TensorFlow 2.4.0 and Python 3.7.9, test by Intel on 03/04/2021. Baseline: 1-node, 2x 2nd Gen Intel Xeon Platinum 8280 on Intel Reference Platform (Wolf Pass) with 384 GB (12 slots / 32 GB / 2933) total memory, BIOS: SE5C620.86B.0D.01.0395.022720191340, HT on, Turbo on, with Red Hat Enterprise Linux Server release 3.10.0-1160.15.2.el7.x86\_64, 1x 480GB SSD boot drive, 7.9 (Maipo), 2x3.2T P4610 data, 1Gbps NIC, Quantifi Credit Option Pricing AI Inference 1.0, Intel Tensor Flow 2.4.0 and Python 3.7.9, test by Intel on 03/04/2021.
- <sup>5</sup> 700x higher AI performance, gen 3 Intel Xeon Scalable Processors: Gen-3: 1-node, 2x 3rd Gen Intel Xeon Platinum 8380 on Intel Reference Platform (Coyote Pass) with 512 GB (16 slots / 32 GB / 3200) total memory, BIOS: SE5C6200.86B.0022.D08.2103221623, HT on, Turbo on, CentOS Linux Version 8, 4.18.0-240.15.1.el8\_3.x86\_64, 1x 480GB SSD boot drive, 2x3.2T P4610 data, 1Gbps NIC, Quantifi Credit Option Pricing AI Inference 1.0, Intel TensorFlow 2.4.0 and Python 3.7.9, test by Intel on 03/04/2021.
- <sup>6</sup> Source: Quantifi.
- <sup>7</sup> <https://www.osti.gov/biblio/5470451-nonlinear-signal-processing-using-neural-networks-prediction-system-modelling>
- <sup>8</sup> <https://papers.nips.cc/paper/1987/file/093f65e080a295f8076b1c5722a46aa2-Paper.pdf>
- <sup>9</sup> <https://www.osti.gov/biblio/5470451-nonlinear-signal-processing-using-neural-networks-prediction-system-modelling>
- <sup>10</sup> [https://openlab.cern/sites/openlab.web.cern.ch/files/2018-06/Vallecorsa\\_poster.pdf](https://openlab.cern/sites/openlab.web.cern.ch/files/2018-06/Vallecorsa_poster.pdf)



QUANTIFI SURVEY

# THE EVOLUTION OF CREDIT TRADING

With the growth in bond issuance in 2020, credit is playing an increasingly important role in investment portfolios. The international bond market represents over \$128 trillion in debt outstanding. The current credit market environment, characterised by uncertainty and persistent structural inefficiencies, is rich in relative value credit investment opportunities. Over the past five years, there has been robust growth in the electronic trading of fixed-income markets, but it continues to lag equities in technological development.

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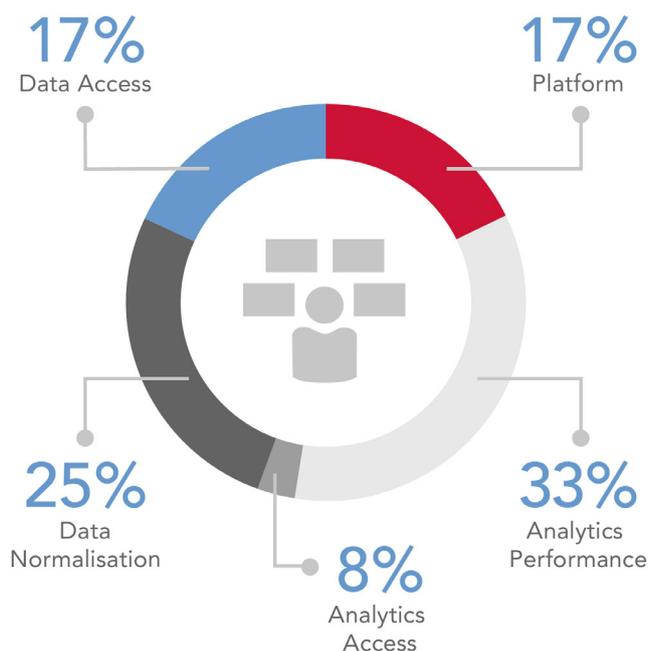
After a volatile year triggered by COVID-19, bond funds and other market participants face new challenges, particularly in fixed income and credit. Recent events have disrupted the financial markets but have also created growth opportunities. With an increasing demand for scalability and transparency enterprise-wide, leading firms are leveraging the latest advancements in technology and the best expertise to assist with the generation and retention of alpha. Firms are also increasingly adopting emerging technologies such as data science and artificial intelligence to provide actionable insights and new investment opportunities. This has driven FinTech providers such as Quantifi to evolve and accelerate innovation to help clients reduce default risk, maximize returns, and improve resilience.

