



**Rockwell
Automation**

SMART SYSTEMS

Your smart manufacturing journey starts here



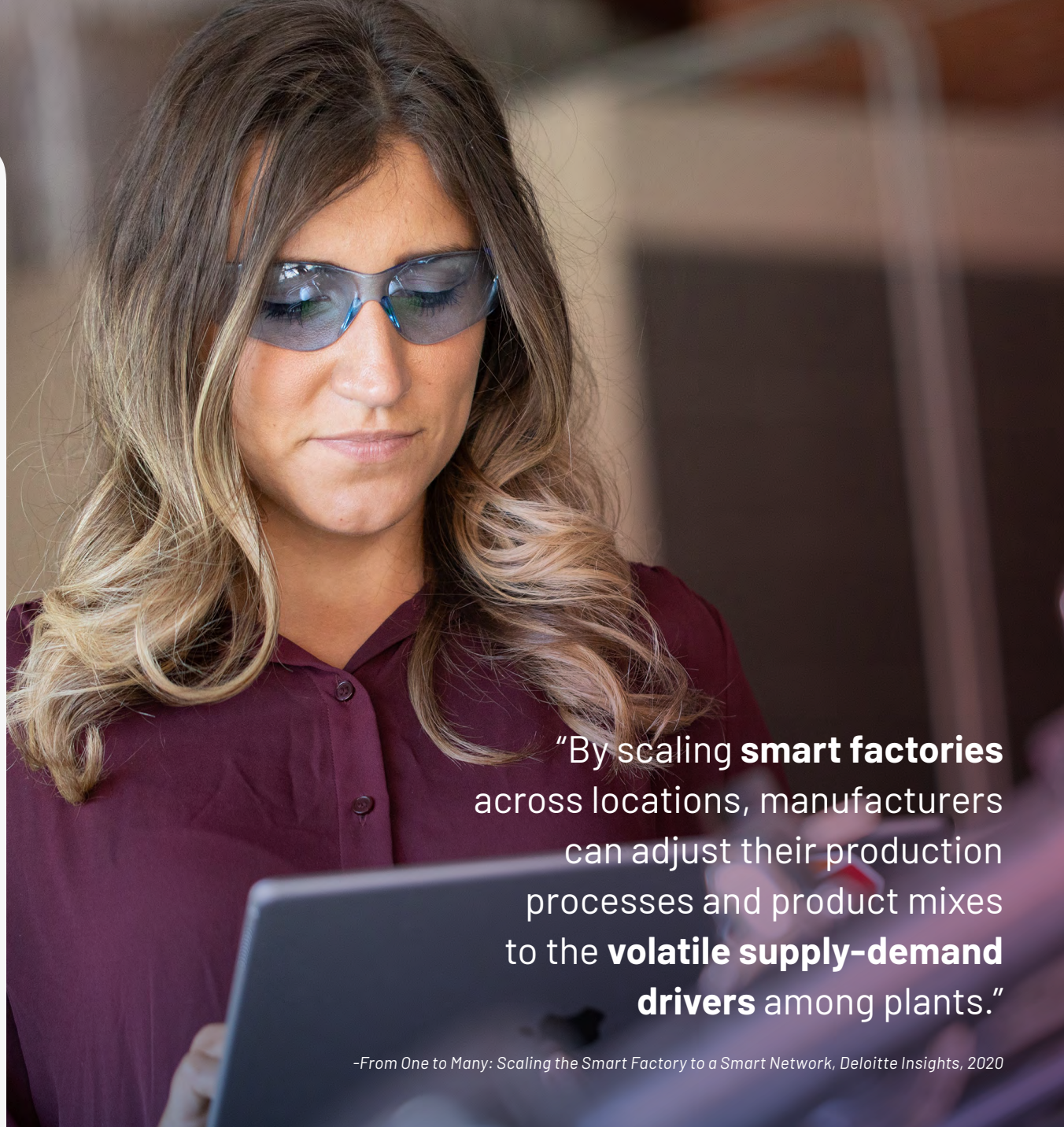
GET SMART AT YOUR OWN SPEED

Smart systems deliver better business outcomes – like increased efficiency, higher throughputs, faster startups and greater product customization. And when these machines use industrial control systems that are designed for simplicity and scalability, they can help you achieve the outcomes you want in a cost-effective, sustainable way.

