

A large, high-contrast photograph of a rugged mountain peak, possibly covered in snow or ice, dominates the background. The image is split diagonally, with the top right portion being a lighter, more detailed view of the peak, and the bottom left portion being a darker, more shadowed view of the mountain's base and surrounding forest.

Manufacturing Digitalisation

Digital transformation powered by
leading solutions, decades of
experience and deep expertise



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Manufacturing Digitalisation



From UK-based SMEs to global enterprises, leading businesses are securing their future success by bridging the gap between physical and digital environments. Advanced data and analytics solutions offer critical operational insights that boost performance and profitability.

Our approach to manufacturing digitalisation follows a comprehensive process:

- **Connect:** We ensure seamless connectivity between all devices, sensors, and systems within your operations, creating an integrated network that captures real-time data.
- **Model:** Utilising sophisticated modelling techniques, we create digital representations of your processes, enabling detailed analysis.
- **Store:** Our open and robust OT data capture and storage solutions ensure that all your operational data is securely stored and easily accessible, supporting extensive data retention and retrieval needs.
- **Visualise:** Through intuitive dashboards and visualisation tools, we transform complex data into actionable insights, providing a clear view of your operations at all levels.
- **Optimise:** Leveraging advanced analytics and machine learning, we optimise your processes for maximum efficiency, quality and cost reduction.

Our innovative software solutions provide industrial organisations with a competitive edge by delivering invaluable operational insights, increasing capacity, improving quality and reducing operating costs.



Digitalisation Journeys Using Trusted Tools

- Translating operational goals to enablement plans
- Fitting solutions to the environment and the team
- Building around existing investments

Connect

In today's manufacturing landscape, industrial communications are predominantly based on Ethernet networks and enterprise-level IT infrastructure, including switches, routers and firewalls. The widespread adoption of IP as the primary communication backbone has largely replaced legacy systems, such as serial communications and custom data buses.

Novotek Solutions stands out with its extensive experience in both IT and OT environments. This unique expertise allows us to seamlessly implement data connectivity across both the latest and the most vintage systems and equipment.

OPC

For over 20 years, OPC has established itself as the standard for data sharing between industrial machines and software systems. Novotek Solutions has been a leader in driving OPC adoption, ensuring system and equipment interoperability. Our commitment to OPC keeps us at the forefront of industry advancements, enabling seamless data integration and communication.

Legacy Protocols

Many manufacturing facilities operate with equipment that has reliably performed its duties for decades. The increasing demand for data from these systems often necessitates the creation of bespoke interfaces to facilitate data acquisition.

Novotek has successfully interfaced with a plethora of legacy equipment, extending their operational life and enabling connectivity with modern platforms. Our solutions ensure that even the oldest equipment can contribute valuable data, enhancing overall operational efficiency and performance.

By leveraging our dual expertise in IT and OT, Novotek Solutions provides manufacturing leaders with the tools and strategies needed to bridge the gap between outdated systems and cutting-edge technologies. Our commitment to innovation and interoperability ensures that your facility remains competitive and future-ready.



IT Compliant OT

It is generally recognised as a good business practice to regularly maintain IT infrastructure, invest in quality hardware and frequently update OS and applications as new versions or patches are released.

Conversely, it is common for Operational Technology (OT) used for production to be much less routinely updated, becoming unsupported and obsolete. Often, this can be attributed to fears over disrupted production, compromised security and cost, which leaves the business vulnerable to the ever-changing demands of IT and even cyber-attacks.

As the digital revolution progresses, aligning operational technologies with IT standards is fundamental to digital transformation strategies. For many years, Novotek has led the way in IT-centric software engineering for the complete production lifecycle, from delivery of raw materials, scheduling and supply chain to packaging and distribution.

The higher return on investment from virtualisation is driving the migration of operational technologies to virtual platforms.

Novotek Solutions has championed the virtualisation of manufacturing systems for over a decade, using established platforms such as VMware and Hyper-V to deliver secure, resilient and robust solutions.

Ubiquitous in IT system architecture, virtualisation is a mature technology that reduces risk and improves return on investment. The virtual platform can be leveraged to protect against security threats and recover quickly from disruption, while eliminating the need to run multiple costly physical servers.

Fewer physical servers reduces energy overheads and a flexible architecture makes resource reallocation straightforward when requirements change.

