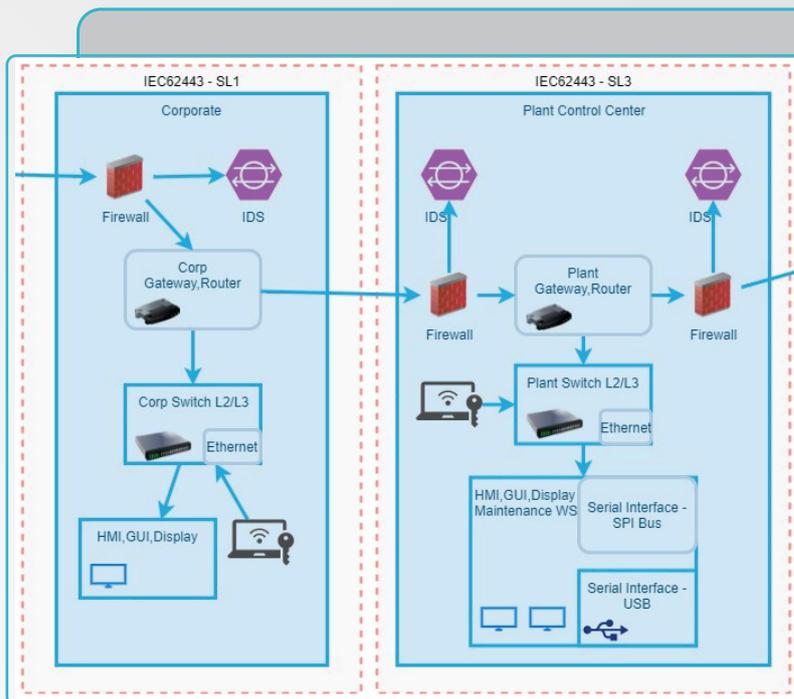


Threat Modeling for IEC 62443

IriusRisk helps engineers and security analysts to quickly understand the security threats that apply to the design of a system. The IEC 62443 Library extends this functionality with threats and controls relevant to this standard and to Industrial Control Systems security. Specifically, it covers: Network and System Security (part 3-3), and Security for Industrial Automation and Control Systems (part 4-2).



The IEC 62443 Security Standard Library is ideal for:

- Businesses that need to **comply, build, and design** according to IEC62443 standards.
- **Manufacturers of network and industrial control systems**, such as PLCs, controllers, sensors, etc.
- Teams responsible for **maintenance of industrial control systems** throughout the SDLC.
- **Operational technology industries**, such as rail and transport, power stations, petrochemicals, water, recycling, metal and fabric manufacturing.
- **Medical technology and healthcare** providers.

« Build secure devices and measure your IEC 62443 compliance



ACHIEVE YOUR TARGET SECURITY LEVEL (SL-T)

Gain full visibility of your current security level and identify the specific controls required to achieve your target security level. Produce your security requirements near-instantly using our 27 independently-configured components to remediate threats.



NAVIGATE ELEVATED SECURITY LEVELS WITH EASE

Teams that require an elevated security level can simply move components to a higher security level within the threat model diagram and any additional, relevant threats and controls will be automatically included in the generated threat model.



DEFINE YOUR REQUIREMENTS FOR SYSTEM DESIGN

IriusRisk defines the mandatory controls for each of your components to help you achieve the appropriate technical capabilities required for system design. It will naturally complement the risk assessment process, gap analysis reports, vulnerability and criticality assessments, plus your security zone and conduit models.

« Flexible, configurable, and designed to facilitate your entire IEC 62443 process

The library has three model formats to help you get the most from threat modeling automation

Common standard library

Components are dropped onto the desired security level and your threats and countermeasures are automatically generated.



| Components & Use Cases | Source | Threat | Risk Resp | Count. Pr |
|------------------------|--------|--|------------|-----------|
| Ref Switch L2/L3 | | | | |
| Threats (5) | | | | |
| SL2 - Common - CR1.1 | | An adversary exploits a weakness in authentication to create an access token to associate a process/thread | ██████████ | 0% Compl |
| | | Unauthorized human access to the asset | ██████████ | 0% Compl |
| | | Unidentified user of the asset | ██████████ | 0% Compl |
| SL2 - Common - CR1.10 | | | | |
| | | An adversary receives authenticator feedback which helps him in user enumeration. E.g. invalid username, invalid password. | ██████████ | 0% Compl |

Threat Details | Comments | Audit log

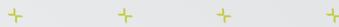
Created by rules engine

Name: An adversary exploits a weakness in authentication to create an access token to associate a process/thread

Unique ID: cr1-1-auth_access_token_exploit

Weaknesses and Countermeasures

- Improper Authentication: The asset shall provide the capability to uniquely identify and authenticate all human users. Identify and authenticate all human users.



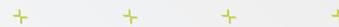
| Components & Use Cases | Source | Threat |
|-------------------------------------|--------|--|
| Controller - PLC,ECU,ControlServers | | |
| (1) Threats | | |
| cr1.13.sl2 | | An adversary accesses the asset via an untrusted network |

IEC62443 - SL2

Controller - PLC,ECU,ControlServers

User-configurable library

A blank slate for complete customization depending on your requirements. Build your own architectural questionnaires or templates to generated to suit your requirements.



Library with pre-defined architectural questionnaires

Propose a pre-defined set of questions and generate a ruleset for user input.

Component: Actuator - Compressor, Motor, Drive

FR1 | FR3 | FR4 | FR5 | FR6 | FR7 | Assets

Does the component have human/software/wireless access capability?

No

Yes

Does the component have human access capability?

No

Yes

Does the component have software process access capability?

No

Yes