

Press release

IK4-TEKNIKER will give three technical lectures at the Basque Industry 4.0 conference

- ▶▶ *IK4-TEKNIKER will participate with three lectures describing IoT technologies applied to the agro-food sector, digital twins used to commission equipment and additive manufacturing for the aeronautical sector*
- ▶▶ *The technology centre will showcase its capabilities with regard to collaborative and mobile robotics for the aeronautical sector in the conference exhibition zone and use the Basque Digital Innovation Hub's stand to present real applications for advanced manufacturing and materials*

(Eibar, Basque Country. 18 November, 2019).- The IK4-TEKNIKER technology centre will take central stage at the 6th edition of the [Basque Industry 4.0 Conference, the 2019 meeting point](#). It is the biggest event organised in the Basque Country to address recent developments in Industry 4.0 and cyber security to be held at BEC (the Bilbao Exhibition Centre) in Barakaldo on November 20 and 21.

As in all the previous editions of this conference in which IK4-TEKNIKER has participated, the organisation will explain its expertise in terms of **IoT technologies**, **digital twins** and **additive manufacturing**. It will also describe its capabilities in the field of **collaborative and mobile robots** by means of an ultrasonic demonstrator used to improve inspection practices for certain aeronautical components.

Aitor Arnaiz, the person in charge of Smart Information Systems at IK4-TEKNIKER, will give a lecture entitled “Architectures and technologies for data management and business improvements in the agro-food industry” to explain practical applications of IoT architectures whose aim is to optimise this sector.

Arnaiz will explain how new digital technologies can improve productivity in the agro-food industry, increase efficiency with regard to how resources are used and improve end product

quality. More specifically, his paper will focus on animal husbandry practices, increased productivity and enhanced animal wellbeing to inspire confidence among end consumers.

Additionally, the lecture to be given by the researcher Ion Iturbe, entitled “Models for Simulation in the development and commissioning of systems - Virtual Commissioning”, will describe the technology centre’s capabilities with regard to virtual equipment commissioning. This IK4-TEKNIKER specialist will also explain the advantages of using virtual models in terms of efficiency when the time comes to testing equipment control software before it becomes available (virtual equipment connection and commissioning) so that tests can be performed in the earliest stages of a project to detect errors in advance.

Finally, the researcher Carlos Soriano will speak about “Additive manufacturing of structures using the LMD technique based on metal wire deposition”. He will explain the advantages associated with using the metal wire deposition technique to manufacture large-scale structures with the Laser Metal Deposition technique (LMD) compared to powder deposition as practically 100% of the added-on material can be included in the new structure.

Thanks to the work done to date by IK4-TEKNIKER in this sector, the technology centre has become a benchmark organisation in terms of additive manufacturing using direct material deposition techniques as well as in the design of solutions geared towards the manufacture of large-scale structures featuring different base alloys in highly demanding sectors as the aeronautical business.

Collaborative and mobile robotics for aeronautical inspections

Soriano’s presentation on how aeronautical components are manufactured will be followed by a presentation (in the conference exhibition zone) describing a demonstrator equipped with mobile collaborative robotics applied to aeronautical components such as flaps. The solution developed allows for the coexistence and collaboration of the robot with technical staff to carry out tasks in parallel as well as manual interventions assisted by the robot. The latter uses force control and artificial vision to position ultrasonic sensors on the surface to be inspected.

The project improves the efficiency of exhaustive and costly processes dealing with part inspection and quality control in the aeronautical industry.

The Basque Digital Innovation Hub

IK4-TEKNIKER, a member of the [Basque Digital Innovation Hub \(BDIH\)](#), will have an outstanding presence at its stand. This connected network of advanced manufacturing services and assets offers industrial firms, mainly SMEs, all the technological capabilities required to deal with the challenges arising from Industry 4.0. IK4-TEKNIKER is currently actively involved in nodes related to Additive Manufacturing, flexible robotics, smart connected machines and advanced materials. In fact, it will showcase a part made by means of the Laser Metal Deposition (LMD) technique at its stand together with a functional absorption coating applied to 4-metre-long pipes used at thermal solar concentration plants.

IK4-TEKNIKER will participate in the Basque Industry 4.0 conference together with another 2,100 industrial firms, technology centres, start-ups and numerous stakeholders from the entrepreneurial network. There will be nearly 100 speakers at the conference from many countries to discuss the elements that form part of the 4th industrial revolution. They will address a broad range of issues such as cyber security, intelligence applied to production resources and systems. Details will be supplied on how to make the most of emerging capacities and technologies and the way advanced materials and services can be embedded in solutions to achieve higher added value, more efficiency and greater sustainability in terms of resources.

Concerning IK4-TEKNIKER

With more than 35 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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[IK4-TEKNIKER | Itziar Cenoz](#)

Itziar.cenoz@tekniker.es | Tel. (34) 943 256 929

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[GUK | Ane Roteta](#)

ane@guk.es | Tel. (34) 690 212 067
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