Increase your bottom line

- **Reduce scheduled and unscheduled downtime**
- **Save space and associated costs**
- **Reduce energy/carbon footprint**
- **Reduced engineering costs from simplified system deployment, maintenance and testing**

Layered defence

- **Virtual machines are isolated to contain failures**
- **Secure network using firewalls**
- **Restricted user access to hosts provides an additional layer of security**
- **Up-to-date antivirus software on hypervisor and security patches installed whenever necessary**
- **Separation of the corporate network to protect production**



Computing at the edge

Edge devices are pivotal in enabling connectivity with the cloud while providing local visualisation and control. For manufacturers, this dual capability is crucial for optimising operations and ensuring real-time responsiveness.

Edge devices, positioned at or near data sources, perform real-time data processing and analytics. This localised computation reduces latency, ensuring immediate insights and actions, which is vital for time-sensitive manufacturing processes. By handling data locally, edge devices reduce the strain on cloud infrastructure, leading to more efficient and cost-effective operations.

A significant advantage of edge devices is their ability to provide local visualisation and control. Operators can monitor and manage processes in real-time through intuitive dashboards and interfaces, facilitating quicker decision-making and immediate issue resolution. This local control capability ensures that even if cloud connectivity is temporarily lost, operations can continue seamlessly.

Furthermore, edge devices enhance overall data management by pre-processing and filtering data before transmitting it to the cloud. This ensures that only relevant information is sent, improving data quality and reducing cloud storage and processing costs.

For manufacturing companies, this combination of edge and cloud technologies offers a strategic advantage. It enables real-time operational control and visualisation at the edge while leveraging the cloud for broader analytics, long-term storage, and cross-facility insights. This integrated approach empowers manufacturers to achieve higher efficiency, improved productivity and greater agility in their operations.



Solution Spotlight

Kepware - Enhancing Industrial Connectivity

For over 25 years, Kepware has been a leader in industrial connectivity solutions, providing a comprehensive suite of tools designed to connect diverse automation devices and software applications. Utilising a scalable and unified architecture, Kepware enables seamless integration of multiple protocols into a single server, offering a streamlined interface for easy installation, configuration and maintenance.

Key Benefits

Accessibility: Kepware facilitates data access for industrial client applications like MES and SCADA, as well as IoT and big data analytics software, using OPC and various proprietary and IT protocols. This ensures a unified data flow across different systems, enhancing overall operational visibility (PTC).

Optimisation: The platform optimises communications by reducing network and device load through data conditioning and protocol-specific enhancements. This results in more efficient data handling and improved system performance (PTC).

Connectivity: Kepware supports a wide range of protocols across various industries, enabling robust connections between wired and wireless networks, databases and custom applications. This broad compatibility ensures that all parts of your operation can communicate effectively (PTC).

Aggregation: By providing a single entry point for all data, Kepware eliminates the need for multiple connectivity solutions, simplifying the configuration and management of connected applications (PTC).

Security: Kepware offers robust tools to control server access, manage data sources, regulate read/write permissions and configure secure data tunnels, ensuring that your data remains protected (PTC).

Diagnostics: Advanced diagnostic tools help isolate communication issues between devices and applications, offering real-time and historical views of OPC events to aid in troubleshooting and maintenance (PTC).



Modern Solutions with Kepware+

Kepware+ extends these capabilities with a SaaS model, centralising remote configuration to improve visibility and operational efficiency. This solution allows for the management of industrial connectivity across multiple sites from any location, ensuring consistent quality, security and interoperability across your enterprise.

