

# DataViews®

## Software Development Tools

Despite the robust functionality of today's proprietary HMI applications, many users – due to the special requirements of their system or simply their own personal preferences – opt for the flexibility and cost effectiveness of programming their own unique data visualization application.

Having the ability to quickly and easily create graphics in these applications can significantly reduce the time and effort required to develop them. DataViews software from GE Fanuc Automation is a premium, low cost graphics solution for any programmer developing their own HMI.

DataViews delivers a series of powerful, customizable graphic development tools that allow you to create robust, dynamic graphics directly within your application. Regardless of your development platform, DataViews enables you to incorporate high quality graphics at a fraction of the time it would take to program them individually – letting you focus on your core programming requirements. As a result, you'll save time and money while uniquely meeting the demands of your environment.



imagination at work

# DataViews® Features and Benefits

## Increased Productivity

- Saves programmers significant development time
- Allows graphic objects to be developed and imported quickly and easily, rather than having to develop them in code
- Fits directly and seamlessly into the application being developed
- Allows applications to run quickly and efficiently
- Leverages industry standard solutions to save data connectivity development time

## Flexible Programming Environment

- Allows optimal end user performance during development phase
- Supports your preferred programming language and Operating System
- Contains open API leads to flexibility and functionality
- Allows you to use VB or VC++ to write rule handlers

## Powerful Connectivity

- Provides easy to use point-and-click data connectivity
- Gives you accessibility to information from various data sources
- Creates customized interfaces to non-standard data sources
  - Gives you flexibility to tap into other sources of data
  - Able to connect to live data during development
- Creates graphic designs independent of data supply
- Allows simple generation of simulation data
  - Updates charts and other dynamics in real time

## Cost Effectiveness

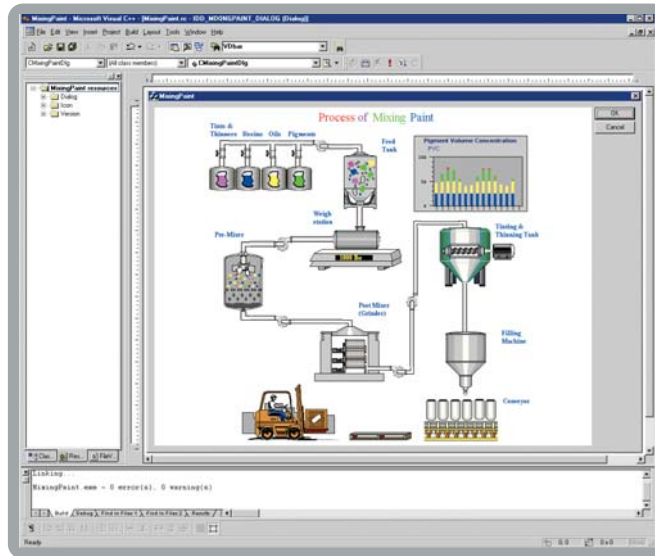
- Less costly than many proprietary products
- Uses COTS supporting products
- Assimilates with common integrated programming languages/environments

## Comprehensive Graphic Editing Capabilities

- Saves time when building interfaces
- Provides reusable and customizable drawings
- Includes graphs and charts for standard format data display
- Contains attribute and transformation dynamics for all objects
- Provides rules to manage the view and interaction
- Code generation allows rapid development

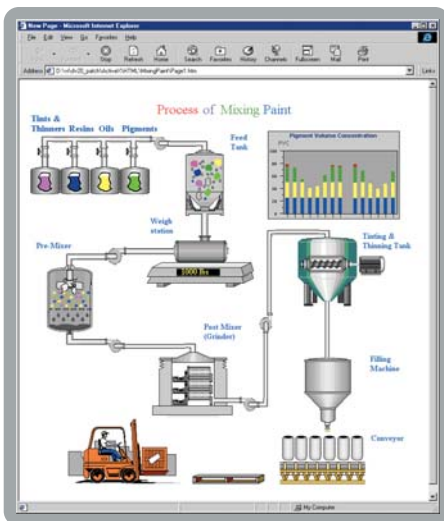
## Added Flexibility and Customization

- Enables you to develop custom HMI applications that uniquely fit your requirements
- Ideal solution for developing highly secure, personalized software applications
- Dramatically simplifies the creation of editors though component based technology, allowing OEMs to build application-specific editors with ease
- Web Server allows you to browse live interactive displays across any Internet connection
- Large graphic archive (3,000+ pictures, shapes and symbols) offers many options for your customized environment
- Allows you to store and re-use custom drawings



## Industry Standard Programming Environment

Creating and animating graphics in Visual C++ can be challenging – even for the best programmer. Graphics created with DataViews can be integrated into Visual C++, which dramatically increases the application's time to market.



