

# Automation Issue 69 TODAY

ASIA PACIFIC

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The Power of  
Innovation in  
Times of Crisis

Introducing the  
Digitally Augmented,  
Multi-Skilled Worker

No Time for  
Downtime

Combining Science  
and Automation to  
Save Lives

## Challenges & Opportunities During COVID-19



**Rockwell  
Automation**

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### Automation Today Asia Pacific

Issue 69



This magazine is published 4 times a year by ROCKWELL AUTOMATION Inc. for Asia Pacific

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# Turning Challenges to Opportunities



●●● As vaccination rates increase around the world, helping to combat the COVID-19 pandemic, we can now look to the future and work towards turning challenges to opportunities. Strict travel restrictions and lockdowns across the globe have prompted organizations to re-think their supply chains. As a result, many organizations have turned to digital technologies for business continuity and to generate sustainable revenue.

Now more than ever the gap in productivity between companies incorporating digital initiatives and those yet to leverage digitalization in their operations is growing. The pandemic has prompted new innovations and disrupted traditional ways of doing things. Businesses are increasingly relying on digital services to serve their customers and differentiate from their competitors.

In manufacturing, these capacities will become even more severely tested, as **digital transformation** moves from a 'nice-to-have' to a 'must-have' in the drive for success today. Leading companies are embracing new digital technologies to futureproof their productivity and profitability.

From the latest augmented reality technologies and artificial intelligence to remote monitoring and compliance – the latest IIoT technologies can help you achieve your next competitive advantage.

This issue of Automation Today deep dives into how global leading innovators in the life sciences and consumer packaged goods industries benefit from digitalization initiatives to keep productive during these challenging times.

It features industry topics covering the latest knowledge and insights including: **The Power of Innovation in Times of Crisis; Introducing the Digitally Augmented, Multi-Skilled Worker;** and, **No Time for Downtime.**

This issue also includes the latest products and technologies, customer case studies that demonstrate how we help customers address their application challenges and recent company news and events.

I hope you enjoy this issue of Automation Today and that inspires you to embrace innovation to turn your greatest challenges into exciting opportunities.

Stay Safe, stay connected

**Scott Wooldridge**  
President, Asia Pacific Region  
Rockwell Automation



**Rockwell  
Automation**

We work with top biotech, pharma, and device manufacturers to make their **life sciences facility** of the future a reality. Together, we advance industrial transformation with new technologies, innovative solutions, and shorter timelines to improve patient outcomes.

expanding **human possibility**™

## Rockwell Automation recognized as a finalist for the 2021 Microsoft Internet of Things Partner of the Year

- **Industrial leader recognized out of more than 4,400 nominations in over 100 countries**

Rockwell Automation has been named a finalist of the 2021 Microsoft Internet of Things Partner of the Year Award. The company was recognized among a global field of top Microsoft partners for demonstrating excellence in innovation and implementation of customer solutions based on Microsoft technology.

“We’re honored to receive this recognition from Microsoft,” said Rockwell Automation Chairman and CEO Blake Moret. “Achieving results is what Rockwell is all about, and teaming with Microsoft helps us to deliver on that promise. Our intelligent industrial systems enable our customers to seamlessly save on infrastructure costs, speed time-to-value, and increase productivity.”

The Microsoft Partner of the Year Awards recognize Microsoft partners that have developed and delivered outstanding Microsoft-based solutions during the past year. Awards were classified in various categories, with honorees chosen from a set of more than 4,400 submitted nominations from more than 100 countries worldwide. Rockwell Automation was recognized for providing outstanding solutions and services for IoT.

The Internet of Things Partner of the Year Award recognizes a Microsoft partner that has designed, developed and deployed IoT solutions built on its intelligent cloud and edge innovations, such as Azure, IoT and edge devices with their customers. These solutions are helping companies quickly improve their business by increasing visibility into their digital assets, such as where they are at a given time or predicting maintenance required to ensure zero downtime. As a result, they can drive business results and grow customer value.

“I am honored to announce the winners and finalists of the 2021 Microsoft Partner of the Year Awards,” said Rodney Clark, corporate vice president, Global Partner Solutions, Channel Sales and Channel Chief, Microsoft. “These remarkable partners have displayed a deep commitment to building world-class solutions for customers – from cloud-to-edge – and represent some of the best and brightest our ecosystem has to offer.”



## Rockwell Automation Completes Acquisition of Plex Systems

- **Transaction expands Rockwell’s cloud-native smart manufacturing offering**

Rockwell Automation recently announced that it has completed the acquisition of Plex Systems, the leading cloud-native smart manufacturing platform.

Plex offers the only single-instance, multi-tenant Software-as-a-Service (SaaS) manufacturing platform operating at scale, including advanced manufacturing execution systems, quality, and supply chain management capabilities. It has over 700 customers and manages more than 8 billion transactions per day.

“Plex Systems joins Rockwell at the perfect time, as more customers are starting to move their industrial applications to the cloud,” said Blake Moret, Chairman and CEO of Rockwell Automation. “Plex’s software capabilities will be further differentiated by Rockwell’s global market access, complementary industry expertise, and ability to turn real-time data into actionable insights. This will allow us to better serve our customers with cloud-native solutions that are easy to implement, use, and maintain. We are excited to complete this acquisition and welcome Plex and its employees into Rockwell.”

“Rockwell’s industrial and digital transformation leadership along with its geographic and industry scale make it the ideal home for the entire Plex Systems community of customers, partners, and employees,” said Bill Berutti, CEO of Plex Systems. “We are eager to integrate our Plex Smart Manufacturing Platform with Rockwell’s FactoryTalk suite to deliver on our commitment to optimize our customers’ operations and bring smart manufacturing to life.”

Plex delivers tremendous value to customers in high-volume, highly repetitive discrete and process manufacturing sectors such as automotive parts, metal fabrication, electronics, food & beverage, and aerospace. Together with the advanced, cloud-native asset maintenance and management capabilities provided by Rockwell’s earlier acquisition of **Fix**, the combined offering is ideal for customers in industries like life sciences and consumer packaged goods that are focused on complying with regulatory requirements and meeting consumer expectations in areas like product quality, safety, and sustainability.

HI-LEX, a leading global automotive supplier, is a customer of both Plex Systems and Rockwell Automation.

“At HI-LEX, our vision is to be a world-class manufacturer by providing quality, cost-effective, and on-time products on a global scale to our customers,” said Dr. Brad Semp, Chief Operating Officer of HI-LEX. “We’re excited to see these two industry-leading suppliers come together to accelerate our digital transformation and deliver on that vision.”

“We continue to see the adoption of cloud solutions accelerate within the industrial sector, but many struggle with how to best integrate these solutions into their operations to maximize benefits and minimize risk,” said Kevin Prouty, Group Vice President, Energy and Manufacturing Insights at IDC.

## End-to-End Cloud-Based Industrial Traceability Solutions

- *Advanced track-and-trace platform to drive easier regulatory compliance and improvements in product quality, safety, and sustainability*

Rockwell Automation recently announced a partnership with **Kezzler AS**, a cloud-based product digitization and traceability platform, to help manufacturers capture the journey of their products from raw material sources to point-of-sale or beyond using cloud-based supply chain solutions that focus on product traceability.

Rockwell's supply chain capabilities will combine with Kezzler's traceability technologies to help customers connect suppliers, manufacturing, logistics, and consumers into one real-time traceability platform. Kezzler's cloud-based solution provides integration flexibility and ease of access to existing systems of record that incorporate a wide range of technologies from immutable ledgers (**blockchain**) to traditional databases. The two companies can also create unique identities that can be used to digitally identify and track products from creation to consumption.

Rockwell anticipates integrating the cloud-native factory floor track-and-trace capabilities of **Plex Systems** with the end-to-end capabilities of Kezzler, providing supply chain visibility and management capabilities that are both broad in scope and deep in functionality.

"Our partnership with Kezzler will provide greater supply chain transparency to enhance safety and quality control measures, ensure regulatory compliance, and meet ESG goals with cloud-based technologies that are easy to implement and easy to use," said Matt Fordenwalt, Rockwell vice president and general manager, Systems & Solutions Business. "By combining our technology and expertise with Kezzler's, we can quickly design and deliver a serialization solution customized to meet specific business requirements with advanced cloud-native software."

"Together, we can help manufacturers connect all points of a product's journey, beginning with its inception and ending with its point of sale, consumption, or even where it's recycled," said Kezzler CEO, Christine C. Akselsen. "Tying upstream and downstream data together creates true end-to-end traceability, with a single data repository for each product."

