



## Proficiency\* Batch Execution

Boost efficiency, increase ROI and meet regulatory demands

In today's competitive business environment, the pressure has never been higher to work faster, more efficiently and more consistently. Each batch run must be perfectly executed. Every aspect of production must be perfectly documented. And you must be able to repeat the "golden batch" time and time again. Meet these requirements and you'll achieve new levels of business and production success. Fail to meet these requirements and your business could suffer from lost customers, lost revenue and substantial penalties from regulatory agencies.

Delivering all the tools you need to build a complete monitoring and control solution for batch applications, Proficiency Batch Execution from GE Fanuc can help you to achieve new levels of efficiency, profitability and security throughout your entire production process. Through a robust set of tools, an open architecture and an easy-to-use graphical user interface, Proficiency Batch Execution can help you to transform your production processes into a powerful competitive advantage.



## Proficy Batch Execution: Power, flexibility and security

Helping you to create a more efficient and more consistent production environment, Proficy Batch Execution from GE Fanuc is one of the most powerful and feature-rich batch automation solutions on the market today. Featuring a fully graphical and straightforward application development environment, Proficy Batch Execution delivers complete data collection, robust batch management, clear process visualization and powerful supervisory control capabilities for all of your batch production needs.

The batch application of choice for the world's leading pharmaceutical, food and beverage, chemical, specialty chemical and consumer packaged goods companies, Proficy Batch Execution empowers you to easily create efficient and effective solutions, custom-tailored to the specific requirements of your business. Add to this Proficy WorkInstruction, an outstanding operator workflow solution designed specifically for Proficy Batch Execution, and you have the functionality you'll need to meet the stringent demands of customers and regulatory personnel.

*The end result: a more efficient production environment, a more consistent product and ultimately, a more profitable business.*

## Technical Features:

### Batch Solution Development

Helping to ensure that the solutions you develop using Proficy Batch Execution are both effective and compliant, Proficy Batch Execution adheres to all the leading industry standards, platforms and technologies, including:

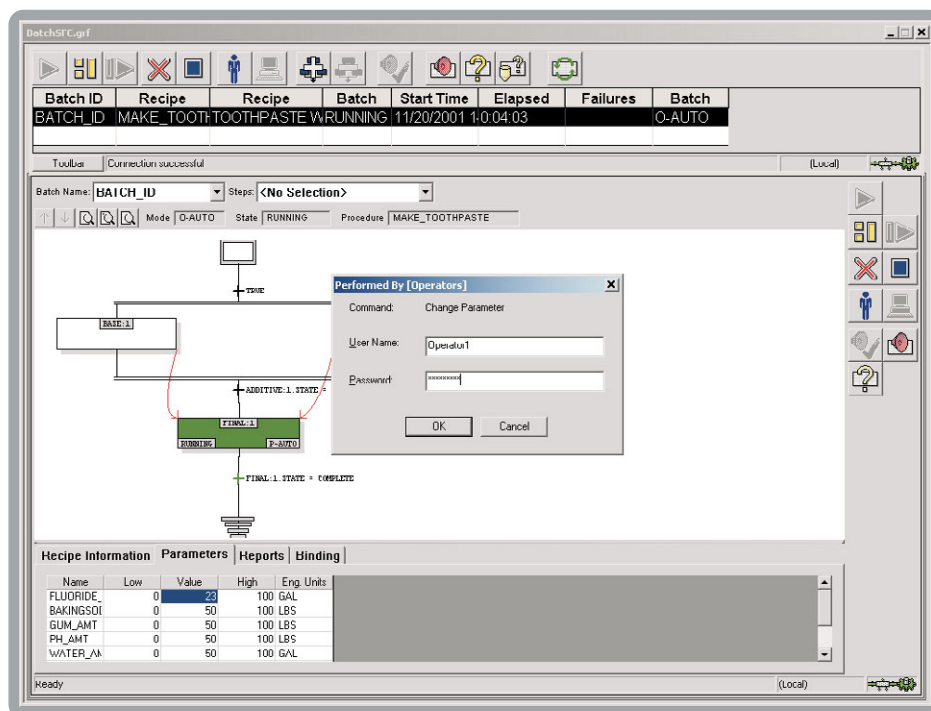
- ISA S88.01 (batch and terminology model)
- IEC 61131-3 Sequential Function Chart programming language
- Microsoft COM/DCOM
- Windows 2000/2003 & Windows NT
- OLE for Process Control (OPC)

Utilizing the familiar and intuitive Proficy HMI/SCADA iFix WorkSpace, development in the Batch Execution application is fast, simple and effective. You can model your plant floor equipment, add equipment paths, equipment priority and unit status, plus create and manage reusable recipe components, all using the S88.01 models. The workspace enables you to edit equipment and recipes, develop pictures, and even configure security and alarms. Using the Proficy WorkInstruction add-on, you can also define operator workflow activities and do it all within the same batch record and in a manner consistent with the Food and Drug Administration's 21 CFR Part 11 regulation.

