CIMPLICITY® HMI

Plant-wide data collection, monitoring and control

CIMPLICITY HMI Overview

The information infrastructures of today's manufacturing operations share one important trait – they are only as effective as the quality of the data they are built upon. In order to truly understand and control your operations, you must be able to trust that your data is fully accurate, relevant and up to date. Furthermore, you must be able to share that information with users across your enterprise. As part of GE Fanuc Automation's *Process Execution and Supervisory Control* family of Intelligent Production Management solutions, CIMPLICITY HMI gives you that power.

With an open system design approach, a true client/server architecture and the latest web technologies, CIMPLICITY HMI allows you to realize the benefits of digitization for the collection, monitoring, supervisory control and sharing of critical production data throughout your operations.

imagination at work

CIMPLICITY® HMI Features and Benefits

Powerful Monitoring and Control Over Your Production
- Consolidates data collection from all of your facilities sensors and devices
- Transforms data into dynamic text, alarm information and graphic displays
- Provides access to real-time and historical data, helping you make better decisions
- Helps prevent problems before they occur
- Improves quality, productivity and profitability

Ease of Use for New and Experienced Users
- Fast and easy application development
- Single integrated development environment
- Easy access to power tools
- Drag and drop configuration
- Basic/Advanced Point Configuration
- Progressive Disclosure
- Intelligent Defaults
- Comprehensive Experts and Wizards

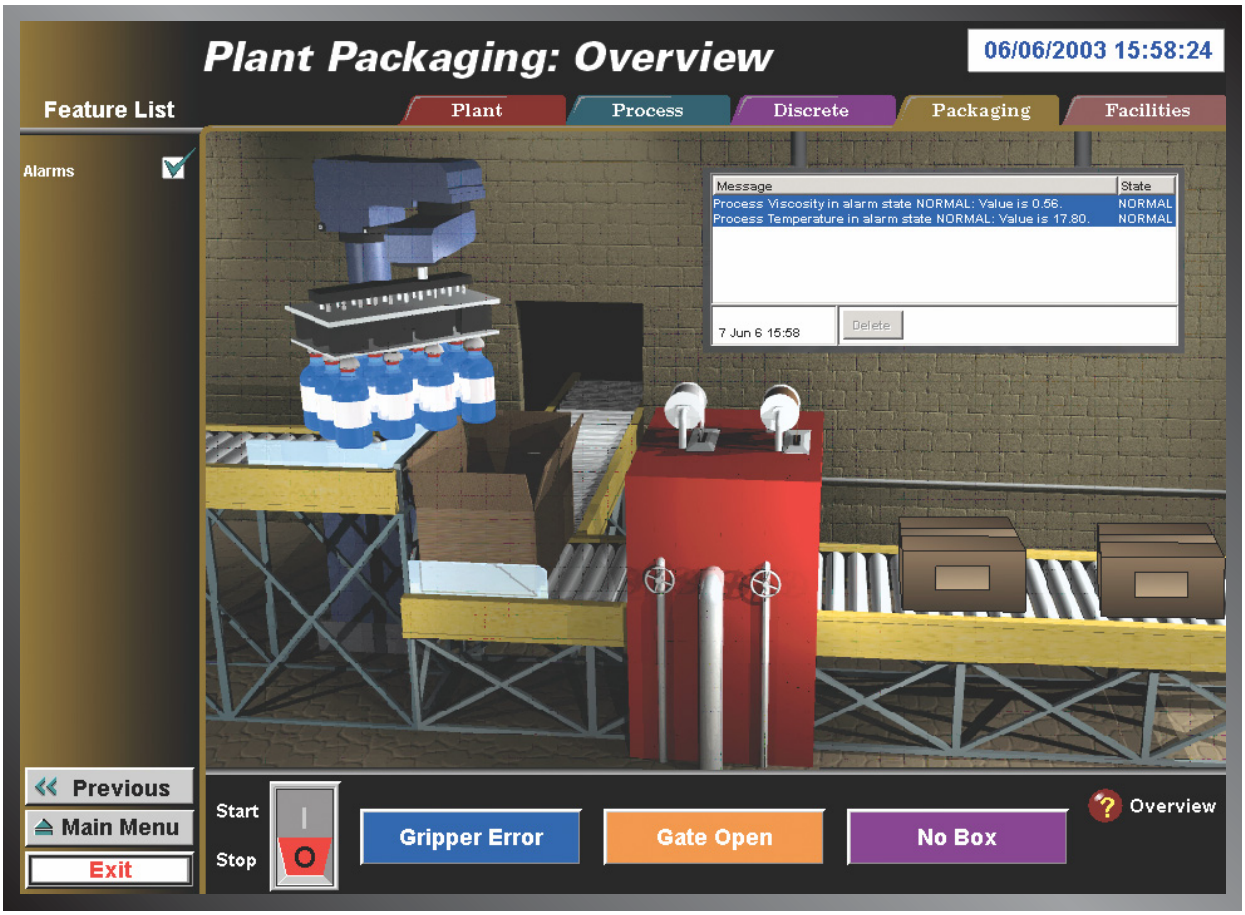
Increased ROI
- Connectivity with your existing infrastructure to maximize your current technology investment
- Faster time to market with new products
- Increased productivity, efficiency and profitability throughout your production
- Reduced downtime and operational costs

