



SAFEGUARD PROFILER

# SafeGuard Profiler

## Comprehensive Safety System Analysis and Design

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SafeGuard Profiler is a field-proven Safety Integrity Level (SIL) Lifecycle tool that gives high integrity and critical control systems designers, engineers and operators the information and power to conduct SIL Determination, Verification/Validation and Optimization exercises.

SafeGuard Profiler visualizes and presents all lifecycle information with easy-to-understand graphical representations. Compliant with IEC 61511 and ANSI/ISA 84, SafeGuard Profiler offers complete and robust risk analysis, and helps make the world a safer place.

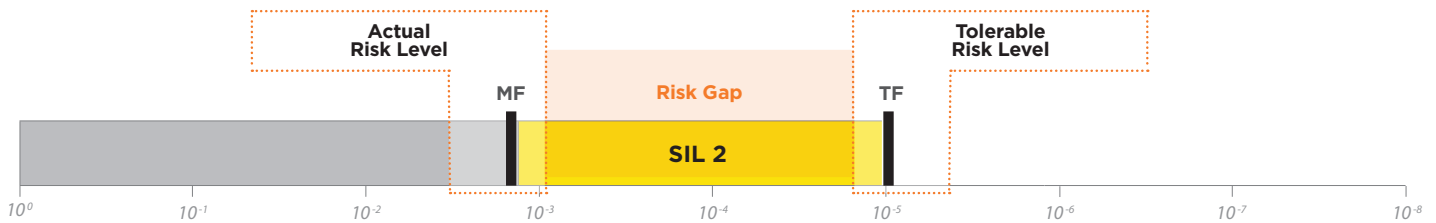
# LOPA PACKAGE

## TECHNOLOGY FOR ANALYSIS OF SAFETY SYSTEMS AND PROCESSES

### VISUALIZE LAYER OF PROTECTION EFFECTIVENESS

SafeGuard Profiler provides a clear and easy visualization of information that would traditionally be shown in complex spreadsheets or data tables. The Bowtie design feature allows Layer of Protection Analysis (LOPA) participants to quickly recognize if the system has too many or too few safeguards, and identify optimization opportunities to reduce alarms, trips and interlocks. This permits the achievement of optimal safety configurations, saves company time and money, and provides the utmost confidence in system designs.

The LOPA graph distinctly shows whether or not the specified tolerable risk level is being met and how much additional protection would be required to ensure a safe facility.



### CAPTURE KNOWLEDGE & CREATE CONTINGENCY PLANS

Safety systems fail and occasionally need to be bypassed, creating potential for high-risk situations.

To help reduce some of this risk, SafeGuard Profiler captures the knowledge of experienced operations and maintenance personnel to create best practice responses to hazardous situations. This knowledge is used to create contingency plans, which are included in standard SafeGuard Profiler reports that seamlessly integrate with existing operations and maintenance documentation.

### IMPORT HAZOP DATA

SafeGuard Profiler enables the seamless and effortless import of HAZOP and risk study data from any .csv file – including PHA-ProTM – reducing effort and ensuring data integrity in the LOPA process. SafeGuard Profiler has the tools to complete a full risk analysis.

**BOWTIE VISUALIZATION SHOWS ALL THE CAUSES AND CONSEQUENCES RELATED TO EACH HAZARDOUS EVENT WITHOUT BEING LIMITED TO SINGLE CAUSE/ CONSEQUENCE LOPA SCENARIOS.**

### PRE-CONFIGURED REPORTS:

- LOPA scenarios including all safeguards and independent protection layers
- HAZOP information including associated LOPA scenarios
- Recommendations resulting from LOPA study
- Contingency plans for each independent protection layer
- Project summary showing all LOPA scenarios, layers of protection, independent protection layer PFDs and risk exposure for each safeguard failure



**REPRESENT DOZENS OF PAGES OF HAZOP DATA ON A SINGLE, EASY-TO-UNDERSTAND BOWTIE**

# SIL-V PACKAGE

## LIFECYCLE TOOL FOR DESIGNING AND EVALUATING SIL RATED SYSTEMS

### DESIGN SAFETY INSTRUMENTED FUNCTIONS

SafeGuard Profiler enables efficient design and validation of safety instrumented functions (SIF) to ensure the system meets defined requirements. The IEC 61511-ANSI/ISA 84.0 compliant calculation and modeling engine within SafeGuard Profiler reduce safety instrumented function design time by up to 50%. This translates to significant savings of both time and money, freeing up time to take on additional challenges. Users can easily determine the best safety instrumented system architecture without a limit to the complexity of SIF configurations.

