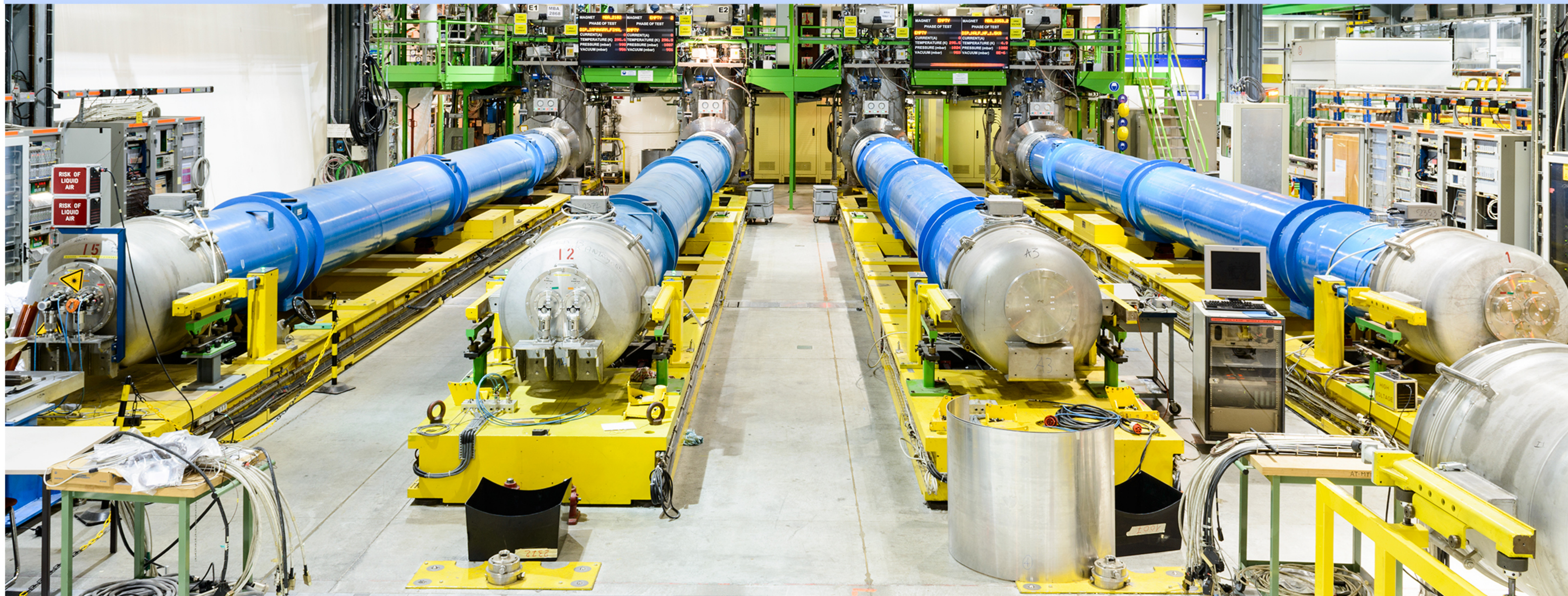




ACCELERATOR RESEARCH AND INNOVATION FOR EUROPEAN SCIENCE AND SOCIETY



The horizontal test benches of the SM18 at CERN (Image: Alastair Philip Wiper)

ARIES project aims to develop the infrastructures of European particle accelerators. For four years, it will work towards improving the performance, availability, and sustainability of accelerators, transferring the benefits of their technology to society, and enlarging and integrating the European accelerator community.

