

APRIL 2020

THE JOURNAL

From Rockwell Automation and Our PartnerNetwork™

Control from the Edge

With edge computing, you can worry less about logistical IT considerations and focus on rethinking what's possible with your smart machine.



**HOW PREDICTIVE
ANALYTICS LET YOU
BOOST EFFICIENCY**

**MAJOR FOOD MAKER USES
IIOT TO SLASH RISK, COSTS**

**HOW TO SIMPLIFY
DEVICE INTEGRATION IN
SYSTEM DESIGN**

PSRST STD
US POSTAGE
PAID
HARRISBURG PA
PERMIT # 249

PowerFlex[®] + I/O, Now That's Smart!

*Drive Based Remote I/O
Easily Configured Using CCW*

Universal Card
20-750sc-8U



Compatible with
PowerFlex[®] 753/755 drives

Combo Card
20-750-IF4XOF4-SC



8-Ch Universal Analog Input

- Voltage, Current, RTD, & Resistance

4-Ch Input + 4-Ch Output Analog

- Voltage, Current, in Any Combination

spectrumcontrols.com/powerflex



Encompass[™]
Product Partner

A ROCKWELL AUTOMATION PARTNER
Global



We understand you need insightful process information to help you run your plant efficiently.

MEASURED VALUE + ADDED VALUE

You make confident decisions backed by process data and a complete portfolio of services and solutions to support you.

Proline 300/500 - Flow measuring technology for the future



- Added value throughout the entire life cycle of your plant, based on decades of experience in safety-related application
- Entirely developed according to SIL (IEC 61508). Maximized plant safety and availability due to unique features – such as webserver, WLAN, WirelessHART, Industrial Ethernet, or Heartbeat Technology with comprehensive diagnostic and verification functions
- Multifunctional transmitters – combinable with all tried-and-tested Promass and Promag sensors
- Seamless system integration via HART, PROFIBUS PA/DP, FOUNDATION Fieldbus, Modbus RS485, EtherNet/IP and PROFINET



Encompass™
Product Partner

A ROCKWELL AUTOMATION PARTNER
Global

Do you want to learn more?

www.us.endress.com/proline-simply-clever

Endress+Hauser 

People for Process Automation

16

Control from the Edge

With edge computing, you can worry less about logistical IT considerations and focus on rethinking what's possible with your smart machine.

FEATURES

- | | | | |
|--|----|--|----|
| Major Food Maker Uses IIoT to Slash Risk, Costs
Learn how a food processor made a digital transformation by converging IT and OT to boost productivity via remote monitoring and better visibility. | 20 | 3 Ways the FSMA Affects Your Gear Reducer Choices
Short-notice inspections started in March, and food and beverage makers should understand how gear reducers can affect contamination and compliance. | 26 |
| How Predictive Analytics Let You Boost Efficiency
For food and beverage companies, data already sitting inside your machines can help you improve operations and meet ever-changing industry demands. | 24 | How to Simplify Device Integration in System Design
Premier Integration creates a single design environment for devices from multiple vendors to communicate without time-consuming and costly programming. | 30 |

©The Journal From Rockwell Automation and Our PartnerNetwork™, 2020, Volume 27 Number 2, is published six times a year by PUTMAN MEDIA, INC., 1501 E. Woodfield Rd., Suite 400N, Schaumburg, IL 60173 (Phone 630/467-1300). Address all correspondence to Editorial and Executive Offices, same address. Printed in the United States. ©The Journal From Rockwell Automation and Our PartnerNetwork 2020. All trademarks, company names and product names referred to throughout this publication are used for identification purposes only and are the properties of their respective companies. All rights reserved. The contents of this publication may not be reproduced in whole or part without consent of the copyright owner, including digital reproduction. SUBSCRIPTIONS: Qualified-reader subscriptions are accepted from Operating Management in the industrial automation industry at no charge. To subscribe or unsubscribe, email Carmela Kappel at ckappel@putman.net. Putman Media Inc., which also publishes Chemical Processing, Control, Control Design, Smart Industry, Pharma Manufacturing™, Plant Services, and Food Processing, assumes no responsibility for validity of claims in items reported. Putman Media, Inc. is not affiliated with Rockwell Automation, Inc. "The Journal From Rockwell Automation and Our PartnerNetwork" is a trademark of Rockwell Automation, Inc. and its use in the title and masthead of this publication is by license granted by Rockwell Automation, Inc. to Putman Media Inc. Some photographs and other illustrations printed in this publication may be used with safety equipment removed or altered for illustrative purposes. However, in actual operation, it is recommended that all correct safety procedures and equipment always be utilized.

THE JOURNAL

From Rockwell Automation and Our PartnerNetwork™

DEPARTMENTS

Editor's Viewpoint	7
News & Noteworthy	8
Encompass Showcase	33
Product Focus	36
Ad Index	42

WEB-EXCLUSIVES

Visit www.rockwellautomation.com/thejournal to access these Web-only bonus articles and resources!

VIDEO: Flame/Gas Safety Controller is Globally Certified

Det-Tronics describes its EQP flame and gas safety controller that's a SIL-2 capable, fault-tolerant, addressable system globally certified to the latest standards for fire and gas safety system performance. DLR outputs offer communication to Allen-Bradley® PLCs.

VIDEO: Software Helps Automation Engineering Professionals Along Value Chain

Jeff Kilburn, EPLAN Software & Service, showcases an augmented reality (AR) demo that includes Rockwell Automation and PTC ThingWorx software. He also explains the EPLAN integrated value chain that helps automation engineering professionals along the entire value chain, including end users, OEMs, system integrators and panel builders. And, hear how EPLAN can provide digital twins of electrical panels.

2020 Oil & Gas eBook

In this new eBook, learn best practices for DCS migration, and for saving energy and related costs. See how an oil & gas company achieves 99% uptime. Find out how to integrate fire & gas safety with process control; improve multi-well pad measurement and control; optimize pipeline operations; analyze historical and real-time data for better predictive maintenance; and more.

20



26



30



Full Stainless Solutions



Encompass™
Product Partner

A ROCKWELL AUTOMATION PARTNER
Global

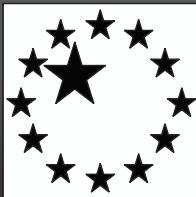
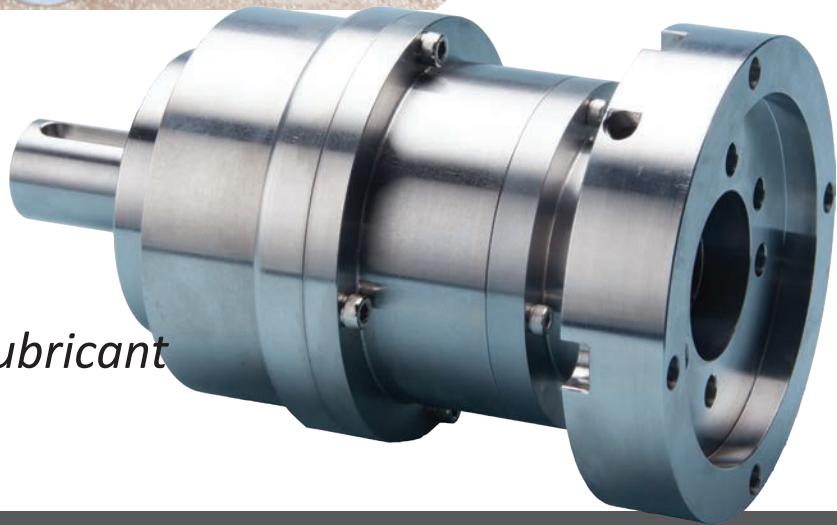
AE Stainless

In Line and Right Angle

Full Stainless Gearboxes

Fully Sealed - Food Grade Lubricant

Manufactured to Stock!



APEX DYNAMICS

The Worlds Largest and Most Productive Gearhead Manufacturer

www.apexdynamicsusa.com

631-244-9040

Standard Lead Times 2-3 Weeks*

THE JOURNAL

From Rockwell Automation and Our PartnerNetwork™

APRIL 2020, VOLUME 27, NO. 2

In Memory of Julie Cappelletti-Lange
Vice President 1984-2012

Putman Media, Inc.
1501 E. Woodfield Rd., Suite 400N
Schaumburg, Ill. 60173, 630-467-1300

Rockwell Automation

The Journal Executive Publisher
Rockwell Automation
Rebecca Archibald
rkarchibald@ra.rockwell.com

Putman Editorial & Sales Team

Publisher:
Mike Brenner
mbrenner@putman.net

Executive Editor:
Theresa Houck
thouck@putman.net

Managing Editor:
Amanda Joshi
ajoshi@putman.net

Advertising Sales Managers:
Michael Connaughton
mconnaughton@putman.net

Production Manager:
Rita Fitzgerald
rfitzgerald@putman.net

Art Director:
Michael Annino
mannino@putman.net

Putman Media Publishing Team

President and CEO:
John M. Cappelletti

Vice President, Content:
Keith Larson

Circulation Manager:
Patricia Donatui

Vice President, Creative & Production:
Stephen C. Herner

The Journal From Rockwell Automation and Our PartnerNetwork is published six times a year by Putman Media, Inc. "The Journal From Rockwell Automation and Our PartnerNetwork" is a trademark of Rockwell Automation and its use in the title and masthead of this publication is by license granted by Rockwell Automation to Putman Media, Inc.

Other trademarks are property of their respective owners.

To subscribe or unsubscribe, e-mail Carmela Kappel at ckappel@putman.net.

© The Journal From Rockwell Automation and Our PartnerNetwork 2020. All rights reserved.

 PutmanMedia®



DIGITAL TRANSFORMATION EVENT ROKLIVE GOES VIRTUAL

Life has changed for all of us. We've had to adapt quickly to a new normal because of the pandemic. As we all know, the ability of people, teams and organizations to adapt swiftly during tough times can mean the difference between success and failure. The critical ingredient to adaptability is staying effective when everything is shifting.

Attending conferences and tradeshow is one of countless adjustments we've made. But curiosity isn't canceled. The need for information — ideas, answers, data, feedback and strategic direction — isn't canceled. So, Rockwell Automation has redesigned its ROKLive event as a free virtual experience with interactive training, an exhibit experience, and updates on the latest opportunities and advancements from the company.

ROKLive focuses on digital strategists and implementers who will share information about smart manufacturing, and includes participation from Encompass™ Product Partners, Strategic Alliance Partners and Digital Partners. The event was originally scheduled for Boston in June. Instead of simply canceling it, Rockwell Automation has converted it to an online experience.

The ROKLive Virtual Event begins **June 10** from 8 a.m. to 6 p.m. It includes more than 60 training and development sessions and a tradeshow experience. It also features DX Strategists Conference sessions, with opportunities to virtually interact with experts and peers.

Then from **June 10-19**, the ROKLive Virtual Event provides 18 interactive hands-on labs each day. In addition, LiveWorx will host their free virtual event on **June 9** with nine 45-minute keynote sessions.

Registration is set to open in early May, and you can sign up at <https://bit.ly/2Rytdn8>. We can't be in Boston this year, so join me in adapting to a new way of gathering digital transformation information from the dynamic ROKLive virtual event. Until next time...



Theresa Houck, Executive Editor



ROCKWELL AUTOMATION CONTINUES WORLD'S MOST ETHICAL COMPANY STREAK

Company has earned the accolade from Ethisphere for the 12th time.

