

SEEIIST: WGSS sub-groups

List sent by Estermann

1. Political Requirements

- Is the country politically accessible to citizens from all member states of the SEEIIST Project?
- Does the state have political peaceful relations with all member states of the SEEIIST project?
- Are the authorities of the host state committed to the project?
- Ease for workers, experts and researcher from other countries to work in the host country?
Open access for persons visiting or working at SEEIIST
- Are the same working and living conditions provided for international staff
- In the country it is common to speak foreign languages? It is important that the personnel of the facility is able to communicate with patients from other countries.

2. Financial Requirements

- Is the country ready to put a disposition one person or a team of people that are concerned only with the realization of the project SEEIIST?
- Is the country ready to make larger financial and resources contributions that other states?
A special contribution is required by the host country, for example: free ground and main building.
- In-kind contribution of the hosting country
- Are there enough local industries and services to support the construction and operation of the facility?
- Is there enough availability of workforce and in particular, qualified workforce?
- Local economic policy must support the project and the facility

3. Scientific & Clinical Ecosystem

- Does the host country have excellent medical universities that could provide with experts, students and researchers in the field?
- Is the size and the conditions of the property adequate for SEEIIST?
- Possibility to build the SEEIIST facility near an important hospital or medical university
- Site access: is it physically easy to have access to the site (roads, local transportation system, trans-regional and international connections) ?
- Can the technical infrastructure (water, electricity) be provided efficiently?
- Does the host state or the medical infrastructures near the site have easy accessibility or availability to material and substance required for research?

4. Procedure

- Which is the governing body taking the final decision?
- Is the SC going to take the final decision?
- In the governing body taking the decision, should there be a representative of every member state?
- Should the decision be taken in secret?
- Can a state vote itself?
- Must the persons taking the decision be part of the government of their own country?
- When is the deadline for a country to submit its candidature as a host?

Procedure

- Which is the *governing* body taking the final decision?
 - How to ensure a proper, objective selection of the site
- Is the SC going to take the final decision?
- In the *governing* body taking the decision, should there be a representative of every member state?
- Should the decision be taken in secret?
- Can a state vote itself?
- Must the persons taking the decision be part of the government of their own country?
- When is the deadline for a country to submit its candidature as a host?
- What is the “application form”, “instructions to applicants including weighting factors for criteria”, “outline of decision-making process”
- What is the “scoring process” and “Weighting Factor” of different criteria
 - Basic (must have), Primary (required, but can mitigated by alternatives), Supporting (good to have)
 - Evaluation of criteria: available now or possibility in the future
- Balance ideal versus realistic/pragmatic approaches:
 - Ideal of project to trigger development versus ability of country to support such project
 - Ideal of project to support peace among countries in resent war situations versus possibility for these countries to collaborate on “neutral grounds”
i.e. CERN was not built neither in Germany, nor France, nor Italy, UK... but Switzerland
 - Ideal of facilitating introducing countries into EU versus logistic difficulties arising from non-EU standards and legislations

Political Requirements and Social Requirements

- Is the country politically accessible to citizens from all member states of the SEEIIST Project? (**political**)
- Does the state have political peaceful relations with all member states of the SEEIIST project? (**political**)
- Are the authorities of the host state committed to the project? (**political**)
 - Political stability of the country
 - Embracing the project beyond governing party
- Ease for workers, experts and researcher from other countries to work in the host country? (**political**)
Open access for persons visiting or working at SEEIIST
(visas, living permits, work permits for family members, cars, studying, househelp/babysitters of same language...)
- Are the same working and living conditions provided for international staff? (**political**)
 - Legal equality, access to public services
 - Is it possible for staff family members to work and under what conditions?
 - Is it possible to buy and own property and under what conditions?
- Is it possible to obtain incentives for international staff (**political**)
 - Diplomatic status
 - Tax exemptions (on salary, import goods, household items, cars...)
- In the country is it common to speak foreign languages? (**social**)
 - It is important that the personnel of the facility is able to communicate with patients from other countries.
 - Is administration work possible in foreign languages (english)
 - In general, for handling the facility construction
 - In general, for handling installation of international staff
 - Specifically, in the medical environment/hospitals for ease of patients
- Legal procedures for the approval of clinical investigations/studies/trials and/or animal-based research, by the relevant national competent authorities (**political**)
- Is it possible to support the treatment reimbursement scheme of SEEIIST as agreed by the participating countries? (**political**)
- Compatibility/integration of the site specific national law with the defined legal setup of the SEEIIST (**political**)
 - Legal requirements for patient treatment
- Does the country has experience with other (big) international projects/organisations? (**political, social**)
 - List of international organisations, scope, numbers, status/procedures
 - Requirements to register International Organisations
- Is it possible to obtain favourable conditions for building the facility? (**political**)
 - Tax exemption for materials/equipment...
- Compliance with European law and regulations (**political**)
 - For facility
 - For international staff
- Labour laws: national/international balance e.g.
 - Working hours, evaluation, promotion, dismissal, retirement age
 - Short term contracts and transfer of rights (social benefits, retirement...)
- Responsibilities and cooperation, ease of procedures between national, regional, municipality authorities

Regulatory/Permission aspects: experts from relevant authorities (municipality, political, legal)

- The facility requires permission for construction and operation (including radio-isotope production)

in particular related to the provisions of the **EURATOM directive** (Council Directive 2013/59/Euratom) (implemented by national law).