Robust Connectivity to Other Software, Systems and Devices
- Connectivity to hundreds of the most popular plant floor control devices
- Compatibility with iHistorian® and infoAgent™ Plant Intelligence applications allows access to best-in-class data collection, Web visualization and analysis

Powerful Visualization Options
- Traditional Client Viewer allows multiple users to be added easily to the system
- Remote WebView Products provide access information while you roam the facility
- Windows Terminal Services allow remote system administration
- Alarm Pagers quicken response time to issues

Powerful Software Architecture
- Scalable Client/Server architecture
- High level of data integrity
- Easy to share data between nodes
- Superior feature set
- Easy to replicate CIMPLICITY projects
- Redundancy option system architecture
- Open systems easily integrate to Enterprise systems

Sophisticated Alarming and Trending
- ActiveX charting objects and methods
- Multi-user sorting and filtering
- Real-time and historical trends available on the same chart
- Quick trends with zero configuration required



CIMPLICITY HMI provides a powerful solution to your discrete manufacturing needs. With plant wide alarm management capabilities you can quickly isolate problems, improve quality, and reduce scrap.

Intelligent Production Management (IPM)

Optimizing Operational Performance

Intelligent Production Management (IPM) is a growing category of technologies designed to manage – and ultimately improve – every aspect of the manufacturing production process. It includes a comprehensive group of solutions designed to help users at all levels of the organization perform critical production functions more efficiently and effectively.

IPM hardware and software applications span a broad spectrum of functionality to manage key areas of the production lifecycle – from controlling plant floor processes to analyzing and sharing performance data to managing equipment assets throughout the organization. Ultimately, IPM represents an opportunity for companies to reduce costs, increase productivity and improve quality by optimizing the performance of their production processes.

