

SIMATIC PCS 7 in the Metals Industry

More than Doubling the Capacity
without Stopping Production

SIMATIC PCS 7

Customer Benefits

- System expansion in runtime possible (I/O modules)
- Trouble-free migration of the control system without interrupting production)
- Cost optimization by integrating existing I/Os
- Increased system performance using powerful S7-400 controllers
- Reduced total cost of ownership

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PCS 7

SIEMENS

In an impressive expansion project the Canadian aluminum works, Alouette, have more than doubled their annual production capacity to 550,000 tons. The challenge for the control technology was the migration to a modern system and enlargement of the plant without disrupting ongoing operation. SIMATIC PCS 7 was up to the task and has since been in control of the largest aluminum works on the American continent.

More than Doubling the Capacity without Stopping Production

With eleven aluminum works, Canada is the second largest export country for aluminum following Russia. The flag ship, Aluminerie Alouette in Quebec, has always been a trend-setting pioneer when it comes to performance and production optimization while simultaneously reducing costs and maintaining high safety and environmental standards.

To protect Alouette's leading position among aluminum manufacturers worldwide, a gigantic expansion project was begun in October 2002. The goal was to double production capacity to 550,000 tons of aluminum annually by 2005.

The project requirements posed a challenge for the process control technology. The task not only involved the equipment for the new plant units; the migration of the existing system needed to be accomplished without interrupting ongoing operation. The SNC-Lavalin/Hatch Engineering Consortium (SLH), contracted for the project engineering, put their trust in the SIMATIC PCS 7 process control system and the experts from Siemens.

The Siemens automation system, SIMATIC S5, was already in use in the aluminum works. By installing more than 70 S7 400 H (50 S7 417 and 24 S7 416) controllers, the trouble-free conversion to the trend-setting SIMATIC PCS 7 process control system enabled the connection of over 30,000 I/Os adding to the existing 22,000. With this SIMATIC controller, there was no need to separate the standard automation from the safety system. The same hardware components, the same engineering platform and the same PROFIBUS could now be used for both areas. This saved from having to implement additional safety busses, reduced the space demands and lowered the engineering costs. Eight redundant OS servers are now supplying data to 59 OS clients for increased availability.

Alouette's management is extremely satisfied with the reliability and flexibility provided by SIMATIC PCS 7 and with Siemens' customer service. Joe Lombard, Alouette's president and CEO, is impressed with the cooperation, and points out that Siemens is not only a supplier, but was, and is, a partner for Alouette. He explains, "Normally, changing over from one system to another takes months, because of computer problems. With Siemens, the operation simply involved pressing a button. In addition to complying with all of our specifications, Siemens technology enabled us to keep our operations running in order to meet the needs of our customers. We are very proud of that."

Thanks to the customized migration strategy, the use of SIMATIC PCS 7 as part of Totally Integrated Automation and the excellent cooperation among the participating teams, the migration of the process control technology and the transition from engineering to production was a total success with a smooth system changeover and no plant down time.



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