



Machine speaks ERP

CNCnet PDM connects more than 150 types of machine controls directly to MES and ERP solutions

CHALLENGING

For manufacturers, detailed information's about production processes form a basis to successful customer relations. Measures for process optimisation and improvement of transparency depend on the availability of this data. That's why the collection of information's about production processes is common practice and widely spread.

Alongside to the commitment of these information's to paper by the machine operator and manually entering them to the MES/ERP solution afterwards also Operational- (ODA) and Machine-Data-Acquisition (MDA) Terminals are used. The fact, that these systems are based on the principle of date stamping events at the time they are entered requires continuous attention of the machine operator. Apart from potential problems due to non-acceptance this also results in high levels of data redundancy and inaccuracies caused by human error.

The challenge is to collect the appropriate plant-level data in high quality with a minimum or no manual input, analysing it to support real-time decision-making – and delivering it in usable form to the appropriate point on the factory floor or across the enterprise.

Obviously, the machine itself can do this collection because most of the required data is available there. As a result, there's already a wide range of manufacturer specific SCADA, OPC and PLC solutions for lots of machine controls on the market. These solutions are using the system bus of the machine to pick up information from the main memory of the control and transfer it to a process control system that fits to the specific machine control.

Usually, the manufacturer of the machine buys the control from an external supplier and combines it in an approved, standardized way with the drives and mechanics of the machine. The modification of an existing machine as mentioned regularly means a deep encroachment on the tested combination. Alongside from being costly and time-consuming such technical change may lead to serious questions concerning the factory acceptance test (FAT), warranty, maintenance and service of the machine.

It also has to be taken into consideration that the typical machine park of a manufacturing plant consists of older and newer machines from various suppliers with different controls.

In the rare ideal case where a matching client – server solution for all engaged types of controls can be found it still has to be taken into account that this always leads to multiple servers that have to be installed, operated and maintained separately.

- How can a typical machinery park be integrated with the MES/ERP solution with an acceptable effort in terms of time and costs?
- How can a retrofit of the control and its potential influences on the functions of the machine be avoided?
- How can machines from different manufacturers work simultaneously with one single server?



TARGET-AIMED

The answer to these questions is: **CNCnet PDM – a technology that provides a direct connection between production facilities and business operations.**

Because CNCnet PDM can be integrated in existing machines without influencing the manufacturer specific programming of the control the solution can be implemented rapidly. The data affecting manufacturing is ensured to be visible in near real time – including all information's that are relevant for process optimisation and improvement of transparency.

CNCnet PDM assists manufacturers to quickly interconnect information's from technical resources with business operations to enforce the optimisation of flexibility, efficiency and effectiveness.

Manufacturing Synchronization CNCnet PDM provides a single layer of connectivity to multiple types of machines, synchronizing real-time manufacturing and enterprise business processes. By electronically linking your enterprise processes and master data with plant manufacturing processes, CNCnet PDM gives you the visibility and control you need to operate various facilities based on a single version of the truth. The result is increased power to monitor your progress and follow through on the corporate-level strategic initiatives that result in long-term competitive advantage.

Quality of Data Without factory and MES/ERP systems integration, many companies find themselves intervening manually to enter production batch data. Alongside to the emerging time displacement this method only allows a very basic acquisition of data because the input of all details would result in a disproportional expenditure of time and money. Without any required user input CNCnet PDM transforms the information's of the machine directly at the point of origin into clearly understandable messages. This ensures a maximum of data quality with a minimum of effort.

Improvement of transparency It's nearly impossible to detect bottlenecks within the production chain or to make an error analysis if there is no convincing data. This data needs to be delivered to the right person in the appropriate context in real time. Because CNCnet PDM converts the relevant information's of all machines into a uniformly standardized output format the production process can be traced and analysed over various types of machines in real time.

Costs for acquisition, implementation and operation Manufacturer specific solutions for data capturing require a detailed knowledge of the machines memory structure. The necessary intrusion into the original programming of the control is costly, time-consuming and leads to questions about maintenance and warranty of the facility. CNCnet PDM works with pre-built interface modules that are customized for the according type of control. Directly in the control the information is translated and fed into the standard network. Due to the fact that the output format is identical for every type of control a single process control system can be used for the whole machine park. Apart from attractive operating costs this results in appreciable reduced costs for implementation and maintenance.



Inventcom CNCnet PDM

- Connects more than 150 types of machine controls directly to your MES/ERP solution.
- Enables the consistent process monitoring of the plant floor.
- Delivers actionable intelligence to the right person in the appropriate context in real time.
- Can be implemented rapidly because it does not interfere in the manufacturer-specific programming of the facility. A common machine park can typically be integrated with ERP within 8 to 12 Weeks.
- Through customized prebuilt interface modules for various machine-controls the manufacturer profits from low hardware costs and significantly lower total costs of ownership on manufacturing systems infrastructure.

RESOURCES

Machine controls <http://controls.inventcom.us>

List of machine controls with prebuilt connectors to CNCnet PDM.

Success stories <http://customers.inventcom.us>

Users and success stories of Inventcom technology.

Contact <http://contact.inventcom.us>

Learn more about the company, its regional offices and consulting services.



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