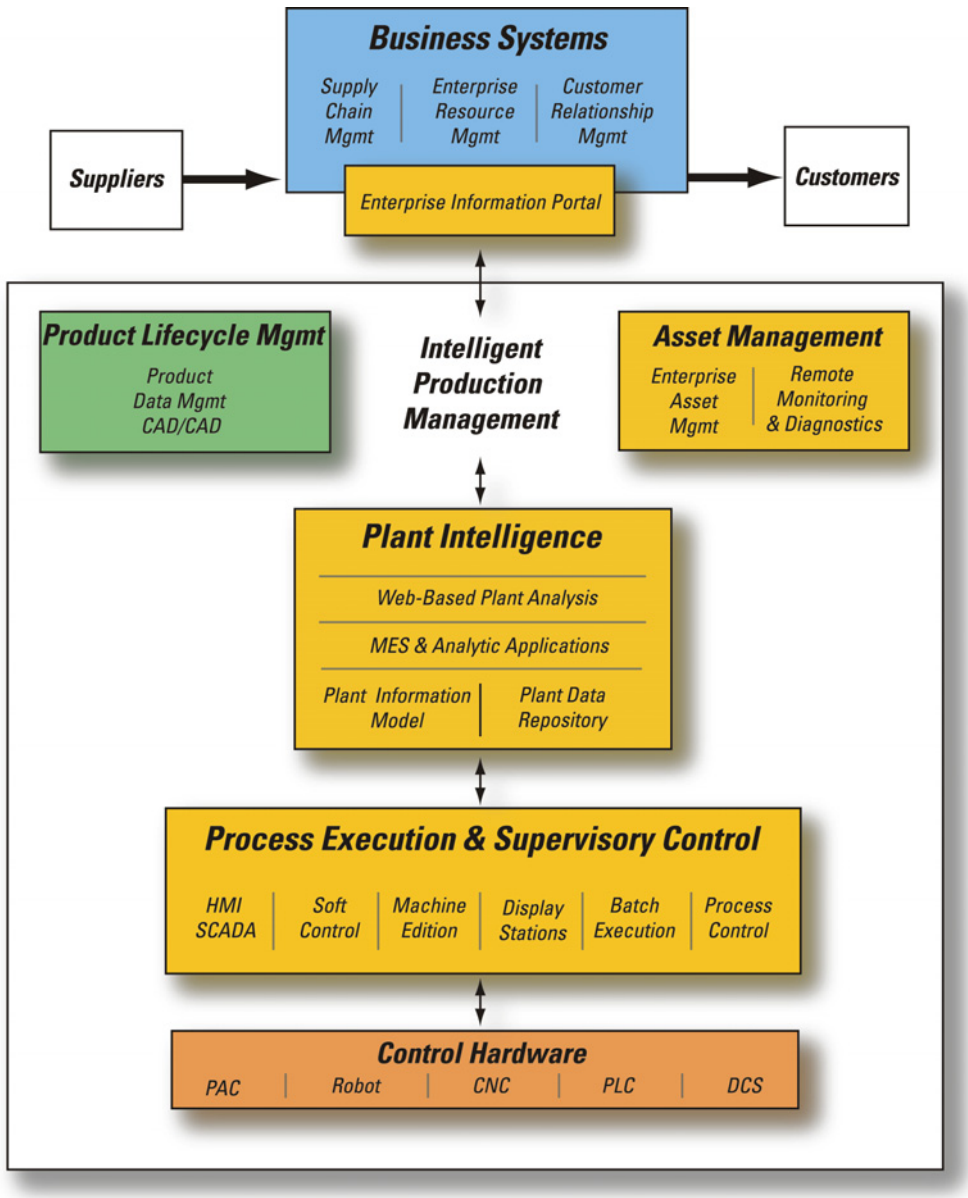
IPM solutions can be categorized into four core functional areas, which can be implemented separately or as part of a fully integrated plant-wide solution:

Asset Management
Asset Management software solutions enable manufacturers to realize tremendous gains in equipment effectiveness through proactive and targeted equipment management. Asset Management solutions allow Production and Maintenance Managers to identify and track physical assets in order to perform scheduling and maintenance tasks with greater efficiency. Equipment usage, maintenance and repair operations, asset costs and more can be traced, viewed and controlled using these applications.

Plant Intelligence
Plant Intelligence software applications are an integrated set of solutions that provide a new level of insight into operational performance, allowing decision makers to make business sense out of plant data in real time. These high-impact applications give Production Managers the information and analysis they need to make important real-time decisions that dramatically improve their performance. They are critical tools for companies seeking to gain a competitive edge through improved operations, collaborative production and corporate accountability.

Process Execution & Supervisory Control
These are the software applications which allow Operators and Process Engineers to better manage their production processes. Serving as a conduit for both communicating with the hardware and extracting real-time data from the industrial processes they control, Process Execution & Supervisory Control solutions help manufacturers visualize plant floor operations, perform supervisory automation and deliver the production data that feeds reliable, up to date information to the higher-level analytic applications. As a result, manufacturers can increase production, maximize quality and efficiency and improve regulatory compliance through user accountability.

Control Hardware
From industrial-hardened PCs and CNC systems to PLCs and robotics, these are the durable assets that are used to physically manufacture products, maintain the flow of materials and protect the safety and quality of what is being produced.



Intelligent Production Management (IPM) integrates all key areas of the production management lifecycle, giving you greater connectivity, analysis and control over your operation. ***CIMPLICITY HMI*** *is part of GE Fanuc's* ***Process Execution & Supervisory Control*** *family of IPM solutions.*

Part of our Process Execution and Supervisory Control Solutions

CIMPLICITY HMI is a key component of GE Fanuc's Process Execution and Supervisory Control products – a full suite of solutions that provide accurate, open and secure data acquisition and control of plant floor processes. It is an extremely well-suited application for discrete manufacturing environments, with functionality to excel in industries including Automotive, Aerospace, Plant Floor Discrete Manufacturing, Machining, Semiconductor, CNC, Motion Control and Consumer Packaged Goods.

CIMPLICITY HMI offers a long list of features that can add significant value to your business.

CIMPLICITY HMI Features

Advanced Visualization of Your Plant Data

CIMPLICITY HMI provides several visualization options which give you a great deal of flexibility and control over how and where you view your data.

