

ATM Security Management: Development and Validation of a European Approach

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The interest and need for ATM security increases, as systems get more and more interconnected and open up new security vulnerabilities. The project GAMMA (Global ATM Security Management) proposes a European ATM Security Management concept and tool-set consisting of event detectors on local/regional level and decision support systems on national and European level. The SecRAM Methodology of SESAR was applied to figure out the most feared threat scenarios and to evaluate distinct ATM security controls to be implemented in prototypes. Prior to prototype development a security validation methodology and the respective validation needs were defined. Driven by these validation needs a geo-distributed simulation environment, integrating the developed prototypes, was set up and used in a final 3-Step-Validation. It was shown that the GAMMA concept and the toolset improve security incident detection and management. Single prototypes and/or combinations of them will be further developed to put research into practice. Despite this, the geo-distributed validations set a new baseline for further ATM security research.