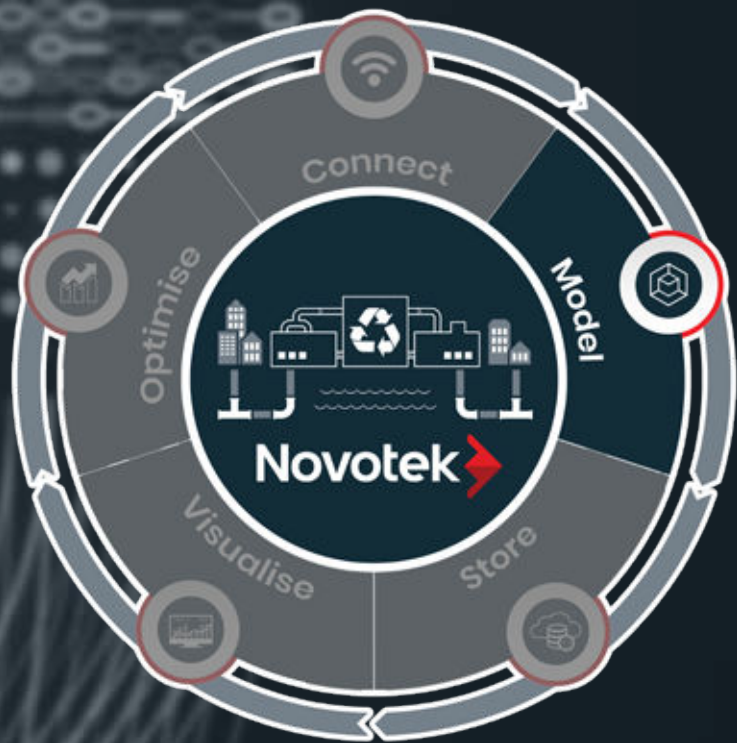
Model

The Unified Namespace (UNS) concept is revolutionising the manufacturing industry by providing a centralised data architecture that integrates disparate systems into a cohesive, real-time information framework.

For manufacturing leaders, understanding UNS is crucial for driving efficiency, agility and innovation in operations.

At its core, UNS acts as a single point of truth for all data generated across the manufacturing enterprise. Traditionally, manufacturers have struggled with siloed data sources, where information from machines, sensors, enterprise resource planning (ERP) systems, and other software tools are isolated, making it challenging to achieve a holistic view of operations. UNS addresses this by consolidating these data streams into one unified data layer accessible in real time.

The implementation of UNS leverages modern technologies such as MQTT (Message Queuing Telemetry Transport) and IIoT (Industrial Internet of Things) platforms, enabling seamless data flow and communication between different devices and systems. This interoperability facilitates more informed decision-making, predictive maintenance and enhanced quality control, ultimately leading to higher productivity and reduced downtime.



For manufacturers, the benefits of adopting UNS are multifaceted. It supports the digital transformation journey by providing a scalable and flexible infrastructure that can adapt to evolving business needs. Real-time data visibility enhances operational transparency, allowing leaders to identify and address inefficiencies promptly. Additionally, UNS fosters better collaboration across departments, as stakeholders have access to consistent and up-to-date information, promoting a more cohesive organisational strategy.

Moreover, UNS is instrumental in advancing initiatives such as Industry 4.0 and smart manufacturing. By integrating UNS, manufacturers can harness the power of advanced analytics, artificial intelligence and machine learning to optimise processes, enhance product quality, and drive innovation. This positions companies to stay competitive in a rapidly evolving market landscape.

Unified Namespace concept is a transformative approach that breaks down data silos, provides real-time insights, and supports the strategic goals of manufacturing leaders. Embracing UNS is not just a technological upgrade but a strategic imperative for driving sustained growth and operational excellence in the manufacturing sector.

Structured data, organised into predefined formats is inherently easier to manage, analyse and interpret. By leveraging edge computing, this data can be processed locally, reducing the latency associated with transmitting data to centralised cloud systems. This real-time processing capability is crucial for manufacturing environments where immediate decision-making can significantly impact productivity and reduce downtime.

Edge computing also ensures that structured data remains secure and readily accessible. Localised processing minimises the risk of data breaches during transmission and ensures continuity of operations even if cloud connectivity is disrupted. This enhances the reliability and robustness of manufacturing systems, ensuring critical processes are not halted due to connectivity issues.

Moreover, the combination of structured data and edge computing supports advanced analytics and machine learning models. The consistent and organised nature of structured data facilitates more accurate and efficient training of predictive models, leading to better insights and optimisations. For instance, predictive maintenance can be more effectively implemented, reducing equipment failure rates and maintenance costs.

Storing structured data and utilising edge computing provides manufacturers with enhanced real-time processing, improved data security, and robust analytics capabilities, driving greater operational efficiency and strategic advantages.



The PACSystems CPL410 is an example of a powerful edge device that combines a classic control engine with a supplementary container environment that can support data collection/exchange, runtime analytics and other local applications.



Solution Spotlight

HighByte Intelligence Hub is an Industrial DataOps software solution designed specifically for industrial data modeling, delivery, and governance.

Built for Industrial Data

HighByte Intelligence Hub was built for the unique qualities of industrial data. The software securely connects devices, files, databases, and systems via open standards and native connections. Use the interface to model streaming data in real time, normalise and standardise data points and data models inherent to diverse machinery, and add context to data payloads that otherwise lack descriptions. Tap into real-time and asset model data from a variety of edge data sources, including machine data, transactional data and time series (historical) data.

Designed for Scale

HighByte Intelligence Hub was designed for scale. Simplify and accelerate the modeling of tens of thousands of datapoints from PLCs and machine controllers with reusable models that transform raw data into complex, useful information. Import and export template definitions to quickly replicate common datasets across assets. Efficiently deliver contextualised and correlated information to the applications that require it.