Industrial control systems that grow with you give you options for a scalable process that can deliver quick ROI and be supported over the long term. They can also reduce complexity for your staff. And they can help you realize the promise of smart manufacturing.

Optimize plant floor operations

- Enhance productivity, quality, safety and more with improved visibility into production.
- Simplify work and boost uptime with a common control platform and design environment.
- Speed up changeovers and reduce bottlenecks with flexible technologies.



“By scaling **smart factories** across locations, manufacturers can adjust their production processes and product mixes to the **volatile supply-demand drivers** among plants.”

–From One to Many: Scaling the Smart Factory to a Smart Network, Deloitte Insights, 2020

GET SMART AT YOUR OWN SPEED

Create an information-driven workforce

- Make better use of resources and share insights across your organization using data that's captured at its source.
- Better manage risks with safety and cybersecurity technology that's built into the core of your systems.

Reimagine machine designs and processes

- Discover new possibilities with smart machines that are simpler yet faster and more powerful.
- Seamlessly fit smart machines into a digital thread with built-in data visibility.
- Deploy better machines faster using digital engineering.



OPTIMIZE PLANT FLOOR OPERATIONS

Top-performing plants are powered by data. Without the right insights, you can't easily see the source of downtime, safety or quality issues. And you certainly can't efficiently predict and adapt to changing demand or manage risk.


Smart industrial control systems that deliver data and insights can simplify how you manage operations. And they can put your plant on the path to optimal performance.

Empower staff and optimize assets

Production data can help operators make better decisions with meaningful insights and accurate, easy-to-read dashboards on overall equipment effectiveness (OEE).

Make safety smarter

Safety devices that provide diagnostic data can give you a picture of machine or production line status. This can help you understand and address root cause issues, and ultimately drive up productivity.



“We have so much information at our fingertips now. From my desktop, I can see hundreds of motors, control points, temperatures – everything that’s happening and whatever shouldn’t be happening. Some of us also get hourly notifications on our smartphones, with basic metrics about how we’re doing.”

—Ron Yanku, director of engineering, Edesia

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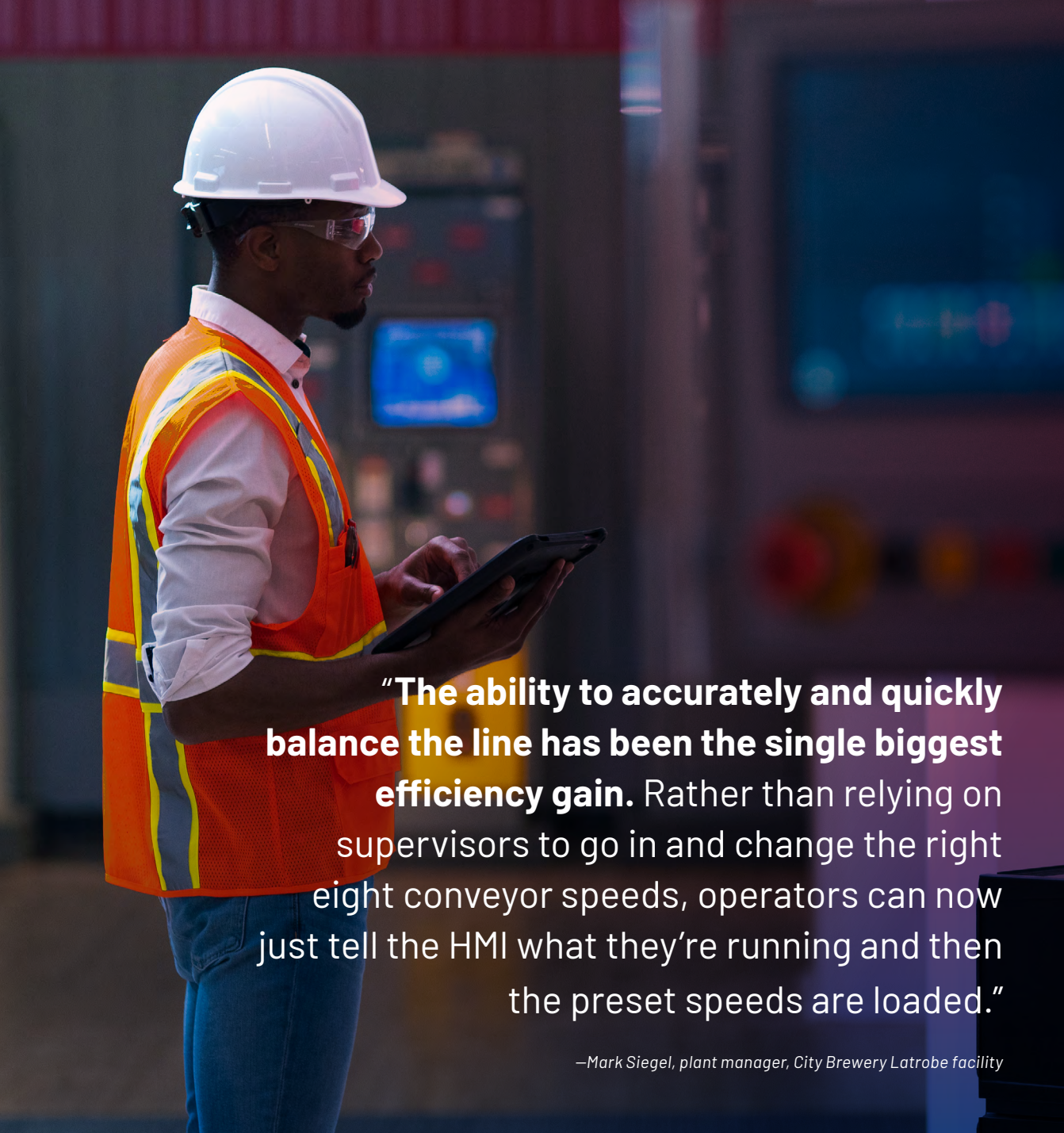
OPTIMIZE PLANT FLOOR OPERATIONS

