



## Safety Fact Sheet

Manufacturers are under more scrutiny than ever before to make their operations run responsibly and at optimum efficiency. They want to invest in more reliable, safer machines that help protect workers and maintain productivity. They want to understand and adhere to changing international safety standards. They also want to be able to cost-justify and quantify safety design decisions. Most importantly, they want help from a trustworthy automation partner, like Rockwell Automation, that understands their objectives and knows the best way to help achieve them.

Rockwell Automation takes a holistic approach to safety, providing innovative safety solutions to improve the functional operation of a machine – simultaneously helping to increase safety, efficiency and productivity while reducing waste.

“Through strategic investments, product innovation and participation in several standards organizations, Rockwell Automation continues to reinforce its position as a leading force in functional safety, including machine and process safety,” said Sal Spada, research director, ARC Advisory Group. “Rockwell Automation has proven its commitment to improving worker safety and productivity for its customers.”

Rockwell Automation offers the world’s largest portfolio of safety automation products and services to provide customers with a single, scalable, trusted source for all their safety automation needs at a competitive price.

### **What is “functional safety” and why are people in the industry talking about it?**

Keeping up with changing safety standards is nothing new for machine builders. But the recent changes to the European Commission’s Machinery Directive, which took effect Dec. 29, 2009, significantly reshaped how designers approach machine safety projects. With these new functional safety standards, designers need to assess the reliability of the safety components by adding a quantitative calculation to the design. While this means more steps and procedures, it also offers benefits. Namely, the new standards result in a more methodical approach that can lead to machinery with more predictable performance, greater reliability and availability, and improved return on investment.

To Rockwell Automation, “functional safety” describes a safety system that improves the functional operation of the machine – simultaneously helping to increase safety, efficiency and productivity while reducing waste.

### **Why is safety a good investment now?**

An upfront investment in safety programs and safeguarding systems can help significantly reduce the financial and employee impact of incidents that occur in the facility. Management and financial representatives of a company need to be aware of the consequences of an ineffective safety solution. In the United States alone, approximately six million workers suffer from nonfatal workplace injuries annually, resulting in an annual cost of more than \$125 billion to businesses, according to OSHA. Outside the primary objective of reducing injuries to people or property, proving the value of a safety

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system is an ongoing challenge for safety professionals and risk managers. By including both direct and indirect costs in calculating the value of safety investments, it is easier to see the significant, financial benefits of implementing a proactive safety program as an integral part of your lean manufacturing strategy.

## **How does machine safety promote sustainable production?**

Manufacturers across most industries are placing increased emphasis on machine designs that support sustainability initiatives. Machines that minimize waste, consume less energy, require less floor space, and deliver maximum return on investment are critical to the success of any sustainable production program. Namely, safety offers one of the best long-term solutions to managing operational costs such as worker's compensation, lost worker productivity and product liability. By prolonging equipment viability and minimizing machine startup time, safety solutions also help reduce product scrap and energy costs. In addition, adhering to the safety values inherent in sustainable production ultimately can help a manufacturer increase employee retention and morale, and improve brand reputation.

## **What is integrated safety and what are its advantages?**

Historically, manufacturers used one controller to run standard automation functions, and an added safety relay to protect workers by shutting off the entire system in the case of a fault or demand. With the advent of safety PLCs, the earlier approach to safety relays gave way to a programmable approach incorporating two separate controllers (standard and safety) with different programming software, training and components. Thanks to technology advancements, safety and standard control today can be integrated, particularly in discrete applications.

A safety architecture capable of implementing safety and other multidisciplinary control tasks – particularly discrete and motion control functionality – offers major cost and efficiency benefits. Because standard and safety control systems share assets, costs for hardware, software, development and support are minimized. In addition, the operational intelligence and diagnostics of the automation system helps improve equipment productivity and lifespan, and reduce downtime.

## **How can companies use functional safety to reduce nuisance shutdowns?**

To help improve safety in motion without hindering productivity, manufacturers can rely on the Rockwell Automation safe-speed control core technology. The advanced safety control and functionality is designed for easier integration, flexibility and performance, and is part of the Allen-Bradley® Guardmaster® Minotaur™ MSR57P dedicated safe-speed monitoring relay and the Allen-Bradley PowerFlex® 750 series of AC drives. This innovative technology also will be available in future releases of the Allen-Bradley Kinetix® 6000 servo drives. Safe-speed control technology helps reduce overall system cost, improve flexibility and increase productivity by allowing operators to perform maintenance and other tasks while a machine is in motion. Furthermore, safe-speed control offers easier configuration and can be used across multiple platforms – whether in an upgraded or retrofitted application.

## **How can manufacturers allow easier flow of information between control and safety systems?**

CIP Safety allows manufacturers to maximize production by synchronizing the safe and standard functions of their equipment. By allowing the easier integration of information flow throughout the control system, data and system status can be made available to the appropriate people. Operators and maintenance personnel have visibility to machine safety events. This provides operators with the knowledge to rapidly respond to and recover machine production. Management has visibility to key productivity data, including the reasons for safety events and response time to resolve. CIP Safety also allows the distribution of safety control devices to appropriate locations on a machine, thereby helping to reduce overall installation costs.

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## How did Rockwell Automation become the global leader in machine and process safety?

Through strategic investments and product innovation, Rockwell Automation established itself as a major global provider of both machine and process safety solutions, according to ARC Advisory Group. The acquisitions of ICS Triplex and CEDES, among others, bolstered the safety offerings of Rockwell Automation to encompass a broad range of scalable products and solutions based on its integrated architecture concept. Rockwell Automation continues to introduce a stream of new solutions in safety automation to help manufacturers best protect their people and processes while simultaneously increasing productivity and profitability.

## What safety products does Rockwell Automation provide?

Rockwell Automation offers a broad selection of safety products that integrate seamlessly and help manufacturers protect personnel and improve productivity, including:

- Programmable automation controllers
- Programmable logic controllers
- Contactors and control relays
- AC and servo drives
- Emergency stop devices
- Hazardous location and pneumatic switches
- Interlock switches
- Isolation system
- Load switches, IEC
- Operator interface
- Position interlock (limit) switches
- Presence-sensing devices (light curtains, scanners, mats, etc)
- Trapped key interlock switches
- Two-hand control devices

For the latest safety information, please visit [www.discover.rockwellautomation.com/EN\\_Safety\\_Solutions.aspx](http://www.discover.rockwellautomation.com/EN_Safety_Solutions.aspx).

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## About Rockwell Automation

Rockwell Automation, Inc. (NYSE: ROK), the world's largest company dedicated to industrial automation and information, makes its customers more productive and the world more sustainable. Headquartered in Milwaukee, Wis., Rockwell Automation employs about 19,000 people serving customers in more than 80 countries.

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