Press release

IMMEDIATE RELEASE
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PSE releases major update of gSOLIDS for solids process design and operation

Major model library enhancements plus improvements in speed, robustness and usability

LONDON, 26 June 2013 --- Process Systems Enterprise (PSE), the Advanced Process Modelling company, today announced the release of gSOLIDS 3.0, an integrated drag & drop graphical flowsheeting environment for process engineers and scientists in industries where particulate processes play an integral part, such as pharmaceuticals, fine chemicals, agrochemicals, food processing, consumer goods and minerals and mining.

gSOLIDS 3.0 extends existing capabilities for drug product manufacturing with new tableting unit operation models for compaction, coating and in-vitro testing, all of which were developed in close collaboration with pharmaceutical clients. Other new models include an electrostatic precipitator, a dynamic screen model, a fluid bed agglomerator and an agglomerator that incorporates breakage models.

The new version brings significant improvements in speed and robustness. It also includes usability improvements in the form of an expanded set of sensor and control models which include holdup and stream sensors for reporting moisture content and particle size distribution (PSD) as volume density distributions and quantiles, as well as a PSD monitor that allows comparison of size distributions from different sensors. New facilities have been added for easy creation of operating procedures for batch processes.

Similarly to previous gSOLIDS releases, version 3 was developed in close collaboration with clients such as AstraZeneca, Novozymes, Pfizer and Procter & Gamble. A key advantage of gSOLIDS is that it is built on PSE's gPROMS advanced process modelling platform, which provides the ability to perform full steady-state and dynamic modelling, handle large numbers of recycles robustly, model complex operating procedures for batch and semi-continuous processes, and easily add custom models to reflect users' actual unit operations. It can also handle multiple solid phases, each with its own particle size distribution and size dependent composition.

Sean Bermingham, VP of PSE's Solids strategic business, says "The ability to handle dynamics – essential for batch process optimisation – as well as combine models and experimental data using population balance models, perform rigorous optimisation on large problems, and implement custom models rapidly, makes gSOLIDS unique in the solids processing industries. Our ModelCare service also helps customers achieve results rapidly".

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About gSOLIDS

gSOLIDS is used to increase R&D efficiency and reduce the risk associated with the design, scale-up and operation of manufacturing processes involving particulate materials.

gSOLIDS uniquely includes a wide range of advanced features including parameter estimation for fitting process parameters from laboratory or operational data, rigorous mathematical optimisation of design and operation, and sensitivity analysis for risk management. It also integrates with PSE's gCRYSTAL and gas-liquid process models to enable simultaneous whole-process design and optimisation.

gSOLIDS helps engineers to optimise the operation of units such as high shear wet granulators, fluidised bed dryers, mills, screens, spray dryers, hoppers and conveyors in order to ensure product quality, size recycles and surge bins for new plants and achieve the required throughput. A key use is to determine the optimal trade-off between capital and operating cost and make informed purchasing decisions.

Typical benefits include increased R&D efficiency, more reliable scale-up and tech transfer, reduced capital investment, reduced operating costs, improved product quality, increased throughput, more flexible process design, reduced CO_2 footprint, and a better process understanding. gSOLIDS also provides a flexible and powerful platform for integrating companies' internal R&D and third party research.

PSE works closely with leading research consortia such as the US NSF Engineering Research Center for Structured Organic Particulate Systems (C-SOPS), which is developing science and engineering methods for designing, scaling, optimising and controlling manufacturing processes for the life sciences industries, to maintain the technology at the forefront of innovation and enable knowledge transfer between academia and industry.

About Process Systems Enterprise Ltd

PSE (www.psenterprise.com) is the world's foremost provider of Advanced Process Modelling software and services to the process industries. Process companies apply advanced process models to explore the process decision space rapidly and make better, faster and safer design and operating decisions by reducing uncertainty.

Use of PSE's technology and services results in faster innovation, improved designs of processes and products, enhancement of existing operations and more efficient and effective R&D and experimental campaigns. Results are achieved with relatively low investment compared to alternative approaches, with rapid return on investment.

PSE's global customer base of process manufacturing companies is served by operations in the UK, USA, Germany, Japan and Korea, and agencies in Abu Dhabi, China, Saudi Arabia, Taiwan, Thailand and Malaysia. PSE is a spin-out of Imperial College London, and its software is used in over 200 universities around the world.

The company's own ability to innovate was recognised with the award of the prestigious Royal Academy of Engineering MacRobert Award for Engineering Innovation, the highest UK engineering prize.