➤➤ Rockwell Automation once again has been recognized as one of the 2020 World's Most Ethical Companies by Ethisphere. The company has been recognized 12 times with this honor, and is the only honoree in the Diversified Machinery industry category. In 2020, 132 honorees were recognized spanning 21 countries and 51 industries.

Ethisphere aims to define and advance the standards of ethical business practices. The recognition honors companies that exemplify purpose-based strategy and are committed to making positive changes throughout their international communities.

The World's Most Ethical Companies assessment process includes more than 200 questions on culture, environmental and social practices, ethics and compliance activities, governance, diversity and initiatives to support a strong value chain. The process is an operating framework to capture and codify the leading practices of organizations across industries and around the world. A report will be released with best practices and insights from the 2020 honorees.

Rockwell Automation "We are proud of this recognition by Ethisphere,



sphere, which once again highlights our commitment to ethics and integrity," said Blake Moret, chairman and CEO of Rockwell Automation. "We place a high value on integrity in every business decision we make, and that fosters an environment where all employees can and want to do their best work. Our culture of integrity is the foundation of our success and helps us deliver long-term value to our customers, shareowners, and employees."

The full list of the 2020 World's Most Ethical Companies can be found at <https://worldsmoethical-companies.com/honorees>.

MACHINE VISION INSTALLS TO REACH 100M

According to an analysis by ABI Research, total shipments for machine vision sensors and cameras will reach

16.9 million by 2025, creating an installed base of 94 million machine vision systems in manufacturing. Of that, 11% will be deep learning-based.

Machine vision systems are a staple for barcode reading, quality control and inventory management.

"Robotics, for example, is a new growth area for machine vision: Collaborative robots rely on machine vision for guidance and object classification, while mobile robots rely on machine vision for SLAM and safety," said Lian Jye Su, principal analyst at ABI Research.

Different from conventional machine vision technology, deep learning-based machine vision is data-driven and uses a statistical approach, which allows the machine-vision model to improve as more data is gathered for training and testing. Significant advancements in chipsets, software and standards are bringing deep-learning innovation into the machine vision sector.

Vendors have realized the potential of deep learning-based machine learning. Rockwell Automation Encompass™ Partner Zebra Technologies, for example, acquired Cortextica Vision Systems Ltd., a London-headquartered AI-based computer vision solutions developer.

ROCKWELL AUTOMATION FETED FOR EQUALITY

Rockwell Automation, Inc. received a perfect score of 100% on the 2020 Corporate Equality Index (CEI), the Human Rights Campaign Foundation's national benchmarking survey and report on corporate policies and practices related to LGBTQ+ workplace equality.

"This is the 8th year in a row we have received this recognition, and we are very proud of that," said Blake Moret, Rockwell Automation chairman and CEO. "We work to create a culture where people can and want to do their best work. Our commitment to our employees is to ensure that every day they feel comfortable bringing their authentic selves to work."

Launched in 2002, the CEI has become a roadmap and benchmarking tool for U.S. businesses in the evolving field of LGBTQ+ equality in the workplace, using criteria such as workforce protections, inclusive benefits, LGBTQ+ internal training and education best practices, and responsible citizenship.



In all Rockwell Automation business areas, focus on an inclusionary culture is evident, such as its nondiscrimination policies that ensure all employees are provided the same rights and protections, such as with healthcare benefits. Additionally, the company's employee resource group (ERG), ROKOut, offers real-time perspectives on workplace issues and helps employees navigate and find solutions that work best for them.

The company's recruitment efforts also emphasize its inclusionary mindset, highlighted by a partnership with Out in Science, Technology, Engineering, and Mathematics, Inc., a nonprofit professional association for LGBTQ+ people in the STEM community. This collaboration allows Rockwell Automation to connect with the STEM community to discuss future innovation and job possibilities.

>> PartnerNetwork Brief

HPS Opens New Warehouse in Reno. Encompass™

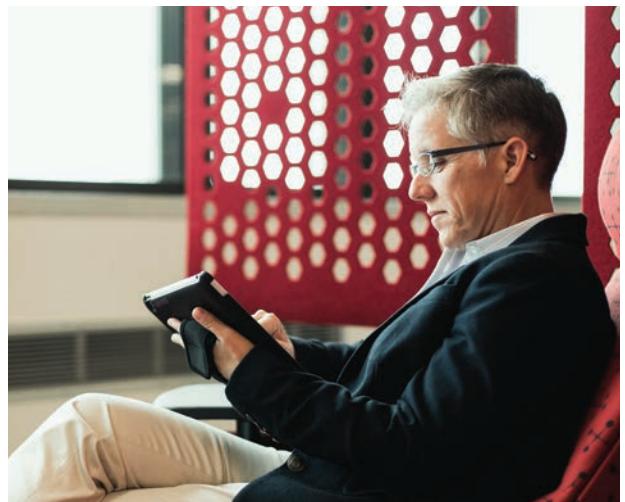
Product Partner Hammond Power Solutions (HPS) has opened a new warehouse in Reno, Nevada. The facility replaces its warehouse in Compton, California, with plant operations in Compton being unaffected. The new warehouse will better accommodate HPS' growing product sales and provide improved shipping lead-time in select regions. It is triple the size of the Compton facility at 36,000 sq. ft., and will house an expanded number of product SKUs.

Rockwell Automation joins the ranks of more than 680 major U.S. businesses that earned top marks this year. For more information on the 2020 Corporate Equality Index, or to download a free copy of the report, visit www.hrc.org/cei.

ROCKWELL AUTOMATION RECEIVES MES ACCOLADE

Rockwell Automation, Inc. has been recognized as a Leader in the Gartner Magic Quadrant for Manufacturing Execution Systems (MES) for the second consecutive year. Since the 2018 report, Rockwell Automation improved its position in the Leaders quadrant in both its ability to execute and completeness of vision. The report evaluated 16 vendors across criteria spanning 15 different elements.

To view the report and learn more about the Rockwell Automation position as a Leader in the 2019 Magic Quadrant for Manufacturing Execution System, visit <http://bit.ly/2QLKFUf>.



ENDRESS+HAUSER HELPS INDUSTRIAL FIRMS MANAGE THEIR VAST IIOT DATA

Endress+Hauser estimates that of the 40 million of its process instruments installed worldwide, 90% are digital, smart devices. They provide an enormous amount of information for a range of host systems and Industrial Internet of Things (IIoT) applications, such as maintenance management, asset management, MES, ERP, etc. But many industrial plant managers are asking, “How do we manage all this data?”

Ryan Williams, National Product Manager, Solutions and Service at Endress+Hauser, answers questions about modern instrumentation, managing data in the IIoT, and how culture change is key to getting the most value from data.

Q: What is your recommendation for managing instrument data?

A: We recommend aligning the strategy for managing instrument data to the rigor or sensitivity of your production process and your people. For example, if a customer is in a highly critical environment and has tight process tolerances, then the instrument data should be precise, accurate and well-maintained. Conversely, if the customer evolved a nice process but has a lot of flexibility and it's not as critical, then the instrument's secondary data would need to be equally available but not necessarily as precise.

Data sensitivity, protection and permissions are all considerations when we think about instrument data. Knowing where flowmeters are and whether they're on or off — that's



Ryan Williams, National Product Manager, Solutions and Service, Endress+Hauser

low-sensitivity data, for example. But if it's a primary process measurement point that's important to safety and process integrity, it's usually coordinated and managed to the process control automation system, the historian system and the quality system. Different paths are created depending on the user and type of asset information needed.

That's what's fascinating — as our industry is embracing the shift to Industry 4.0 with the Industrial Internet of Things (IIoT), we have options that are in the best interests of the people or process, and that invites creativity and innovation.

Q: What are some of the best ways to use IIoT data?

A: IIoT data can mean many things to many people, so defining the context is most important. Knowing

what we're trying to accomplish, learn or improve helps to determine the best ways to use the data.

An electrical supervisor wants to know flowmeters locations, whether they're installed correctly, measuring accurately and their status. Combining existing device information and diagnostics from simple instrumentation and asset data sets creates an overview of the asset's health, allowing maintenance and operations to be proactive. That, I think, is the most common IIoT best practice, because being proactive instead of reactive drives a more reliable process.

Another best practice relates to devices, equipment or skids that physically move or are remote in an area with no Ethernet communication or power. Rather than using multiple different devices, everything can be done on one. A technician at a skid on a water station, for example, can measure water quality, get diagnostics and asset information, and also use cellular or other infrastructure at a lower price than running conduit and wire.

What's also exciting about IIoT is the ability to run pattern analyses, artificial intelligence (AI) or very simple models. For example, if I have 200 skids out in a remote field, I can compare one skid versus the other, if one field is outperforming another, infer different behaviors about the equipment or people maintaining them, and apply that information to get a more consistent process at the ideal cost point.

Additionally, managers and company cultures enabling IIoT are al-

lowing field workers to use their practical experiences for improvement.

Q: Is an entire-plant solution necessary to get started with IIoT and connected devices? What about smaller companies?

A: It's commonly perceived that to achieve the full business benefit of Industry 4.0, everything needs to be connected, planned and reintegrated. Usually that's just not practical. It doesn't have to be a plant-wide solution. A niche or smaller company with a small-sized connected project can implement quickly, maybe in a month.

IIoT projects can start small, in certain process or plant areas or in different departments, and they can be done in stages. They're not just for instruments and field devices; there can also be human behavior projects, such as digitally walking a technician through a streamlined and simplified process. Also, past IIoT implementations required IT and data science resources, but now, non-specialists can do it with less infrastructure, making it very attractive.

Companies are driving innovation and creating new business value by implementing technologies that drive continuous improvement, because they're looking at different types of data.

Q: What's the importance of a digital ecosystem for plants?

A: Consider how nature affects our behavior. On my way home, I check the weather pattern and use Google Maps to see what routes to avoid based on metadata from the phones of other people traveling. This ecosys-



Managers and company cultures enabling IIoT are allowing field workers to use their practical experiences for improvement. These are innovative and creative people who might otherwise feel trapped by traditional systems and procedures.

tem made up of people, technology and a process (the route) makes me more proficient.

It's similar in production plants where a device not only measures temperature, but also shows data indicating there could be a process disruption or a faulty component that should be proactively upgraded during the next shutdown.

So, the importance of a digital ecosystem isn't just the measured values, but also the ability to compare and use other data sets to be able to be more productive. It's being able to streamline the activity and get the right information to the right personnel, who then make critical actions that drive process.

Q: What's the #1 most crucial benefit of implementing IIoT?

A: The most crucial benefit relates to your company and organizational culture, which is the most important part of why, when and how much you implement IIoT. Even a compa-

ny that produces one product over 30-40 years with no change in the customer base can still embrace IIoT, because it engages people to drive continuous improvement, new product innovations and new operational improvements.

Use cases for the culture are important because they heighten awareness about thinking differently. For example, ensuring consistently accurate temperature measurements over a long period of time requires calibration, which typically involves taking the temperature gauge out of service and having a redundant sensor. Endress+Hauser designers applied a scientific principle that allows self-calibration so thermometers don't have to be taken out of service. Now, the customer has another point of reliability. This simple use case shows how creativity and innovation can solve challenges.

For more information about Endress+Hauser's smart process instrumentation and its powerful collaboration with Rockwell Automation, visit <http://bit.ly/ehsmart>.

PEPPERL+FUCHS' ECOM WINS DESIGN AWARDS

Encompass™ Product Partner Pepperl+Fuchs' brand ecom received the German Design Award 2020 for outstanding design quality in the Computer and Communication category for two products: the explosion-proof smartphone Smart-Ex 02 and remote speaker microphone RSM-Ex 01. The international award is presented by the German Design Council.

