

Creating safety.
With passion.

NewTec



NTSecurityAnalysis

Risk and threat analysis: Systematically minimise
cyber threats for connected embedded devices

Starting point for NTSecurityManagementProcess



Why NTSecurityAnalysis?

Nowadays, manufacturers of integrated embedded devices have to incorporate issues of IT security into their product strategy:

Avoid damage: The number of cyber-attacks on IoT devices has been increasing for a number of years. Manufacturers cannot take this matter lightly due to liability considerations, as insecure IoT components can wreak considerable damage.

Effects on safety: Adverse impacts on IT security also endanger functional safety, if hackers sabotage systems or assume control.

Complying with standards: For this reason, the IEC 61508 basic safety standard explicitly requires security weak point analyses for at-risk electronic systems. It refers to the cross-industry security standards series IEC 62443. The EU Cybersecurity Act also specifies that "Security by Design" and "Security by Default" are regulatory principles for safety-relevant products.

Your benefits

Systematically minimise cyber threats for your connected embedded devices:

- Decision-making support from a specific catalogue of measures (Security Requirements - SR)
- Entry into IEC 62443-compliant security management process
- You do not need to develop your own security competences
- Structured and rapid process
- Cooperation of all project stakeholders
- Faster certification

What is NTSecurityAnalysis?

NewTec regards security as a single entity: Safety & Security by Design. The aim of NTSecurityAnalysis is to systematically identify, evaluate and appropriately deal with relevant security risks for existing or newly developed connected embedded devices. Our analytical approach takes into account all relevant perspectives on the security of your system:

- Existing product development process including safety development
- Project stakeholders from different sectors
- Systems to be protected along the entire product lifecycle
- Specific protection needs for your assets
- Standards and regulations
- Realistic risk assessment
- Economic risk mitigation

The experienced NewTec experts will follow the proven best practices, the guidelines by the German Federal Office for Security in Information Technology (BSI) and the international basic standards for safe system development IEC 62443 (Security) and IEC 61508 (Safety). We have coordinated our security management process in close cooperation with the TÜV to simplify and speed up the certification process.

How does NTSecurityAnalysis work?

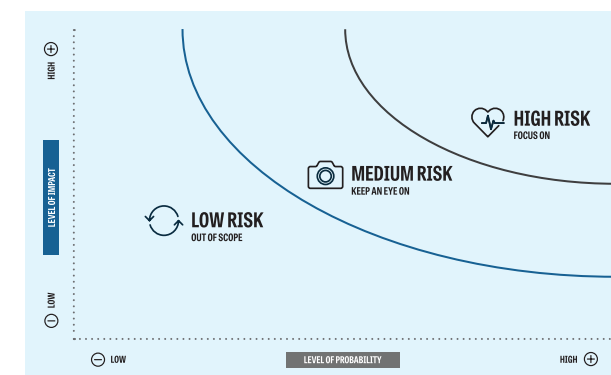
In two separate sessions, we work with you to identify the relevant cyber threats (weak points and risks), evaluate the associated risks and define the measures you can use to reduce these threats to an acceptable residual risk.

Phase 1: System analysis (2 days)

- **System architecture and structure**
Analysis of the device and its environment, including hardware and software components, interfaces/protocols and data
- **Protection needs (Assets)**
Selection of the most important targets for security measures
- **Standards**
Requirements of IEC 62443 for the specific applications

Phase 2: Threat analysis and risk mitigation (3-5 days)

- **Protection targets and needs**
Identification of protection needs of all assets (confidentiality, integrity, availability), taking into consideration typical applications and damage scenarios
- **Threat analysis and attacker profiles**
Description of possible threats (targeted attacks, undirected threats, protection against IP theft, ...) and typical attackers
- **Threat analysis and risk assessment**
Threat analysis according to impact and probability of success
- **Risk mitigation**
Criteria for dealing with the analysed risks (minimization, transfer, acceptance); reduction of probability of occurrence or harm to an acceptable residual risk by adequate measures
- **Next steps**
Recommendations for the further procedure with rough effort estimation
- **Evaluation and documentation**
Summary of results as a decision-making basis for planning; Security Requirements (SR) and Measures



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