

The Daresbury Synchrotron Radiation Source, during its period of operation from 1981 to 2008, made an impressive social and economic impact.

Cleaner fuel, safer aircraft and new medicines, not to mention two Nobel prizes, great tasting chocolate and iPods - all of these things have been influenced or made possible by world leading scientific research carried out on the Synchrotron Radiation Source (SRS). Located at the Science and Technology Facilities Council's (STFC) Daresbury Laboratory, the SRS was the world's first 2nd generation multi user X-ray synchrotron radiation facility. The facility ceased operations in 2008 after 28 years of operation and two million hours of science which was undertaken by a wide-ranging, cross-discipline, national and international user base.

Full details are contained in a [report](#) which is the first complete study in the world exploring the social and economic impact of a large science facility over its whole lifetime. This impact has been vast and will continue years after the closure of the facility. Highlighted are the many ways in which the SRS has impacted at the regional, national and international level. The SRS has not only impacted the scientific, industrial and skill base of the UK but has also produced impact on a world wide scale. Impacts from the SRS include the creation of knowledge, improved quality of life in the UK, the generation and transfer of skills, improved competitiveness of industry, the commercialisation of technology, financial effects and the creation of jobs.

### **Global impacts**

The impact of the SRS has been felt on a number of different levels. The most significant impacts are global and long term impacts both from the research carried out at the SRS and from the proliferation of synchrotron radiation sources and their resulting impact around the world. Fuelling the impact of the world's synchrotrons The SRS was the world's first 2nd generation multi user X-ray synchrotron radiation facility and as such provided an exemplar for Synchrotron Radiation facilities across the globe. The SRS pioneered the way for the development of 70 similar machines; this worldwide synchrotron community is providing impact on a global scale. Staff from the SRS played a significant role in the establishment of these facilities, having formal collaborations with 40% and informal collaborations with the majority. SRS staff played a key role in training, advising and transferring key skills and technology to these facilities.

The world's synchrotron radiation facilities are used to conduct scientific research which explores the world through a detailed knowledge of the structure of matter. These facilities are used in a variety of scientific fields and science carried out on Synchrotron Radiation facilities makes a variety of contributions to society. Examples include addressing global challenges, such as research into the environment and energy. Synchrotrons around the world have ensured the development of new drugs, medicines, technologies, products and materials.