Press release

IK4-TEKNIKER will give five presentations at the Machine Tool Conference

- *The technology centre is going to have a significant presence at the 22nd edition of this conference to be held in in Donostia-San Sebastian from October 23 - 25*
- *The centre will participate with five lectures addressing "Digitisation in Advanced Manufacturing" and "Additive Manufacturing and Aerotrends", two of the conference's main topics*

(Eibar, Basque Country. 21 October, 2019).- IK4-TEKNIKER will have a significant presence at the 22nd edition of Conference on Advanced Manufacturing and Machine Tools organised by AFM, Advanced Manufacturing Technologies, to be held held from October 23 - 25 at the Gipuzkoa Science & Technology Park in Donostia-San Sebastián.

IK4-TEKNIKER, actively involved in the conference, will give five outstanding presentations as researchers from the technology centre will address new developments and a number of issues related to "Digitising Advanced Manufacturing" and "Additive Manufacturing and Aerotrends", two of the conference's main topics.

Javier Arzamendi, the IK4-TEKNIKER deputy director for technology and member of the conference's scientific and technical committee for the last 17 years, will not only attend this year's edition but also chair a session on October 24 addressing "Machine tools and their components".

This conference, to be officially opened by the president of the Basque Government Mr, Iñigo Urkullu, will feature educational and scientific-technical sections geared towards specialists offer a forum in which IK4-TEKNIKER experts will participate.

High productivity laser micro perforating machines

One of the most attractive lectures is entitled “Designing a high productive laser micro perforating machine for the aeronautical sector” that will present the development of Hyperdrill, a machine based on laser technology and used to manufacture large micro perforated panels fitted on aircraft tail stabilisers. This machine, jointly developed with the German technology centre Bremer Institut Fur Angewandte Strahltechnik (BIAS) and Aernnova, has been designed to process titanium panels measuring up to 5000 x 2000 x 0.8 mm in size at speed ratings in excess of 300 drillings/sec. It is to be validated and tested in an industrial environment. The machine will favour the production of HLFC (*Hybrid Laminar Flow Control*) structures. Consequently, it will allow aircraft fuel consumption to be reduced by up to 10%. This presentation will be given on October 24 under the section on “Additive Manufacturing and Aerotrends”.

Additive manufacturing

IK4-TEKNIKER will give two lectures on additive manufacturing. The first presentation entitled “Thermal control and monitoring performed by a laser camera to perform the LMD manufacturing technique”, will take place on October 23 during the “Digitising Manufacturing” session. The paper will describe how to use an infrared thermal camera on the surface of parts produced during an LMD process.

This is highly relevant work because, in order to achieve the right degree of stability and homogeneity required to manufacture 3D components by layers (LMD), it is crucial to compensate any potential instabilities that may appear by adapting process parameters.

The second presentation entitled “A comparative study of the Laser Metal Deposition process using coaxial powder and thread in the production of Ti-6Al-4V structures”, will compare coaxial powder and thread deposition processes from the point of view of microstructural quality, geometrics, deposition rates and efficiency to manufacture the same type of titanium structure for the aeronautical sector. This lecture will be given on October 24 during the session on “Advanced Manufacturing and Aerotrends”.

Precision systems

Another two papers will be given on October 23 describing precision systems. The paper entitled “Integrating and automating volumetric compensation and verification processes for machine tools” will present an integrated and automatic volumetric verification concept for machine tools that overcomes constraints imposed by current procedures because the solution uses only one measuring system.

The last lecture entitled “Compensation system for thermal errors on horizontal lathes” will describe the end results of work aimed at increasing lathe positioning accuracy thanks to more accurate manufacturing means and processes that remain more stable over time. Another aim of this project is to further upgrade machine features.

Concerning IK4-TEKNIKER

With more than 35 years of experience in applied technology research that has been be 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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