

# TIANMA MICRO-ELECTRONICS IMPROVES TIME MANAGEMENT WITH BUSINESSOBJECTS EDGE

*“Excellent time management represents increased efficiency and output and also indicates a company’s predominance in an emerging market. BusinessObjects Edge brings such an opportunity to Shanghai Tianma Micro-Electronics.”*  
Qu Jiehua, Business Objects Project Manager, Shanghai Tianma Micro-Electronics Co., Ltd.



**Industry**  
Manufacturing

**Business Pain**  
Shanghai Tianma needed to consolidate production data, generate intuitive analysis for timely decision-making, and improve time management, production planning, and cost control.

**Why Business Objects?**  
Shanghai Tianma selected Business Objects because of its strong product offerings and its leadership position in the world’s BI market. BusinessObjects Edge is robust, affordable, and easy to deploy.

**Business Objects Products and Services**  
BusinessObjects Edge Standard

## CHALLENGE

Many companies think that only after years of deploying systems such as enterprise resource planning (ERP), customer relationship management (CRM), and supply chain management (SCM), and after they’ve accumulated an abundance of data tied to those systems, that only then will a business intelligence (BI) system fully demonstrate its value. However, as a newcomer to the liquid crystal display (LCD) manufacturing industry, Shanghai Tianma Micro-Electronics Co., Ltd., established in April 2006, introduced BI systems from Business Objects, an SAP company, in October 2007. What does that imply?

A subsidiary of Shenzhen Tianma Micro-Electronics Co., Ltd., Shanghai Tianma functions as a vital part of its parent company’s strategy. The company is mainly engaged in the design, manufacturing, and sale of LCD monitors and related products, conducting research and development of relevant technologies, and providing technical consulting and services. The company owns the key technologies for designing and manufacturing thin film transistor (TFT) LCD products, and promotes the establishment of a complete industrial chain of large, mid-sized, and small flat-panel monitors in China, making great contributions to developing the national information industry as well as regional economic growth. Recently, the country’s first 4.5-generation TFT-LCD production line – costing Shanghai Tianma ¥3.29 billion in the first phase, and manufactured in the Shanghai Pudong New Area – was officially put into trial operation.

The 4.5-generation TFT-LCD production line is the company’s premium line, producing small and mid-sized products with high productivity and utilization rate of glass panels. Hence, once it achieves the targeted product manufacturing and sales planned for its 4.5-generation production line in the next few years, the company will gain competitive advantage. In addition, Shenzhen Tianma expects the 4.5-generation production line to further consolidate its leading



Figure 1: Shanghai Tianma Micro-Electronics Co., Ltd.

position as a producer of small and mid-sized LCD displays.

In 2008, Shenzhen Tianma expects business to grow dramatically. Surveying the 4.5-generation TFT-LCD

production line from an international perspective, the company’s decision-makers anticipate much higher demand over time as the capability of the production line expands. Liu Ruilin, general manager at Shanghai Tianma Micro-Electronics, notes that there are now eight companies with 4.5-generation TFT-LCD production lines. Shanghai Tianma’s product sales currently account for about 3% to 4% of the world’s total market share. The ever-increasing prices of LCD panels on the world market further accelerate the advancement of the production lines. “We hope we will be able to balance the income and cost one year after volume production,” says Ruilin.

Time and quantity are the two essential elements in production operations and the two are interconnected. Given the above circumstances, speed is the critical factor for Shanghai Tianma to be successful in its 4.5-generation TFT-LCD production line campaign. “Shanghai Tianma is a new plant and we have not encountered any difficulties or challenges – but this does not mean that there are no difficulties and challenges,” says Ruilin. “The potential problem is: How we can realize integrated time-based production planning and quality management, equipment management, and cost management? Here you will find issue on the time management level.”

Qu Jiehua, Business Objects project manager at Shanghai Tianma, explains that the production operations generates a range of data, including production process data with a timestamp; alarms, messages, and production event information with a timestamp; manual experimental data, such as various testing metrics; technical data, like thickness and pressure; and batch information, like batch number and batch execution status. In addition, the operations team collects production-line data, such as utilization rate, equipment quality, and usage. The time management processes enforce production-related report generation and lead to the creation of intuitive reports. Management is able to understand production status, discover problems, and readjust production plans based on insights into the comprehensive data – enabling the whole production line to move forward efficiently and effectively.

## APPROACH

Shanghai Tianma looked to the world’s leading BI provider – Business Objects. The IT engineer at Shanghai Tianma explains, “Shanghai Tianma is a fast-growing company without much time to spend on deploying large-scale BI solutions. The engineers at Business Objects demonstrated the powerful functions of their products. We are deeply impressed by the key areas of fast report generation, simple maintenance, and easy deployment of its market-proven BI platform.”

