SOCIETAL IMPACT OF EuPRAXIA

There are currently more than 30,000 accelerators in operation around the world. Large accelerators are used in particle physics as colliders, or as synchrotron light sources for the study of condensed matter physics and structural biology, among other applications. Smaller particle accelerators are used in a wide variety of applications, including cancer therapy, production of radioisotopes for medical diagnostics, ion implanters for the electronics industry, cargo inspection, food sterilization, etc.

Laser-driven plasma accelerators offer a revolutionary path to more cost-effective accelerators

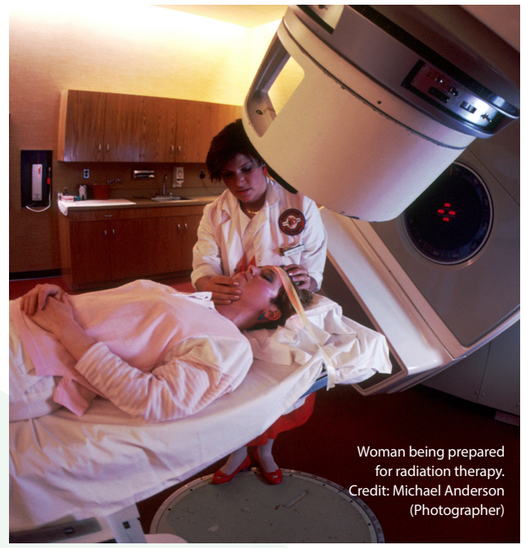
Key technologies:

- Ultrafast synchronization, electronics and correction loops
- Compact accelerator magnets with high field quality
- Stabilized petawatt laser technology
- Plasma cells
- Compact FELs
- Fast photon science detectors
- HEP detectors

Industrial innovation

ILIL-PW laser system at Istituto Nazionale di Ottica (Italy). Credit: Paolo Tomassini, paolotomassini.com

Novel applications



Woman being prepared for radiation therapy. Credit: Michael Anderson (Photographer)

Market opportunities

Control Room of SOLEIL (France). © Synchrotron Soleil

Knowledge transfer

Symposium on Lasers and Accelerators for Science and Society, Liverpool, June 2015

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EuPRAXIA

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant no. 653782. The information herein reflects only the views of its authors and the Research Executive Agency is not responsible for any use that may be made of the information contained.