The Smart-Ex 02 was developed for intensive industrial use in hazardous areas of ATEX zones 1/21 and Div. 1 (such as chemical plants, refineries, or drilling rigs).

The RSM-Ex 01 comes with an IP65/67 rating and a built-in noise reduction function. It is able to produce clear, high-volume audio (up to 103 dB). The remote speaker microphone's robust, flat and ergonomic profile is designed to wear on the body.

The brand also received the Hazardex Award 2020 in the category PPTex Innovation, or, personal protection technologies for hazardous areas. ecom is honored particularly for its explosion-protected mobile devices and solutions specifically developed for usage in harsh environments.

The smartphone Smart-Ex 02 and the Tab-Ex 02 were chosen as the best innovations in the field of technical equipment for employee protection in potentially explosive industrial environments.

In addition, the ecom Cube 800, which is tailored to work with ecom's smart devices, received a Delegates Award from attendees of the Hazardex 2020 conference. The portable and explosion-proof infrared and HD video camera for Zone 1/21 and Div. 1 allows industrial workers to control the camera from any location. Users can view HD video and thermal images and share these remotely with experts worldwide or record and comment live from a safe distance.

The Hazardex Awards is an annual program from *Hazardex* magazine honoring companies worldwide for outstanding achievements in the field of explosion protection.



ROCKWELL AUTOMATION ACQUIRES KALYPSO, ASEM

Rockwell Automation Inc. announced it plans to acquire Ohio-based software delivery and consulting firm Kalyпсо LP and Italian provider of digital automation technologies ASEM S.p.A.

ASEM provides industrial PCs, human-machine interface hardware and software, remote access capabilities and secure industrial IoT gateway solutions. Fran Włodarczyk, senior vice president for architecture and software at Rockwell Automation, said the acquisition would help the company delivery high-performance, integrated automation solutions.

Kalyпсо specializes in digital transformation of industrial companies with a focus on life sciences, consumer products and high-tech solutions. Kalyпсо offers a full suite of consulting, digital innovation, enterprise technology and business process management services that enable the transformation of product design and development, production management, and client service models.



Headquartered in Arterga, Italy, ASEM provides research and development, design, manufacturing, and marketing of products, systems, and solutions for the machine and process automation markets.

MATRIX NAMED SYSTEM INTEGRATOR OF THE YEAR

Rockwell Automation Solution Partner Matrix Technologies, Inc., a system integration and full-service engineering firm, has been named the 2020 System Integrator of the Year by *Control Engineering* and *Plant Engineering*

magazines. The company is the first four-time winner of this honor.

System Integrator of the Year is presented annually by the magazines' editors to integrators in three categories based on annual revenue. Matrix won in the mid-size company category in 2008 and 2012, and in the large category in 2016. The firm was honored this year for the second time in the largest company category, over \$20 million in annual sales.

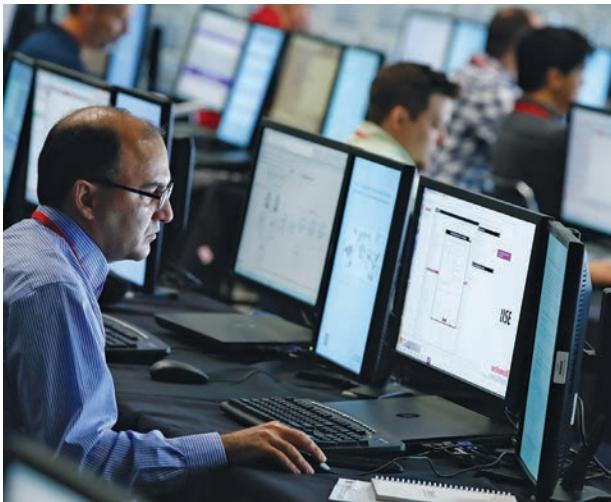
The firm is a single-source provider of automation, engineering, manufacturing operations management, and Engineer, Procure, and Construct (EPC) services to many of the world's largest industrial manufacturers.

Headquartered in Maumee, Ohio near Toledo, Matrix has regional offices in Atlanta, Cincinnati, Denver, Indianapolis, Kansas City and Minneapolis. The company has more than 300 employees and has completed projects in 45 countries.

ROCKWELL AUTOMATION ACQUIRES AVNET

Rockwell Automation, Inc. announced it is acquiring privately held Avnet Data Security, LTD, an Israeli-based cybersecurity provider with more than 20 years of experience providing cybersecurity services. Avnet offers IT/OT cyber services and solutions ranging from assessments, penetration testing, network & security solutions, and training to converged IT/OT managed services.

The knowledge and experience of the Avnet team will support the Rockwell Automation strategic objective to achieve double digit growth in Information Solutions and



>> PartnerNetwork Brief

Armstrong International, Everactive Collaborate.

Encompass™ Product Partner Armstrong International announced it will work with Everactive to offer more efficient, cost-effective steam trap management, combining Everactive's low-power wireless technology with Armstrong's trap management web-platform. Everactive builds wireless, no-battery IoT solutions for steam systems and other industrial equipment and infrastructure. The companies aim to reduce users' energy usage, environmental emissions and overall costs.



Connected Services by expanding its IT/OT cyber and network expertise globally.

FACTORYTALK INNOVATIONSUITE AWARDED FOR INNOVATION

Rockwell Automation, PTC and their combined software suite FactoryTalk® InnovationSuite received the CompassIntel IoT Innovator Award for Manufacturing & Factory from Compass Intelligence.

The annual awards program honors companies and vendors demonstrating innovation in Internet of Things solutions, products, applications and technology in 20 IoT innovation categories.

>> PartnerNetwork Brief

Dream Report Wins 2020 Engineers' Choice Award.

Encompass™ Product Partner Ocean Data Systems (ODS), provider of industrial reports and dashboards, announced its Dream Report has been selected as a winner in the 2020 *Control Engineering* magazine "Engineers' Choice Awards" program for the third year in a row. Dream Report won the category Software – Asset Management – Reporting. Dream Report also has a history of two Honorable Mentions – 2015 and 2016, in addition to winning the category in 2018, 2019 and again this year.



Dream Report[®]
OCEAN DATA SYSTEMS



In addition, Compass Intelligence may also separately recognize start-ups, stand-out products, and emerging and established IoT companies that have made an impact to the market and demonstrated superior innovation to elevate IoT in 2019.

This year, three companies, including Rockwell Automation/PTC, were recognized solely by Compass Intelligence for these efforts.

>> PartnerNetwork Brief

Endress+Hauser Digital Solutions Celebrates 20

Years. Rockwell Automation Strategic Alliance Partner Endress+Hauser celebrates the 20th anniversary of its Digital Solutions group, created in 2000 to focus efforts on digitalization. Endress+Hauser Digital Solutions is responsible for everything related to digital communications and automation solutions. With its steady growth, more than 180 people now work for Endress+Hauser Digital Solutions.



FREE EXCLUSIVE CONTENT FROM
THE JOURNAL

You're just 1 click away from getting free online articles from *The Journal*. Just go to bit.ly/ROK_tjsubscribe. Check "The Journal" box to get your free e-newsletter that brings you the digital edition of *The Journal* every issue – plus additional Web-exclusive how-to articles, case studies and product news from Rockwell Automation and its Encompass™ Product Partners and Solution Providers.

Visit BIT.LY/ROK_TJSUBSCRIBE



SIGN UP TODAY!



Prepare for **your digital transformation future**

Join digital strategists and
implementer experts online

JUNE 10-19

at ROKLive, the newest virtual event
focused on industrial digital transformation.

You'll experience exciting new training and
development sessions, participate in hands-on
labs, interact with experts and peers, tour the
virtual exhibit hall, and explore the latest
opportunities and advancements from
Rockwell Automation.

Learn more at rok.auto/roklive



**Rockwell
Automation**

A man with a white beard and a yellow hard hat is looking at a tablet. He is wearing a blue long-sleeved shirt. The background is a blurred industrial setting with metal structures.

Control from the Edge

Edge computing brings machine data to where the controller is, for better performance, space savings, and opportunities to build new production solutions.

*By Dennis Wylie Jr., product manager, and
Kristopher Dornan, marketing manager,
Rockwell Automation*



➤➤ It can feel as though you can do anything with your smart machines thanks to the near infinite potential of data, connectivity and Industrial Internet of Things (IIoT) technologies. But one thing still can hold them back: their computing assets.

Whether it's a PC or server, these assets come with key logistical considerations in an end user's facility: Where will it be located? Will it have a wired or wireless connection to the machine? How will it be secured? And in trying to address these considerations, you can find yourself limited in how you can design and deploy your smart machines.

But now you can set your machines free by cutting the cord — or the wireless connection — between them and their computing assets.

Edge computing combines a machine's control and computing hardware into one platform, either with a controller that has a built-in computer or with a computing module that sits on the same rack as the controller.

With this two-in-one approach, you can put all your machine's digital content — such as custom code, the controller's human-machine interface (HMI) application and any third-party software programs — right where the controller resides, rather than in another location.

This creates inherent benefits for end users, including space savings and access to data right at its source. But it also creates new opportunities for you to build entirely new solutions for production applications.

A Blank Canvas for Innovation

Combining your machines' control and computing components in one place can help you reimagine your machines and how they solve customer challenges.

Just consider a few examples of how edge computing can help you create smarter, more secure and more autonomous machines.

Smarter: Edge computing can turn your machine into a protocol translator. In industries such as oil and gas, for example, more companies are using the MQTT protocol to deliver data in their operations.

An in-controller computer can host the communications interface that translates Ethernet to MQTT. This can help end users make use of information on the protocol and make better decisions in their jobs.

More Secure: Log-in passwords are notorious security risks. They can be seen, stolen or unwittingly shared. That's why some companies are trying to forget passwords by finding an alternative.

Edge computing allows you to incorporate enhanced technologies into your assets. For example, you can easily add voice- or face-recognition software to create more secure access to your assets. This can prevent a machine from providing access or making changes unless it recognizes the person looking at it or the voice.

More Autonomous: Industries such as automotive production are looking for new ways to use mobile robotics to make their operations faster and more flexible.

Typically, if you want to make robotics move, you put them on a fixed track or wall. This gives them a specific pathway to move on and provides a foundation for their connection to their control and computing assets. But it also limits the robots to their set pathway.

Now, with edge computing, the control and computing assets can be stored on the robot. And with positioning and vision capabilities built into its computer, it can move and carry materials from one area of the shop floor to another while avoiding people and other assets.

Less Is More

Combining control and computing into one platform offers natural benefits. The most obvious is the space savings. You no longer need to find a place where your computing assets will go, be it on the plant floor or in a server room.

Being able to access data at its source also can offer performance benefits. Operators can access real-time information to make more informed decisions. And your machine can perform better in time-sensitive applications,

>> Optimize Your Assets

Manufacturers are under constant pressure to keep up with increasing product complexity while reducing costs. Unplanned downtime and unexpected capital expenses add to this pressure and are disruptive and costly.

FactoryTalk® InnovationSuite intelligent asset optimization solutions offer real-time monitoring, diagnostics, and predictive and prescriptive analytics that give you critical insights

into your assets. With visibility into their capacity, performance and health status, you can avoid unplanned downtime and maximize your asset utilization.

Use digital work instructions for the task at hand. Build on these capabilities with more sophisticated augmented reality (AR) performance and maintenance tools, and use remote maintenance access and prescriptive asset optimization.

