

# Samho Heavy Industries

## SHIPBUILDING SCHEDULING SYSTEM

SCHEDULING THE PRODUCTION of massive seagoing vessels is an undertaking as colossal as the ships themselves. Thousands of operations are involved, each requiring supplies, skilled workers and costly equipment. To meet completion dates, every resource has to be accounted for and ready when needed.

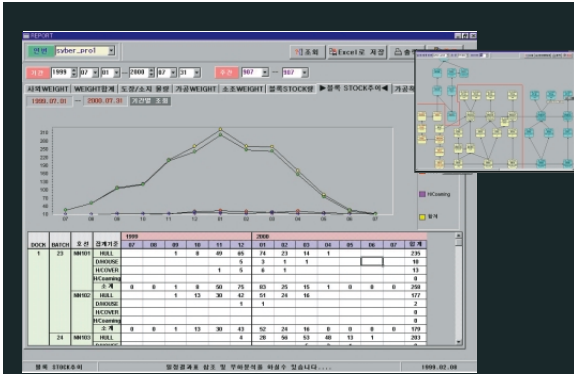
Samho Heavy Industries, one of the largest shipbuilders in Asia, manages its resources with a scheduling system based on ILOG Solver and ILOG Scheduler. The powerful C++ constraint-based optimizers weigh all the parameters involved in building a ship and generate solutions that keep Samho's operations on time.

Today, Samho produces 25 ships annually, and with its ILOG-based scheduler, foresees its output steadily increasing in the coming years through tighter control, faster production and improved matching of resources to operations.

*"With thousands of people and operations to schedule, we couldn't afford to skip on a scheduling system. ILOG leads in optimization, and we are seeing improvements around here daily that are directly attributable to better resource allocation."*

**Hwa-Young Lee**  
Project Manager  
ICOLS, Samho Heavy Industries





### **SAMHO HEAVY INDUSTRIES CO. LTD.**

Once part of the Halla Group, the holdings of Samho Heavy Industries make the company one of the major players in shipbuilding and marine and heavy equipment manufacturing. Samho has revenues of over \$800 million and assets of over \$1 billionis. With cutting-edge automation and highly skilled workers, Samho is rapidly becoming a leading power in the shipbuilding industry.

### **ABOUT ILOG**

ILOG is the world's leading supplier of software components. Founded in 1987, ILOG today offers a broad range of embeddable optimization, visualization and business rule components that dramatically shorten application development time and drive competitive advantage in the supply-chain, telecommunications, transportation and financial service industries. ILOG is the established market leader for optimization software, and playing a defining role in the emergence of the e-business software component market. ILOG operates globally, with major customers throughout Asia, Europe and North America. For more information, please visit [www.ilog.com](http://www.ilog.com).

## **BETTER SHIPS THROUGH TIGHTER SCHEDULING**

Like most manufacturers, Samho used a manual scheduling system when it started building ships. The system relied on a handful of personnel and was sufficient for allocating resources when the company's output was small. As Samho grew, however, so did its scheduling needs as well. Operations that initially took only a few hours to schedule became so complex that days were needed by a large staff to produce acceptable production agendas.

ILOG's optimization components have whittled the days down to hours for producing plantwide schedules, and to minutes for reactive scheduling to accommodate unforeseen changes in procurement or production. ILOG Solver and ILOG Scheduler take information concerning order specifications, labor regulations, and equipment capacity and availability, and compute solutions that ensure every operation has the right people, materials and equipment when they are needed.

## **PROJECT**

The shipbuilding scheduling system took three men at Industry Community OnLine Service (ICOLS), a Samho division, 11 months to complete. It runs on an HP-D250 UNIX computer and uses three operators.

## **BENEFITS**

The new system allows Samho to closely allocate resources to operations. It enables the company to order building materials more accurately, place equipment where and when it is needed, and respect labor regulations and employee requests in assigning personnel. By using the system, Samho has been able to increase its output and the quality of its ships.

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