PRESS RELEASE

Artificial intelligence for person-robot interactions via voice and gestures

- *The Tekniker technology centre will present its most recent developments connected to artificial intelligence at the upcoming edition of BIEMH. Artificial intelligence is being used to enable person-machine interactions by means of words or gestures. Visitors to the trade fair will be asked to give vocal or gestural orders to carry out specific tasks*

- *It will be possible to test this technology on-site thanks to a demonstrator equipped with collaborative robotic cells for bin picking applications*

[Eibar, May 19, 2022] - Advances made in the field of voice or gestural control provided by artificial intelligence technologies can be found in our everyday lives at our homes thanks to widespread systems such as Alexa or Siri. As regards the industrial sector, these new forms of machine-person interactions are playing an increasingly important role thanks to the fact that production processes are continuously being automated in a large number of sectors.

In this respect, the **Tekniker** technology centre, a member of the Basque Research and Technology Alliance (BRTA), possesses an extensive amount of experience with regard to developing different artificial intelligence technologies such as machine learning, deep learning or natural language processing as well as a number of potential applications to set up collaborative and digitised industrial environments based on gathering, processing and analysing data to develop smart products and solutions.

Tekniker will present these technologies at the upcoming edition of BIEMH where the organisation will showcase the end result of incorporating a layer of software to robots for natural interactions to occur automated systems without resorting to specialised programming training courses.

Researchers at the technology centre have developed and commissioned artificial intelligence models based on deep learning techniques using images that allow the system

to detect and interpret words and gestures as if they were orders or commands made by the user.

Artificial intelligence and natural language

It will be possible to test the technology developed by Tekniker on-site at the international trade fair thanks to a demonstrator fitted with a collaborative robotic cell used for industrial bin picking applications.

More specifically, the AI-based solution developed by the technology centre will allow the users of automated systems to select an object from among a dozen other possibilities by means of voice/gestural commands to point out where it must be placed.

The prototype will also feature artificial intelligence to observe which objects have been detected by the pin-picking system and the next object to be manipulated by the robot.

This demonstrator will be showcased on the technology centre's stand located in hall 1, aisle C14, in the course of the upcoming edition of the International Machine Tool Biennial to be held at the Bilbao Exhibition Centre de Bilbao from June 13 - 17 2022.

This project has an impact on SDG 8 – Decent jobs and economic growth and SDG 9 - Industry, innovation and infrastructures by contributing towards the economic and environmental pillars of sustainable development and society as a whole.

Concerning Tekniker

Tekniker is a technology centre specialised in Advanced Manufacturing, Surface Engineering, Product Engineering and ICTs for production. Its mission is to provide growth and wellbeing for society at large via R&D&I and further the competitiveness of the industrial fabric in a sustainable manner. Tekniker is a member of the Basque Research and Technology Alliance (BRTA).

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