

Strong in Boston

A slew of new products and initiatives along with a restored solid financial position meant that there was optimism in the air at AspenTech's Optimize 2013 Global Conference. Bob Gill reports.



Boston has been in the news this year and not for the happiest of reasons. The deadly bombing at the finish line of the Boston Marathon on April 15 stunned this generally liberal and welcoming place on America's east coast, and the city became the focus of the world's attention as the perpetrators were hunted down and dramatically killed and captured in the days after.

Arriving in Boston for process-industry software supplier AspenTech's Optimize 2013 Global Conference less than three weeks after the bombing, I was perhaps expecting to find not only stringent security everywhere but a climate of heightened fear and suspicion. But this was really not the case.

Rather, this was a city determined to show its resilience, fortitude and ability to "keep calm and carry on" in the face of terror, while acknowledging those fallen and injured through the striking memorial set up a short distance away from the Boston Marathon finish line on Boylston Street in the heart of downtown. And this sentiment was expressed in the slogan seen on myriad banners and t-shirts: Boston Strong.

Back to the future

So as the lights dimmed in the ballroom of the Westin Boston Waterfront Hotel and Mark Fusco, president and CEO, bounced up to the stage on the Monday morning to kick off the three-day (May 6-8) Optimize 2013 event, there really was a feeling of business-as-usual. And by the delegate numbers, it was clear that any fears of the conference being impacted by no-shows were unfounded.

"We have 525 people from 44 countries registered for the conference and here today with us in Boston. Fifty percent are from North America, 20 percent each from Asia and Europe, and 10 percent from the rest of the world. And they represent 233 companies," announced Fusco.



Strong cashflow and zero secured debt means that AspenTech can invest to grow the business, outlined Mark Fusco, president and CEO.

The AspenTech chief was keen to highlight the financial strength and position of the company, given that just a few years ago it was mired in debt and its survivability was being questioned. "There has been a dramatic turnaround in the business since 2008, and our strong balance sheet and cashflow position is allowing us to make the necessary investments in R&D and in acquisitions," he noted.

Indeed, the last reported quarterly results (for period to March 31, 2013) saw revenues rise almost 30 percent year-on-year to reach US\$79.4 million, and net income from operations of \$16.3 million. "Customer demand remains solid across our key vertical markets and geographies, and we are increasingly seeing customers use a broader cross-section of our product suite," said Fusco.

While many technology companies serving the process industries have highlighted services as an area of growth and invested accordingly, AspenTech looks to be going the other way with a renewed stress on products as the main business driver.

"AspenTech used to be much more of a products and services business than it is today. But now we see ourselves primarily through the product," remarked Fusco. "And we have worked hard to make our products a lot more integrated, installable and easy to use and work with."

This product emphasis is exemplified by AspenTech's

R&D expenditure, which, at 16 percent of revenue, outpaces that of the likes of tech titans like SAP (14 percent), Microsoft (13 percent), and Cisco (12 percent).

“As we see ourselves more and more as a product company, that is what is going to get funded first. And we will continue to spend industry-leading amounts on R&D,” stressed Fusco to the assembled delegates.

Other product-focused initiatives include stepping up graduate recruitment (mainly chemical engineers) and the formation of the AspenTech Academy. Under the leadership of MIT professor George Stephanopoulos as chairman, the Academy comprises experts representing six universities known for their engineering prowess. The intention is for the research work carried out under the auspices of the AspenTech Academy to provide a basis for AspenTech’s future product development.



Professor George Stephanopoulos of MIT announcing details of the new AspenTech academy.

“AspenTech Academy is an exciting, unique initiative that will enable AspenTech to stay at the forefront of new innovations around the world. It will be a catalyst for interaction between the world’s leading process industry software company and top researchers and educators in the chemical engineering academic community,” said Stephanopoulos, who currently holds the position of Arthur D Little Professor of Chemical Engineering, Massachusetts Institute of Technology.

Referencing AspenTech’s own origins – it started out as a research project, ASPEN (Advanced Systems for Process Engineering) at MIT in the early 1980s – Mark Fusco said: “It is our academic heritage that separates us from most other companies. And in a way, with this renewed stress on research and development, we are going back to the future.”

While the stress on R&D is apparent, Fusco also made it clear that AspenTech is certainly not averse to buying in technology to complement its aspenONE product suite and is in a financial position to make appropriate acquisitions.

In 2012, the company acquired Germany’s SolidSim Engineering, a provider of solids process modeling software. The combination of SolidSim and aspenONE Engineering software aims

to enable end users to model their entire facility as one single model consisting of both solids and non-solids (i.e. liquids and gases) process sections. This is something which “no-one else in the world can do”, according to Fusco.

