

Using HPCaaS For Your Next Break Through Fearlessly - The Options Are Limited.

Massive compute, as a service, at the lowest price possible for you and the environment. Sounds too good to be true? Hosted in a military-safe location, hosting your HPC in Iceland is a no-brainer. Let's analyse why you would need HPC in the first place, and where the Return in Investment is Highest.

It is no longer an argument, but purely facts that the way information technology is used is, in fact, the deciding factor to business success in any industry.

With the compute power available, we can find problem solutions earlier impossible – however, these cannot be solved with a standard workstation in a reasonable amount of time. Using dedicated high-end hardware with incredible speed, prototypes are built and tested virtually using algorithms and calculations simultaneously processed. This has led to exceptionally leaner R&D processes and accelerated time to market in e.g. the automotive and manufacturing industry. Instead of testing prototypes from the beginning, high-performance computing enables filtering of all the prototypes and suggested models to be tested using sophisticated compute and software, to later drill down to the best performing models to be physically produced and tested. In the tyre industry, to bring another example, thread tear is now no longer a physical test over months but a calculation possible and accurate with the use of massive compute. Goodyear boasts the improvement and performance of their all-season tyres due their large HPC investment, reducing the R&D budget from 40% to 15%.

Beyond the traditional industries, HPC now enables AI to go so far as to create its own solutions and surpass human intelligence in the complexity of poker by creating its own strategy, only because the compute power is available.

A myriad of industries have discovered and are still discovering the power of HPC and how it can not only solve product development problems but also sharpen their market intelligence and competitive edge. As a matter of fact, 97% of businesses that have adopted HPC in some way claim they would not be able to survive without

it. Not only does it seem like an insightful pursuit, but pretty lucrative, too: IDC estimates that for every \$43 spent on HPC, users can generate \$515 in revenue. Interestingly enough, marketing intelligence agencies are taking off using HPC to process and make sense out of the data created by the use of devices at present, which creates understanding of consumer behaviour and preferences in a whole new way. As businesses face the digital-native generation, only HPC has the power to not only understand big data and behaviour, but also develop apps and services that the target audience assumes to be simple and seamless.

If you, as a reader, have been surprised by the accuracy of intelligent predictions when shopping online or found great satisfaction in the simplicity of your banking app, chances are that the service providers invested in high-performance computing platforms and necessary software to make this happen.

There are different opinions on whether data is the new oil, as the amount and complexity of data that is produced is ahead of the apps that interpret it. However, it is evident that the digital-native generation is impatient when testing new products and quick to condemn the source organisation even encountering the smallest flaw – to minimise these risks, massive compute needs to be running for product development as well as live for flexibility and agility of the experience.

Having explained the unprecedented value of HPC for any industry, another question inevitably arises: how much needs to be invested in such solutions? What is the long-term use of these, and how to keep up with this technology becoming more advanced?

To meet the needs of various customers, HPC as a Service emerged, meeting the compute demand for sporadic tasks and time-bound projects, as

opposed to having costly hardware gathering dust in between uses. It makes sense for a moving firm to buy a van to perform tasks, but very few families invested in their own van for this purpose and let it wait until the next big move. In the same way, HPCaaS is simply brilliant. The resource is there for as long as you need, the price reflecting a service and not a legacy of hardware.

What is there not to like? In the past few years a number of service providers have created an HPCaaS market. Though the price might be attractive, another - less visible - cost dominates the business landscape as a whole. For supercomputers (or servers as a whole) most of the running cost goes into cooling the machines as they consume energy and generate astounding amounts of heat. This makes datacenter locations a strategic factor for service-providers as colder weather conditions bring down the costs for both sides. Additionally, as CO₂ neutrality is about to become a business imperative, it is essential when choosing an HPCaaS service-provider to ensure sustainable energy sourcing. After all, no one wants surprisingly high expenses and the need to change contracts compromising business continuity.

Where can best Return on Investment for HPC be found? IT is, at the end of the day, an expense – with massive compute being an even higher one.

When it comes to the investment part, most prefer an independent opinion. With the clear picture of HPC being an opportunity to break through, on-demand model available and sustainability/carbon-neutrality as an upcoming legislation, it seems like the options are quite limited – especially as no budget is limitless even for such a lucrative pursuit.

Analysts such as IDC, PWC and Cushman&Wakefield agree: Iceland stands as if created to be a place to host energy-demanding, heat-producing machines with the low fluctuations in temperature and cool climate. The best factor, however, is that this brings costs down for the company in question compared to HPC environments hosted or consumed from elsewhere. Especially high-performance

computing is relevant, as this is a growing model for success.

Highly industrialised countries in Europe offer very little energy surplus, and are a poor prospect for expansion of datacenters for an affordable price. Iceland, on the other hand, proudly sources 100% of their electricity from water and geothermal energy. Combined with a highly reliable energy grid and top-performance connection to Europe and North America (both of which have capacity to carry much more than today), Iceland's profile distinguishes from other popular locations.

Expansion without limitations: forget the uncertain availability and fluctuating prices of unsustainable energy and unexpected carbon tax bills.

While enterprises face uncertainty, especially as datacenters or services increase in importance for e.g. service and product delivery, hosting and consuming from Iceland-based datacenters puts you ahead of the present and forthcoming constraints especially if you are based in Europe. Future-proof your investment now and skip the disruption of changing IT-service provider or carbon tax bills. Forward-thinking this way puts you in a different gear, focusing on development and growth rather than reactive protection of your business operations.

Fascinating outcomes have been witnessed by using HPCaaS and/or dedicated HPC for innovation and product development: faster time to market as prototypes are tested virtually, cost-savings through understanding energy-efficiency of engines through algorithms and calculations as opposed to physical trials. The opportunities are as many as your latest ideas, free to become reality.

Institutions hosting their HPC whether as-a-service or a permanent environment already reap the outcome of this decision – delighted by the results, truly optimising their business with no limits in mind.

Opin Kerfi's HPCaaS offering is proudly sustainable and, consequently, highly economical, guaranteeing business continuity with forthcoming CO₂ neutrality legislation. The cost- and technology barrier is longer an issue, meaning enterprises can expand and innovate fearlessly.