

# PROPOSED TECHNICAL CONCEPTS AND TIME SCENARIO FOR POLISH SYNCHROTRON LIGHT SOURCE

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The exceptional properties of the electromagnetic radiation obtained at the synchrotron light sources have proved indispensable for application of advanced modern experimental techniques in numerous fields of research. The notion is best supported by the fact of an enormous increase in ‘investigation power’ of synchrotron radiation facilities worldwide in the last ten years due both to emerging new centres and to modernisation of existing ones. It refers not only to traditional economic strongholds (like USA, Japan, Western Europe) but also to rapidly developing countries like Brazil, China or India. The simple observation leads to a conclusion that Poland and, in general, East Central Europe deserves such a facility. The very concept was put forward a decade ago but the important step occurred at the turn of 2006 when the project of the synchrotron light source in Poland was included in a national list of the high-priority research infrastructure, opening a possible access to the European structural funds. The act was a positive reaction to the document presented at the Ministry of Science and Higher Education in June 2006 by 45 Polish scientists from 22 leading research institutions.

In April 2008 thirty-three leading universities and research institutes of Poland formed the Consortium ‘Polish Synchrotron’ (‘Polski Synchrotron’) to actively support the idea and to collaborate at the realisation of the project.

About a year ago there appeared a new circumstance connected with an initiative of the Czech Republic to build a synchrotron facility, being basically a copy of the Spanish design in Barcelona (to be commissioned in 2009), at Brno. The situation led to the involvement of European Commission institutions and subsequently to a requirement of the complementarity of the two facilities, in Kraków and in Brno.

In the present talk, in view of this new situation, the proposed solutions for the lattice design of a storage ring of the Polish synchrotron light source will be given. Assumed basic characteristics defining the scale of the facility remain unaltered with respect to the preliminary concept presented at the national conference in October last year at Poznań (7KSUPS): electron energy 2.5 – 3.0 GeV, circumference ca. 260~m, low-emittance, top-up

mode of operation. The preferred solution will be indicated and supported by arguments.

The advanced research techniques for various disciplines will become available thanks to the specialized beamlines. The satellite meeting “II<sup>nd</sup> National Conference on Experimental Lines at the Polish Synchrotron” (“II<sup>ga</sup> Krajowa Konferencja: Polski Synchrotron – Linie Eksperymentalne”) [1] immediately following the present Conference (and in the same location) will be concerned in more detail with individual line proposals [1] both of those seven included in a first phase of the general project as well as the ‘independent’ experimental line proposals.

The organisational matters related to institutional and financial bases of the project will be commented.

Finally, the updated schedule will give the main courses of action and their time frames.

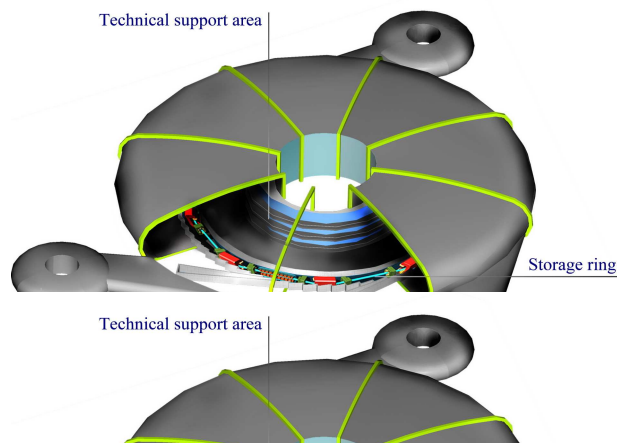


Figure 1. The architectural concept (by Studio AW) for the Polish synchrotron light source.

## References

- [1] <http://synchrotron.pl>