## What is the current state of your credit data, analytics and technology infrastructure today?



New technologies have opened the door to a revolution in data and analytics, leading to new products, efficiency and higher margins. The myriad of technologies that are changing how firms operate include data science, artificial intelligence and machine learning. Firms are investing in technology to improve competitiveness and automate compliance to ensure robust adherence to regulatory requirements. Eighty percent of the firms surveyed are investing in data, analytics and technology. Companies are increasingly turning to FinTech providers such as Quantifi to drive technology innovation. The growing adoption of cloud and open APIs creates new avenues for smoother interaction in the technology ecosystem. Only seven percent of respondents did not have the infrastructure needed to capitalise on opportunities, and 13 percent stated they rely on manual processes that need improvement.

## What is the main challenge in your credit trading today?

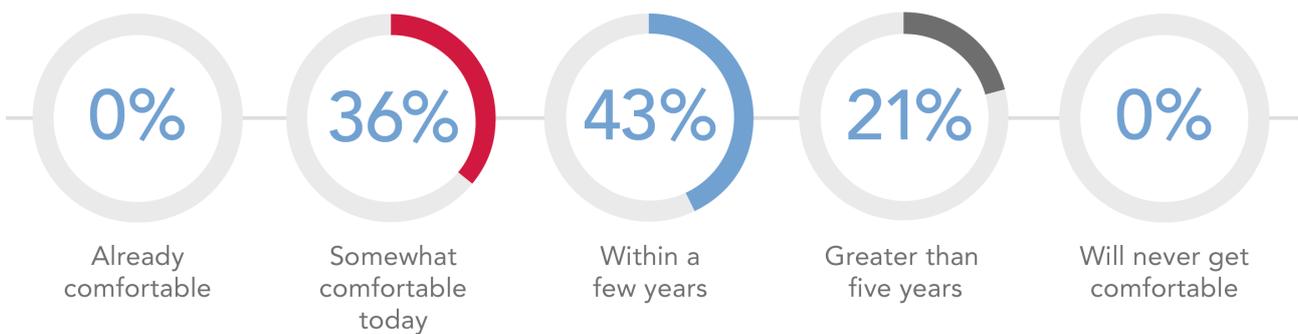


The use of analytics for debt securities has come into sharper focus and has been the subject of increased investor attention over the past 12 months. There are two main reasons why credit/fixed income strategies have become a hot topic during this time. The first is an extraordinary surge of issuance seen in the bond market. The second is the extreme volatility within the credit sector in the face of COVID-19. The two biggest challenges in credit trading cited by respondents are analytics performance (33 percent) and data normalisation (25 percent).

To be able to spot the opportunities, institutional investors need adroit analysis at their disposal. They have to survey the entire credit landscape to isolate opportunities and then execute trades quickly before they vanish. Risk managers also need state-of-the-art tools to measure and report on portfolio risk at all times.