The permission process should be lean and not delaying the project schedule.

Concept for the required permissions considering treatment of **patients, animals, and research**.

- Civil radio-protection aspects and constraints/regulations (building in a town) i.e. CNAO case
- Regulations and Concepts of waste management including low activated material (consider production and use of isotopes, e.g. for PET).
- Regulations and status and/or plans on Telecommunication (phone, internet, bandwidth ...): considering scenarios with distributed international infrastructures,
 - data access for patient referring hospitals
 - upgradeability

Social Requirements : (municipality)

The social factors are important:

- to attract researchers and clinicians and their families (on an international level for short-term and/or permanent stay)
- For the needs of patients and accompanying persons over the course of the treatment
 - Practical
 - Psychological
 - Quality of life
- For the needs of expert personnel during construction (on an international level for short-term and/or permanent stay)

Relevant criteria:

- Acceptance of foreigners by society
- Level of speaking foreign languages
- Adequate options for accommodation (properties, houses, apartments ...)
- Adequate options for and access to jobs and education for family members
- International schools, universities (access, costs...)
- Child care (e.g. proximity and available places in the kinder-garden, access, costs...)
- Level of health care
- Attractive environment
- Recreational, cultural options, wellness, sports, shopping...
 - Availability of international press, international media channels
- Inclusion aspects
 - Disability (Infrastructures...)
 - Cultural
 - Women and young girls
 - Religious
 - Availability of different religious communities, churches etc
- Safety (criminality...)
- Pollution
- Climate conditions (not harsh, too cold, too hot....)
- Noise, respect of "common standards"

Property (municipality and global policies/regulations)

- Is there land free from legal obstacles e.g.
 - restrictions due to land use or land development plan

- considering regulations for coverage of ground, height of buildings etc.),
- due to environmental/ecological restrictions e.g.
 - ground water protection;
 - red list animals or plants / flora and fauna
- Is there land available for possible future expansions and under what conditions (prior commitment)

Financial Requirements

- Is the country ready to put at disposition one person or a team of people that are concerned only with the realization of the project SEEIST?
- Is the country ready to make larger financial and resources contributions than other states?

- Possibilities for contributions and records of private donations for health

A special contribution is required by the host country, for example:

free ground and main building.

- Is there property freely available at no costs for SEEIST?
- Storage Aspects: during construction phase
in case equipment/material arrives before the building is ready
- Site Access: considering construction phase and operation phase
Is the site easily accessible or are there development plans e.g.
 - bus lines or shuttles
 - transportation system, trans-regional and international connection
- In-kind contribution of the hosting country
- Are there enough local industries and services to support the construction and operation of the facility?
 - from machine/accelerator, equipment, IT... maintenance and repairs
 - to security services... (from site security to fire-brigade, police etc)
 - to basics services: e.g.
 - from services providing supplies/delivery (medical, pharmaceutical... laundry/cafeteria/kitchen)
 - to services from gardening to cleaning, waste management...
- Is there enough availability of workforce and in particular, qualified workforce (not intended to be staffed internationally)
 - handling radio-isotopes: special transport, waste...
 - repairs and/or maintenance and repairs of specialized equipment
- General availability of resources: finance, human/intellectual resources.... materials
- Local economic policy must support the project and the facility e.g.
 - tendering
 - subventions
- Connection to Industry/Innovation/Business
 - Availability and accessibility to Industrial Clusters
 - Existing infrastructures and amenities
 - Connectivity to market: access to suppliers and customers
 - Start-ups, SMEs...
 - Entrepreneurial culture
 - Business infrastructure
 - Business support services
 - Innovation and technology support systems

Scientific & Clinical Ecosystem

- Does the host country have excellent medical universities that could provide with experts, students and researchers in the field?
 - Possibility to maintain strong research and medical programmes over the long term
 - Numbers: absolute and relative to other fields
- Is the size and the conditions of the property adequate for SEEIIST?
 - Is it possible to foresee future development and auxiliary buildings? (expandability assumption: 2 times the initial facility)
 - Parking (large area)
- Possibility to build the SEEIIST facility near an important hospital or medical university
- Site access: is it physically easy to have access to the site (roads, local transportation system, trans-regional and international connections)?
- Can the technical infrastructure (water, electricity) be provided efficiently?
- Does the host state or the medical infrastructures near the site have easy accessibility or availability to material and substance required for research?
 - Resources that match the corresponding scientific communities i.e. small number of very expensive equipment that can be used only by limited number of scientists at the time versus reasonable quality equipment readily available for larger communities