Kezzler is joining the Rockwell Automation **Digital Partner Program**, a centralized resource for best-in-class digital solutions designed to help customers as they guide and simplify digital transformation within their manufacturing operations.



## Rockwell Automation Names Cyril Perducat as New Chief Technology Officer

- Rockwell Automation recently announced that Cyril Perducat has joined the company and has been named senior vice president and Chief Technology Officer on July 1.



He reports to Rockwell Chairman and CEO Blake Moret. Perducat joins Rockwell following a 25-year career with Schneider Electric, where he most recently served as executive vice president, Internet of Things and Digital Offers.

Perducat has had an extensive career as a technology strategist, particularly for systems, software, networks, and solutions businesses.

"Cyril brings to Rockwell a passion for innovating and building teams, and a drive for implementing successful outcomes based on effective change management," Moret said.

"His career has focused on developing innovative solutions to enhance manufacturing technologies, and we are confident his leadership will help Rockwell reach new levels of value for our customers and partners."

"Rockwell has been an industry leader and innovator for decades," said Perducat. "The company's innovative team of technologists are focused on growing its already broad technology offering and expanding what is possible in the industrial automation space."

Perducat succeeds Sujeet Chand, who recently announced his retirement. Chand has served as Rockwell's Chief Technology Officer since 2005 and has held various leadership positions during his more than 35 years at the company.

Chand was most recently responsible for leading Rockwell's technical innovation, common architecture development, company-wide technical talent management, and global business development with its ecosystem of strategic alliances and partnerships. He will work closely with Perducat until he retires at the end of the calendar year.

"Sujeet's distinguished career with the company has positioned Rockwell Automation as a leader in industrial automation and digital transformation," said Moret. "Sujeet's contributions to our product and technology evolution, intellectual property portfolio, and strategic partnerships cannot be overstated. The board and I wish him and his family the very best in his retirement."

## ROKLive Southeast Asia 2021

●●● ROKLive Southeast Asia kicked off with immense excitement on September 7-9. The conference was held virtually for its second consecutive year and will be made available on-demand until December 2021.

Watch featured segments you might have missed and discover the latest technology trends and vision fueling the industry's agility, resiliency and sustainability from industry experts and Rockwell's partners and specialists. To experience ROKLive Southeast Asia on-demand, please visit <https://www.rockwellautomation.com/en-id/company/events/in-person-events/roklive-southeast-asia.html>



Access On-DEMAND Until December 2021!

## 2021 Automation Fair Event

●●● The 2021 Automation Fair will be hosted as a new, unique hybrid experience on November 10-11 in Houston, Texas and will combine the technological capabilities of a virtual event with the connectedness of an in-person event.

Expect engaging keynote presentations, interactive hands-on labs and technical sessions, industry-centric panel discussions, an exciting show floor showcasing the latest innovations and solutions from Rockwell Automation and members of our PartnerNetwork.






Join us this November to experience the value and power of our IT/OT expertise and have more opportunities than ever before to network with innovation experts, company executives, thought leaders and peers in your field. For event details and registration, please visit <https://www.rockwellautomation.com/en-us/company/events/in-person-events/automation-fair.html>



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## Rockwell Automation Named PTC Partner of the Year

●●● Rockwell Automation announced it has been named PTC Partner of the Year by the PTC Partner Network program. Selected from an elite group of PTC partners, Rockwell Automation has demonstrated both excellence and expertise in helping PTC customers advance their digital transformation agendas.

In addition to being named PTC Partner of the Year, Rockwell Automation was honored with the Greatest Number of New Customers and Greatest Value of New Annual Contract Value Bookings awards. We also earned finalist recognition for the Transformation in Community Project award.

“We entered into this relationship just three years ago with a shared commitment to drive innovation and operational improvements for our customers, and we have achieved significant results” said Arvind Rao, director, Operations & Info Applications. “With the pandemic this past year, together we put a spotlight on what we were able to do to help our customers maintain their business continuity. We saw first-hand the powerful impact of our offerings, and it proved the market’s need for our collaboration. This recognition is a true team effort and was accomplished by the outstanding team here at Rockwell Automation.”

### About our PTC partnership

Last October, Rockwell Automation and PTC expanded and announced an early expansion of our strategic alliance. At that time, our alliance had helped nearly 250 new customers globally to achieve their digital transformation goals.



Our primary joint offering is **FactoryTalk InnovationSuite**, powered by PTC. The expansion includes PTC’s product lifecycle management and Software-as-a-Service (SaaS) products and Rockwell Automation’s virtual machinery simulation and testing software. As alliance partners, Rockwell Automation and PTC will continue our focus on providing a comprehensive digital thread solution. We will continue to leverage each other’s resources, technologies, industry expertise and market presence to serve customers through 2023 and beyond.

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# The Power of Innovation in Times of Crisis

●●● *The COVID-19 pandemic is a crisis unlike any other in recent times, but even though manufacturers are struggling with this situation, it is reassuring to know that we are all in this together. Technological innovations are key to not only surviving but thriving in today's challenging environment.*

Throughout history, pandemics have reshaped our political, social and technological ways of life. They have disrupted industries and communities as a whole and resulted in the initiation of technological innovations.

The current COVID-19 pandemic has been a disruptor for many industries by compounding existing challenges and putting pressure on companies to address them. As technology evolves, leading global innovators in the life sciences and consumer packaged goods industries have been able to confront these challenges. The result is achieving business continuity and generating sustainable revenue.

Vaccinations are an important weapon in the fight against pandemics. However, despite the tremendous advances in medical science, there is still so much about the human body that we are yet to discover. The response to infectious diseases presents a hugely significant area in improving global health and life expectancy.

## Innovating vaccine development

The sense of urgency that comes with infectious diseases can itself fast-track progress towards arriving at a vaccine. The need for immediate action unites a range of bodies – from researchers and clinicians through to regulatory bodies and manufacturers – in the

quest to get an effective treatment into the hands of healthcare professionals as quickly as possible.

There are a number of steps that are essential in ensuring that the vaccine produced is effective and safe, that any side-effects are properly understood. Then the vaccine will need to be produced at scale on a consistent basis until the threat of illness has been sufficiently minimised.

Historically, the complexity, regulation and cost involved in each of these stages has slowed down the response to emerging health issues. Now, due to advances in AI-related technologies, we have an opportunity to rapidly accelerate the process through which we can deploy treatments into the field.

