

Safety Life Cycle and Safety Tools

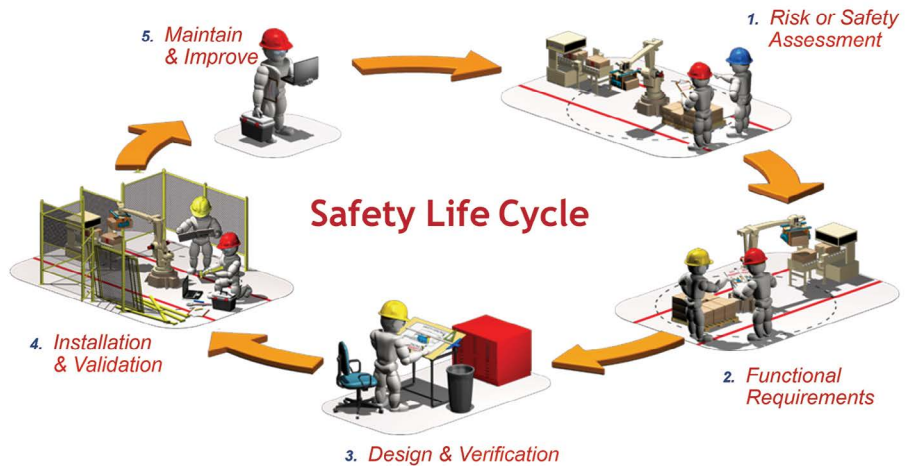
Reduce time to design, develop and deliver your safety solutions

What is the Safety Life Cycle?

The Safety Life Cycle helps maximize productivity and improve safety by identifying the steps required to assess and mitigate machinery risks. The steps of the Safety Life Cycle include:

- 1 Perform a hazard or risk assessment**
Identify hazards and estimate the associated risk.
- 2 Determine the functional safety system requirements**
Evaluate safeguarding options based on industry acceptable solutions and select mitigation techniques.
- 3 Design and Verify the system**
Design system architecture, document safety circuit design, procure materials.
- 4 Install and Validate the system**
Verify systems are operating within defined parameters and applicable standards have been satisfied.
- 5 Maintain and Improve the system**
Verify that system requirements operate within specified parameter for production and safety preventative maintenance and system upgrades.

Rockwell Automation offers tools to help you with each and every step of the Safety Life Cycle.



During each phase of the Safety Life Cycle, Rockwell Automation provides tools that simplify development, improve compliance, and reduce design time and costs including:

Safety Automation Builder - facilitates design of safety systems, including layout, connectivity, safety level analysis, product selection, and BOM.

Safety Functions – provide complete, documented solutions to common safety applications.

Safety Integrity Software Tool for the Evaluation of Machine Applications (SISTEMA) - provides evaluation of safety-related control components based upon designated architectures.

Safety Accelerator Toolkit - provides easy to use system design, programming, and diagnostic tools to assist you in the rapid development and deployment of your safety systems.

Safety ROI Tool – determines financial savings generated by safety investments.

LISTEN.
THINK.
SOLVE.

The latest additions to our suite of safety tools deliver a complete safety solution while simplifying development, improving compliance, and reducing cost.

Safety Automation Builder

The Safety Automation Builder (SAB) tool facilitates planning of safety systems, helps you select products to achieve the required safety performance level (PL) according to EN ISO 13849-1, and creates SISTEMA projects for analysis of all Safety Functions. Use SAB to:

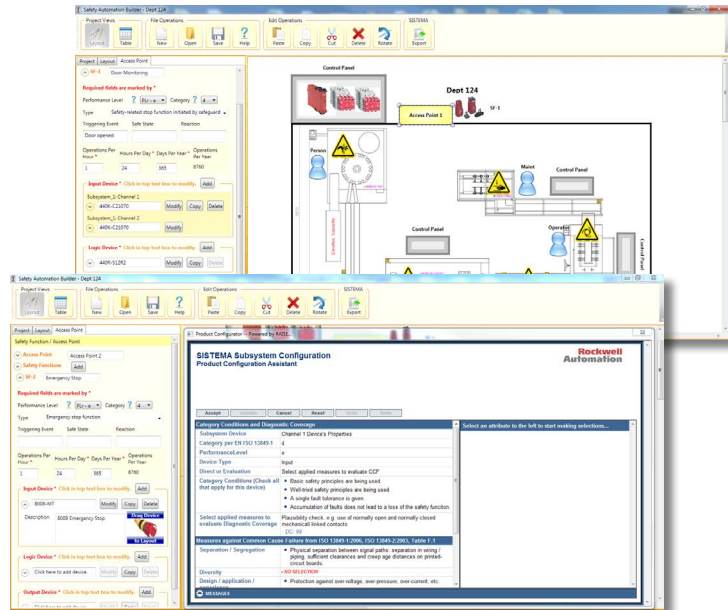
- Layout machine hazards and access points.
- Define safety functions and select safety products for each.
- Export data to SISTEMA for analysis.*

Direct integration to ProposalWorks allows complete Bills of Material to be generated.

