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The trump card: ID value networks

Historical 2020 statements about standards, medical-device requirements, cobot safety and warranties are translated as printed, not presented as current guidance. The article confirms issue 5/2020; the supplied archive date of August 2020 is not independently confirmed. Original publisher artwork, logos and advertisements are retained in their original language.



Quality assurance and complete product traceability using 1D, 2D and DPM codes are internationally standardised requirements. They are necessary for legal certainty and protection against counterfeiting.

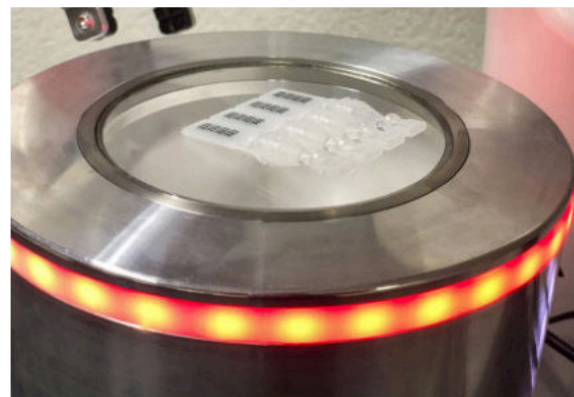
The trump card: ID value networks

The current drive towards digitalisation, the coronavirus crisis and the resulting creative momentum have changed, and will continue to change, everyday life in public and at work. Many manufacturers suddenly faced the problem of stopping production or rapidly increasing it to meet unexpected demand. Greater flexibility in manufacturing and supply chains, together with extensive data networking and continuously updated transparency, is becoming a major competitive factor. Established approaches are being complemented by the courage to pursue new ideas and simpler, shorter routes. Previously dominant rigid process chains are being broken up by demands for greater performance and flexibility through the Industrial Internet of Things (IIoT). Intelligent human-robot collaboration systems using lightweight, inexpensive cobots open many opportunities for successful business models based on flexible, complete identification solutions.

Radical simplification

The key concept of simplification unleashes previously unimaginable creativity and efficiency gains through cobots, particularly for smaller companies. Sensitive collaborative cobots can cooperate directly with people without protective equipment; elaborate enclosed cells are unnecessary. Their sensitive sensing technology opens up high safety standards in collision detection and management through sensors, evaluation electronics, communication and control. The highly scalable IOTA communication protocol allows straightforward integration of tamper-proof information systems into a large overall network with near-real-time data exchange.

Cretec GmbH's consistently modular QBIC system integrates the VisionTube verifier for 1D, 2D and DPM codes and further vision modules that are easy to add. It is a new generation of mobile, fully



Standards-compliant code verification takes place instantly at the touch of a button, with an LED colour display.

automated work platforms based on cobots. These easily scalable systems are modular throughout, particularly simple to operate, very fast and individually deployable. The complete system occupies only 0.8 x 0.8 m and stands 2 m high. It integrates electrical equipment, controls, a PC, cameras, vision modules, intelligent lighting, communication modules, a monitor, a robot and an additional independent power supply. A QBIC station can be unplugged and moved immediately to a new location while remaining fully operational. As a modular, complete hardware and software solution, the station opens up many previously unused possibilities in pharmaceutical production, medical technology and hospitals.

The trump card: flexibility

Without quality assessment, poor codes are only recognised when reading problems occur. Errors in 1D or 2D codes, on labels or as direct part marks (DPM), can have negative or serious consequences and cause costs throughout the entire process chain, right through to consumers. Additional costs may arise from remarking, reduced read rates, rejects or false rejects, complaints, recourse



The modular QBIC system with a cobot is a universal, highly flexible work platform that performs many identification, verification and vision-based quality inspections fully automatically in minimal space.

and liability claims, and problems with quality certification.

Previously, users had either manual inspection stations with a PC or laptop, or systems integrated into production lines at considerable expense. VisionTube is a self-contained, complete, universal code verification system that can serve as a manual station or an inline system. This unique concept offers many flexible applications in harsh environments or where hygienic requirements are higher. Extremely reliable code-quality inspection takes place at the touch of a button, by sampling or through triggered automated series inspection. It operates independently without a PC. Detailed verification results enable early corrective action throughout the automated identification process.

Essentially, VisionTube is a self-contained, modular, open machine-vision system combining many tasks in one device. This provides high flexibility when applications change. Functions include checking code structures, optical character recognition (OCR) of human-readable text, comparing text with code content, serialisation tasks, checking best-before dates for presence, readability and quality, component presence checks and label inspection.

No information gaps

Across medical technology, compliance with UDI (Unique Device Identification, FDA) guidelines applies to code verification under ISO/IEC 15415 / TR29158. Manufacturers and users of medical devices operate between shared responsibility for patient safety and demonstrable technical safety of supplied components. Since March 2019, industrial operations have been required to maintain a quality management system compliant with ISO 13485:2016. Evidence of such a system forms the basis for legitimate CE marking of medical devices on the European market. Manufacturers can save time and money by selecting ISO 13485-certified suppliers.

Extremely simple operation

VisionTube provides standards-compliant verification under ISO 15415, 15416 and 29158 (AIM/DPM). Its modular design is housed in a robust aluminium enclosure measuring 200 mm in diameter and 200 mm high, rated IP65. The verifier is factory-calibrated at all focal planes and works straight out of the box, allowing simple plug-and-work operation within seconds. A monitor can be connected directly via HDMI and USB. VisionTube is the world's first verification system with very fast autofocus. Its high-resolution 10-megapixel camera reliably detects even very small 1D and 2D codes within a 100 mm-diameter field of view.



The all-metal ID-Phaser for all 1D, 2D and DPM codes combines outstanding mechanical and hygienic robustness with extensive functionality.

An important feature is the modular, calibrated, variable multicolour lighting, which is simple and very quick to exchange. This optimises brightness, contrast, defects, contamination and distortion for each application. Code quality is analysed with extreme reliability, classified into quality grades and stored internally or forwarded to external business communication systems. Results are immediately displayed by an LED ring at the top, clearly visible from every direction.

Concentrated performance

Among 1D/2D handheld scanners, the ID-Phaser product series stands out for mechanical and hygienic robustness and its extensive functionality. Its fully enclosed housing of anodised, high-strength aerospace aluminium withstands the toughest mechanical loads. Its hygienic design follows international guidelines, while IP65 protection resists water jets. Ergonomically shaped and weighing only 286 g, it is a lightweight, highly versatile, high-resolution reader for all 1D, 2D and DPM codes. It communicates directly by cable or a wireless Bluetooth gateway with industrial communication standards including Profibus, Profinet, EtherCAT, OPC UA, RS232 and USB.

Integrated self-optimising decoding algorithms allow ID-Phaser to decode all kinds of 1D, 2D and

DPM codes with exceptional reliability: low-contrast, blurred, contaminated, dense, very small or damaged codes, as well as codes on highly reflective surfaces. Simple operation and installation cover printed, engraved, stamped and dot-peen codes, postal and pharmaceutical codes, and closely spaced codes.

A special combination of lighting and optics in modular adaptive attachments also reads very small DPM codes measuring just 0.7 × 0.7 mm quickly and reliably. A further distinguishing feature is the five-year warranty, providing exceptional investment security and return on investment.

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