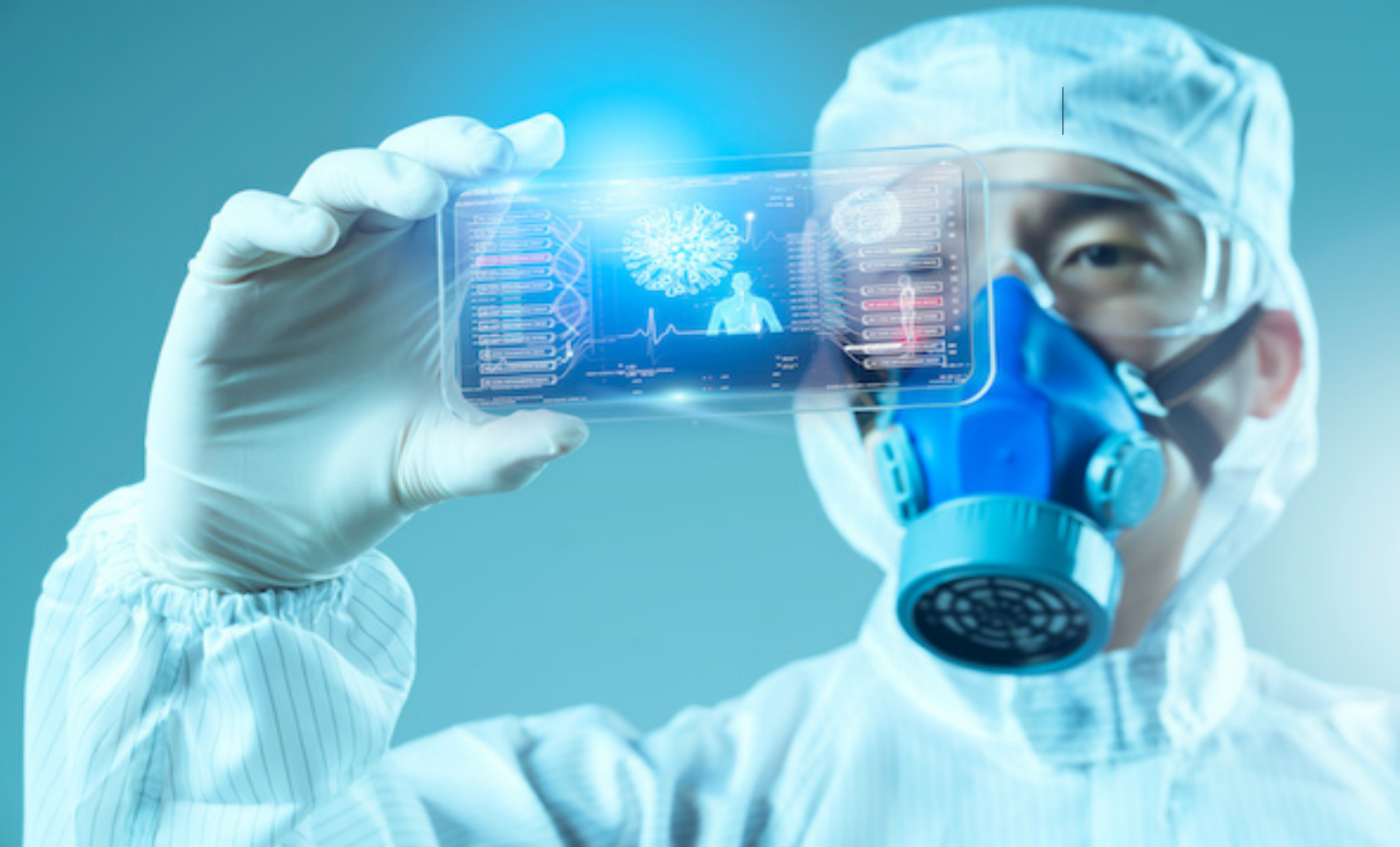
## AI aids the process

While we can never expect overnight success when dealing with something as complex as vaccine development, we can act to remove some of the constraints and bottlenecks that may hamper progress.

Advances in automating data analysis and improving visualisation of what is happening at each step of the discovery stage can address some of these inefficiencies, helping to accelerate the process of vaccine development and streamline operations to upscale production.

In the initial, exploratory phases of vaccine development, researchers can use artificial intelligence (AI) to process vast digital libraries of data (such as analysing the properties of thousands of pharmaceutical compounds) with significantly more accuracy than manual processing, to arrive at potential treatment candidates.





AI can also be used in these stages for DNA sequencing based on complex human data, allowing clinicians to conduct tests in genetic matching and immunity response.

Once suitable compounds have been identified, the process moves towards live testing. Different patients will react differently to treatments based on factors such as age and prior medical history. The tests therefore need to be comprehensive enough to cover marginal cases where a patient may react badly to treatment.

By training deep learning algorithms, researchers can conduct these tests at a previously unimaginable scale, even before physically administering the vaccine candidate to test patients. These algorithms can be used to identify and sample antibodies to fight infectious diseases with drastic improvements in speed and cost. Advanced analytics and data visualisation of human response to the potential vaccines can then be used to assist with rapid testing, allowing for more intricate analysis and lower error rates.

Upon regulatory approval of vaccine products, the race is on to develop and distribute the medicine across a vast network of hospitals and clinics. Combining AI and sensor-based technologies, manufacturers can harness granular data to bring greater supply chain efficiencies. This helps to avoid demand-supply misalignments in their production processes and minimises the risk of products being spoiled in distribution.

### **Productivity during the pandemic**

Businesses that have embraced **digital transformation** are better positioned to adapt to immediate demands while maintaining

production of other critical goods. In particular, there are three areas in which technology is proving vital in helping these businesses make a difference:

#### **1. Safety and business continuity**

Businesses always put the safety of employees first, but the definition of 'safety' has changed: it must now incorporate adequate social distancing to prevent their workforce from getting sick. For office-based employees, working from home is generally straightforward; for manufacturers, on-site operators and engineers are usually essential.

Continuity is also a major consideration for manufacturers. Human needs still exist even in the midst of crisis. For **pharmaceutical manufacturers**, this is especially pronounced, as people still need other critical and sometimes life sustaining medicines. Keeping their production lines operating and getting drugs to market in the midst of this crisis is extremely challenging.

Businesses with the capability to manage their critical operations remotely are far better positioned to ensure plant safety while taking appropriate measures to safeguard continuity. For example, **augmented reality** (AR) provides machine operators with step-by-step instructions direct to smartphones and wearable devices such as smart glasses.

This also enables remote engineers to provide guidance to site-based operations staff even when they are not on-site – vital to ensuring social distance while maintaining operations and adapting production lines. It also allows technical specialists from essential equipment suppliers to remotely troubleshoot and support manufacturing operations.

## 2. Responding to increased demands at scale

Prior to the Coronavirus outbreak, the NHS had 8,175 ventilators, and now many thousands more are urgently required. China was responsible for manufacturing 60% of the world's face masks. Ramping up operations and supply chains to meet immediate demand is an issue all manufacturers are wrestling with.

Technologies such as advanced analytics of digitised operations enable businesses to accurately forecast how they can scale production to meet market demand and positions them for data-driven decision-making.

It provides real-time insight into the functioning of their production lines, where they are losing productivity, what steps are creating bottlenecks, where preventative maintenance is required and any process improvements that can be made. To achieve this level of insight, manufacturers must have connected operations, enabling the large volumes of data produced by their connected assets to be contextualised. This allows tools such as analytics to deliver real value.

## 3. Flexibility and knowledge transfer

Car manufacturers, for example, are not accustomed to producing ventilators, and will need to dramatically alter their production lines and supply chains in order to do so. At the same time their engineers are trying to overcome the challenges of learning to produce a completely new product.

Businesses that have adopted technologies such as **independent cart technology** (ICT) have a high degree of flexibility already built into their production lines. These technologies enable businesses to rapidly adapt to changing demands and deliver increased throughput and much faster machine changeover times to produce new products at scale. A high degree of automation means that less on-site intervention is required than with traditional production lines, enabling plants to run effectively on a skeleton staff.

## Race against time

For the research labs, pharmaceutical firms, and biomanufacturers racing against time, accelerating production capabilities and reducing time to market is key to saving as many lives as possible. To address the added layer of complication brought on by the disruption to global supply chains, Rockwell Automation has managed to reduce production turnaround time from weeks to just days by helping manufacturers quickly implement innovative automation solutions at scale while helping ensure adherence to the stringent regulatory and compliance requirements for medical devices.

Customer servicing and learning and development did not take a backseat during the lockdowns. Employees were equipped with technology to help them remotely service customers, troubleshoot implementation issues, and continue monitoring ongoing projects through their laptops and even mobile phones, reducing their need to return to our offices.

During the pandemic's peak, when complete lockdowns were

imposed by many governments, we arranged virtual technical training sessions to educate our customers on how to troubleshoot and maintain their enterprise tech tools, such as drives, servos, programmable logic controllers (PLC), and more. At the same time, our technical support teams were readily available to help address any questions or issues faced by manufacturers.

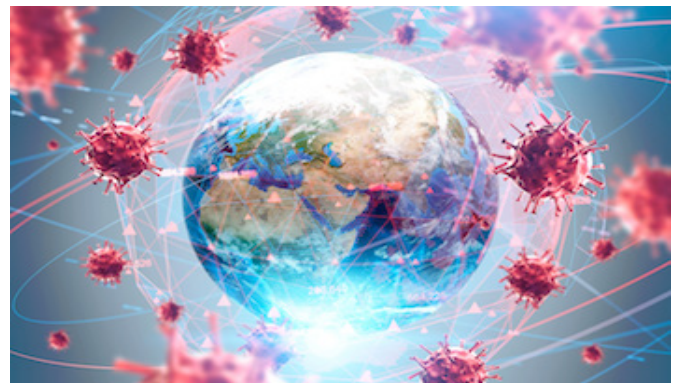
We also ran complimentary e-learning courses for our customers to keep their employees up-to-date with the latest developments and equip them with the skills necessary to successfully deploy the tools provided.

## Making history

We are all in a situation without precedent, essentially living in a pandemic that will go down in history as one of the greatest challenge of all times. We all have a role to play in resolving it, and it is uplifting to see industry working together to stop the spread of COVID-19 as quickly as possible. Speed is the word, here: speed of separation of people, speed of production, speed of increasing capacity of the critical supply chain for those essential items required to defeat the virus.

Manufacturers that have already invested in digital technology – those that have successfully **connected their enterprise** and operations – are able to maintain production and react faster to rapidly shifting market dynamics. Through the deployment of technologies that support remote working, data-driven decisions and flexible production, they are best suited to moving quickly and adapting their operations and supply chains to meet the challenge at hand.