ACCELERATORS

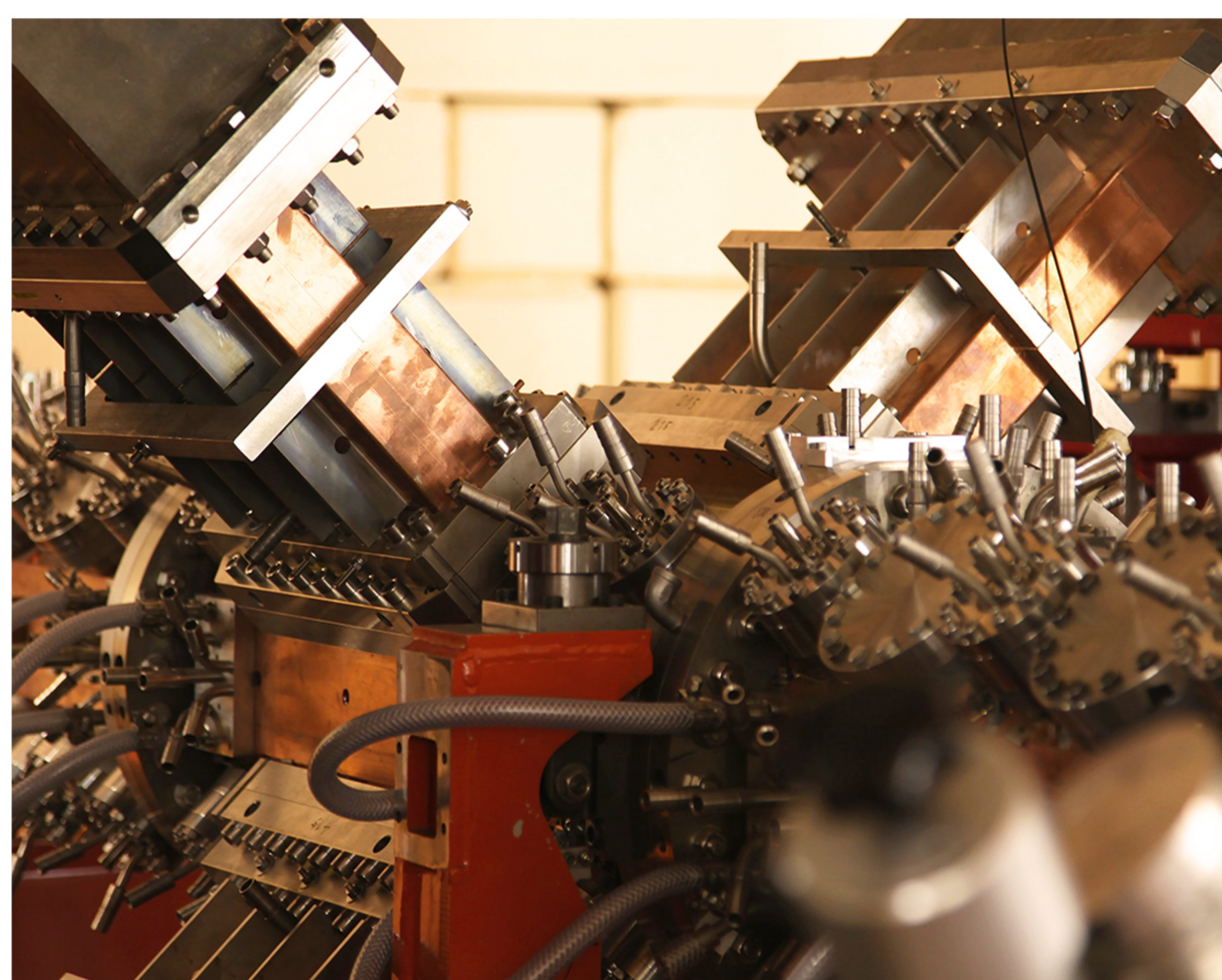
Particle accelerators are fundamental engines of discovery and unique tools for understanding the universe.

The talents of accelerators also lie outside of fundamental research as they provide crucial technology for areas such as life and material sciences, medical imaging and treatment, energy research, and even cultural heritage.

With more than 30,000 particle accelerators in operation around the world, accelerator technology can be found in hospitals and multiple different industries.

Accelerators are at a critical moment in their evolution: future accelerators will be expected to perform better than ever before, and new technologies continue to expand their role beyond scientific research.

ARIES will take a leading role in this evolution by paving the way for the future of accelerator science, by providing access to top class accelerator infrastructures, and by enhancing use of accelerators for society.



The IPHI radio-frequency quadrupole (Image: A. Porcher/CEA/DRF/IRFU)

SUSTAINABILITY

Pushing forward the frontier of high energy physics means size, cost and power consumption will be at the forefront of design, implementation and funding considerations. ARIES will develop novel concepts, technologies and roadmaps to improve present and future generations of accelerators and to help train early career researchers.