Real-time asset monitoring and assessment can reduce both planned and unplanned downtime, improve first-time fix rates, increase return on assets, improve asset utilization, and reduce maintenance and equipment costs.



such as when it relies on a camera or vision system to respond to changes in a matter of microseconds.

Then there are the peace-of-mind benefits. You don't have to worry, for example, whether an in-controller computer was built only for the comfy confines of an office environment, like some PCs. And you worry less about the security of such a computer when it's locked in a control cabinet and can't be accessed by any passerby.

New Possibilities

With edge computing, you can worry less about logistical IT considerations and, instead, focus on rethinking what's possible in a smart machine: What questions can it answer faster? What new problems can it solve? How can it protect operations better? □

PLC NETWORK PRODUCTS



Featured Product NR60E2 EtherNet/IP Resolver

NR60E2 EtherNet/IP Resolver

Just introduced to the Encompass Program, this heavy duty EtherNet/IP position sensor offers dual-port networking & DLR. Single-turn or Multi-turn (up to 30 bits), IP67 rated, variety of shaft & mounting options, stainless version also available. No software needed. All programming is done using Studio5000®





MAJOR FOOD MAKER USES IIOT TO SLASH RISK, COSTS

Learn how a food processor made a digital transformation by converging IT and OT to boost productivity via remote monitoring and better visibility.

➤ For an iconic food and beverage company with a global presence, sharing information among many manufacturing sites around the world can be challenging. A good recipe to align multiple processes, people and locations requires a solution that converges both operational technology (OT) and IT.

Smart manufacturing drives productivity and profitability. It requires highly connected plants so devices and processes can be continually monitored and optimized.

Given the size of the organization, converging the plant floor OT with the office layer IT infrastructure globally was not a small undertaking, but certainly an important one to meet growing production and business goals.

Digital Manufacturing

Leveraging data from the Industrial Internet of Things (IIoT) is the basis of a Connected Enterprise approach. “It was important for us to gain an understanding of the existing IT layer and applications as well as considering the future roadmap and requirements,” explains Sean Doherty, Food & Beverage account manager, Rockwell Automation.

“In the first instance, it was vital to create a backup of the control layer of the plant so if there were any issues, the disaster recovery would seamlessly take place. The IDC provides a complete backup of the control system layer using FactoryTalk® AssetCentre and was built off-site in our facility in Auckland (New Zealand),” he adds.

The majority of the commissioning was performed remotely and was a seamless process. The engineers were onsite for a week but once it was connected to the plant's network, the remote support center did the rest of the commissioning process remotely.

Combined IT and OT Support

Rockwell Automation was asked to provide the complete solution (see **Figure 1**), converging IT and OT to help reduce downtime through remote monitoring.

Through The Connected Enterprise, Rockwell Automation helps food and beverage manufacturers offer a more agile response to changing manufacturing and consumer demands. The company works with firms to help them converge plant-level and enterprise networks, and securely connect people, processes and technologies.

The Connected Enterprise Approach

With a service level agreement in place, the processes at the plant are monitored remotely, and each filter or alarm is responded to every 10 minutes, with the average response time being only four minutes.

“In fact, every 2 minutes, there’s a ‘heartbeat’ sent to the technical support team in Melbourne, which then goes to the support team in the United Kingdom, then the United States, and then back through Melbourne,” explains Doherty. “This means they are supported end to end with any required patching supported remotely.”

To increase manufacturing uptime at the plant, the food manufacturer invested in an IDC from Rockwell Automation (see **Figure 2**). The IDC is a pre-engineered solution providing the hardware required to run multiple operating systems and multiple applications from virtual-

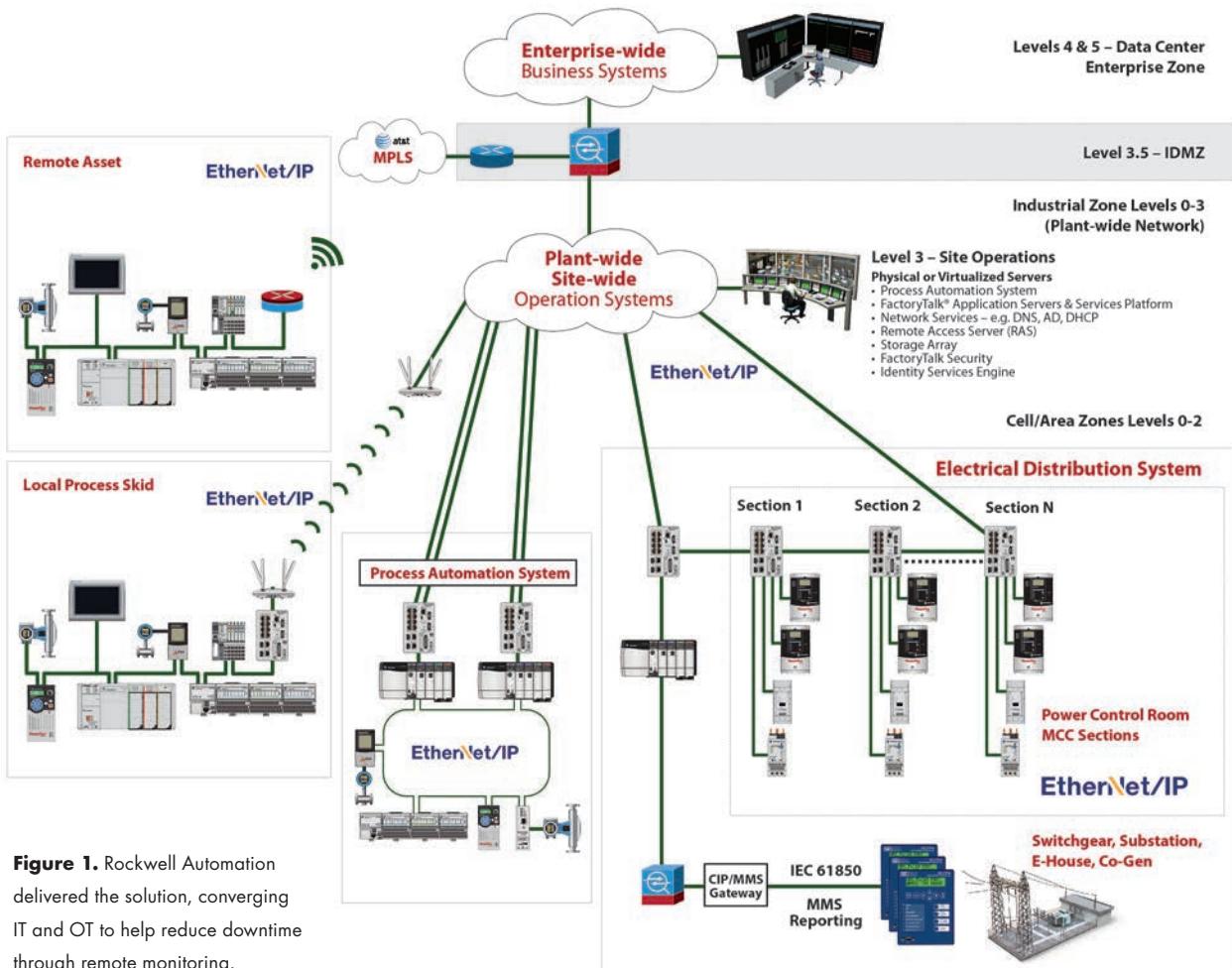


Figure 1. Rockwell Automation delivered the solution, converging IT and OT to help reduce downtime through remote monitoring.

ized servers. A key component of a connected enterprise, the IDC provides the capability to bring data from the plant floor and monitor performance for local strategies.

The Rockwell Automation IDC provides technology from members of the Rockwell Automation PartnerNetwork™ program including Cisco® and Panduit. The IDC also delivers high availability and fault tolerance, while reducing server footprint.

Data Visibility

The Rockwell Automation remote control center monitors the plants, while both the plant and corporate network provide complete remote access. This provided the food company with both peace of mind and real time data visibility.

“This is the first step toward establishing a Connected Enterprise at the plant,” says Doherty. “The next stage of the project will help gain process improvement through the whole organization by allowing both corporate and

Figure 2. The industrial data center houses multiple applications in an easily managed and supported environment.



engineering to create reports based on real time information from the control system.”

A key goal of this project was to develop a roadmap that addresses all aspects of the operation, while also preparing for technology advances and meeting operational and corporate objectives such as reduced downtime and improved productivity.

Meeting Performance and Environmental Goals

The icing on the cake was reduced greenhouse gas emissions (GHG), energy and water usage, and waste. By analyzing data, the food producer now can drill down and identify areas that could be improved to help meet these objectives.

The new solution also helps with the move toward a paperless environment, with information being stored in the cloud and the IDC.

The Connected Enterprise lays the foundation for seamless connectivity and greater collaboration among the many people, processes and technologies that affect product safety and quality. Additionally, the digitization of operations removes paperwork from the plant floor reducing complexity and compliance costs. Smart operations are connected operations.

The ability to access relevant, real-time and role-based information can enable more informed decision-making at every level and create nearly endless opportunities for manufacturers to improve processes. In addition, advances in equipment, control systems and information systems can help establish more flexible and more responsive operations.

The benefits of smart manufacturing extend far beyond operational improvements. A secure network infrastructure, greater connectivity and access to actionable information also create opportunities to enhance quality, food safety and worker safety.

“Alongside new technology, the process is about creating a culture of continuous improvement,” Doherty concludes. “The Connected Enterprise promotes seamless collaboration and integration enabling the power of real-time data to help make better, more profitable business decisions.” □

Encompass™ Product Partner
A ROCKWELL AUTOMATION PARTNER
Source: EPA

Power quality products for all your application needs

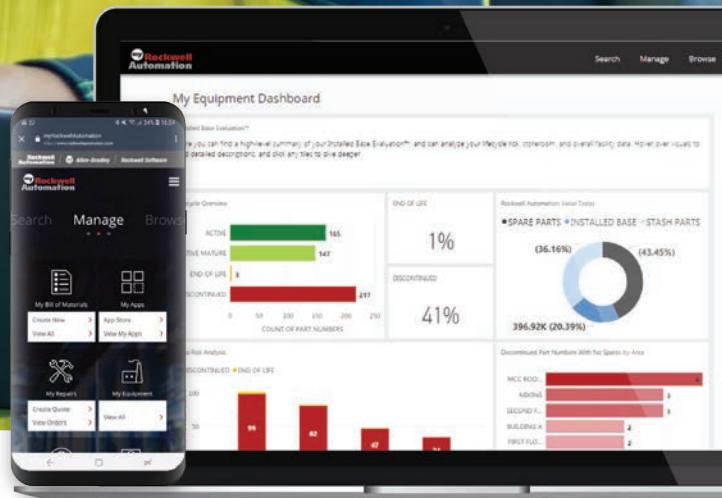
Our reliable line of Active Harmonic Filters, Reactors, Drive Isolation and Harmonic Mitigating transformers will consistently provide the high quality power required by your demanding applications. Available in a wide range of standard products and flexible custom solutions, these products have been designed to improve power quality.

power to perform **HPS** Hammond Power Solutions



myRockwellAutomation

Collaborate. Track. Analyze.



myRockwellAutomation takes you deeper into your digital business journey by putting the tools you need at your fingertips.

- **Collaborate** with co-workers and partners to build and share Bills of Materials
- Submit and **track** repair orders online
- **Analyze** the results of your Installed Base Evaluation™ in the My Equipment Dashboard



Access myRockwellAutomation.com today.

Copyright © 2019 Rockwell Automation, Inc. All Rights Reserved.