When implemented successfully, the digital transformation of operations and processes seamlessly merges the formidable capabilities of human knowledge and artificial intelligence. Digitalization can help us combat COVID-19, providing the foundation for our post-pandemic future.



## Learning from the best

There are a number of key application successes of leading innovators in life sciences that are a result of effective digitalization initiatives. These application successes address common challenges experienced by the life sciences industry including; compliance, quality, cybersecurity, serialization and operational efficiencies.

**Digital strategy boosts throughput**

**Pfizer Global Supply** (PGS) produces more than 23 billion doses of medicine every year across its network of 42 global manufacturing sites. The company set the goal, to support the Pfizer purpose of “breakthroughs that change patients’ lives” by transforming operations into a seamless, data-driven insight engine that drives world-class performance.

This would be no simple task. PGS manufacturing facilities represents a heritage of more than 30 legacy pharmaceutical companies which all had a diverse set of systems and datasets.

The first step was to upgrade and improve the security infrastructure across manufacturing sites. This created a standardized way for PGS to not only better secure the plant network, but also help unlock shop-floor data from outside the site. With the arrival of COVID-19, the firm rolled out digital solutions that allowed teams to continue face-to-face meetings while staying socially distant. Remote collaboration tools like **Vuforia Chalk** from Rockwell Automation **Strategic Alliance Partner** PTC were deployed across the global enterprise within a two-week window.

While its digital transformation journey continues, PGS has documented major improvements to date in areas like cycle time, manufacturing throughput and yield, and right-first time quality.

At just one manufacturing site, the digital transformation program has been credited with enabling the manufacture of 3 million additional doses of one product above what was planned for in 2019.

**Data integrity and compliance**

The journey at **Thermo Fisher Scientific** began years ago with data integrity. “We began looking at all the ways we could reduce risk by taking advantage of the data we had, and could take us from reactive to proactive,” said Chris Binion, director of innovative and immersive technology, Thermo Fisher Scientific. “We wanted not just the reduction, but the replacement of paperwork. We are enabling our employees with superpowers: the ability to access data and look at historical trends.”

For **Cytiva** customers, quality and compliance are top priorities. “It is possible to fill an entire bookshelf with the paperwork that is generated for just few batches in the pharmaceutical industry,” emphasized Kirsten Manchester, senior product manager, MES and sensors, Cytiva. “We are on our journey at the same time we are helping our customers. From our side, we are approaching Level 3 of the digital plant maturity model.”

Cytiva is working on how to manage large data sets and how to be able to use tools on top of that to do analytics. There are efficiency benefits in terms of reduced paper and now people are trying to use the information that used to just live in these binders of paper.

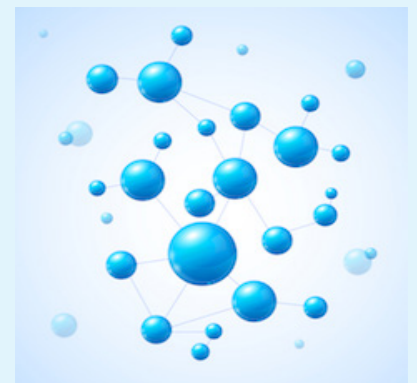
**Transforming IT/OT to get results**

Indianapolis-based **Eli Lilly**, a global healthcare leader with products marketed in 120 countries, has long fostered a willingness to continually improve and adapt digital technologies. Central to its digital transformation journey is its strong partnership between information technology (IT) and operational technology (OT).

To help with technology implementations both at the strategic and execution levels, the company engages its core collaborators like Rockwell Automation and its Strategic Alliance Partner **Microsoft**, among others. It also is putting a focus on hiring and developing workers who are digitally empowered.

And of course, continuing to develop and build on the strong partnership between IT and OT will continue to be central to the company’s **digital transformation**. It is driving the company’s serialization, cybersecurity, analytics and other digitalization efforts.

“We’ve had this relationship in place for years,” Harris says. “And actually, it aligns with our broader Team Lilly approach, where we believe it’s the cross-functional teams and cross-functional relationships that really drive success. And it’s that teamwork that helps us advance our agenda.”

**MES for more agile production**

Every day there are new demands on manufacturers to achieve extraordinary flexibility at extraordinary speed – making **agility** critical in today’s fast-changing environment.

When **Roche Diagnostics** needed to transition assets in three of its major facilities to manufacture COVID-19 testing kits, they implemented Rockwell Automation FactoryTalk **PharmaSuite** MES (Manufacturing Execution System) software. This delivered the flexibility and agility the required to produce more testing kits at a time when there was a significant shortage.

**Lonza**, a leading global provider of integrated healthcare solutions, recently digitized their operations and in doing so, ushered in a new era of agility and operational efficiency.

They will use PharmaSuite MES software, along with FactoryTalk **InnovationSuite** software to better trace product down to the individual capsule carton and gain insights into performance and production.

A segregation of SAP and PharmaSuite MES will also help avoid the disruption of a global enterprise resource planning (ERP) shutdown or required maintenance by enforcing workflows and collecting necessary information. **AT**

# Combining Science and Automation to Save Lives



Whether it is donating software to support COVID-19 vaccination efforts or bridging the gap from lab to production, combining science and automation can save lives.

●●● The life sciences industry has found itself at the heart of disruption in response to the COVID-19 pandemic. Challenges with global supply chains, vaccination roll outs and healthcare infrastructure has transformed the risk landscape and made life sciences companies rethink their approaches to technological innovation.

Business partnerships have come to the fore as the life sciences industry navigates a new normal. The more you collaborate, the more you can accomplish. Rockwell Automation's partnership with the **Advanced Regenerative Manufacturing Institute (ARMI)** is a prime example of this mutual beneficial approach. Both sides bring critical information and technology to every project, including the ARMI Center of Excellence currently in development. Through collaboration, we have moved closer to a revolutionary era of medicine that could save thousands of lives every year.

## Manufacturing engineered tissue

There are currently 400,000 people worldwide on waiting lists for organs, and 20 people die each day while waiting for a transplant. For years people have been working to bridge the gap between scientific research and commercial production. ARMI's BioFabUSA program is working towards making organ transplant lists a thing of the past. The program involves a consortium of more than 170

member organizations working towards large-scale manufacturing of engineered tissues.

Many of the participating organizations hail from the worlds of research and academia, so they know the science behind tissue generation. However, they needed assistance with determining how to scale and automate their processes. Dean Kamen, ARMI's Executive Director called on Rockwell Automation to help. The partnership grew from there, with Rockwell Automation sharing its knowledge and technology.

Both contributions were critical to ARMI BioFabUSA's first automated tissue line, which went online in early 2020. An individual could now insert a vial of cells at one end of the line and return 45 days later to inspect the complete bone ligament construct waiting on the other end.

Fully automating the process was an important step on the way to engineering complex organs. The Center of Excellence will help the cause as well, but only because the two organizations recognized an opportunity and found reasons to say 'yes' at key moments. Once such moment involved the most basic of requirements – a physical presence.

## Seeing is believing

The vast majority of the 170 member organizations are in the early stages of the digital plant maturity model and would benefit from a tangible demonstration of what is possible in later stages.

For years, Rockwell Automation had explored establishing a Center of Excellence in the greater Boston area. Meanwhile, the company's partnership with ARMI BioFabUSA had made significant strides just 50 miles north of Boston at the organization's facility in Manchester, N.H.

The converted textile mills have vast square footage, and ARMI BioFabUSA could put it to good use. When the organization discovered Rockwell Automation's interest in a regional Center of Excellence, it offered to provide space at no cost. It was an unexpected development but one that could help everyone in the consortium move forward.

Having the demo space right next door to a practical, cutting-edge application was an opportunity the organization could capitalize on. Both partners see the ARMI Center of Excellence as a learning tool, educating the consortium's members about smart manufacturing. When completed, the center will demonstrate the digital transformation journey – from a manual setup to a fully automated facility talking to an enterprise resource planning system.

## Making progress

The first steps toward creating that environment happened remarkably fast after ARMI BioFabUSA offered its available space in Manchester. Project organizers received an important nod from Rockwell Automation Senior Vice President and Chief Technology Officer Sujeet Chand in March 2021. Two months later, the center had equipment in place to demonstrate the first two levels of the digital plant maturity model.

