Proficy CSense 7.0 from GE Digital

Industrial analytics software that improves asset and process performance with a Process Digital Twin

Optimize with 5-in-1 analytics capabilities in closed-loop solution

Proficy CSense from GE Digital uses AI and machine learning to enable process engineers to combine data across industrial data sources and rapidly identify problems, discover root causes, predict future performance, and automate actions to continuously improve quality, utilization, productivity, and delivery of operations.

Uniquely providing five analytics capabilities in one package, Proficy CSense has helped organizations around the world reduce costs by turning raw data into rapid business value. Engineers and data scientists can analyze, monitor, predict, simulate, and optimize and control setpoints in real time through Proficy CSense.

Additionally, Proficy CSense provides the capabilities to mine insight from historical data and rapidly develop, test, and deploy simple calculations, predictive analytics, and optimization and control solutions to reduce variability and improve operations.

Outcomes

- Deploy solutions that improve asset and process throughput, yield, quality, and efficiency by significant margins
- Mine new insight from industrial data to maximize return on assets
- Use data to troubleshoot causes of asset and process performance issues rapidly
- Increase engineering productivity with visual analytics
- Monitor and ensure health and performance of base-layer PID control loops
- Validate and clean raw sensor data at the source to ensure integrity of downstream systems
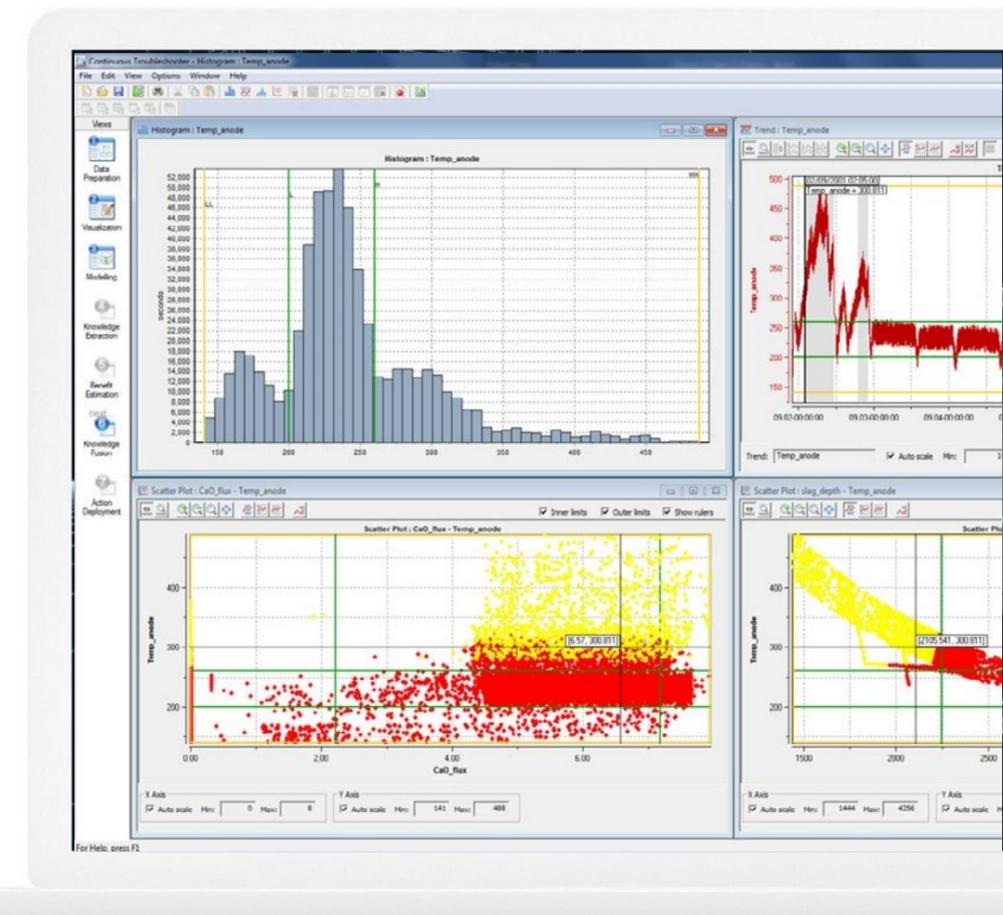
01 Mine new insight from data

Proficy CSense's Troubleshooter enables engineers to rapidly troubleshoot continuous, discrete, or batch manufacturing process performance by mining insight from available sensor and production data. Seamless connectivity, rich visualization, and predictive analytics enable users to analyze operating scenarios, quantifying the impact that operational changes will have on key performance metrics and identifying causes for performance variation.

02 Improve production throughput, yield, quality, and efficiency

Proficy CSense's Architect enables engineers to rapidly develop analytic solutions that typically improve production throughput, yield, quality, and efficiency with significant margin. A comprehensive solution-development environment provides visual analytic building blocks. This allows users to build and test calculations, predictive analytics, and real-time optimization and control. Solutions are enhanced with real-time and historical data sources and drag-and-drop access to rich functional libraries. Solutions are saved as reusable templates for easy deployment to similar assets or process units and permanently deployed into production using Proficy CSense's Action Object Manager.

03 Enhance engineering productivity

Proficy CSense's Architect also allows engineers to more easily capture expert knowledge and best practices—combined with insight mined from data with Proficy CSense's Troubleshooter—into high-value analytic templates for rapid enterprise-wide deployment. Visual drag-and-drop analytics accelerate time to value and reduce dependence on data scientists and programmers. Online demos and the Proficy CSense interactive training course enable rapid mastery of the software with easy-to-follow demonstrations and guided simulations.