CIMPLICITY HMI Viewer
The CIMPLICITY HMI Viewer is the standard CIMPLICITY HMI client. It serves as a traditional PC-based client in that it is installed on the hard disk and accesses data from a local or remote server. Applications that can be run on CIMPLICITY HMI Viewer include real-time graphics, trending, alarming and reporting. A CIMPLICITY Development Viewer option is available that allows users to perform development on line including building graphics and adding points to local or distributed servers.

CIMPLICITY HMI Terminal Server Viewer
The CIMPLICITY HMI Terminal Server Viewer is a thin client and web solution that makes use of the Microsoft Terminal Server technology and provides the capabilities of a standard CIMPLICITY HMI Viewer. From any CIMPLICITY HMI Terminal Server Viewer station, users have complete access to their screens and the CIMPLICITY Server – making full use of CIMPLICITY HMI Viewer technology, ActiveX controls and third party content.

CIMPLICITY HMI WebView
CIMPLICITY HMI WebView is an additional thin CIMPLICITY HMI client solution for distributing information to many users. CIMPLICITY HMI WebView is a fast, easy and cost-effective way to send CIMPLICITY HMI information to users over the Internet or Intranet.

Powerful Data Collection

CIMPLICITY HMI's open communications strategy enables you to connect to hundreds of other systems and devices. Through native drivers and standard communication interfaces such as OPC, you are capable of collecting data from virtually any third party device. The product's true client/server architecture provides for this data collection, as well as the seamless sharing of the information out to multiple users or other plant systems.

Workbench
Patterned after the Microsoft Windows Explorer, the CIMPLICITY HMI Workbench provides an integrated development environment and gives users a new perspective on the application configuration, offering power and flexibility.

Power Tools
Each CIMPLICITY HMI system includes a complete set of Power Tools that give you the functionality you need to construct and integrate your most demanding applications. These include:

- *CimEdit* – the development environment for visualization screens that accurately depict the production process.

With CIMPLICITY HMI users can create powerful interactive screens that allow users to review and control process operations.

- *CimView* – the runtime visualization environment that displays process information in both text and graphic formats.
- *Symbols and Objects Library* – an extensive library of symbols, along with the powerful SmartObjects feature, that allow for an easy application creation and maintenance. With SmartObjects, you can create your own custom objects and easily drag-and-drop them into the screens.
- *Alarms and Alarm Management* – extremely flexible alarm routing, sorting, filtering and blocking capabilities
- *Basic Control Engine* – Script and program applications with a Visual Basic style language
- *Point Control Panel* – allows you to verify the data collection and alarm configuration of your system without configuring a single graphics screen
- *Alarm Viewer* – an ActiveX object that can be embedded into screens to create a single, seamless interface for your process

Flexible System Configuration Options for Enhancing Plant Performance

CIMPLICITY HMI was designed as an open system that takes advantage of industry standards, making integration with other systems easy and seamless. In addition, the product includes a number of features that allow your information infrastructure to support the needs of your business.

