

# Campus wide HPC

City, University of London, launches the Hyperion High Performance Computing (HPC) cluster to meet supercomputing requirements across all five of their specialist schools.



“The boost and burst in computational power afforded by Hyperion permits City researchers and academic staff from disciplines who previously were not able to access HPC the opportunity to explore new horizons of comprehension that can be achieved through areas such as big data analysis and machine learning.”

Dr. Alfredo Pinelli, Professor of Fluid Simulation,  
City, University of London

## Customer Profile



<b>Company</b>	City, University of London
<b>Industry</b>	Education & Research
<b>Country</b>	United Kingdom
<b>Website</b>	<a href="http://www.city.ac.uk">www.city.ac.uk</a>

## Business Need

City, University of London, wished to consolidate and expand their HPC services in order to meet new supercomputing workload requirements from multiple research subjects. With an increased need for in-depth exploration in aerospace, material sciences, artificial intelligence, and data discovery, the university required a flexible compute platform and managed services package to enable the on-site team to help researchers, students, faculty, and end-users get the most out of their HPC investment.

## Solution

City, University of London chose Alces Flight for their proven ability to centralise, build and manage the HPC resources as a complete, cross-university solution. This capability allowed the university team to focus on delivering tangible end-user benefits, reduce ongoing costs and minimise startup time for the new system providing freedom to explore new technologies in and around supercomputing.

## Benefits

- Consolidation and centralised management of the HPC services portfolio.
- Complete transparency in the status and use of their HPC solution.
- Capability to expand focus on HPC usage across the entire university by strategic assignment of systems management to the Alces Flight Team.

## Solution at a glance

- On-premise HPC cluster
- Managed HPC Services
- Reduction in cost and risk

City, University of London has five specialist schools focusing on mathematics: computer science and engineering, humanities, business, health, and law. As the university continues to refine and transform their research, as well as welcome new technologies, the IT Services team took the decision to consolidate their HPC services in order to improve engagement with the researchers, students, and staff across the entire University.

City, University of London, consolidated their HPC services in order to broaden access to supercomputing to encompass their entire university, as well as increase the efficiency, speed and quality of research being conducted.

“We are seeing a growing need for our students, faculty and staff to have access to and knowledge around HPC,” said Alfred Pinelli, Professor of Fluid Simulation at City, University of London. “At City, requirements are currently being developed where HPC is at the heart of research projects, working with or alongside Artificial Intelligence (AI) and Machine Learning (ML) technologies. These requirements are coming from the entire university, so it made sense for us to bring together our knowledge and build a system concentrated on benefiting as many of our researchers as possible.”

The Hyperion cluster has been built through partnership with Alces Flight on Dell EMC hardware and features Intel Xeon powered servers, Mellanox HDR Infiniband, Nvidia GPUs and a Lustre parallel scratch filesystem. With a need to expand exploration in aerospace, material sciences, AI/ML and data discovery, the IT services team looked to consolidate the system and its management in order to rapidly expand supercomputing offerings to the entire university.

#### Full coverage HPC

“Previously, we were not able to provide a level of HPC coverage to all our faculty and students at the university,” Alfredo said, “We want to open up our access and make it easy to use. This includes adding coursework designed to welcome in new students and showcase HPC’s potential. None of this would have been possible if we hadn’t taken the decision to focus our efforts around a single, unified system.”

#### Ready for flight

The team at Alces built the Hyperion cluster and provide a managed HPC service for the system, leveraging a standardised Alces Flight environment to streamline costs and manage change effectively. By centralising all system operations in the Alces Flight Center tool, City, University of London has been able to develop HPC best practices and processes that can benefit the entire university.

“Our aim with City, University of London was to help them simplify overall management so that the IT services team could focus on developing an end-to-end engagement model with their researchers and end-users,” said Wil Mayers, Technical Consultant for Alces Flight. “By consolidating their knowledge into Flight Center, the team has a single hub for all of their HPC system knowledge. The team can now rapidly implement new programs and capability for their end-users, allowing researchers to shorten time to results and for students to gain valuable knowledge on how HPC can potentially benefit their studies and future career.”

Hyperion was officially launched into service at City, University of London in November 2021.

“One of the benefits of centralising our systems management through Alces Flight Center means we now have the opportunity to introduce Hyperion to all our students. We look forward to allowing them to engage and fully exploit the potential of supercomputing and large-scale data analysis.”

Dr. Alfredo Pinelli,  
Professor of Fluid Simulation  
City, University of London

#### Products & Providers

##### Products

Flight for Bare-metal HPC

OpenFlightHPC

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##### Technology Providers

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