HOW PREDICTIVE ANALYTICS LET YOU BOOST EFFICIENCY

For food and beverage companies, data already sitting inside your machines can help you improve operations and meet ever-changing industry demands.

By Cory Garlick, CPG, regional industry manager, Rockwell Automation

>> When it comes to food and beverage options, the choices are numerous. Do you want organic, locally sourced, craft made, single serving, gluten free? These endless choices make consumers happy, but producers frustrated.

In addition to meeting the various consumer demands, food manufacturers also face production, supply chain and resource challenges. The rising cost of raw material, the increasing cost of maintaining aging infrastructure, and diminishes profitability. And, as more changeovers are needed to keep up with the constant change in con-

sumer tastes, food and beverage companies also struggle with inefficiencies.

So, what's the best way to address these competing challenges? By using your own data. Here's how data used by machine learning and predictive analytics can help you make informed decisions to increase efficiency.

Use Your Machine Data – Wisely

The great news is the machine data you need already exists. While new equipment can be designed “smart” to deliver data, you can also get data from older equipment.

It's available through technology implemented over the past decades, including sensors, components, programmable logic controllers (PLCs), drives, historians, databases, human-machine interfaces (HMIs), and more.

But here's the reality. Most facilities are more than 20 years old, made up of individual cells or lines acquired over time. While under the same roof, the lack of connectivity between disparate islands of technology makes it nearly impossible to assess the overall productivity story. Instead of machine learning, operators rely on personal experience to make decisions — an increasingly dangerous formula as more and more workers retire.

Having the data isn't enough, of course. Accessing it takes the right infrastructure, and using it to drive improvement takes advanced technology like predictive analytics. Of the companies accessing data, only 25% are using it for proactive purposes. This is equivalent to driving a car based on what you see in the rearview mirror.

Moving from where you are today to an integrated, data-driven operation will not happen overnight. Many companies have teams exploring Industry 4.0, smart manufacturing and other factory-of-the-future concepts, looking for ways to apply technology for greater productivity.

Transform Your Infrastructure

Successful food and beverage producers are identifying use cases, conducting pilots, implementing technology on a single cell, process or line to prove out the return on investment (ROI), and then determining how to scale across the operation and enterprise. And they're seeing significant results.

For instance, Quebec, Canada-based Agropur Dairy Cooperative started with one of its milk processing plants, looking to create new access to disparate machine data, so facility operators could make informed decisions. With advanced technology, they not only eliminated 2,500 hours of manual data collection each year, but quickly saw a 30% reduction in lube consumption and a 25% efficiency gain.

Similarly, Chicago-based Kraft Heinz started small to prove out the concept on a line at its Ore-Ida plant in Ontario, Oregon. This decades-old potato processing line had aging controls and relied on the knowledge of operators to optimize settings and troubleshoot. Through the use of technology upgrades that included predictive analytics, they realized a 10% capacity increase on the pilot line and an ROI in under 12 months.

More importantly, the data to make this improvement was always there, it was just inaccessible nor being leveraged without the right machine learning infrastructure.

Finally, we worked with Clermont, Kentucky-based Jim Beam to increase bourbon production at one of its distilleries by one liter per minute. Again, the opportunity was always there, hidden in the data. The use of analytics allowed them to understand where they could drive production capacity in the proofing stage. They were able to drive a 60% reduction in variability that led to this significant increase in capacity.

Data Helps You See

Avoid analysis paralysis and getting swamped by all the data. You probably already have a sense of where your inefficiencies lie. Look at what part of the process has the highest input cost, greatest impact on profitability or most recurring issues.

That's where to start. If you can improve yield from the highest cost components into your finished products, that's pure profitability. What needs to happen within an identified part of the process is where predictive analytics can help you focus, and where technology can drive real-time productivity.

Pilot projects can be done with minimal disruption to operations. This approach typically leads to a rapid and positive ROI, creating the use case you need to scale throughout your food and beverage operations, and begin to realize the productivity improvements lying just beneath the surface. □

>> Intelligent Ingredients eBook

Visit <http://bit.ly/3b4L4JQ> to download the eBook, "Intelligent Ingredients: How smart manufacturing can help improve yield, productivity and efficiency in food and beverage operations," from Rockwell Automation.





3 WAYS THE FSMA AFFECTS YOUR GEAR REDUCER CHOICES

Short-notice inspections started in March, and food and beverage makers should understand how gear reducers can affect contamination and compliance.

By Mike Mitchell, Business Development Manager, STOBBER Drives, Inc.

Editor's Note: This article is adapted from the white paper, "Food and Beverage Production: Since FSMA, Stainless Steel Gearboxes are the Best Solution." Visit <http://bit.ly/TJ20stoberup> to download the full white paper to learn what food and beverage manufacturers can expect from new FSMA short-notice inspections, the real cost of contamination and downtime, and tips for choosing gearboxes that also will help achieve successful inspections.

>> Food and beverage production regulation in the United States was dramatically changed with the implementation of the Food Safety Modernization Act (FSMA) under the U.S. Food and Drug Administration (FDA) in 2011. The legislation shifted federal safety standards — from responding to foodborne illness, to preventing it — with safer equipment and more stringent practices.

In the gearing world, excellence in efficiency and durability, combined with sanitation, equals compliance. Under FSMA, food manufacturers are subject to new FDA inspections that started March 2020. Old or outdated gearing solutions can result in violations or worse, spread foodborne illness.

You have many choices when buying or replacing gear reducers. Under new FSMA rules, it's important for you to select high-quality, durable and efficient products that can help minimize downtime. Here are three factors to think about as you evaluate gearing solutions.

1. Efficiency and Durability

You need durable, high-efficient gear units to help minimize production downtime, produce less heat and reduce maintenance. High-efficient, helical gear reducers in general are the gold standard in the gearing industry because they deliver consistently.

Everything in a gear reducer that contributes to high efficiency contributes to durability and the life of that reducer.

Helical bevel gear reducers are typically a higher investment up front. But worm gears have sliding surfaces and high friction, which create heat. Excessive heat breaks down lubrication and sealing materials, causing brittleness and premature seal wear, which leads to leakage and contamination.

Helical bevel gearing is 95 to 97% efficient. It's a green energy solution that prevents breakdowns, saves energy by running much cooler than other gear types, and forestalls frequent replacement.

Additionally, some helical bevel gear reducers have long-life product warranties, some as high as three years on an average mean time to failure of 9.1 years. It's always a good idea to read part specifications before you place your order.

2. Surviving Caustic Washdowns

Severe cleaning procedures can compromise gear reducer coatings, allowing contamination.

Initial investment is higher for stainless steel, but they're required in many "ready to eat" areas.

Under FDA Good Manufacturing Practices, equipment must be cleanable to the microbiological level.

Many gear reducers on production lines may not be able to tolerate high-pressure steam washing, and the wide swing of acidic to caustic solutions used by food processing equipment. These severe cleaning procedures can compromise gear reducer box paint, allowing contamination of the gear reducer and product.

While equipment used in food and beverage production must be able to withstand extreme cleaning regimens, no manufacturer wants to expose customers or employees to unhealthy or dangerous situations. Food and beverage products need to be free from the slightest contamination, which can be discovered during FSMA inspections.

Stainless steel is the perfect material for gear reducer housings. Although initial investment may be higher for stainless steel, they're required in many "ready to eat" areas and other areas where painted surfaces can't be tolerated. Also, stainless steel eliminates oxidation concerns that can compromise processes.

Also, cast iron conducts more heat than stainless steel. The inefficiency of iron worm gearing combined with a stainless-steel housing, for example, is especially detrimental because hot worm gears increase the potential for worker burns and premature gear reducer failure. High-efficiency

helical gearing in stainless steel is a cooler choice for gear reducers.

Food and beverage producers of all sizes must adhere to sanitary designs in the FDA's Good Manufacturing Practices for all foods except meat, poultry and eggs. The bottom line: equipment must be cleanable to the microbiological level. Stainless steel gear reducers capable of enduring harsh washdown meet the most stringent sanitation rules.

3. Maintaining Compliance

IP69K certified gearing tolerates extreme washdown or dust conditions.

Typically, the best washdown gear reducers for the food industry are high-efficient, IP69K, stainless steel gear reducers. This industry needs high-efficient, stainless steel gear reducers correctly sized and safe for use in mixing, cutting, screw conveying, processing and pumping for food-related segments of fruits, vegetables, meat, poultry, dairy, baking and snack foods.

The best gear reducers for beverage markets typically are high-efficiency, stainless steel pigmented epoxy coated or stainless steel with IP69K certification. These markets need gear reducers for high-efficiency material handling, wet and dry conveying, pasteurization, bottling, pumping, filling, capping, labeling, and case packing.



IP69K certification for gearing product provides tolerance against extreme dust, contaminants, and high-pressure washing and/or steam cleaning, and withstands caustic solutions.

IP69K certification is the highest certification for cleaning endurance and is widely adopted in the food and beverage industry. It's an

extensive certification against worst-case washdown pressure. It's also the highest degree of protection available for an electromechanical product

against dust (IP6_) and water, even with high-pressure or steam cleaning (IP9K).

IP69K certification for gearing products provides tolerance against extreme dust, contaminants, and high-pressure washing and/or steam cleaning, and withstands caustic solutions used for the most severe washdown applications. Poultry, pork and beef processing, especially ready-to-eat areas, benefit from IP69K certified processes. So do canned and frozen food processing.

Finally, look for gearing rated as USDA Accepted Equipment. This means your gear reducers will minimize contamination risk and improve compliance. □

STOBER Drives, Inc., Maysville, Kentucky, is a participating Encompass™ Product Partner in the Rockwell Automation PartnerNetwork™ program. The company supplies precision in-line gear reducers, right-angle and hollow-output reducers, modular gearboxes and washdown units.



Ewon®
BY HMS NETWORKS

Flexy 205 IIoT gateway and Remote access router

Unlock new services with your machines data!

- Read and Monitor your machines data in real-time (alarms, HMIs, etc.)
- Easily connect your machines data to major IoT Platforms
- Benefit from a world-class Remote Access solution

... and much more

www.ewon.biz

Encompass™
Product Partner
A ROCKWELL AUTOMATION PARTNER
Global

HMS Connecting Devices™

>> Download the Full White Paper

Visit <http://bit.ly/TJ20stoberwp> to download the complete white paper, "Food and Beverage Production: Since FSMA, Stainless Steel Gearboxes are the Best Solution," from STOBER Drives. Learn what food and beverage manufacturers can expect from new FSMA short-notice inspections, the real cost of contamination and downtime, and tips for choosing gearboxes that also will help achieve successful inspections.



RA Encompass™
Product Partner
A ROCKWELL AUTOMATION PARTNER
Americas



HELPING AUTOMATE THE WORLD

ONE CABLE AT A TIME

Southwire is the Smart Solution for Your Automation Needs

From Power and VFD cables to Control and Communication Cables, Southwire provides a variety of cables to fill your factory automation needs.

For more information contact your Southwire Sales Representative, email factoryautomation@southwire.com, or visit factoryautomation.southwire.com.



#SOUTHWIRE | Connect With Us     

©2020 Southwire Company, LLC. All Rights Reserved.
®Registered Trademark and ™Trademark of Southwire Company, LLC.



HOW TO SIMPLIFY DEVICE INTEGRATION IN **SYSTEM DESIGN**

Premier Integration creates a single design environment for devices from multiple vendors to communicate without time-consuming and costly programming.

By Tim Norman, senior product manager, Hardy Process Solutions

>> New industrial automation projects often involve integrating devices from multiple manufacturers. Yet customers discover the complexity of device integration can be one of the most frustrating and time-consuming aspects of deploying new capabilities.

