

# Verne Global helps power the quantitative finance revolution

**One of the biggest trends in the financial services industry is the explosion in quantitative investing, using high performance computing (HPC) and artificial intelligence (AI) to scour markets and huge data sets for patterns that can be exploited by trading algorithms. As the technologies have become more powerful, the time to insight has contracted which, in turn, has resulted in an increase in the number of times a day that firms attempt to calculate their value at risk and examine the market for new arbitrage opportunities.**

This fast-paced and data-intensive environment requires not only an abundance of IT infrastructure to store the data, but also huge amounts of compute power to analyse the massive data sets, leading to the insatiable need for more computing resources that offer scalability, agility and performance capabilities.

## The Challenge

Competition within the hedge fund and asset management sector has always been fierce, but with an increasing number of firms turning towards quantitative driven research the need to use computationally intensive techniques to stay one step ahead is paramount. As a result the demand for HPC and grid computing from this sector has grown extensively over the last 3 years. The increasing integration of GPU supported AI and machine learning will only increase this take-up further.

To ensure their compute portfolio is sufficient and optimally configured, firms are continually evaluating the most effective strategies for ensuring they have the right hardware, compute, data and infrastructure resources in place. It is unlikely all of this infrastructure can be placed on-premise, given space restrictions and the precise architecture and cooling needed for supercomputers - nor do firms often have the necessary HPC technical staff to operate and maintain this expensive hardware. In addition, there are concerns regarding genuine HPC performance when using public hyperscale clouds based on virtualised servers. As a result, finding a strategic data center partner that can offer highly secure, cost-effective and scalable, genuine HPC Cloud and HPC Colocation is a key requirement.



**The Financial Services Industry is entering a golden age, where speed to information is the speed of human imagination. Forward thinking financial firms are enabling their researchers to ask new questions with previously inaccessible technologies such as AI and machine learning. Firms that can scale out with their computing platforms will lead their stakeholders to success.**



Tate Cantrell  
CTO, Verne Global

Data centers in the traditional finance hubs of New York, London and Frankfurt have some of the highest rackspace prices in the industry - and these prices are expected to continue to increase in all three cities in the lead up to 2021. Consequently, forward thinking firms are looking to locate their HPC processing in more cost-effective locations, and ideally ones that can adequately serve both the US and European financial hubs simultaneously.

The challenge, therefore, is to find an HPC expert that offers low-cost cloud and colocation with the agility, flexibility and scalability to allow for future expansion - and all based in a highly secure and well-connected location.

## The Solution

Strategically located, almost as a 'bridge' between the global financial hubs of Europe and the East Coast of the US, Iceland benefits from a very reliable, modern power grid that supplies vast amounts of 100% renewable energy. This, together with the fact Iceland's temperate climate enables ambient free-air cooling of IT equipment, means a dramatic reduction in the total cost of ownership of up to 70% compared to the UK, Europe and the US.

As Iceland's premier enterprise data center provider, Verne Global has established a reputation as a leader within HPC technologies. Located on a highly secure, former NATO base, the campus uniquely provides three forms of true HPC compute suitable for quantitative research workloads. These range from latest specification, enterprise-ready data halls offering 100% uptime (powerADVANCE), to high and ultra-high density industrial scale colocation for intensive GPU-supported AI compute (powerDIRECT), to the ultimate flexibility and scalability of a purpose built, secure HPC Cloud (hpcDIRECT).

With the campus designed from the ground-up to support true HPC and grid computing, under-pinned by Iceland's advantageous power profile - and supported by a world-class, technical team, it's no surprise that multiple quantitative-driven firms from London and New York have already moved their workloads up to Iceland.

## The Future

With AI and machine learning adoption becoming more widespread, investing will increasingly use quantitative-driven trading techniques. In order to remain competitive, firms will need to process increasingly large data sets in shorter timeframes - and run progressively complex computations against those data sets - demanding a greater abundance of compute power.

If you are a firm involved in quantitative analysis or AI and machine learning technologies to support investment research and looking for a cost-effective, scalable, secure data center solution along with world-class technical support for your HPC and grid compute applications, then speak to us at Verne Global.

70%

HPC COLOCATION AT  
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