

European Metrology Research Programme



Environmental Data

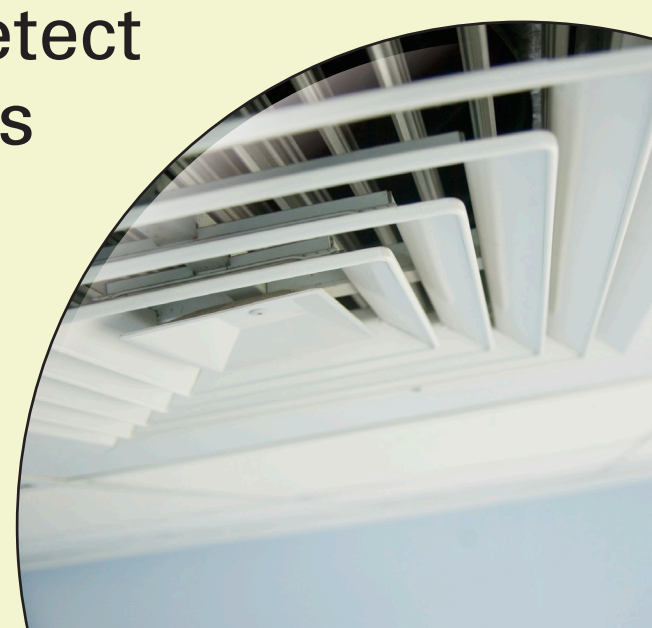
An overview of the funded projects from the EMRP Call 2010 - ENVIRONMENT

Supporting the development of EU Air Quality legislation

Metrology for chemical pollutants in air (ENV01)

Improving indoor and outdoor air quality measurements

Reliable measurements of chemical pollutants in air are needed to underpin EU air quality policies. This project will develop: methods to provide stable reference samples for calibrating instruments, new measurement methods to detect volatile, highly reactive gases and a reliable, compact nitrogen dioxide micro-sensor.



Enabling tighter regulation of exhaust emissions

Emerging requirements for measuring pollutants from automotive exhaust emissions (ENV02)

Protecting human health and the environment from vehicle pollution

Small particles emitted from car exhausts and other vehicles can damage human health and the environment. This project will build expertise in measuring small particle pollutants, particularly platinum group elements (PGE) and mercury, and will increase the required accuracy and reliability of measurements to support the development of future regulations.



Is UV light from the sun changing our environment?

Traceability for surface spectral solar ultraviolet radiation (ENV03)

Reducing uncertainty in solar UV measurements

This project will develop new methods and cost effective devices to reduce the uncertainty levels of solar UV measurements from 5 % to 2 %. Solar UV in the atmosphere can produce substances that change the environment. Therefore accurate measurements are needed to assess the impact of varying levels of solar UV on the climate.

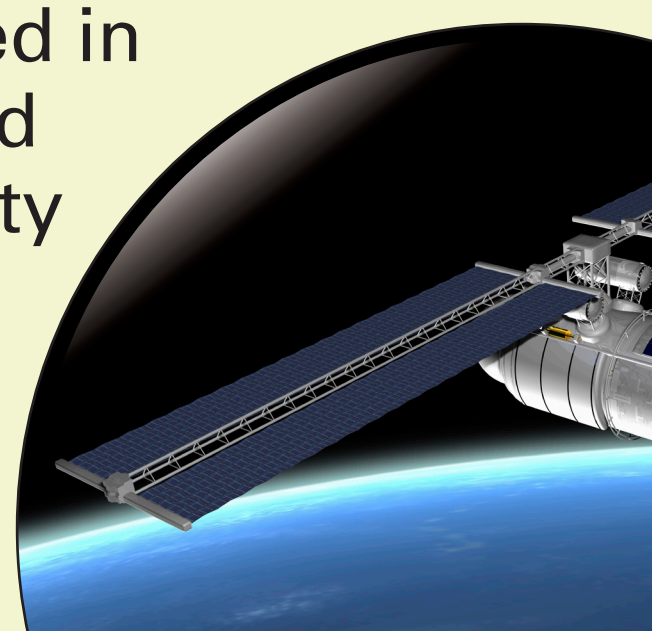


Making traceable measurements from space

European metrology for earth observation and climate (ENV04)

Improving global observations of the Earth for climate change studies

Space-based global observations of the Earth's atmosphere, oceans and land are vital for climate change studies and the implementation of mitigation measures. This project will develop new standards and will validate sensors used in satellites so that accurate and comparable laboratory-quality measurements of climate parameters can be made from space.



Traceable measurements for mapping ocean circulation

Metrology for ocean salinity and acidity (ENV05)

New measurements to link salinity to density

Oceanic salinity levels increase with CO₂ levels in the atmosphere, and influence ocean circulation patterns, which in turn affect the Earth's climate. However, salinity measurements currently use a traditional scale not related to SI units. This project will link measurements of salinity to measurements of density, which can be traced back to SI units, thereby improving confidence in salinity measurements.



Improving the accuracy of data for atmospheric models

Spectral reference data for atmospheric monitoring (ENV06)

Better data leads to a better understanding

Some existing data used in atmospheric models does not come from traceable measurements, which leads to high levels of uncertainty. This project will develop a European spectroscopy infrastructure that is traceable to SI units and a database of spectral line data for improved information on molecule properties and improved atmospheric models.



Improving climate models by improving measurements

Metrology for pressure, temperature, humidity and airspeed in the atmosphere (ENV07)

Improving measurements of pressure, temperature, humidity and airspeed

Measurements of pressure, temperature, humidity and airspeed are key to understanding the climate of the Earth. This project aims to improve climate models by improving these measurements. This will support metrological and meteorological research and will enable a better interpretation of climate data.



Supporting European water policy

Traceable measurements for monitoring critical pollutants under the European Water Framework Directive (ENV08)

Developing standards for water pollutants

The European Water Framework Directive aims to improve European water resources by the year 2015. This project will support the Directive by developing reliable reference standards for some of the most important pollutants and improving our understanding of these interactions.



Disposing of nuclear waste safely

Metrology for radioactive waste management (ENV09)

Aiding the successful decommissioning of nuclear power plants

Decommissioning of a nuclear power plant requires the disposal of thousands of tonnes of nuclear waste. In order to do this safely it is necessary to accurately measure the radioactivity of the materials involved. This project will develop novel methods, standards, decay data, reference materials and instruments to improve radioactivity measurements.



Europe's National Measurement Institutes working together

The European Association of National Metrology Institutes (EURAMET) has implemented the European Metrology Research Programme (EMRP), a programme with a value of over 400 M€, organised by 22 NMIs and supported by the European Union.

Full details can be found at: www.euramet.org

Dr Duncan Jarvis - EMRP Programme Manager
E-mail: emrp-pm@euramet.org
Phone: +44 20 8943 6707
EURAMET e.V.
Bundesallee 100
38116 Braunschweig
Germany

EMRP
European Metrology Research Programme
Programme of EURAMET



The EMRP is jointly funded by the EMRP participating countries within EURAMET and the European Union