

Asset and gauging
location and tracking

Increasing speed
and accuracy of
measurement



5G Case Study

Increasing speed and accuracy
of measurement at AE
Aerospace

Synopsis

AE Aerospace, a leading manufacturing business in the West Midlands is the first UK SME to deploy a 5G private network working together with WM5G, Worcestershire 5G and technology partner BT.

AE Aerospace operates a high precision engineering facility and has an ambitious growth strategy. They believe that the 5G-enabled trials will both improve productivity and provide existing customers with a higher quality of service, alongside creating new business models and new revenue opportunities.

AE Aerospace is undertaking three 5G-enabled use cases that have the potential to transform manufacturing productivity.

It will fast forward AE Aerospace's Glass Factory concept, and enable new revenue streams such as machine time servitization, allowing the manufacturer to continue to work closely with the supply chain to share data and learnings. The learnings will provide the sector with confidence and support to ensure strong post-Covid economic recovery.





Problem

Manufacturing of high-performance aeronautical components requires a range of different tools, measures and gauges throughout the process.

Currently, units must be measured manually with gauges that take time to locate in a factory environment. If dropped, for instance, they can become misaligned and require further inspection to ensure they are correctly calibrated.

Searching for gauges or calibrating gauges that are not in need of calibrating is a waste of valuable time and resource.



Solution

Installation of an *Asset and gauging location and tracking* system, powered by 5G, to track and identify the location of gauges in real-time.

This speeds up the day-to-day operations and allows the team to easily locate required gauges using GPS and geolocator technology.

The addition of an accelerometer will also flag whether the device has been dropped, how often it has been used or for long it has remained idle and therefore requires recalibration.



Benefit

Asset and gauging location and tracking details the location of boxes and tools required, saving valuable search time.

The ability to understand what tools are needed when and why and whether they require recalibration, will identify any production pinch points, accelerate the location process and increase the speed and accuracy of measurement, converting into greater levels of efficiency.

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5G will enable us to gather far more data, far more rapidly than we have ever been able to do. Beyond making a huge difference to the monitoring and understanding of what we do, it will allow us to develop learnings to improve efficiency in real time.

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Peter Bruch, AE Aerospace

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We're excited to show the wider SME sector what can be done with 5G to transform productivity and efficiency in manufacturing. The trials at AE Aerospace will demonstrate the endless possibilities that can be unlocked using 5G.

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Robert Franks, West Midlands 5G

Asset and gauging location and tracking

A variety of gauges are required at different stages of the production process at AE Aerospace to measure components to specification. Gauges can often be misplaced and locating them can be time consuming.

Asset and gauging location and tracking allows AE Aerospace to provide 100% assurance that its parts have been machined and measured to specification.

Production units have many surfaces, holes and screw threads that must be measured manually with gauges. By tagging the gauges, their location can be tracked and identified in real time over 5G. The addition of an accelerometer will also flag whether the device has been dropped and therefore requires recalibration. As a result, AE Aerospace will increase its speed and accuracy of measurement.

Through the use of 5G, AE Aerospace have set a precedent to bring the SME aerospace sector forward to deliver products to the highest standards quickly and efficiently.



Takeaways

Sustain



Speed and quality performance should be monitored through the regular use of *Asset and gauging location tracking* to assess where and how the technology is making effective operational impact.

Learnings



Through collaboration between AE Aerospace, WM5G and trials of this technology, best practice for use will be identified. These learnings will be developed and shared to fully understand the capabilities of 5G in speed and accuracy of measurements to drive high levels of efficiency.

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