Updated: 11. September 2008

Preface

At its session on 10th September 2008 the Government of the Republic of Hungary decided to allocate an envelop of 90 Milliard HUF public funds to finance 30 % of the construction costs of European Spallation Source (ESS) in the period 2009 – 2017, in view of organizing an international consortium to build ESS in the Hungarian city of Debrecen on the site provided free of charge by this city. Hungary will retain 12.5 % property of ESS, the rest of the above allocation serves as financial support to the project in form of a site premium. State Secretary Géza Egyed was appointed Special Delegate of the Prime Minister for ESS. The Ministry of National Development and Economy was charged to prepare the Information Memorandum on the Hungarian offer for the organization of a Pan-European consortium to build ESS in Hungary.

The Government of the Republic of Hungary is fully committed to actively contribute to the Lisbon process: The decree of the Hungarian government on the medium term strategy for science, technology and innovation policy, published on the 5th April 2007, states a 40% increase of R&D spending in the country in the next 4 years, and it concerns, in particular, the development programme of the European research infrastructures as spelled out by the latest report of the European Strategy Forum on Research Infrastructures (2006), endorsed by the European Competitiveness Council.

The European Spallation Source (ESS) is one of the mature projects in this ESFRI roadmap. ESS will allow for the 5000 European neutron users to retain their world leadership, while increasing competition is represented by commissioning the new generation spallation sources in the USA and Japan. With its more advanced concept and higher power ESS will provide decisive competitive advantage over all neutron research facilities in the world.

According to the Hungarian national R&D strategy, ESS is considered as a flagship facility among the investment provisions. The government at its session on April 18, 2007 endorsed the report of the Minister of Economy and Transport on the process of establishing the case to host ESS in Hungary. The Hungarian bid relates to the project laid down in the ESFRI Roadmap, i.e. the 5 MW long pulse target station (the concept of this machine was proposed and developed by F. Mezei, actually the leader of the Hungarian project). In August 2007 the Prime Minister issued a mandate for negotiations to set up an international consortium by making competitive offer to the partners with a substantial share of costs by Hungary.

The Hungarian Government thrives to build ESS in the university and research pole of Eastern Hungary, the historic city of Debrecen. This site has been selected from a list of 6 candidates following the advice of an international board of experts. The site decision by the government was made upon a full political consensus of parliament parties in December 2007. Debrecen will provide outstanding intellectual, technical, educational and service environment and high quality of life for ESS collaborators and guests.

A particular advantage of the Hungarian site is the unique cost efficiency due to the most favourable living, housing, building and civil engineering costs in this country. We are aware that the realization of ESS with construction costs (spread over 8 years) in current value of 1000 Million €, if built in Hungary, represents a substantial effort for the European scientific community. Hungary is willing to contribute by providing a considerable part of ESS expenses from our public and private resources (including treasury, European structural funds and R&D budget). ESS is meant as a fully pan-European project and the commitment of

collaboration partners is essential, so that the project planning, updated design, management and financing is a joint venture. We particularly welcome expert and in-kind contributions.

We are convinced that the timely realization of ESS is essential in order to promote the competitiveness of Europe. A balanced development of research infrastructures all over the European Union is important to foster innovation and excellence and we believe that our region should be favoured in this geographic balancing. The recognised potential of the Hungarian technical and scientific communities as well as the considerable efforts of the country in financing, are essential ingredients for the success of ESS, thus our government is committed to proceed in the development of its strong candidature for ESS.

