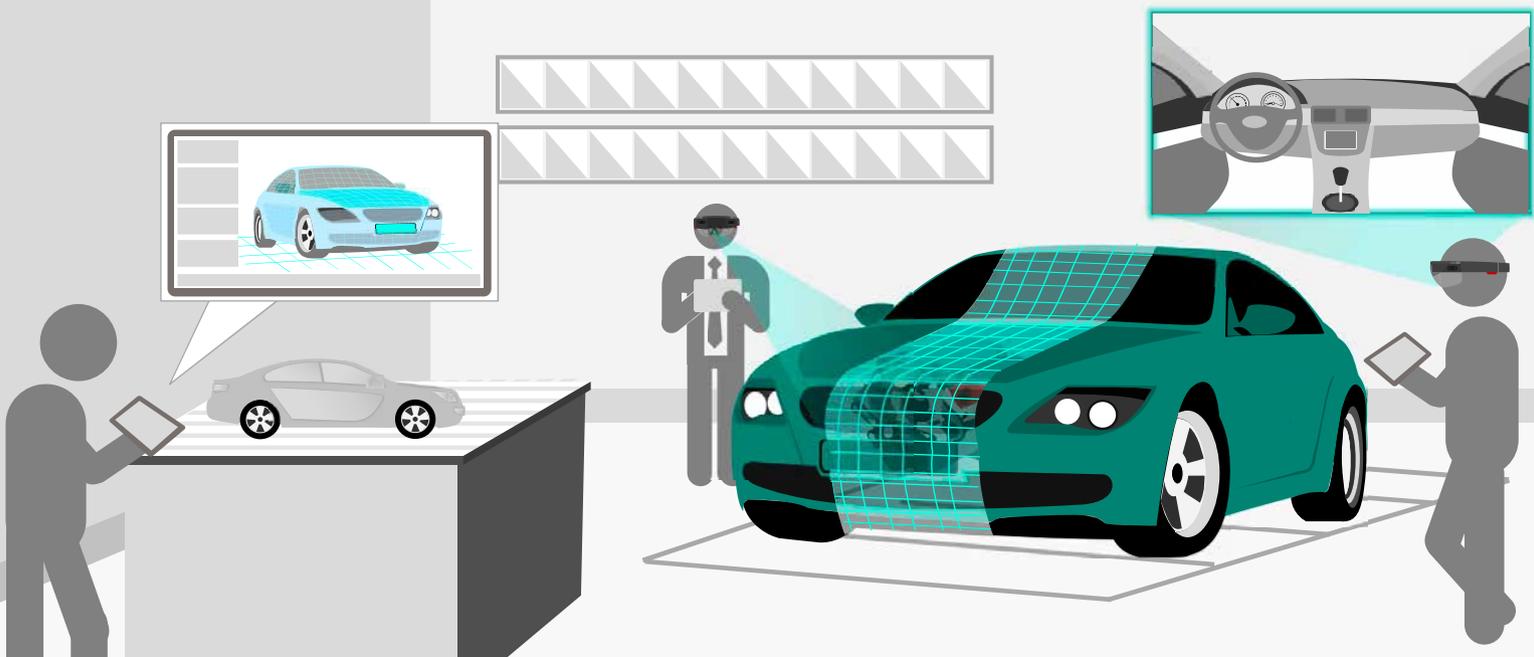


A truly mobile workforce

By empowering employees and providing them with the tools and information they need to make better decisions, manufacturers can make dramatic improvements to their processes. We discover which technologies are playing a key role in enabling this transformation

BY SEAN DUDLEY



VIEWPOINT



Information at your fingertips

ATS Global's Mike James explains how manufacturers are actively improving their processes

Continuous improvement and using lean manufacturing and Six Sigma process techniques have always been important to manufacturing. Adding productivity tools such as manufacturing intelligence is effective as it makes lean processes stick. 'Sticky lean' is the term we use for embedding lean and Six Sigma techniques into an orchestration of people and technology, and it is extremely effective.

Companies who invest in creating a mobile, connected workforce are seeing information flow and reaction times improve. It literally provides information at people's fingertips and team members can be reached quickly.

It's a great extension of manufacturing intelligence and offers new opportunities for improvement.

Organisations shouldn't get tied down with mundane issues such as which hardware or software to use. Focus on potential applications which can transform productivity and quality. IT can solve the mundane issues – it's the operations that should have the ideas and it's the application that counts. Trust your people to use the tools well and their energy will be released.