ARMI BioFabUSA's is expanding efforts to achieve its mission. With Rockwell Automation assistance, the organization will install eight more production lines over the next eight to nine months. Every one that comes online closes the gap between the science and the fully automated production of engineered tissue – and strengthens a thriving partnership.

## Another winning partnership

The ARMI and Rockwell Automation partnership highlights the value of bringing science and automation together. In another winning partnership, Rockwell Automation is donating its Arena Simulation to nonprofit organizations, governmental organizations, and public health partners to plan COVID-19 vaccination clinics in their communities. The software can be used to monitor patient flow, staffing, shift changes, and maintenance of social distancing guidance for patients in queue.

*The software can be used to monitor patient flow, staffing, shift changes, and maintenance of social distancing guidance for patients in queue.*

"We recognize this software is a potential game changing tool in helping our healthcare partners to better address supply and staffing needs, and ultimately help expedite the vaccination process," said Patricia Contreras, vice president of public affairs for Rockwell Automation. "We look forward to joining forces with more hospitals, health departments and other community organizations to help as many people as possible get vaccinated safely, efficiently, and quickly."

At the start of the pandemic, Norwell Health in New York and ChristianaCare in Delaware both used Arena to manage COVID-19 inpatient care. The software is ideal for vaccine clinic planning because it helps decision-makers understand the flow of systems and the constraints of resources in an environment where every day might bring a different scenario.

According to the U.S. Centers for Disease Control and Prevention, as of Friday March 12, more than 100 million doses of the COVID-19 vaccine had been administered, with 13.5% of adults U.S. population now fully vaccinated. As vaccine supplies change and more people gain access to schedule a vaccination, better and more efficient tools will be needed to support vaccine distribution.

Arena Simulation has been used in healthcare for more than 30 years, helping hospitals and health care systems to plan for improved patient flow and realize cost efficiencies. For more information about Arena Simulation Software, visit the [Arena Simulation Software Website](#).



## Digitizing healthcare

The COVID-19 pandemic has changed the way healthcare and life sciences organizations operate. Life sciences companies are re-evaluating their supply chains, while consumers are becoming more reliant on digital healthcare solutions.

As we move into this new way of operating, the distinction between science and technology is becoming less defined. These two industries have different knowledge bases and skillsets but as they work more closely together, consumers gain access to higher quality healthcare and improved patient outcomes. **AI**

# Technology Enhances Hygiene Outcomes for the Community



The pandemic has made industry and governments around the world re-think their supply chains and operational efficiencies. Manufacturers and OEMs have joined forces to address these challenges and help protect the community from COVID-19.

●●● In the midst of the pandemic, the World Health Organization (WHO) warned that severe and mounting disruption to the global supply of personal protective equipment (PPE) – caused by rising demand, panic buying, hoarding and misuse – is putting lives at risk.

To address this, the WHO called on industry and governments to increase manufacturing by 40 percent to meet this rising global demand.

Manufacturers and OEMs around the world stepped up to meet this target. In Australia, the federal government tasked what was then, the only local mask manufacturer **Med-Con**, to increase production to help meet this demand. However, with only two of their three original 40-years old machines operational, they realized they would urgently need more mask-making machines to make this a reality.

Across the globe in Montville, New Jersey, **Catbridge Machinery** responded to COVID-19 with a turnkey solution that meets immediate needs of material shortages. Currently the company is the only supplier of turnkey meltdown production lines based in North America.

## Making materials for masks

Meltdown nonwoven material is a critical component of N95 facial masks, as well as filtration materials. Made from polypropylene, the high-performance material is designed to meet stringent filtration specifications.

“One of our areas of expertise is nonwoven converting, including meltblown production lines,” said Michael Pappas, president, Catbridge Machinery. “Our company quickly set to work to package a solution that could help address material shortages.”

To meet typical filtration material standards, the company packaged a solution with a web width of 1.6 meters. The turnkey production line features both mezzanine and plant-level equipment. It includes extrusion, the meltblown forming system, web handling equipment, all mechanical connections, a controls package and electrical panels.

The meltdown line runs on a Rockwell Automation control platform featuring **Allen Bradley GuardLogix** safety controllers and **Allen Bradley Kinetix** servo drives and **motors**. The system is integrated on an EtherNet/IP™ network.

“Typically, we have used graphic terminals for our machine HMI,” said Pappas. “But in this case, we chose **Allen Bradley VersaView** industrial PCs and monitors.”

Rugged VersaView products provide more computing power at the source of the application – and more flexibility in what can be accessed and managed from a screen. In this case, the system runs **FactoryTalk** View Site Edition (SE) HMI software, which meets the demands of multiple stakeholders.

Operators can easily access display screens, alarms and system-wide diagnostics. And maintenance and engineering can quickly develop applications and easily maintain the system.

“The COVID-19 pandemic has been a roller coaster ride for many of us,” said Pappas. “N95 masks are still in short supply, but will become the norm? We simply don’t know. In these uncertain times, machine flexibility is as important as performance.”

### Building life-saving mask-making machines

Aided by the Australian Government, **Foodmach**, an advanced engineering-to-order business based in Victoria, Australia – was given a 60-day deadline to engineer and build the first of seven life-saving mask machines for Med-Con. In order to meet urgent supply demands, Med-Con was targeting production of 60 million face masks by November 2020, with an ongoing annual capacity of 160 million masks.

“While we are replicating an old machine, we are also having to modernize it to current control and safety standards in an incredibly short time frame. The timeline is so compressed that we only have eight weeks to do what would normally take six months,” explained Earle Roberts, ceo, Foodmach.

Foodmach were able to take the original machine mechanics and modernize them to include the latest control and automation technology from Rockwell Automation. The Allen-Bradley Compact GuardLogix controller is at the heart of the machine, controlling the mask production process.

The Kinetix 5500 Servo Drives integrate seamlessly into the Logix platform for easy configurability, system integration and safety. Together the PLC and servo drives are key to controlling movement within the machine and keeping the accuracy of the machine’s start and stop functions.

These machines are designed to build the highest quality surgical masks with four layers laminated together for superior protection. The Allen-Bradley PowerFlex 525 drives with safe torque-off controls the lamination process while operators can monitor production through the machine’s PanelView graphic terminals.

“We were seeking to build the first machine in eight weeks, but we were able to deliver it ahead of schedule in seven weeks. A key part of that was having suppliers such as Rockwell Automation that hold available stocks of parts in Australia and can also expedite getting components in from overseas if required,” said Earle Roberts.

Australia’s mask manufacturing capacity is secured thanks to the innovative work of an exceptional team of engineers, designers and technicians. These smart machines provide the capacity to increase mask production significantly, helping protect frontline workers and their patients in the fight to stem COVID-19.



**Earle Roberts, CEO Foodmach, onsite at the plant**

### Digitalization improves visibility

In addition to addressing supply chain issues from machine and material shortages, another key focus for industry is operation efficiency. Digital transformation provides improved connectivity and visibility, ultimately improving performance and efficiency.

**Ecolab** is a global leader in water, hygiene and infection-prevention solutions and services. With 130 plants around the globe, Ecolab helps to advance food safety, maintain clean and safe environments, and optimize water and energy usage at nearly 3 million customer sites around the world. However, until recently, those plants lacked coordination and consistency from one to another. As a result, each plant essentially acted as an individual entity.

Now, Ecolab’s global network of plants is on a five-year roadmap to greater connectivity so they can perform better and more consistently, and ultimately better serve customers. Matt Boudjouk, control and automation program lead at Ecolab was hired to lead the company’s **digital transformation**.

“My job really is not only to improve the control schemes but also be a conduit of knowledge and share knowledge between the plants,” Boudjouk said. “We’re obviously a good-size company, and if we’re not talking to each other we’re not taking advantage of it.”

The team developed a four-step strategy for digitally transforming Ecolab plants. First is the data-gathering step. This involves putting the right instruments and collecting the right data, all on Ethernet infrastructure. Documentation is key in this stage to make sure data can be identified and analyzed at later stages.

The next step is visibility whereby plants start monitoring operations and dashboards giving operators real-time insights into how their lines are performing. The third step is business optimization. This involves integrating the plant floor with enterprise systems to provide visibility and communications across the plants and the supply chain.

The fourth and final step is digital transformation through the use of analytics, digital twins and artificial intelligence. This can help answer key questions like why some plants perform better than others.

Already today, some plants are at the optimization stage. Standardization efforts combined with greater global visibility have helped the company save 25-30 percent on process design. Getting a better handle on inventory and days-on-hand has also been a big opportunity for improvement.

Ecolab has worked with its vendors to establish training programs, including on-site training labs at some plants, to allow employees to interact with and learn new technologies.