Budapest, 11 September 2008

European Spallation Source

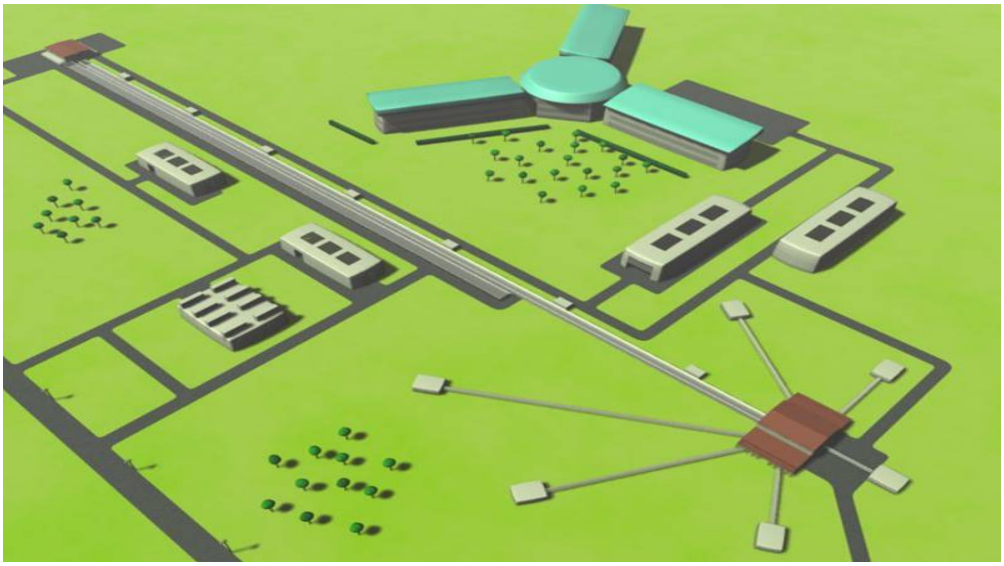
Hungary for ESS

Research with neutrons

Neutrons play a decisive role in our understanding of materials features in the world around us. In order to secure Europe's leading role in this field of science and technology, a new neutron source facility is necessary. The planned European Spallation Source (ESS) will be the most advanced neutron scattering facility in the world by making use of the unique capabilities of the innovative long pulse spallation source concept. It will provide unprecedented research potential for many of the forefront areas of science and technology. The importance of results obtained by neutron beam research techniques lies in their most significant impact on a remarkably wide diversity of scientific, technological and industrial applications, including areas such as biotechnology, drug design, pharmacology, materials processing, environmental technologies, catalysis, energy storage, new materials, energy transmission, transport, data storage, magnetic phenomena and quantum devices.

The ESS project

The ESS is a 5 MW spallation neutron source with initially 20 instruments, upgradeable to more instruments, higher power and more target stations. 1.3 GeV protons from a linear accelerator impinge on a heavy metal target to produce Long Pulse (ms) neutrons. The highest priority new project of European neutron scattering since the early nineties, ESS will be the world's leading neutron source, providing the highest neutron intensity (in several cases up to two orders of magnitude higher peak flux than current leading facilities) and novel instrumentation as a unique tool for research into structure, characterisation, functions and dynamics of matter. Together with complementary capabilities provided by synchrotron sources, NMR, muons and e.g. electron microscopy this will provide Europe with a full range of the most advanced tools for research into matter. This Long Pulse facility (the concept of this technique was proposed and elaborated by F. Mezei) is well suited to the majority of instrumental requirements and significantly cheaper than the currently used or built short pulse facilities.



Artist's impression of the 5 MW LP ESS (Source: ESFRI Report 2006). Two H^+ ion sources (top left) feed the protons into a pulsed linear accelerator, and the about 1 GeV proton pulses are deposited onto the Target Station (bottom right) where they produce the neutrons from the target material (liquid mercury is the reference material). The neutron pulses are guided to the neutron scattering instruments in beam lines that radiate out from the target station. (Source: ESFRI roadmap Report 2006)

The planned ESS research centre represents an important step in the attempt to replace nuclear reactor-based technology in current facilities with accelerator-based spallation technology to produce neutrons for use in research. Furthermore, the ESS also represents a very substantial increase in the strength of the source - i.e. the flow of neutrons from the source. In the ESS, the flow of neutrons in the pulses will be about two orders of magnitude greater than at the most powerful neutron sources in full operation in the past decade. In combination with advances in instrumentation envisaged at ESS, this development will actually offer a revolution of up to 3 orders of magnitude gain in sensitivity of the experiments. It opens up totally new opportunities to examine the structure, function and development potential of materials. When complete, the ESS will be Europe's and the world's leading multidisciplinary centre for material research based on neutrons, and will represent a major contribution to the knowledge base for maintaining and advancing the economic competitiveness of the European Union.

