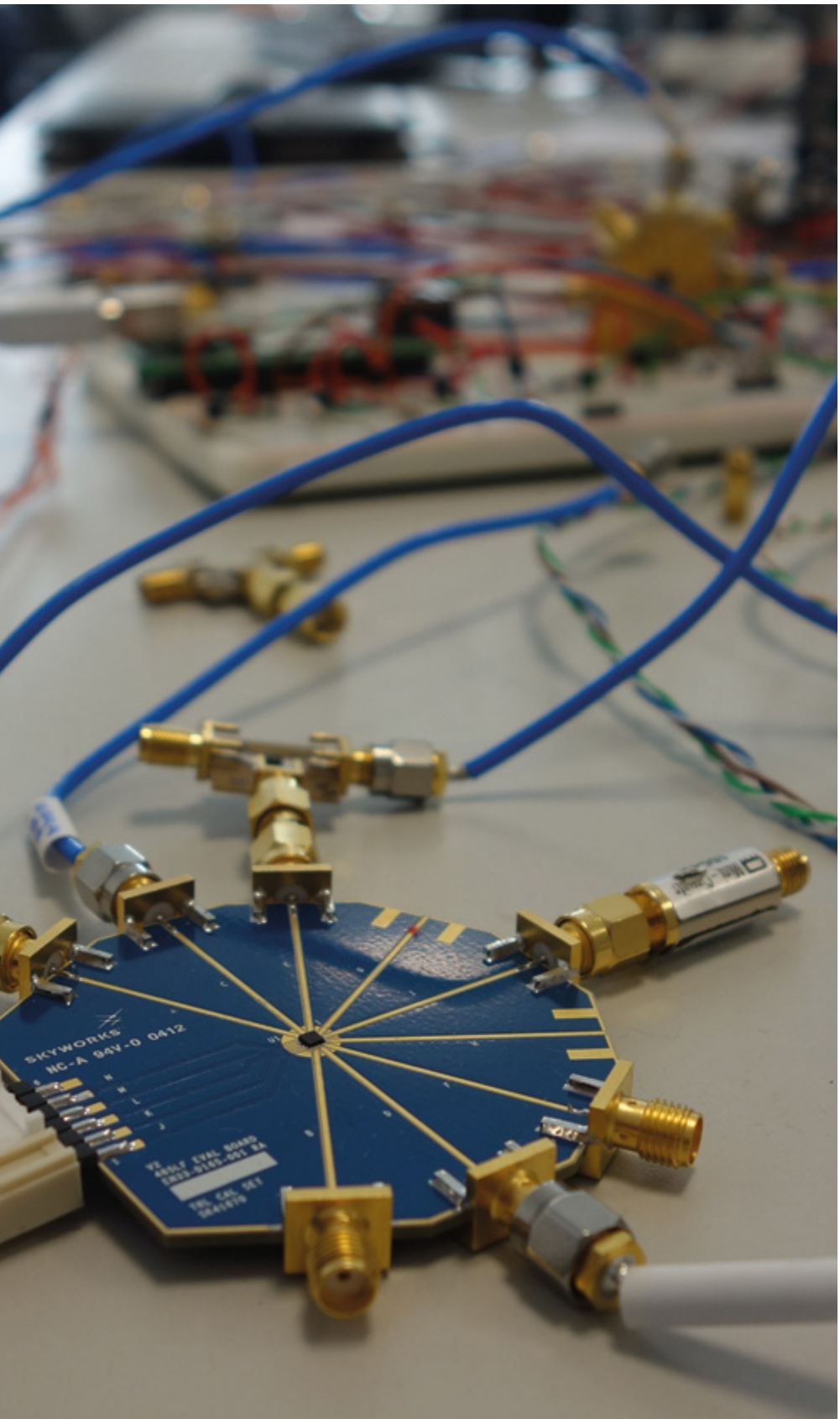
Research infrastructures at the campus



The University of Aveiro recognizes the importance of cooperation and sharing of research infrastructures among higher education and research institutions, contributing to cutting edge research and innovation, by bringing together human and material resources to tackle complex problems across all scientific fields.

The term "research infrastructure", strictly associated to the National Science Foundation (FCT) and European Strategic Forum on Research Infrastructures (ESFRI), refers to facilities, resources and related services that scientific communities use to develop cutting-edge research and innovation in specific fields, from social sciences to engineering and life sciences. It encompasses large-scale research installations, arrays of scientific equipment, collections, archives and databases, computational systems, communication networks for open access. These may be single-sited, distributed over several locations, cities or countries, or virtual, that is, provided electronically.