It really boils down to communication and the buy-in of everybody,” Boudjouk said. “If you have the engagement and everyone feels like they have a say, they’re more apt to be engaged and really work together to get that project right. Because they know it makes their life easier.” **AT**

# Introducing the Digitally Augmented, Multi-Skilled Worker

●●● ***From their hats down to their boots, the workforce is becoming more connected. This narrows the skills gap and helps you increase productivity by optimizing information capture and delivery.***

Augmented Reality (AR) can revolutionize manufacturing. It can empower your workers to perform better and avoid safety and compliance risks by providing easy access to the information they need. This is particularly relevant, given the challenges associated with the COVID-19 pandemic. Lockdowns and social distancing requirements have made it difficult for workplaces to maintain face-to-face operations but in spite of this, production must continue.

Thankfully AR can make this possible. These tools help plant workers adapt to new norms and specialists respond in real-time. **FactoryTalk InnovationSuite Vuforia AR** makes work instructions handsfree and delivered in real time where assembly or field service takes place. Knowledge of experienced workers is easily captured and shared with new workers and service technicians. Remote expertise can be delivered regardless of location and training manuals become a thing of the past as AR training has been proven to more effective and efficient.

## Keeping essential industries working



During the pandemic, many manufacturers have been classified as essential businesses. For industries such as pharmaceutical or medical equipment manufacturing, balancing meeting skyrocketing demand whilst staying compliant with social distancing measures and limits to maximum group capacity remains a challenge.

To help, Rockwell Automation is providing complimentary access to its AR program; an advanced simulation tool that can capture manual activities in real-time and enable rapid knowledge transfer to bridge expertise gaps.

AR allows remote experts to help onsite personnel perform the

critical tasks and maintenance, such as those required to recover from unplanned downtime or outages. For example, equipment-manufacturer intelligence can be streamed directly to an engineer's device, even as maintenance staff at other plants help with the diagnosis.

Mixed reality devices also help frontline employees to safely assemble complex products, by equipping them with real-time production data and instructions as required while performing the task. Simulation tools enable engineers with tasks such as mapping equipment layouts and studying the impact layout changes have on productivity and throughput equipment from anywhere in the world.

Customer servicing and learning and development does not need to take a backseat during the lockdowns. Employees are equipped with technology to help them remotely service customers, troubleshoot implementation issues, and continue monitoring ongoing projects through their laptops and even mobile phones, reducing their need to return to our offices.

## AR improves efficiency

Industrial AR improves workforce productivity, efficiency and customer satisfaction with real-time, step-by-step work instructions. Vuforia AR solutions enable you to create and deliver easily consumable instructions with new or existing media content/capture, 2D & 3D content, sequences, IoT data and real-time annotations in shared environments. AR experiences authored in Vuforia can be deployed to the cloud or on premises, and users can access them from smartphones, tablets and wearable devices via a single universal viewer application.

***Augmented reality makes human labor 30-50% more efficient.***

There are three tools in the Vuforia AR solutions that are optimized for specific capabilities and use cases including:

**Vuforia Expert Capture** – allows your experts to capture first-person step-by-step video of procedures as they perform them. They can control the entire capture process by voice commands, gestures, and include location-based steps. Once they capture a procedure, they can revise and enhance it, then publish. Other employees can access completed work instructions through the Vuforia View app.

**Vuforia Studio** – Create game-changing AR experiences tailored to specific audiences and deploy them via desktop, mobile and





wearable devices. Get up and running quickly using a drag-and-drop interface. No prior coding knowledge is required, and you can leverage existing 3D data, animated sequences and IoT data.

**Vuforia Chalk** – A collaborative remote assistance tool that uses AR to help employees who need to share real-time instructions and guidance without being physically on site to increase workforce effectiveness and efficiency. Experts can see and discuss situations in the field and guide technicians through a process. Both technicians and experts can use their fingers on the screen to draw digital annotations that accurately anchor to physical objects.

### AR in action

In March 2020, Rockwell Automation found itself, like so many others, adjusting to the months to come as remote work became a worldwide phenomenon. In the case of one of Rockwell Automation's premier customers, a pressing installation and start-up of a new replacement machine – a critical planned downtime event booked from the previous year – was scheduled just a few weeks away on April 1.

As strict travel bans unfolded, it became increasingly clear that Rockwell Automation would not be able to send a full team of field engineers and product experts to install the customer's medium-voltage soft starter. This complex paper pulping machine required highly specialized experience and safety training, and without the machine in the line-up, the entire production run would be in jeopardy of shutting down, causing lost revenue and detrimental delays in the distribution of essential products.

To prevent catastrophic production delays, Rockwell Automation turned to **Vuforia Chalk**. They knew that Vuforia Chalk would be the most time-efficient and effective way to complete the scheduled service via remote assistance. Chalk allows remote experts to draw on-screen instructions for onsite workers to view and follow in real time, with digital annotations anchoring to the recipient's local environment to help them see what's happening – making it the ideal solution for this situation.

By combining real-time audio and video with AR technology, Chalk allowed the remote experts to view the end-customer's equipment and annotate directly on the screen. With Chalk's 'over-the-shoulder'

ease of use, Rockwell Automation's local field service engineer, Alexei N. Wilson-Eorgan, could follow along as the expert's digital annotations guided him through the process.

With additional diagnostics and analysis software running on the machine, he also used Chalk to share real-time data readings with the extended team, helping them work through the changeover together in under two days.

Despite having a very short amount of time to train and prepare for his field engagement, Wilson-Eorgan was able to leverage Chalk's simplicity to keep everyone connected and able to collaborate more effectively. This was a significant accomplishment – the equipment was so new that very few people had been trained on it, and even with decades of experience in the industry, Wilson-Eorgan still found himself with a completely new field service experience. "Chalk was the single most important link in the chain of diagnostic tools and expertise," he said.

### Future-proof your operations today

As new strains of COVID-19 continue to challenge our pandemic responses, it is likely that travel restrictions and lockdowns will be part of our new normal for the foreseeable future. As such, leading companies are embracing new IIoT technologies to future-proof their productivity and profitability.

AR is one of the tools you need in your arsenal. Your workers will be more productive and generate higher-quality products more safely. You will be able to train workers faster and more effectively so they can make proactive decisions and perform better. With trained and productive workers, you will benefit from lower costs and improved time to market. **AR**



# No Time for Downtime

●●● **By taking a proactive approach, together with the latest virtual technologies you can make downtime a thing of the past. Modern application support and remote monitoring solutions provide proactive support helping you to avoid hours of costly downtime so you can benefit from productivity gains.**

It is an all too familiar scenario, a critical manufacturing line is down and for each minute of downtime, thousands of dollars are lost in productivity. All manufacturing plants experience challenges with downtime but although it is a common challenge, the way organizations respond can influence productivity.

Improved uptime can be achieved when remote monitoring is part of your application support service. The examples below indicate what happens when a company relies on traditional call center support in a downtime situation, compared with the alternative scenario, when a company has a Rockwell Automation contract for application support with remote monitoring.

## Scenario 1: A traditional technical support solution

Mike is an operations manager for a global manufacturer. The company was having trouble with unscheduled downtime. In the past few months, several critical assets have gone down and unfortunately Mike and his team do not have visibility into the root causes.

Today, an alarm went off because a critical production line went down again. The operations team quickly notifies Mike because the company could lose thousands of dollars for each minute this line is not producing. Mike immediately calls his on-site maintenance team to start troubleshooting the issue. Several hours later, the maintenance engineer is still unable to find the cause and calls an off-site technical support center.

Several support engineers are engaged to assess the issue but after hours of troubleshooting, the technical support engineer determines an on-site visit is necessary to isolate the issue. The technical support center sends a specialist who spends a few hours familiarising himself with the line, trying to determine the issue. He works with Mike's operation team to correct the server motor program. After 10 hours and \$50,000 in downtime later, they finally get the line up and running.

With this traditional technical support solution, hours are spent troubleshooting with both on-site and off-site teams engaged. Furthermore, with no capacity for remote monitoring, hundreds of thousands of dollars can be lost from downtime.

## Scenario 2: Application support with remote monitoring

Rachel is the director of production at a large beverage company that has also been trying to reduce unscheduled downtime. Last quarter, she implemented an application support with remote monitoring service contract offered by Rockwell Automation. It is a proactive approach that helps her company drastically reduce the number of downtime incidents, giving her more peace of mind. Rockwell Automation assigns a dedicated technical support team to specific customer accounts so they know their systems inside and out.

