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Certifying Control Systems Vendors' Security
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Compliance / Certification – The fundamentals

Compliance or certification should never be the main goal of any security activity

Compliance or certification should be natural step or a side effect of any sound security program
(assuming the regulation / standard / certification program is reasonable)

Challenges with Certification
Defining a true benchmark

*"The FSA (Functional Security Assessment) examines the device from the point of view of required security capability and correct implementation. **Security capabilities may be supported directly by the device itself or may be explicitly allocated to higher level components** that support the device in its intended system environment."*

Source: ISASecure Embedded Device Security Assurance Certification

If there is no true benchmark certification becomes useless for both vendors and end users

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Challenges with Certification
Consistent, invariable audits

1. Results of audits should not never depend on auditor and his interpretation
   → requirements need to be unambiguous

2. Results of audits should not depend on technical limitations of audit procedures
   Example: Device Robustness Testing does not always bring consistent results

   → Certify vendor's process and policies on regularly performing robustness tests

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Challenges with Certification
Development costs and release schedules

Certification must be economically reasonable

- ABB performs more than 120 robustness tests every year in its dedicated device security assurance
- (Re)Certification would be needed after (almost) every test run

→ Certify vendor's process and policies

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Challenges with Certification
Gaining global acceptance

Investing in certification is a significant effort for everyone, certification programs therefore need to have widespread, global acceptance

→ Certification programs must involve
all stakeholders

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