

Efficient production at Gates Power Transmission

SolutionsPT has supplied InTouch, InTrack, Wonderware Historian, QI Analyst, Active Factory and InBatch products in a system to error proof processes, reduce unit costs, reduce inventory, improve quality and realise faster decision making at Gates Power Transmission in Dumfries.

"We wanted a window on the manufacturing processes," says Roddy Edgar, MIS Manager

The Gates Corporation has been recognised as one of the leading manufacturers of automotive power transmission products since its inception in 1911. Gates employs some

38,000 personnel worldwide of which 6,400 are dedicated to Power Transmission.

Gates is a geographically diverse global corporation. The European HQ for Gates Power Transmission is in Erembodegem, Belgium, and manufacturing sites are located in Dumfries, Scotland; Aachen, Germany; Nevers, France; Balsareny, Spain; and Legnica, Poland. Some 390 staff are located in Dumfries, working four shifts round the clock to produce 500,000 belts a week.

The Dumfries facility manufactures synchronous belts and couplings for the automotive and industrial markets. The site produces everything from the small belts found in food mixers to large industrial belts utilised in ski lifts and farm machinery. Gates supplies most of the major automotive customers with OEM product and also produce aftermarket spares. The industrial side manufactures belts for everyday equipment such as vacuum cleaners, cash dispensers and automatic doors. Gates Dumfries facility also produces Poly Chain® polyurethane belts which replace conventional chains on motorbikes, with customers such as Yamaha and Kawasaki. Custom belts are also produced for bicycle manufacturers and industrial applications using Gates Poly Chain® GT® Carbon™ high-torque drive systems.

Time tested solutions...

A corporate initiative saw the introduction of Wonderware InTouch, InTrack and Historian in 2000 and three years later QI Analyst was introduced for statistical analysis. Gates implemented a new global production system in 2004 and this initiative combined with Wonderware technology has helped to improve



Finished product

“With the help of Wonderware products we have become a leading company in time-to-market, on-time performance, meeting customer expectations and cost-base reduction. We win our orders on quality. The level of performance our customers receive from the products leads them to buy from us,”

the efficiency of production processes. In the UK, Wonderware is represented by SolutionsPT.

“We wanted a window on the manufacturing processes,” says Roddy Edgar, MIS Manager at Dumfries. “There were two sides to this need – we wanted visualisation, to see what was happening and have a history and analysis of data to enable possible improvements to ensure quality levels would be met, and we wanted traceability and lot control through the InTrack MES route.”

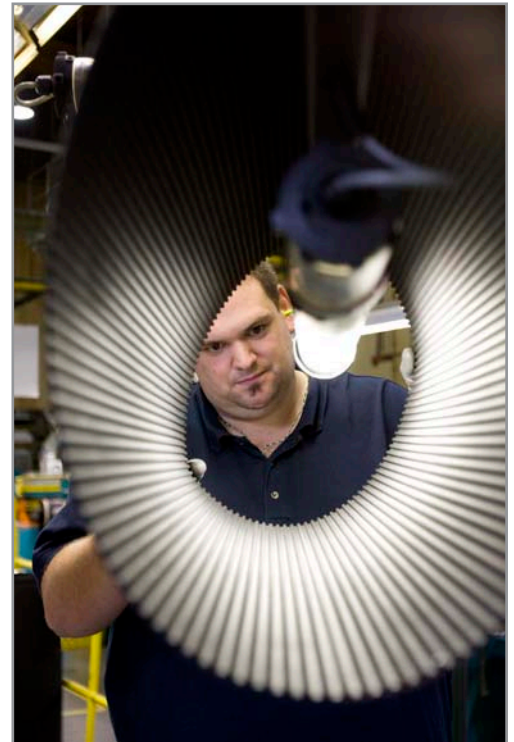
Connectivity

A key issue was the need to acquire data from different technologies. “There were different Programmable Logic Controllers (PLCs), different Enterprise Resource Planning (ERP) systems, and different technologies spread across the world,” says Edgar. “For example we use Allen Bradley systems in the US and Siemens in Europe. We have an IBM mid-range AS400 ERP system running in Dumfries.” The SolutionsPT solution provided us with real time bi-directional integration from disparate shop floor PLC systems right up to ERP level.

“We’re now at the point where users see real benefits from using the systems in their day to day work. Enhancements are now pulled by users because their eyes have been opened to the power of the systems,” says Edgar.