ESS will allow real time, real size, real life, in-situ neutron measurements of static and dynamic phenomena, providing movies of nano-scale events. The neutron's unique properties (magnetic moment, observation of hydrogen, penetration, etc.) coupled with the unprecedented stepwise increase in intensity creates entirely new opportunities in dynamical and structural studies in biology and large molecules in solutions (folding of proteins), research into polymers and soft condensed matter science, real scale tomography and radiography of engineering materials, solid state physics and chemistry, and also for studies in particle physics using ultra-cold neutrons. ESS thus responds to future research requirements over a very broad range, with a continued strength in hard condensed matter and a broadening and growing strength in soft matter.

ESS will be necessary for advanced and more effective investigations of ultra-thin and laterally confined structures for e.g. reading devices in the IT industry, active site structures in enzymes, technologies for storing hydrogen for a sustainable energy economy, multi-component complex fluids in porous media for tertiary oil production, methane-water clathrates for natural gas production, or the templating of nanostructures for catalysts, medical implants, pharmaceuticals, photonic materials, etc. Novel detector, instrument and software technologies will also be drivers of innovation.

Neutron science in Hungary

Following national traditions and great founding fathers such as Szilárd, Wigner, Teller and many others, Hungary has always devoted particular interest to nuclear sciences. The Hungarian neutron community has made a significant contribution to neutron scattering research for many decades. It is marked by some outstanding achievements of leading scientists like Ferenc Mezei, who invented the neutron spin-echo spectroscopy, Norbert Kroó, who played a dominant role in Hungarian neuron research for decades, László Cser, who was the first to propose and realize neutron techniques for atomic scale holography and László Rosta, who is the main coordinator of national neutron research nowadays. Hungary has also been an active participant in the development and formation of the idea of ESS from the earliest stage. Concerning the ESS concept, the long pulse spallation source approach was introduced by Ferenc Mezei, member of the Hungarian Academy of Sciences.

The home base for neutron research is the Budapest Research Reactor (BRR) first started in 1959. A full-scale reconstruction and upgrading was performed in 1986-92. In 2004 the operation license of the reactor was obtained for the next 10 years period. The instrument development programme is continued and currently 15 experimental stations are in operation. BRR is a user facility open to the international community; it is a recognised component of the European network of neutron centres. Typically 150 days of user operation is provided per year. The number of experiments (including PhD and contract-based works) is 120-150, the number of publications (typically quoted in annual reports) is 90-100. Industrial and medical

applications (e.g. radioisotope production, scientific instrument production) provide important economic benefit. For example, the turnover of industrial companies directly related to the utilisation of the reactor exceeds about 3 times of the reactor yearly operating costs.

The 10 MW Budapest Research Reactor – Experimental Hall

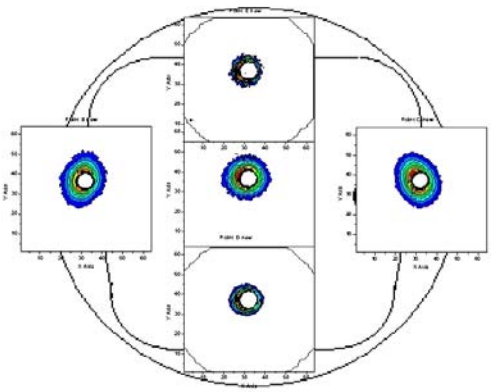
Research Background

A highlight from neutron scattering results

The nanoscale defect structure in Al-alloy pistons of Ferrari racing cars were studied by small angle neutron scattering at different stages of usage. Anisotropic distribution and highly geometry dependent growth of precipitates was revealed.

The technology was improved for life-time prolongation of the engine.