The Rockwell Automation® Logix control platform allows simplified device integration, configuration, operation and maintenance through a holistic approach based

on Studio 5000® software integration tools. Called Premier Integration, the goal is to create an environment in which devices from multiple vendors can communicate and exchange data with each other efficiently without the need for time-consuming and costly programming.

Premier Integration combines controller programming, device configuration, and machine operation and maintenance into a single, user-friendly software environment

to help engineers reduce integration and configuration times. It also gives operators access to critical machine data, including diagnostic information for improved maintenance, machine uptime and productivity.

Rockwell Automation continuously has improved upon the capabilities of:

- AOPs (Add-On Profiles).
- EDS AOPs (Electronic Data Sheet AOPs).
- Faceplates and AOIs (Add on Instructions).

With these tools, the company has created ease of integration opportunities for Encompass™ third-party products that connect to its control platforms.

However, not all device manufacturers take full advantage of the benefits of Premier Integration, which include:

- A standardized development environment with Studio 5000.

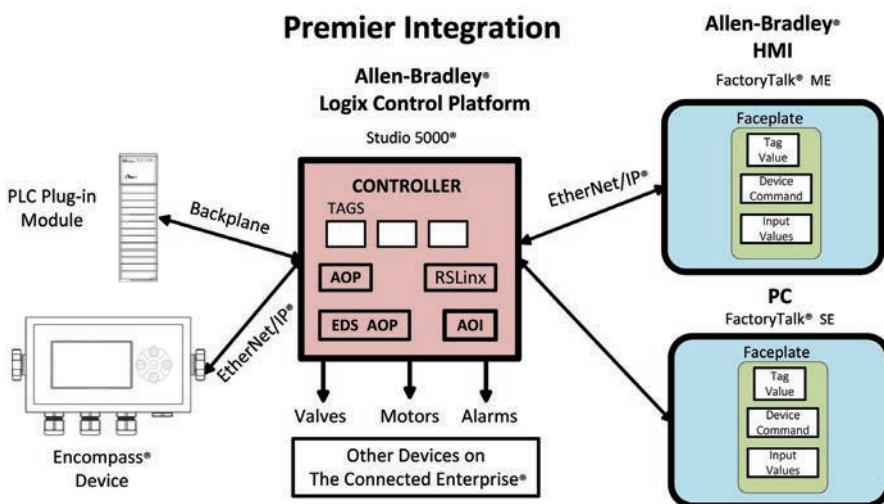
- Reduced project design time and costs.
- Reduced complexity in deployment.
- Significantly reduced programming time.
- Operational consistency and ease of use with data available on the network.
- Reduced long-term troubleshooting and maintenance costs.
- The ability for devices to exchange data via FactoryTalk® industrial automation software.

Below are the elements of Premier Integration as well as the respective benefits to customers and manufacturers who deploy these tools.

Physical Integration

Before addressing Premier Integration software tools, devices first must connect to the Logix control platform. Hardware integration takes two primary forms:

1. Plug-In modules for Allen-Bradley® PLC backplanes that enhance a base unit controller's capabilities. With these modules, an embedded I/O's functionality can be extended with the following benefits:
 - High performance with no network latency.
 - Plug-in installation speed and simplicity.
 - Ease of troubleshooting.
2. External devices that connect via EtherNet/IP™. Rockwell Automation provides a similar experience to connect Allen-Bradley controllers via EtherNet/IP. Benefits include:
 - Hardware versatility without restrictions of plug-in card device architecture.
 - Devices that can be located anywhere on the network.
 - Multiple devices that can communicate with other controllers and other devices on the network using FactoryTalk.



Rockwell Automation Premier Integration tools provide a standardized method for devices connected to Logix control platforms to communicate with customers, with each other and other controllers on The Connected Enterprise.

AOPs

Custom AOPs allow the Logix control platform to recognize devices and provide a graphical front end within the environment to set up and configure the new device. In the simplest terms, they work like device drivers in PCs in that they not only make the device work, but they also can provide device information, connection information, I/O tags and predefined configuration screens. AOPs offer a variety of benefits:

- They're available in pull-down menus within Studio 5000 with automatic import of device profiles. These menus provide access to device information to make setup and use simpler (compared

Custom AOPs allow the Logix control platform to recognize devices and provide a graphical front end within the environment to set up and configure the new device.

with working in HEX and triggering bits in code to perform a task).

- They provide easy-to-use device mapping and configuration.
- They help to avoid common errors.
- They facilitate installation of multiple devices by copy and paste duplication and by assigning unique device names.
- They provide device-specific tag names and configuration settings.
- They help aid in the reduction of support calls during initial hardware installation.

Manufacturers must work with Rockwell Automation to obtain custom AOPs. As such, they should start work during device development and budget AOP development time and cost. As an alternative to having custom AOPs developed, some manufacturers elect to use EDS AOPs.

EDS AOPs

EDS AOPs are text files the device manufacturer develops. The customer must register them with Studio 5000. Once registered, they can provide tag names and configuration settings comparable to a custom AOP. Also note:

- Device manufacturers develop EDS AOPs to support their specific device features and configuration.
- Software such as EZ-EDS from ODVA can help streamline EDS AOP development.
- EDS AOPs help reduce customer programming times and costs significantly.

Faceplates and AOIs

Faceplates provide a User Interface (UI) template created for a specific device that links commands and functions presented on a human-machine interface (HMI) to the controller logic that performs the commands. Faceplates help reduce HMI screen development time dramatically with global objects that are easier to modify to meet the needs of the customer application and the desired look of the UI.

AOIs provide the digital communications link between the faceplate, the Logix controller and the device. AOIs

encapsulate a logic for commonly used device control and simply need to have a single input triggered to run the entire routine. In addition:

- Faceplates provide a standard user interface, so all users have the same device values displayed.
- Faceplates can reduce customer programming time by as much as 70% over trying to write controls themselves.
- AOIs standardize control. Customers won't need to take programming shortcuts that may omit controls or take full advantage of features and functionality for the device.
- With the combination of a faceplate and an AOI, customers can install, configure, operate and visualize devices without writing a single line of code.

Manufacturers must develop their own faceplates and AOIs. However, the development of these software tools allows customers to take plant operations to the next level. Collecting I/O data and delivering that data to plant personnel in the form of diagnostics, faults, alarms and error messages facilitates complex decision-making. Finally, complex industrial automation processes are easier to develop to help streamline plant operations.

The ultimate goal of Premier Integration is to allow multiple devices to connect seamlessly by communicating on a standardized platform. Visualization allows enhanced decision-making and insights into production and processes based on real-time data to increase overall equipment efficiency (OEE).

By collaborating via the holistic Premier Integration development environment, Rockwell Automation streamlines the process for end users and Encompass Partners alike. □

Hardy Process Solutions, San Diego, California, is a participating Encompass™ Product Partner in the Rockwell Automation PartnerNetwork™ program. Hardy provides process weighing and packaging equipment, including tension and compression load cells for a variety of industries ranging from food processing and automated manufacturing to chemicals and plastics production.

ENCOMPASS SHOWCASE

Remote Equipment Monitoring

RACO offers three field-proven remote monitoring products that fully integrate with your existing Allen-Bradley® controllers. Both Verbatim Gateway and Catalyst allow for easy, cost-effective integration with PLCs using Allen-Bradley EtherNet/IP™ and other protocols. Plus, AlarmAgent.com allows for low-cost, wireless, web-based alarm detection and notification that easily integrates into your SCADA/HMI system via OPC. All three provide the peace of mind that comes with knowing your systems are secure. For more information, call (800) 722-6999 or visit www.racom.com/allen-bradley.



RACO MANUFACTURING & ENGINEERING CO.

tManager is the latest CompactLogix PLC module from Softing

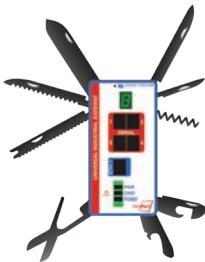
Which industries are doing analytics, dashboards and production optimization projects? All of them. How can you connect production floor to analytics easily? tManager® is the only CompactLogix™ PLC module that connects the PLC directly to your enterprise SQL database, enabling analytics, dashboard projects, track and trace, recipe download, high-speed sorting and quality monitoring. Use tManager for native, in-chassis, bidirectional data movement between IT and OT. Let us show you how with our demo video series at <https://bit.ly/3aVJURk>.



SOFTING, INC.

Any Protocol to Any Protocol, Any Port to Any Port, Simultaneously

Spectrum Controls Universal Industrial Gateway makes it easy to integrate multiple devices that speak different protocols into your industrial control system with just one gateway. Transfer data to and from any port, in any combination, Ethernet® and/or serial. Nine built-in protocols: EtherNet/IP™, EtherNet/IP-PPCC, Modbus™ TCP, Modbus RTU, Modbus ASCII, DF1™-PPCC, DF1-CIP, PPI, and S7comm. Learn more at spectrumcontrols.com/gateway.



SPECTRUM CONTROLS

Hollow-Shaft Encoders Feature Battery-Free Multiturn Rotation Counter

POSITAL-FRABA's new hollow-shaft kit encoders are ideal for robot joints, servo motors and anywhere else a compact hollow-center design is required. Center openings of 30 or 50 mm leave ample room for central shafts or cable clusters. The rotation counter for multi-turn models is powered by POSITAL's Wiegand energy-harvesting technology, eliminating the need for backup batteries. The advanced capacitive measurement system delivers accuracy ($\pm 0.02^\circ$) at speeds up to 6,000 RPM. For more information, call 609-750-8705 or visit www.posita.com



POSITAL-FRABA INC.

Simplifying Edge Computing for the Connected Enterprise

Modernizing and simplifying operational technologies, capturing and analyzing new sources of data, and extending equipment life cycles are key drivers of productivity in today's connected world. For many, the first step will be virtualizing existing applications and building out a high-availability OT environment that's ready to support new smart connections and IIoT applications. That's where Stratus can help. Visit www.stratus.com/edge and learn how you can bring your automation infrastructure to the edge. <http://bit.ly/2m8osUs>



STRATUS TECHNOLOGIES

Configure a PLC or Machine Remotely

The Ewon Cosy from HMS Networks is an industrial VPN router that offers the ability to troubleshoot your machines remotely without going on-site, drastically reducing support costs and improving machine uptime. <https://ewon.biz/products/cosy>

HMS NETWORKS





ENCOMPASS SHOWCASE

GET THE JOURNAL'S E-NEWSLETTER!

Sign up for the free e-newsletter from The Journal From Rockwell Automation and Our PartnerNetwork! Get e-newsletters twice a month that include the 6 digital editions plus e-newsletters on Compliance, Network Technologies and Electrical Systems & Motors.

