# Innovation In Process Automation



New Emerson digital experience transforms your work processes



#### **Award-winning Innovation Portal**

he Emerson Innovation Portal has been named a winner at the 2020 BIG Innovation Awards, presented by the Business Intelligence Group. This new online initiative captures and implements innovative ideas, suggestions and proposals from Emerson employees to create significant business value for our customers.

The Innovation Portal is a company-wide interactive communications network that enables Emerson employees to suggest ways of making operational improvements within areas such product development, manufacturing, service and support. These ideas are assessed by peers and Emerson managers, with the best being selected for implementation.

Since the portal was launched in October 2018, over 1000 proposals have been submitted from employees in 32 countries. More than 100 initiatives have been implemented to date, resulting in significant improvements that drive value for our customers.

"Emerson attracts, develops and retains exceptional people, and supports them by fostering an inclusive work environment where all employees can reach their greatest potential," said Roel van Doren, president Europe, Emerson Automation Solutions. "The Emerson Innovation Portal is a superb example of this inclusivity in action. It drives inspiring employee engagement across all levels and provides an effective way to harness the considerable talent and energy that exists in our organisation, which in return drives tangible value for our customers in the manufacturing and process industries."



### Welcome to innovations

rganisations looking to attain Top Quartile performance are increasingly embracing the concept of digital transformation, which involves combining Industrial Internet of Things technologies with workflow, process and cultural changes to facilitate operational improvements. As part of our commitment to digital transformation, Emerson provides a broad range of digital engineering tools and services to reshape how our customers work. In this edition of Innovations in Process Automation, we focus on the significant benefits these online resources deliver.

We begin by describing our new **MyEmerson** personalised digital experience, accessed through Emerson.com, which enables you to digitally interact and do business with us much more easily. Your free MyEmerson account enables you to accurately engineer solutions, optimise your procurement processes, efficiently manage your assets, and much more. There are six components within MyEmerson, and its strength lies in the way these areas are seamlessly interconnected to provide a single collaborative environment that helps you achieve accelerated digital transformation. We take an in-depth look at three of these areas.

**MyAssets** provides you with instant access to a digital installed base record of all your plant devices and the technical documentation related to them, enabling you to troubleshoot faster and increase

the efficiency of your turnaround planning and maintenance scheduling. **MyWorkspace** is a collaborative area where your engineers can easily select, specify and configure Emerson products and share documentation, enabling right-first-time solutions to be quickly sourced. **MyTransactions** enables you to reduce risk in your procurement process by obtaining faster and more accurate quotes, lead times and orders when buying Emerson products.

We also feature another part of Emerson's digital lifecycle services offering, our **Valve Condition Monitoring** service, which gives you access to expert analysis and interpretation of your valve data, helping you uncover issues before they impact the reliability of your plant.

Finally, we look at Emerson's **Guardian Support** prognostic service and explain how it helps you keep your plant's vital automation systems operating at peak performance, minimising process disruptions and downtime.



If you would like to discuss how Emerson's digital tools and services can help your organisation achieve accelerated digital transformation, please contact us today via Emerson.com/ContactUs

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Slow interactions have been named as the biggest pain point in organisations' relationships with their suppliers. Travis Hesketh, vice president of marketing in Europe, explains how a MyEmerson account helps you overcome this challenge and accelerate digital transformation through streamlined work processes and better collaboration.

In a survey of 1,000 business to business decision-makers by management consultants McKinsey<sup>[1]</sup>, a lack of speed in interactions was named as the number one pain point in supplier relationships. This concern was highlighted twice as often as pricing, which is a good indication of how people's expectations about speed are changing. It is with this in mind that Emerson has created **MyEmerson** – a new personalised digital experience, accessed through Emerson.com, that enables our customers to digitally interact, collaborate, and do business with us much faster.

With a free MyEmerson account, you can easily view all the technical information needed to buy and maintain Emerson products and parts, to help ensure that your operation keeps running smoothly. However, MyEmerson is so much more than just a place to conduct e-commerce – it is a means of achieving accelerated digital transformation.

