

SOLARIS — NEW LIGHT FOR POLISH RESEARCH

Marek Stankiewicz*

*National Synchrotron Radiation Centre SOLARIS Jagiellonian University,
ul. Gronostajowa 7/P.1.6, 30–387 Kraków, Poland*

*e-mail: m.j.stankiewicz@uj.edu.pl

The current status of the Solaris project will be presented.

The first Polish synchrotron radiation facility Solaris is being built at the Jagiellonian University III-rd Campus in Krakow. The project named the National Centre of Electromagnetic Radiation for Research Applications was granted at the beginning of 2010 and is run by Jagiellonian University. It is financed from the European Structural Funds. The initiative has been supported by the strong community of few hundred Polish synchrotron radiation users collaborating with synchrotron facilities abroad. The project is based on an identical copy of the 1.5 GeV storage ring being concurrently built in Lund, Sweden, by MAX-laboratory. In December 2010 an agreement was signed between the Jagiellonian University and Lund University for the mutual cooperation and sharing of ideas and designs related to the construction of the two facilities.

At the first stage, the project will deliver the synchrotron radiation facility consisting of:

- Electron injection system including electron source and 400 – 700 MeV linear accelerator (this accelerator will have the option to be upgraded in the future to the full injection energy of 1.5 GeV);
- 96 m circumference, 1.5 GeV, 500 mA storage ring with 12 bending magnets separated by 3.5 m long straight sections;
- 1 bending magnet radiation based experimental beamline with a multi-grating monochro-

mator and VUV/Soft X-ray electron spectroscopy end-station;

- accommodating buildings.

The potential of the facility is vast. The project assumes and allows for a broad scope of future upgrades and development. The synchrotron will be capable of delivering radiation from both the bending magnets and insertion devices installed in the straight sections. Installation of up to 20 beamlines and corresponding experimental end stations is feasible and will provide research options for many research groups to work simultaneously. The building complex, apart from the synchrotron installation, will also accommodate all the necessary auxiliary facilities, e.g. workshops, preparatory laboratories, staff and administration offices.

The Polish synchrotron is going to be the first research infrastructure of such substantial size and potential constructed in this part of Europe. The synchrotron, being a large-scale, multi-user and multi-disciplinary facility represents a very efficient investment in research by providing state-of-the-art research opportunities for many research groups. The expected benefits are not limited only to the scientific community. The availability of such a technologically advanced facility also contributes to developments in such areas like enhancing education and training, stimulating hi-tech companies and services, providing new options for the research oriented industry, creation of new jobs.