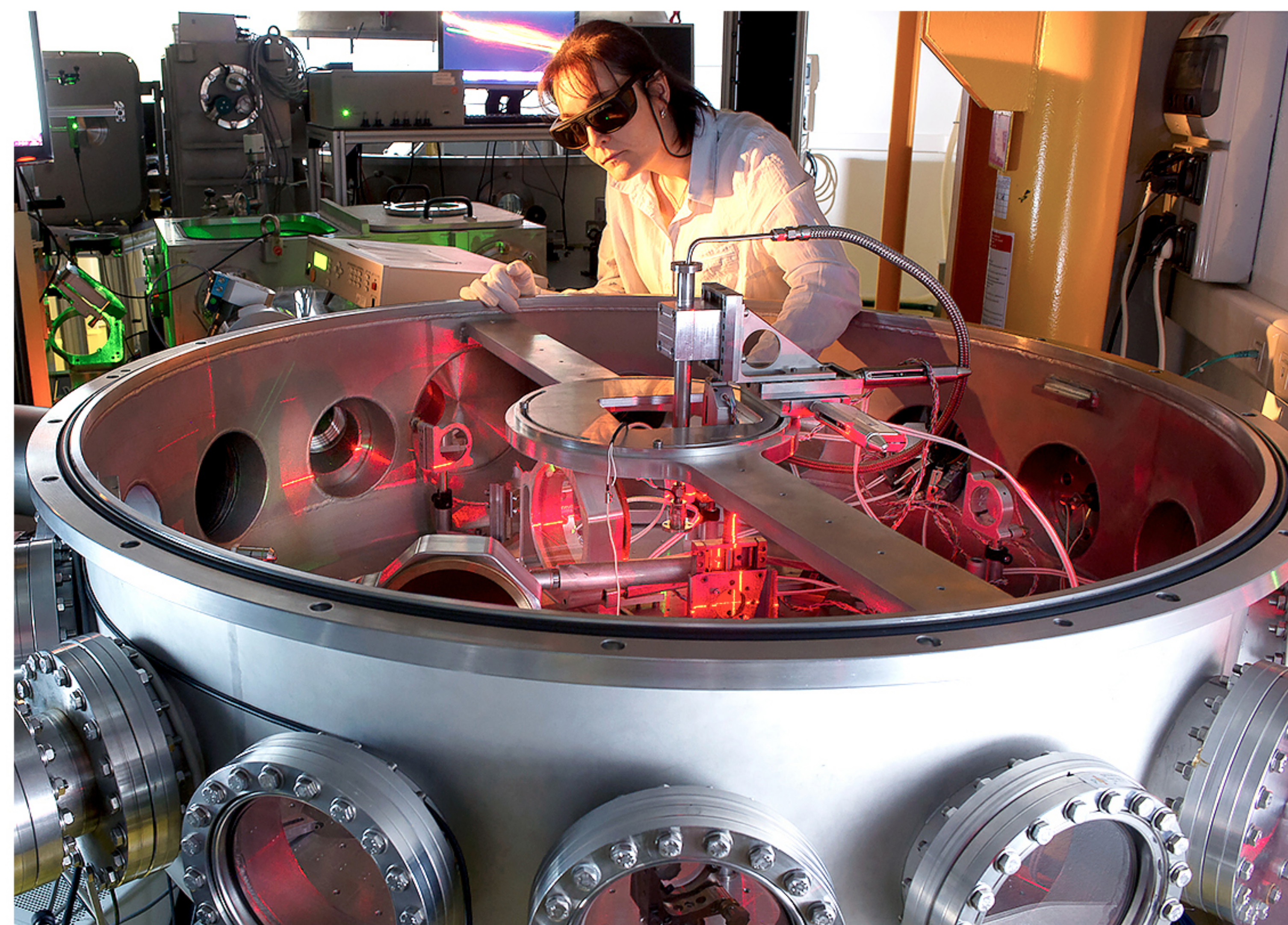
INNOVATION

A Proof-of-Concept innovation scheme will fund the development of accelerator spin-off technologies. Co-innovation actions with industrial partners will focus on specific developments in the fields of high-temperature superconducting cables, new graphitic materials and coatings, and advanced electronics.

With the active involvement of industry, ARIES aims to propel accelerator technology into the next decade, and to provide benefits to a spectrum of different disciplines and society as a whole.

COMMUNITY

41 partners from 18 European countries, belonging to both academia and industry, will participate in the collaboration. ARIES will combine the infrastructure and experience of major accelerator laboratories with the intellectual potential of key universities, and the market-oriented approach of high-technology industries.



UHI100 versatile and user friendly environment for Laser Plasma Acceleration studies at LIDYL (CEA-CNRS, Université Paris Saclay) (Image: Ph. Stroppa /CEA)

PROJECT ACRONYM: Accelerator Research and Innovation for European Science and Society

PROGRAMME: Horizon 2020 (Integrating Activity)

DURATION: May 2017-April 2021 (4 years)

TOTAL BUDGET: €24.8M

TOTAL EC CONTRIBUTION: €10M

CONSORTIUM: 41 partners from 18 countries

WEBSITE: <http://aries.web.cern.ch>

PROJECT COORDINATOR: Maurizio Vretenar (CERN)

PARTNERS:

European Organization for Nuclear Research, CERN (Intl)

European Spallation Source, ESS (Intl)

RHP Technology GmbH, RHP (AT)

Ion Beam Applications SA, IBA (BE)

Commissariat à l'Energie Atomique et aux Energies Alternatives, CEA (FR)

Centre National de la Recherche Scientifique, CNRS (FR)

Société Civile Synchrotron, SOLEIL (FR)

Bruker HTS GmbH, BHTS (DE)

Stiftung Deutsches Elektronen-Synchrotron, DESY (DE)

Friedrich-Alexander-Universität Erlangen-Nürnberg, FAU (DE)

Fraunhofer Gesellschaft zur Förderung der angewandten Forschung e.V. / Fraunhofer-Institut für Organische Elektronik, Elektronenstrahl- und Plasmatechnik, FEP (DE)

GSI Helmholtzzentrum für Schwerionenforschung, GSI (DE)

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