Mike James is chair of the board of directors at ATS Global

By adopting technologies that encourage proactive problem solving and enhance the ease with which information can be shared, companies in the manufacturing space are starting to reinvent the way the industry works.

Microsoft has promoted digital transformation in recent times, but Indranil Sircar, director of Industry Technical Strategy for Manufacturing at Microsoft, warns that digital transformation is only as powerful as employees decide to make it.

"Manufacturing needs to be more connected and more mobile in terms of how people do their work," Sircar says. "This will allow employees to be more empowered, deliver the quality required and work in a more collaborative way."

Sircar says Microsoft wants to empower people to allow them to be successful. In the manufacturing space, providing design engineers, operators, line workers and technicians with the productivity tools they require is the key aim.

"Empowering people with personal productivity tools spans areas such as communication and social, content management and analytics," says Sircar. "All these are hugely beneficial, and once people are empowered, there's a chance to treat staff more like a dynamic team than in times gone by. Collaboration, intelligence and mobility is built around trust."

Workers also need to be able to access an application from a business process perspective. Being able to use any kind of device, anywhere

– not just laptops, tablets and mobile phones, but also interactive workspaces and tools like Microsoft HoloLens from a mixed reality and wearables perspective – is something Sircar believes is key to success in this space.

"These tools enable people to become more and more integrated into the organisation," he says.

With mobile technologies more readily available than ever before, companies are embracing the possibilities presented.

"Our partners are working to empower their people to have information that is accessible and supports collaboration"

"We are seeing initiatives from a lot of companies that tie into this current advancement," Sircar says. "We have found that the modern workplace needs to deal with the information worker who is out there supporting the firstline aspects of it. We are seeing more and more people integrating their firstline workers into these workforce processes. That's an important configuration."

Sircar envisages a change of paradigm within manufacturing thanks to digital and mobile technologies. He sees information coming directly to workers, rather than employees

VIEWPOINT



Untethering manufacturers

Melissa Topp of ICONICS explains how manufacturers are embracing mobile to better equip their workers

Manufacturers are increasingly embracing the industrial internet of things due to what cloud services can provide in comparison to running applications on-premise. These benefits include secure access between multiple locations via cloud platforms such as Microsoft Azure, reduced hardware obsolescence and expanded connectivity.

Mobile data-driven software solutions, such as ICONICS' MobileHMI, have untethered manufacturers from their control rooms. They allow users throughout an organisation – from the executive level to operators to maintenance staff and more – to use a shared, real-time dashboard of key performance indicators to ensure high levels of quality and output.

A recent development in mobile data solutions is the emergence of augmented reality and wearables. Human machine interfaces have evolved to integrate with hardware devices such as Microsoft's HoloLens self-contained holographic computer and other head mounted industrial wearable devices. Such a combination provides even more opportunity for

manufacturers to interact with previously untapped data in an intuitive, hands-free manner.

While it might be tempting for some organisations to run out and start implementing the latest cutting edge mobile solutions, such as augmented reality-based wearables, it will help in the long run to first determine the company's highest data-driven priorities and then what processes and hardware assets will be involved. Simultaneous to these decisions should be the consideration of which of these types of applications should be performed in the cloud or via on-premise IT hardware.

Once the data needs are prioritised, the decision can then be made as how to best mobilise the involved processes, whether through laptops, tablets, phones, wearables or whatever the next mobile device form factor may be.

Melissa Topp is senior director of Global Marketing at ICONICS

VIEWPOINT



Creating opportunities

Annata's Elva Gudjonsdottir explains how the company's customers are improving their processes across a spectrum of areas

