



## RESEARCH INFRASTRUCTURES

### PRAGUE: ELIMED INSTALLATION COMPLETED

The installation of the ELIMED (ELI-Beamlines Medical and multidisciplinary applications) beam line designed and implemented at the INFN Southern National Laboratories as part of the ELIMAIA (ELI Multidisciplinary Applications of Laser-Ion Acceleration) project for the construction of a room for preclinical activities of the new Hadrontherapy centre, which will be implemented in the Czech Republic, has been completed in Prague, in one of the four facilities of the large ELI (Extreme Light Infrastructure) European research infrastructure. Starting from 2019, when it will enter into operation, ELIMED will be the first facility in the world dedicated to the clinical applications of particles produced by a laser source and to multidisciplinary experimentation with laser-accelerated ion and proton beams. In particular, in the medical field, ELIMED will be used for research in the biomedical sector, such as in radiobiology and hadrontherapy to study the possibility of using protons produced by an unconventional laser source, rather than by particle accelerators, as is currently the case, in the treatment of tumours. In the next few years the LNS research group will collaborate with ELI-Beamlines to perform the first irradiations with proton beams produced by laser-matter interaction. The biological damage produced by this type of radiation will be studied and at the same time new dosimetric and beam characterisation systems will be tested. Key sections of the ELIMED beamlines were committed to more than fifteen Italian companies, among which Siatel srl, Fantini sud, VCS, CECOM, Detector srl. ■