### OPTIMIZE SIFs

Minimal effort is required to determine the optimal voting and test frequency of a SIF. Voting structure changes are immediately visualized to show the impact on SIF reliability. Users can select the desired safety integrity level and SafeGuard Profiler will automatically calculate the required test interval, failure rate or partial stroke test coverage. No alternative system possesses this "on-the-fly" capability.

## OPTIMIZE SIFS TO MAXIMIZE PRODUCTION

T = 48 month  
 $\lambda = 5.10$   
MTTR = 4 h  
Vote: 1oo3  
**CURRENT**

T = 24 month  
 $\lambda = 3.15$   
MTTR = 4 h  
Vote: 2oo3  
**OPTIMIZED**



### BUILD AN SRS

Creating Safety Requirement Specifications (SRS) is easy with SafeGuard Profiler. SIFs and SRSs are generated in parallel within SafeGuard Profiler, minimizing effort and maximizing document accuracy.

### FLEXIBLE FAILURE RATE DATABASE

SafeGuard Profiler includes a built-in database of failure rate data for sensors and final elements. Additional failure rate data can be created by the user or imported from a .csv file.

### ANALYZE SIF FAILURE MODES

SafeGuard Profiler recalculates the reliability of a SIF for each individual component failure and allows for operational response plans to be created during the SIF analysis. Specific response plans to individual elements means a minimal disruption to production.

### PRE-CONFIGURED REPORTS:

- SRS Report providing specifications for each SIF
- SIF Design detailing voting structures and reliability for all SIF elements
- SIL Validation report indicating pass or fail of specifications
- Failure Modes including contingency plans for each component failure

### CREATE CONTINGENCY PLANS DURING SIF ANALYSIS

# OPTIONS

## ADVANCED REPORTING

### Embed documents and customize report layout

SafeGuard Profiler allows imported external documents to be included with each project. Added documents are transferred as part of the project and can be printed in a compilation report. For presentation purposes, SafeGuard Profiler Advanced Reporting lets users customize each report layout and content.

## EXPORT TO SAFEGUARD SENTINEL

### Real time risk visualisation software

SafeGuard Sentinel is innovative software that reveals danger in the plant in real time. This advanced system is the only one of its kind that measures, monitors and alerts Operations to process safety risks and delivers contingency plans that can be executed immediately. SafeGuard Sentinel uses design information from SafeGuard Profiler to make effective operational decisions in real time.

The combination of SafeGuard Profiler and SafeGuard Sentinel offers the most advanced safety process determination and monitoring capability available today.

# PACKAGE DESCRIPTION

Feature	SAFEGUARD PROFILER LOPA PACKAGE	SAFEGUARD PROFILER SIL-V PACKAGE	SAFEGUARD PROFILER EXPERT PACKAGE
Risk Graph	●		●
Safety Layer Matrix	●		●
Layer of Protection Analysis (LOPA)	●		●
Bowtie Risk Visualization	●		●
HAZOP Import	●		●
Contingency Plans	●		●
Pre-configured Reports	●	●	●
IEC 61511/ANSI 84 Compliance	●	●	●
SIL-Verification/Validation		●	●
SIF Failure Mode Analysis		●	●
Unrestricted Voting Structures		●	●
Reliability Block Diagrams		●	●
SIF Functional Requirements		●	●
SIF Optimization		●	●
Imperfect Proof Testing Analysis		●	●
Built-in Failure Rate Database		●	●
Custom Failure Rate Database		●	●
SRS Generator		●	●
Safety Requirement Specification (SRS) Import		●	●
Advanced Reporting	○	○	●
Export to SafeGuard Sentinel	○	○	●

○ - Optional

● - Included

## FREE 30-DAY TRIAL COMPLETE WITH TRAINING

ACM Facility Safety knows that participating in a trial, without proper understanding of the many ways that SafeGuard Profiler can help you achieve process and facility safety, does nothing to promote the software's competencies. That is why we recommend that new clients take advantage of our risk and obligation-free, 30-day trial, complete with expert training to ensure you get a comprehensive and user-friendly picture of all the advantages SafeGuard Profiler offers its users.

Visit [www.safeguardprofiler.com](http://www.safeguardprofiler.com) today to access your free trial version.

# ABOUT ACM

ACM Facility Safety is a thought leader in Risk Assessment Services, Education and Process Safety Software. We have helped the world's largest operating and engineering companies improve facility uptime, manage process risk and comply with international safety standards.



## Making the World a Safer Place

For more information contact:

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