

1. Record Nr.	UNINA9910483562503321
Titolo	Reliability, Safety, and Security of Railway Systems. Modelling, Analysis, Verification, and Certification : First International Conference, RSSRail 2016, Paris, France, June 28-30, 2016, Proceedings // edited by Thierry Lecomte, Ralf Pinger, Alexander Romanovsky
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-33951-6
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XII, 255 p. 55 illus.)
Collana	Programming and Software Engineering, , 2945-9168 ; ; 9707
Disciplina	625.1
Soggetti	Software engineering Computer science Computer networks Data protection Machine theory Artificial intelligence Software Engineering Computer Science Logic and Foundations of Programming Computer Communication Networks Data and Information Security Formal Languages and Automata Theory Artificial Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	The Risk Assessment of ERTMS-Based Railway Systems from a Cyber Security Perspective: Methodology and Lessons Learned -- Using Formal Proof and B Method at System Level for Industrial Projects -- A Novel Approach to HW/SW Integration Testing of Route-Based Interlocking System Controllers -- A Formal Security Analysis of ERTMS Train to Trackside Protocols -- Operational Security – A Coming Evolution of Railway Operational Procedures under the IT Security Threat -- Risk Assessment of the 3Des in the ERTMS -- Failure Analysis

of Chinese Train Control System Level 3 Based on Model Checking -- Correct Formalization of Requirement Specifications: A V-Model for Building Formal Methods -- Static Verification of Railway Scheme and Interlocking Design Data -- Verification of Railway Interlocking – Compositional Approach with OCRA -- Safety Verification of Heterogeneous Railway Networks -- Comparing Formal Verification Approaches of Interlocking Systems -- Predictive Reasoning and Machine Learning for the Enhancement of Reliability in Railway Systems -- Applying Abstract Interpretation to Verify EN-50128 Software Safety Requirements -- The PERF Approach for Formal Verification -- Abstract Software Specifications and Automatic Proof of Refinement -- S3: Proving the Safety of Critical Systems -- Increasing Proofs Automation Rate of Atelier-B Thanks to Alt-Ergo.

Sommario/riassunto

This book constitutes the refereed proceedings of the First International Conference on Reliability, Safety, and Security of Railway Systems, RSSRail 2016, held in Paris, France, in June 2016. The 15 revised full papers presented were carefully reviewed and selected from 36 initial submissions. The papers cover a wide range of topics including failure analysis, interlocking verification, formal system specification and refinement, security analysis of ERTMS, safety verification, formalisation of requirements, proof automation, operational security, railway system reliability, risk assessment for ERTMS, and verification of EN-50128 safety requirements.
