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PSE releases gPROMS[®] version 2.3**Unprecedented power and usability from leading process modelling environment**

Process Systems Enterprise (PSE), developers of the gPROMS family of process modelling tools, today released gPROMS v2.3. Version 2.3 introduces a host of new features and capabilities which raise mathematical modelling software to unprecedented levels of power and usability.

The new developments focus on three areas at the core of PSE's modelling philosophy: productivity measures to enable easier creation of high-value applications, facilities for application of advanced process models across the organisation, and powerful new technologies that extend the range and scope of models within the organisation.

Key productivity enhancers are the new graphical flowsheet editor that supports the construction of hierarchical models of arbitrary complexity; the bundled process model libraries (PMLs) that provide robust high-accuracy dynamic and steady-state models of common flowsheeting operations; usability enhancements including form-based editors and assisted pathname completion; and new structured diagnostics that help speed up development of large models.

This increased usability has not come at the expense of the power and flexibility for which gPROMS is renowned. Dual graphical and gPROMS language editors maintain a consistent and synchronised view of all aspects of the process model at all times, and the gPROMS language remains fully supported, allowing full quality assurance and auditability. All new capabilities integrate seamlessly, and gPROMS-language descriptions from earlier versions are automatically imported.

PMLs include fluid transportation, heat exchanger, reactor, control and separation (including rigorous dynamic distillation) libraries. Models can be run in dynamic or steady-state mode, and are designed to behave robustly over wide ranges of conditions including 'abnormal' situations such as flow reversal, transitions between laminar and turbulent flow regimes, and appearance and disappearance of thermodynamic phases. All PML models are provided in gPROMS language 'open source' form so that they can be used as templates or starting points for users' own models.

Consistent with PSE's philosophy of providing tools that integrate the many modelling activities across the organisation and thus allow maximum reuse of models, v2.3 includes significant enhancements to the gPROMS Object ("gO:") components of the gPROMS family.

Control engineers benefit from new automated facilities that simplify the export of detailed non-linear process models for execution by gO:Simulink[®] within [Mathworks](#) Simulink. The gO:CAPE-OPEN Unit object, which allows gPROMS models to be executed within common CAPE-OPEN compliant flowsheeting packages such as Aspen Technology's ASPEN PLUS[®], has been enhanced and streamlined following extensive testing with large-scale models.

In addition, the new gO:RUN member of the gPROMS family now enables model builders to distribute models to, for example, plant or purchasing departments as easy-to-use executable or runtime versions executing from within Microsoft EXCEL™ or other suitable interface software. The models exported from the gPROMS ModelBuilder are encrypted to preserve confidentiality and to prevent unauthorised changes.

Says Mark Matzopoulos, PSE's Managing Director: "We are extending the power and scope of process modelling to allow easy delivery of the high-value applications that enable customers to address marginal value. PSE's advanced model solutions slot into a range of common software frameworks, allowing maximum return on modelling investment."

PSE remains dedicated to pushing the frontiers of process modelling. For the first time, chemists and laboratory personnel are well-catered for in gPROMS v2.3, which contains powerful new capabilities for model-based design of experiments. The approach uses the model itself to determine the optimal values of experiment decision variables – for example, feed flowrate profiles or sample intervals – required to minimise the uncertainty in the estimates of the model parameters – for example, reaction kinetic constants. This approach is a powerful alternative to purely statistical techniques such as the well-known "factorial design" approach, typically leading to far fewer experiments being required to achieve a given accuracy in the parameter estimates. 'Experiments' may be actual laboratory or pilot plants experiments or industrial-scale plant perturbation, under either steady-state or dynamic conditions.

A host of new physical property capabilities and enhancements include the addition of a built-in gPROMS ideal properties package, the updating of the powerful Multiflash® properties package to version 3.3, and an update of the CAPE-OPEN thermodynamic socket to conform to v1.0 of the CAPE-OPEN standard. This allows any CAPE-OPEN compliant physical properties package to be used within gPROMS models. Multiflash 3.3 includes a number of significant extensions and improvements, including a PC-SAFT model for accurate prediction of physical properties of systems involving polymeric species.

Note to editors: A graphic is available for download from www.pseenterprise.com/pressroom.html.

Notes for Editors

About gPROMS

gPROMS is one of the world's leading software packages for advanced process modelling, simulation and optimisation. Conceived and initially developed at London's Imperial College, the package has been developed and marketed by PSE since 1997. gPROMS is widely used throughout the process industries for quantitative decision support in all areas of process design and optimisation, as well as for advanced product design. gPROMS' advanced modelling and solution techniques and open software architecture have led to it becoming the tool of choice in many areas of advanced modelling application, in particular in areas such as crystallisation and detailed reaction engineering where suitable general-purpose tools have not been available in the past. PSE is committed to maintaining gPROMS at the leading edge of modelling technology and this has resulted in some notable industry firsts in the areas of parameter estimation, dynamic optimisation, mixed integer-dynamic optimisation (MIO) capabilities and model-based experiment design.

About Process Systems Enterprise Ltd

PSE (<http://www.psenderprise.com>) is one of the world's leading deliverer of modelling technology and model-based 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 for the economic optimisation 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, and for the past two years has been listed among the 100 fastest-growing technology companies in the UK. It employs around 35 graduates and PhDs at its headquarters in London, UK, Central European office in Köln, Germany and North American office in Houston, Texas, and has sales operations in Japan and Korea.

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