

Press release

New technologies used to measure large parts

- ▶▶ *IK4-TEKNIKER aims to introduce new simulation, checking and erection support solutions to install measuring systems for large industrial components*
- ▶▶ *The ultimate goal is to avoid having to move parts to measuring systems in the course of a manufacturing process*
- ▶▶ *The technology centre is currently cooperating with the German company Etalon AG by applying solutions based on interferometry*

(Eibar, Basque Country. 12 January, 2017).- Metrology applied to machines and processes is becoming increasingly important to perform industrial activities. Nowadays, sectors connected to aeronautics, shipbuilding or wind power are asking for bigger and much more sophisticated components. This means that measuring solutions must be designed to obtain a higher degree of accuracy on large components to avoid having to move them to measuring systems during a manufacturing process.

In order to adapt to this new scenario, the Basque technology centre IK4-TEKNIKER is currently working on advanced measuring procedures, advanced metrology software and portable measuring systems whose ultimate goal is to launch new solutions in terms of simulation, checking and support during erection work.

Until now, parts have been measured on coordinate measuring machines situated in the vicinity of production areas, an operation that does not guarantee the quality of the end product and involves a high cost as parts have to be moved.

The new equipment at IK4-TEKNIKER does not only achieve a suitable degree of shopfloor accuracy, where environmental variations account for metrology's greatest enemy, but also upgrades measurement planning and allows advanced strategies in the form of trilateration and multi-lateration to reduce uncertainty whenever large components are involved.

This is exemplified by the Spatial Analyzer software. This solution, already in use at the technology centre, allows on-site checking capabilities to be extended by means of simulation tools. This also reduces uncertainties when parts are measured thanks to its simulation capabilities that use top of the range measuring systems such as laser trackers, photogrammetry and articulated arms.

This explains the big impact of Spatial Analyzer in terms of component checking and supportive actions applied to erection work of large assemblies.

Interferometry, a leading technology

In the constant search for new solutions, it has been evidenced that interferometry is one of the most outstanding technologies for the geometric monitoring and checking of very large machine tools.

Over the years, conventional interferometers have evolved to become laser tracer checking tools allowing for the volumetric compensation of medium and large machine tools and coordinate measuring machines throughout their entire work volume.

In this regard, IK4-TEKNIKER is collaborating with the German company Etalon AG and applying solutions based on this technology to verify, compensate and monitor machine tools and coordinate measuring machines.

Solutions such as Multiline by Etalon AG are capable of monitoring geometric variations on a machine via interferometric channels. In fact, they have established a clear-cut trend in terms of geometric monitoring for very large machine tools.

IK4-TEKNIKER's extensive track record and expertise in the field of new production processes together with its renown specialisation in the field of high-range metrology have transformed the Basque technology centre into a key element as regards attempts made to adapt measuring systems to current market needs.

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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