



ESS INTERNATIONAL ADVISORY BOARD MEETING IN BILBAO AND DEBRECEN

Hungary and Spain are two of the competing three site candidates to host the European Spallation Source (ESS), one of the largest and most mature projects on the Roadmap of the European Strategy Forum on Research Infrastructures (ESFRI), endorsed by the Competitiveness Council of the European Union. These two countries intensively pursue their preparation to realize this most ambitious, world-leading project in creatively combining competition with close collaboration. It is within this framework that the constituting meeting of the common ESS International Advisory Board (IAB) took place on July 21-24 in Bilbao (Basque Country) and Debrecen (Eastern Hungary), in the two cities offering free of charge most adequate terrains larger than 1 km² in

outstanding research, academics, cultural, economic and quality of life environments to build ESS.

The charge of the IAB calls for giving “advice for the preparation and successful completion of the ESS construction project. In particular the IAB would provide expertise in the following areas:

- Potential partnerships for realization of the ESS construction project.
- Relation to other European and international projects.
- Infrastructure requirements and improvements.
- New Science opportunities and related instrumentation priorities.
- Technical developments that would improve the characteristics of the source and instrumentation.
- Lessons learned from other projects.”

The members of IAB belong to the top experts in the world in neutron science, construction, operation and management of top of the line neutron source facilities and similar large scientific infrastructures. The two co-chairpersons, who took up they function at this meeting are Dr. Ian Anderson, Associate Laboratory Director for Neutron Science of Oak Ridge National Laboratory in Tennessee, USA in charge of – amongst others – the currently most powerful spallation neutron source in the world, SNS; and Prof. József Pálinkás, a nuclear physicist from Debrecen and former Minister of Education of the Republic of Hungary, who was recently elected President of the Hungarian Academy of Sciences.

The program of the first, constituting meeting of the IAB (which was attended by 11 of the 14 members, all juggling with a most exacting work calendar) included a full-day session on 22 July to examine both the site specific and the collaborative part of the project preparation work at the two sites. The teams have just accomplished a major milestone towards the realization of ESS by submitting their answers to the detailed questionnaire from the ESFRI Working Group on ESS, charged by ESFRI to evaluate the quality and adequacy of each site candidate to host ESS with full success. The IAB has appreciated the outstanding quality of the site proposals both at Bilbao and Debrecen.

Besides the formal meeting of the Board, IAB members had a chance the inspect the proposed pieces of land on the outskirts of both cities to site ESS, in particular also from the chartered aircraft that took them from Bilbao directly to Debrecen, offering on the way bird’s eye views of the favourable location of both of these terrains close to the respective international city

airports. The participants also got familiar with renowned institutions, which can provide excellent science and technology background for the future ESS, such as the Bizkaia Technology Park or the Debrecen University campus, including ATOMKI nuclear research centre. They also enjoyed the hospitality of both cities by visiting for example the world famous Guggenheim Museum in Bilbao or the five centuries old, prestigious Calvinist College in Debrecen.

When completed and commissioned by 2019 SS will become the premier neutron research centre in the world, offering up to an order of magnitude higher performance for the study of all kinds of materials in many scientific disciplines than its most powerful and modern rivals at that time, the SNS facility in the USA and J-PARC in Japan. Both of these facilities started operation quite recently, and are on track to take over world leadership in this crucial field of research from the world leaders of the past decades, the ILL in Grenoble, France and ISIS near Oxford in the UK – both situated in Europe. ESS will achieve its superior performance in a very cost effective fashion by the use of a new technical concept called Long Pulses, originally introduced by F. Mezei, the common scientific director of the ESS-Bilbao and ESS-Hungary projects. Europe boost the world premier neutron research community with 4500 scientist using neutrons for the exploration and understanding of microscopic and nanoscale structures and processes in a huge variety of branches of science, including engineering, physics, chemistry, archaeology, geology, cultural heritage, life sciences, molecular biology, etc.

The members of the IAB are:

<p>Carlos Alejaldre (Spain, Deputy director of ITER)</p> <p>Viktor Aksenov (Russia, Vice-director of Russian Research Center, Kurchatov Institute)</p> <p>Ian Anderson (UK, director of SNS)</p> <p>Carla Andreani (Italy, professor, Physics Department, University Rome)</p> <p>Masatoshi Arai (Japan, director of J-SNS)</p> <p>Kurt Clausen (Denemark, Head of Department, Condensed Matter Science, PSI)</p> <p>Gabriele Fioni (France, Member of CEA, deputy director of Material Science Institute)</p>	<p>John D. Galambos (USA, Application Programming team leader for the SNS)</p> <p>José Luis Martínez (Spain, Deputy director and Head of Project and Techniques Division, ILL)</p> <p>József Pálinkás (Hungary, President of Hungarian Academy of Sciences)</p> <p>Mike J. Rowe (USA, former director of NIST Centre for Neutron Research)</p> <p>Helmut Rauch (Austria, Professor Emeritus, Atomintitute of the Austrian Universities, Wien)</p> <p>Helmut Schober (Germany, President of the German Comittee for Neutron Research, group leader at ILL)</p> <p>Andrew Taylor (UK, STCF, Director of ISIS)</p>
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