Press release

FOR IMMEDIATE RELEASE
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PSE launch fuel cell modelling solutions at Grove

Modelling enables faster development, better designs

Process Systems Enterprise (PSE) will launch its advanced fuel-cell modelling and optimisation solutions at the Eighth Grove Fuel Cell Symposium in London from 24-26 September. The solutions comprise a range of dynamic high-fidelity component and systems models including the fuel processing sub-system and the cell stack assembly.

PSE Principal Consultant Zbigniew Urban, responsible for PSE's Fuel Cell technology area, will present a paper outlining the approach entitled "High-accuracy predictive modelling for solid oxide fuel cell units and systems". This describes the application of detailed microscale models within the company's powerful gPROMS® process modelling framework. Models combine all key cell physical and chemical phenomena in a form that can be used, for example, for simulation of components or the whole system under realistic operating conditions, for evaluation and optimisation of material properties and cell performance, or for studying systems dynamics in conjunction with macroscale (for example Computational Fluid Dynamics) models for detailed stack performance analysis. The paper will be summarised at a related vendor presentation on each day of the conference.

Already adopted by several major players in the fuel cell area, PSE's technology has been proven to lead to shorter time-to-market and better resulting designs in terms of efficiency and performance. The unique features of gPROMS mean that knowledge is captured in a form that can easily be used to quantify important design decisions and optimise the values of key parameters, resulting in shortened development programmes, a reduced need for physical testing in costly pilot plants, and more focused research.

PSE's modelling capabilities include a range of advanced first-principles models of the cell stack assemblyand fuel preocessing sub-system. Models combine PSE's in-house expertise in the modelling of fundamental chemical, electrochemical and heat and mass transfer phenomena with input from leading academic research organisations in the field. Because they are implemented in the gPROMS framework, models can be supplied in "open-source" form for users to extend and customise as required, and can easily be combined into systems models. Fitting models to experimental data has never been simpler thanks to gPROMS's advanced model validation and model-based experiment design features.

PSE is exhibiting on stand B-41, where we are hosting the Symposium Cyber-cafe. The paper will be presented during session 5b at 10.25am on Friday, 26th September. The related vendor presentations will take place in the Vendor Presentation Theatre on each day of the exhibition, at 11 am (Wed 24 and Thur 25) and 11:45 am (Fri 26).

Notes for Editors

About Process Systems Enterprise Ltd

PSE (http://www.psenterprise.com) is one of the world's leading deliverers 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 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, 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, and has sales and consulting operations in the USA, Germany and Japan.

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 detailed reaction engineering, crystallisation and fuel cell development 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 and mixed integer optimisation (MIO) capabilities.

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