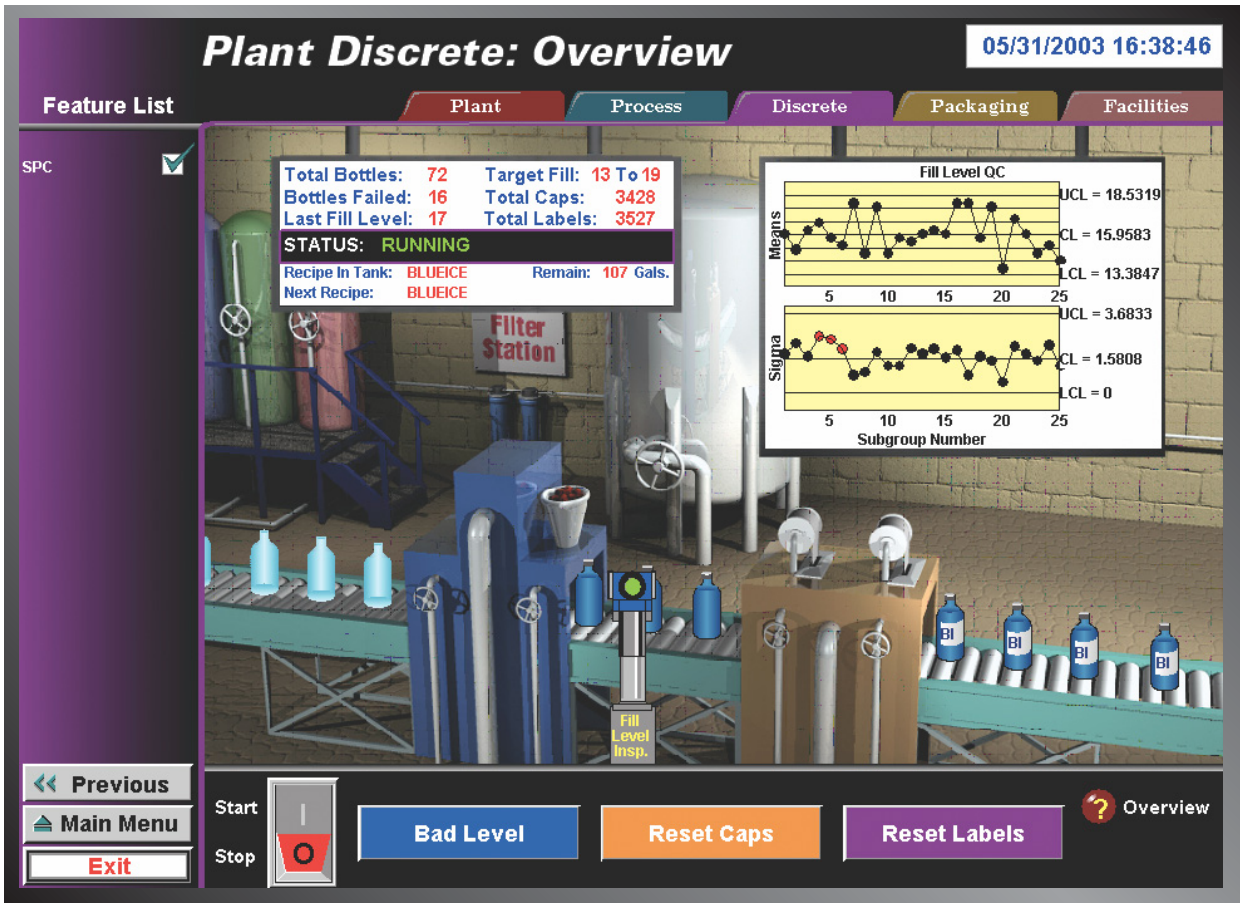
Point Configuration
The CIMPLICITY HMI point configuration can be adapted for specific user needs. It includes a Basic Point Configuration option, which is especially targeted to new users, along with an Advanced Point Configuration capability that provides experienced users with the full set of configuration fields that are available.

Master Objects
Master objects are template objects that can be created and used identically on multiple screens. In addition, scripts can be linked to the master object that will be automatically replicated as well.

Database Logger
With its open system design, the Database Logger runs on a CIMPLICITY HMI Server and uses the standard ODBC interface to log data such as point values, alarms and events to Microsoft SQL or Oracle relational databases. In this way, data is logged without interrupting the overall system. The resulting databases are updated continuously, ensuring that applications using this data have access to accurate and timely information.

System Integration
CIMPLICITY HMI enables integration with powerful GE Fanuc Plant Intelligence applications such as iHistorian®, delivering reliable, real-time data to these higher level analytic applications.

Trending
Trending allows you to analyze data collected by the CIMPLICITY HMI system or by other third-party software packages. This includes the comparison of current trends with historical trends to quickly identify and correct process malfunctions.



CIMPLICITY HMI can be enhanced with powerful option modules such as SPC that are fully integrated. Your operations can be monitored continuously and any SPC related alarms are handled with the same common alarm viewer.

Scripting
Scripting is provided to extend the CIMPLICITIY HMI capabilities for tailoring individual applications according to specific needs. Scripts can be executed based on process events, such as changing the value of a point, a specific alarm state or can be based on time of day.

System Points
CIMPLICITY HMI provides many predefined System Points on a wide variety of topics, such as project and computer information, date and time, and alarms.

Dynamic Measurement Systems
CIMPLICITY HMI projects can be developed to let you dynamically switch between different measurement systems with a simple point and click.

Dynamic Screen Localization
The Dynamic Screen Localization enables a CIMPLICITY HMI application to be adapted to accommodate multiple users who speak different languages.

Partner Extensions

CIMPLICITY HMI Partner Extensions enable additional capabilities beyond the functionality already provided by the product. In this way, CIMPLICITY HMI can be adapted to meet additional requirements of specific markets.

