

European Metrology Research Programme



Industrial innovation II

An overview of the funded projects from the Targeted Programme Industry II

New communications technologies

Metrology for optical and RF communication systems (IND51)

Traffic on telecommunications networks is growing by around 40 % each year. This project will help introduce multiple antenna systems, satellite system testing and optical communications equipment to increase capacity and prevent disruption.



Product appearance

Multidimensional reflectometry for industry (IND52)

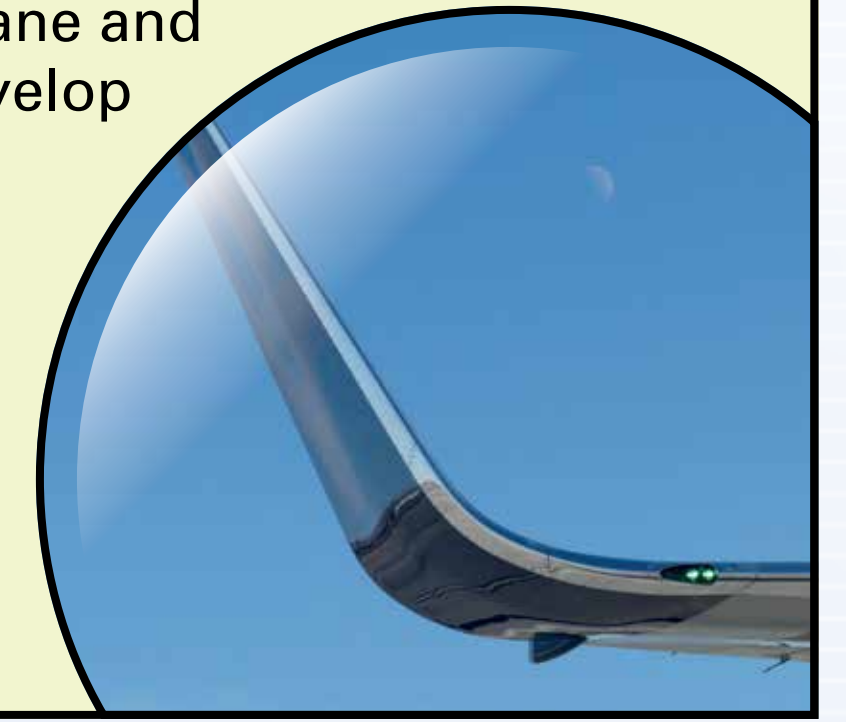
Customers often choose products based on how they look. This project will improve measurements such as colour, gloss, texture and sparkle, and look at how these combine to give an overall appearance of a surface.



Large object measurement

Large volume metrology in industry (IND53)

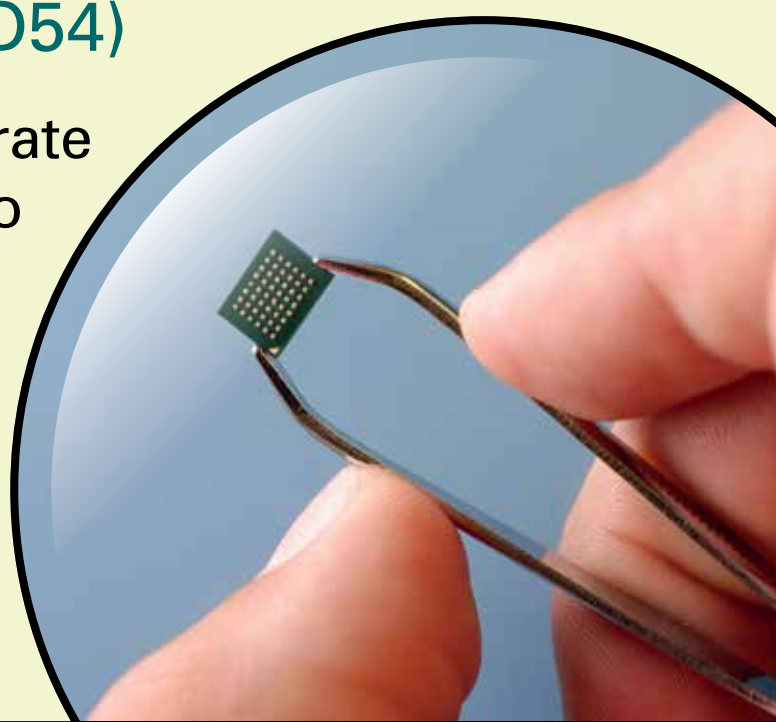
Large volume metrology is the measurement of large objects such as car, plane and ship parts. This project will develop new systems for large volume metrology and improve the speed and accuracy of existing methods.



Nanoscale measurements for small electronic devices

Novel electronic devices based on control of strain at the nanoscale (IND54)

Piezoelectric materials can generate precisely defined strains down to very small length scales. This project will produce traceable measurements of these strains down to the nanometre to help develop computing devices based on piezoelectrics.