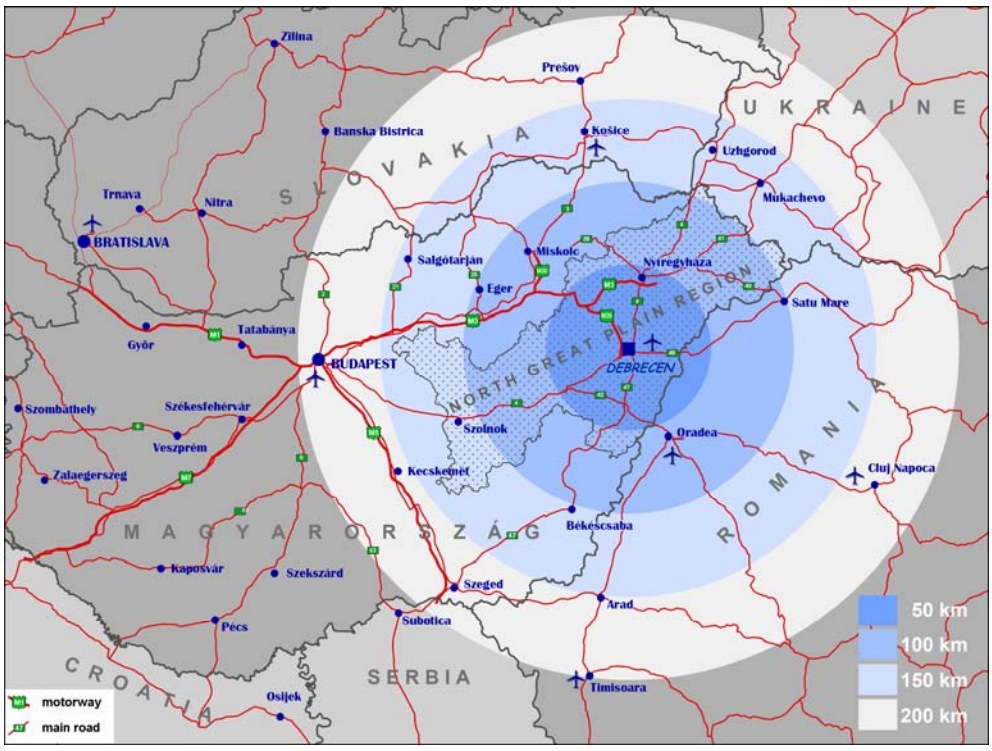
M. Rogante, V.T. Lebedev, F. Nicolae, E. Rétfalvi, L.Rosta, Physica. B 358, 224 (2005)



Hungary for ESS

The realization of the ESS – a common project for the whole European condensed matter community, as defined in the ESFRI 2006 roadmap, based on the reference design established in 2003 by over 100 top scientists in a > 50 M€ ESS R&D phase – is a most important milestone in the construction of the European Research Arena. In order to turn this reference design into an optimal final design and to see through its construction will again be the task of a large team of top experts from all over Europe to be recruited to join the ESS endeavour, at whichever site the ESS will materialize. Debrecen, the second largest city of Hungary and the cultural and economic centre of the Eastern part of the country offers outstanding conditions in general and some unique advantages in particular for both the ESS project and its collaborators and also for the regional development goals of the European Union.

With about 400 000 inhabitants in the agglomeration (about the size of Grenoble), Debrecen offers at the same time the educational, cultural, recreational, industrial and economic opportunities of major urban centres and the ease of moving around the whole city within 10 or 20 minutes by the well developed public transport system, by car or even by bicycle. These conditions provide for a high quality of life for families of all background, including an easily accessible day-care system and local schools to provide internationally accredited education for children of all ages in a good variety of the major languages (by now English, French, German, Italian and Spanish). Debrecen is easily accessible by train, road or motorway. It is well connected to the busy international airport of Budapest by a just completed seamless motorway connection (90 min. travel time) and direct trains (2 hours). It also has a newly Shengen certified international airport with plans to start scheduled flights to major European hubs.