Simplify work

When staff only need to understand and support one common control platform and design environment, their jobs get simpler and they become more efficient. A standardized, common technology approach can reduce complexity in everything from integration and training to operations and maintenance.

Increase your agility and flexibility

Motion and robotics technology that can address an infinite number of product shapes and process requirements can help you reduce bottlenecks and accelerate changeovers.



“The ability to accurately and quickly balance the line has been the single biggest efficiency gain. Rather than relying on supervisors to go in and change the right eight conveyor speeds, operators can now just tell the HMI what they’re running and then the preset speeds are loaded.”

—Mark Siegel, plant manager, City Brewery Latrobe facility

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CREATE AN INFORMATION-DRIVEN WORKFORCE

Smart industrial control systems don't only give you the data you need to succeed. They can also turn that data into actionable, meaningful insights to help everyone from operators to executives make better, faster decisions.

Drive improvements across the enterprise

Production data captured at its source can immediately improve how staff operate and maintain a machine or line. But those insights can also be collected over time and sent elsewhere – like other plants and up to the corporate office – to share learnings and optimize operations companywide.

What's more, connecting your industrial control systems to software tools and enterprise systems can help you optimize operations in new ways. For example, you can use predictive analytics to reduce maintenance costs and downtime. You can also run test scenarios digitally to save costs and get ahead of unplanned downtime.

Better manage risks

Safety and cybersecurity technology built into the core of your systems can help you and your workforce more easily understand, correct and help prevent issues.

Also, you can have peace of mind when you use the EtherNet/IP™ protocol and network products designed for IT and OT collaboration to manage the flow of data across your plants and enterprise. These solutions can create a strong, secure foundation for smart machines and systems.



TOYOTA REVS UP ENERGY SAVINGS WITH SMART CONTROL SOLUTIONS

Toyota used new, more efficient air compressor controls to save nearly 1 million kilowatt hours annually at its engine plant in Huntsville, Alabama.

The new system gives workers trending information to monitor air pressure and flow, energy usage and critical data at each machine. And because this information is available in near real time, it helps to analyze the compressed air system and assists with troubleshooting.

Remote access also allows Toyota's OEM to quickly support issues online instead of sending workers on site.



CATERPILLAR UNEARTH'S DATA TO IMPROVE CRITICAL PROCESSES

Equipment maker Caterpillar wanted to shine a light on the “black box” critical manufacturing processes in its Advanced Component Manufacturing Division. A lack of data in the operations meant workers couldn’t prove they were meeting specifications, and resulted in inefficiencies and suboptimal processes.