Accurate clocks for industry

Compact and high-performing microwave clocks for industrial applications (IND55)

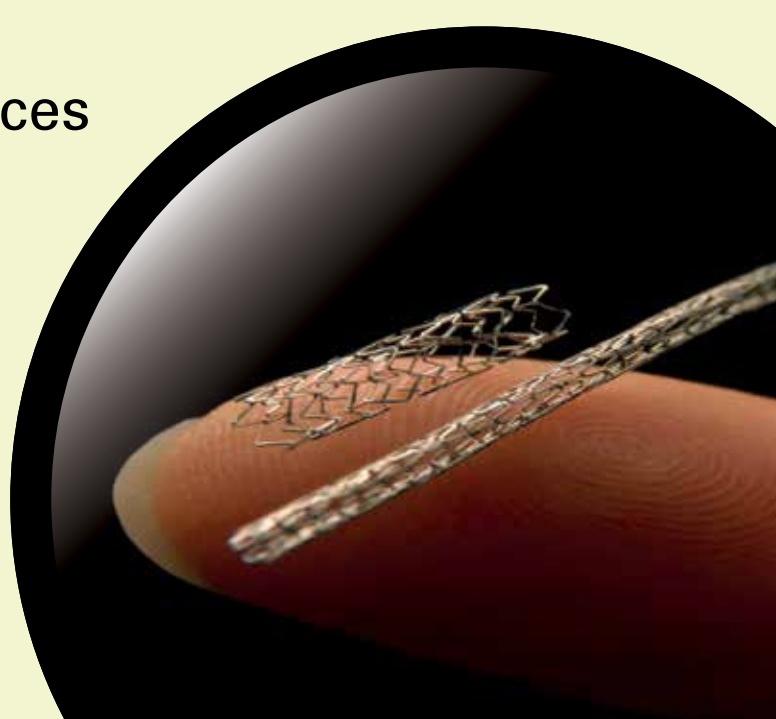
Atomic clocks, vital for communications and navigation, achieve the highest accuracies in controlled laboratory conditions. This project will develop small, reliable and energy efficient clocks that can be used in commercial environments.



Measurements for medical devices

Chemical metrology tools for manufacture of advanced biomaterials in the medical device industry (IND56)

The rates at which medical devices suffer complications due to incompatibility with human tissues and infection remain unacceptably high. This project will develop chemical measurements to improve device quality and patient safety.



Naturally radioactive material

Metrology for processing materials with high natural radioactivity (IND57)

Many natural resources are also naturally radioactive. This project will improve measurements of naturally occurring radionuclides to ensure they do not unknowingly enhance radioactivity levels in waste and finished products.



Freedom of movement

Metrology for movement and positioning in six degrees of freedom (IND58)

Mechatronic motion systems lose precision in harsh and changing conditions. This project will support traceable six degrees of freedom measurement and develop measurements accurate to the nanometre to benefit these systems.



Measurements for microparts

Multi-sensor metrology for microparts in innovative industrial products (IND59)

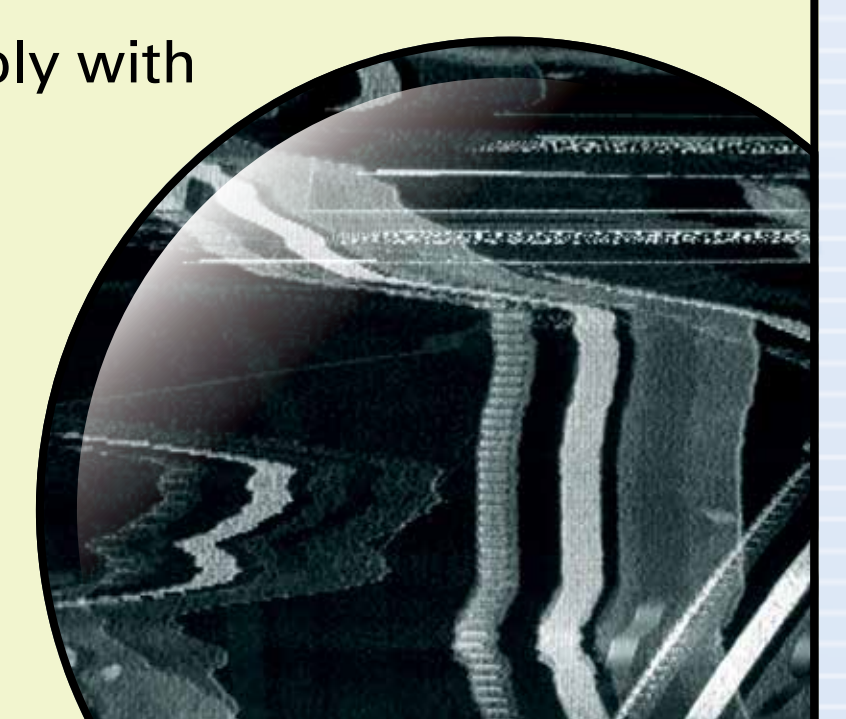
Microparts range from less than one millimetre to around 10 mm, and often have complex geometry. This project will develop 3D measurements of microparts to verify them, ensuring they function correctly in industrial applications.



