



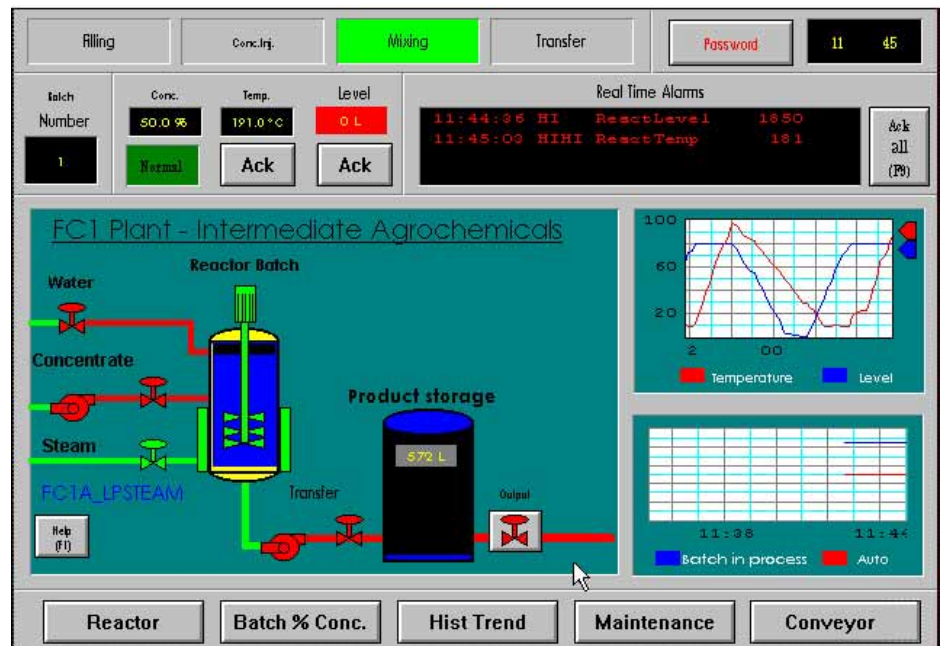
## R/3® SYSTEM

SAP® and Digital have joined forces to integrate the planning, control and execution levels of process-based manufacturing. SAP's R/3 PP-PI and Digital's PDAS bridge the time and information gap between the worlds of process control and business and manufacturing software.

# IN FOCUS...

## SAP'S PP-PI AND DIGITAL'S PDAS

### LINKING YOUR BUSINESS FROM THE TOP DOWN AND THE BOTTOM UP



### PP-PI AND PDAS: BRIDGING THE TIME AND INFORMATION GAP

The combination of SAP's world leading business and manufacturing software with Digital's experience in both hardware and systems integration in process manufacturing (under the CAPISCE project) has resulted in two powerful products that are available worldwide. SAP's R/3 PP-PI (Production Planning - Process Industries) and Digital's PDAS (Process Data Acquisition System) provide a complete architecture to bridge the time and information gap in process industries. To complement this software offer, SAP and Digital have announced a Strategic Partnership to provide implementation services for both PP-PI and PDAS.

With both comprehensive software and implementation services, SAP and Digital provide a powerful combination to assist process manufacturers achieve efficient production and process control. PP-PI and PDAS provide you with integrated process planning and real-time feedback on process events. Plants not only achieve increased production capacity, but also much more effective use of production resources. More efficient information management can also reduce off-specification products, which in turn can help to decrease inventory, raw material conversion and waste.

### EFFICIENT PLANNING AND PROCESS CONTROL

PP-PI is an integral part of the SAP R/3 System. It provides a powerful suite of

integrated planning tools comprising Resource, Recipe and Process Management, Process Planning, and Production Information Management. The open interfaces for integration to Process Control Systems (PLCs), for example, via PDAS, and Laboratory Information Management Systems (LIMS) provide you with timely and accurate information through every step of the production run.

PDAS is a plant floor integration enabler between PP-PI and the complex, varied world of automation. PDAS enables online communication between PP-PI and devices and applications such as DCS (Distributed Control Systems), PLCs, LIMS and SCADA. It unites the heterogeneous components at the plant automation level.