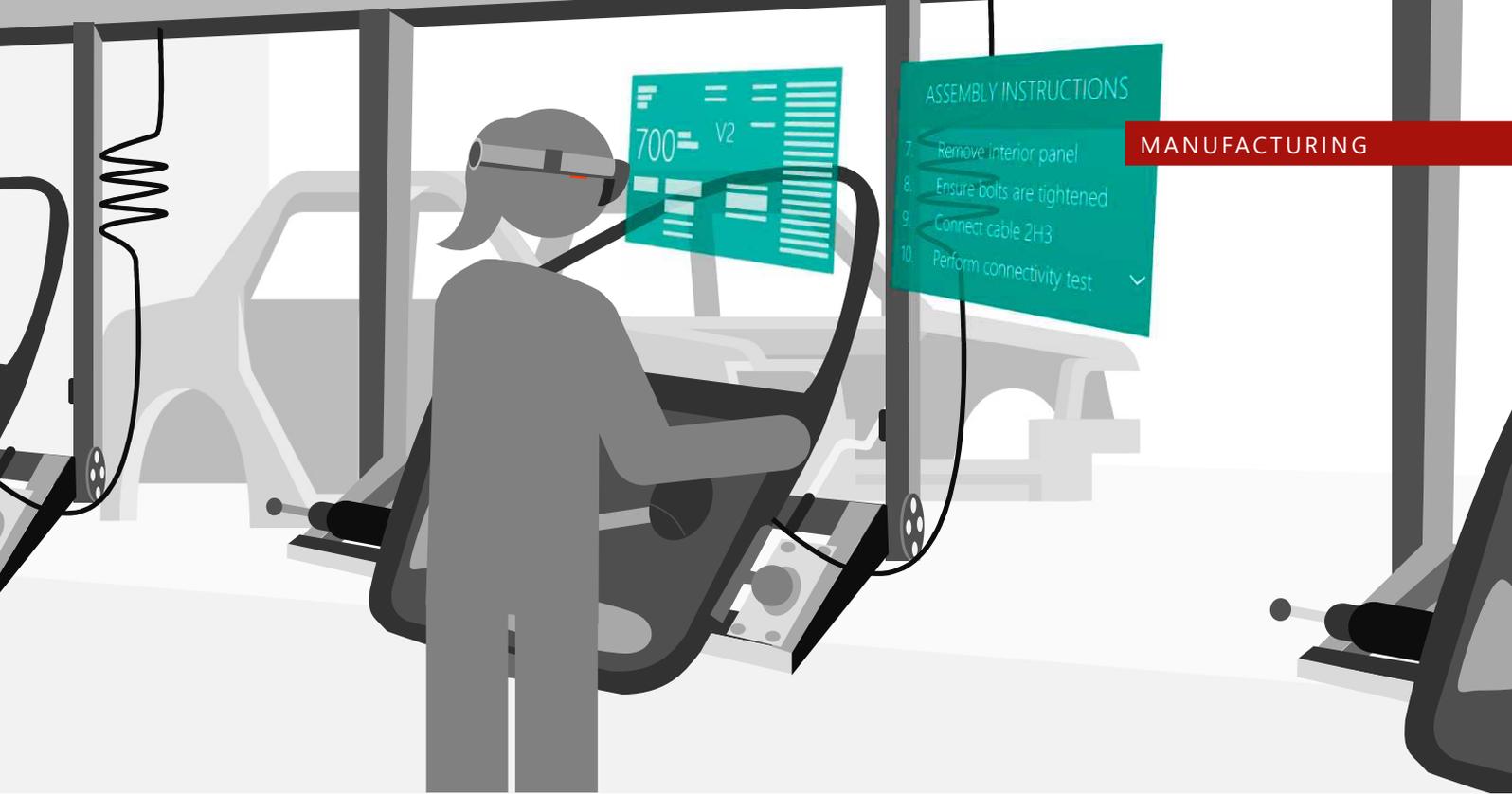
Our solution – Annata 365 for Manufacturing – actively supports a connected workforce by providing data related to leads, orders, spare parts and warranty to mobile workers.

We have a client who installed our solution to run their warranty processes. After improving this element of their operations, they also noticed real improvements in their spare part management, as well as their customer satisfaction. By installing a modern solution for one part of their business, they were able to improve their performance in related processes.

For people in customer facing roles, the ability to quickly understand cross and upsell opportunities when in front of the customer is game changing.

One of our clients has utilised our solution to provide tablets to their sales team that visits farmers. This prompts additional sales opportunities based on the configuration of the equipment being discussed, coupled with management insight into how lead generation is being turned into a higher revenue by customers at the sales person level. This means that companies are increasing their return on investment, winning a higher market share and boosting customer satisfaction. They are discovering the additional benefits of digital transformation and making sure they engage the workforce in the process.

Elva Gudjonsdottir is marketing manager at Annata



having to seek out the information they require of their own accord.

“If there is a problem, artificial intelligence-enabled technology is now available to give workers a potential solution,” he says. “People can then be connected with an available expert anywhere in the world. That’s one thing we see happening more and more.”

Not only can efficiency be enhanced with better mobile technologies, but employee satisfaction can also be improved.