An IIoT deployment created operational insights and proved that production was indeed meeting engineering specs. For the division, this was a watershed moment.

With access to rich data context that it never had before, the division was able to see all the non-value-added time in the process. And manufacturing engineers were able to improve and optimize the process quickly. So quickly, in fact, that they reduced overall process time by over 5% on day one.

This early success proved to be just the start. The project scope was expanded beyond the critical-constraint machines to include the rest of the plant and other domestic and international plants.



CONNECTED WORKFORCE HELPS GEORGIA-PACIFIC STAY COMPETITIVE

The loss of workers and their critical knowledge presented a threat to Georgia-Pacific's ability to compete. This led the maker of popular products like Brawny paper towels and Quilted Northern bath tissue to undergo a digital transformation across its entire organization.

The transformation helped the company's production operations move from an "operator-centric" mentality – one reliant on an individual's knowledge – to a "monitor-centric" mentality.

"We have models that run against the data and help us detect either problems ahead of time or tell us how to run the machines optimally," said Steve Clancey, senior vice president of IT and CIO, Georgia-Pacific. "And then we provide that data back into the mill so they can make the adjustments they need to make."

REIMAGINE MACHINE DESIGNS AND PROCESSES

If you're a machine builder, you face a critical challenge: How will you design smart machines that can keep up with customers – and ideally lead them – in their digital journey?

With smart industrial control systems, you can design, develop and deliver transformative smart machines with digital capabilities, and still meet cost requirements.

For example, smart industrial control systems that use one common control platform and design environment can help you simplify your machines while enhancing their power and speed. They can also ease integration with other technologies.

Additionally, you can use the systems to build data visibility into your machines, so they fit seamlessly into your customers' digital thread. This gives customers access to key data like OEE, asset health and downtime analysis to help them better optimize operations.



A major packaging OEM in Korea improved productivity and efficiency, and reduced costs, **by using a single common control platform, common network and design environment** for a new smart equipment solution.