## SAP'S PP-PI AND DIGITAL'S PDAS

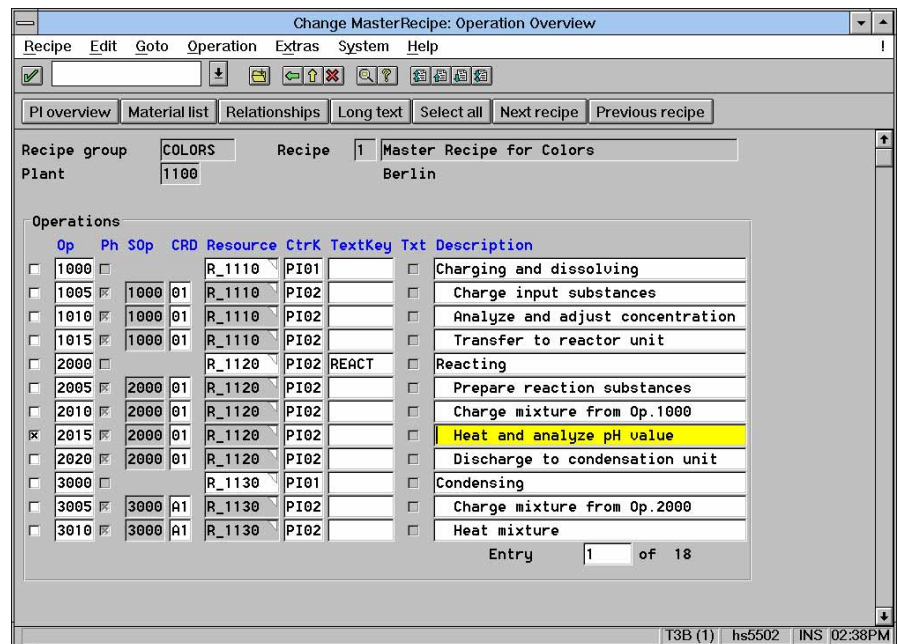
### INTEGRATED MANUFACTURING PLANNING AND EXECUTION

PP-PI's Recipe Management gives production planners a powerful set of tools for new product planning, scheduling, process control and documentation. They can plan the entire set of production resources, process activities, process specifications and control procedures required for production. The master recipe not only provides for efficient by-product and waste control but is also designed to meet international standards such as SP-88, EBF and Namur.

Planned orders from the MRP level or ad hoc process orders can be easily combined with the master recipe in PP-PI and scheduled in the interactive, graphical planning table. Tight integration with the broad spectrum of R/3 applications provides schedulers with up-to-the-minute, online information on sales forecasts and customer orders as well as resource capacity, material availability and leadtimes.

Once resources are assigned and the materials reserved, the process order can be released for production. All process parameters vital for effective production and quality control are stored in process instructions from which the control recipe is derived. For manual operations, interactive process instruction sheets are generated in PP-PI and sent to line operators. In automated processes, the control recipe is sent asynchronously from PP-PI to PDAS. PDAS translates and communicates the control recipe to the appropriate devices and applications for execution.

During production, PDAS manages and monitors real-time process data and production events. PDAS captures,



calculates and filters the many events received from automation devices and ensures that only the required information (such as production status messages for real-time update of the production schedule, actual process data for the Electronic Batch Record (EBR) and quality data to update SAP's Quality Management (QM) or your LIMS) is sent back to PP-PI for further processing. When events are detected, PDAS ensures that subsequent operations and events can be carried out in the required time-frame.

Finally, actual process data can be sent to a real-time historian and/or in summarized form to PP-PI. With SAP Business Graphics and the links to MS-Access and MS Excel, you can combine actual and planned process data for comprehensive data and trend analysis. Your entire process is fully documented and all recipe, quality, planned and actual process data is stored in the EBR according to Good Manufacturing Practice (GMP) guidelines.

### TECHNOLOGY AND SERVICE

PDAS is now available and in operation at multiple sites. Digital's PDAS supports a variety of operating systems such as HP UX, Windows NT, and Digital Unix. In addition, PDAS supports devices from many DCS and PLC vendors as well as complementary application providers. PDAS does not replace extensive investments made in automated applications and hardware devices, it integrates them.

PP-PI is an integral part of the R/3 System and is supported by SAP's wide spectrum of services: competent requirements analysis and technical consulting for project planning and realization, specialist training programs for your employees, and 24-hour hotline support.

SAP's quality management system for software development meets the ISO 9001 standards.

Find out more. Just call or write us.

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