Other recent acquisitions have included the PSVPlus software product from Softbits Consultants, and the Pipeline Scheduling System (PSS) and Dock Scheduling System (DSS) software from Refining Advantage.

PSVPlus is used to model pressure relief scenarios and size pressure relief valves in process plants, based on industry standard procedures, in order to help ensure proper safety and reliability of process plants. For AspenTech, PSVPlus provides additional capabilities that will enable it to provide a complete overpressure protection system optimization capability for customers.

As for PSS, this is a pipeline scheduling tool that enables pipeline companies, refineries and terminals to optimize their pipeline schedules and improve profitability and safety. DSS, meanwhile, is used by refineries and terminals to schedule their docks, enabling them to save on demurrage costs that are incurred due to delays in on-loading or off-loading cargo.

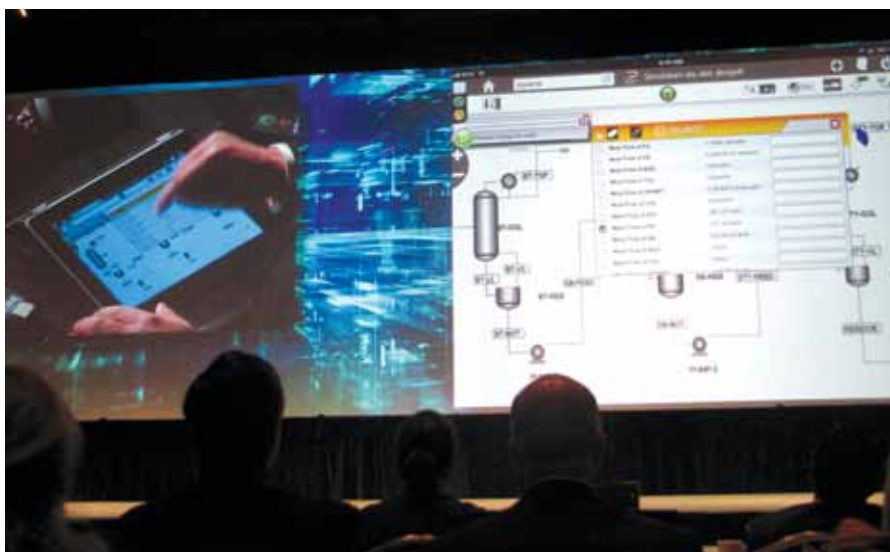
Given AspenTech’s existing supply chain products, such as the Aspen PIMS petroleum and petrochemical planning system, and Aspen Petroleum Scheduler, for collaborative creation of refinery schedules, adding PSS & DSS aims to allow AspenTech customers to further optimize their petroleum supply chains.

Towards the end of his high-velocity presentation, the AspenTech CEO brought the focus back to what customers can and should expect from the company.

“Our job is to enable you to optimize your business and make lots of money with our software. To this end, the commitment you have from AspenTech is that we will continue to invest in our products, continue to invest in our people, and ensure that every 90 days there will be new things coming your way,” promised Fusco. “It is consistency in doing the right things that leads to the right direction.”

Technology advances

Under the aspenONE portfolio, AspenTech products are broadly categorized around three domains: Engineering, Manufacturing, Supply Chain. For Engineering, among other



Here comes the iPad: demonstrating the new web-based interface for aspenONE.

aspects, this encompasses modeling and simulation for process plants and economic evaluation and capital cost estimation tools; Manufacturing includes software for advanced process control (APC) and manufacturing execution (MES); Supply Chain covers functions such as planning, scheduling, and blending optimization.

With all the emphasis on products in Mark Fusco's opening speech, it was up to Manolis Kotzabasakis, executive vice president of products, to reveal to the Optimize 2013 audience exactly what was new this year, and accordingly he was able to cite several important offerings and advances across all three domains.

Reflecting the increasing adoption and prevalence of mobile devices, a new web-based interface has been developed for aspenONE. Initially encompassing three products – Aspen Plus (chemical process simulation), Aspen HYSYS (refinery simulation) and InfoPlus.21 (manufacturing execution system) – what Kotzabasakis referred to as a “revolutionary UI” allows users to work with these AspenTech products without the need for conventional desktop installation or specialized product training. And indeed, he demonstrated this via a live iPad demo.

“We paid a lot of attention to the user interface because we wanted to put something wonderful in your hands,” said Kotzabasakis. “We believe this is the first HTML based product in our industry, and it is years ahead of the competition.”