The situation of Debrecen as a potential ESS location

Debrecen provides excellent scientific, technological and academic backgrounds for an endeavour of the type of ESS. It has both great tradition and growing perspectives as an intellectual and economic pole of broad regional significance across national borders. Its Calvinist College was a leading hub of higher education for centuries, after Debrecen had become the centre of the Calvinist Reformation in Hungary. Today Debrecen University with its 30 000 students is the largest in Hungary and, after Budapest, Debrecen is the second most

important centre of research activities in Hungary. The pre-eminent Hungarian research institute in nuclear physics and accelerator based research, ATOMKI, has been operating for over 50 years in Debrecen and 24 % of the members of the physics section of the Hungarian Academy of Sciences are from Debrecen. More recently, the city has become a centre of corporate R&D, which is reflected by, among others, the installation of a production plant with 1100 employees of the Texas based leader in electronics and industrial data acquisition and control National Instruments (USA), the pharmacology giant Teva (Israel) with 2500 employees and, as a new investment, the R&D unit of the largest pharmaceutical company in Eastern Europe, G. Richter (Hungary).

The Hungarian site

The site secured for the ESS by the City of Debrecen is 25 % larger than required and of very advantageous shape. This will keep open a large variety of options for a potential up-grade of the facility in the decades after its completion, including the opportunity of adding a second target station and/or extending the length of the linear accelerators without substantial restriction in the availability of space. This location is within 10-15 minutes from the city centre by car, within 2 km from the international airport and accessible for the heaviest classes of road transport via a major high-way. All utilities are available at the level required by the ESS.

The geological properties of the fully flat site are most adequate and allow for the cost effective realization of the ESS without special measures. Soil is cheaply available in the area (under 4 €/m^3). This makes it possible to build the accelerator above ground level, which is a most economical solution. The approximately 6 m thick coverage used for shielding purposes above the accelerator tunnel can be produced by excavation on site. Building the linear accelerator above ground level (e.g. as it was done at J-PARC or partially at LANL) also offers the advantage of further reducing the irradiation of rain and ground water way below environmental requirements, maximally satisfying the ALARA ("as-low-as-reasonably-achievable") principle. The site is not part of an area of drinking water collection. The conclusion of a thorough exploration of the geological conditions (borehole excavations and CPT/Cone Penetration Tests) is that bored piles stabilisation is the most suitable approach for foundation. In the absence of rocks within reasonable reach underground, the stability of the facility will be achieved by the combination of piles reinforcement (~800 mm diameter and 20-25 m depth) and letting the buildings differentially settle according to their weight per m^2. The process is not influenced by the natural annual variation of the ground water level and the time it needs does not impact the construction schedule of the facility. Furthermore, the pile stabilisation is included in the budget. Allowing buildings to settle is part of the accelerator construction practice, e.g. sinking of some buildings in excess of 20 cm has occurred both at SNS (USA) and J-PARC (Japan), the most modern, recently built similar facilities in the world.

Cost advantages in Hungary

One of the greatest advantages for the European research community of building the ESS in Hungary is represented by savings on construction costs in the range of 200 – 400 M€ compared to a site in an older member country of the EU. The savings in operational costs will initially be in the range of 10 %, but this difference is expected to get gradually reduced over the 4 decades of operation as wages and living costs become more uniform over the whole of EU. The origin of these savings is the unavoidable fact that salaries and consequently services by local providers are considerably lower in Hungary, a new member of the EU, than in the older member countries. The EUSTAT Price Level Index for construction works (an average value over a spectrum including office and laboratory buildings, industrial buildings and civil engineering) is currently 69 in Hungary, with respect to the EU average defined as 100. This cost advantage is expected to remain largely valid for

the 8 year long period of construction, considering that the difference in inflation in terms of prices in € between Hungary and the Eurozone was < 3% on average over the past years. The expected real growth of wages in Hungary will be about 2 % /year above that of the Western part of the EU, showing that it will take several decades to fill the wage gap between older and new EU member countries, in view of the large differences today.

The low wage environment (20 – 25 % of Western Europe) also can be turned in a major advantage in the staffing conditions and operation of ESS in Hungary. Building on the general practice of international companies in the region, ESS Hungary will offer more than competitive salaries compared to anywhere in Europe for ESS employed staff, in order to internationally attract "the best and the brightest" at all job levels. At the same time, maximum use will be made of out-sourcing supporting services on competitive market basis, envisaged to the extent of the equivalent to 200 staff members in the conventional staffing policy. The very substantial savings on out-sourced services will help ESS in Debrecen to assure the availability of manpower between own staff and local contractors amounting to a full time equivalent of 600, which implies a sizeable increase compared to the original ESS reference plan elaborated under the assumption of a high wage environment. This will help to considerably enhance the efficiency of utilization of the large capital investment ESS.