Ideal for Operations

HighByte Intelligence Hub is an ideal solution for manufacturers and other industrial companies because the software was designed for Operational Technology (OT) teams. The platform-agnostic solution runs on-premises at the Edge, scales from embedded to server-grade computing platforms, and offers a code-free user interface. Administrators can network distributed Intelligence Hubs through a single management portal.



Accelerate analytics and other Industry 4.0 use cases with a digital infrastructure solution built for scale.

- Reduce system integration time from months to hours
- Improve data curation and preparation for AI and ML applications
- Scale operations metrics and analytics across the enterprise
- Reduce information wait time for business functions
- Eliminate time spent troubleshooting broken integrations
- Empower operators with insights from the Cloud
- Improve system-wide security and data governance
- Meet system integrity and regulatory traceability requirements
- Reduce Cloud ingest, processing, storage costs, and complexity
- Optimise data payloads for specific target applications and use cases

Store

Benefits of an On-Premise Historian for Site-Based Data Repository

An on-premise historian for site-based data repositories offers several distinct advantages for manufacturing operations. Firstly, it ensures data sovereignty and security. Sensitive operational data remains within the physical boundaries of the facility, reducing the risk of external breaches and enabling tighter control over data access and integrity. This is particularly crucial for industries with stringent regulatory requirements or those dealing with proprietary information.

On-premise historians also provide superior performance in terms of data retrieval and processing speed. Since the data is stored locally, there are minimal latency issues, allowing for real-time analytics and faster decision-making. This immediacy is vital for processes that require instant feedback and adjustments, enhancing operational efficiency and responsiveness.

Additionally, on-premise solutions can operate independently of internet connectivity, ensuring uninterrupted data collection and analysis even during network outages. This reliability is essential for maintaining continuous production and mitigating the risks associated with data loss or downtime.



Benefits of a Cloud Historian for Multi-Site Data Repository

In contrast, a cloud historian for aggregating multi-site data repositories offers significant advantages in terms of scalability and accessibility. For organisations with multiple manufacturing sites, a cloud-based solution consolidates data from all locations into a unified repository. This integration facilitates comprehensive data analysis, providing a holistic view of operations and enabling more informed strategic decisions.

Cloud historians allow organisations to effortlessly expand their data storage and processing capabilities as their operations grow. This elasticity ensures that the system can handle increased data volumes without the need for significant upfront investment in hardware or infrastructure.

Moreover, cloud solutions enhance collaboration and data sharing across the organisation. Stakeholders from different sites can access and analyse the same data in real time, promoting consistency and alignment in decision-making processes. Advanced analytics and machine learning tools can also drive innovation by uncovering insights that might be overlooked in siloed, site-specific systems.





On-premise historians excel in security, performance, and reliability for individual sites.

Cloud historians provide unmatched scalability, accessibility, and collaboration benefits for multi-site operations.

Hybrid gives the best of both worlds with local data at the edge and enterprise data in the cloud.



Solution Spotlight

Historian

Proficy Historian from GE Vernova is a cutting-edge industrial data management solution designed to collect and analyse time-series and Alarms & Events (A&E) data, both on-premise and in the cloud. This new version introduces several enhancements aimed at improving scalability, security, and operational efficiency, making it an essential tool for manufacturers.

Key Features:

Horizontal Scalability and Cloud Hyper-Scalability: Proficy Historian enhances scalability for both on-premise and cloud deployments, ensuring it can handle large-scale industrial data environments efficiently.

Enhanced Connectivity: The new version supports extended connectivity options, including OPC UA upgrades, a Python collector, REST interface enhancements and Sparkplug B-MQTT improvements. This ensures seamless integration with various data sources and systems.

Advanced Security: With simplified strict client authentication, UAA/LDAP support, and datastore-level security, Proficy Historian prioritises data protection and integrity, critical for safeguarding industrial operations.



Improved User Experience: The Configuration Hub has been enhanced for better enterprise model support, ETL performance, and common certificate management, simplifying administrative tasks and improving overall user experience.

AI/ML Predictive Analytics: Ready-to-use AI/ML predictive analytics are now available, enabling more proactive and informed decision-making.

Integration with AWS Quicksight Q: This feature leverages IoT trending enhancements and connectivity with AWS Quicksight Q for advanced data visualisation and analysis.

Proficy Historian continues to offer robust data collection and analysis capabilities, ensuring high availability and reliability. Its ability to support hybrid on-premise and cloud models, coupled with advanced data governance and security features, makes it a comprehensive solution for modern industrial environments.



