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# Security measures for ESS PSS software development

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The main purpose of Personnel Safety Systems (PSS) at ESS is to protect workers from the facility's ionising radiation hazards. Since only proven-in-use COTS components are used in implementing PSS'safety functions, the software will be developed in accordance with IEC 61511, whilst the system development life-cycle follows a general functional safety standard; IEC 61508. Normal risk assessment processes recommended in these standards are not sufficient to address security threats to PLC-based safety systems. Therefore, some additional measures and solutions are required to improve the system's security, but these need to be applied in the correct way not to compromise system's safety.

PSS software configuration management ensures that appropriate methods are implemented for traceability of software elements (including their use, change/modification and destruction) and separate risk assessment based on IEC 62443 standard is being carried out for addressing the information security. This risk assessment will provide additional software requirements (including the software architecture and interfaces with other systems), which shall be implemented as security measures and tested regularly. This session/presentation will cover some of these measures.

## Summary

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