

Seamless Pathway from Lab to Plant

Linking Process Knowledge to Process Control

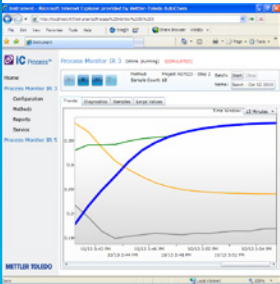


Transfer Lab to Plant

Data collected in the laboratory is developed into an analytical method using iC IR software. iC Process enables the seamless transfer of these methods to the production environment where they can be used by operators and engineers to monitor the process.

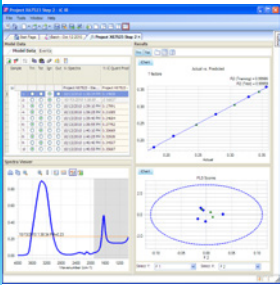
Simple Interface for Operators

The straightforward web-based user interface of iC Process makes it easy for any operator to select an appropriate, approved method and collect data. Trend views allow users to monitor the process and visual warnings quickly notify them of any process upsets.



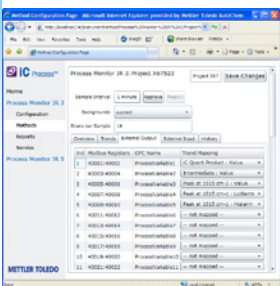
Data Analysis for Experts

Data collected with iC Process can be easily viewed or analyzed by process engineers or laboratory chemists. iC IR provides expert users with a wide breadth of analysis options and can access process data in real time or after a batch is completed.



Standard Interface to DCS

Due to its specific design for the process environment, iC Process supports full communication to Distributed Control Systems (DCS) via industry standard communication protocols such as Modbus and OPC UA.



iC Process™ for IR

Specifically designed for the production environment, iC Process enables the transfer of critical control parameters determined in the laboratory. This allows their impact on the process to be followed in production.

The unique user interface gives operators an immediate visual understanding of reaction progress and any process upsets that may occur. Upon approval, iC IR™ methods are sent to iC Process for operator use. Key information can be viewed on the iC Process webpage or sent to the Distributed Control System (DCS). iC Process is the key link to deliver protocols developed in the laboratory to the production environment.

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Collect Data and Build Model

During the development process, chemists use iC IR software to collect and analyze data from laboratory experiments and use it to develop analytical methods for PAT (Process Analytical Technology) instruments. These methods collect information on process variables when the process is transferred to the plant. iC Process works in combination with iC IR and iC Quant™ to deliver an unsurpassed combination of data analysis and modeling tools.

Transfer and Approve

An important part of the implementation of PAT in the plant is the ability to transfer expert knowledge from the laboratory in the form of a method that can be used by non-expert users. iC Process enables the transfer of any template developed for a plant application in iC IR, where it can be validated and locked, then made available for use by authorized personnel.

Collect Data and Monitor

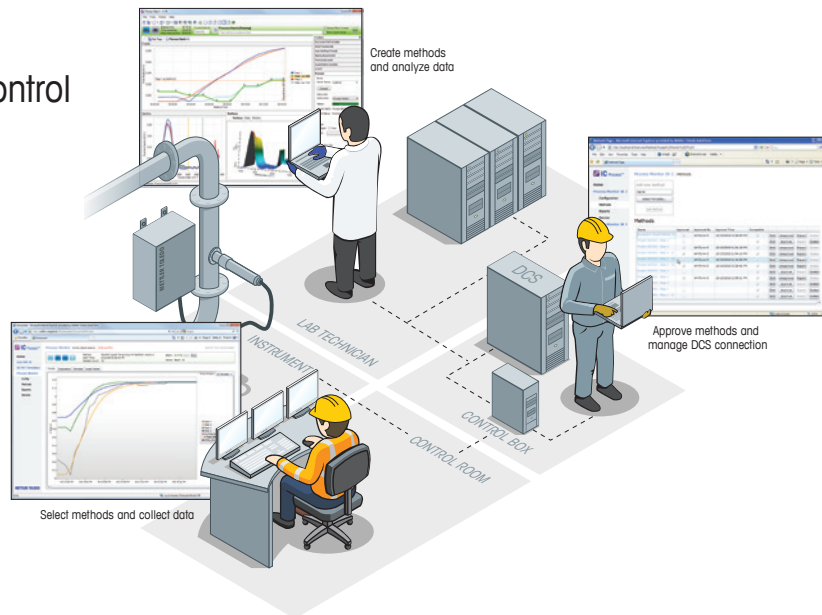
Operators select an approved method and start batches using the simple web interface. Collected data is available via the iC Process webpage or directly through the DCS. Visual alarms warn the operator of process deviations so corrective action can be taken.

Conduct Expert Analysis with iC IR

Key to the ongoing development of a robust process is the ability to take data collected in the plant and use it to learn about the process under development. Data collected in the plant using iC Process can be seamlessly transferred back to the laboratory where it can be further studied and analyzed for factors such as batch to batch reproducibility.

Generate Reports

iC Process includes options to produce quick batch reports or details on data collected over a time range. Additional details are available using the professional reports generated by iC IR and iC Quant.



PC Specifications (Minimum Requirements)

	iC Process Client	iC Process Server
Operating System	Microsoft Windows 7™, Microsoft Windows XP™ SP3	Windows Server 2008, Microsoft Windows 7™, Microsoft Windows XP™ (SP3)
CPU	Intel Core 2 Duo 2.4 GHz	Intel Core 2 Duo 2.8 GHz
Memory	2+ GB RAM or more	3GB RAM or more
Hard Drive	SATA 5400rpm	SATA 7200rpm
Graphics	SXGA 1280x1024 with 3D hardware acceleration	
Additional Software	Internet Explorer 8, Microsoft Silverlight 4.0 Runtime, Adobe Acrobat Reader	

Supported Hardware

- iC Process for IR software supports the acquisition and evaluation of data from ReactIR™ 45P and specific MonARC™ instruments



Make Better Decisions, Complete Projects Faster

iC software integrates the experimental workflow making it simple to visualize, interpret and report results. A unified approach supports lab to plant applications for spectroscopy, particle characterization, reactor control and calorimetry.

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