

Integrated automation for efficient glass production

This article highlights the importance of plant integration when developing a distributed process control system.

Simatic PCS 7 is a distributed process control system (DCS) from Siemens, which uses Totally Integrated Automation (TIA), standardised hardware and software components that can be connected to the Manufacturing Execution System (MES) level.

Advantages

The advantages of the system in glass manufacturing are: Time savings through using one engineering tool for the complete process; PCS 7-ES uniform visualisation of all process data on PCS 7 operator stations; reduced production downtime; control of the configuration from all operator stations; minimises general costs.

Due to its modular and open architecture based on selected hardware and software components from the standard Simatic product range, Simatic PCS 7 can be used in both small and large plants.

It can be extended and modified – even online. In this way, it can respond to changing production requirements in manufacturing installations. It is also scalable from the smallest individual system, such as a supply subsystem or batch system through to a distributed multi-user system with client/server architecture, for example, for automating extremely large production plants or large-scale integrated plants.

Maximum plant availability

Plant availability is a key criterion of glass production. The availability of the automation solution itself therefore also plays an important part in the efficiency of a plant. The total investment for a plant in the glass industry is extremely high and production downtimes directly result in detectable commercial losses. Plants are therefore operated, wherever possible, without interruption.

To ensure maximum availability for



▲▼ A distributed process control system can be modified to respond to changing product requirements.



the automation system, all facets of the system must be taken into account: From the controllers through to the operator level, including the complete plant communication network – from the field level through to the production control level. Taking specific requirements into account, and further aspects such as environmental protection and possible weak points in

the plant, the right degree of redundancy can be implemented using TIA and Simatic PCS 7. Building on a flexible, all-round concept, stringent availability requirements can be satisfied and all levels of the plant can be seamlessly integrated. ■

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