Project costs and financing

Hungary proposes a number of very advantageous and innovative features for the financing of the ESS. Here the main challenge is to find sufficient funds for the next 8 years of construction and 2 years of commissioning, while maintaining a sufficient number of the currently most important European neutron sources in full operation in order to assure continuity of excellence in the European neutron research. Consequently, Hungary works on a funding scheme with several features conducive to meet this challenge:

a) Hungary offers free of charge as "site premium" not only the site with roads and utilities at the border, but also another 20 % of the construction costs, which are evaluated to 1073 million € at Debrecen (in value 4th quarter of 2007). This construction costs are defined as the total spending until the start of commissioning envisaged for the beginning of 2018, and contain the full costs of 10 neutron scattering instruments (out of the reference number 22 in full operation). This 213 million € "site premium" will cover much of the conventional facilities (office, laboratory buildings, accelerator tunnel and experimental halls), and will not generate shares and property rights within the ESS consortium for Hungary. It will also be explored whether it is feasible to attract private investors to participate in the construction of part of the conventional facilities in a Public Private Partnership (PPP) with the Hungarian government and the city of Debrecen. This would free part of the total public funding envisaged (30 % of the total construction costs) for underwriting a larger initial share of ESS than the minimum defined in point c) below.

b) The remaining, 860 M€ construction and pre-operational costs will be underwritten in the form of shares in a non-profit ESS consortium, securing property and usage rights for the shareholder institutions in proportion of their contribution to the costs (i.e. 10 % share = 86 M€). Shares will be tradable on non-profit basis to allow countries to join in later (e.g. to cope with the timing of their funding cycles) and acquire access to ESS.

c) Beyond offering free of charge 213 M€ "site premium" contribution to the construction costs, Hungary will initially underwrite at least 12.5 % share of ESS using public sector funds. (This share could be higher if private funds can be raised in a viable PPP construction compatible with the non-profit status of the ESS consortium.) The corresponding usage right is well beyond the potential needs of the Hungarian research community in view of its size and the Hungarian share of GDP in the EU, therefore most of this share will be made available without profit, at actual costs to countries joining ESS later, either during the construction period or afterwards. In order to secure a timely start of the project up to another

200 M€ (23 % of shares) will be sought for, as needed, in form of a loan extended to the ESS project consortium by the European Investment Bank using the new ESFRI Risk Capital Facility (ERCF). The goal here is to work towards securing about 35 % bridge financing without any commitment or guarantee required from countries expected to join later, solely based on the anticipated very high market value of ESS for the European fundamental and applied research community in providing best in class neutron scattering research opportunities by about 2020. This facility will allow countries to decide on joining ESS at a later stage, which best suits their funding cycles or best fits their global planning. These countries will be guaranteed access to shares on non-profit basis, at the actual costs incurred (included capital costs) and evaluated following a scheme laid down at the start of the project.

d) On this basis, not more than 550 M€ will need to be initially underwritten (~50 % of the construction costs for 65 % of property and usage rights) by "day one" partner countries from Europe to assure full funding of the construction phase of the ESS in Hungary. Conventional government guaranteed sovereign loans can be arranged for this commitment for any country interested in borrowing funds for its ESS participation. Preparatory contacts with a number of European countries (by now first of all with ESS collaboration partner Spain, another site candidate, the group of potential core partners from the Central European region – Austria, Bulgaria, Czech Republic, Poland, Rumania, Slovakia, Slovenia – and France, Germany, Holland, Italy, Switzerland and Russia), suggest that this relatively moderate financing goal can be achieved in a timely manner.

