

Quintiq was acquired by
Dassault Systemes in 2014 and is now
DELMIA Quintiq

Case study

Luvata reduces costs in less than eight months using Quintiq

LUVATA





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– Gradus Hummelink, Deputy Managing Director, Luvata

Company profile and mission

Luvata is a versatile metals group operating worldwide. In its business, Luvata focuses on base metals production, stainless steel, copper products and technology. In its traditional areas of core competence, Luvata is recognized as one of the industry leaders. This position is also the one from which Luvata derives its mission: to put their expertise as both a producer and technology supplier to use in responsible metals production and thus to contribute to meeting the world's need for metals. In all business operations, Luvata underscores the importance

of its customers, good profitability and responsibility for the environment. Luvata's core values also emphasize continuous improvement of competence as an essential prerequisite to securing competitiveness.

In their location in The Netherlands, Luvata implemented Quintiq as part of its continuous improvement. Every week, the production site in The Netherlands produces about 1,200 tons of copper and brass strips to be used for the automotive and electronics industry.



The production process

The production process consists of three main steps:

Casting: Luvata has developed a continuous casting process that produces coils of approximately 25 mm thickness. Immediately after casting they are rolled down to a small set of standard thickness between 0.9 and 2.8 mm. Depending on the product to be produced, coils are then annealed in batch or strand furnaces. The casting shop produces so-called master coils of fixed size (4 tons in Sweden, 25 tons in The Netherlands).

Rolling: In the rolling area, master coils may be rolled and annealed several times before being slitted to customer specifications. As specifications may differ in alloy, temper, thickness, width, inner core diameter, type of inner core, lubrication, etc., the number of different product types is enormous. An extra complication in the plant in The Netherlands is the usage of large master coils (25 tons). To make efficient use of these coils,

different product types may be produced on the same coil without dividing the coils in smaller coils. Thus, at any point in time, a single physical coil may contain several coil segments having different specifications in terms of temper and thickness. At the slitters, multiple orders may be combined to be slitted together in order to optimize the usage of the available coil and reduce the amount of side scrap.

Special products: Some of the slitted coils require further process steps, such as applying a layer of tin to the copper of brass alloy and winding thin strips of copper on spools.



The challenge

“Our material return used to be 60 percent. By using Quintiq, we have been able to improve this by 1 percent. In terms of added value, this means we are gaining 400,000 euros every year.”

– Gradus Hummelink,
Deputy Managing Director at Luvata

Luvata experienced an increase in the complexity of their production process. More orders with a smaller average order quantity makes the utilization of the 25 ton master coils a more complex combinatorial problem. Also, to improve delivery performance, ensuring that the right amount of material is produced becomes increasingly important. Luvata recognized that the whole operation would benefit if all process steps were scheduled using a single optimizer, including the demand planning for the casting shop rather than producing master coils to stock.



Solution

Luvata realized that there was a need to have an intelligent planning system capable of handling all the different business rules and constraints that are inherent to its production process. The choice of Quintiq was made after evaluating various other well-known supply chain packages. "There are many planning software packages on the market today, but very few with the flexibility that we need to control the ever changing bottlenecks in our production process," said Gradus Hummelink, Deputy Managing Director at Luvata. "That's one of the reasons we selected Quintiq."

In the selection process, Luvata asked all participants on the short list to take the most complex part of the planning problem, their slitting process, and show with a proof of concept how the software was capable of handling this. According to Hendrik Peters, the Manager

of Information Systems, the proof of concept allowed Luvata to assess whether a supplier was able to solve the planning question at hand and how much time they needed. "To prove the power of their technology, they simply said, 'We'll solve your slitting problem to demonstrate the power of Quintiq,'" Peters said.

"First we thought they promised too much but within two weeks the slitting application was live and reducing scrap by 70 percent for a number of articles," he shared. "This was so convincing there was no doubt Quintiq is the solution to optimize our production."

The Quintiq integration with the Business Planning and Control System (BPCS) package of SSA Global (now Infor) was completed in one afternoon and there were no issues according to Luvata.



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– Hendrik Peters, Information Systems Manager, at Luvata

Results

By using Quintiq, Luvata saw a payback in less than eight months, along with these benefits:

- Reduced scrap by 70 percent for a number of articles
- Added value of almost €400,000 (\$531,000) per year

"Our material return used to be 60 percent," added Hummelink. "By using Quintiq, we have been able to improve this by 1 percent. In terms of added value, this means we are gaining 400,000 euros every year."

- Increased production process visibility, control and production output

"If we had a machine breakdown in the past, we did not have visibility into the consequences for the production process... [and] we did not have supply of materials. Both of these issues have been solved using Quintiq," Hummelink commented. "This enables us to have an increased production output, resulting in a better way to anticipate the delivery times for our customers."



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