You'll get bonus web-exclusive stories, videos and webinars you can't get in the pages of The Journal. Simply sign up for your free e-newsletter at http://BIT.LY/ROK_TJSUBSCRIBE

JOURNAL
From Rockwell Automation and Our PartnerNetwork™
E-NEWS

COVER STORY: Transforming Your Business
Digital transformation isn't just about technology; it changes how business is done. Learn how to develop a strategy to implement smart systems. [Read our February issue cover story...](#)

Digital Twins Go Beyond Improving Machine Design
By enabling pretesting of machines or production lines, virtual operator training and enhanced maintenance, simulation helps improve long-term performance. [Learn more...](#)

Partner of the Month

Solve for Labeling. Fast, efficient and error-free. That's how you want your labels, right? When you choose Brady you choose more than just labels. You choose a complete solution — wire labels, printers, software and more — for all of your identification needs. [Start Solving...](#)

How Ecommerce is Impacting Packaging Equipment Design
Systems such as independent cart technology can help OEMs guide manufacturers in managing the high-mix, agile packaging that consumers demand. [Read more...](#)

Editor's Choice

Video Tutorial: Learn About IP (Ingress Protection) Ratings. Waterproof? Sealed? Dust-tight? Watch this brief video from AMCI to understand the role that IP Ratings play in specifying automation products. You'll learn how the IP rating system works and how to use ratings to select the right product for your application. [Learn more from AMCI...](#)

VIDEO: Endress+Hauser Expands Engineering, Product Development
Endress+Hauser, a Rockwell Automation Strategic Alliance Partner, explains how both companies are expanding engineering alliances and integrated instrumentation product lines. [Watch the video...](#)

SUBSCRIBE NOW!

New to Encompass Program! NR60E2 EtherNet/IP Resolvers

This heavy duty EtherNet/IP™ position sensor provides dual-port networking and fault tolerant DLR. Options include single-turn or multiturn (up to 30 bits), a variety of shaft and mounting choices, and a stainless version. IP67 protection rating comes standard. The NR60E2 EtherNet/IP resolvers are compatible with Allen-Bradley® PLCs that support EtherNet/IP. Additional software isn't needed because programming is done through the PLC's existing software (Studio 5000®). Call AMCI today for pricing: 860-516-8771. <https://bit.ly/2yL3kKw>



ADVANCED MICRO CONTROLS INC.

Small and Mighty EIP Single-Channel Weight Processor

Hardy's new HI 6200 series are ultra-compact, single-channel weight processors featuring EtherNet/IP™, IIoT compatibility, remote diagnostics and a user-friendly, color touch screen interface. Ideal for OEMs and systems integrators, the HI 6200 allows for high-density panel design over traditional weighing instrumentation, reducing both machine cost and control-cabinet footprint. Learn more at <http://bit.ly/hardyhi6200>.



HARDY PROCESS SOLUTIONS

Reports and Dashboards for Industry

Finally, a reporting solution that gives the information you need, in the form you want, with absolutely no programming. Produce stunning reports using familiar features of Excel workbooks; charts, formats and formulas together with XLReporter's industry-specific functions. Within minutes, your reports are ready to view and email as Excel, Web, PDF files. Easy access to data from RSLinx®, FactoryTalk® View SE, Historian, Alarms, VantagePoint, HMS Ewon Flexy and standards such as OPC, ODBC and OLE-DB. Contact us at (508) 520-9957 or sales@SyTech.com. Download a free evaluation from www.SyTech.com.



SYTECH INC.

Fast Forward

get ready for anything



Manufacturing will change more in the next 5 years than it has in the last 20. And, your MicroLogix™ controllers may be holding you back. Upgrade now to gain your competitive edge.

Our **Micro800™ control system** is your ticket to a smarter, more productive and more reliable future. Fast Forward now to:

- ▶ **Reduce** development time and increase flexibility for customizing applications
- ▶ **Boost** productivity and modernize for optimization, cost and performance
- ▶ **Improve** user program readability and simplify connectivity

Start now, visit rok.auto/fastforward



Allen-Bradley

by ROCKWELL AUTOMATION

>> Preconfigured Industrial Distribution Frame

Rockwell Automation Strategic Alliance Partner **Panduit** offers the preconfigured industrial distribution frame (IDF) with SmartZone G5 access control engineered to deploy and protect 19-in. rack mount switches on the factory floor in an industrial network. It also helps users efficiently use power resources, make informed capacity planning decisions and improve plant floor uptime.



Consistent design, equipment placement and cable management minimize engineering and installation time resulting in faster implementation. Access control and power distribution capabilities protect critical IT equipment, saving energy and money, while the SmartZone G5 electronic swinghandle with a built-in, low-frequency card reader delivers direct wireless access for authorized personnel.

The SmartZone G5 intelligent power distribution unit (iPDU) monitors power and environment by continuously scanning for electrical circuit overloads and physical environmental conditions that place critical IT/OT equipment at risk.

>> Signaling Devices for Hazardous Locations

New **Allen-Bradley® 855X Series B hazardous location signaling devices** from Rockwell Automation can help industrial operators meet global hazardous-location ratings and certifications. The signaling devices include horns, beacons and combination horn-and-beacon units.

In most cases, the devices are drop-in replacements for the original 855X devices (Series A). The redesigned devices also offer triple certification in a single unit. The new 855X products are all cULus, ATEX/IEC EX and Class/Zone certified, so they can be applied globally.

Two conduit entry options offer flexibility in power connections to suit application requirements. The beacon's color can be changed quickly and easily in the field by simply replacing the beacon lens with the desired color, without affecting the device's ingress protection rating.

Its stand-alone multifunction LED beacon and combination radial sounder/LED beacon feature rugged yet lightweight, corrosion-free construction.



>> PRODUCT SPOTLIGHT

Design Software Update

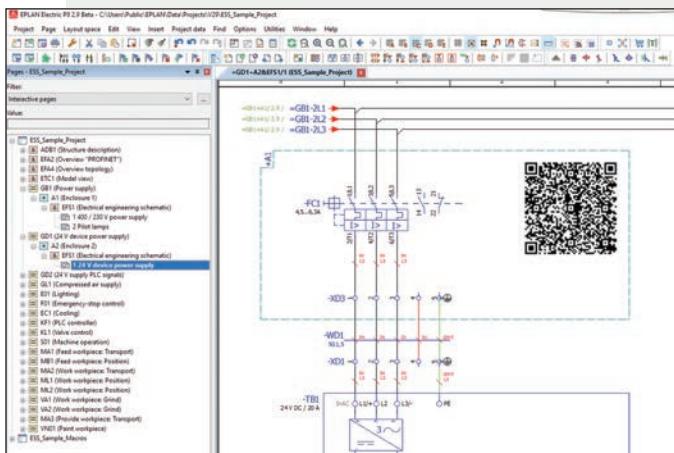
Encompass™ Product Partner **EPLAN Software & Service** now offers the EPLAN Platform, v.2.9. Among the improvements in this release, users can easily generate QR codes. The enhanced

Layers Management automatically saves all changes, and macros now can be reused. Complete projects faster with mass editing of project data using expanded navigators.

QR codes can be used for both internal and external links, eliminating tedious typing. Users can store hyperlinks in their documentation that later can be scanned and opened with apps on mobile devices.

Exchanging symbols in placeholder objects has been simplified, and they can now be replaced by selecting the appropriate value sets. This provides greater transparency with fewer macro variants.

Layers Management also allows searching layers and changing their properties. Users can search for all objects assigned to a particular layer in a project or subproject. Designers can then use the Properties dialogue of a found object to change the assignment of the layer. This allows layers that were added to a project via DXF or DWG import to be easily found, quickly modified and used as user-defined layers.



>> PRODUCT SPOTLIGHT

Electromagnetic Flowmeter

The Proline Promag WV electromagnetic flowmeter from Rockwell Automation Strategic Alliance partner **Endress+Hauser** features a “0 x DN full bore” option designed to address a close-knit pipeline network or obstacles in pipes.

Promag W 300/400/500 flowmeters with the “0 x DN full bore” option measure with high accuracy ($\pm 0.5\%$), even directly downstream of pipe bends, T fittings or insertion devices. They are particularly suitable for installation in tight spaces, such as compact systems or skids, because they do not need any inlet or outlet runs.

The flowmeters can handle swirls that frequently occur downstream of obstacles such as pipe bends and insertion devices, and even those downstream of unknown obstacles such as build-up on the pipe wall, protruding seals or different inside diameters.

Multiple measuring electrodes detect flow. These electrodes generate a substantially higher density of measured data than standard devices. Together with the refined signal analysis, reliable measurement results are realized in swirl conditions.

The new option also allows installation without inlet and outlet runs and without restriction, to deliver reliable measured values, flexible installation and cost-efficient measuring operation.

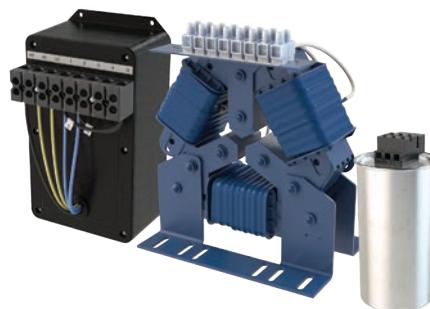


>> Motor Protection Filter

Encompass™ Product Partner **MTE Corp.** launched the SineWave Nexus motor protection filter designed to increase motor life and get rid of motor failure. It eliminates high-frequency content and voltage peaks to extend system efficiency and motor life at any cable length.

The filter cleans the PWM waveforms generated by variable frequency drives, reducing common and differential mode voltages and currents, and thus eliminating the damaging voltages that cause motor bearing failures.

The filter combines the performance of a sine wave filter and isolation transformer with common mode protection technology into a single, compact design saving time and money associated with sourcing and installing multiple solutions.



>> iTRAK 5730 System

The new **iTRAK® 5730 small-frame intelligent track system** from Rockwell Automation helps manufacturers produce a higher variety of products without increasing downtime. The system uses independent cart technology to support smart, flexible and efficient packaging machines.

Independent cart technology is designed to increase machine flexibility, traceability and uptime compared to traditional gear, chain and belt conveyors. By using magnetic propulsion, the individually controlled carts can quickly start and stop with high precision, which reduces machine wear and improves energy efficiency.

The system has the smallest footprint within the Rockwell Automation independent cart portfolio. A 50-mm minimum pitch makes it ideal for primary packaging applications, such as flow wrapping, end-load cartoning, and form-fill-and-seal pouching.

It also offers integrated safety features such as safe torque off, SIL 3, Ple safety rating and the ability to create safety zones that allow motion to continue outside of the safety zone and maintain productivity.



>> OEM Connectivity Software

ThingWorx Kepware Edge from Rockwell Automation Encompass™ Product Partner **Keypware Inc.** provides out-of-the-box connectivity for machine builders that need to deliver smart, connected machines. The product allows connectivity to Allen-Bradley® devices and devices using Modbus™ TCP Ethernet® protocol.

It offers secure read/write access to a variety of applications via OPC UA and MQTT, including SCADA, historians and IIoT platforms. It also features native connectivity to the ThingWorx IIoT.

With support for Linux-based environments and tag-based pricing, the platform allows machine builders to deliver smart without creating or commissioning custom code.



>> Grommet with Staged Membrane Rings

Encompass™ Product Partner **icotek** presents its new cable grommet KT-SC with peelable membrane rings and graduated sealing areas. The grommet is based on icotek's size "KT large." It enables routing and sealing of cables and hoses with diameters from 5mm to 28mm. The single membrane rings can be peeled away according to the diameter of the routed cable or hose by piercing a small hole between the rings.

The rings are letter marked to correspond to the diameter of the inserted cable. The cable grommet can be integrated into all divisible cable entry frames (KEL, KEL-U, KEL-ER, KVT and KEL-FG) accommodating large KT cable grommets.

The KT-SC is made of elastomer, achieves IP54 class and is suitable for a temperature range between -40°C to + 100°C. The cable grommet is halogen and silicone free.



>> PRODUCT SPOTLIGHT

CIP Safety Encoders

New **Allen-Bradley® 843ES CIP Safety™ over EtherNet/IP™ absolute encoders** from Rockwell Automation is designed for safety applications that require speed, direction or position-monitoring functions and, at the same time, help users be more productive.