By implementing Proficy Historian, manufacturers can achieve faster time to value, improved data security and enhanced operational insights, driving continuous improvement and competitive advantage.

Visualise

Visualisation in manufacturing is crucial for gaining real-time insights and facilitating quick decision-making. Our “wrap and extend” approach enhances your existing systems without the need for costly replacements, seamlessly integrating modern visualisation tools with your current infrastructure. This method ensures that you maintain local control, allowing for rapid responses to operational changes and maintaining high levels of efficiency.

By leveraging your existing systems, we provide advanced visualisation capabilities that present complex data in an intuitive and actionable format. This approach not only extends the lifespan of your current investments but also minimises disruption to your operations. Maintaining local control is essential for making swift, informed decisions, as it ensures that critical data is readily accessible and actionable at the point of need.

With our “wrap and extend” approach, you benefit from the latest technological advancements while preserving the reliability and familiarity of your existing systems, enabling a smoother transition to enhanced operational excellence.

Additionally, the flexibility of our approach allows for easy scaling as your operations grow, ensuring that your visualisation capabilities can expand to meet increasing demands. By partnering with Novotek, you are investing in a future-proof strategy aimed at optimising performance, reducing costs and supporting sustainable growth, empowering your organisation to thrive in a competitive manufacturing landscape.



Actionable information, wherever you need it.

We recognise the importance of having accurate data and how that data can be used to drive business decisions. This is why our solutions focus on providing real-time visibility of the condition and status of every asset via a single, consolidated user interface. This enables you to see an accurate summary of the status of your entire operation from anywhere.

With access to the right data, our solutions can track the lifecycle performance of an asset and predict abnormal behaviour before a failure or disruption occurs, often avoiding significant negative operational or financial outcomes. From small self-contained systems to the largest, distributed and geographically diverse operations, our solutions offer:

- **Real-time control and monitoring of all assets**
- **Continuous data capture and analysis to enable proactive maintenance of assets**
- **Remote diagnostics and troubleshooting**
- **Reduced equipment downtime**
- **Lower maintenance, service and repair costs**



Decision Support

Advanced SCADA systems provide robust decision support to manufacturing operators by delivering real-time data visualisation and comprehensive analysis tools. Seamlessly integrating with existing infrastructure, it offers critical insights into production processes, equipment performance, and overall operational efficiency. Intuitive dashboards and mobile access allow operators to monitor key metrics, identify issues, and make informed decisions swiftly. Enhanced alarm management and trend analysis features facilitate proactive problem-solving, reducing downtime and improving productivity. Additionally, features such as predictive maintenance optimise equipment usage and extend asset life. This empowers operators to maintain optimal performance, achieve strategic objectives, and drive continuous improvement across the manufacturing environment. With user-friendly interfaces and powerful capabilities, advanced SCADA systems are an invaluable asset for enhancing operational decision-making and ensuring sustained productivity and efficiency.



Augmented Reality

Augmented reality (AR) offers some of the most exciting and innovative possibilities in manufacturing today. With AR, organisations can dramatically enhance service efficiency by providing step-by-step maintenance instructions, enabling technicians to perform tasks accurately and quickly. Customer service is also improved through accessible self-help guides, allowing users to resolve issues independently. In sales, AR enables virtual product demonstrations, giving customers a realistic and interactive experience. Furthermore, AR augments inspection processes on the factory floor, increasing accuracy and reducing errors. This technology transforms operations, leading to greater productivity, enhanced quality and improved customer satisfaction.

Additionally, AR aids in knowledge retention by providing immersive training experiences, ensuring employees retain critical information. This technology also attracts new hires by showcasing a forward-thinking, technologically advanced work environment, appealing to a younger, tech-savvy workforce eager to engage with cutting-edge innovations.





Solution Spotlight

iFIX

iFIX from GE Vernova is a powerful HMI/SCADA software solution designed to optimise industrial operations. It offers advanced data visualisation, real-time control, enhanced security and robust connectivity options. With features like cloud-native deployment, mobile access, and integrated analytics, iFIX helps manufacturing leaders improve efficiency and decision-making across their enterprises.

The latest version introduces significant enhancements designed to improve operational efficiency and decision-making for manufacturing leaders. Key new features include:

Connected Worker Support: Enhances operator efficiency with new model-based visualisation and mobile capabilities, enabling real-time data access and control from anywhere on the plant floor.

Enterprise Scalability: Offers cloud-native options with AWS and Azure, allowing for flexible deployment and disaster recovery, ensuring data reliability and continuous operations.

