

SECURE

Strengthening
the European Chain
of supply for next
generation medical
Radionuclides

Project partners

- Narodowe Centrum Badań Jądrowych (NCBJ) Poland
- Nuclear Research and Consultancy Group (NRG) Netherlands
- Institut Max von Laue – Paul Langevin (ILL) France
- Institut Jožef Stefan (JSI) Slovenia
- European Nuclear Education Network (ENEN) Belgium
- Energiatudományi Kutatóközpont (EK) Hungary
- European Federation of Organisations for Medical Physics (EFOMP) Netherlands
- Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile (ENEA) Italy
- Studiecetrum Voor Kernenergie / Centre D'etude De L'energie Nucleaire (SCK CEN) Belgium
- Evalion sro (EVALION) Czech Republic
- Budapesti Műszaki és Gazdaságtudományi Egyetem (BME) Hungary
- Clust-ER Industrie della Salute e del Benessere (Clust-ER Health) Italy
- Clusterul Regional Inovativ de Imagistică Moleculară și Structurală Nord-Est (IMAGO-MOL) Romania
- Istituto Romagnolo per lo Studio dei Tumori Dino Amadori (IRST) Italy
- Université de Bretagne Occidentale (UBREST) France
- Univerzitetni Klinični Center Ljubljana (UKCL) Slovenia
- Joint Research Centre (JRC) Belgium
- National Nuclear Laboratory (NNL) United Kingdom

Project objectives

SECURE project aims to make a major contribution to the sustainability of medical isotope production and its safe application in Europe. It is focusing on promising developments in the design of irradiation targets, production routes for existing and new isotopes in nuclear therapy and diagnostics.

Isotopes critical in the success of nuclear medicine are selected and research activities are identified to address some of the major challenges in securing their future availability, with the objectives:

- to remove critical barriers along the production of selected alpha and beta emitting isotopes that restrict a sustainable production
- to develop a framework of guidance and recommendations that enables exploring the full clinical potential of alpha and beta particle therapy and its safe application
- to provide important lessons learned that act as a demonstration case for addressing issues in upscaling and sustained isotope production

Expected impact

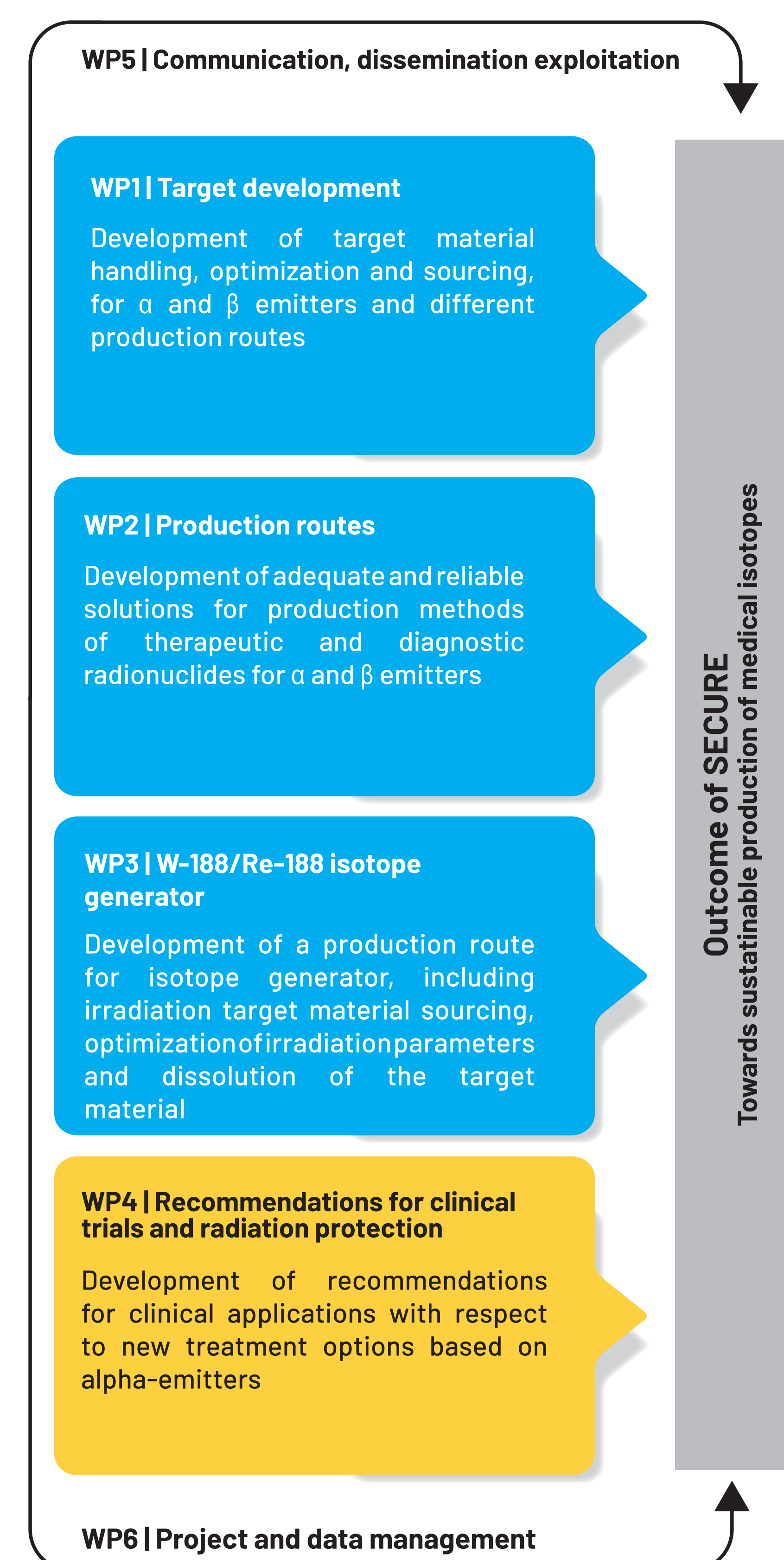
The ambition of SECURE consortium is to identify and efficiently use the current resources for new radionuclides, in particular for alpha emitters and the relevant beta emitting therapeutic radionuclides. The development of alternative technologies for production of such therapeutic radionuclides for improved patient treatment requires multidisciplinary scientific and technological knowledge including physics, chemistry, material science, machining of target materials, chemistry, biology and radiobiology, radiopharmacy and nuclear medicine.

Organization of work

SECURE consortium has a good overview of the situation with respect to the demand of therapeutic

and diagnostic radionuclides. Therefore, it will focus on the developments that are ongoing to create future supply and resolve gaps. The project methodology covers production aspects of radionuclides for research and sustainable clinical use and can be split into parts corresponding to the 4 technical work packages of the project.

WP Structure



Project Duration October 2022 – September 2025

Contact

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