## Industry Standard Browser

With DataViews integrated Web Server technology, you can now visually see and control your application through a standard web browser – reducing total cost of ownership while increasing flexibility.

## Web Server: A Thin-Client Solution

DataViews Web Server is a thin-client, server-based software solution that transports UNIX, Linux and Windows based applications to any display device with minimal client-side requirements and without modifications to the applications themselves. Your application will retain its native look and feel on the display and will perform as if it is running locally. Within minutes, your applications can be run from anywhere. The DataViews Web Server uses any Internet browser and network connection to deliver your applications to any display device. The DataViews Web Server for UNIX will display your UNIX applications to Windows display clients while the Web Server for Windows will display Windows applications to UNIX display clients without any emulation software.

The Web Server solution offers a number of benefits for DataViews users:

- Enhanced drawing of displays
- Increased performance due to reduced network communications
- Fast, easy application deployment within minutes without high costs or lead time
- Platform independence
- Ability to publish existing DataViews applications to remote client displays without modifications

## Global Access and Support

Our worldwide network of sales and support representatives is available to support your DataViews investment. From global sales contacts to ongoing technical support and training throughout your entire project lifecycle, GE Fanuc stands behind our software to help you realize the highest value for your business.

# Software Development Tools

DataViews is a powerful productivity tool for programmers and engineers who are creating a customized HMI application in their own programming language. Rather than having to spend time and effort programming graphics, you can now add high quality, dynamic graphics quickly and easily into your application – regardless of the programming environment you've selected. DataViews includes both a powerful graphic editor and a comprehensive set of graphics libraries, which ultimately is integrated into a target language (such as C or Visual Basic). By allowing DataViews to handle the graphics creation, you can focus on programming the core application. And because DataViews integrates into application code, it can support a wide variety of OS platforms, including Unix, Linux & Windows. DataViews offers a number of key features and benefits for programmers.

## Flexible Platform Support

DataViews is an extremely flexible solution, capable of supporting a variety of developer environments.

### DataViews for Windows

DataViews is a powerful software toolkit for developing dynamic graphical displays used to control and monitor real time processes on the Microsoft Windows platform.

### DataViews for Unix/Linux

With over 25,000 installations worldwide, DataViews for Unix/Linux is the standard in development tools for creating dynamic graphics to monitor and control live processes. It's the ideal tool for Unix/Linux developers with mission critical needs.

## Flexible Language Support

### DataViews for C (Windows, Unix, Linux)

A library of C modules gives the C developer access to object manipulation and data control. This tool is ideal for OEM developers, who can leverage knowledge of C in an open development environment.

### DataViews for C++ (Windows)

The DataViews C++ class library allows you to integrate your DataViews interface into a C++ application and makes view management and object manipulation available to Visual C++ programmers.

### DataViews for Java (Windows)

This is the first full-featured open HMI development tool for Java developers who seek high performance and control. The addition of a Java API enables Java-based development for ultimate application control and performance at both design and run time.

### DataViews for VB (Windows)

Using an ActiveX control called DVPlayer and a COM API object library, the Visual Basic programmer can create, extend and manage the built HMI, providing incredible flexibility and control at both design and runtime of the application. From object creation, view management, data creation to dynamic control, the COM object library provides unlimited access and power to the application developer.

## Flexible Add-Ons

### DataViews Custom Editor Add-On

The DataViews Custom Editor Add-On lets programmers create custom graphical editors. The DataViews custom editor add-on dramatically simplifies the creation of editors through component-based technology, allowing OEM's to build application specific editors with unprecedented ease.

### DataViews Custom Datasource Add-On

DataViews lets you go beyond traditional data sources such as ODBC and OPC. With the Custom Datasource Add-On, you can create "point and click" custom data connectivity to any data stream, such as a machine, database, or instrumentation. This provides total data flexibility to the application and the customer.

## Flexible Development and Deployment Packages

### Developer's Suite

This package contains all the functionality and features needed to develop a DataViews solution. Development packages vary by platform and programming language to suit your individual requirements. In addition, the Developer's Suite includes one Runtime license for deployment.

### DataViews Runtime

The DataViews Runtime package represents the requirements and license for the deployment of a DataViews application.

