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JGC adopts PSE ModelEnterprise® supply chain technology

Advanced model-based technology for integrated supply chain management

Process Systems Enterprise (PSE) of London, England and **JGC** of Yokohama, Japan, today announced an alliance under which JGC will market, support and implement solutions based on PSE's **ModelEnterprise** supply chain platform in Japan and other JGC markets.

ModelEnterprise is PSE's integrated platform for managing and optimising supply chain activities. It allows many applications to be run on a single underlying model of the enterprise that spans the space between the transaction-focused Enterprise Resource Planning (ERP) system and the operations-focused Process Control System (PCS). By supporting easy, as-required construction and maintenance of a detailed enterprise model, all the way from multi-site production/distribution networks down to individual sensors, ModelEnterprise simplifies knowledge capture and ensures consistency across applications.

The package was released with its first application, the **Optimal Single-Site (OSS) Scheduler** in March this year and is already in use at several client sites. The OSS Scheduler is the first of a range of applications PSE will release for the ModelEnterprise platform, providing capabilities ranging from supply chain optimal design to online scheduling within a consistent, extendable framework.

ModelEnterprise's OSS Scheduler uses novel rolling-horizon techniques to optimise simultaneously both short-term scheduling and longer-term planning for a single production site, believed to be an industry 'first'. Because the scheduler optimises an economic objective function, it can answer not only questions such as whether a plant has the capacity to fulfill an order (**Capable-to-Promise** or **CTP**), but also how profitable it is to process the order or, alternatively, the minimum price at which the order can be fulfilled at a profit (**Profitable-to-Promise** or **PTP**). The OSS Scheduler is one of the first products with a built-in PTP capability to be made commercially available.

JGC will provide the consulting, engineering, and system integration services to JGC customers for building competitive supply chain management systems based on ModelEnterprise. JGC is also planning to release enterprise applications for the ModelEnterprise platform, and model libraries for specific industry sectors.

Akio Shingawa, Senior Manager of JGC's Business Solution Operations, says "We believe that the total solution services combined with the advanced modelling and optimisation technologies from PSE will bring high value as well as satisfaction to our customers."

Mark Matzopoulos, Managing Director of PSE, says "We are very pleased to be working with a company with the capabilities and credibility of JGC, and look forward to a long and productive relationship that will bring value



through advanced new technology to JGC's diverse range of customers in the Food & Beverage, Fine Chemicals and Pharmaceutical markets."

Notes for Editors

Graphic material

Graphic material on ModelEnterprise is available at <http://www.psenvironment.com/pressroom.html>

About ModelEnterprise

ModelEnterprise is an integrated environment for modelling and managing vital business decisions at all stages of design, planning and operation of flexible enterprises – from multi-site capacity planning to plant design and from single-site planning to real-time schedule execution.

ModelEnterprise's modular platform allows the construction and maintenance of complex enterprise models representing the enterprise's supply chain, from multiple production sites, warehouses and distribution centres, down to individual materials, recipes, equipment items and sensors. Open interfaces provides other software with complete access to all available information and allow virtually infinite extension.

The uniqueness of ModelEnterprise stems from its model-based approach. The Common Data Model supports the creation of libraries of models specific to industry sectors, and spans the space between the business-process-oriented Enterprise Resource Planning (ERP) model and the detailed production database of the Plant Control System (PCS). ModelEnterprise's open architecture supports a wide range of tools applied to the underlying model for solving different types of problem, such as strategic design of supply chain networks, multi-site production and distribution scheduling and single-site plant planning and scheduling. These Enterprise Management Applications (EMAs) can be supplied by PSE, third-party suppliers or the enterprise itself.

The first EMA for the ModelEnterprise platform is the Optimal Single-Site Scheduler (OSS Scheduler) which determines mathematically optimal production schedules for given availabilities of plant resources, recipe information and known product demands. The OSS Scheduler incorporates substantial recent enhancements to solution technology. These include rolling horizon and combined detailed/aggregated scheduling techniques that use the same underlying model to provide detailed scheduling over an initial period of production and a coarser representation over subsequent time periods. This has the unique advantage that the effect of future orders, scheduled maintenance, etc. are taken into account in the detailed schedule for the immediate period. The underlying technology has been proven over many years' application in the chemical industry.

About JGC

JGC Corporation is a total engineering company with operations spanning over seven decades. Since it was established in 1928, JGC has executed more than 10,000 projects and delivered facilities for a wide range of industries as well as control and management systems related to production and supply chain management. JGC is a leader in providing overall project management under an integrated philosophy, from consulting, planning, design and procurement to construction, system development and commissioning. Our technologies and capabilities are applied to the hydrocarbon sector, which include petroleum refining and petrochemical, chemical and gas processing, and, in the general industries (nonhydrocarbon) sector, to a broad spectrum of projects related to general production facilities, as well as social development and other fields.

About Process Systems Enterprise Ltd

PSE (<http://www.psenvironment.com>) is one of the fastest growing providers of model-based technology and services for design and decision support to the process manufacturing industries. The company was founded in 1997, originally to deliver and support in the commercial market innovative process modelling technology originating from London's Imperial College. Among its unique offerings are advanced software packages, services and expertise for modelling and simulation of manufacturing processes and optimal design, planning, scheduling and operation of flexible manufacturing facilities. PSE has established itself as a leading independent high-tech provider to a growing, global customer base that encompasses the largest process manufacturing and automation companies in the



world. The company is a winner of the prestigious UK Queen's Award for Enterprise and Innovation for 2001, for its gPROMS® mathematical modelling framework and dynamic optimisation technology. It employs 35 graduates and PhDs at its headquarters in London, UK, and works through agency and value-added reseller operations in the US and Japan.

For further information, please contact:

Nobuaki Ishii

Manager
Logistics Systems Engineering Department
JGC CORPORATION
2-3-1, Minato Mirai, Nishi-ku,
Yokohama 220-6001, Japan

Tel +81-(0)45-682-8516
Fax +81-(0)45-682-8853
Email ishii.nobuaki@jgc.co.jp
<http://www.jgc.co.jp>

John de Brugha

Head of Sales & Marketing
Process Systems Enterprise
Bridge Studios
107a Hammersmith Bridge Road
London W6 9DA, United Kingdom

Tel +44 (0)20 8563 0888
Fax +44 (0)20 8563 0999
Email j.debrugha@psenterprise.com
On-line media information is available at:
<http://www.psenterprise.com>