

BioMed X: Crowdsourcing for Biomedical Innovation

CASE STUDY

“Bright Computing allows us to concentrate on our research projects instead of spending too much time on IT administration tasks.”

— Dr. Simone Fulle,
Group Leader, BioMed X

Based in Heidelberg, Germany, the BioMed X Innovation Center was founded in 2013 to perform translational research at the interface between academia and industry. Distinguished early-career scientists are recruited from all over the world to work together in interdisciplinary project teams in the research fields of cell biology, immunology, neuroscience, epigenetics, nanomaterials, and bioinformatics.

The teams work in an open innovation lab facility at the University of Heidelberg campus, under the guidance of experienced academic and industry mentors. Each team is sponsored by a corporate pharmaceutical company or a biotech partner. After a fully funded project term, successful projects are either moved into the development pipeline of the respective pharmaceutical or biotech sponsor, or spun out to an independent startup company.

A High Performance Computing Requirement

BioMed X set about building a high performance supercomputer in 2014, to support projects dealing with data analysis, the development of novel computational methods, and the investigation of protein-ligand complex structures, using molecular dynamics simulations and docking calculations. Thus, the decision for the cluster structure and management solution was driven by the need for the cluster to interoperate with a range of different applications.

There was also a requirement for the cluster to be expandable, robust, and easy to manage. BioMed X selected an infrastructure management solution from Bright Computing, and the choice was based on three aspects. Firstly, Bright Cluster Manager® installed out of the box. Secondly, programs could be easily deployed. Last but not least, the Bright GUI facilitated the administration of the cluster settings, including queue management.

Dr. Simone Fulle, Group Leader at BioMed X explains; “We maintain the cluster ourselves, in addition to our daily work; an easy to use cluster management system such as offered by Bright Computing allows us to concentrate on our research projects instead of spending too much time on IT administration tasks”.

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Today, Bright technology manages all elements of BioMed X's cluster from a single consistent GUI, including software images, users, cluster health, workload management, alarms, security, and much more.

“Bright Computing has made it really straightforward to build and operate our HPC environment, offering an easy to manage solution which enables us to perform a variety of calculations in order to drive our research.”

— Dr. Simone Fulle, Group Leader, BioMed X



The Results

Bright Computing is part of BioMed X's first high performance computing environment, and has proved itself as a comprehensive and reliable cluster management solution. With further research teams hopefully joining BioMed X in the future, the Innovation Center will look to upgrade its HPC environment in the next few years. And, with Bright technology at the heart of the supercomputer, BioMed X will be able to carry out any upgrades or scaling projects at the touch of a button, with minimal impact to business continuity.