Product Extensions
Product Extensions add additional functionality to the CIMPLICITY HMI product. They can be adapted for specific needs by the end user.

CIMPLICITY HMI for CNC
CIMPLICITY HMI for CNC provides the link of the HMI/SCADA system to GE Fanuc's Open CNC products. It offers operator interfaces, production monitoring and reporting, data acquisition and cell control for a comprehensive integration of CNC into the overall application. More information is available from **www.gefanuc.com.**

Power Management Control System (PMCS)
Power Management Control System software allows tracking and controlling facility power from a desktop computer - information to help the user to prevent peak demand surcharges and control the flow of power accomplished through GE Industrial Systems Power Management products. More information is available from **www.gepowerleader.com**.

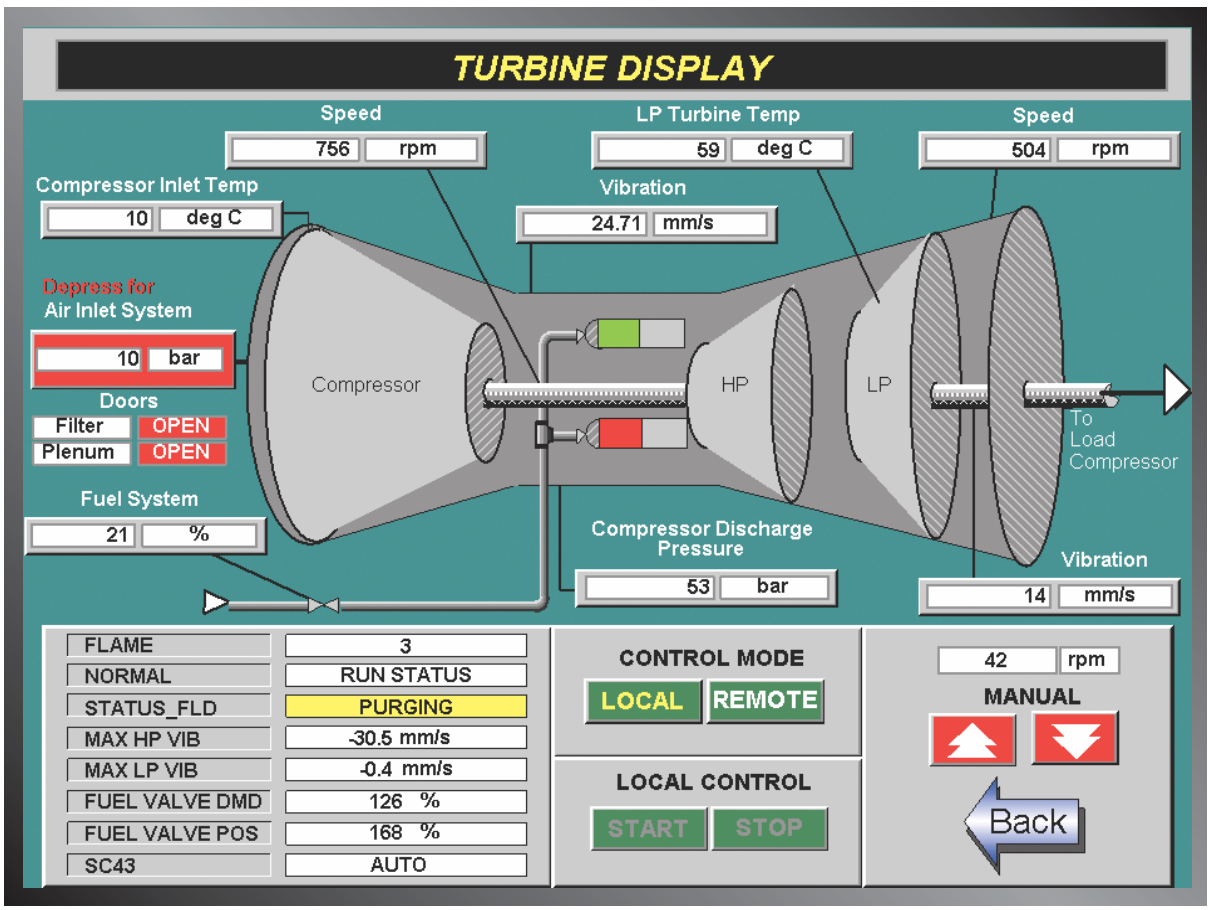
Optional Features to Further Enhance Performance

CIMPLICITY HMI also offers a number of optional features that can further enhance the value of the software for your particular environment.

