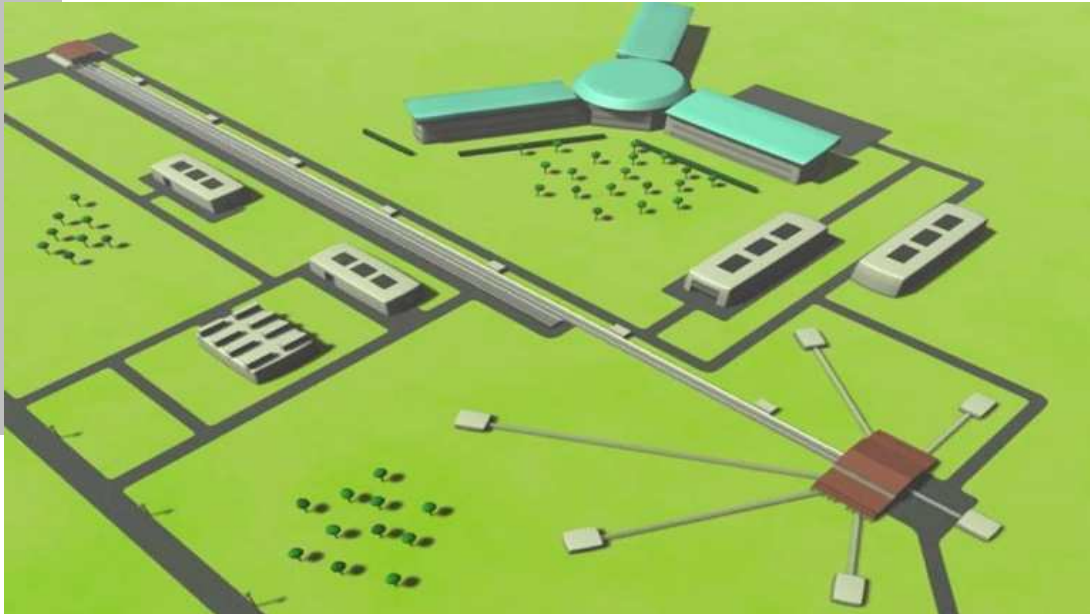


The siting issue for Research Infrastructures: the ESS case

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ESS



The siting issue

- Experience shows, that the **large amounts of money** involved, the **long time commitments** necessary and the **economic aspects** make the selection of a site (siting) for new Large Research Infrastructures RI a **difficult and time consuming problem** to solve
- The local economic and prestige considerations make the siting of a RI a **political decision** which however – to be successful - should be **based on objective facts**
- The **European Spallation Source ESS** is an ongoing test case in the optimal process of selecting a RI site

Background on ESS

- **History:** A large spallation neutron source was proposed to be built in the 1990s in Germany but not realised
- **ESS is:** neutron source (linear collider (pulsed beam of p or H⁺), beam power 5 MW, 22 experimental stations, construction cost of 1 - 1,5 x 10⁹ Euros
- This ESS project in its present form is based on a **design** from **2002**. The scientific case + the high interest of the neutron scattering community are confirmed
- ESS is on the **ESFRI 2006 list** of mature and important RI projects

Background on ESS

- Proposals to host ESS (long pulse option) and offers a site by Hungary (Debrecen)



, Spain (Basque country, Bilbao)



and Sweden (Lund)



The goal of ESFRI

Support the realisation of ESS by evaluation of the site offers up to a point where politics is in a position to make sensible and timely decisions

Procedure decided by ESFRI

Structured, stepwise approach:

- Process led by ESS Siting subgroup (without site countries)
- Evaluation of the sites by neutral experts on the basis of answers to a questionnaire to make the offers ,technically‘ comparable
- Support interaction between sites
- Support meeting of interested non – site countries to a table
- Get politics moving

Step 1: Questionnaire to the sites

Structured Questions (decided by the full Forum) sent to Ministers on

- Responsibilities for the offer
- Technical basis relative to the design 2002
- Costing (detailed)
- Financing (financing model, secured and expected contributions)
- Legal, organisational, security questions
- Environment and socio-economic aspects

Step 2: Evaluation by the Site Review Group SRG

- Terms of Reference and Guidelines decided by the full forum
- Team of experts agreed by all the sites (Proff. Cesarsky, Holtkamp, Mason; Scientific Secretary Dr. Tindemans)
- The evaluation process:
 - ✓ Basis: Answers to Questionnaire
 - ✓ Site visits
 - ✓ Evaluation Report (discussed with (but not influenced by) ESFRI Subgroup)
 - ✓ Short comments by sites to be published with the report

Result: Evaluation Report of the SRG

Comparison of all aspects laid out in the answers to the Questionnaire

- **No fundamental obstacles** to building ESS at any of the three sites

Key elements identified (in addition to cost):

- Preparedness to execute construction
- Possibility to attract highest quality staff
- Benefit from already existing infrastructure

The report concentrates on

- Discussion of the strong and weak points of the planning
- Advice as to where progress can be achieved
- Necessity of an detailed design phase

Result: Evaluation Report of the SRG

Report distinguishes between

non-differentiating points (socio-economic benefits, science production at ESS, legal structure, uncertainty in costing) and

aspects where clear differences between the prospective sites exist (differentiating points)

Differentiating points in the Report (*strengths and weaknesses*):

- Decommissioning
- Model and amounts of financing
- Access for users and construction
- Organisational preparedness
- Power of attraction for researchers and family including international schools
- Tax reductions for expats
- Scientific neighbourhood
- Business neighbourhood
- Weight of local development

Critical points of the process

(since this is a competition between sites)

1. Transparency

open documentation, all sites
to be informed at the same time

2. Strict neutrality

sites involved in definition of Terms of Reference,
Choice of experts

3. Timing of visits

exactly same amount of time at all the sites, agreement
on the timing of the visits (4 experts, 3 sites, 1 week)

4. No ranking of the site

5. Feedback by the sites on the evaluation

before and after submission of the report



Follow - up steps for ESFRI

- Facilitate the interaction of the sites to create win-win situation
- Bring together other interested countries to review the national decision processes
- Ask the Research Ministers discuss the issues of siting and financing

Did ESFRI reach the goal of advancing a decision on ESS?

We reached

- Comparability of the site offers
- Clarification of next steps (including, enhanced interaction of sites, involvement of research ministers)
- Higher visibility on Research Infrastructure Policy agenda

Was it worth while (given the cost)?

- ESS is the biggest new pan - European RI under discussion for years → necessary step
- Comparing facts on sites → crucial the preparatory phase of ESS
- The results → considered helpful by the sites

Is this procedure a model for other siting cases?

- ESS is a special case and every case is specific, but it could help in future decision processes regarding steps to be taken:
 - ▶ terms of reference, ▶ answering a questionnaire,
 - ▶ evaluation by high level experts, ▶ bringing together the proposers, ▶ unbiased, transparent, cooperative evaluation



Thank you for your attention

