Taking the lead with digital metrology

According to *Manufacturing Confidence,* a report by the Midlands Manufacturing Resilience Commission (M2R), digital industrialisation could be worth as much as £455 billion to Britain's economy over the next decade. Here Mike John, managing director at industrial metrology supplier The Sempre Group, explores how involving metrology in plans to digitalise can help the British manufacturing sector become a world leader in innovation.

According to the M2R report, the UK trails behind other European nations in deploying the technology needed to increase the UK's productivity. While British workers often put in the longest hours, our productivity lags — a sorry state of affairs. Many businesses are now reflecting on how digital technologies can help to increase production speed, reduce waste and drive efficiency so that they can compete with global counterparts.

Going digital

Traditionally, manufacturers don't include metrology in their plans to digitise — while machine tools and other production equipment given the Industry 4.0 go ahead, metrology

is usually seen as just a policing mechanism. However, metrology could hold some of the answers to our productivity challenges.

Investing in digital technologies for quality management can give manufacturers full control over their measurement data, so they can use it to make better decisions. A fully digitised approach to quality removes the challenge of integrating data from fragmented sources, reduces room for error, improves traceability and enables manufacturers to improve their productivity.

So, what are the steps to digitalising quality management?

A single system

In a traditional paper system, businesses may be performing quality checks, only for the parts to inspected again when they arrive at the next manufacturer's site. By integrating all quality management into one unified, digital system, companies across the supply chain can share quality data from the same system, eliminating unnecessary extra steps.

Automation

The next step is to use programmable systems like robots to automate manufacturing and measurement processes, making them more efficient, traceable and productive. Instead of having a person loading, measuring and unloading parts on a metrology system all day, manufacturers can simply program a robot to do it for them. Collaborative robots can be placed on production lines to work 24 hours a day, seven days a week to

pick the parts from the line, place it in a system for measurement and accept or reject the parts accordingly.

Connect

Wireless connectivity of equipment to the Industrial Internet of Things (IIoT) means manufacturers can easily implement a factory-wide data collection network. The manufacturer can connect suppliers, operations, customers and products with edge analytics and bring the data together into a common SQL database for all business processes.

Manufacturers can use integrated manufacturing and quality management software to generate reports automatically, whether it is first article inspection (FAI) reports, initial sample inspection reports (ISIRs) or production part approval process (PPAP) documents, to comply with standard like ISO 17025, ISO 9000, 21 CFR or AS9100.

Focus on the outcome

While technology plays a large role in automating production, manufacturers should not focus solely on equipment. Digitalisation is about more than just technology, it is about how we use equipment, inspire people and manage data to drive operations and growth.

As manufacturers think about how they can improve operations using technology, it is important to first establish what outcomes they want to achieve. Technology can be a big investment, so manufacturers should make sure that any equipment they purchase adds

real value to production. By focussing on the outcome and not the equipment, manufacturers can make decisions that deliver clear return on investment.

To fully embrace digital manufacturing and establish the UK as a global leader in manufacturing innovation, British industry must change its mindset. Instead of just using measurement systems to police quality, manufacturers can use it as a tool to boost productivity and add real value to the business.

Are you ready to take the first steps to digital quality management? Contact our team by visiting www.TheSempreGroup.com or calling +44 (0)1452 632712.

Ends: 655 words

Image captions:

For further information contact:
Emily Smith, marketing specialist
The Sempre Group
The Lodge, 37 Barnett Way, Barnwood, Gloucester GL4 3RT
Telephone: 01452 632712
www: https://www.thesempregroup.com/
e-mail: esmith@thesempregroup.com
Twitter: https://twitter.com/TheSempreGroup
LinkedIn: https://www.linkedin.com/company/thesempregroup/

Press enquiries: Leah Elston-Thompson and Alison Gardner
Stone Junction Ltd, 1 St Mary's Gate, St Mary's Grove,
Stafford, Staffordshire, United Kingdom, ST16 2AW
Telephone: +44 (0)1785 225416
e-mail: leah@stonejunction.co.uk or alison@stonejunction.co.uk
www: www.stonejunction.co.uk
Blog: www.stone-junction.blogspot.com
Twitter: https://twitter.com/StoneJunctionPR
Facebook: http://www.facebook.com/technicalPR
LinkedIn: https://www.linkedin.com/company/stone-junction-ltd

About Sempre Group: The Sempre Group, previously Metrology Direct, provides comprehensive measurement, inspection and design solutions across the UK and Ireland. With four divisions aimed at creating a tailored experience for each partner and customer, The Sempre Group is a strategic partner in quality, automation, innovation and efficiency for manufacturers in Great Britain.

Ref: SEM134/03/21