Further enhancing the versatility of Proficy Batch Execution, the application seamlessly integrates with any OPC-compliant SCADA, PLC or DCS system, allowing OPC browsing to establish connection and automatic creation of tags. You can also customize your Proficy Batch Execution-based solutions using our Batch Integration

Services (BIS) – a Microsoft DNA model that enables you to integrate with a diverse array of third-party MES and ERP applications. Using BIS you can also create custom applications (such as campaign managers) in Visual Basic or C++, enabling you to extend the reach of your batch solutions to enterprise-level applications.

Proficy Batch Execution also features the industry's first OPC soft phase server, a tool that allows you to develop client/server-based soft phases for management operations. All of these development capabilities are included within a full-featured GUI environment, complete with the industry's most comprehensive library of ActiveX controls, making Proficy Batch Execution a versatile and powerful addition to your automation infrastructure.



### Proficy Batch Client

This image reflects the Batch List and SFC ActiveX controls as it appears within the Proficy HMI/SCADA - iFix' environment, showing the Proficy Batch Execution 21 CFR 11 Signature Dialog that appears when an operator is changing a parameter.

## Batch Execution, Operations and Reporting

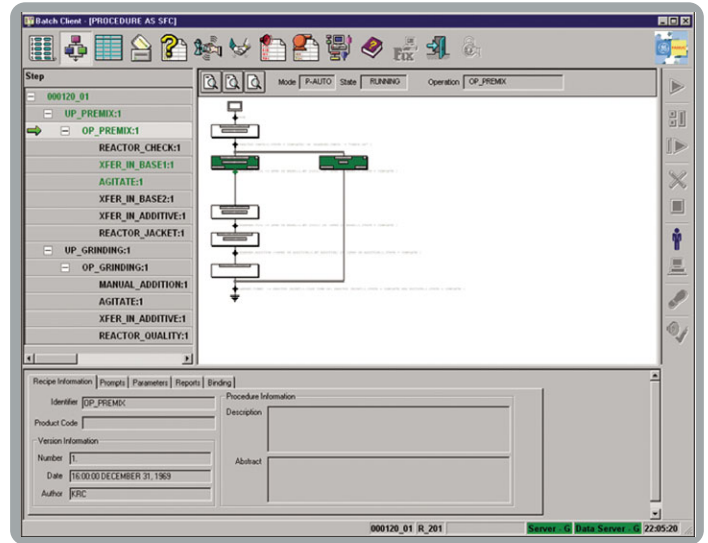
Rounding-out the outstanding development capabilities, Proficy Batch Execution offers an exceptional array of batch execution and operation functionality. Using Proficy Batch Execution, you can execute batches to produce a specified quantity of end product on any chosen line and do so according to specifications you define. Additionally, using GE Fanuc's patented Active Binding feature, you can dynamically bind or re-bind equipment to unit procedures at any stage of production.

Batch Direct functionality provides a simple interface between the Batch Execution System and the phase/equipment logic that is located in the controllers. This functionality allows users to reduce project complexity and implementation costs by building PLI logic directly into Batch Direct phases.

Key benefits of Batch Direct functionality:

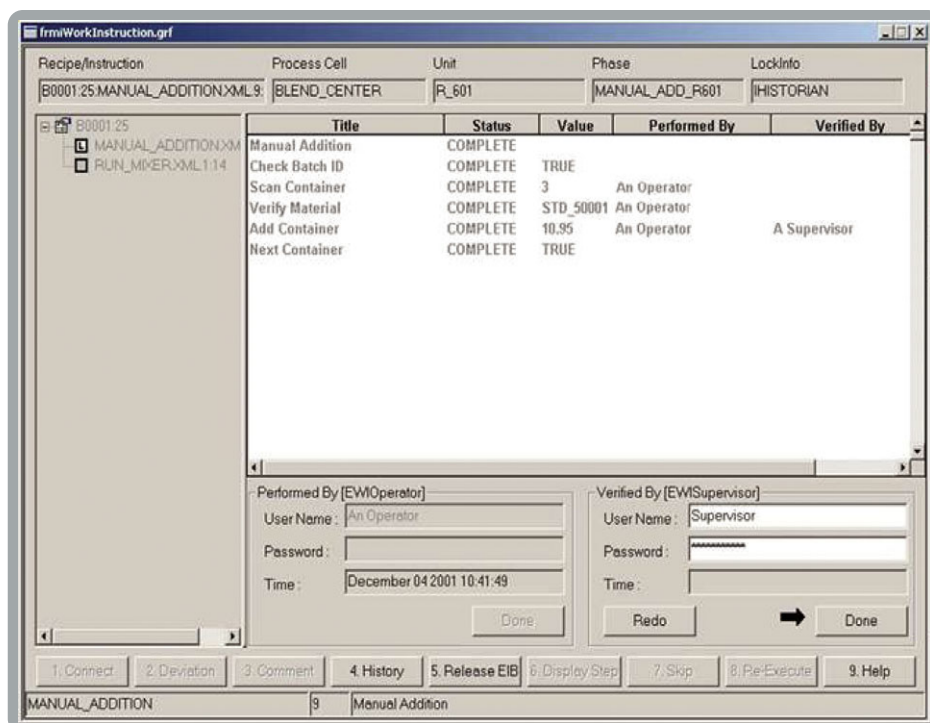
- Simplified and Flexible Phase/Equipment interface
- Ability to connect to existing systems without extensive control changes
- The ability to implement simpler phases in new systems
- Implementation technique for smaller systems that don't require full PLIs
- Maintain the standard operational interface for Batch Direct Phase or PLI

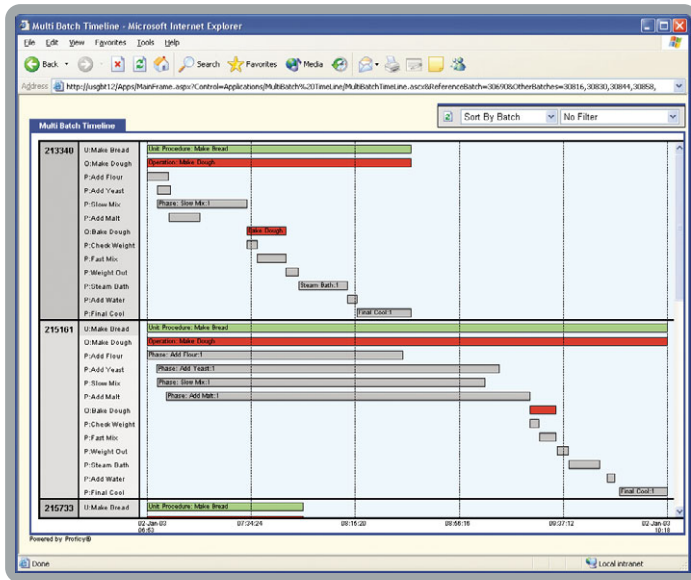
Facilitating a tighter integration between your plant-level and business-level systems, Proficy Batch Execution empowers you to manufacture products based on recipe and formula values from third-party MES applications or ERP systems. You can also provide users with real-time batch production information through the Active Journaling feature, enabling more timely and accurate business decisions. Your Proficy Batch Execution-based solutions can communicate with any OPC-compliant server, facilitating the exchange of data between the Proficy Batch Execution server engine and other plant floor systems.



Proficy Batch Execution also makes it easy to create, distribute and retain batch records and reports. Using Active Journaling, you can deliver access to real-time data for up-to-the-second reports on all facets of your operation – including material consumption, asset utilization, process errors and other critical aspects of your batch production run. The electronic batch records created by Proficy Batch Execution can also be stored and managed in any ODBC compliant relational database.

By adding Batch Analysis capabilities, you can have a S88 data structured view of the information produced by Proficy Batch Execution. The robust out-of-the-box web analytical tools allow you to compare cycle time, and conduct parameters analysis with statistical summary in a single batch or across multiple batches or timelines. These can be sorted by batch, unit procedure, operation or phase. Detailed batch trends and batch summary information with drill down detail can also be generated.





**Accelerate time-to-market**

Using Proficy Batch Execution, companies can get new products to market faster than ever before by providing reusable recipe components, a common equipment model and process simulation capabilities.