Operational costs

The operational costs in Hungary will initially reflect some savings compared to the higher wage and living cost environments in Western Europe. In turn, these costs in Hungary will increase with time about 0.3 – 0.4 % per year faster, to reach 100 M€ / year by the mid 2020´s (in value of end 2007), due to the expected somewhat faster increase of local real wages than in more developed parts of the EU. This differential increase of wages only applies to contracted services, the compensation of ESS employed staff will be based on most competitive comparisons within Western Europe, for which ILL was considered as reference in the costing calculations. The operational costs include, in addition to adequate manpower, yearly 15 M€ capital investment for adding on average 1.5 – 2 new instruments per year in the first years of operation and regularly replacing older instruments later on. Operational funds will be covered by yearly contributions of the shareholder countries in proportion to their usage rights. In sum, a partner with 10 % share will have paid a total of 165 M€ contribution (in end 2007 value) in rather uniform instalments (after an initial gradual ramp up to a peak around 2014) over the first 16 years of the ESS project in Hungary 2009 – 2025, by which time, 8 years after producing the first neutrons for 10 instruments under commissioning, full capacity will be achieved with 22 instruments available for user service.

International co-operation and legal framework

Hungary perceives ESS as a fully Pan-European venture, realized by a truly international staff bringing the best expertise to the project from across Europe. The share of Hungarian professional employees is expected to amount to about 10 %. The common International Advisory Board of ESS-Bilbao and ESS-Hungary consists of a group of most outstanding experts from leading neutron scattering and related facilities from around the world. The Board had its first meeting on 21-24 July 2008 in Bilbao and Debrecen. A workshop on regional collaboration for ESS was held on 16-17 June 2008 in Debrecen, with broad participation of representatives of countries from the Central European region.

Hungary is open and particularly committed to mutually advantageous collaborations with other countries interested in the realization of ESS. Together with Spain, it pioneered in depth collaboration between site candidates, aimed at enhancing the quality of the project preparation by sharing resources and information and sharing the benefits of the project by

exploring opportunities of division of tasks. Hungary will promote schemes of in-kind contributions in order to meet the needs and preferences of partner countries. This can include the assignment of whole tasks to collaborating institutions in the partner countries, organized under common guidelines for best project management practices, competitive procurement, quality assurance and on-time deliveries. Although such a task sharing scheme unavoidably adds to the complexity of project management, the example of SNS offers most valuable experience for the successful implementation of such an approach. This facility was built in collaboration between 5 US national laboratories, with the design and procurement of various subsystems performed at different locations.

Plans for the legal framework of ESS Hungary largely follow the XFEL Convention, the latest consortium agreement for a major Pan-European research infrastructure. Thus ESS International PLC is planned as non-profit joint stock company registered in Hungary and enjoying a number of tax advantages, such as VAT and customs exempt status. A common legal framework for European Research Infrastructures (ERI) is currently being developed by the EU Commission for expected approval by the EU Council in December 2008. The Hungarian offer to build ESS will be reviewed to adhere to ERI guidelines, as soon as these standards are definitively established.

Socio-economic impact, risk management

Building ESS in Hungary will guarantee the largest socio-economic impact for the project in terms of reaching both global and regional development goals of the European Union. This goes hand in hand with the large savings that a Hungarian site can offer due to its development status. A particular aspect in this situation is the necessity to pay workers from countries of the Western part of EU typically 4-5 times higher salaries than their local Hungarian colleagues doing the same job. This is a well established and accepted necessity and standard practice at the large number of multinational or foreign owned companies in Hungary (and other new EU member countries). At the same time, this practice will allow the ESS to hire a planned 90 % of its professional staff as expatriates from the most developed countries by offering most attractive salaries on the scale in their home country. In order to make this possible and also to help hiring a larger than nowadays usual team, important savings will be realized by out-sourcing in a competitive manner services equivalent to about 200 supporting staff. In the low wage local environment the creation of a number of high wage job opportunities by ESS will have a highly multiplied secondary effect on the job market, helping to also advance cohesion within the EU.

Considering the management of various project risks, Hungary will offer attractive conditions. Politically, in spite of the traditionally tense relation between government and opposition, there is full agreement and constructive collaboration concerning the ESS. This is highlighted by the partnership between the government and the city of Debrecen, a main stronghold of the actual opposition.