Mine insight from data and causes of performance variation faster with Proficy CSense and digital Process Twin technology.

"Some systems are just too complex and have too many variables for operators to run optimally. That's when we need the help of dedicated advanced-control intelligence that can deal with the complexities of our unique problems."

Tim Spandiel
Manager, Impala Platinum's Base Metals Refinery

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Features

New in Version 7.0

- Larger data loads: engineers can now analyze larger datasets with increased memory limitations for both the Continuous and Discrete & Batch Troubleshooters, increasing maximum in-memory load for Troubleshooters from ~2GB to ~4GB

- Improved connectivity: With the addition of a "Filtered Historian Source" data connector, users can dynamically parameterize Historian data retrieval; new Predix Timeseries data connector enables analyzing data from cloud-hosted Predix Timeseries data sources; added support for Proficy Historian 8.1

- Enhanced Model Predictive Control: several enhancements for real-time dynamic setpoint optimization

- Updated interoperability: OS, SQL Server, Python, and .NET support

- Improved security: enhanced credential management

- SDK updates related to the methods and objects used for triggering Event Based Action Objects

5-in-1 Proven Industrial Analytics Software

- 5-in-1 analytics solution: Analysis, Monitoring, Prediction, Simulation, and Optimization & Control of setpoints

- Enables building rich analytic solution templates with no required programming

- Simple calculations, data cleaning, math, statistics, machine-learning models, real-time optimization, and advanced process control

- Plug-and-play connectivity to historical and real-time data sources and automation

- Rapid wizard-driven data mining for engineers for fast time-to-insight

- Built-in support for data quality to make real-time data cleaning and validation easy

- Comprehensive platform to develop, integrate, test, and deploy real time solutions

- Easy visual drag-and-drop functional blocks for subject matter experts

- Access to script languages and CSense SDK for powerful analytic solutions with plug-and-play incorporation of Python, Matlab, and 3rd party .Net content

Proficy CSense Licensing

Runtime Edition

- For permanent production, deployment, and management of analytic solutions

- Includes Architect and Run-time Action Object Services

Developer Edition

- For data analysis and analytic solution development and testing

- Includes both the Continuous and Discrete & Batch Troubleshooters, Architect, Run-time Action Object components for solution development and testing purposes only

Troubleshooter Edition

- For offline, ad hoc, and on-demand data analysis, process modelling, and troubleshooting

- Includes the Continuous and Discrete & Batch Troubleshooters, along with all data connectors

CSense's self-service training interactive software training courses through GE Digital's EDGE web site is included with all editions

Software Requirements

One of the following OS:

- Microsoft Windows Server 2012 or later (x86 and x64)

- Microsoft Windows 8.1 or later (x86 and x64)

Other Software Requirements (See online documentation for full list):

- Microsoft .NET 4.7

- Microsoft SQL Server 2012 or later (SQL Express editions are also supported, although not recommended for production environments)

Hardware Requirements

- 2GB available hard drive space minimum. 20GB recommended for Troubleshooter and Runtime. 40GB recommended for Developer

- 8GB RAM for Troubleshooter (16GB recommended). 16GB RAM for Runtime and Developer (32GB recommended)

- 1 core at 2 GHz or faster for Troubleshooter (2 cores recommended). 2 cores at 2 GHz or faster for Runtime and Developer (4 cores recommended)

- 1024 x 768 screen resolution (1920 x 1080 screen resolution recommended)

Hardware and software requirements are representative and may vary by customer deployment. Please consult the product documentation for more details.

Visual drag-and-drop analytic development provides rapid time-to- value for engineers and data scientists

Get maximum value out of data and optimize the performance of industrial assets with Proficy CSense analytics software.

LEARN MORE

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Services

In the world of Industrial Internet of Things (IIoT), organizations are able to optimize productivity, reduce costs, and achieve Operational Excellence. While this is an exciting time for opportunity and growth, it can also bring on new challenges, questions, and uncertainty. No matter where you are on your IIoT journey, GE Digital has the right services offering for you.

Advisory Services We can help you plan and start your IIoT journey in a way that aligns to your specific business outcomes.

Managed Services We can help you maintain your critical machines from one of our remote locations around the world using model-based predictive analytic technology.

Implementation Services Our experienced global Automation partners can implement a collaborative, multi-generational program that marries your existing investments to the right enhancements and technology.

Education Services We specialize in education services to ensure that you're leveraging our solutions to the fullest extent with our training and certificate programs.

Acceleration Plans Let us help by ensuring that your business continues to operate at its highest efficiency, all while mitigating risks to your investments.

Security Services Our solutions provide industrial-grade security for a wide range of OT network and application topologies.

Related Products for Your Digital Transformation Journey

GE Digital's Proficy suite helps you precisely monitor, control, and visualize every aspect of your operations, enabling operators to make the best decisions faster. Transforming your business requires foundational innovations that lay the groundwork for future success.

iFIX
Gain visibility into your operations and secure agility for smarter decision making that drives results.

CIMPLICITY
Drive real-time visibility for smart operators with true client-server based visualization and control.

Proficy Historian
Optimize asset and plant performance through time-series and A&E industrial data collection and aggregation. Improve decision-making with advanced trend analysis.

Proficy Operations Hub
Guide operators with dynamic, interactive electronic work instructions and eSOPs for more consistent operations and optimized processes.

Proficy Plant Applications
Maximize overall equipment effectiveness (OEE), improve production scheduling, and ensure product quality by leveraging real time production data

Proficy Workflow
Guide operators with dynamic, interactive electronic work instructions and eSOPs for more consistent operations and optimized processes.

Contact

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