



»The implementation of xMII provides our users with a sophisticated yet easy-to-configure tool for Performance Monitoring and Plant-to-Business Integration.«

Robert Fretz, Head of Process Automation & MES, Roche, Pharmaceuticals Division

## AT A GLANCE

### Summary

Roche, Basel, Switzerland, introduced a system for data collection from various data sources and their visualization at several work stations on the basis of SAP xMII (former CMS of Lighthammer). In addition, the flexible xMII workflow control enables data transfer between systems.

### Internet Address

[www.roche.com](http://www.roche.com)

### Main Challenges

- Integration of SAP R/3 and systems for production monitoring
- Implementation of all necessary interfaces
- Visualization for production staff

### Project Goals

- Real-time process integration for time-optimized, structured visualization of production data from various systems
- Vertical integration to enhance communication between systems (Enterprise Application Integration)
- Implementation of workflows and transactions as reaction to defined events

### Solutions and Services

SAP xMII as visualization and communication platform; SAP R/3

### Decision for Trebing & Himstedt and SAP xMII

- High integration capability of xMII
- Flexibility of visualization and workflow tools
- Protection of investment for existing system environment

### Implementation Highlights

- Short implementation time
- World-wide roll-out starting in three countries
- Creation of a reference platform

### Main Customer Benefits

- Improved reactivity of production staff by personalized visualization of processes
- Reduced manual effort by workflow-controlled data transfer between various databases
- Prevention of wrong entries in validation/quality-critical processes

### Implementation Partners

Trebing & Himstedt  
Prozessautomation GmbH & Co. KG

### Existing System Environment

- SAP R/3
- PP-PI Release 4.6C
- Historian PI OSiSoft
- Recipe Database (ORACLE)
- Reporting Database (ORACLE)

## Roche

The Pharmaceuticals Division of Roche realized significant process improvements by Performance Monitoring and Plant-to-Business Integration with SAP xMII

Headquartered in Basel, Switzerland, Roche is one of the world's leading research-focused healthcare groups in the fields of pharmaceuticals and diagnostics. As a supplier of innovative products and services for the early detection, prevention, diagnosis and treatment of disease, the Group contributes on a broad range of fronts to improving people's health and quality of life. Roche is a world leader in diagnostics, the leading supplier of medicines for cancer and transplantation and a market leader in virology. In 2005 sales by the Pharmaceuticals Division totalled 27.3 billion Swiss francs, and the Diagnostics Division posted sales of 8.2 billion Swiss francs. Roche employs roughly 70,000 people in 150 countries and has R&D agreements and strategic alliances with numerous partners, including majority ownership interests in Genentech and Chugai.

The xMII project has been implemented for the Pharma division, Pharma Global Engineering department, at Basel headquarters. This is where realization of large-scale projects for Roche sites world-wide is decided.

### Need for Action Regarding Monitoring and Integration

The xMII project for implementation of Enterprise Application Integration had two objectives. On the one hand, the xMII application was to enable product- and plant-related monitoring of phase times in batch production within the scope of improved Performance Management. On the other hand, bi-directional data exchange between Shop Floor and SAP level was to be realized.

The Use Case of the xMII monitoring application was



implemented to continuously display the duration of process phases executed on certain facilities for batch production for monitoring and analysis. Via interactive dashboard, users could access process data of a connected PI Historian system. Batch and plant data were displayed for a certain time slice, with all information presented in a structured form on the dashboard. The xMII solution responded event-controlled to the completion of batches, so that dashboard information with regard to minimum and maximum times of single phases as well as regarding measured standard deviations could be updated continuously.

### **Integration of Process Control Level and SAP R/3**

The system environment for the first of the two Plant-to-Enterprise integrations (EAI), consisted of an SAP system (PP PI module), an ORACLE database, a PI Historian and a SCADA operator panel, with at its heart xMII providing the center for data exchange. Goal of the application was to consolidate SAP process orders with product- and phase-related setpoints, which were stored in a separate SQL database, and display them for the plant operator.

**»Project services from Trebing & Himstedt were part of the success – implementation and delivery were both on time and within budget.«**

Robert Fretz, Head of Process Automation & MES, Roche, Pharmaceuticals Division

The second Plant-to-Enterprise integration with xMII was realized to calculate material consumption in batch production and to transfer the value to an SAP system. With the existing systems and interfaces, requirements could not be adapted to the needs of the production process as flexibly as desired. The system environment of this Use Case consisted of the SAP MM module, a PI Historian and an ORACLE database. SAP xMII monitored batch completion and read out batch-related material consumption data including plant and phase information as well as PI tag name from the ORACLE database. xMII now computed phase start and end times for each material consumption, calculated overall material consumption on the basis of batch volumes, and entered calculated consumption values together with material number, batch ID and consumption time into SAP.

Hans Sucker of Roche Pharmaceuticals Division, responsible for the interface between process and ERP

level, is highly pleased with this xMII installation. »I was surprised by the smooth realization of the SAP connection, and by how quickly the information was available.«

### **Future-Proof Reference Architecture**

After successful realization of the pilot project, roll-outs at Roche Madrid, Milan and Istanbul sites are scheduled for the start of 2006. The respective users have already been extensively trained by Trebing & Himstedt.

Roll-outs at further Roche sites world-wide are planned.

Roche executives quickly realized the full potential of the xMII software, which far exceeds the functional range exploited in this specific, realized project: At present, xMII is also successfully used in Secondary Production divisions such as packaging.