

1. Record Nr.	UNINA9910437902503321
Autore	Laar Pierre van de
Titolo	Situation awareness with systems of systems // Pierre van de Laar, Jan Tretmans, Michael Borth, editors
Pubbl/distr/stampa	New York, : Springer, c2013
ISBN	1-299-33642-6 1-4614-6230-4
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (xii, 272 pages) : illustrations (some color), maps (some color)
Collana	Gale eBooks
Altri autori (Persone)	LaarPierre van de TretmansJan BorthMichael
Disciplina	387.50973 620 621.381 621.3815
Soggetti	Systems engineering System design Context-aware computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"The final book on the Embedded Systems Institute project Poseidon"-- Pref.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I General -- Introduction: Situation Awareness, Systems of Systems, and Maritime Safety and Security -- Improving Situation Awareness in the Maritime Domain -- On the Architecture of Systems for Situation Awareness -- The POSEIDON Demonstrator -- Part II Situation Awareness -- Visualization of Vessel Traffic -- Extending Track Analysis from Animals in the Lab to Moving Objects Anywhere -- Recognizing Vessel Movements from Historical Data -- Density-Based Anomaly Detection in the Maritime Domain -- Analyzing Vessel Behavior using Process Mining -- The Simple Event Model -- Part III Systems of Systems -- Specification and Generation of Adapters for System Integration -- The POLIPO Security Framework -- Assessing Trust for Determining the Reliability of Information -- Online Fault Localization and Health Monitoring for Software Systems -- Prioritizing

Sommario/riassunto

This book discusses various aspects, challenges, and solutions for developing systems-of-systems for situation awareness, using applications in the domain of maritime safety and security. Topics include advanced, multi-objective visualization methods for situation awareness, stochastic outlier selection, rule-based anomaly detection, an ontology-based event model for semantic reasoning, new methods for semi-automatic generation of adapters bridging communication gaps, security policies for systems-of-systems, trust assessment, and methods to deal with the dynamics of systems-of-systems in run-time monitoring, testing, and diagnosis. Architectural considerations for designing information-centric systems-of-systems such as situation awareness systems, and an integrated demonstrator implementing many of the investigated aspects, complete the book.
