IVSILA - Intelligent Vision System for in-line analysis of baked products

CONSORTIUM

OptoPartner (France)

Campden BRI Hungary (Hungary)

Intersnack (Hungary)

Seacon Europe (Hungary)

The IVSILA project's objective is to enable advanced process monitoring and control in a snack production environment for the final product at the oven. The solution provides process parameters and product quality data using an intelligent vision and monitoring system to optimise production and minimise losses.

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ROLES IN THE PROJECT

The consortium has all the important knowledge, experience and resources to develop a product which is a perfect fit for the food industry and can handle its complexity and variability but is at the same time adaptable to the different production technologies.

OPTOPARTNER

as business champion and activity leader will fulfill tasks related to project management and business development, and introduction of the product to the market. OptoPartner will be also responsible for the deployment of the vision system and image processing.

CBHU

based on its expertise in food safety and technology collects the food industry-specific requirements and information for the basic design of the solution as well as acts as coordinator in the testing phase in the factory environment. It will support the exploitation of results in the food sector.

INTERSNACK

(snack producer company) as the first customer provides all relevant data and ensures the resources and circumstances for testing the solution in the production. Although the company had no time and opportunity this time to join the consortium, it has a well-defined interest regarding the aim of the project.

SEACON

will build a database and process all incoming production data into valuable information. The information will be transformed into reports and will be used for the process optimization by Seacon.

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BUSINESS PAIN

In the production of baked products, one of the most important steps regarding quality inspection is when the finished product comes out at the end of the oven and its physical and sensory parameters are checked. These parameters are affected by several factors which makes the in-line inspection of the defects of the finished product problematic, especially since this task is carried out currently by an operator in a harsh production environment (having high temperature and humidity).

SOLUTION

The developed product will support the complex process of snack production, monitoring important technological and product parameters applying by sensors and vision system. The solution will provide besides the automatic sorting of defective products the identification of the causes of product issues, the exploration and analysis of the whole technological context and the realization of on-time intervention. The results will serve the information demand of the decision-makers and experts.

TECHNOLOGY

The solution combines different data collection methods for different purposes.

The existing IoT based system will be complemented by an intelligent camera monitoring and evaluation tool to detect the defects in the bakery production procedures.

The combination of data and image processing will be realized using by a common relational database to be ready for big data and cloud operation. The information engine provides AI like and analysis technics, it also uses advanced alarm solutions

TIMELINESS

The adoption of advanced digital technologies in food production is in its initial phase since available solutions are not able to handle specific and complex processes of the industry. So there is an increasing need for tailor-made solutions based on the combined knowledge of food technology experts and ICT solution providers. In addition, it has been identified by a previous R&D project recently that the improvement of this process step could improve process optimisation significantly.

OUTLOOK

The developed product has the potential to be introduced in other segments and achieve widespread application in the bakery sector adjusted to the wide range of technologies. The solution can be adapted to applications in pasta and snack production with minor changes.

Since the application can be adapted to a range of different technologies the product range can be extended.