Digital transformation is reshaping the workplace and work habits by delivering digital tools and services that reduce complexity to simplify and accelerate tasks. Using a MyEmerson account enables you to instantly connect to the data and insights you need, when you need them. It provides you with the ability to quickly engineer solutions, manage your software and installed

assets, access training, collaborate with experts, optimise your procurement processes, and improve visibility into your buying history and trends.

The MyEmerson digital experience is comprised of six interconnected components. One of these is MyAssets – a data-rich environment that improves maintenance efficiency by providing vastly improved visibility into support information for your installed devices. Providing instant access to a digital installed base record of all your plant equipment – including technical documentation, spare parts, and service reports – in a single location makes troubleshooting faster and helps maximise the efficiency of turnaround planning and maintenance schedules.

The MyWorkspace component delivers a collaborative environment in which engineers can develop and specify solutions with other project team members to solve complex problems. MyWorkspace provides digital engineering tools

"Quickly engineer solutions, manage your software and installed assets, access training, collaborate with experts, optimise your procurement processes, and improve visibility into your buying history and trends."





that enable engineers to not only select products from our extensive catalogue of measurement devices, valves, actuators, fluid control, pneumatic and electrical solutions, but to then size and configure them online. Using the collaboration tools, you can share this work with colleagues or leverage Emerson expertise. MyWorkspace enables engineers to quickly and accurately source right-first-time solutions and easily transition that work to the procurement team to streamline the buying process.

Once solutions are selected and configured by engineers, the information moves seamlessly to the procurement team in the **MyTransactions** component of MyEmerson, which eliminates the need for manual handoffs and duplicate entry of model numbers. Your procurement personnel

can then create requisition lists, generate quotes and automatically populate purchase orders. With greater visibility into order status and order history, the procurement team has access to the information it needs to drive more efficient processes and improve project planning.

Further benefits of MyEmerson are that it enables you to centralise the management of both your software and your workforce upskilling, and to specify how you want Emerson to communicate with you.

MySoftware enables you to move from the manual tracking of disparate software applications, updates and licences. Instead you can actively access your software portfolio online through a single-entry point, and be kept up-to-date on upgrades and renewals. Within MyTraining – which will be launched soon – you will be able to view the extensive range of training modules and video tutorials Emerson offers, and access information about the training your personnel have undergone. Your employees can be registered for online training, and offline training can be scheduled. Finally, MyPreferences is the area where you can set your account information and identify the types of communication you want to receive regularly from Emerson.

Through these six interconnected components, your MyEmerson account helps you improve speed, productivity, and collaboration in your organisation, while also cementing Emerson's reputation as a company that is easy to do business with.



To create your MyEmerson account, simply visit Emerson.com/uk/MyEmerson



o maximise the speed and efficiency of maintenance planning, it is imperative to have a full understanding of the installed base of instrumentation at your plant. This involves keeping a detailed record of each device, including its location, model, specification, configuration, condition, maintenance history and certifications. Having this data gives you a comprehensive overview of what assets you have, their lifecycle status, and when they will need to be serviced or updated. However, for those large facilities with thousands of devices installed, it can be challenging to find the right information and ensure it is up-to-date.

For maintenance engineers, the ability to quickly access the correct guides, manuals or service and repair reports they need for each specific device is vital, as this supports



MyAssets

faster troubleshooting and maintenance. However, gaining fast access to this documentation can often be challenging. Many companies still keep paper copies of

technical documents for each of their many devices, making them difficult to find. Others store them digitally in their CMMS, but they are not always easy to access – and there is no guarantee that it is the latest version. On Emerson's website, we see hundreds of product manual downloads daily – by far our most popular search result.

Helping to vastly improve visibility into installed device information, Emerson has developed MyAssets as part of its MyEmerson personalised digital experience. MyAssets provides a single online location where users can instantly access a digital installed base record of all the devices – both smart and non-smart – at their plant, regardless of manufacturer. This easy-to-navigate resource enables you to quickly locate detailed technical documentation relating to each instrument, such as guides, manuals, CAD drawings, service histories and repair reports. This fast access to detailed information enables not only more effective maintenance work, but also allows you to more accurately plan for turnarounds and optimises your maintenance scheduling.

