

# Integral system for continuous cleaning and disinfection of meat conveyor belts

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## Web:

<https://www.innovacc.cat/2015/01/01/noves-solucions-de-neteja-de-cintes-transportadores-en-continu/>

## 01. Rationale

The project was born out of the need to find a continuous cleaning system to reduce the microbial load on meat conveyor belts during the working day. This would make it possible to reduce the aggressiveness of the cleaning operations at the end of each shift and, consequently, make savings in energy, water and products.

The aim of the project was therefore to develop an integral system for continuous cleaning and disinfection of meat conveyor belts in order to significantly reduce the contamination of the conveyor belts during the operational process.

The cleaning system was developed with the collaboration of companies including Olot Meats (pig slaughterhouse), Mimasa (cleaning machinery manufacturer), Esbelt (conveyor belts),

PROQUÍMIA (chemical treatment), IRTA (steam treatment) and the Autonomous University of Barcelona (physical UV treatment), and with project coordination through INNOVACC (Catalan Association of Innovation in the Pig Meat Industry).

The actions carried out within the framework of this project were:

- Technical and economic analysis of the different cleaning and disinfection technologies available.
- Design and construction of the prototype belt cleaning and disinfection system.
- Laboratory scale pilot testing of the conveyor belt cleaning and disinfection system.
- Industrial scale pilot testing of the belt cleaning and disinfection system.

## 02. Results and conclusions

At pilot scale, the results obtained with the three technologies tested (UV light, chemical treatment and steam treatment) have given satisfactory cleaning and disinfection values.

On an industrial scale, the preliminary results for steam and chemical treatments are also satisfactory.

Based on these good results, the application of the pilot to the cleaning and disinfection of product parts in industrial format and various utensils (baskets and blades) is being evaluated.

The results obtained from the industrial trials have been positive, both for the continuous cleaning and disinfection of belts and for the cleaning and disinfection of tools and packaged meat product parts. In addition, sufficient new knowledge has been generated to define the basis for the design and development of an industrial system for continuous disinfection of conveyor belts, in industrial format, as well as a method of disinfecting tools and meat product parts while in operation.



Pilot design. Photo: Operational Group.