

MAN Ferrostaal Utilizes Honeywell Simulation Technology to Help Deliver Training and Operational Success at Oman Plant



“Our project was a very successful one and thanks go to Honeywell for instituting superb training sessions and operation tools that were delivered in double time. The project organization and communication was a priority and was accomplished almost flawlessly with the minimum amount of fuss despite the global centers involved in countries such as Trinidad, Japan, India, Germany, and the UK. It was a fast track project yet quality and attention to detail were never diminished.”

Bob Forsyth, Senior Project Manager, MAN Ferrostaal A.G.

Benefits

MAN Ferrostaal A.G., a leader in the EPC contracting field, and more specifically in the provision of large capacity chemical plants, had recently received a \$500 million contract to construct a Methanol plant for the Oman Methanol Co. at Sohar in the Sultanate of Oman. In addition, MAN Ferrostaal is also a major shareholder in the completed Methanol plant.

Having had a good experience with a Honeywell training simulator at one of its largest construction projects for Methanol Holdings Trinidad Ltd, MAN Ferrostaal decided to procure a similar system for its Oman facility and make use of the great training, process expertise and phased approach that Honeywell brought to the table.

To handle the task, MAN Ferrostaal chose Honeywell’s UniSim® suite of simulation solutions to enable its training and optimize its plant operations to best respond to business and planning needs. MAN Ferrostaal also experienced the following benefits:

- Operators trained on system and familiar with process behavior months before actual commissioning and startup
- Increased safety, reliability and maximum operability thanks to fast smooth design and development process
- Operational difficulties overcome, resulting in fast-track start up to a production mode
- Phased approach and detailed dynamic model of process enabled training, rigorous testing, configuration and integration for full factory acceptance prior to installation at the site
- Lifecycle approach offered so that simulation models used for multiple purposes during design, engineering and ongoing operations leading to a maximum plant optimization



MAN Ferrostaal uses Honeywell UniSim Suite to help simulate plant operations and effectively train new workforce.

Background

MAN Ferrostaal A.G. is part of the MAN group of companies with \$18 billion in sales, operating offices in more than 60 countries. An independent and neutral product and service provider, Ferrostaal is a leader in national and international procurement and general contracting of steel, supporting a 4.5 million ton supply chain.

The company is also an authority in global logistics and international compliance with expertise in structured and independent finance with more than \$1 billion in steel related transactions.

Challenges

MAN Ferrostaal recently received a \$500 million US contract to construct a Methanol plant in Oman. A leader in the procurement of steel and chemical plant “one-stop-shop” for the supply chain, Ferrostaal had experience with large construction projects and knew it had to employ a state-of-the-art simulation system to help ready the facility for start up on day one.

“We knew we needed to procure a similar simulation system as we had in the past but we wanted to make sure and partner with the right people and company to make this project a success,” said Bob Forsyth, Senior Project Manager, MAN Ferrostaal. “Our primary objective was to provide training to a predominately novice workforce so that operators could become familiar with the process behavior months before actual startup and overcome any unforeseen operational difficulties.”

Solution

Having had a good experience with a Honeywell training simulator, the world’s largest Methanol plant for Methanol Holdings Trinidad Ltd, MAN Ferrostaal decided to procure a similar system for the Oman facility and make use of the great training, process expertise and phased approach that Honeywell brought to the table.

Ferrostaal implemented Honeywell’s UniSim suite of simulation solutions for design and engineering, plant operations and plant optimization. According to Forsyth, “Honeywell’s solution became a real life-cycle asset to our organization enabling us to create models in an early stage of the project and then reuse the same model and update as more detail or complexities started to surface.”

The conceptual steady-state models then provide the basis for

More Information

For more information on Honeywell’s UniSim Simulation technology or any of Honeywell’s automation Products, Services, or Solutions, visit our website www.honeywell.com/ps, or contact your Honeywell account manager.

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operating training applications and can be used for long-term plant optimization to help the facility stay competitive and meet business and planning needs.

Honeywell’s Unisim simulation suite is made up of three modules that reflect the main applications of simulation:

- **The design suite:** an interactive process engineering simulation tool that helps engineers to create optimal process designs based on critical business objectives. The dynamic simulation solution provides an opportunity to study behavior at every phase of a plant’s lifecycle.
- **The operations suite:** a high-value full feature real-time simulation system for operator training, improvement and knowledge management.
- **The optimization suite:** optimizing plant operations enables responsiveness to business demands through integration of real-time control, planning and scheduling.

MAN Ferrostaal adopted an innovative two-stage approach for its Oman plant. Instead of just taking delivery of the final system, the company provided a standalone process model permitting the staff to be trained an entire year ahead of the actual startup in the fundamentals of the process and its overall behavior. The simulator project was also organized with an initial phase during which a detailed dynamic model of the process was constructed in UniSim Design. This process model underwent rigorous testing, was configured with an instructor station and simple PC-based operator screens and then shipped to the Oman facility.

For the second phase, the simulation model was integrated with and third party DCS and subjected to a full factory acceptance test prior to installation at the site. The process model/DCS integration process was achieved with surprisingly few problems.

“By adopting this phased approach preliminary training was able to start much earlier using the standalone model and operators were able to gain full advantage when the fully integrated OTS system was delivered five months later,” continued Forsyth. “This project was a huge success and Honeywell’s rapid delivery and fast track project yet quality and attention to detail were not compromised. Honeywell’s simulator is high quality, technically complex and very large.”



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