## Flexible Graphics Development

DataViews is made up of two complimentary tools that you can use to build complete, customized interfaces for your application:

- DV-Draw, an interactive drawing editor
- DV-Tools, a subroutine library

### DV-Draw

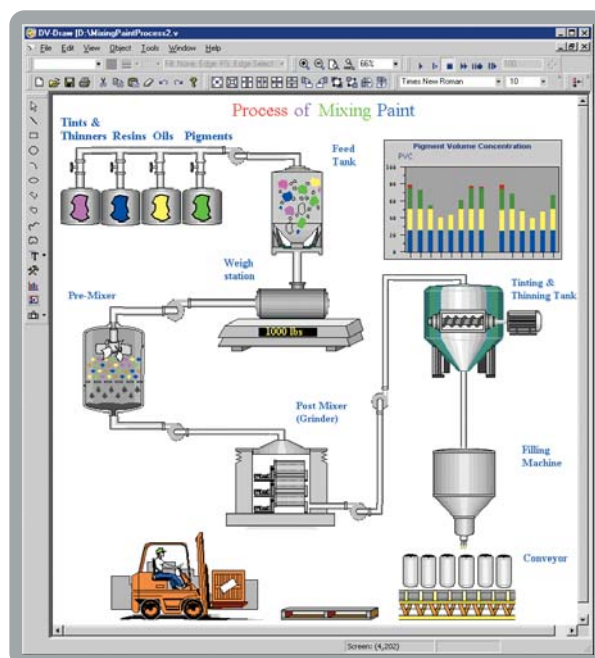
DV-Draw is a menu-driven software tool that lets you create complete graphical interfaces, from designing your screens to defining user interaction. This multipurpose interactive editor integrates a wide range of editing options:

- Geometry editing – build graphic images using lines, circles, polygons, and text
- Data source editing – describe your data and bring it into view for use in graphs and dynamic objects
- Graph editing – customize various graph types
- Dynamics editing – add dynamic components to your graphical objects, letting them change color, size, orientation, position, and more
- Input editing – create and customize input objects, which collect input from the user
- Prototype editing – describe and simulate the behavior of your interface.

The drawing process requires no programming. The DV-Draw menus let you control all aspects of the editing process, including assigning display characteristics and specifying how your data is stored.

### DV-Tools

DV-Tools is a library of graphics routines, written in C, that works in conjunction with the DV-Draw editor. The routines range from low-level drawing functions to utilities that manipulate complex dynamic views. With DV-Tools sub-routines, you can integrate DV-Draw views into powerful graphical user interfaces for a wide range of applications.



### DataViews Editor Workspace

Visualize your graphics through the extensive DataViews library or draw your own customized versions. Animation is assigned with a simple point and click, allowing the programmer to rapidly develop the graphical element of their application.

# DataViews: A Productive, Flexible, Cost Effective Solution

DataViews is the graphics development solution of choice for HMI programmers in a wide range of industries – including defense, aerospace, transportation, telecommunications, GIS and more. The flexibility of this powerful tool means that applications as diverse and complex as satellite telemetry, network management or process control can have their own customized editors or end-user screens quickly and easily. And since DataViews is based on an open architecture framework, it offers the ultimate in application development flexibility and scalability.

- Increased Productivity
- Flexible Programming Environment
- Cost Effectiveness
- Powerful Connectivity
- Added Flexibility and Customization
- Comprehensive Graphic Editing Capabilities
- Ease of Installation
- Ongoing Support

## Other GE Fanuc Software Modules

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### Proficy Software Modules:

*Real-Time Information Portal*  
Proficy Real-Time Information Portal

*Plant Performance and Execution*  
Proficy Batch Analysis  
Proficy Batch Execution  
Proficy Efficiency  
Proficy Production  
Proficy Tracker  
Proficy Machine Tool Efficiency

*Integrated Quality*  
Proficy Quality  
Proficy Non Conformance Reporting  
Proficy Shop Floor SPC

*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 – Machine Edition  
Proficy Motion Developer – Machine Edition

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### GE Fanuc Support & Services:

Proficy GlobalCare Support  
Proficy Professional Services  
Proficy Training

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### GE Fanuc Automation Information Centers

USA and the Americas:  
1- 800-GE FANUC  
or (434) 978-5100

Europe, Middle East and Africa:  
(352) 727979-1

Asia Pacific:  
86-21-3222-4555

### Additional Resources

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

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