Asset tags connected to MyAssets enable immediate access to digital copies of all the technical documentation related to each device. Maintenance engineers can ensure they are working on the correct device by using asset management tags powered by QR codes and RFID labels. These tags link to device-specific information to help them complete their work, schedule maintenance and order parts online faster. This helps to improve first-time fix rate, reduce time spent in the field, and ensure the plant keeps operating reliably.

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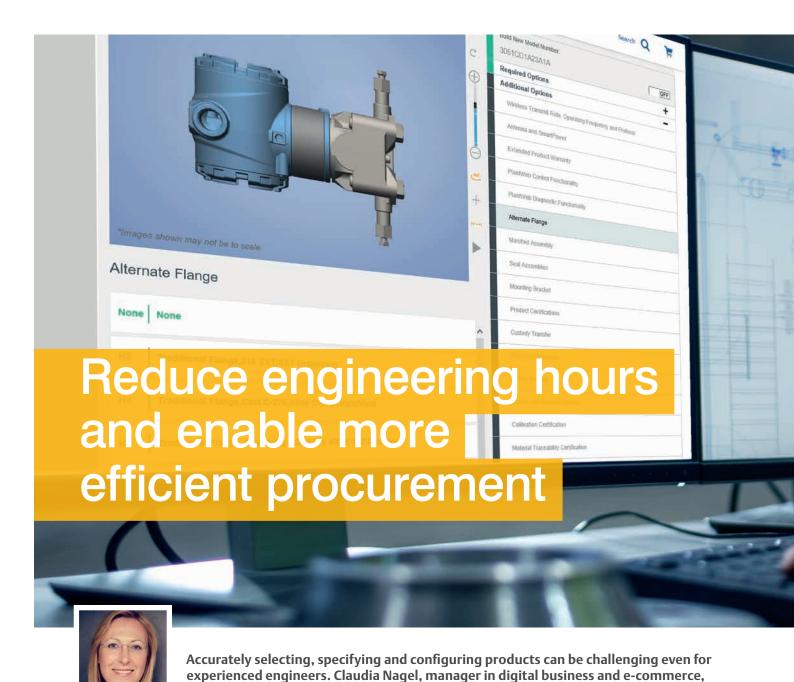
In instances where a company needs help in establishing a complete inventory of its installed devices, an Emerson expert can visit the site and perform a plant walkdown using Emerson's Walkdown App. The app digitises the procedure of identifying the make, model, condition and location of all installed devices. This creates significant time savings compared to the traditional pen and paper method, which is prone to errors and can extend turnaround timelines. The data gathered from the walkdown is securely exported to the digital installed base record in MyAssets. Companies also have the option of uploading their own device information. As the six components of MyEmerson are interconnected, MyAssets will automatically be updated when new Emerson devices are procured via the MyTransactions area, ensuring that your digital installed base record is always kept up-to-date.

By providing a comprehensive and continually updated online resource, MyAssets can play a pivotal role in managing and maintaining the instrumentation in your plant.



To learn more about how MyAssets can help you accurately plan for turnarounds and schedule maintenance, visit Emerson.com/uk/MyAssets





hen engineering products – be it one or two flow meters for a small retrofit, multiple devices, or a larger project or turnaround – it is important to get selection, specification and configuration right first time, to prevent unnecessary delays and reduce costs. However, extensive product ranges and multiple options can make this process complex, with errors often being made as a result.

enabling more efficient procurement.

A further challenge when selecting multiple products is that it creates lots of documentation that needs to be managed as efficiently as possible. Product selection can involve many people who need to access, review and make revisions to this data. It is therefore vital to simplify the sharing of information as much as possible, to enable easy and effective collaboration between team members.