After studying the business needs and IT application situation at Shanghai Tianma, the company chose to deploy BusinessObjects™ Edge Standard, based on the BusinessObjects Enterprise XI BI platform and designed specifically for growing companies. BusinessObjects Edge includes BusinessObjects Web Intelligence®, the main tool for reporting and analysis. Shanghai Tianma likes that Web Intelligence offers a user-friendly interface with feature-rich information presentation capabilities, such as powerful inquiry, flexible report designing, and editing.

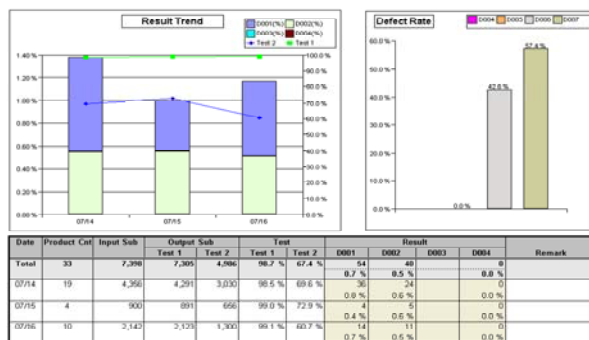


Figure 2: Testing Output Operations

Where the sales team is concerned with on-time delivery, production managers schedule plans by priority level, with an eye on the quality and the depreciation rate of equipments, and management is concerned with the production line’s utilization rate and costs. All of these drivers call for a BI solution. Jiehua says, “We must deploy BI; otherwise, we will never win.” Shanghai Tianma seeks to integrate Business Objects solutions with the company’s existing

manufacturing execution system (MES) production management system. The company’s Business Objects project team has very clear requirements: Use the BI software to analyze MES data, monitor production status, and further improve productivity. Among the various reporting efforts, comparing the production plan against status is a critical task.

With Business Objects, users can identify concurrent and redundant data issues, and also support user’s access to data in a controlled and secure manner – helping to reduce the backlog of reports and ensure timely business decisions. Web Intelligence provides a single Web environment for data inquiry and analysis, enabling Shanghai Tianma’s users to access

and explore information securely, significantly cutting the number of deployed tools. Access to metadata also increases users' confidence in the data. Web Intelligence provides an open BI platform, which can be ideally integrated with company's original application software, platform and database by means of the coding technology at bottom layer. These features help ensure the continuity of various work.

Based on the original data extraction, transformation, and loading (ETL) process, Business Objects built a BI demonstration platform on top of Shanghai Tianma's MES application layer. When talking of the solution advantages, the Business Objects project team of Shanghai Tianma observes, "BusinessObjects Edge is designed for growing companies that fit in with the scale as well as the management and innovation needs of these enterprises. It is really an excellent BI solution with appropriate scale and application performances, it's easy to implement, and it has better flexibility and affordability than other products of the same kind."

## RESULTS

In October 2007, Shanghai Tianma began its BusinessObjects deployment project, estimating completion in March 2008. So far, BusinessObjects is providing to be an easy-to-use and must-have effective tool for Shanghai Tianma. Jiehua says, "Excellent time management represents increased efficiency and output and also indicates a company's predominance in an emerging market. BusinessObjects Edge brings such an opportunity to Shanghai Tianma Micro-Electronics."

Jiehua notes that Business Objects enables data integration, enhancing both data access and data accuracy for Shanghai Tianma. Shanghai Tianma enjoys better communications between production and planning, material, and commercial departments, and with BusinessObjects

Web Intelligence, a more efficient report process. Additionally, the IT staff of Shanghai Tianma is pleased with the convenient design modification and ease of use with BusinessObjects. Shanghai Tianma views ease of use and ease of modification as extremely important for an IT project under implementation, a production in trial operation, and a new LCD plant under construction.

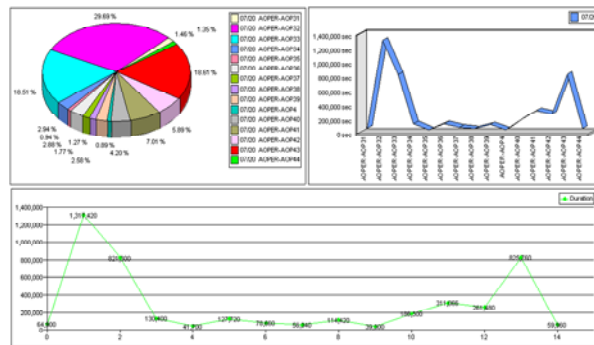


Figure 3: EPQ Application

All evidence shows that in the long run, BusinessObjects Edge will help Shanghai Tianma realize a dynamic balance between production locale and its production plan. Jiehua says, "Our future goal is to combine the modules of plant management, quality management, and equipment management with the automatic collection system of production locale data, realize the integration of planning management with MES, track the dynamic output, quality, and consumables of production process in real time, make robust adjustment of production plans according to data feedback from production and, ultimately, align our management and control processes. Meanwhile, we hope to realize the integrations of production management with technical data, inventory data, and cost data, to closely track dynamic logistics and costs."