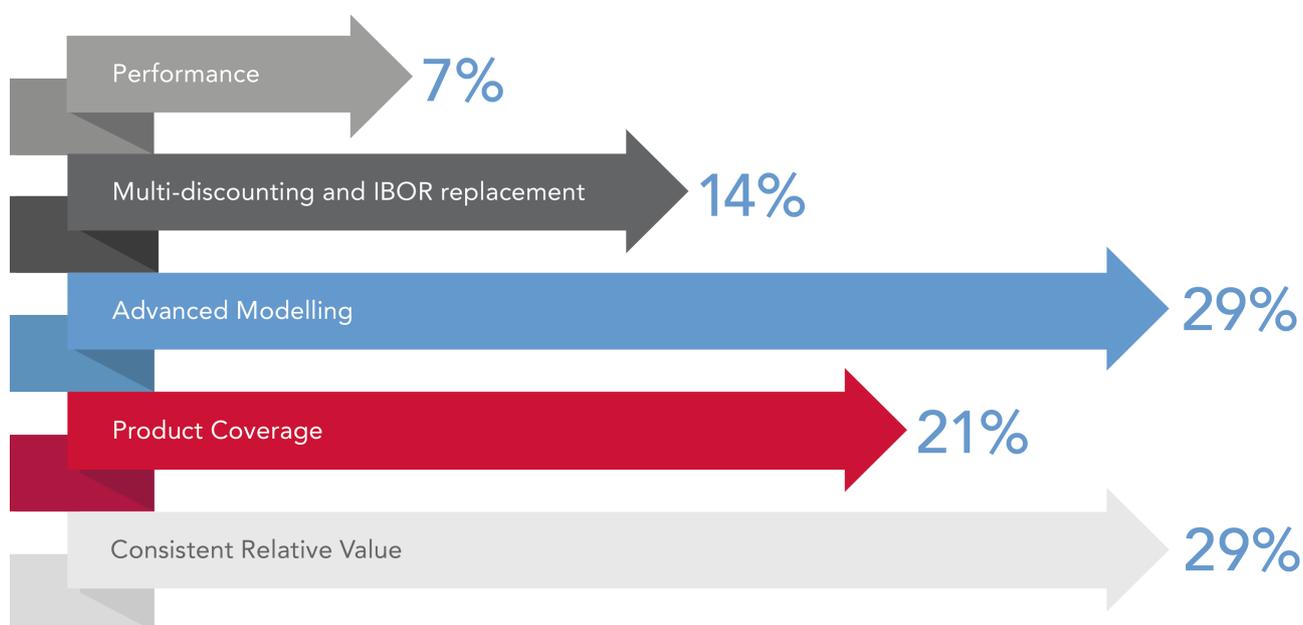
Data normalisation is a major challenge given the high volumes of data sources and format. Data no longer resides in a database somewhere; it is streaming over the cloud and needs to be normalised in real-time. In the coming years, it is likely that digitisation trends and the appetite for firms to adopt data science approaches will increase. With structured, high-quality data, firms can solve data normalisation and standardisation challenges, translating into better, more accurate insights.

## When will the market become comfortable with pricing corporate bonds by machines?



The bond market is moving toward automation slowly, but surely. In the past, it would take traders, analysts, and quants to price a corporate bond. For complex trades involving a portfolio of securities, the process could take hours. Today, thanks to the availability of data and advances in machine learning, accurate bond prices can be generated by machines in seconds, which gives investors and traders alike better price transparency. The findings highlight that, at some point, all firms will be comfortable with machines pricing bonds. Thirty-six percent of respondents are somewhat comfortable today, and 43 percent expect that they will be comfortable within a few years. The slow and steady digitisation of fixed income and the credit markets especially has accelerated in the percentage of fixed income trading that occurs electronically and the overall automation of front-to-back processes, use of data, and use of machine learning. This has been most true in liquid bonds that are part of major indices. Still, going forward, there is keen interest in the electronification of the less liquid parts of the investment grade bonds, high yield bonds and emerging markets globally. As Dan Frommer, COO of 7 Chord, Inc., noted on the panel, "For predictive bond pricing to gain acceptance, we need to be confident that it can deal with the unexpected. We need to have models that adjust to market regime changes in the same way that the human trader would process data and make price decisions differently depending on the changing market conditions."

## What do you consider the biggest challenge for credit analytics?



The financial landscape is rapidly evolving, and fixed income investing is transforming. There are various challenges that hedge funds are dealing with regarding credit analytics. Advanced modeling (29 percent) and consistent relative value (29 percent) were the biggest obstacles. Today's institutional investors and individual investors need reliable data and powerful analytics to help them gain actionable insights for better portfolio outcomes. The ability to anticipate and respond to market and portfolio changes are key motivators for investment managers to maintain a strong risk function. Sophisticated and robust analytics are an important component of this capability. The 14 percent for multi-discounting and IBOR replacement indicates that most firms are prepared for the recommendations published early in 2020.

