

Press release

IK4-TEKNIKER is developing a novel device to calibrate angular measuring systems

- ▶▶ *The new device has brought about significant progress for a number of sectors such as industry, machine tools, automotion, precision engineering or science.*
- ▶▶ *This development comes under the heading of the “EMRP SIB58 Angles” project and has brought together several leading firms from the field of metrology.*
- ▶▶ *The angle generator will allow manufacturers to significantly improve the performance levels of their equipment.*

(Eibar, Basque Country. 3 November, 2016).- Metrology is a basic aspect for scientific and industrial activities. Our industrial fabric nowadays requires rigorous measuring instruments to make further progress in terms of developing innovative technologies. Specifically, it is indispensable to attempt to develop equipment and procedures suitable for high precision angular calibration of equipment.

In order to deliver solutions to address this challenge, [IK4-TEKNIKER](#) has developed a novel device to generate small high precision angles that will give rise to major advances for a number of sectors such as industry, machine tools, automotion, precision engineering or science.

The new device has been developed within the framework of a European project called “EMRP SIB58 Angles” that kicked off in 2013 for the purpose of setting up a joint space allowing several metrology firms to share their knowledge and produce innovative solutions for the sector.

On the one hand, the angle generator developed by the Basque technology centre allows you to know the angular position with a high degree of accuracy thanks to featuring several optical measuring systems. On the other, the system has flexible mechanisms that replace the arms used by other units for the same purpose, thus significantly reducing their size and facilitating their portability to execute very accurate on-site calibrations.

Due to its highly demanding features, the unit is currently undergoing a characterisation process carried out by the Spanish Metrology Centre (CEM).

IK4-TEKNIKER, a key actor in the European project “EMRP SIB58 Angles”

The development of a small angle generator by IK4-TEKNIKER forms part of the European project “EMRP SIB58 Angles” whose aim is to guarantee the traceability and dissemination of the flat angle IS (International System) unit at various levels (ranging from high-level work carried out on particle accelerators and free electron laser facilities to industrial applications).

In addition to the Basque technology centre, a number of other international organisations have been involved in this European project. Some examples are: the Spanish Metrology Centre (CEM), the Physikalisch-Technische Bundesanstalt (PTB), Fagor, Ume-Tubitak, the Czech Metrology Institute (CMI), the Helmholtz Zentrum Berlin (HZB), Möller-Wedel Optical International (MWO), Mikes/VTT, the Istituto Nazionale di Ricerca Metrologica (INRIM) or the French organisation LNE.

Besides developing the aforementioned high precision angular generator, the project has been focused on looking for new procedures and equipment to calibrate self-collimators and angular encoders with very low levels of uncertainty (under 0.5 arc-sec).

This joint work has also served to carry out research in other areas such as shape measurement or measuring involving large scale components or industrial applications.

As measuring instruments equipped with angle measuring systems are becoming increasingly common, this clearly demonstrates the need to innovate to a greater extent in the field of angular metrology and equipment calibration.

It is therefore expected that these new capabilities will allow manufacturers to substantially improve the performance levels of their equipment in order to offer more accurate equipment.

Concerning IK4-TEKNIKER

With more than 30 years of experience in applied technology research that has been transferred to companies, IK4-TEKNIKER has achieved a high degree of specialisation in four major areas (Advanced Manufacturing, Surface Engineering, Product Engineering and ICTs). This means that its cutting edge know-how has been made available to customers to meet their requirements.

Further information

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