



Security

Robert Cowham, senior consultant, Perforce

Greater emphasis on security within the IoT development process – with more and more devices being connected, the dependency on software has increased and within that, the need to make sure that it is secure, particularly in safety-critical and compliance-driven markets. In turn that is putting the spotlight on the software development process, to ensure that code and other digital assets are safe. As a result, companies across the world are using techniques and processes – including coding standards, continuous code inspection and testing earlier in the development process – to make that happen.

Agile will start to break through into the manufacturing and industrial markets. Agile development methodologies – already widespread in IT and games development – are now being adopted in other markets. For instance, research commissioned by Perforce in 2018 among global medical device manufacturers – probably one of the most risk-averse development markets of all – found that 49 per cent are embracing agile development processes to speed up product delivery.

There are probably several reasons for the increased popularity of agile methods, including: more successful examples being available (Lego and Ford, for instance – and it's even been adopted by regulatory agencies like the FDA), adoption of hybrid approaches (for instance, blending elements of agile, waterfall and kanban) and agile planning tools that give companies greater control and predictability over project outcomes.

Alongside agile, DevOps is the name for another set of popular development processes and practices aiming to break down the barriers between development and operations teams, and to help bring products to market more quickly and efficiently. Its use is widespread, including in the manufacturing sector, particularly around IoT projects. What is happening now is that team or development level DevOps successes are being scaled across entire organisations. While DevOps at Scale brings its own particular challenges, it is also enabling organisations to expand the efficiencies and speed benefits of DevOps across the entire enterprise.

Artificial intelligence

Andy Bell, CTO at Edenhouse Solutions

As we move into 2019, emerging technologies such as AI and IoT, underpinned by next-generation enterprise software, have the potential to shake up the manufacturing industry. They are not only going to speed up operations, but also to provide businesses with real-time insights to make informed decisions and identify areas for growth.

Through adoption of AI, manufacturers will be able to operate more efficiently across the board. On the assembly line, for instance, they could program systems to learn specific behavioural patterns and replicate repetitive tasks. Employees will then be able to concentrate more on value-added work, while employers will save themselves time and money.

Similarly, by using IoT sensors on machinery to collect and analyse the vast quantities of data produced, manufacturers will also gain the insights they need to anticipate potential problems. They should be able to spot when a machinery part might need replacing before it breaks and interrupts workflow, for example. This type of information will generally become easier to access and digestible for those at any level in the business.

With the ability to make better use of their data and have a more holistic view of operations, businesses can anticipate future trends, balancing supply levels and the need to meet customer demands. Products will get to market faster and companies will gain a competitive advantage.

The possibilities seem endless for those who know how to harness new technologies – their benefits to business knowledge and productivity can be huge. Their impact in manufacturing is only likely to grow stronger as more businesses start integrating them into their day-to-day operations. Having the right software that enables manufacturers to fully tap into this new tech will be a differentiator.