Rachel's timing was perfect. The day she returned from vacation, Sofia – a Rockwell Automation application support engineer, was monitoring their system remotely and called the production line supervisor just before an alarm went off. Sofia noticed a positioning error fault on the number two palletiser, indicating that one of the servo motors was failing. The line operator diverted the packaging to the number three palletiser, before any product was damaged. Sofia confirms that the servo motor needs to be replaced, which allows the on-site team to resolve the issue quickly.

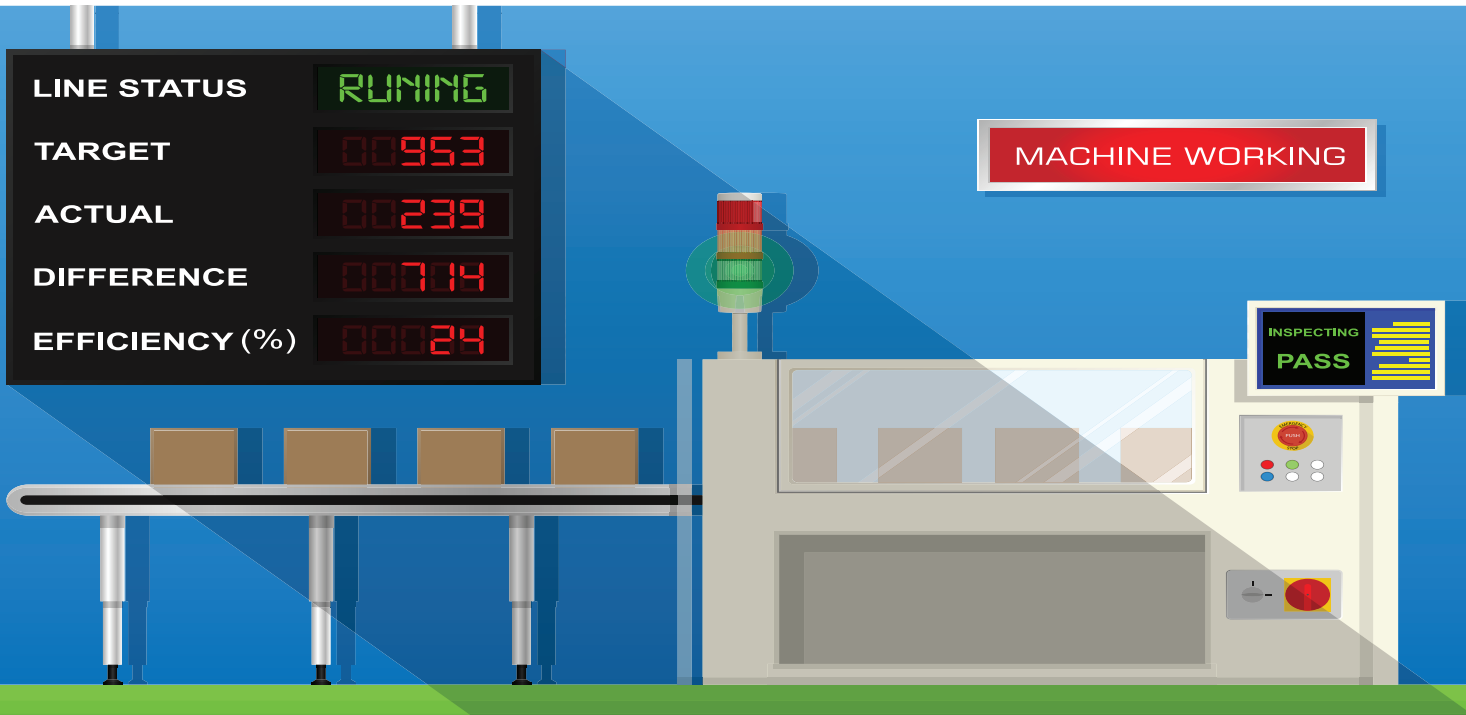
The following day, Logan, who is also part of Rachel's Rockwell Automation support team, calls the shift control engineer. He notices a duplicate MAC ID error. With Logan's help, the control engineer is able to access the drives communications parameters and resolves the issue quickly. Rachel is notified about the event and that it has been resolved quickly.

In contrast to the first scenario, with this application support and remote monitoring, manufacturers benefit from proactive support, 24 hours a day, seven days a week, 365 days a year. Advanced troubleshooting is provided by a remote monitoring team helping you to avoid hours of costly downtime.

## Virtual support on hand

During the COVID-19 pandemic, manufacturers have been challenged to support their organizations effectively, efficiently and remotely. Lockdowns and border closures have made it difficult for face-to-face interactions. Thankfully, virtual technologies can help. **FactoryTalk InnovationSuite Vuforia Chalk** is a powerful collaboration and communication tool for your organization's experts to provide real-time assistance to technicians facing complex or unfamiliar challenges. With augmented reality you can quickly scale problem-solving guidance,

**Quickly scale problem-solving guidance, support, and expertise to your factory operations and services teams with Augmented Reality**



support and expertise to your factory operations and service teams.

As many companies and employees are navigating their 'new normal', digital transformation and modernization in their plants are a top priority. LifecycleIQ services can support your organization along your modernization journey by utilizing accessible technologies and expertise.

### Remote monitoring and support improves uptime

More. Better. Faster. Is the slogan for any commodity manufacturer intent on prevailing in the marketplace. And it is a familiar mantra at one paper mill in the U.S. Midwest. This particular mill produces corrugated paper from recycled paper – definitely a commodity good but the operation is far from run-of-the-mill.

Several years ago, one of the mill's aging paper machines began to show signs of wear and inefficiency, threatening the mill's high standards of productivity and uptime. Replacing the colossal machine meant a major investment in time and capital, but it was unavoidable.

To optimize asset performance and uptime, the mill specified a Rockwell Automation control solution. The machine, engineered by Rockwell Automation, uses an **Allen Bradley PowerFlex 755 AC drive system** to provide adjustable-speed motor control for the wet end, dryer, reel-and-spool and winder sections. The control architecture incorporates a total of 30 drives and motors, running from 5 to 400 horsepower. The machine also is equipped with an **Allen Bradley ControlLogix** programmable automation controller to integrate the drive systems, and execute all control and motion functions.

After working through the challenges of installation and commissioning, the mill's management realized that their ongoing maintenance requirements would exceed the capabilities of their small crew. They decided to support machine maintenance through remote monitoring.

A team from the mill toured another company's steel mill

and spoke with the plant's lead engineer about their positive experience with Rockwell Automation. Following these discussions, the team at the time was confident that a Rockwell Automation Assurance Integrated Support contract was the way to go.

Rockwell Automation worked closely with mill engineers and management to provide detailed financial justification for the support agreement. They used machine historical data to calculate the potential cost avoidance of downtime and labor expenses against increased uptime and efficiency. The analysis was thorough, and the lifecycle savings were compelling.

Today, Rockwell Automation provides the mill with real-time, application-level industrial support from a designated team. The support includes 24/7 remote monitoring of more than 2,000 machine data points, supplemental consultation on machine changes and additions, and quarterly performance reviews.

The results are outstanding. The mill has achieved a 91 percent system uptime, reduced labor and parts costs, improved asset performance, increased paper machine return on investment, as well as documented lifecycle savings.

"The remote monitoring and support we get from Rockwell Automation has definitely helped with our uptime," the supervisor said. "When we have a problem, it becomes their problem as well. They help us work through it and provide the additional knowledge to address the issue. That kind of help can be priceless." **AE**





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## New CENTERLINE 1500 Motor Control Center Grounding Device Helps Increase Safety

●●● *UL-approved Integrated Protective Maintenance Grounding device from Rockwell Automation eliminates the need for temporary grounding assemblies*

A new UL-approved product enhancement from Rockwell Automation helps increase workplace safety in a variety of industries from oil and gas refining operations to food and beverage processing plants.

Allen-Bradley CENTERLINE 1500 medium voltage motor control centers set a new safety standard with the new Integrated Protective Maintenance Grounding (IPMG) device. The integrated device grounds all load-side connections and load cables with the turn of a handle. This eliminates the need to manually attach hazardous temporary grounding cables.

The IPMG device:

- Provides a method to ground all load-side connections, including the load cables.
- Removes the cumbersome and hazardous use of utility-style grounding balls and temporary grounding cable assemblies.
- Provides the ability to ground the output (load-side connections) without opening the power cell door.
- Seamlessly integrates into motor control center power cells.

