

New approach to innovation

Your ability to deliver new products and projects is about more than systems and processes. Brian Tinham reports from the second IT Forum

The second event in our 2009 IT Forum series addressed the challenge of how to speed product development and gear the business to grasp new opportunities. Manufacturers, consultants, system vendors and other experts came together to share sustainable solutions.

First, some context. Our own research shows that top of the wish list for improvements is empowering people, with implementing lean processes a close second. Investing in better CAD/CAM follows, along with integrating said software with ERP. Fourth equal are: engineering analysis tools and engineering change control, computer aided process planning, improving the links between systems, and implementing Six Sigma and project management software.

Importantly, digital mock-up software, engineer-to-order ERP, manufacturing change management software, unified communications and web/phone conferencing were all much lower down the pecking order. That's very revealing – because the research also indicates that users of these systems tend to have the greatest product development improvements.

Even more interesting, much the same appears to apply when it comes to processes and systems aimed at improving businesses' overall ability to innovate. Two thirds (63%) of our highest performing respondents use project management software and just over half (54%) lean thinking, but there is also a focus on problem solving, with 40% running formal improvement processes. Also, 26% use modern business process management software (compared with an average of 18%).

Enough of the study: putting meat on those bones, Nathan Bailey (pictured),

operations director of UAV Engines, presented his company's impressive approach to systems for streamlining mixed configure- and engineer-to-order production – stressing the value of tightly integrated engineering, business and supply chain systems.

His organisation, which designs and manufactures motors for unmanned aircraft, started by striving to eliminate paper on the shopfloor so that operators in flexible manufacturing cells only interact with local terminals. "It's tidier; we don't have control copies; and no-one can work with the wrong data," explained Bailey.

But that's just the beginning. "Our engineering systems are quite sophisticated. We bought SolidWorks 10 years ago, and we use an integrated PDM [product data management] system called DBWorks. That eliminates all the admin in engineering and it has built-in workflow, so that as engineers create assemblies, they are saved through DBWorks, which creates the BoM and then throws it into configuration control."

Just as important, UAV's engineering systems are automatically synchronised with its Exel Efacs ERP system, with a background script making released data, for example, available for purchasing, under agreed controls. That's also done intelligently, with a data conversion appliance called Jungear populating essential fields in Efacs automatically. What's more, by re-purposing data created in engineering, production operators now get animated build instructions, while customers also access animated electronic maintenance manuals on html pages – and can feed back useful data to UAV's engineers through an associated portal.

Bailey's advice: "Our goal is to deploy



technology wherever we can. That may surprise people, given our company size, but we use excellent IT developers and I can honestly say we benefit hugely from having sophisticated, connected systems."

So much for the IT; John Tripp, one of the world's best TOC (Theory of Constraints) experts, then told delegates why business improvement is not only about excellence in processes and project management – but also challenging accepted norms in light of human behaviour and existing management practices. He cited astonishing improvements at a division of ABB in Zurich to ram home his points. And his advice: "Use simulators to represent how businesses run, and let management run experiments so they learn how to make real improvements, taking into account human behaviour." From then on, it's about critical chain project management, daily project updates, dashboards to focus management attention on problem projects – and tearing down old practices.

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