To meet these challenges, Emerson offers MyWorkspace – one of the six interconnected components of its MyEmerson

personalised digital experience. MyWorkspace provides easy-to-navigate digital engineering tools that simplify the process of product selection, specification and configuration. It also provides an environment in which procurement and engineering team members can easily share information,

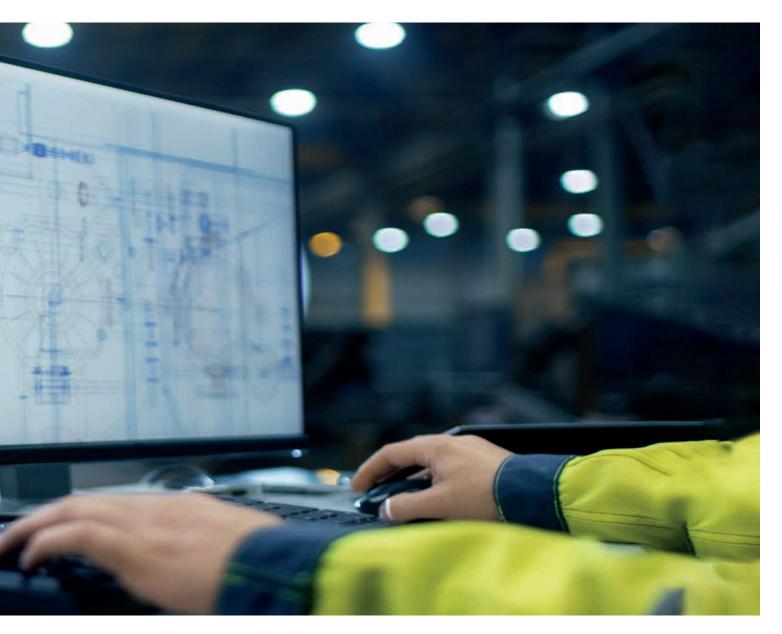


explains how the MyWorkspace component of MyEmerson provides digital tools and a collaborative environment to help simplify this process, reducing engineering hours and

making collaboration as efficient as possible.

Within MyWorkspace you can easily search the broad

range of products available within Emerson's measurement instrumentation, valves, actuators, fluid control and pneumatic solutions. Having found the appropriate device, a range of value-added digital tools provide comprehensive product sizing, configuration and specification options that help to ensure the right fit and application fulfilment first time.



In addition, MyWorkspace provides calculators to determine your total cost of ownership and return on investment, and easy access to Emerson support, including a live chat option. This enables an engineer who might, for example, have a query regarding product options to simply connect with an Emerson

"Value-added digital tools provide comprehensive product sizing, configuration and specification options that help to ensure the right fit and application fulfilment first time."

expert online and get the advice needed immediately. With the collaboration tools in MyWorkspace, Emerson experts can view your work and even save updates directly to your account.

More efficient data management saves valuable time and enables personnel to focus more on higher-value tasks. Supporting this, MyWorkspace provides a single defined space where essential information and asset documentation such as device specifications and CAD drawings can all be easily accessed and downloaded. Within this environment it is also possible to view lead time and previous order history information, import and export tag data, generate sizing reports, and organise and filter information using labels, enabling you to find what you are looking for much faster.

Once you have selected, specified and configured the correct products in MyWorkspace, information can seamlessly transition to your shopping cart or procurement team within MyEmerson. This supports a more efficient and accurate transactional process, removing the need to re-enter information and the possibility of human error.

MyWorkspace helps to transform your engineering processes by providing all the selection tools and information you need in a single location, whilst creating an easily accessible and customisable area where you can not only share information with other personnel in your organisation, but also leverage Emerson expertise. MyWorkspace aims to make collaboration and knowledge transfer easier, increase product selection efficiency by saving time and resources, and cement the reputation of Emerson as a trusted advisor.



To discover how Emerson's digital engineering tools can help you confidently select, configure and manage your solutions, visit Emerson.com/uk/MyWorkspace



purchasing delays that can affect your bottom line. Victor Christiaanse, director of digital business in Europe, explains how the digital solutions provided within MyTransactions ensure more efficient procurement.

seeking ways to apply the simplicity of these interactions in the

raditional procurement practices constitute a major source of operational inefficiency in the manufacturing and process industries. When dealing with broad and highly technical product ranges, procurement activities can be complex and involve lots of time-consuming, manual steps. Even routine purchases can generate a lot of administrative work. Consequently, the procurement process is often slow and prone to errors, with a high percentage of purchase orders being incorrectly completed when first submitted. Valuable time must then be spent exchanging emails with suppliers to eradicate mistakes before the orders are updated and resubmitted – all of which can lead to costly purchasing delays and affect bottom line results.

