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GOBIERNO DE ESPAÑA · MINISTERIO PARA LA TRANSFORMACIÓN DIGITAL Y DE LA FUNCIÓN PÚBLICA · SECRETARÍA DE ESTADO DE DIGITALIZACIÓN E INTELIGENCIA ARTIFICIAL

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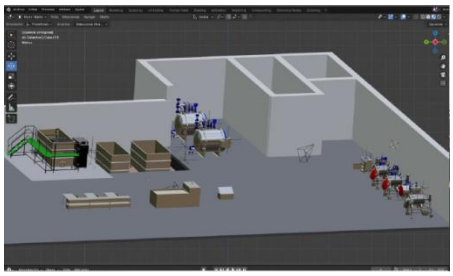
Plan de Recuperación, Transformación y Resiliencia

DEM-PRECON VIRTUALISED DEMONSTRATION OF A CANNING PROCESS USING ARTIFICIAL INTELLIGENCE AND OTHER DIGITAL TECHNOLOGIES.

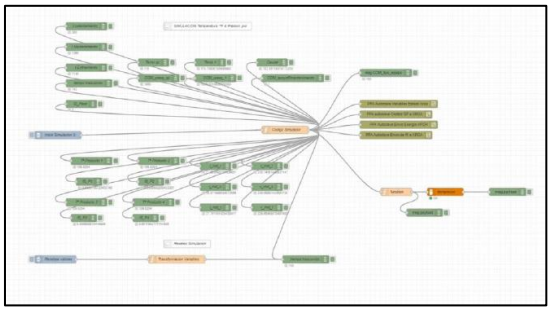
C005/21-ED INTELIGENCIA ARTIFICIAL 2021. Reference: 2021/C005/00146443

DEM-PRECON is based on the implementation of new digital technologies through the development and validation of a demonstrator that allows the viability of the same to be analysed in real environments. The demonstrator is focused on the food industry, specifically the canning industry, where the concept of food safety culture is incorporated.

The general objective of the project lies in the development and validation of a demonstrator based on the virtualisation of a canned fish processing line through the application of new innovative technologies with the application of mixed reality supported by artificial intelligence, where, depending on the raw material and process conditions, the system predicts responses or behaviour of the raw material and, at the same time, provides real-time information on the status of the different operations in the process.



The model shows a canning production line where the target public (canning sector, industry, students, general public) is shown the different machines of the demonstrative production line installed in the ANFACO-CECOPESCA pilot plant.

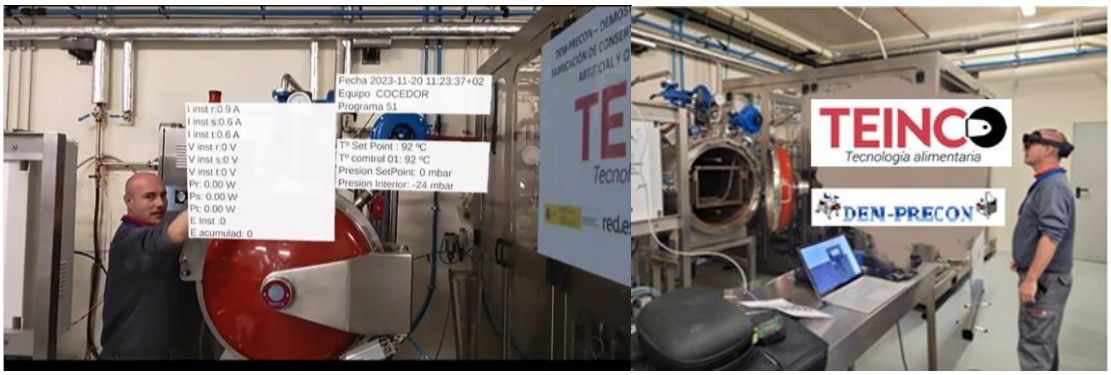


The communication architecture, the information to be exchanged and the operating parameters to be provided by each of them were defined.

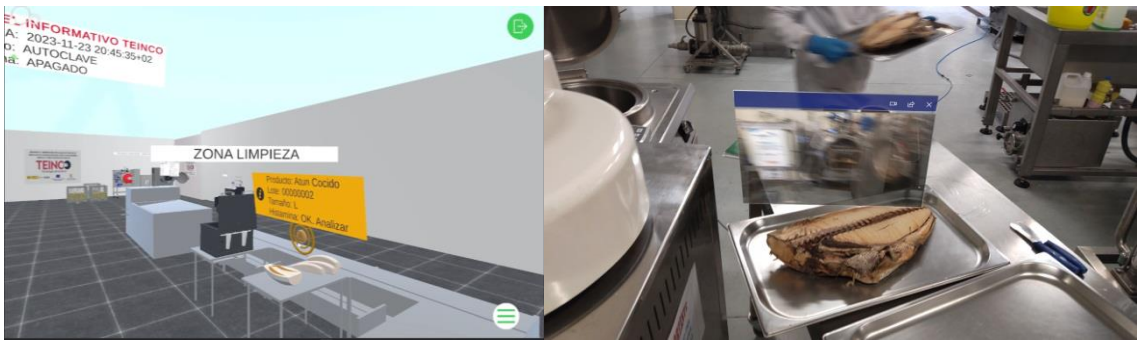
The system designed allows us to adapt to the different modifications that the different companies make on a day-to-day basis, thus ensuring that it is a dynamic system, incorporating food safety control elements such as the vacuum urn packaging control equipment.

The production line was analysed by identifying all the points necessary to be studied for food safety and quality reasons, which should then be implemented in the system, and by carrying out tests with real product, analysing its behaviour and inputting the data into the system.

The Mixed Reality platform in which the models were integrated, allows the identification of real equipment and also the representation in real time of different parameters selected during the project, such as the instantaneous consumption of the machine, the product temperature or the ambient temperature, pressure, etc. .....



In addition, it allows a real-time, in-plant check to be carried out to see if the process standards and conditions established to comply with food safety and quality standards are being met. It is configurable, allowing new control points to be added and providing real-time information on the status of each stage of the process.



TEINCO continues with its intense R&D activity, focusing its projects on the development of Industry 4.0 machinery, where our equipment is capable of being monitored/managed remotely through the industrial network and with the capacity to predict/foresee a serious stoppage or a deviation in food safety parameters.

This interconnection between the different systems in the plant and the real-time supervision of the process by the operators themselves will provide and transmit the knowledge and information necessary to improve the control and supervision of the food production process, increasing the knowledge of food hazards and resulting in the safe production of food.

With all this, Teinco presents itself as a supplier specialised in process control and in the manufacture and distribution of equipment for the application and control of heat treatments in food (sterilisation, cooking, pasteurisation, freezing and defrosting). It is a company with more than 35 years of experience in the sector, formed by a multidisciplinary team made up of professionals specialised in the field of engineering and biology, who apply their knowledge to the control of manufacturing processes, especially in their thermal treatment.

For more information: **http://www.teincodem-precon.es/**