

SOLARIS – the National Synchrotron Radiation Centre at Jagiellonian University

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straints of land availability, foresees an upgrade to the linac to increase its energy for top-up injection. All services, power, HVAC and cooling will be built with this upgrade in mind. The experimental hall for beamlines houses the storage ring tunnel. The experimental hall has a surface area of 3000 m² and provision is made for its future extension on one side by 600 m².

The current status of the Solaris project - the Polish synchrotron radiation facility, situated at the Jagiellonian University new campus in Kraków will be presented. The project is based on the design of the new 1.5 GeV, 96 m circumference, 500 mA storage ring being concurrently built for the MAX IV project in Lund, Sweden. The ring is composed of 12 integrated magnet blocks forming a 12 double bend achromatic structures made from the iron blocks machined to high precision. They contain all magnetic elements allowing for a very compact design, technology developed and tested by MAX-lab experts. The magnets design is at the final stages of completion and is being performed in parallel with the design activities of the storage ring vacuum envelope. The iron for the Solaris magnets has been already purchased and is being thermally treated prior to machining. The magnet structures will be separated by 3.5 m long straight sections allowing for future installation of up to 10 insertion devices. Installation of 10-15 beamlines with associated experimental end-station is foreseen. The ring will be fed by 600 MeV linear accelerator, which is planned to be upgraded to provide full 1.5 GeV injection. The high power modulators with the corresponding klystrons powering the linac sections have been ordered and the contract for the linac accelerating sections is being finalized. Negotiations for delivery of RF cavities for the storage ring are the concluding stages.

Current	500 mA
Circumference	96 m
Horizontal emittance (bare lattice)	6 nm rad
Coupling	1%
Tunes Q_x, Q_y	11.22, 3.14
Natural chromaticities ξ_x, ξ_y	-22.9, -17.1
Momentum compaction	$3.04 \cdot 10^{-3}$
Momentum acceptance	4%

The contract for the design and construction of the Solaris building was awarded to the ALPINE Construction Polska Spółka z o.o. and Przedsiębiorstwo Budowlano-Produkcyjne ŁĘGPRZEM Spółka z o.o. in the March 2011. The design of the building is at the final stages and application for the building permit is expected by the end of September. Ground breaking, following building approval, is foreseen for early 2012. The building is composed of a linac tunnel and an adjacent modulator and service gallery placed below the storage ring level. The length of the tunnel ~100 m, within the con-