To improve the efficiency of procurement practices and ensure faster and more accurate transactions, it is important for organisations to move away from traditional ways of working and instead implement the latest digital solutions. As online purchasing behaviour in the business to consumer world evolves, manufacturing and process industry users are now

seeking ways to apply the simplicity of these interactions in the business to business environment. To help them achieve this, Emerson has developed the MyTransactions component of its new MyEmerson personalised digital experience.

MyTransactions is designed to deliver faster and more accurate quotes, price and lead times while purchasing Emerson



products, thereby reducing risk in the procurement process. With a single-sign-on access point to

your MyEmerson account, you can track and manage your order status and history as well as your open and past quotes, and plan for reorders. MyTransactions provides you with easier access to the tools, documents and people that best support your purchases. This includes live chat connections to Emerson, ensuring you are always getting the answers you need, when you need them.



Providing the procurement flexibility you require, MyEmerson can be integrated with a Punchout protocol - either directly or through a network such as SAP Ariba – to ensure you can access the Emerson product catalogue from within your own ERP system. Once solutions have been selected and specified by your engineers in the MyWorkspace area of MyEmerson and added to the shopping cart, the product information seamlessly returns to your procurement system. From there, the order can be financially approved, and an electronic purchase order generated, ensuring the correct products, lead times and pricing. This ensures your purchase order can be processed without any delays or any rework. When the order is received by Emerson, we update your business system with the latest order status and send you an electronic invoice. Performing the procedure this way increases efficiency by eliminating the need for manual hand-offs and reducing duplicate data entry, enabling order times to be reduced from three or four days to as little as two hours to make the process 92% faster.

Following procurement, details of your order are seamlessly added to your digital installed base record within the MyAssets component of MyEmerson, ensuring that this vital resource is kept up-to-date. This immediate interconnection between MyWorkspace, MyTransactions and MyAssets enables you to make significant efficiency savings across the areas of project engineering, procurement and lifecycle management.

Once your order has been placed, the benefits of MyTransactions continue. These include the ability to easily review your order

status, as well as accurate delivery information, order history and past quotes. Greater visibility into detailed order status and history

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information – including offline orders that have been placed in the past – enables your procurement team to create requisition lists of frequently ordered products and drive more efficient processes in your organisation.

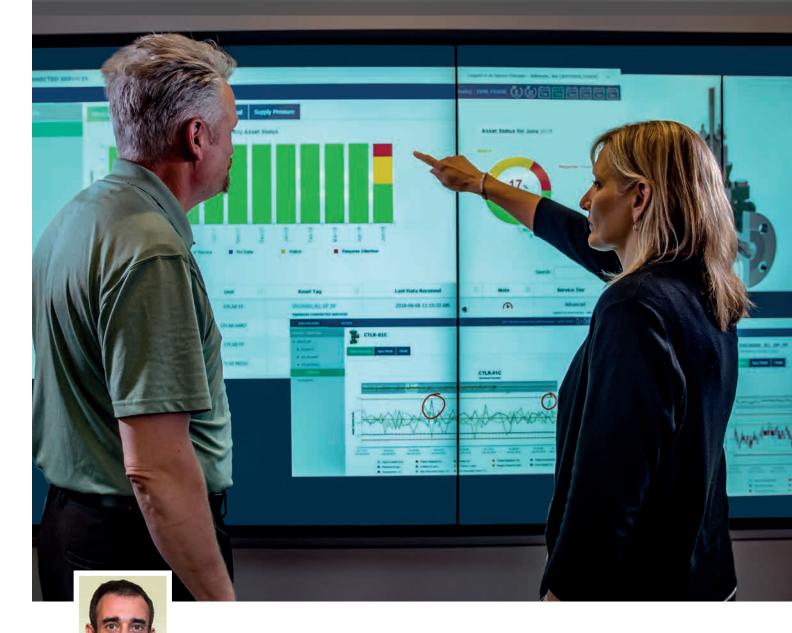
MyTransactions not only enables faster and more accurate procurement, but

with a complete digital record of your buying behaviour, you will have better visibility into your spending trends, supporting better informed business decisions in the future.