Action Calendar
The Action Calendar gives you the power to create, maintain and execute a calendar schedule of manufacturing events and corresponding actions. This allows controlling lights, heat and equipment based on a pre-defined schedule.

Integrator's Toolkit
The Integrator Toolkit includes four powerful application programming interfaces (APIs) that enable users to develop custom applications, which integrate with CIMPLICITY HMI seamlessly. These include:

- Device Communications Toolkit
- Point Management API
- Login API
- Alarm Management APIs



CIMPLICITY HMI is used in the most complex monitoring and control applications such as turbine monitoring and balance of plant operations.

OLE for Process Control (OPC)
OPC allows you to integrate CIMPLICITY HMI with other systems for seamless data exchange. There are two OPC components available within CIMPLICITY HMI:

- OPC Client capabilities are built into HMI Servers and allow for an easy integration of third-party device communications drivers
- OPC Server is a product option that provides capabilities to offer an open systems approach to integrating CIMPLICITY HMI with other software applications.

Recipes
Recipes allow you to create, maintain, upload and download recipes (a group of setpoints) to the production process. In addition, they allow for maintenance of device-independent recipes, sending a set of parameter values to the specified equipment.

Report Manager
Report Manager makes it easy to generate process related reports. Once the reports to be produced are pre-configured on a time or event basis, the Report Manager will run in the background collecting and formatting the data for the individual reports.

Redundancy
Redundancy provides for the failover from a primary computer to a secondary computer should the primary computer fail. CIMPLICITY HMI supports redundancy at several levels to minimize the effect of any failure. These include backup CIMPLICITY HMI Servers and network redundancy.

Statistical Process Control (SPC)
Statistical Process Control provides tools needed for data measurement and analysis, as well as process improvements and quality control.

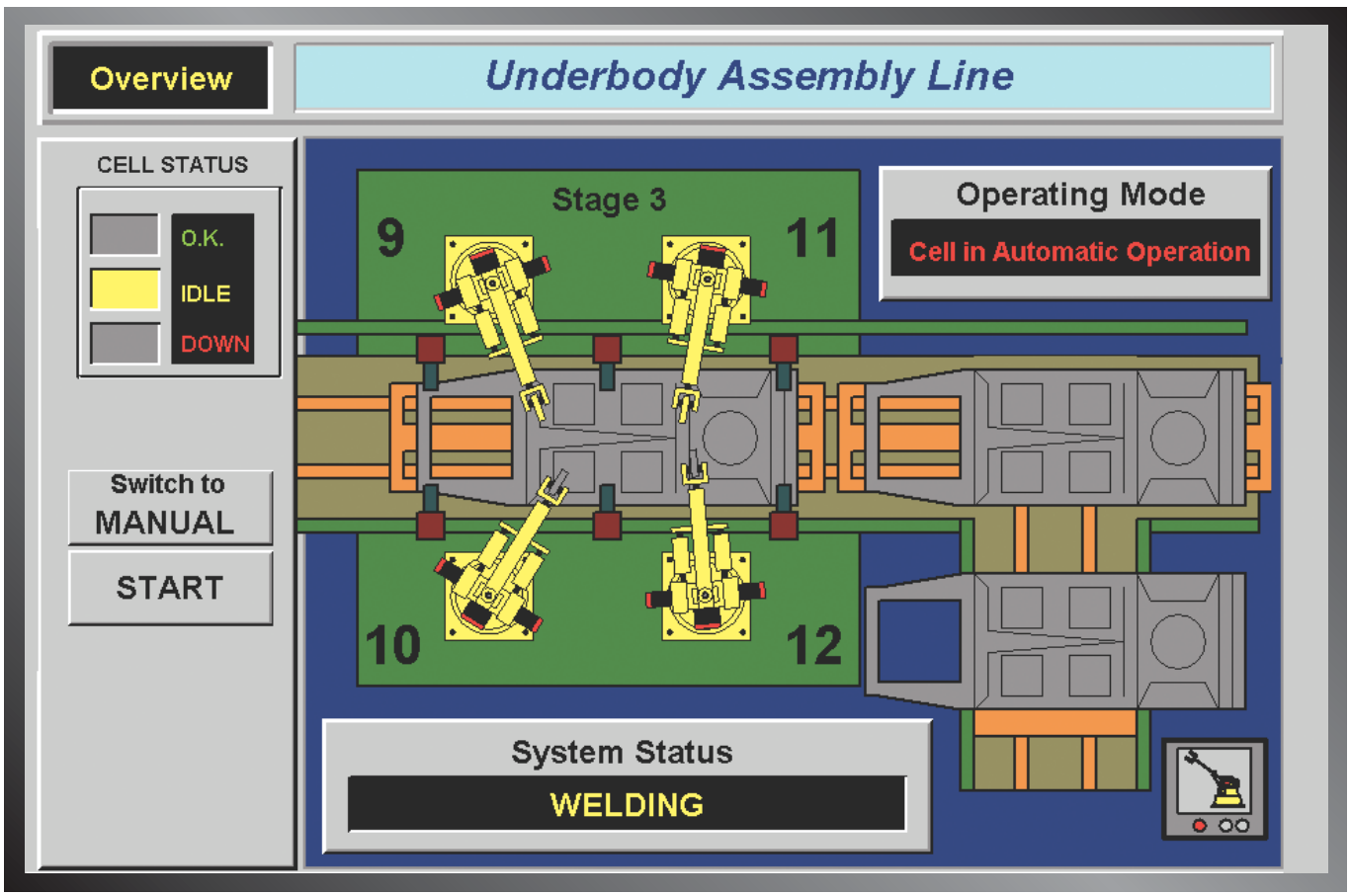
System Sentry
System Sentry helps the user to keep the system running by constantly providing real-time information about the health of computers and the CIMPLICITY HMI application within a network. It immediately alerts you to problem conditions and provides tools to pinpoint the cause.

