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## PhD Thesis Security Assurance for Cyber-Physical-Systems

Cyberattacks against safety-critical cyber-physical systems (CPS) have increased the significance of security protection in many domains such as smart manufacturing, automotive, industrial control and railway. Security assurance is the confidence in a system's ability to detect and mitigate cyberattacks. Prior work mainly focuses on security assurance in normal IT systems. Security assurance for CPS has not been extensively studied. AIT has been developing methods and tools for safety- and security co-analysis and co-engineering of CPS in various critical application domains. The PhD thesis will extend the state-of-the-art to develop concept and practical solutions for security assurance in CPS to support security argumentation and security assurance case.

### Description

- Develop safety and security engineering and assurance methods applicable to CPS in the area of Industry 4.0, automotive systems, industrial automation and control systems
- Extend and implement technical security analysis and testing frameworks
- Application and validation of approaches in industrial use cases
- Publish and disseminate results at security and industrial conferences and events

### Candidate profile

- Outstanding master's degree in computer science, electrical engineering or related technical field
- Strong motivation and interest in cybersecurity and dependable systems
- Good knowledge and experience in information security and embedded systems
- Good programming skills in C, Java and scripting language such as Python and Ruby
- Strong analytical and problem solving skills, desire to know and ability to learn
- Experience in penetration testing is a plus

### Your compensation:

EUR 1.020,75 gross per month for 30 hours/week based on the collective agreement (Forschungs-KV).

Please submit your application documents, including certificates, to  
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