For more about how MyTransactions can improve the speed and accuracy of your procurement processes, visit Emerson.com/uk/MyTransactions

## Expert analysis of valve health data helps avoid unplanned shutdowns



Better visibility into the condition of valves increases process and turnaround efficiency and minimises plant downtime. Fabrice Hoenig, valve lifecycle expert, explains how Emerson's Valve Condition Monitoring service provides greater insight into valve health and performance data, and produces actionable outcomes.

he ARC Advisory Group estimates that global process industries lose \$20 billion (€18 billion), or 5% of annual production, as the result of unscheduled downtime, but a significant proportion of these losses are preventable. An important factor in avoiding unplanned downtime, and the costs associated with it, is having greater insight into the

condition of key assets, such as valves. A malfunctioning or failing control valve can cause process fluctuations that are sometimes not perceived. Such variability reduces yields and efficiency, and can degrade product quality through contamination or becoming off-specification. Poor control response from a critical valve can even lead to a complete unit shutdown.

Monitoring the condition of valves provides confidence in their health status, and therefore increased peace of mind. Monitoring control valves using predictive technologies paired with the appropriate level of preventive maintenance and offline diagnostics offers the most comprehensive solution for complete valve reliability. Valves operating with a digital valve controller and connected to a plant-wide network can generate vast amounts of health and performance data. Analysing and interpreting this data increases visibility into valve health status, allowing you to define repair needs and address any issues before they impact production levels and lead to expensive downtime. Greater understanding of valve health also ensures a safer working environment.

Access to additional data has been enhanced by wireless networks and secure data transfer, but managing and analysing this data

to produce useful information and actionable outcomes can be challenging, especially in a time of decreasing in-house expertise. To enable organisations to focus on strategic priorities rather than spend valuable resources on data analysis, Emerson provides a Valve Condition Monitoring service as part of our Connected Services portfolio. This involves seamless data collection, non-intrusive valve health monitoring and predictive analysis, helping you improve plant safety, availability and profitability.

The implementation of an effective Valve Condition Monitoring solution begins with selecting which valves need to be monitored. A service technician can perform a walkdown of the plant to collect valve construction information and then configure the monitoring equipment and schedule recurrent diagnostic tests to ensure accurate data is periodically collected. Emerson has the system expertise and innovative solutions to design a data communication infrastructure to securely transmit your data from your plant network to a safe cloud environment. Solutions are scalable.

with the most critical or problematic valves typically monitored first – as these have a significant impact on processes.

Coverage can then be easily expanded to include other valves as requirements and budget dictate.

Analysis and interpretation of data is performed by a global network of Emerson valve diagnostics experts. Using decades of experience, we view valve health data and condition history to determine trends and predict impending valve deterioration. We then produce a detailed monthly report, containing recommended actions. Any urgent issues, however, are communicated as soon as they are observed. Based on our recommendations, you can either create your own action plan, or Emerson technicians can implement actions on your behalf, as part of a long-term service agreement for maintenance activities.

A key benefit of Valve Condition Monitoring is that it provides a time series view of all device parameters and alerts. This analysis enables trends such as slow increases in travel deviation – which may not be seen when looking at a single snapshot in time – to be identified. It also allows for better estimation on when degradation will noticeably impact control, reliability or safety, enabling you to

"The insights provided by Valve Condition Monitoring enable better turnaround planning and execution, helping you make significant savings and providing you with a high return on investment."

schedule maintenance appropriately and better manage parts inventory based on actual needs.

