

More speed, more data, more automation, more work?

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Diamond Light Source¹ is a 3rd generation synchrotron (SR) constructed in Oxfordshire to produce highly bright and stable synchrotron radiation and opened for users at the beginning of 2007. Diamond is the first UK facility site to be Grid-enabled from the onset and will host 2000 authenticated and authorised users producing a potential 1 Petabyte of highly annotated and secure data every year. From this Grid-enabled baseline diamond staff are working closely with the international user community, e-Science pilot projects, CCPs and e-Science centres especially CCLRC e-Science, to develop and revolutionise the working practices of synchrotron users.

This presentation will describe how a unique opportunity to embed e-Science methods into Diamond multi-disciplinary beamlines is starting to deliver:

- accelerated data acquisition and analysis
- experiment steering and automation
- remote access to beamlines and data

with the likely impacts to include:

- efficient beamtime usage to enhance scientific output
- studies of systems hitherto considered too complex or resource-hungry
- adoption of e-Science best practice

(1) 1. Diamond Light Source; <http://www.diamond.ac.uk>