Press release

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APM Forum 2018 focus on digitalisation for the process industries

Key role of deep process knowledge in digital design and digital operations

LONDON, 20 April 2018 --- At the 2018 Advanced Process Modelling (APM) Forum this week, process industry organisations presented on digital design and operations applications ranging from accelerating development of the next generation of pharmaceuticals to realising millions of dollars per year in increased profit for large process plants.

Introducing the conference, Prof. Costas Pantelides, MD of conference host Process Systems Enterprise (PSE), described the current wave of digitalisation as the culmination of many years of advanced modelling and IT development. “This is a time of extraordinary opportunities for the process industries” he said.

Keynote speaker Mathias Oppelt of Siemens described how high-fidelity process models containing deep process knowledge bring a new level of power to digitalisation initiatives being delivered by automation companies. Siemens later demonstrated digital twin technology for an ethylene plant, implemented using PSE’s gPROMS Olefins software. SABIC showed how new online technologies improved yield by 2% at a large petrochemicals plant, representing tens of millions of dollars per year, and BASF described how digital technologies that combine data and models are enabling an enhanced innovation approach with strong focus on customers and markets.

Keynote speaker Suracha Udomsak, R&D director at SCG Chemicals, said “APM is a key element of our Digital Manufacturing platform. It accelerates innovation by making the development workflow faster, cheaper and safer”.

On the Formulated Products side, keynote speaker Ben Weinstein of Procter & Gamble described how a strategic decision many years ago to back a digital design approach has accelerated innovation across P&G.

Pharma keynote Neil Hodnett of GSK showed how system modelling is applied to accelerate development and transfer of robust manufacturing processes, particularly in the move to continuous processing, through the use of virtual DoEs for in-silico QbD.

Roche, Pfizer, Ferring, Novartis, Sandoz, UCB, Syngenta, Danone and FrieslandCampina described benefits of applying advanced mechanistic modelling to improve drug product manufacture, increase R&D efficiency and reduce risk in scale-up and tech transfer.

Pantelides adds “a common theme is that it is now possible to easily capture deep process knowledge in the form of predictive models, then use these within a digitalisation framework to generate value at every step”.

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About Process Systems Enterprise Ltd (PSE)

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

PSE's equation-oriented platform gPROMS® products include the gPROMS ProcessBuilder® flowsheeting and custom modelling environment for optimising fluid process design and operation, the gPROMS FormulatedProducts® environment for integrated design and optimisation of formulated products and their manufacturing processes, the gSAFT® advanced thermodynamics package, and the gPROMS Operational Excellence Solutions (gOES) for plant operational monitoring, forecasting and optimisation based on high-fidelity models.

PSE is committed to defining, developing and driving the adoption of next-generation process modelling software and workflows capable of supporting industry digitalisation strategies. The unique advantages of PSE tools are the combination of high-fidelity models, powerful mathematical optimisation and global system analysis capabilities, and high-performance computing (HPC) capabilities for rapid and robust solution of complex problems.

Use of PSE's technology and services results in faster innovation, improved process and product designs, enhanced operations, reduced risk, more effective R&D and experimental campaigns and better capture and transfer of corporate knowledge across the organisation.

PSE's global customer base of Fortune 500 process industry companies is served by operations in the UK, USA, Japan and Korea, and agencies in China, Taiwan and Thailand. PSE is a spin-out of Imperial College London, and its software is used for teaching and research in over 200 universities around the world.

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