Preventing electromagnetic interference

Improved EMC Test methods in industrial environments (IND60)

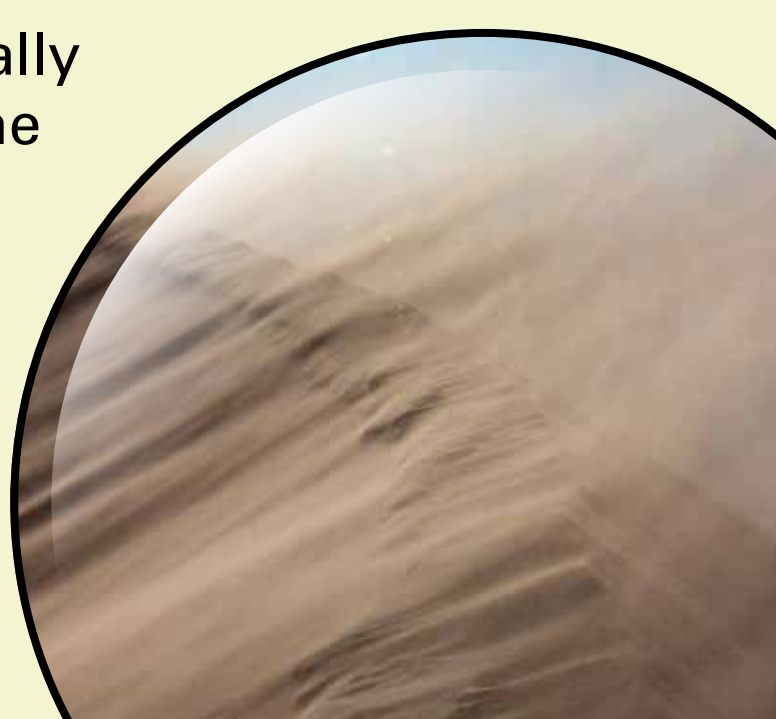
Electronic products must comply with Electromagnetic Compatibility (EMC) standards but current testing is expensive. This project will improve the standards that detail EMC testing and help companies evaluate their products while they design them.



High temperature erosion testing

Metrology to enable high temperature erosion testing (IND61)

Erosion and wear can dramatically reduce the efficiency and lifetime of high value components. This project will support the development of new materials with improved resistance to erosion at temperatures up to 900 °C.



Measurements during production

Traceable in-process dimensional measurement (IND62)

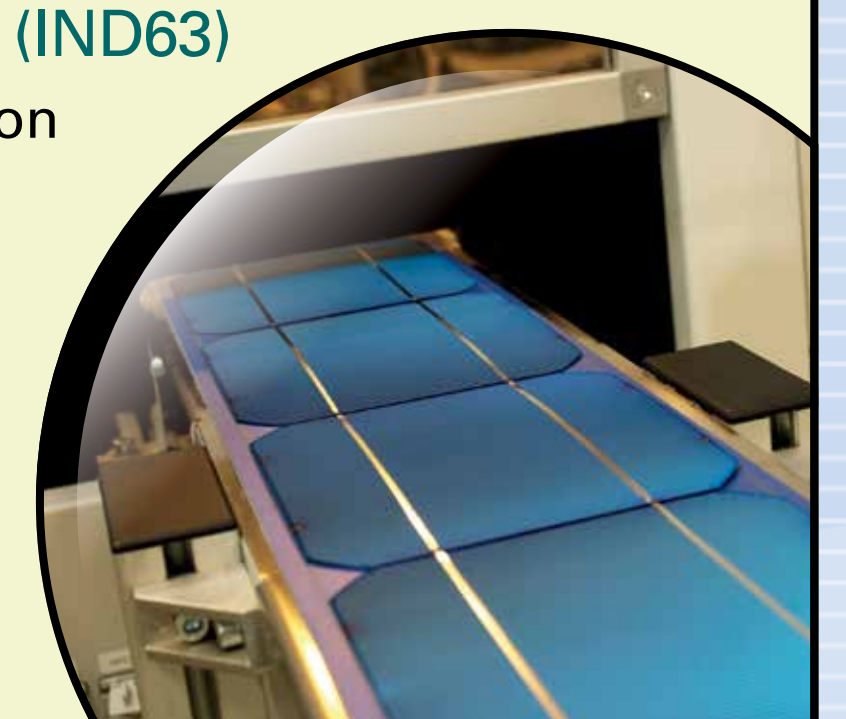
Vibration, noise, sound and light all affect the accuracy of measurements. This project will develop a test chamber to verify the measurement performance of machine tools, resulting in improved product quality control and productivity.



Atmospheric control in sensitive manufacturing environments

Metrology for airborne molecular contamination in manufacturing environments (IND63)

Airborne molecular contamination from vapours and aerosols has adverse effects on small scale products in the semiconductor, nanotechnology, photovoltaic and LED industries. This project will develop ultra-sensitive monitoring equipment for use in these environments.



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 23 NMIs and supported by the European Union.

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

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EMRP
European Metrology Research Programme
Programme of EURAMET



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