The encoders suit up to and including SIL 3/PLe safety applications. They can achieve this performance when used as part of an integrated safety system that includes an Allen-Bradley GuardLogix® 5580 controller or Compact GuardLogix 5380 controller.

The new encoders allow users to continue production while safely monitoring for speed, direction or position to improve overall productivity.

By integrating safety with standard control systems, operators gain access to all machine events, including safety events, to

shorten response times. Integrating safety functions over EtherNet/IP also reduces hardware and installation costs and saves time.

Users and machine builders have three configurable resolution options, solid and hollow shafts, and a range of flange options.



>> PRODUCT SPOTLIGHT

Intrinsically Safe Smartwatch

The ecom Smart-Ex Watch 01 from Encompass™ Product Partner **Pepperl+Fuchs** is designed for use in Ex Zones 2/22 and Div. 2. Based on the Samsung Galaxy Watch, it offers hands-free communication and higher employee protection. The smartwatch can be combined with the ecom smartphone Smart-Ex 02 and featurephone Ex-Handy 10 to support the mobile worker with a range of tasks in hazardous areas.



It allows the mobile worker freedom of movement and communication, and hands-free navigation via advanced voice control or wrist gestures simplifies operation. A rotating bezel allows for quick, easy scrolling through apps and instructions, even with gloves.

Integrated GPS, Glonass and motion sensors help to protect the wearer. The sensors can monitor vital signs for critical conditions. With real-time localization, the worker's location is rapidly accessible in case of an emergency.

In addition to the Ex certification, the watch passed military specification (MIL-STD-810G) testing against a subset of various conditions, including drops, extreme temperatures, dust, shock/vibration and low pressure/high altitude. Scratch-resistant gorilla glass SR+ protects the display (3D dial), which can be read in direct sunlight. The watch is sealed dust-tight, waterproof up to 50 m to ISO standard and operates at temperature extremes from -15°C to +50°C.

>> Bluetooth Ring Scanner

The single-finger RS5100 Bluetooth® ring scanner from Encompass™ Product Partner **Zebra Technologies** is designed to help improve worker productivity by freeing up workers' hands for inventory management, picking, packing and sorting applications in industrial environments.

The small, light ring scanner provides a long battery life and features a single-sided or double trigger to allow workers to use gloves or bare hands for all-day comfort. It also supports NFC tap-to-pair with most Zebra enterprise-class Bluetooth-enabled mobile devices, and offers high-performance 1D/2D omnidirectional scanning to maximize worker productivity.



Strain gage input for Point I/O™

- ▶ Two channels per module.
- ▶ 24-bit analog-to-digital conversion.
- ▶ Resolution of 1 count per 100,000 counts.
- ▶ Built-in averaging.
- ▶ Compatible with all industry load cells and weigh scales.



Helm Instrument Company, Inc.

361 West Dussel Drive
Maumee, OH 43537

P: 419.893.4356 F: 419.893.1371

E: Sales@helminstrument.com www.helminstrument.com



**Encompass™
Product Partner**

A ROCKWELL AUTOMATION PARTNER
Global

>> Combo Analog Card for PowerFlex

Encompass™ Product Partner **Spectrum Controls** has extended the functionality of PowerFlex® 750 drives with the new 20-750-IF-4XOF4-SC combo card supporting four analog inputs and outputs. It is configured using the Connected Components Workbench™ software and comes with free TechConnect™ support from Rockwell Automation.

With the four available analog inputs and outputs, the card saves card slots and cost. Each input or output channel is individually selectable to any voltage range of 0-5V, 0-10V, ±10V and current ranges from 0-20 mA or 4-20 mA.

High accuracy, 16-bit resolution increases productivity. It features six filter frequencies (channel-selectable) for fast analog update times, full auto-calibration and on-board error checking, and open circuit detection for most input types.



>> Fanless Kinetix VPC Servo Motor

Printers and other industrial operators can improve their energy efficiency and reduce machine complexity with a new fanless version of the **Allen-Bradley® Kinetix® VPC continuous-duty servo motor** from Rockwell Automation. It uses the same interior permanent magnet technology as the original fan version to help operators achieve better performance and higher energy efficiencies.

The new motor achieves IE5 energy efficiency ratings. Additionally, by removing the fan, the motor further reduces wiring and components, saving on energy costs, and is ideal for applications that are sensitive to airflow disturbances.

The VPC family of motors reduces torque ripple, which translates into smoother roll-to-roll web-handling processes critical for high-quality printing, tensioning and other application-specific tasks.



>> PRODUCT SPOTLIGHT

High Density Cable Sealing Solution

Encompass™ Product Partner **Roxtec** adds two new versions to its Roxtec HD (High Density) cable transit devices for use in terminal boxes, cabinets and enclosures. Developed for high cable density applications with environmental protection demands, the transits help secure sites and save time during design, installation and upgrades.

Roxtec HD 16 for up to 16 cables and the Roxtec HDLC for large cables up to 54 mm are available for Ex e/Ex tb rated terminal and junction boxes and fulfill the requirements for bonding and grounding. The transits are certified as a replacement to cable glands. They are quick to install, 50% more area efficient than traditional cable glands and can help reducing installation cost by 50%.

Tested and approved to serve in extreme environments, the transits are available in ATEX, IECEx and NEC versions. AISI 316L acid-proof stainless-steel frames and Roxtec sealing modules make them adaptable to cables of many different sizes.

The transits seal multiple armored or non-armored cables in each opening, allowing designers and manufacturers to reduce

the quantity, size and weight of cabinets and enclosures. It is possible to cut weight by half and increase cable capacity by up to 40% when compared to cable glands.



>> Multiturn Hollow Shaft Kit Encoders

Encompass™ Product Partner **POSTIAL-FRABA's** Hollow Shaft Kit encoders with multiturn technology feature an integrated rotation counter that records each revolution the instrument experiences, even if these occur when no external power is available.

POSITAL's maintenance-free Wiegand energy harvesting system powers the counter circuitry. There is no need for troublesome backup batteries or complex mechanical solutions.

The encoders are well suited to robots and cobots. Weighing in at just 110 g, with an outer diameter of 80mm, they can be integrated directly into the joints of the robot arms.

Their open-center form factor leaves room for designers to route mechanical components,

cables or pneumatic/hydraulic lines through the center of the joint.

Their slim design (17.8 mm deep) and large central opening (30 or 50 mm) suit space-critical applications, including servomotors and drives. Installation and commissioning are straightforward: a few simple steps and the measuring system is ready for use, without complicated calibration procedures.

The capacitive measurement technique enables the ring-shaped configuration, while also offering reliability and precision (18-bit electronic resolution and an accuracy of ± 0.02 degrees).



>> Electronic Motor Overload Relay

The **Allen-Bradley® E100 electronic motor overload relay** from Rockwell Automation is designed to help industrial companies protect their motors and avoid unplanned downtime. The new relay more accurately measures a motor's current load, models its temperature and shuts the motor off when it's in danger of damage due to overheating.

Options are available to detect jams and ground faults immediately, allowing faster responses to these specific conditions. A remote reset option lets customers remotely reset the overload.

The relay comes in basic and advanced configurations. The basic model has two user-adjustable trip-class settings of 10 and 20. The advanced model has four trip class settings: 10, 15, 20 and 30. Above a sensing range of 100A, the advanced model can use external current transformer configurations to achieve a maximum rating of 800A.



>> PRODUCT SPOTLIGHT

Machine Vision Platform

The Amadeus Platform, a new modular machine vision platform by Encompass™ Product Partner **Hermery**, uses a unique modular architecture, incorporating industry standards to allow easier integration with both Hermery and other automation components.

The platform is designed to facilitate harmonious operation of any connected machine devices within a domain. Configuration and control of all machine vision components — cameras, lasers, illuminators and more — are performed from a centralized com-

puter. The platform's high level of synchronization allows machine vision devices to work together in a collaborative manner.

Its modular system architecture increases its flexibility to easily add and remove functionality from a system and develop new capabilities. As technology advances, new devices can be added to the platform by simply developing a hardware-specific interface to incorporate new devices and components. All other system-level software and hardware elements stay the same.



ADVERTISERS INDEX

Advanced Micro Controls, Inc. (AMCI)	19, 34
Apex Dynamics Inc.	6
Endress+Hauser, Inc.	3, 10, 11
Hammond Power Solutions	22
Hardy Process Solutions	34
Helm Instrument Co. Inc.	39
HMS Networks Inc.	28, 33
POSITAL FRABA, Inc.	33
RACO Manufacturing & Engineering Co.	33
Rockwell Automation Micro800 Control System	35
Rockwell Automation myRockwellAutomation.com	23
Rockwell Automation ROKLive	15, 43
Softing, Inc.	33, 44
Southwire	29
Spectrum Controls, Inc.	2, 33
Stratus Technologies	33
Sytech Inc.	34

>> IEC 60309 Pin and Sleeve Devices

The LEV Series IEC 60309 pin and sleeve devices from Encompass™ Product Partner **Leviton** provide fast assembly. The threaded housing and quick lock pin simplify installation by replacing several screws previously needed for installation.

These devices are designed to handle abusive applications with watertight ratings, including IP69K for both indoor and outdoor applications and industry exclusive IP68 for long-term submersion. An NSF-certified sanitary design makes this product line ideal for use in food and beverage facilities.



>> Digital Weight Indicator

Encompass™ Product Partner **Rice Lake Weighing Systems** has released the 680 Synergy Series digital weight indicator. The 680 indicator fuses advanced instrumentation with the easy-to-use functions of more basic indicators.

The weigh indicator supports general-purpose weighing and straightforward automation for a range of applications. It features multiple onboard communication options, including RS-232, RS-485, USB and Ethernet ports. Users also can create customized tickets with editable print formats. Gross, net and setpoint tokens can be modified to create a tailored print format.

Users can perform basic batching and filling operations with eight setpoints and four digital I/O. A configurable batch engine allows users to design a multistep procedure and run it automatically from beginning to end.



THE JOURNAL



You're just 1 click away from getting free online articles from *The Journal*. Just go to http://bit.ly/ROK_tjsubscribe. Check "The Journal" box to get your free e-newsletter that brings you the digital edition of *The Journal* every issue – plus additional Web-exclusive how-to articles, case studies and product news from Rockwell Automation and its Encompass™ Product Partners and Solution Providers. Visit [HTTP://BIT.LY/ROK_TJSUBSCRIBE](http://bit.ly/ROK_TJSUBSCRIBE)

SIGN UP TODAY!



Prepare for **your digital transformation future**

Join digital strategists and
implementer experts online

JUNE 10-19

at ROKLive, the newest virtual event
focused on industrial digital transformation.

You'll experience exciting new training and
development sessions, participate in hands-on
labs, interact with experts and peers, tour the
virtual exhibit hall, and explore the latest
opportunities and advancements from
Rockwell Automation.

Learn more at rok.auto/roklive



**Rockwell
Automation**

With so many tools to connect, why do so many companies fail to get connected?



Connect CompactLogix® to SQL Databases with **tManager®**

Eliminate the server in the middle and use Softing's **tManager** for track & trace, recipe downloads, or production metrics monitoring.

Get Connected. Optimize your plant.

tManager

Your enterprise
MS SQL or
Oracle
database 



CompactLogix PLCs



Scan the QR Code to find out what's between CompactLogix and your SQL database.

Call or email for a quote or **tManager** demonstration.

Softing Inc.
865-251-5252
sales@softing.us
industrial.softing.com/us

Industrial

industrial.softing.com/us/tmanager-compactlogix

tManager connectivity for CompactLogix