“Industrial operations must manage ever-changing safety environments and requirements,” said Jeff Fowler, product manager, Rockwell Automation. “The new IPMG device provides another level of safety in demanding manufacturing, processing and production environments. This integrated earthing switch eliminates the need for adding temporary grounding point cables.”

The IPMG device is also available in CENTERLINE motor control centers with ArcShield arc-resistant controller designs.

## New PowerFlex 6000T Drive Delivers Big Performance in a Compact Design

●●● *Medium-voltage drive for global IEC markets accepts high-voltage primary without increasing footprint*

The new PowerFlex 6000T medium-voltage drive from Rockwell Automation delivers industry-leading performance in about half the space.

The drive accepts up to 13.8 kV primary voltage in a best-in-class footprint that is only 2,310 to 3,010 mm (7.58 to 9.87 feet) wide.

This compact design makes the drive ideal for new and retrofit industrial applications in IEC markets, especially those where space is a premium.

The PowerFlex 6000T drive can provide cost savings by allowing the direct connection of high-voltage feeds from the main distribution line without any additional step-down transformer or substation equipment. The new A-Frame PowerFlex 6000T drive also offers:

- Faster commissioning with adaptive control
- Energy savings with an economizer mode
- Reduced downtime with predictive maintenance

Customers will immediately boost their productivity when they migrate to PowerFlex 6000T drives,” said Brad Bugiardini, PowerFlex 6000T product manager, Rockwell Automation. “The

common control platform in the PowerFlex 6000T, from 0 to 680 amps, makes it easier to start up and troubleshoot all drives. Plus, TotalFORCE technology combines high-performance motor control, advanced self-monitoring capabilities, and a digital platform to deliver faster, more precise and responsive drives.”

The new PowerFlex 6000T drive is designed for managing motor control for heavy applications in industries such as: Oil and gas refining; Mining, mineral and metal processing; Power generation; Water and wastewater.



## Rockwell Automation Makes Widespread Implementation of CIP Security Possible with New Proxy Device

- *Rockwell Automation and Cisco to bring IT and OT teams together to combat today's rapidly evolving industrial cybersecurity threats*

Industrial companies can now implement CIP Security expansively in their systems with the **Allen-Bradley CIP Security Proxy**. Traditionally, industrial networks had little-to-no security built into them. Now with a more Connected Enterprise, it is needed more than ever. The CIP Security Proxy allows users to implement CIP Security on most devices on their network, helping to protect plant operations – even with older systems.

The CIP Security Proxy helps to provide security to the entire network by working with EtherNet/IP-compliant devices. CIP Security is part of the defense in depth strategy, which can help defend against attacks where threat actors can remotely access a network and act maliciously. With the ability to provide CIP Security for a single device, a layer of security is added that can help protect the system.

Configuration for the proxy device can be achieved through FactoryTalk Policy Manager software and FactoryTalk system services. In addition, this device supports motion for Kinetix drives and offers a web server for viewing diagnostics. It allows for secure event generation syslog support and includes rotary switches for 192.168.1.xyz IP addressing. The proxy device also contains three one-gigabit EtherNet/IP ports and can operate in temperatures from -25° to +70° Celsius adding to the ease of use.

The proxy device allows users with non-CIP Security-embedded products to define and implement their unique migration roadmap to a CIP Security architecture. It also provides a path forward for non-CIP Security-capable products. By using this stand-alone, easier-to-use hardware solution, another step is being taken to obtain a secure network.



## Rockwell Automation Provides Access to Critical Data with Enhanced Safety Laser Scanner

- The Allen-Bradley Guardmaster SafeZone 3 laser scanner from Rockwell Automation is now enabled with Common Industrial Protocol (CIP) Safety over EtherNet/IP.

This gives users access to critical data needed for a comprehensive picture of machine or production line status. Ultimately, smart safety devices like the SafeZone 3 provide meaningful information so users can monitor machine health, increase uptime, improve flexibility and enhance safety, while lowering total cost of ownership.

The SafeZone 3 laser scanner integrates into Allen-Bradley GuardLogix safety control systems for SIL 2/PLd applications using Studio 5000 Logix Designer. It also supports Device Level Ring (DLR) network topology to help increase network resiliency.

Designed to provide area or access detection in or around a work cell, the SafeZone 3 laser scanner allows users to simultaneously monitor up to four safety zones instead of switching from one to another. It also extends the scanner's safety field range and provides vital diagnostic data over a single EtherNet/IP connection.

This can improve productivity, such as by notifying workers with an alarm if they are nearing a hazard to help prevent a machine from slowing down or stopping. In addition, the CIP Safety capability expands available diagnostic data to alert users of common failures, such as the presence of dust on the scanner's lens.

Intended for use on or around dangerous areas and hazardous points, the SafeZone 3 also features enhanced high-definition distance measurement scanning technology. This improves the accuracy of the scan data and increases the scanner's immunity to dust, smoke, weld flash and other optical interferences.

In addition, the configuration memory is stored in the system plug of the SafeZone 3, which helps prevent downtime when a quick replacement of the device is needed. Other features include a bright, multi-colored display with user-friendly push buttons for display of device settings and status.



## Increase Productivity, Security with Enhanced FactoryTalk Linx Software

●●● Engineers on the plant floor can be more productive with the latest release of **FactoryTalk Linx software from Rockwell Automation**. The latest release helps ease system recovery, increases upload and download speeds, and helps bring new devices online more efficiently. These enhancements free up time for plant engineers so they can focus on other priorities.

To help protect an organization, the latest FactoryTalk Linx software adds new security measures, including communications integrity/confidentiality, credential authentication, audit tracking, and configuration backup and restore. These extra layers of security can help reduce unplanned downtime due to security concerns and issues.

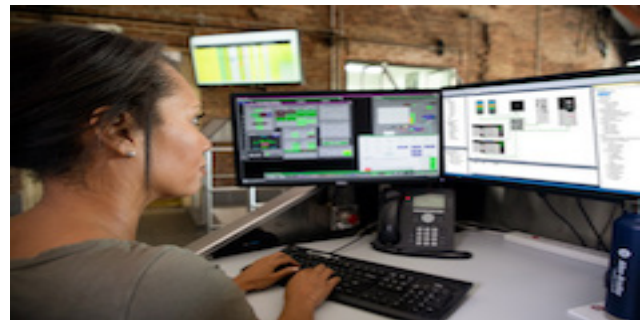
The release also adds backup and restore capabilities that allow users to save configuration settings. This helps improve administrator efficiency by eliminating the need to manually reconfigure the entire system during recovery.

The software's reconstructed interface increases online performance for Studio 5000 and ControlFLASH Plus software with faster upload and download times. This increases efficiency by providing better performance for design tools and communication services that use FactoryTalk Linx.

Additionally, users bringing a new device online can now assign IP addresses based on a range or load a preset configuration. This helps improve productivity by bringing new machines and devices online more quickly.

The FactoryTalk Linx OPC UA Connector has been enhanced to provide access to more types of data. It can also now pick up data from a secondary server if a redundant server is shut down, which can improve system uptime and increase data access.

FactoryTalk Linx Gateway now includes user-specified tag groups and access to Logix structure and array definitions with FactoryTalk Security authorization. This helps organizations manage and restrict, down to the individual element, what pieces of data can be accessed through the control system. In addition, users can import and export the configuration to manage it outside of the environment.



## New FactoryTalk Logix Echo Emulation Software Transforms Machine Design

●●● Machine designers can save time and costs, optimize machine performance, and get to market faster using the new **FactoryTalk Logix Echo controller emulation software**.

The software is now available for use with the ControlLogix 5580 family of controllers from Rockwell Automation.

Using the emulation software, engineers can fully test control code in a virtual environment. With support for up to 17 emulated controllers, the software can emulate a machine, production line or even an entire plant.

Emulated controllers can also be paired with other software for a wide range of uses. For example, by connecting an emulated controller to a mechanical system model via the Emulate3D digital twin software, users can perform testing and experimentation without large physical equipment. And by connecting an

emulated controller to training simulator software, operators can be trained on a new machine and learn its real-time responses before the machine arrives on site.

The FactoryTalk Logix Echo software is designed with a modern user interface and a simpler overall experience than existing emulation software. Switching between design and emulation, for example, is effortless and requires no program changes.

The FactoryTalk Logix Echo software is the latest addition to the FactoryTalk DesignSuite portfolio. The portfolio brings together engineering and design elements into a standard framework, allowing engineers to use the same tools, language, and resources to build or modify their systems.





We're **expanding human possibility** for a better world.



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