Requirements to host the SEEIIST facility
Input parameters

- Synchrotron with warm magnets
  - Circumference of the synchrotron 77.6 m
  - Length of the injector (LEBT, linac, MEBT) ≈ 60 m
- Three treatment rooms, one with superconducting ion gantry
- Two experimental halls
- Animal facility
- Diagnostic imaging center
- Number of patients – 400/year

Time line
- Stage 1 - 1 year preparation and permissions, 4 years or less constructions and on-site installation, 1 year commissioning
- Stage 2 (ion gantry) – 1 year
Building technical part
Building

- Terrain with surface of about (250 x 200 m²) i.e. 50 000 m²
- No special requirements for distance
- Two parts of the building
  - Medical section
    - Underground part
      ✓ Control room of the accelerator complex;
      ✓ Patient preparatory area;
      ✓ Experimental halls
      ✓ Waiting area for patients;
      ✓ Treatment planning area;
      ✓ IT Centre;
      ✓ Workshops and Laboratories
      ✓ Animal facility
Building

- Medical section
  - Surface part
    ✓ Reception;
    ✓ Diagnostic centre;
    ✓ Ambulatory;
    ✓ Administration;
    ✓ Seminar rooms.
- Walls of technical corps – 4-8 m.
- The region should permit five store buildings (15 m. high)
- Deep basement (up to 15 m.)
General infrastructure

- The roads should be such that heavy pieces of equipment can be transported.
- The nearest airport should be well connected with Europe and in close proximity of the center, since many patients with their relatives will visit the center to be treated and scientists to perform their experiments.
- The patient, and often also relatives, have to be lodged in a housing not far from the Facility. A guesthouse and/or nearby hotels with capacity at least 150 rooms are needed to host patients with their relatives and visiting scientist.
- Electrical supply system with power not less than 10 MVA should be ensured
- For cooling of the systems installed in the center a water supply with flux not less 1400 m3/h should be available.
Medical infrastructure

- Proximity of one or several medical facilities with a capacity of reception of the patients with light medical needs.
- Existence of local significant capabilities to manage controlled clinical studies;
- The availability of a radiation oncology department with linacs for X-ray therapy and the corresponding medical imaging tools.
- The centre will operate a state of art diagnostic imaging centre, including equipment for positron emission tomography (PET). This requires the centre to be built close to accelerator facilities for isotope production and PET pharmaceuticals.
- The location must be easily accessible and close to hospitals that will provide beds and general medical care, in the rare cases in which they are needed.
- Possibility for radiation oncologists of the hadron therapy centre to be able to follow some of their patients for a certain length of time.
Scientific infrastructure

- Local facilities for scientific visitors and groups of students or professionals for training sessions should be available.
- All facilities for housing and treatment of animals should comply with EU regulation.
- A network of local research institutes, universities and hospital research centres active in the field of biophysics, oncology, radiotherapy, medical physics and nuclear physics able to contribute with expertise and equipment in the research performed at the center.
- Excellent information technology infrastructure able to ensure transfer of big volumes of data, fast connection with preferably local data center and powerful computing facility.
Requirements to host the SEEIIST

L. Litov

Administrative and Financial

- Well-developed high tech industry able to contribute in the design and construction of the facility
- Local firms able to design and contribute in the building construction, taking into account the specific requirements for it.
- Readiness of local authorities for active participation in the establishment of the general infrastructure (access to the center, roads, electrical and water supplies)
- The terrain and the infrastructure next to it will be provided free of charge by the host state,
- Readiness for special contribution (cash or in kind)
Administrative and Financial

- **Administrative and Financial requirements**
  - Possibility for bridge loans in case the project is fully or partially supported by the EC funds.
  - Experience in construction and exploitation of nuclear installations and corresponding administrative regulations for certification.
  - Possible reduction of taxes for the construction of the center.

- **Operation**
  - Stable macro-economic and political situation in the host state.
  - Possibility for reduction of the taxes paid by the center during its exploitation.
Thank you for the attention