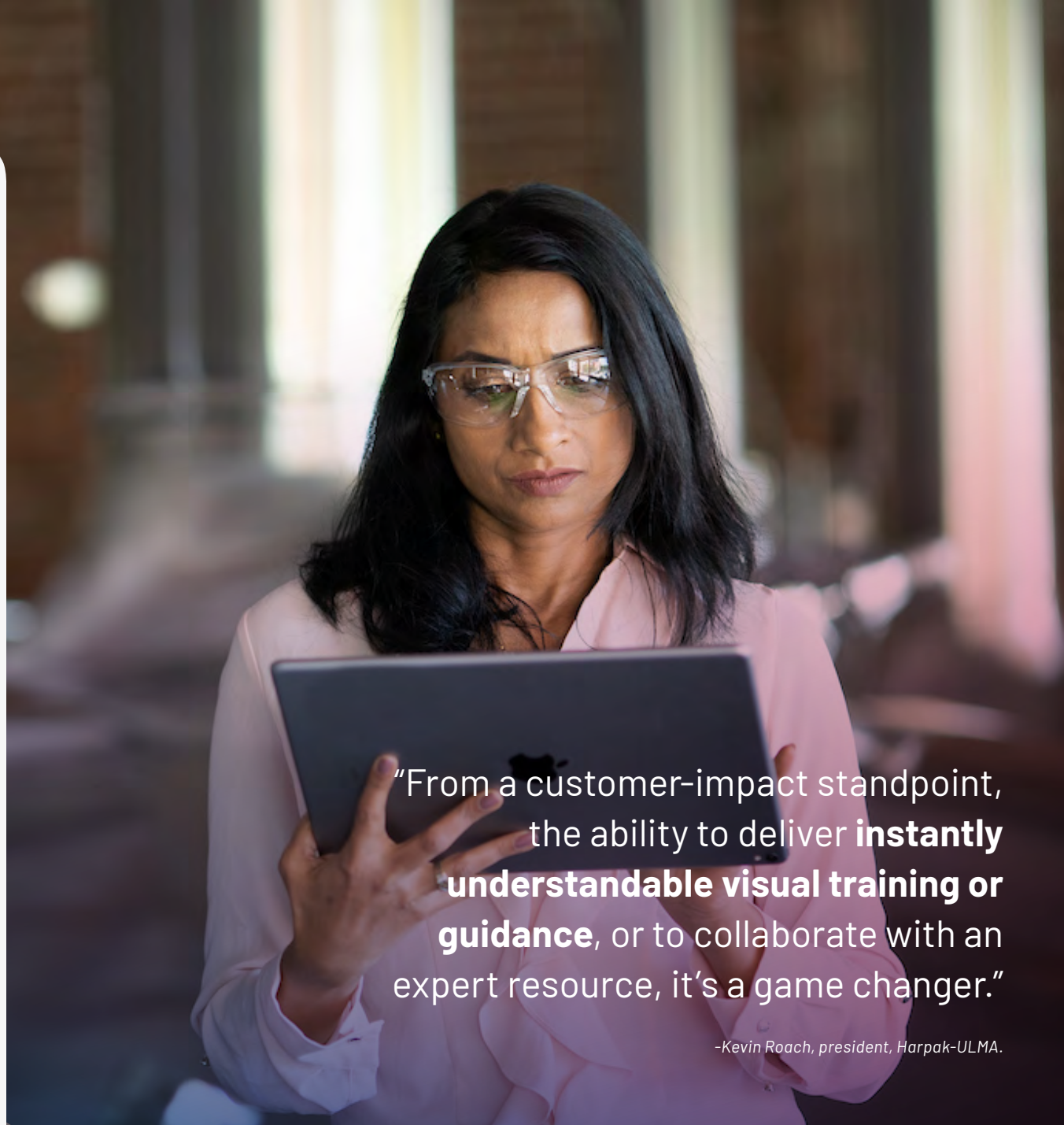
REIMAGINE MACHINE DESIGNS AND PROCESSES

Unlock new business opportunities

For packaging OEM Harpak-ULMA, smart machines present an opportunity to expand what's possible in its own operations and in those of its customers.

For example, with on-demand expertise and visual guidance delivered through augmented reality (AR) technology, Harpak-ULMA can support customers from anywhere and introduce new capabilities like virtual factory acceptance tests. Customers can also use the technology to reduce operator learning curves and on-boarding times.

"From a customer-impact standpoint, the ability to deliver instantly understandable visual training or guidance, or to collaborate with an expert resource, it's a game changer," said Kevin Roach, president, Harpak-ULMA.



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-Kevin Roach, president, Harpak-ULMA.

REIMAGINE MACHINE DESIGNS AND PROCESSES

Evolving your operations to create smart machines and systems can be intimidating. There are many options to explore, and change can be daunting. But there are ways to ease the process.

- **A partner** can map out a first phase by focusing on lower-cost ways to make a significant impact in a short amount of time.

A company like Rockwell Automation has more than 115 years of experience partnering with industrial companies around the world. We can help you see how to take the right steps to build smarter machines and systems that align with your needs and cost requirements.

- **Integrated hardware and software** can save you time and money. When the hardware and software in your machines and systems talk to each other, gathering data and insights becomes simpler, faster and easier.

For example, Rockwell Automation systems use one common control platform, one EtherNet/IP network and one design environment. Our software applications are also designed to easily integrate and scale.

- **Digital engineering** can make you more efficient and effective. Using design and simulation software, you can more closely collaborate, test scenarios and commission machines virtually. This can help accelerate machine design, commissioning and startup.



One food manufacturer used a digital twin to test and validate a facility upgrade prior to implementation. This helped the company achieve **80% less downtime and a more than 10% throughput increase.**

TRANSFORM WITH PURPOSE

Discover a simpler, scalable way to unleash the power of digital transformation in production when you work with Rockwell Automation.

Our smart industrial control systems can be implemented step by step as you navigate your digital transformation journey, so the process is cost-effective and sustainable for the long term. Our solutions can also help you more easily and fully realize the promise of smart manufacturing – from higher throughput to a safer and more productive workforce, and more flexible operations that can predict and adapt to changing demand.

Learn how Rockwell Automation can help you create smart machines and systems.

[LEARN MORE](#)

“We needed a partner to guide us through this journey. We appreciate how Rockwell Automation has offered an entire suite, every component of what we needed, even before we realized we needed it. Everything is under one umbrella.”

-Teja Schubert, Director, Controls, Automation and Technology, Norbord.



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