Operational excellence

Process control system with integrated materials management

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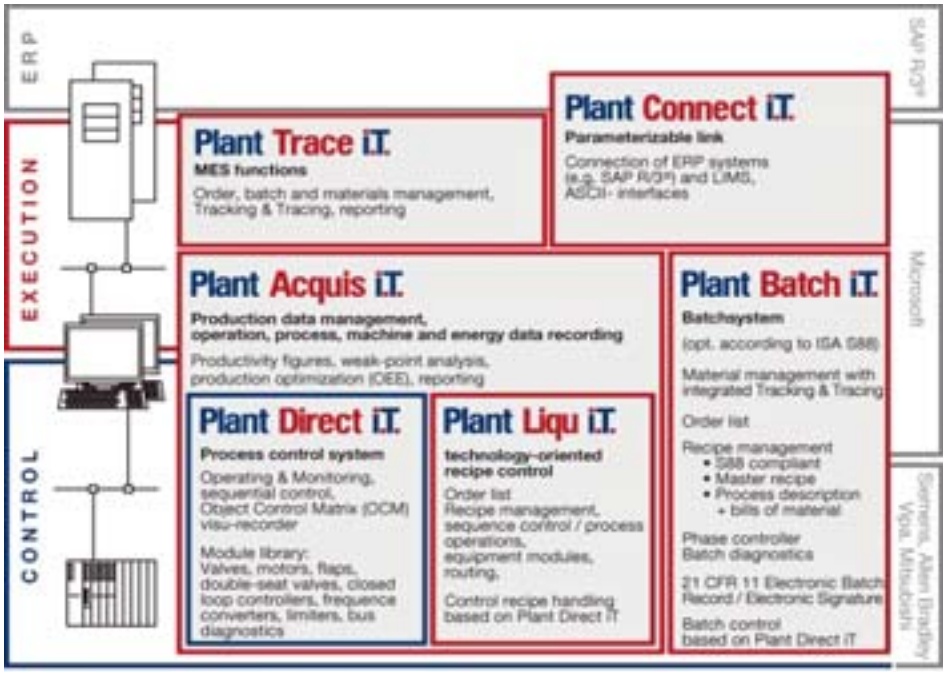
The tying up of unnecessarily large amounts of money in inventories is commonplace. It is also a recognized problem in the process industries, as both continuous and batch production lines demand the uninterrupted provision of raw materials. Therefore, materials management needs to be linked to the process, as only then can real-time needs-optimized provisioning be achieved for process technology. This makes possible the process control system Plant iT that has materials management consolidated in its functional range.

Operational excellence is the systematic improvement of performance with a clear focus on increasing value. Sustainable improvements are generally achieved through reductions in costs and particularly through reductions in tied-up capital, but also by increasing turnover and customer satisfaction. The reduction of tied-up capital represents a key variable for process industries in relation to operational excellence, as millions of Euros are as before stored as a precaution in silos and tank farms, in order to be able to satisfy the demands of process control.

The critical issue is the previously available threshold between the process control level and the ERP (Enterprise Resource Planning) level: the material conversion processes have only one time-delayed information flow into the material management modules of the ERP systems, such as SAP or Charisma. This barrier to operational excellence in process technology is eliminated by the utilization of the Plant iT modular software system, for materials management is an integral part of the process control system.



The Plant iT process control system is designed in a modular way and covers all areas from the controller level to the production control level

Modular design and open architecture

20 years of experience of software development and of numerous applications in various sectors have gone into this process control system. The Plant iT modules comprise of

- the Plant Direct iT process control system
- the Plant Liqu iT technology-oriented recipe control
- the Plant Batch iT batch system
- the Plant Acquis iT production data management system
- the MES functions of Plant Trace iT
- the parameterizable link to ERP software such as SAP R/3 or Charisma

All system modules have a central engineering environment with a consolidated data pool and an integrated interface for parameterization. All system and configuration data can be accessed in this environment via a directory structure similar to that of Windows Explorer. User administration, message profiles, pools of graphical elements for visualization etc. are accessible in this way as is the complete plant structure right down to the individual actuators and sensors that can be parameterized using cascaded location keys. Even entire sequences within processes can be parameterized to the greatest possible extent, so that programming is largely replaced by parameterization.

Plant Batch iT, the high-performance system for recipe and job management, has been developed for the specific requirements of recipe-controlled batch processes, as they are used at Kiesel GmbH & Co KG. Plant, process and recipe modelling takes place either in strict conformance with ISA S88 or simplified models derived from it. The processing of parts lists, which can also be assumed by external systems, simplifies the treatment of a large number of different articles in connection with process specifications. The full recording and logging of all job and batch data produces security in relation to verification obligations. In addition to inventory administration, integrated materials management provides an integrated data basis for batch tracking.

With Batch iT and its integrated materials management, Kiesel as an internationally acting manufacturer of laying systems for tiles, natural stone, parquet and elastic flooring has secured the route to operational excellence, for the over 100 products that are in part produced on request of customers make the highest demands on logistics and production processes.