Improved UI/UX: The new HTML5-based interface simplifies administrative tasks with drag-and-drop functionality and integrated tag searching, making it easier for users to manage and interact with their data.



Advanced Analytics: Integration with Proficy Operations Hub enables advanced data analysis, helping to optimise processes and improve asset performance through better visibility and contextual data insights.

Security Enhancements: Strengthened security features, including common and shared User Account Authentication (UAA) with LDAP integration, ensure robust data protection and compliance.

Enhanced Connectivity: Supports extended protocols and connectivity options such as MQTT and Sparkplug B, improving interoperability with various industrial devices and systems.

By adopting iFIX, manufacturers can expect increased efficiency, reduced operational costs and enhanced data-driven decision-making capabilities.

This comprehensive solution supports both on-premise and cloud environments, providing the flexibility needed to meet the evolving demands of modern manufacturing.



Optimise

Manufacturing is more competitive than ever. Businesses are looking at technology to help them deliver faster, more efficiently and cost-effectively to meet growing demand.

As regulations become increasingly stringent, and with the cost of raw materials continually rising, the only way for manufacturers to maintain margins is to work smarter.

Manufacturing Execution Systems control the flow of information between people and assets to deliver high-quality, efficient and effective manufacturing.

Real-time quality monitoring prevents any out-of-spec product from entering the supply chain and continuous performance monitoring supports maximum throughput and availability. Through fully digitising processes, manufacturers can use production data to drive continuous improvement initiatives and identify the root cause of issues on and around the production line.

Efficiency

For over a decade, OEE (Overall Equipment Effectiveness) has been the cornerstone of continuous improvement for manufacturing. It is more critical now than ever to maximise productivity to stay ahead of the competition, and contemporary challenges demand a proactive approach to operational improvement.

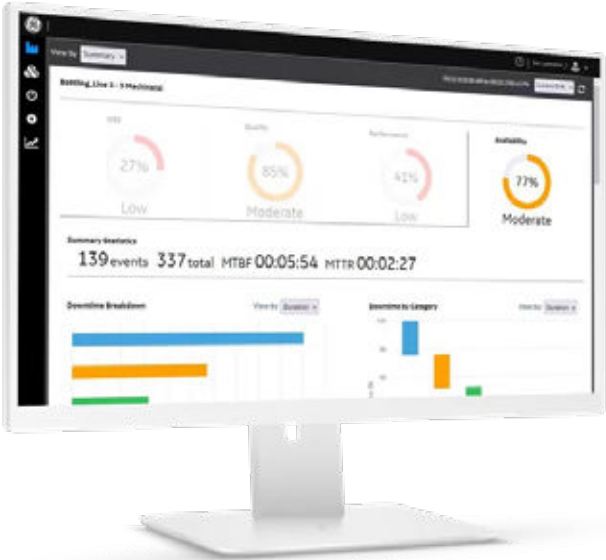
Our team collaborates with you to identify and address the specific challenges that affect your business, providing fully supportable and scalable solutions with maximum security and resilience. Our deep domain knowledge in manufacturing translates into a broad toolkit of integrated solutions to reduce equipment bottlenecks, unscheduled downtime and material or resource shortages.

With accessible and intuitive OEE displays, operators will be empowered to manage and respond effectively to process issues with highly visible, fast and accurate data. As your operations become more efficient and streamlined, you can have greater confidence in your digital strategy and future competitiveness.



Production Management

Production Management supervises operations, including functions that control product flow between equipment, develop genealogy reports and adapt schedules to reduce excess inventory. It supports production schedule execution and product tracking by monitoring scheduled completion times and adjusting for optimum efficiency.



Quality Management

To enhance your quality standards, you need to digitalise your processes. If you have started doing this already, you'll need to build on it to keep ahead of the competition. Smart Manufacturing Solutions from Novotek will address quality issues from within your system infrastructure so you can easily access and interpret data.

Production Scheduling

Our production scheduling solutions provide an interactive, visual tool that helps manufacturers make the most of their production capacity. Supplementing corporate planning and supply chain systems, individual sites gain the ability to quickly turn summarised order and forecast information into specific, constrained production schedules. The schedules take into account available material, personnel and capacity - as well as unique local factors.

Production planners can create and maintain dynamic and highly accurate production schedules based on resource availability and asset capacity for rapid and informed decision-making.

This allows users to optimise and balance the impact of schedule changes on resources and delivery times, so cost and customer service can be managed more effectively.