“Companies that invest in creating a mobile, connected workforce benefit from greater productivity, time and cost savings, a reduced error rate, more flexibility, more automated digital workflows and, subsequently, a lower employee turnover,” explains Johannes Petrowisch, global partner and business development manager at COPA-DATA. “Staff satisfaction increases with higher levels of ergonomics at the workplace. We are also seeing digitalisation deliver savings through reduced training effort and a faster and more intensive knowledge transfer.”

Sircar reports that a lot of the manufacturing companies Microsoft is working with are now achieving positive results in terms of the mobility and efficiency of their workforce.

“Our partners are working to empower their people to have information that is accessible and supports collaboration,” he says. “We are now seeing them reach a level where they are integrating their firstline workers. For example, one of our partners Thyssen Krupp are now

getting their elevators to be more and more enabled in terms of providing insight from a predictive maintenance perspective. They’re allowing service technicians to work in a much more informed way by delivering information particular to them via a mixed reality environment. Then on site, they’re able to use something like Microsoft HoloLens during their work. They can work hands free, which greatly boosts their efficiency.”

These technicians can also be remote assisted by a subject matter expert in an office, rather than an expert having to travel into a customer site to carry out a task.

“I would say that is a next generation evolution in terms of how mobile service is being adopted, with mixed reality as an example,” says Sircar.

Sircar adds that data is a key factor in enhancing a workforce’s mobility and shouldn’t be underestimated.

“Most companies today are generating more data than ever,” says Sircar. “They collect data but can’t use it very well. Empowering individuals involves looking into that data, knowing what to do with it and how to make a difference. There’s also a great need to empower the emerging generation of workers because they are more socially adaptable in terms of the technology. We see an opportunity for companies to be more creative and productive in terms of empowering individuals, creating a modern workplace, and be very successful when it comes to efficiency and performance.” ■

VIEWPOINT



Empowering operators

AVEVA's Rob McGreevy on how mobility solutions support information management and operations

Industrial companies across multiple verticals can benefit significantly by transforming their mobile workforce and the way in which work is scheduled, managed and performed. There are many real-world examples today that have resulted in demonstrable business results. Two come to mind immediately, the first of which is real-time mobile information management.

With mobile devices, operators can view important key performance indicators and operating parameters – anywhere, anytime and on any device. Capabilities such as geolocation, specialised alerts, notifications and contextual awareness are great improvements over traditional systems. This level of improved information access gives operators a means to improve decision making and optimise their work plans. For instance, when Seminole County Water District in Florida implemented mobile alerts, operators were able to access the information they needed within minutes,

helping to improve decision making and time to action.

Greater mobility also improves the asset-centric aspects of operations – the second example that comes to mind.

Digitising mobile rounds and procedures empowers operators with documented best practices and standardised methodologies for performing work and resolving issues wherever they are in the plant, site or facility. This enables optimised maintenance for increased asset performance and reliability, as well as digital audits for work performed against initial plans. It also helps capture the 'tribal knowledge' that is often manifest in the minds of workers – traditionally passed down amongst workers over long training programs and on-the-job experience. When Ascend Performance Materials implemented mobile operator rounds, the company saved US\$1 million in maintenance costs.

Rob McGreevy is head of Portfolio Management, AVEVA

VIEWPOINT



Context is king

OS/soft's David Doll explains why companies must ensure the right infrastructure is in place if they want a mobile revolution

Manufacturing is evolving, and technology-driven changes are encouraging companies to invest more, expect more and improve. Mobile technologies are changing the game in many ways, providing workers with data at their fingers as they walk around a plant or inspect remote assets. But mobile technology is a tool, and like any tool, it can be used effectively or misused and disappoint.

Don't assume that mobile technologies are magic and can solve underlying problems with your operational infrastructure. In order to achieve their potential – to put the right data in front of the right people at the right time – you need to do the prep work. Enterprises need a robust data infrastructure to collect, clean and provide context to the data. Context is king. Raw numbers will have little value regardless of where you send it. Get

your data foundation in place and give your workers something to build on. Then today's mobile tools can provide massive value, and tomorrow's technologies will be part of your evolution too.

Benefits of this changing world can be seen through all three components of the people-process-technology cycle. With a flexible technology infrastructure supported by the right people and processes, companies are seeing ever increasing return on investment. We have customers saving millions of dollars each year on energy costs, delaying capital projects through higher efficiencies and increasing equipment lifecycles with predictive maintenance.

David Doll is industry principal for Facility and Energy Management at OS/soft