**Address regulatory concerns**

Designed specifically to address the complex yet critical demands of the FDA, the robust reporting, recording and security features inherent to Proficy Batch Execution and Workinstruction play a critical role in the development of your 21 CFR Part 11 compliance strategy. The regulatory-related features added to this application were created based upon exhaustive research and in-depth discussions with representatives from pharmaceutical, food and beverage, specialty chemical and consumer packaged goods executives, as well as former regulatory personnel and inspectors.

**Reduce costs & boost ROI**

Because Proficy Batch Execution delivers a diverse array of development tools, communication options and compliance-enabling functionality, you'll be able to reduce life-cycle engineering and system maintenance costs. And through the enhanced connectivity options for business-level systems, your company will also be able to make better, more informed business decisions based upon real-time information.

**Business Benefits:**

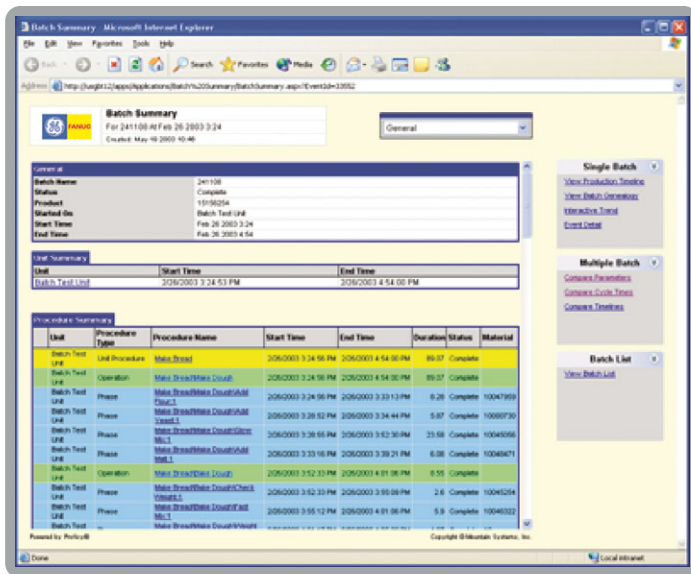
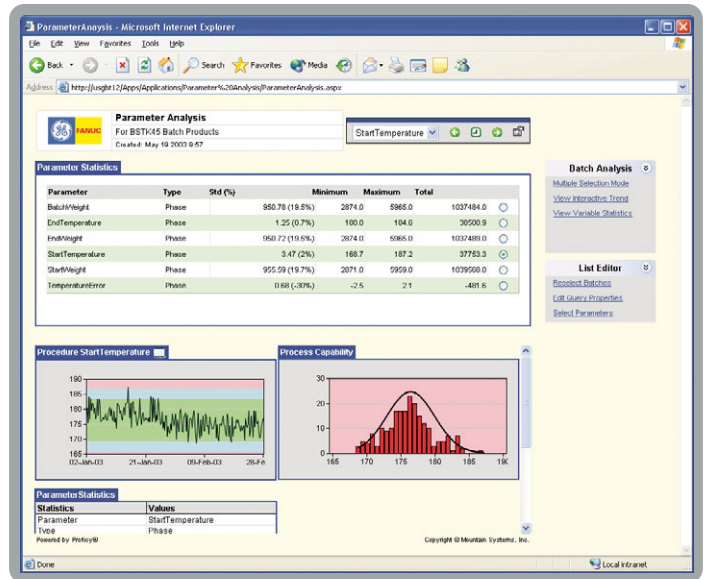
Through the powerful yet easy-to-use Proficy Batch Execution application, you'll be empowered to:

**Improve production efficiencies**

Proficy Batch Execution helps to maximize equipment utilization through GE Fanuc's patented Active Binding feature, a technology that automatically selects and binds units at multiple stages in a recipe procedure's life cycle. Proficy Batch Execution also minimizes changeover time and helps to reduce batch cycle time, resulting in increased capacity and throughput.

**Simplify enterprise connectivity**

Proficy Batch Execution enables information sharing across the entire enterprise, empowering you to download recipe and formula information from enterprise-level systems and upload electronic batch records and production actuals.



# Proficy Intelligent Production Solutions

For years, manufacturers throughout the world have recognized the critical link between production efficiency and profitability. But as new competitive pressures emerge, even the most successful companies are being forced to continually streamline their operations.

The demand for speed, agility and responsiveness in your production operations has never been greater – transforming not only how you manage production assets, but how you do business. As a result, real-time production management is now a cornerstone of any profitable company. And Proficy is the cornerstone of real-time production management.

