

Success Story

Rousselot was awarded the Factory of the Future through the Long-term Co-Innovation with Yokogawa

Rousselot - Darling Ingredients

Location: Ghent, Belgium
Order date: October 2010
Completion: February 2016
Industry: Food & Beverage (Gelatin Production)



About Rousselot Ghent

Established in 1891 by Edouard Rousselot, the company expanded across France and abroad through targeted acquisitions of local gelatin plants.

It proved to be an effective strategy. Between 1977 and 2014, the organization itself was the subject of a series of takeovers by different international corporations which boosted its international presence in the US, Argentina, Spain, and China.

A new chapter began in 2014 when Rousselot became a part of Darling Ingredients; a US-based business with its own impressive legacy and global leadership in sustainable natural ingredients produced from edible and inedible bio-nutrient residuals.

Darling Ingredients is the only publicly-traded company in its industry (NYSE/DAR).

Factory of the Future Award

In 2017 Rousselot Ghent was awarded as "Factory of the Future."

Out of 16 participants, Rousselot was the second factory in the agro/food-industry to win this award.

The award is given to companies that transform its doing the way of business through innovation to be ready for the future. Such companies support sustainable productions by applying technological innovations. Rousselot Ghent increased production over the last five years while reducing energy consumption by about 30%.

"The Factory of the Future" is awarded based on seven domains of innovation.

The following domains are evaluated:

- Local partnership/networking
- Degree of automation/digitalization
- Human factors, expertise and polyvalences
- Ecology, environmental efforts
- Valorization of waste streams

An external audit was done by a selected group of CEOs and representatives of AGORIA, an employers' organization and trade association in Belgium.

Rousselot was able to demonstrate and present documents on all the above fields, and the performance was excellent.

It was clear that, specifically in the domain of automation/digitalization, Yokogawa's platform at Rousselot did an important contribution.

The impact of winning this award cannot be underestimated. It involved a lot of attentions from press and media, and several roadshows were scheduled where Rousselot would receive several visitors to show them how they operated.

The award winners also exchanged their experiences in scheduled network events.

Within the Darling Ingredients group, the award was appreciated and the Ghent site was, more than ever, considered as an innovator's site.

History

The CENTUM's digital production platform which strongly contributed to winning the "Factory of the Future Award," gradually evolved over a period of time.

Rousselot Ghent started its first step into automation in 1993 with Yokogawa's μ XL distributed control system (DCS) installed for the gelatin production.

Gradually more and more units in the plant were automated and the DCS platform expanded.

Over the years, the DCS-platform was modernized from μ XL to CENTUM CS 1000 (in 1999) and CENTUM CS 3000 (in 2003) and today, the state-of-the-art CENTUM VP is in place.

The importance of Yokogawa's DCS in the plant gradually increased and now that Rousselot can no longer imagine operating the plant without it.

Master Data Management

In 2010, Rousselot took the next step and installed Yokogawa's historian platform, Exaquantum (process information management system), to start collecting and saving process data.

The first step to valorize the collected data started in 2012. The aim was to further improve quality, yield, and reduce product variation and energy costs by identifying the production parameters of the ideal gelatin batch.

Making gelatin is a combination of very complex processes that each of the process is influenced by a large number of parameters. So gaining a clear insight is essential to reduce variation of the quality.

The solution was found in Yokogawa's historian, Exaquantum, used as a Level 3 platform gathering data of some 20,000 tags.

Custom web-based reports designed by Rousselot based on their requirements were created by Yokogawa to allow them a clear view of production parameters.

It strongly improved the analysis and awareness of process variations and allowed a quicker and more adequate responses on deviations.

The challenge was how to consolidate a huge volume of gathered data, and bring specific insight for operators, production managers, maintenance managers, and the plant manager.

As Rousselot's insights evolved also the reporting requirements kept changing over time and it was only in 2016 that the project was really finalized.

Today, the master data reports have become key importance to Rousselot.

Data Mining (Future)

As of today, the Exaquantum historian keeps collecting a vast number of process data.

The next step in the future could be to apply big data analysis (data mining/trend mining) on the collected data to predict certain behaviors of the processes.

The idea is to have a phased implementation of such big data analysis. The first candidate will be to analyze the drying process.

Other possible applications are to avoid overshoot in the extraction heating process, which proves to be rather complicated.

Yokogawa's offering in data mining is available under the name of Process Data Analytics (PDA).

Link to ERP

The Exaquantum platform (Level 3) also allows connecting the ERP (Level 4) to the DCS for production control (Level 2).

In Rousselot Ghent, such a connection is also being considered for the future, but in the short term this is not a priority.



Cybersecurity

Of course the introduction of the Exaquantum as Level 3 platform brings additional considerations about cybersecurity as well.

The reason is that, in the past, the DCS (Level 2) was isolated, but now became 'open' via the Level 3 Exaquantum solution.

The Exaquantum interacts with the DCS on one side and with the office domain on the other side.

Rousselot and IT staff in the Darling Ingredients group are evaluating the particular risks and the best strategy for their specific situation. Under this evaluation, the site in Ghent is considered as the pilot plant.

Yokogawa and Cybersecurity

Typically, Yokogawa's approach for implementing Cybersecurity in industrial control systems is to work based on the IEC-62443 standard.

For Rousselot's IT specialists in this field, Yokogawa helped them obtain the Global Industrial Cyber Security Professionals (GICSP) certificates from the Global Information Assurance Certification (GIAC) institute.

Increasing of Automation

Today's global market setting requires companies like Rousselot to strongly increase their flexibility to respond to ever changing demands in product specifications and volumes.

To anticipate changing demands and increase flexibility, Rousselot is fully aware that this can be achieved by increasing the level of automation even further.

Innovation in Belgium

In order to anticipate changing demands, a new building is being built in the Ghent site to host new R&D & lab facilities to develop new pilot-projects.

These investments and the factory with the "Factory of the Future Award" in Ghent are again examples of the global players like Darling Ingredients who typically consider their production plants in Belgium as innovative ground and ideal to discover the latest technologies.

This is an essential differentiator for Belgium compared to other countries.

Customer Satisfaction

In the master data management project, Rousselot strongly appreciated Yokogawa's flexibility and ability to co-innovate the optimum solution.

The fact that both the level 2 DCS and level 3 historian are from the same supplier makes things much easier as well.

To win the "Factory of the Future Award," Rousselot clearly documented the impact of the master data project, which strongly contributed to winning the award in the field of automation/digitalization.

Also in the domain of local partnerships/networking, the long-term partnership between Rousselot and Yokogawa contributed to winning the award.

Especially for key assets like the level 2 and 3 automation platform, it is even more important for Rousselot to be benefitted from long-term partnerships with suppliers like Yokogawa.

Finally, for Rousselot, the sustainability of solutions is more important than the price.



Mr. Soete, Rousselot Operations Manager (left) with Dirk Boon, Yokogawa Account Manager

For more Information and Contact

[CENTUM VP \(DCS\)](#)

[Exaquantum \(Data Historian\)](#)

[Plant Security](#)

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