Meanwhile, aspenONE Exchange is something which Kotzabasakis says is the process industry's first content marketplace and a true “game changer”. Essentially, aspenONE Exchange allows users to source equipment data directly from within Aspen Plus and Aspen HYSYS so that they can build more detailed process models earlier in the design stage.

He said that data from more than 80 pump manufacturers are now available, and data for other process plant equipment such as turbines and compressors continues to be added. For equipment suppliers, providing content in aspenONE Exchange means they can reach thousands of process engineers in charge of specifying plants.

As for advanced process control (APC), which is centered on AspenTech's DMCplus product, he announced the advent of Adaptive Process Control functionality. “This is something that the industry has been discussing for the last 20 years,” said Kotzabasakis.



A dream come true is how Manolis Kotzabasakis, executive vice president of products described the newly developed Adaptive Process Control functionality for the DMCplus APC.

“In fact, it is estimated that 60 percent of process controllers are out of tune, which means that the benefits that APC should be bringing – typically, \$5 million additional profit on a crude unit – are being lost as the relationship between manipulated and controlled variables inevitably alters over time.

“So Adaptive Process Control from AspenTech is really a major breakthrough and like a dream coming true. There has been much attention to delivering this functionality and we are the first to do so. And it is something which I believe will reinvent process control,” announced Kotzabasakis.



Sameehah Shuib (second from left) from Petronas meeting fellow users after her presentation on the adoption of scheduling automation at Melaka Refinery.

Sharing experiences

Along with getting the all-important update from AspenTech on all the latest and greatest products, another major reason for customers to come to Optimize 2013 was to hear stories from fellow users. To this end, there were more than 100 companies represented in the various presentations and panels over the three days of the conference.

These included: Saudi Aramco (“Operations Support for Refinery Planning and Simulation”); Essar Oil (“Extending the Power of Mobility with Aspen InfoPlus.21 Mobile”); Valero (“Adaptive Process Control for Parallel Revamps”); and Evonik (“Dynamic Simulation for Safety Analysis of Columns”).

From Southeast Asia, Sameehah Shuib from Petronas addressed a packed Optimize Supply Chain session and related the experience of implementing scheduling automation at the Melaka Refinery via the Aspen Petroleum Scheduler (APS) and the Aspen Refinery Multi-Blend Optimizer (MBO).

She outlined that before adopting the scheduling and blending optimization software, the tasks were done by 11 schedulers using a multitude of Excel spreadsheets. With there being no central database, this approach required a lot of manual data transfer between schedulers along with manual inventory updates.

Tangible benefits from the implementation of APS and MBO at the Melaka Refinery have been additional annual profits conservatively estimated at \$8.5 million/year from APS and \$144,000/year from MBO. “Although it was a challenging transition, it turned out to be a successful project and we are happy we made the change,” she told the audience.

Practitioners drive products

So what made AspenTech customers travel to Boston and did Optimize 2013 meet their expectations? “I came because I am a



Mark Fusco engaging with customers in between conference sessions.

user and I am keen to know what other users are doing with the software,” said Sandeep Lal, an advanced process control engineer at a Chevron Phillips refinery complex in Sweeny, Texas, when quizzed by *Control Engineering Asia*.

“So I am interested to find out how others are using software such as DMCplus, given that there are a lot of creative things that people do. And can I also adopt some of these approaches to help solve the

real-world problems that I am facing?” continued Lal, who affirmed that it had been very worthwhile to attend. “Yes, to be able to see all this new stuff and get an idea of the company vision i.e. where it’s headed from here,” he said.

A notably active user I met was Sriram Rameganesan. Based in San Antonio, he is director for advanced process control at Valero and also currently chair of the Advanced Control and Optimization World User Group (WUG). This is a user body set up to provide input to the future development of (primarily) the DMCplus APC product.

“We provide information on the features that users would like to see in DMCplus. Although AspenTech is not able to implement all, a significant number of desired features do get adopted in subsequent product releases. And I really think it is a great thing that practitioners are helping to drive the product direction at AspenTech,” he enthused.

This was a sentiment evidently shared by AspenTech executive vice president Manolis Kotzabasakis, whose words on the first morning of the conference likely echoed through more than a few ears as the delegates made their way out of the Westin Waterfront and into the still chilly spring air at the end of Optimize 2013.

“We have a great vision and a tremendous roadmap. All of us at AspenTech are very excited and I am sure at the end of this conference you will feel the same. You are the number one factor in our success and I would like to thank you for that. Let’s continue to collaborate so that together we can reinvent process optimization.”

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