Proficy is an open, powerful Intelligent Production Solution that provides the plant automation, analysis and execution capabilities that every manufacturer needs, along with the connectivity to the business environment that every company craves. And whether you implement an entire group of applications or simply install an individual module to meet a specific production need, Proficy enables you to incorporate the right solution for your business at any time – regardless of your current automation infrastructure.

Imagine a seamless, cohesive and entirely modular infrastructure that brings the worlds of business and manufacturing together as one – from GE, the company that has set the worldwide standard of excellence for both. The implications for your success are endless.

Proficy Batch Execution is one of the most powerful batch automation software solutions on the market today, with complete data collection, robust batch management, clear process visualization and powerful supervisory control capabilities.



## Performance and Agility for the Real-Time Enterprise

GE understands that businesses today are under continuous pressure to increase productivity and improve profitability.

The Proficy solution integrates a full range of easy-to-use applications and services to continuously improve your level of productivity. It has been developed to build intelligence into your processes – gathering, analyzing, and transforming data into information and enabling you to act in real-time to optimize results.

Proficy connects the equipment on your floor, business systems and decision-makers. This closed-loop experience ensures that production runs smoothly, efficiently and with greater profitability.

With Proficy, you'll have the resources to meet your greatest manufacturing challenges, through a combined set of capabilities including:

- **Plant Intelligence** – Making business sense out of plant data in real time
- **Asset Management** – Optimizing profitability by managing equipment and other plant assets
- **HMI/SCADA** – Improving production performance with plant floor visualization and control
- **Programming and Control** – Allowing you to develop Motion, PLC and PC Control and visualization applications in a single integrated environment
- **Software Services** – Maximizing your software investment through GE support, training, and professional services

## Proficy Batch Execution System Requirements

- Pentium 4 processor, 1.8 GHz or better
- Windows 2000 Professional SP2 or higher
- Windows 2000 Server SP2 or higher
- Windows XP SP1 or higher
- Windows 2003 Server (with or without SP1)
- 1 GB RAM (server),
- 512 MB RAM (Client)
- 1 GB Hard disk space
- 1024x768 display capabilities
- TCP/IP network protocol access

## Proficy Batch Execution Technical Features

- Active Journaling
- Active Binding
- Batch Direct
- Integrated development environment using the Intellution WorkSpace
- Plug and Solve\* architecture for COM/DCOM
- ISA S88.01 batch control systems models and terminology
- IEC 61131-3 Sequential Function Chart language support
- Batch Integration Services (BIS)
- OPC Data Access support
- Utilizes Windows 2000/2003 and Windows NT security
- ActiveX Controls supporting for design time and runtime configuration
- SQL-based recipe storage
- Batch Analysis
- Optional operator workflow components enhance 21 CFR Part 11 capabilities

### Proficy Software Modules:

*Real-Time Information Portal*  
[Proficy Real-Time Information Portal](#)

*Plant Performance and Execution*  
[Proficy Efficiency](#)  
[Proficy Production](#)  
[Proficy Tracker](#)  
[Proficy Machine Tool Efficiency](#)

*Integrated Quality*  
[Proficy Quality](#)  
[Proficy Non Conformance Reporting](#)  
[Proficy Shop Floor SPC](#)

*Process Solutions*  
[Proficy Process Systems\\*](#)  
[Proficy Batch Execution](#)  
[Proficy Batch Analysis](#)  
[Proficy RX™](#)

*Plant Data Repository*  
[Proficy Historian](#)

*Asset Management*  
[Proficy Enterprise Asset Management](#)  
[Proficy Remote Monitoring & Diagnostic](#)  
[Proficy Change Management](#)

*HMI / SCADA*  
[Proficy HMI/SCADA – iFIX\\*](#)  
[Proficy HMI/SCADA – CIMPLICITY\\*](#)  
[Proficy View – Machine Edition](#)

*Programming & Control*  
[Proficy Logic Developer](#)  
[Proficy Motion Developer – Machine Edition](#)

### GE Fanuc Support & Services:

[GlobalCare Support](#)  
[Professional Services](#)  
[Training](#)

### GE Fanuc Automation Information Centers

Americas:  
1 800 GE FANUC or 434 978 5100

Asia Pacific:  
86 21 3222 4555

Europe, Middle East and Africa:  
800 1 GE FANUC or 800 1 4332682  
or 1 780 401 7717

Europe, Middle East and Africa (CNC):  
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### Additional Resources

For more information, please visit the GE Fanuc web site at:

[www.gefanuc.com](http://www.gefanuc.com)