Assuming an International Research Facility And an International Clinical Facility (operated by an international team) is it possible to collaborate with

(a) national research institutions and/or universities

(b) national hospitals AND use their research and/or clinical infrastructures (conditions of access)

- Culture and regulations about scientific “Open Access” “Knowledge and Technology Transfer” (political)
- Culture of „dynamic“ „renewal“, procedures, attracting talented young generation, training

Science/Research related requirements: (universities, research institutes)

- Availability /accessibility to material or substances required for research e.g.
 - from liquid gases, isotopes etc to electronics, cables... IT equipment/accessories
- Availability of facilities to process radio-isotopes and produce radio-pharmaceuticals
- Availability of special transport of irradiated targets
- Services and supporting infrastructure for research with animals e.g.
 - veterinary medicine, animal laboratories and related permits).
- Collaboration with AND ACCESS/use of research and/or clinical infrastructures conditions of ACCESS to research infrastructures (open access)
 - local/national research institutions or universities
 - local/national hospitals and their research facilities
- Clusters of university/research institutions and existing international collaborations
- Possibilities of traineeships, internships, fellowships.... Short term positions...
 - local/national research institutions or universities
 - local/national hospitals and their research facilities
- Activities of University/research institute (medical physics, biomedicine, radiobiology...animal studies)
 - Already running programmes: set/type and number of programmes
 - Programme resources (absolute and relative to other research activities)
 - Experience with international programmes
 - Set/Type and Number of programmes tailored to foreign researchers and students
 - Involved scientists: number of researchers, number of students

- Developed competences, list of references
- Development strategy
- Link of Academia and Research to Industry
 - Existing projects, records

Clinical related requirements:

Depending on the clinical concept finally chosen some aspects are listed below (the scope and the organization of the treatment as well as its legal setup and reimbursement aspects have to be considered)

Examples are:

- Possibility for comprehensive treatment e.g.
 - Surgery
 - Chemo
 - Irradiation...
 - Combination of i.e. immunotherapy and carbon-ions
- Physical closeness to a university hospital or another hospital providing comprehensive state of the art health care services (in particular relevant to oncology treatments).

Such services could be e.g.

- Imaging/diagnostics
- anesthesia,
- laboratory,
- emergency,
 - ambulances
- supporting surgery
- intensive care,
- hospitalization
- pediatrics,
- maternity
- specialized clinics: ophthalmologic
- psychiatric support
- rehabilitation....
- Advanced level of equipment (RT, imaging...)
- Closeness to Clusters of specialised hospitals and possibilities for co-operations
 - pediatrics,
 - maternity....
- Experience in radiotherapy
- Ongoing training or plans/possibilities for advanced radiotherapy (with protons, ions)
- Ability and track record on comprehensive treatments of cancer patients
- Experience with clinical trials
- Experience with international collaborations
- Experience with international patients
- Experience with Issues of data privacy....

Aspects/services potentially relevant for clinical operation:

- Availability of PET pharmaceuticals
- Tool shops for the creation of patient specific treatment accessories like compensators and apertures compliant with the requirements of the European Medical Device Regulation 745/2017

- Infrastructure, services, lean procedures for the approval of clinical investigations/studies/trials by the relevant national competent authorities
- Collaborations with medical and/or veterinary faculties

Aspects potentially relevant for clinical treatment, environmental/health conditions

- Pollution
- Climate conditions (not harsh, too cold, too hot.... humidity)

PROPERTY TECHNICAL, ECONOMIC, REGULATORY aspects

- Is the ground stable?
data on Earthquakes: frequent earthquakes might lead to the need of re-commissioning due to dis-alignment of magnets
- Risk of floods or landslide?
- Is it easy to use topographical conditions to realize cost effective shielding designs?
 - Hillside location?
 - Is the ground suitable to realize shielding construction as used in the MedAustron case (use of the excavation for the shielding)?
- Availability at high level of basic services: no power, no water cut off, no internet failures
- Electrical Power: average, peak, quality, redundancy (2 independent supply lines preferred).
Is it available? If not, are there plans for developments?
- Green power: providing solar and wind based power:
Can it be provided? Can it be developed?
Can SEEIST be supported e.g. by subventions, providing the land etc
- Water/waste water management: availability shall be ensured
- Internet, bandwidth ...:
 - Upgradeability
 -
- Provision of office space and meetings rooms for the project team during the construction phase.
- Business / conference infrastructure
 - Availability of infrastructure for scientific conferences (also huge ones).
- Site location relative to a town: in town, premises of town, country-side
 - Distance to recreation areas (beaches, mountains, lakes, landmarks, curiosities...)
- Site access:
 - Closeness of facility to airport
 - Closeness of the town/site to many different countries/towns
 - High-ways
 - Trains
 - Direct flights
 - Transport of equipment considering heavy magnet of vertical line
 - Adequate roads
 - Ports
 -