An extended turnaround can often be as costly as unplanned downtime, but the insights provided by Valve Condition

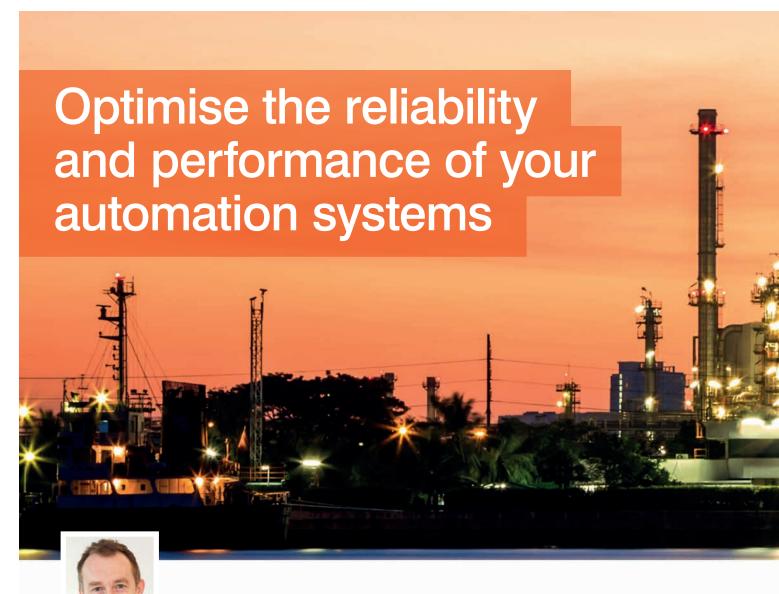


"Valves operating with a digital valve controller and connected to a plant-wide network can generate vast amounts of health and performance data."

Monitoring enable better planning and execution. It can also help to make considerable savings. On average it costs about \$5,000 (€4,500) to pull a valve, yet it is commonplace for all valves to be pulled during a turnaround, despite around 30% not needing service or repair. Even for a small, 30-valve outage, the insight provided by Valve Condition Monitoring that helps determine which valves need to be pulled, and for which specific scope of work, results in a saving of around \$45,000 (€40,000). When scaled up, the savings can be significant, providing you with a high return on investment.



To find out more about how Emerson's Valve Condition Monitoring service can help you avoid unscheduled downtime and increase turnaround efficiency, visit emrsn.co/IM1607



Effective lifecycle management of plant automation systems is essential to ensure safety and maximise throughput and availability. John Ellis, business director, lifecycle services – UK & Ireland, explains how the Guardian Support digital lifecycle service from Emerson provides an efficient solution that optimises system security, reliability and performance.

he ability to keep automation systems operating at peak performance is vital in helping maximise production, throughput and availability. Suboptimal performance of distributed control systems, asset management systems, and manufacturing execution systems can lead to serious process disruptions and unscheduled downtime that can prove extremely costly. However, the fast pace of technological advancement makes it increasingly challenging for managers to keep abreast of the constant stream of software releases and security updates that must be implemented to maximise system reliability and performance.

To help meet this ongoing challenge, Emerson provides Guardian Support as part of our digital lifecycle services. Guardian Support is a prognostic service that enables real-time visualisation and management of your automation systems, thereby optimising their security, reliability and performance. It provides a single source for aggregated, critical and personalised data about your platform architecture and applications, and delivers technical support, software updates, and proactive information on risk management, incident management and lifecycle management.

Outdated software and hardware increase system security vulnerabilities and decrease reliability. However, managing updates and maintaining hardware and software is a time-consuming process when performed manually, as there

can be thousands of updates a year to download and install. Limited availability of skilled resources can mean critical security, antivirus and application hot fix updates remain uninstalled for long periods, thereby increasing system

"Guardian Support provides you with 24/7 access to technical analysis and assistance from Emerson engineers, for rapid and effective incident management and issue resolution."

vulnerability. To streamline this process, an automated patch management service enables automatic downloads of the latest software updates rather than performing the task manually. This can save a lot of time, freeing a systems engineer to focus on other important duties.