CIMPLICITY HMI: A Solid Foundation for Your Information Infrastructure

CIMPLICITY HMI from GE Fanuc Automation provides superior HMI and SCADA functionality and establishes a solid foundation for your digitized production operation.

True client/server architecture and open system design offer fast, easy integration with the ability to grow from a single computer node to a plant-wide monitoring and control system, providing real-time information from the factory floor to all levels of the enterprise.

To learn more about this powerful application, or about our complete line of Intelligent Production Management solutions, visit **www.gefanucautomation.com.**



CIMPLICITY HMI has become a standard in many automotive manufacturers and is used in applications ranging from body fabrication, paint shops, and general assembly. The complexity of these applications has proven that HMI is a solution that scales from small applications to plant wide supervisory control systems.

CIMPLICITY HMI System Requirements

Hardware

Minimum:
Pentium III PC, 800 MHz

Recommended:
Pentium 4-PC, 1 GHz or higher

256 MB RAM Memory size or higher

1 GB hard disk or higher

CD-ROM drive

SVGA or higher color monitor with 24-bit graphics card, 16 MB RAM or higher, no shared memory area

Pointing device (mouse, track ball, touch screen, etc.)

Keyboard

Parallel or USB port

TCP/IP-compatible network interface adapter(s)
Note: No network interface adapter is required for stand-alone applications

Software

Operating System:
Windows 2000 Professional, Server or Advanced Server, SP2 or
Windows NT, SP6a
Windows XP Professional

CIMPLICITY HMI Capabilities

- ***Monitor and control plant processes, equipment and resources***
- ***Collect and share real-time and historical data with users on all business levels***
- ***Easy application development and deployment based on Basic/Advanced Point Configuration, Progressive Disclosure and Intelligent Defaults***
- ***Open system to connect to enterprise-level systems and to integrate with other third-party applications***
- ***Flexible alarming and alarm management***
- ***Relational database interface for logging point values***
- ***Seamless scalability as a result of a true client/server architecture***

The GE Fanuc Family of Software Solutions Includes:

Asset Management

Enterprise Asset Management
Remote Monitoring & Diagnostics

Process Execution & Supervisory Control

Bundled O/I
CIMPLICITY® HMI
DataViews™
FIX™
I/O Drivers
iBatch™
iClientTS™
iFIX™
iWorkInstruction™
Manager
OpenProcess™

Plant Intelligence

Advantage
Digital Cockpit
iDownTime™
iHistorian™
iInfoAgent™
Proficy for Manufacturing™
Tracker
VisualSPC™

Control Hardware

CNC & Machine Tools
Communications & Networking
Embedded Computers
Industrial Computers
Motion Control
PLC, Controllers & I/O

Contact Us

North American Offices
Headquarters: Charlottesville, VA
Albany, NY
Edmonton, Canada
Foxborough, MA

www.gefanucautomation.com

USA: 800-526-3486
Outside USA: 508-698-3322

International Offices
Australia
China-Beijing
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