9 out of the 39 research infrastructures of the Portuguese Roadmap of Research Infrastructures (2014-2020) are at the University of Aveiro, either coordinated by UA researchers (GenomePT and TEMA) or as participant institution (C4G, EMSO-PT, EngageSKA, ORCIP, Porbiota, PPBI, RNEM and PTNMR), promoting the scientific and technological advances, strengthening the capacity of the University of Aveiro to be an active member in European and international projects and providing services to national and international scientific and educational communities, as well as to businesses and industry.

GenomePT

GenomePortugal is a distributed genome sequencing and analysis RI for basic/applied genome research and advanced services, which aims to potentiate the participation of Portuguese scientists in national and international genome projects, and to promote genome research in important fields such as healthcare, drug discovery, environment, marine and freshwater resources, agro-food biotechnology and green chemistry. GenomePortugal congregates researchers and technical personnel from several national research centres, will put Portugal on the map of the countries with technological capacity and expertise to sequence and analyse complex genomes and will engage the Portuguese research community in the genome revolution.
Coordinator: Manuel Santos

TEMA

The study and development of new materials and new processing techniques allows for more efficient and sustainable use of resources. TEMA helps companies to transform knowledge into products, processes and services. TEMA develops projects in the areas of mechanics, materials, bioengineering and nanotechnology, e.g., the use of cork in protective helmets, new protheses for the human body, or production of fuel cells.
Coordinator: António Bastos

C4G

The Collaboratory for Geosciences (C4G) is a distributed research infrastructure (RI) that promotes networking of researchers and sharing of equipment, data, collections and tools in Solid Earth Sciences (SES). C4G comprises the disciplines of geology, hydrogeology, geochemistry, geodesy, geophysics, geomechanics and geomathematics. It provides services in the crosscutting areas of georesources, natural hazards and the environment, for the Portuguese territory, both onshore and offshore.

EMSO-PT

EMSO is a large-scale European Research Infrastructure (RI). It is a network of fixed point, deep sea multidisciplinary observatories, with the scientific objective of real-time, long-term monitoring of environmental processes related to the interaction between the geosphere, biosphere and hydrosphere. It is a geographically distributed infrastructure to be located atkey sites in European waters, spanning the Arctic, the Atlantic and the Mediterranean, up to the Black Sea. Portuguese participation is focused on the Azores and Cadiz nodes. EMSO is coordinated with similar initiatives in the US, Canada and Japan.

Engage SKA

ENGAGE SKA implements an action plan coupling frontier research and technological development in close collaboration with the Portuguese industry, promoting the participation of Portugal in the Square Kilometer Array, the largest radio telescope of the XXI century, to be installed in Southern Africa and Australia. This platform will stimulate technological development by bringing together Advanced Training and ICT, Renewable Energy and Space Innovation, including the testing of prototypes on national soil.

Orcip

ORCIP is an open infrastructure that will allow the scientific community and industry to test, characterise and certify future optical and radio systems. This will allow companies to pursue activities centered on innovation and knowledge, freeing them of the expenditure required for the acquisition of expensive equipment. The infrastructure will be an instrument to lower the barrier of entry of SMEs into innovation activities in next generation telecommunications.

RNEM

The Portuguese Mass Spectrometry Network is the reference infrastructure representing Portugal in the fields of Mass Spectrometry and Proteomics. It is a major service provider for academia and industry and plays a pivotal role in training activities. This network is key for the development of Proteomics strategies within H2020.

Porbiota

PORBIOTA is a RI which aims to collect, store and manage all kinds of biodiversity data from the entire Portuguese territory. It will be connected to LIFEWATCH, which is its European counterpart. PORBIOTA will promote a national agenda on biodiversity survey and research, providing services to public administration, the scientific community, and society. The consortium includes top national research centres, natural history museums, the Portuguese node of GBIF, the LTER Portugal network, ICOS Portugal, the Azorean Biodiversity Portal, and the Institute for Nature Conservation and Forestry (ICNF).

PPBI

PPBI will boost collaboration between researchers, institutions and industry to strengthen both basic and applied research, matching high-impact R&D projects with state-of-art bioimaging resources and expertise. Through shared coordination, strategic investments, and efficient allocation of resources, PPBI wants to give national researchers access to cutting-edge technological resources, create conditions to attract international researchers and integrate Portugal in the international BioImaging roadmap.

PTNMR

PTNMR provides coordinated access to a national platform of equipment, resources, services and skills in Nuclear Magnetic Resonance (NMR) for participating institutions and the scientific community, from both national and international R&D industry and academia. The main goal is the maintenance of a single platform that supports the technical integration, sharing of resources and a combined management of the NMR infrastructure, enabling access to modern and fully operational NMR spectrometers and to support of R&D initiatives.