Intelligent ideas for intelligent manufacturing

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Networked robots and machines for Industry 4.0

FANUC



Implement Industry 4.0 with FANUC

FANUC can supply you with all the key components of Industry 4.0 today. Other elements of the virtual factory have long been reality. The world leader in CNC and industrial robots, and a leading supplier of machining centres and injection mould machines, FANUC is one of the very few companies that can supply you with all the essential ingredients of an automated factory solution.

Take advantage of FANUC's strengths:



One control platform

Every FANUC product, be it a CNC, robot or machine, shares a common control system designed to support seamless integration.

Z Complete connectivity

With networked connectivity in the design, interfacing FANUC products is quick and easy. This kind of seamless factory communication is a key feature of Industry 4.0.

3 Intelligent features

These include integrated proven features such as smart sensors and dedicated FANUC software to model and optimise your processes and improve productivity.



One common control platform

FANUC CNCs, robots, processing and production machines are designed and built for seamless connectivity using FANUC's common control platform. Long fundamental to FANUC's approach, this kind of close integration represents a key feature of Industry 4.0 and allows, for instance, you to operate FANUC robots using the control on a CNC machine. This kind of coordination also allows robots to tend machines at very high speeds or precision place inserts into moulds.

Intelligent control

Ideally suited to sophisticated machining processes involving up to 32 axes and networked machine environments incorporating one or more CNCs.

FANUC Force Sensor

Ideally suited for assembly work or inserting small parts, Force Sensor provides robots with a sense of touch.

Time-saving simulation software FANUC ROBOGUIDE and FANUC NCGuide/NCGuidePro are smart software

solutions that enable you to model and optimise robot and CNC programs, processes and results on a standard PC.

FANUC 3D Area Sensor The plug & play solution for high speed visual bin picking.

Intelligent machines

By adding intelligent features to your FANUC CNC, robot or machine we make you more productive. Tailored to your processes, these improve results, accelerate cycle times and automate interfaces.

Seamless communication

As part of Industry 4.0, high-speed communication and real-time data transfer improves cycle times. For a considerable time already FANUC CNCs have incorporated $\Box_{\rm m}$ intelligent Ethernet boards to process data and manage communication processes. Providing the ultimate in performance, an API for external as well as built-in computers enables high-speed data transfer between FANUC CNCs and other system components. Support for various different field bus protocols and features to integrate CNCs and robots into control systems come as standard.



efficient.



on robot applications involving heavy tools, making spot welding processes 15% faster for example.

Enables fast visual handling as well as highly productive quality control via plug and play.

Sensory perception

sorting or assembly.

FANUC's intelligent sensory software enables robots))) to see, feel, learn and operate safely on a tiny footprint. It also improves productivity and makes integrating robots into production processes even easier and more



Secure networks

Key to Industry 4.0 are interface-free networks. Here safety and securing play key roles when it comes to data processing. In regard to both these points, FANUC's PC-less operating system represents a major advantage: fully independent, it provides the ultimate protection against viruses and malware.

> enables robots and CNC machines to meet standard safety standards without the need for external hardware or extended safety zones.



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