Slow system repair times lead to longer production downtime and reduced operational performance, so it is crucial to troubleshoot and fix issues as quickly as possible. Guardian Support provides you with 24/7 access to technical analysis and assistance from Emerson engineers, for rapid and effective incident



management and issue resolution. Telephone or online support via the Guardian Support portal ensures that experts are always available to guide you through the steps needed to resolve issues. Guardian Support also provides the ability to view and monitor call logs, enabling details of corrective actions taken to be easily shared across your enterprise.

Guardian Support keeps an updated and accurate inventory of all your system components and licensing, and whenever a change in the lifecycle status of your software and hardware occurs, proactive email notifications are sent.

It is also possible to determine how well you are managing safety and security risks to your systems, through the use of key performance indicators (KPIs). These include software and hardware support status; whether you are reading and acting upon knowledge base articles; your implementation of software and security updates and hot fixes; and the amount and severity of service calls you have made. These KPIs are used to calculate a system health score, which is displayed on the dashboard in your secure, customised Guardian Support portal. Your health score

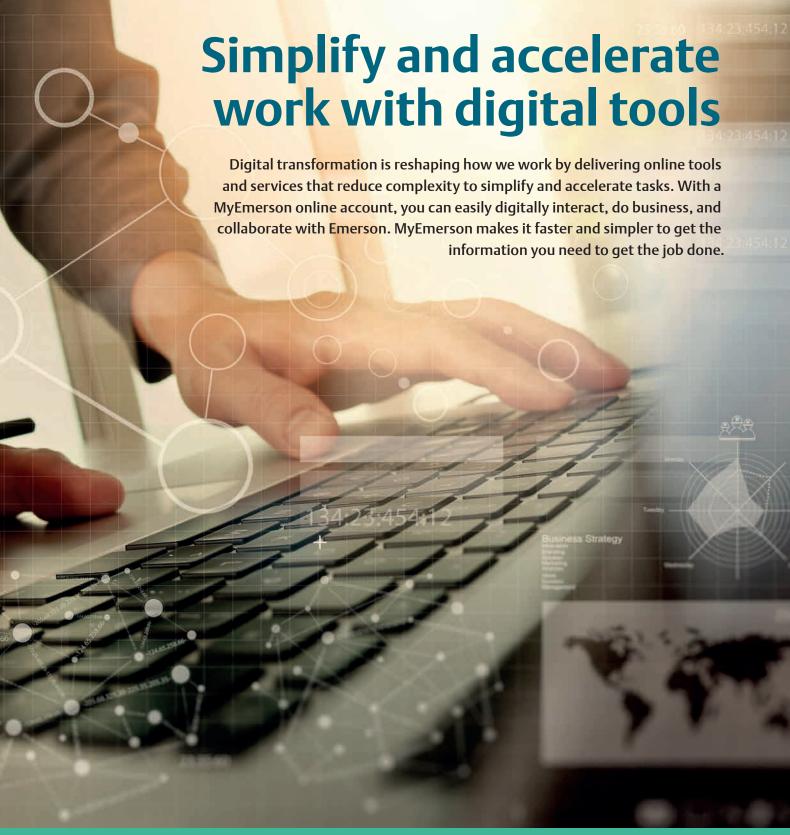
is benchmarked against all the other systems around the world that use Guardian Support, and you can also monitor your health score trend to see whether it is improving. The dashboard visualisation of your health score highlights which of your systems need attention, enabling you to plan and prioritise maintenance activities based on urgency and applicability.

Guardian Support continues to evolve, and future versions will enable you to monitor and manage individual control loops from your dashboard. This industry-leading development will enable you to see how a particular control loop is performing and make any necessary adjustments to drive increased plant throughput, availability and uptime.

Emerson also offers system health monitoring as a Connected Service, that provides continuous monitoring of your control system by Emerson engineers. This enables the capture of intermittent issues and underlying warning signs that can often be missed during manual health checks, the diagnosis of their root causes, and the issuing of recommended mitigating actions. This earlier detection of issues enables quicker resolution, resulting in reduced equipment failures and downtime.



To learn more about how Guardian Support can maximise the reliability and performance of your automation systems, visit emrsn.co/IM1608



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