

# INFRASTRUCTURES AT THE SERVICE OF THE EUROPEAN RESEARCH AREA

The member institutions of the Partnership for European Environmental Research (PEER) host a set of unique large-scale research facilities.

These are also open to external users in the frame of collaborative projects, partially also through third party work.



## ESTI – EUROPEAN SOLAR TEST INSTALLATION

The European Solar Test Installation (ESTI) in Ispra is a European centre of excellence in the field of solar energy, and specifically in photovoltaics. The primary objective is to provide the technological basis for a sound and credible assessment of all aspects of photovoltaic energy, assisting both policymakers and industry, but also standards organisations and national agencies. In 2004, ESTI became the world's first laboratory obtaining the accreditation for the calibration of photovoltaic devices.

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## FINNISH NATIONAL REFERENCE LABORATORY

The environmental laboratory hosted by the Finnish Environment Institute (SYKE) functions as national reference laboratory, fully accredited for analytical work as testing laboratory. The laboratory produces and develops a variety of environmental analyses. It acts as an expert laboratory in the Finnish Environmental Administration's network of laboratories and participates in co-operation projects in its own field in Europe and neighbouring areas of Finland.

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## LIFE SCIENCES MASS SPECTROMETRY FACILITY

The Lancaster Life Sciences Mass Spectrometry Facility, hosted by the UK's Centre for Ecology and Hydrology (CEH) is one of the three facilities that form the grade 5 NERC Life Sciences Mass Spectrometry Facility (LSMSF), providing an extensive range of services from stable isotope analyses through to technical development and scientific research for a wide range of users. The Lancaster Stable Isotope Facility includes separate enriched and natural abundance preparation rooms, a state-of-the-art instrument room and grinding/milling workshops.

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## MOSAIC – MODEL-DRIVEN SITE ASSESSMENT, INFORMATION & CONTROL

Hosted by the UFZ, MOSAIC is a new platform for research in the areas of groundwater, soil and biodiversity. The innovative mapping and monitoring technologies of MOSAIC enable high-resolution surveys of complex subsurface structures and processes. The research platform is for interdisciplinary research and technology development as well as technology transfer, e.g. for establishing innovative monitoring and exploration technologies in practice and for information and training of regulators and engineering consultants.

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## TESSIN – TERRESTRIAL ENVIRONMENTAL SYSTEM SIMULATION & INTEGRATION NETWORK

Based in Leipzig, TESSIN is a modelling and visualisation platform helping to bring together and strengthen existing modelling expertise available, to develop and use integrated modelling concepts with a systems analysis approach and to make the results available to scientists and decision-makers. TESSIN helps to model complex, interrelated systems of which we have only a rudimentary understanding, and to build models integrating processes that take place over different spatial and time scales.

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## WAGENINGEN ECOSYSTEM LABS

Wageningen hosts a unique complex of laboratories for ecosystem research. This includes an ecotoxicology lab with climate chambers, one of them with a large respirometer set-up for 100 parallel samples; a lab of entomology specialised on soil biology which hosts large reference collections on insect and soil mites; and a lab of freshwater ecology for aquatic invertebrates, including 8 climate chambers and 32 artificial streams.

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## ENVIRONMENTALLY-FRIENDLY SPREADING CENTRE FOR INORGANIC AND ORGANIC MATERIAL

This infrastructure at Cemagref aims at the minimisation of the environmental pollution and the maximisation of the efficiency of agronomic spreading products, addressing particularly the eco-design and environmental assessment of spreading processes. It includes automated testing halls, laboratories, prototyping areas, and workshops, and aims at commercial companies wishing to test their material, to achieve their project in incubation, or to train their research department.

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## VELA – VEHICLE EMISSION LABORATORY

The JRC's Vehicle Emissions Laboratory (VELA) is equipped with the most advanced instrumentation, allowing the physical, chemical and toxicological characterization of the emissions from all types of transport fleet. Tests are conducted on engines, from small hand-held to large heavy-duty engines, and on full vehicles such as mopeds, motorbikes, passenger cars, 4WD cars and small trucks. The research lines of VELA cover all environmental aspects related to advanced technologies, new engines and after-treatment systems, on-board diagnostics, new or reformulated fuels, biofuels, gaseous fuels and technology foresight.

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## SKY ARROW

Alterra runs the Sky Arrow PH-WUR, a plane which is equipped with special measurement devices for environmental research. The advantage over fixed installations is that it enables measurements over large areas.

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