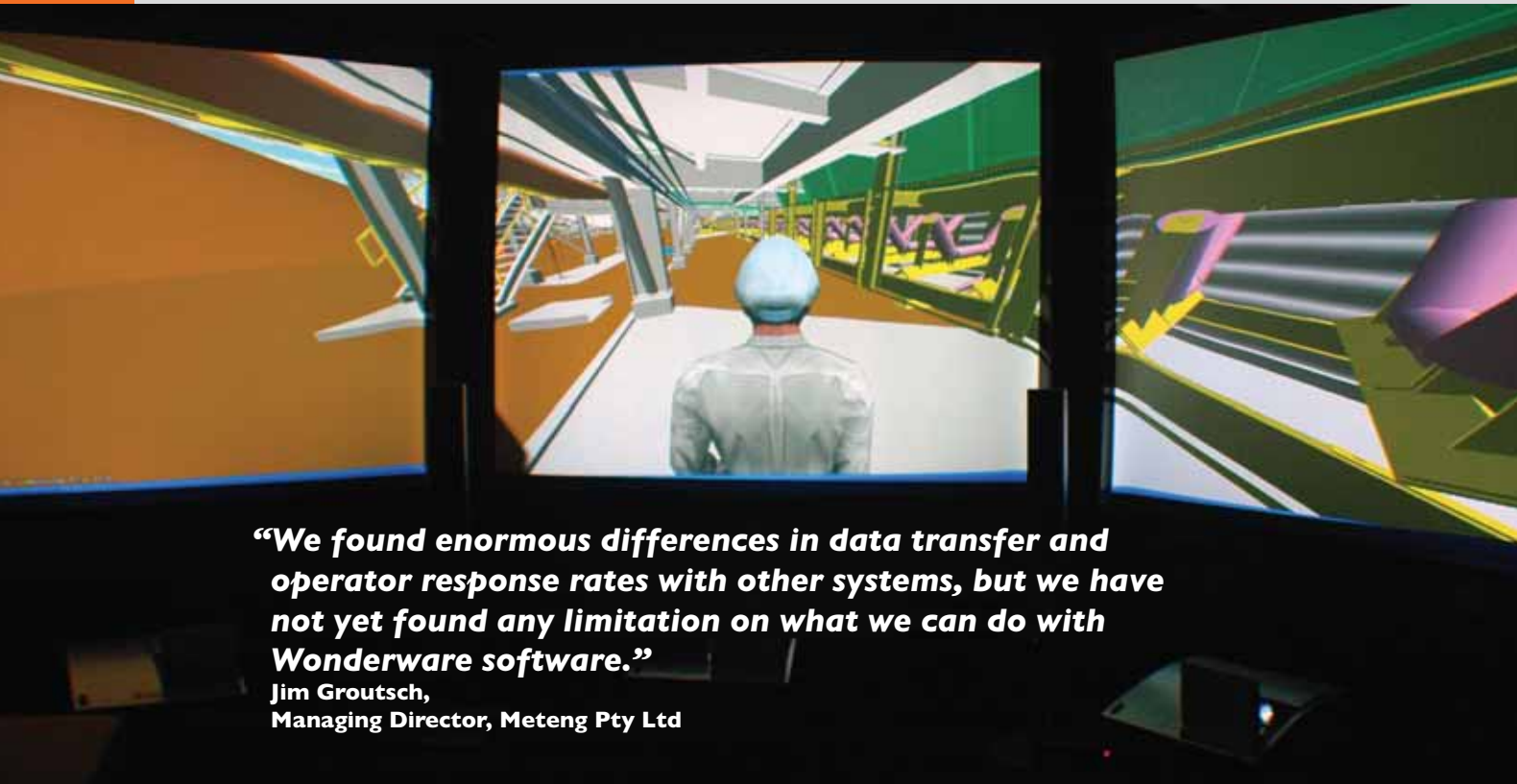


Industry: Process Engineering

Meteng Pty Ltd.

www.meteng.com.au



“We found enormous differences in data transfer and operator response rates with other systems, but we have not yet found any limitation on what we can do with Wonderware software.”

**Jim Groutsch,
Managing Director, Meteng Pty Ltd**

Wonderware and Meteng Combine for Innovative 3D Process Modeling and Simulation System

by Wonderware Australia

Goals:

- Enable an accelerated design process so that plants can begin to generate income more quickly;
- Provide an interactive simulation environment that saves time and money by testing plants and processes before they are constructed;
- Facilitate more effective learning by enabling operators to make mistakes and practice responding to emergency or out-of-compliance conditions without negative consequences.

Challenges:

- The complex Walk-Through Interactive Simulated Environment (WISE) system has enormous power requirements and integrates Apple, Windows and Wonderware technology with very large, high-resolution displays;
- The system had to be built with components that would ensure easy and cost effective expansion to meet the needs of many different clients.

Wonderware Solution:

- InTouch HMI;
- InControl software.

Results:

- Improved system performance. Increased data transfer rates and response to operator interactions on the various systems that make up the simulation system;
- Software platform enabled development of functionality Meteng required for its simulation systems;
- Developers could concentrate on task of process modeling and simulation instead of focusing on complex program code;
- Software offered opportunity for Meteng to develop methods enabling re-use and standardization, resulting in tremendous savings in engineering costs.