SAB leverages the industry's most complete offering of safety products, utilizing widely accepted best practices to build a complete safety solution. Outputs of the tool include:

- Bills of Material
- Conceptual Safety Layout Drawings
- Architectural Structure Drawings
- ePLAN files
- SISTEMA project files*

* SAB and SISTEMA tools must be used in conjunction with each other to provide this output.



Safety Functions

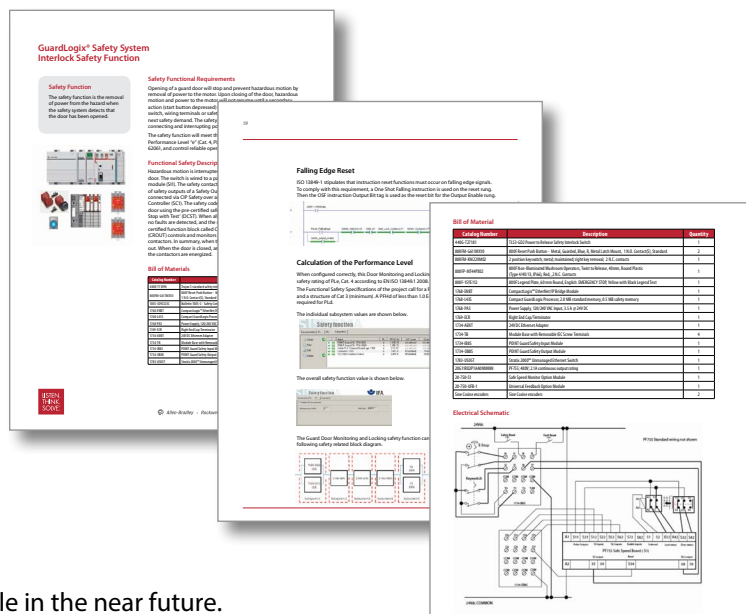
Safety Functions provide a systematic, building block approach to machine safety utilizing Rockwell Automation's broad portfolio of products and industry experience. These documents provide solutions to common safety applications and allow you to develop safety systems quickly, efficiently, and accurately. Typical content includes:

- Operational description
- Electrical drawings
- Bill of material
- PLC code & relay configuration instructions
- SISTEMA verification calculation
- Verification and validation plan

Safety Functions available today include:

- E-stop
- Light Curtains
- Two hand control
- Enabling Switch
- Guard-locking switches
- Door interlocks

Additional Safety Functions will be available in the near future.



Safety Integrity Software Tool for the Evaluation of Machine Applications (SISTEMA)

This software utility provides developers and testers of safety-related machine controls with comprehensive support in the evaluation of safety in the context of ISO 13849-1. SISTEMA enables you to model the structure of the safety-related control components based upon the designated architectures, thereby permitting calculation of reliability values with various levels of detail, including that of the attained performance level.

Safety Accelerator Toolkit

Provides easy to use system design, programming, and diagnostic tools to assist you in the rapid development and deployment of your safety systems using GuardLogix, Compact GuardLogix, or SmartGuard 600 Controllers, Guard I/O, and Safety Devices. The toolkit includes a risk assessment and system design guide, hardware selection guide, CAD drawings, safety logic routines, and operator status and diagnostic faceplates.

Return On Investment (ROI)

Online calculator that uses your data and industry information to help you quantify savings generated by safety investments.

Safety Solutions Toolkit

Presents all safety-related products, presentations, videos and animations, literature, event archives, and many other additional resources.

Pro-safe Trapped Key Builder

Allows you to build safety solutions using a broad range of trapped key switches and devices that can isolate pneumatic, hydraulic and electrical sources in a systematic repeatable process. Pro-safe builder is linked to ProposalWorks to generate complete Bills of Materials (BOM).

Connected Components Building Blocks

These building blocks help increase machine functionality without increasing costs by reducing the design and support costs of the machine life-cycle, including:

- Product Selection
- Panel Layout
- HMI Design
- Startup
- Wiring Design
- Programming Design

To access these tools

visit us at <http://discover.rockwellautomation.com/safety>



Rockwell Automation is an official ENERGY STAR® Industrial Service and Product Provider. It has proven it provides energy efficiency services and/or products to commercial buildings and industrial manufacturing plants in the United States by collaborating with an ENERGY STAR Industrial Partner to submit a teaming profile that outlines the scope and resulting savings from energy efficiency-driven projects. For more information, visit ENERGY STAR for Industry at www.energystar.gov/index.cfm?c=industry.bus_industry

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Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846