Manufacturers who have established robust connectivity, data modelling, data storage, and data visualisation are well-positioned to implement AI analytics and optimise their operations. Here's how to effectively integrate AI analytics into your manufacturing processes:

Identify AI Use Cases

The first step is to determine specific applications for AI within your operations. Key areas include predictive maintenance, quality control, and process optimisation. Defining clear objectives and ways of working will guide the development and deployment of AI models, ensuring they are tailored to address your most pressing operational challenges.

Select AI Tools and Platforms

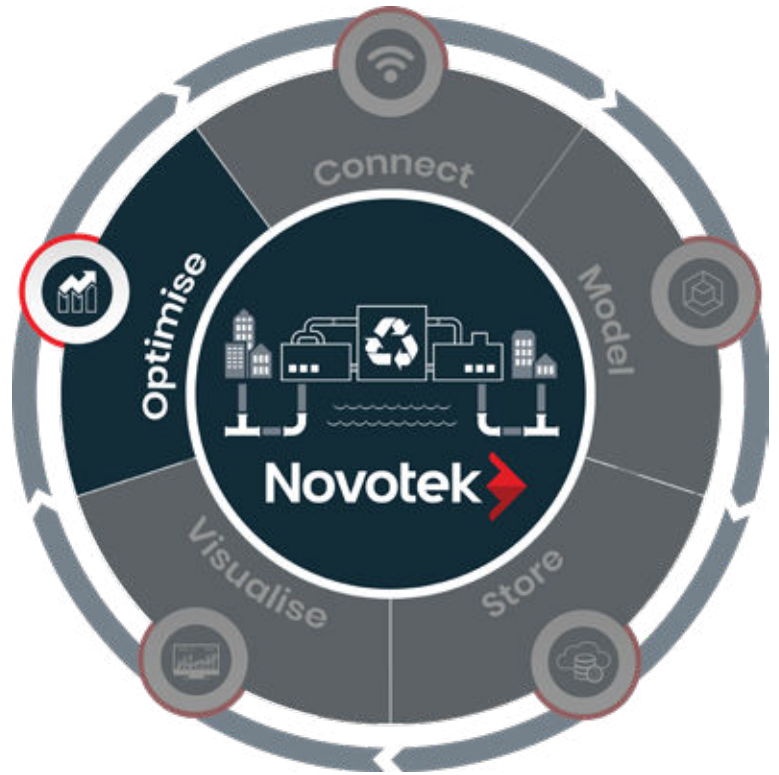
With an established data structure that facilitates freely flowing information, you have freedom to select the AI tool which provides the best outcomes for your operation. For instance, solutions like CSense from GE Vernova have a proven track record in manufacturing analytics, ensuring reliability and effectiveness. AI strongly supplements your operation, providing insights to your operators - (its not standalone etc - practical stuff)

Develop AI Models

Use historical and real-time data to create machine-learning models tailored to your identified use cases. Training these models is vital to ensuring they can accurately predict and optimise various aspects of your operations. The development phase should focus on creating robust models that provide accurate, valuable and actionable insights.

First Projects

Implement first projects to validate AI models, monitor performance, make necessary adjustments, and refine outcomes-based models. These initial deployments help identify potential issues and ensure the models' effectiveness before full-scale deployment, minimising risks and enhancing reliability.



Integrate AI with Operations

Embed AI models into your operational workflows and real-time systems like SCADA and MES. AI-driven insights should inform decision-making processes across production lines, improving efficiency and reducing downtime. Integration ensures that AI becomes a part of daily operations, enhancing overall productivity and operational effectiveness.

Scale AI Solutions

Once validated, scale AI applications across the enterprise. Ensure continuous monitoring and optimisation of AI models to maintain their effectiveness and adapt to changing conditions. Scaling should be systematic and well-planned to maximise benefits and minimise disruptions.

Continuous Improvement

Continuous improvement is supported by freely flowing data, providing AI models with consistent new data and feedback. Your role in this process is crucial. Encourage cross-functional collaboration to maximise AI's benefits, driving ongoing innovation and operational excellence. This approach ensures that AI tools evolve with your business needs, providing sustained value. Your insights and collaboration are what make this process successful.

By following these steps, manufacturers can effectively leverage AI-analytics to enhance efficiency, reduce costs, and drive innovation. Implementing AI-analytics not only improves operational performance but also provides a competitive edge in the market. With a structured approach, manufacturers can harness the full potential of AI, ensuring long-term success and continuous improvement in their operations.