Brisbane, Australia – Imagine a realistic tour of a minerals processing plant that has not yet been built, where you can not only see the entire facility, but also adjust the valves, read the meters, walk up and down stairways and even practice responding to a fire or explosion. If this sounds like a video game, it's meant to. And it's also an inventive new way to save plant design costs and safely train operators for real-world scenarios.

Brisbane is known for its natural resources, especially metals and minerals, and Australia's mining industry is concentrated in the region. So it's a no surprise that Meteng Pty Ltd, an engineering consultancy specializing in process modeling and simulation, would have expertise and customers in this segment. What may not be as expected is that the firm would take such a novel approach.

Technology That Capitalizes on Human Nature

Meteng started by studying cognitive science and learning. Research shows that humans have tremendous ability to process and analyze massive amounts of data, and that we retain knowledge best in interactive training, when we experience the results of our actions. Therefore, people discover how to make better decisions when they can practice scenarios and make mistakes without negative consequence. Some call it '*learning by doing*'.

Meteng translates this to the engineering world. The firm's goal is to help their customers plan and design plants more efficiently, maximizing the value of their

physical assets and their people, so they can increase profits, empower employees and enjoy sustainable growth and success.

The result is the WISE system, or Walk-Through Interactive Simulated Environment. Using powerful computers to process dynamic mathematical data models along with several large, high-resolution screens, WISE is a 3D spatial experiences set in a 'cave' with surround sound. It is like being within a video game, but rather than an imaginary setting, WISE simulates an actual processing plant, including a prototype SCADA and control system.

It's No Worries with Wonderware

As Meteng brought the WISE system to life, a major concern was that its complex processing requirements would cause performance or functionality roadblocks. But when Wonderware Australia, the local Wonderware distributor introduced Wonderware software to Meteng, they found an easy-to-configure solution that met their needs and enabled the firm to develop unique solutions.

While the main requirement was high performance with functionality, ease of installation and updates plus excellent technical support were other factors in the decision to integrate Wonderware software into the sophisticated system.

Wonderware software serves as the main control center, opening the 3D models, loading dynamic processes, and initiating or saving training scenarios. Specifically, Wonderware InTouch HMI (Human Machine Interface) adds a versatile, intuitive GUI for the WISE SCADA system, while Wonderware InControl software provides easy-to-integrate, expandable control and scripting that supports the system's interlocks and logic control.

Meteng applies its process engineering skills when it comes to analyzing workflow and developing efficient processes. Wonderware software supports them with its



Figure 1: Meteng 3D Process Modeling and Simulation System.

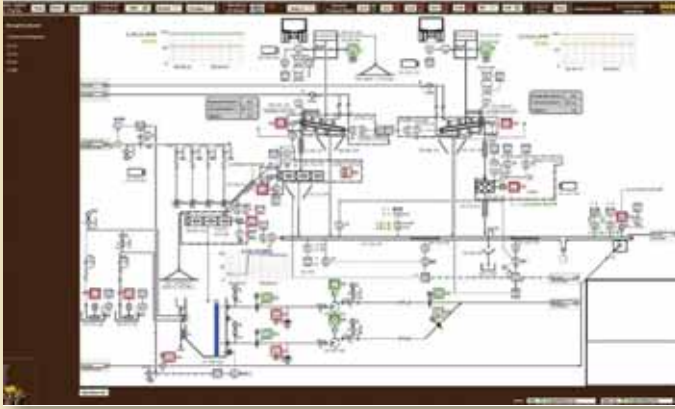


Figure 2: Meteng interactive screen.

powerful standardization and repeatability capabilities. Groutsch says, *“Once a module is designed, it’s easy to rapidly spin off other versions and tailor them to specific operator and plant requirements. It helps us to be smart and efficient, plus we can do it at a fraction of the cost.”*

Changes and re-work to control systems and graphics are also facilitated smoothly. Meteng can respond quickly to client comments and requests for revisions. And when clients are participating in the continuous development of their plant, they are actually seeing the Wonderware software at work in their environment.

Wonderware has also been a capable partner for support. Groutsch is complementary of the association formed between Meteng, Martin Halsey

and the Wonderware Australia team. He elaborates, *“The best thing about it is that the software is so trouble-free, the need for support almost doesn’t exist!”*

The Key is ROI

Meteng has grown up in the mining and minerals processing industry, but as these plants have become more complex, they have incorporated simulations for power stations and chemical plants. They believe the application of the WISE system to new technologies, such as renewable energy processes and carbon reduction projects can significantly help overcome problems in getting new technologies off the ground.

But no matter what the segment, return on investment is critical – for Meteng and their customers.

Since it can cost up to ten times more to fix a design problem onsite than when it is solved in simulation, and since programming errors that delay production can cost millions of dollars, the Meteng solution is proving its worth to the firm’s customers.

Meanwhile, Wonderware software continues to make solid contributions to Meteng’s high-performance system. Groutsch says it best, *“It allows us to do what we want, and do it well.”*

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