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Fully automated work platforms with collaborative robots

Historical 2020 report. Safety, IOTA, payment and data-storage claims are translated in their original context. The source includes an explicit publisher permission requirement for reproduction or redistribution. The existing archive records September 2020; the article confirms the year only. Original publisher artwork, logos and advertisements are retained in their original language.

Cretec: Fully automated work platforms with collaborative robots

The new QBIC station from Cretec, Hammersbach, opens up new possibilities for complete, efficient vision solutions across manufacturing and business models in human-robot collaboration. It is based on a universal Industry 4.0 platform with the highly scalable IOTA communication protocol.

Compared with conventional robots, sensitive collaborative cobots can cooperate directly with people without elaborate protective equipment such as enclosed cells. Their sensitive sensing technology opens up high safety standards in collision detection and management through sensors, evaluation electronics, communication and control. Installed quickly and easily, their versatile three-dimensional motion enables a wide range of new applications.

Deterministic control and planning are becoming less important and are being replaced by flexible organisation of efficiently networked data analytics. Promising new production and business models arise from the synergy between the Industry 4.0 platform and the highly scalable IOTA communication protocol. This prepares users for future requirements and enables straightforward integration of tamper-proof information systems into an extensive overall network.



The modular QBIC system is a universal, highly flexible work platform that can perform many different inspection tasks fully automatically in minimal space. (Photo: Cretec)

The modular QBIC systems with integrated IOTA represent a new generation of mobile, fully automated work platforms based on cobots. They are particularly easy to operate and can be deployed quickly and individually. The entire system requires a footprint of just 0.8 × 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.

In the Internet of Things, conventional blockchain capabilities are severely restricted. By contrast, the IOTA protocol enables fully automated, secure IoT communication with high-performance data exchange between many machines. The platform is based on a new distributed ledger technology (DLT) called Tangle. This underlying technology operates in a decentralised network, is verifiable and allows immutable data to be used by multiple parties simultaneously and in parallel. It makes large volumes of data securely available to many users. Everyone can verify precisely who provided which information and when. The QBIC station implements an interface offering pay-per-view/pay-per-production via IOTA, or permanent, immutable archiving of captured data in the Tangle. This allows direct information exchange and automated payments between machines.

www.cretec.gmbh | www.iota.org

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