

CLIENT: UNIVERSITY OF EXETER  
SERVICE: DESIGN & BUILD  
DATE: JUNE 2017

## PROJECT OVERVIEW

The University of Exeter is one of the world's top 150 universities according to the Times Higher Education ranking. It has over 22,000 students from 130 countries and 4,600 staff across three main campuses.

In 2016 the university decided to invest in a new High-Performance Computing (HPC) facility to support a diverse range of research, from the traditional HPC user base in physical sciences, through to the burgeoning requirements in life sciences and new requirements in digital humanities.

Instead of adopting an outsourced compute model, the university decided to build its own data centre to act as the critical infrastructure for its proprietary HPC system, called Isca. Isca provides a next-generation research computing environment, combining traditional HPC with a private cloud infrastructure. This would allow it to ensure its specific research requirements and capacity challenges were met and give it new opportunities to build partnerships with other universities, including the GW4 consortium, and industrial partners.

Keysource was appointed because it has considerable expertise in delivering HPC-related projects and had a track record in meeting tight project deadlines in live environments without disruption to existing services.

## PROJECT HIGHLIGHTS

- The data centre underpins a market-leading HPC environment and has unlocked new research capabilities that will generate revenue for the university
- Keysource's active role in engaging with additional stakeholders, including those working on the adjacent site, enabled it to avoid any issues and deliver the project on-time.
- Zero downtime was caused to the existing data centre, which is of critical importance to the university's day-to-day business functions.
- The back-to-basics approach ensured that there were absolutely no surprises during the build – demonstrating best practice for the industry.

## THE CHALLENGE

There were a number of challenges associated with this project. The team had to deliver against an incredibly strict project time frame, in order for the University to meet deadlines associated with the research requirements and funding for the project. There were also a number of on-site logistical, technical and operational challenges to successfully deliver for its client.

## THE PROJECT

At the outset, the team developed a comprehensive project programme that would meet the university's timetable, including the migration of an existing HPC system. Keysource mapped a series of key milestones and established a framework for communication between the client, Keysource as the consultant and project lead, and a team of specialist subcontractors.

The University of Exeter's campus is built into a hill and major groundworks were needed to ensure the site was prepared for the delivery, positioning and support of large plant and equipment.

The team also had to manage the schedule of works around adverse weather in winter, ground conditions, including sub-surface asbestos removal, and avoid deliveries of major equipment during periods of high foot fall including open days and events.

In tandem with the delivery of the new data centre, another live project was in progress nearby – the delivery of a 10-storey building for the Life Sciences Institute.

## THE RESULTS

Keysource delivered the university's data centre in time for the new research project and to the allocated budget.

Its end-to-end role, covering both design and delivery, saw it also ensure that there was no impact to the live environment around the construction site – with no downtime caused to the adjacent data centre.

The project's success means that the university is now positioned to be a major player in the multi-disciplinary, compute intensive environment of modern research.

*"We chose Keysource to work with us partly because of their proven experience in bringing together multiple stakeholders and translating operational and service requirements into a clear brief. Their vast experience within the Higher Education sector, as well as expertise in delivering live upgrades to operational environments, was also a deciding factor."*

**Dave Ackerman, IT Infrastructure Director,  
University of Exeter**