Vision Intelligence

Transforming productivity

5G Case Study

Vision Intelligence: Ensuring quality in manufacturing

Synopsis

Vision Intelligence provides automated systems that can digitise human skills, driving greater efficiencies.

Working alongside precision parts manufacturer AE Aerospace, the first UK SME to deploy a private 5G network, Vision Intelligence is trialling a system designed to scan components as they are produced.

In precision manufacturing environments it is essential that all parts produced fall within the exacting quality tolerances.

Slight imperfections – even surface scratches - can result in the component falling outside of the acceptable standard, potentially resulting in it being remade which wastes time and resources and can impact the supply chain.

Utilising artificial intelligence, the Vision Intelligence system can be taught to identify these imperfections far faster and more efficiently than a human operator.

Alongside improving efficiency within the factory environment, by scanning components in and out when they got to specialist finishing houses, any damage incurred can be easily tracked.

Problem

Inefficiencies can impact the entire production supply chain, with components that fall outside of required quality standards having to be discarded and produced again.

Checking each produced component manually is time-consuming and human error may lead to imperfections being missed.

Issues of attributing where damage to a part may have occurred may also arise when sent to specialist third parties for application of finishes or specialist machining.

Solution

Combining 5G's ability to transmit huge amounts of data, AI and edge computing, the Vision Intelligence system can be taught what level of imperfection is acceptable and scan each component in the fraction of the time required for a manual check.

By recording the conditions when the part leaves the factory and then again when it returns, it easily identifies where damage may have occurred.

Benefit

Vision Intelligence significantly reduces the time required to evaluate produced parts and ensures consistent quality.

With the ability to compare components as they leave and then return to the factory, the manufacturer can advise on improvements that can be made across the supply chain; from processes used, to the quality of packaging, to transport components.

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By working with WM5G and AE Aerospace, we are able to trial this cutting-edge system which equates to having a quality assurance and control engineer at every stage in the process.

Without the processing power, speed and low latency of 5G, this product would not be possible.

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Krste Pangovski, Vision Intelligence

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Manufacturing is a central pillar of the regional and national economy and one that we believe will benefit most significantly from the introduction of 5G technology.

In supporting AE Aerospace in the delivery of their private network, we are sure that this is just the first step in discovering the myriad applications of 5G within manufacturing.

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Robert Franks, WM5G

Takeaways

Sustain

By continuing to trial this system with AE Aerospace it will be possible to teach the AI to identify imperfections and potential issues across an increasingly diverse array of components.

Learnings

While still early in the process, Vision Intelligence and AE Aerospace have already begun to realise the potential efficiencies that can be delivered through this system and how this can identify and resolve quality standards issues throughout the supply chain.

Contacts

West Midlands 5G Manufacturing Team
www.wm5g.org.uk/contact

admin@visionintelligence.com

More info

www.wm5g.org.uk
www.visionintelligence.com

VISION INTELLIGENCE

WM 5G

WM5G.org.uk

www.wm5g.org.uk/contact