AI-Powered Insights with Proficy CSense

Proficy CSense, a sophisticated analytics platform from GE Digital, leverages artificial intelligence (AI) and machine learning to provide crucial insights into manufacturing processes. Designed to enhance operational efficiency, product quality, and decision-making, Proficy CSense integrates seamlessly with existing systems to harness the power of data.



Advanced Data Analytics

Proficy CSense utilises advanced data analytics to transform raw data into actionable insights. By collecting and analysing data from various sources within the manufacturing process, it identifies patterns, trends, and anomalies that are not easily detectable through traditional methods. This comprehensive data analysis enables manufacturers to understand the underlying factors affecting their operations and make informed decisions to optimise performance.

Solution Spotlight

Predictive Maintenance

A key feature of Proficy CSense is its predictive maintenance capability. Using AI algorithms, the platform analyses historical and real-time data to predict equipment failures before they occur. This proactive approach allows manufacturers to schedule maintenance during planned downtimes, reducing unexpected breakdowns and extending the lifespan of their equipment. Predictive maintenance not only enhances productivity but also significantly reduces maintenance costs.

Anomaly Detection

Proficy CSense excels in detecting anomalies within manufacturing processes. The AI-driven analytics continuously monitor data streams to identify deviations from normal operating conditions. When an anomaly is detected, the system alerts operators, enabling them to investigate and address potential issues before they escalate. This early detection helps maintain product quality and ensures consistent production standards.

Process Optimisation

Proficy CSense provides detailed insights into process performance, highlighting areas where improvements can be made. By analysing data across different stages of production as well as raw material characteristics, ambient conditions and work-in-progress quality, it identifies inefficiencies and suggests optimisations. This capability allows manufacturers to enhance throughput, reduce waste, and improve overall operational efficiency.

Enhanced Decision-Making

Proficy CSense supports enhanced decision-making in two ways: by providing a clear, data-driven understanding of how different elements of materials and processes interact, so recipes and SOPs can be fine tuned; and by providing real time insights into whether processes are remaining properly balanced – with guidance on correcting for variances. This deep insight into the mix of factors affecting operations fosters a proactive continuous improvement approach, and competitive advantages.

Integration and Scalability

Proficy CSense integrates seamlessly with existing manufacturing systems, ensuring a smooth implementation process. Its scalable architecture allows it to grow with the needs of the business, accommodating increasing data volumes and expanding operational requirements. This flexibility ensures that manufacturers can continue to leverage the benefits of advanced analytics as their operations evolve.

Support & Maintenance

Operational Support

The Novotek Solutions team is on hand to support your operation with a wealth of experience and system knowledge. In the face of the unexpected, getting back up and running is often the top priority. Help is close at hand. Our team provide viable workarounds to rapidly resume operations and in-depth root cause analysis to resolve long-term issues.

System Backups

Protect critical data and ensure continuity for your operation in the face of the unexpected. Novotek's fully managed service is provided by a team of experts with a wealth of experience in handling critical data. Should you experience data loss due to hardware failure, operator error or the malicious actions of third parties, our Backup Management Service provides robust contingencies to bring your operation back online as fast as possible.

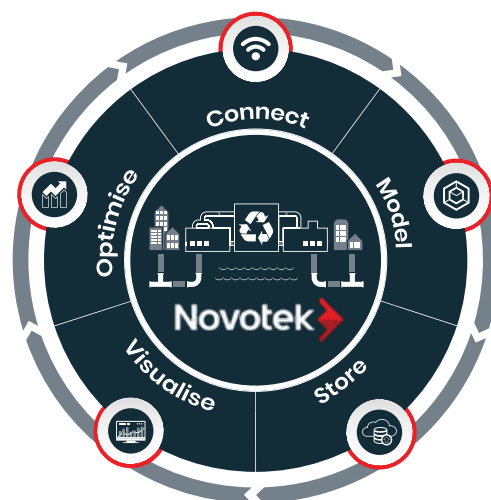
With appropriate provisions for restoring full operational capacity, your business is protected against internal and external threats with Novotek Solutions.

System Patching

Patch Management ensures the software systems critical to your business operations remain protected against internal and external threats.

Provided by experts and tailored to your needs with flexible options in frequency, our team identify, test and schedule patches for seamless deployment.

Fully managed from end to end, a Patch Partnership with Novotek Solutions means peace of mind.



How to get in touch

Support Portal

Raise a case with the details of the issues and our team will respond.

Email

Send an email to our dedicated support inbox. Our system will automatically create a case, notifying our team of your issue.

Phone

Call and speak to our team directly.

Out of Hours

Use our Support Portal or contact our dedicated out-of-hours phoneline.



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