

KMWE INTERPRETS PRODUCTION EXCELLENCE BROADLY

FROM QUALITY TO QLTCS

Whereas originally in industry the term quality related primarily to production characteristics, high-tech suppliers like KMWE are now interpreting it far more broadly. CEO Edward Voncken points to the QLTC methodology used by many OEMs to evaluate their suppliers on Quality, Logistics, Technology and Cost. According to Voncken, S for Sustainability is now being added to the acronym. This includes environmental aspects but also topics like 'conflict materials'. KMWE is investing widely in production excellence, for instance in technological innovations for in-process measurement.

BY HANS VAN EERDEN

As examples of the most important trends behind the drive for production excellence, Edward Voncken cites zero-defect and the reduction in throughput times, plus the ever-present price pressure and technology (innovation), the *raison d'être* for high-tech industry. The so-called QLTC methodology is now used by many OEMs to evaluate and improve the performance of suppliers in the areas of Quality, Logistics, Technology and Cost. 'The QLTC requirements are becoming ever more stringent and if a supplier fails to meet the requirements in a particular area, penalties are triggered.' The urgency is increasing further now that a fifth aspect is being added to QLTC – S for Sustainability. Voncken points to environmental requirements (such as reducing the lead content in electronics and CO₂ emissions), but also to the avoidance of so-called 'conflict materials', originating from conflict regions. 'The burden of proof lies with the suppliers and everyone is looking for new standards.'

KMWE QUALITY STANDARD

KMWE (500 employees with sites in Eindhoven, Malaysia and India) specialises in 'high mix, low volume, high complexity' machining, mechatronic assembly and development & engineering for the aerospace and high-tech equipment markets. KMWE uses quality systems such as ISO 9001 (general), ISO 13485 (medical) and AS 9100 (aerospace). The company invests heavily in the latest technologies (machine tools, automation and robotisation, inspection and metrology) and software (such as model-based CAM). As part of its World Class Manufacturing programme, KMWE is committed to continuous improvement, applying Lean Manufacturing and Quick Response Manufacturing techniques.

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PARTNERSHIP

Voncken is calling for such questions to be tackled jointly, for example by Brainport Industries. He himself chairs this cluster of (over 90) first, second and third-line high-tech companies in the Brainport region around Eindhoven. 'We can standardise particular things together and learn from each other – for example, how to implement the new requirements in our operating processes and assure standards, but also how to share data more easily in the supply chain – about products and production, quality and logistics – with the help of a 'smart connector'. With a new production technology such as 3-D printing, we are getting more and more questions from customers about the repeatability of the printing process.'

Many of these topics are part of the innovation programme for the Brainport Industries Campus (BIC), which is being developed near Eindhoven. Next year, KMWE will become the first firm to move into the 'factory the future' there. A practical challenge is the move to the campus from the two Eindhoven sites: KMWE headquarters and the DutchAero division, which together employ 350 people and have many dozens of advanced machine tools and production cells. KMWE will have to go through the customer approval process for the thousands of different products in its portfolio again. In particular for the aerospace sector, that requires a comprehensive first article inspection with lots of accompanying documentation.

IN-PROCESS MEASUREMENT

An innovation which can simplify and shorten this process is the Rotary Inspector, developed by the Eindhoven metrology speci-



KMWE CEO, Edward Voncken: 'The requirements are becoming ever more stringent!' Photo: KMWE

alist IBS Precision Engineering in partnership with KMWE as the launching customer. This advanced measurement solution for 5-axis CNC lathe cells measures the performance of a machine during production, rather than the quality of the products made on that machine once they are complete. This fits with the trend of in-process measurement and yields benefits in terms of quality, rejects and costs, explains Edward Voncken. 'If a test produces the same results on the same machine before and after a move, there is no need to measure up all those products in their entirety, provided the customer accepts the results of the test as sufficient proof that the product has remained unchanged. We are also investigating the application of other technologies, such as laser scanning, and sensors for measurement on the machine. However, often we still need to perform an end inspection of the products, because the customers no longer have entry controls. They will not accept any faulty products on arrival, so we need to be 100% sure that they are right.' Zero-defect. ●