Towards a pan-European Research Infrastructure as a multinational venture

SEEIIST
South East European International Institute for Sustainable Technologies
https://seeiist.eu

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The Pan-European Dimensions: SEEIIST Cancer Therapy Research Infrastructure Brings an Added Value for Europe

**Fighting against cancer**

Nuclear medicine as crucial component of future personalised cancer care

Develop advanced cancer therapy with ion beams and isotopes

**Building international cooperation and scientific capacity in South East Europe**

Advancing European integration, reverse brain drain, connect to Europe

Two Strategic Objectives

One initiative
Comprehensive Dimension: both Cancer Therapy and Research Center with 50% of the beam time dedicated to research – other Unique Selling Points

MULTI-DISCIPLINARY RESEARCH WITH HEAVY IONS
- Pre-clinical (medical, radiobiology)
- Clinical, including clinical trials
- Industrial research (microelectronics)
- Material research
- Ultra-high dose rates (FLASH)

BREAKTHROUGH IN TECHNOLOGY
- Multi-ion synchrotron (beyond presently used p and C-ions)
- More compact and much cheaper Superconducting synchrotron
- Superconducting gantry
- Higher beam intensity, faster extraction; Real time imaging

SCIENCE DIPLOMACY
- Declaration of Intent signed at CERN in October 2017 by 8 SEE countries
- MoC signed by 6 Prime Ministers of the SEE Region in July 2019, at the Summit of Berlin Process, Poznan
- Political support by the Swiss Government to establish SD roadmap

Cutting-edge innovative and novel research in any of these topics driven by novel technological opportunities Complementary to all existing facilities
Will make cancer treatment with ions accessible to a large fraction of the European population and bring back Europe the lead position in this field
With the strong supporting consortium of 18 European research centers and clinics the SEE region is trying to revive its technological tradition
For SEEIIST up to 200 MEUR required, guaranteeing competitiveness in Europe. Multiple sources of financing necessary: EU Structural and cohesion funds, IPA funds, some contributions from member-states, other investment funds.

**Time line for the SEEIIST Project**

**2017-2018:** Concept Studies

**2019:**
- Design Study Phase Started

**2020/21:**
- Applied for H2020-INFRAIA
- Preparing application for the ESFRI Roadmap
- Selection of the site

**2023:**
- Start construction of the Facility

**2028:**
- First patient treatments

First Green Infrastructure in line with #HorizonEurope Cancer Mission

Green concept for the SEEIIST project

SEEIIST First Green Particle Cancer Therapy and Research