\* This survey was conducted during a webinar on "The Evolution of Credit Trading: Technology, Analytics and Data," hosted by Quantifi, featuring Celent and 7 Chord Inc. (<https://www.7-chord.com>) - the creators of BondDroid, a proprietary AI engine that nowcasts sovereign and corporate bond prices and credit spreads in real-time. More than 100 individuals from the financial services industry registered for the webinar and were invited to participate in the survey.



# QUANTIFI TARGETS BROADER MARKETS

An Interview with Avadhut Naik, Head of Solutions, Quantifi

\*This article first appeared on Commodity Technology Advisory's 'ComTech Alerts' E-Newsletter.

## Tell us a little about Quantifi, its background, focus and presence in the commodities asset class?

**Avadhut Naik:** Founded in 2002, Quantifi is a provider of risk, analytics and trading solutions. Quantifi was started with the goal of delivering the same sophisticated risk management and analytics used by the largest banks to all market participants. Quantifi has come a long way since then, having expanded its footprint to EMEA, North America and Asia and established a brand that is now synonymous with a commitment to innovation and a strong passion for what it does. Quantifi's goal, however, remains the same – to provide its clients with the most advanced, intuitive and flexible solutions to match their business needs.

The process of trading, procuring and selling commodities has always been risky and intricate, and it's only becoming more complex. Market structures have shifted, and so risk management solutions must respond to that change. Quantifi has a strong track record in the risk management space and has extended this capability to cover the needs of the commodity trading sector.

Quantifi has a strong track record in the risk management space and has extended this capability to cover the needs of the commodity trading sector.

## What is it about your solution that you think is relevant for commodity companies today?

**Avadhut Naik:** In recent years, changes in the global macroeconomic and geopolitical landscape have triggered huge swings in commodity prices. This has influenced firms to re-examine conventional ways of doing business and adopt a more holistic approach to managing physical,

financial and sustainability risk to reduce losses and gain a competitive advantage. Sophisticated firms require a solution that incorporates advanced measuring, modelling and analytics.



Global commodity trading firms have to manage an array of counterparty risks. Historically, firms have relied on multiple tools for counterparty credit risk management, including Excel spreadsheets for exposure calculations and reporting and email to communicate credit decisions. Disparate spreadsheets and manual email communication tend to result in a high risk for human error. Major risk management failures within the industry due to a lack of solid IT infrastructure and control mechanisms have led commodity firms to reconsider the way they manage risk.

Firms who adopt a modern risk management system that provides a consolidated and accurate view of their business can manage their tolerance and capacity for risk, increase market penetration and improve competitiveness. Built on the latest technology, Quantifi's Commodity counterparty risk Management (CCRM) solution is a high-performance, scalable and intuitive solution that can be seamlessly integrated into a firm's existing processes and systems. Available as on-premises or in-cloud, the solution is designed to help reduce risk and operational complexity with more accurate analytics, consolidated reporting and simplified data management.

## What trends do you see driving interest in risk analytics and risk management in commodities at the moment?

**Avadhut Naik:** Global commodity markets are highly volatile, with commodity prices sensitive to changes in the global macroeconomic landscape. A complex economic environment has led commodity trading firms to more closely manage their risk exposures to help mitigate price risk.

Against a backdrop of price volatility, cost pressures and competition, commodity trading firms are experiencing challenging times. Despite this, many firms still rely on traditional, manually intensive methods to evaluate and respond to risk. Some leading firms, however, have started to adopt more automated and sophisticated technology solutions such as Quantifi's to increase market responsiveness, reduce risk and decrease costs.

With Quantifi, all participants involved in the credit decision-making and risk management process – from traders and risk management groups to risk committees – can use the solution to make credit decisions while managing the associated risk.

## How have you fared in energy and commodities to date?

**Avadhut Naik:** Given Quantifi's success working with COFCO and Bunge, two of the world's largest agribusinesses, we have seen considerable demand for our CCRM solution

Quantifi's CCRM solution was built in collaboration with Bunge, a leading global agribusiness and food company. This collaboration resulted in a world-class credit and counterparty risk management tool that's designed to facilitate optimum business decisions and manage counterparty risk by implementing quantitative methods and procedures across the enterprise. Counterparty risk management is crucial to agribusinesses, and optimisation of this process has helped Bunge's traders grow the business with greater transparency of data and automated processes.