Financially, the Hungarian banking system boosts the specialty of doing business across the board in a choice of currencies including HUF, EUR, CHF and USD according to the wishes of the clients (both companies and private persons), including the use of internationally competitive, individual interest rates for each currency. ESS will be managed in EUR based accounting from the beginning, even before Hungary joins the Eurozone around 2012 or later. Economically, Hungary displayed a growth rate consistently above the EU average and the value of the Hungarian currency proved to be stable relative to the Euro over the past decade.

Technically, Hungary affords a highly experienced professional background in handling radioactive technologies, materials and related environmental issues: nearly 40 % of the Hungarian electricity production is nuclear, plans to add to the nuclear energy production capacity advance on schedule and the country has conducted substantial Uranium mining operations and related environmental remediation.

The Hungarian legislation and judiciary is by now fully EU conform and major attention is paid to translate this into everyday practice. According to the official position of the Hungarian Atomic Energy Agency, the national nuclear safety authority, the ESS is not classified as a nuclear facility. Hungary has developed legislation to put all licensing processes for national priority projects on a fast track, the latest example of its use being a new 850 M€ Mercedes car production plant. This legal facility will allow ESS to start actual construction work within 24 months after opening the licensing procedure.

The projected construction cost of the ESS in Hungary have been established with a conservative methodology and results are validated by the good agreement with cost estimates made in other countries (including the evaluation based on the actual construction costs of the similar, recently completed SNS facility at Oak Ridge), if differences in costs for local contractor services are taken into account on the basis of international Price Level Index databases.

The Hungarian procedure and project organisation

In 2006, the Hungarian Prime minister entrusted the Minister of Economy and Transport to undertake and conclude the evaluation and process for establishing the ESS in Hungary, and prepare the case for a government decision. The publishing of the ESFRI Roadmap in October 2006 was followed by several formal decisions. In November 2006, the Minister of Economy and Transport created a position of an ESS Commissioner. The government at its session on the 18th of April 2007 endorsed the report of the Minister of Economy and Transport on the process of establishing the case to host the ESS in Hungary. Ferenc MEZEI and László ROSTA were nominated as experts by the Prime Minister and a mandate was issued by the Minister of Foreign Affairs to initiate negotiations for international partnership for ESS in Hungary. At government level Géza EGYED, State Secretary at the Ministry of National Development and Economy (NFGM, formerly Ministry of Economy and Transport) is in direct charge of ESS matters, supported within the ministry by the ESS Coordination Centre, lead by Gergely MAZSU. On 10th September 2008 Géza EGYED was appointed Special Delegate of the Prime Minister for ESS.

The first step to provide the necessary legal structure and organizational background for the ESS in Hungary was the establishment of the charitable company “ESS Hungary Non-profit Ltd” in February 2007. Its first task was to act as the Hungarian partner in the EU FP7 ESS Preparatory Phase project. After successful grant application and negotiation process lead by the Swiss research centre PSI as coordinator, this EU FP7 project officially started on 1 April 2008.

In Debrecen, in order to further advance the local scientific, technical and educational basis for the preparatory phase of hosting ESS, Debrecen University and the Hungarian Academy of Sciences research institute ATOMKI for nuclear physics and accelerator based research have signed and agreement to establish the SCIENCE-ESS@Debrecen consortium, which is located at ATOMKI and lead by András FENYVESI (senior scientist).

ESS in Hungary will be owned and operated by “ESS International PLC”, a non-profit consortium of the participating countries. It will have the form of a Joint Stock Company, to be registered according to Hungarian legislation. The shareholders of the company will be the legal entities designated and funded by the Governments of the participating countries. The Hungarian shareholder of “ESS International” will be the newly founded “ESS Hungary PLC”. This company also will be operated on a not-for-profit basis. Its stakeholders will be the Hungarian Government, the City of Debrecen and “ESS Hungary Non-profit Ltd”. Ferenc MEZEI is currently the President of “ESS Hungary PLC” and he was recently named by the Minister of National Development and Economy international expert negotiator for ESS.

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