Against this, there are the European drivers in that sales and marketing, forecasting and budgeting are handled at the European HQ near Brussels. The trends in Dumfries will be comparable to those on similar machines in the different countries in which the company operates.

The Wonderware systems involving InTouch, InTrack, Industrial SQL (Historian), QI Analyst,



Active Factory (the front-end system for Historian), and InBatch were provided and installed by Solutions PT and Swift Automation. The ease of use of Wonderware products and comprehensive training provided by SolutionsPT enables Gates’ staff to carry out ongoing enhancements to the systems in-house.

Batch control

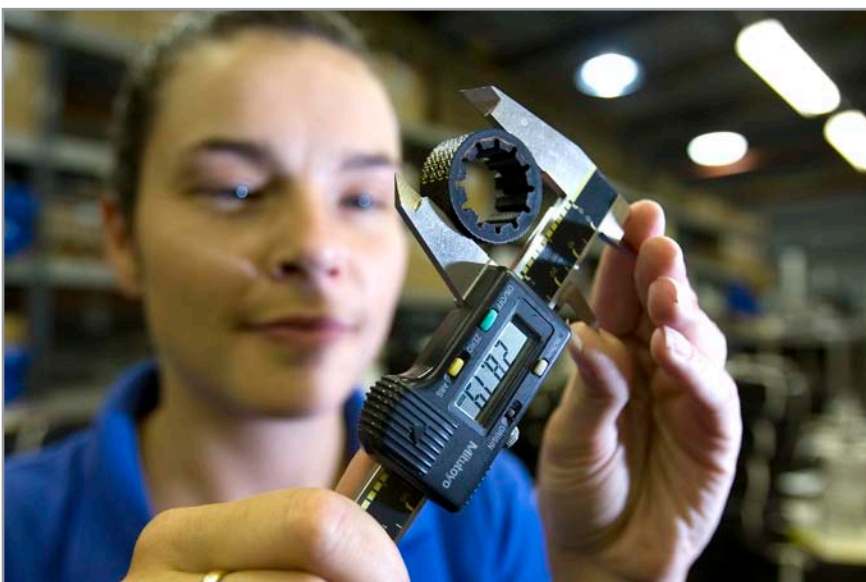
Dumfries also utilises Wonderware InBatch to control a batch process producing water-based adhesives used in the production process. InBatch controls the entire batch process providing full traceability of recipes, equipment and materials.

Gates Production Systems have evolved over time, and indeed are continually evolving. “We utilise a cell manufacturing process, so we can commission Wonderware on one cell and then later, start on another cell,” says Edgar. “There is great flexibility with Wonderware, we can install different products at different times but still integrate everything together creating a total solution.”

Introducing the Gates Production System in 2004 has resulted in more efficient operations. Improvements to material flow have added further savings. At the start of 2006, Gates operated with 3.5 days inventory – it is now down to 15 hours and other improvements have reduced the need for working capital. As a result, unit costs have fallen 3.5 per cent.

“We use Wonderware for improving the quality

Quality





The Wonderware solution provided us with real time bi-directional integration from disparate shop floor PLC systems right up to ERP level.

of our products and also for error proofing the manufacturing process”, says Edgar. “The system gives visibility on the process at all levels in the organisation. This enables people to make faster decisions and improve the quality of the process”.

Recognition

That Gates Power Transmission has made great strides in its work at Dumfries can be proven through its winning the Best Engineering Plant in the UK accolade at the 2008 Best Factory Awards supported by Cranfield University and Works Management magazine, and being Highly Commended in the Supply Chain award, sponsored by Toyota.

“With the help of Wonderware products we have become a leading company in time-to-market, on-time performance, meeting customer expectations and cost-base reduction. We win our orders on quality. The level of performance our customers receive from the products leads them to buy from us,” says Edgar.

Wonderware UK wishes to thank the following companies for their valued contribution to this success story...

Gates Power Transmission Ltd

www.gates.com

Swift Automation & Control Systems Ltd.

St Christoph, Warwick Bridge, Carlisle, CA4 8RJ

Tel: +44 (0) 845 1300 566

www.swiftautomation.com



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SolutionsPT

Wonderware United Kingdom and Wonderware Ireland, Unit 1 Oakfield Road, Cheadle Royal Business Park, Cheadle SK8 3GX

+44 (0)161 495 4698

info@wonderware.co.uk

www.wonderware.co.uk