Most commodity trading firms, across various sectors, face similar risk management challenges and use similar processes to monitor and control this risk. Although the solution was developed with Bunge, it was built for the larger commodity trading industry. We're currently talking to firms in the energy and metal trading segments to address credit and counterparty risk management needs.

### What are your future plans in terms of targeting the commodities markets?

**Avadhut Naik:** We have recently seen an uptick in activity from commodity market participants. Sound credit and counterparty risk management is an important component of industry best practice. This places additional emphasis on risk, analytics, reporting and governance.

While we have so far focused on agribusinesses, we've recently expanded into the metals and energy space. The energy space tends to be more sophisticated when it comes to the use of financial derivatives and the need for advanced modelling techniques. Quantifi has a longstanding history of working with investment banks and hedge funds and is well equipped to combine its understanding of the needs of commodity firms with the sophisticated modelling and risk management techniques used in leading financial institutions.

With Quantifi's sophisticated credit risk functionality, clients can better manage their tolerance and capacity for risk, increase market penetration and improve competitiveness.

Geographic spread, competitive economies, price volatility and geopolitical risk make it difficult for risk managers to implement a consistent credit policy to manage exposures and the associated capital allocation. Quantifi's high-performance, scalable solution for managing credit risk can be easily implemented, is intuitive to use and flexible to adapt

to support the pace of change in the energy markets. The solution is designed to help firms manage and mitigate credit risk by providing exposure versus limits reporting, what-if analysis and stress testing. With Quantifi's sophisticated credit risk functionality, clients can better manage their tolerance and capacity for risk, increase market penetration and improve competitiveness.

### How about carbon and environment? What are you doing to prepare for a greater focus on environment and the various forms of environmental risks?

**Avadhut Naik:** Quantifi takes corporate social responsibility seriously and is always keen to work with clients on achieving their environmental, social and governance (ESG) goals. One of our clients that has an extraordinary commitment to the environment is Carbon Cap Management LLP.

Carbon Cap Management LLP (Carbon Cap), a London-based environmental asset management firm, recently selected Quantifi to support its emissions and gas trading strategies. Carbon Cap's mission is to raise awareness about climate change and to provide solutions directly related to the capping and reduction of carbon dioxide emissions. With its fund expanding, Carbon Cap recognised that its current system was not sufficient to support all its emissions trading strategies. When looking for a replacement solution, Quantifi stood out with its expertise in financial and commodities modelling.

Global carbon markets have grown exponentially since emissions trading in the EU began in 2005, creating a range of opportunities for funds to participate in this sector. While carbon markets are volatile, this volatility can create opportunities for firms that have a highly skilled investment team and a robust risk management framework to construct strategies that do well in a fluctuating market. Carbon Cap has found a financially sustainable way of trading in carbon markets that benefits its investors, while at the same time, benefiting the environment through a commitment of using 20% of its performance fees to purchase and cancel carbon allowances/offsets in order to have a direct climate change impact.

## The Evolution of Credit Trading: Technology, Analytics & Data

With the increase in bond issuance in 2020, credit is playing an important role in portfolios. The current credit market environment, characterised by uncertainty and persistent structural inefficiencies, is rich in relative value credit investment opportunities.

In this webinar, panellists discuss how firms can take advantage of this new environment with the right data, analytics and technology.



<https://www.quantifisolutions.com/the-evolution-of-credit-trading-technology-analytics-data-webinar>



### Whitepapers

- The Growth of Relative Value Credit Strategies
- How to Accelerate XVA Performance
- The IBOR Transition: Challenges and the Road Ahead
- The Impact of COVID-19 on Credit Markets
- Managing Liquidity Risk in Times of Stress

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### About Quantifi

Quantifi is a provider of risk, analytics and trading solutions. Our award-winning suite of integrated pre and post-trade solutions allows market participants to better value, trade and risk manage their exposures and respond more effectively to changing market conditions.

Quantifi is trusted by the world's most sophisticated financial institutions including five of the six largest global banks, two of the three largest asset managers, leading hedge funds, insurance companies, pension funds and other financial institutions across 40 countries.

Renowned for our client focus, depth of experience and commitment to innovation, Quantifi is consistently first-to-market with intuitive, award-winning solutions.

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