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WIT Transactions on the Built Environment

ORGANISED BY

Wessex Institute of Technology, UK

Faculty of Engineering, University of Rome "La Sapienza", Italy

National Fire Department, Italy

Safety and Security Engineering

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Published by

WIT Press

Ashurst Lodge, Ashurst, Southampton, SO40 7AA, UK

Tel: 44 (0) 238 029 3223; Fax: 44 (0) 238 029 2853

E-Mail: witpress@witpress.com

<http://www.witpress.com>

For USA, Canada and Mexico

Computational Mechanics Inc

25 Bridge Street, Billerica, MA 01821, USA

Tel: 978 667 5841; Fax: 978 667 7582

E-Mail: infousa@witpress.com

<http://www.witpress.com>

British Library Cataloguing-in-Publication Data

A Catalogue record for this book is available
from the British Library

ISBN: 1-84564-019-5

ISSN: 1746-4498 (print)

ISSN: 1743-3509 (on-line)

*The texts of the papers in this volume were set
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Only minor corrections to the text may have been carried
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Printed in Great Britain by Athenaeum Press Ltd., Gateshead.

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Preface

Safety & Security Engineering, due to its special nature, represents an interdisciplinary area of research and applications that brings together, in a systemic view, many disciplines of engineering, from the traditional to the most advanced and novel.

Safety & Security Engineering is characterized by a totally different approach since it first analyzes hazard situations, not only by means of traditional tools, but also by applying risk analysis techniques. It then manages these hazards through technical solutions, machinery, systems, human resources and procedures to prevent and face incidents, natural or man-made, that could damage people or property.

This means that Safety & Security Engineering applies a systemic and multidisciplinary approach to solve safety and security problems, decomposing them into elementary problems, studying their reciprocal relations and interactions and finding an optimal solution that takes into consideration all the multiple aspects in their singularity and in their belonging to a complex system.

Nowadays, every process needs a safety analysis that must be, from the beginning, integrated in any design, construction or managerial process, to ensure the desired safety and security standards and calculate the costs.

This book contains most of the papers presented at the 1st International Conference on Safety and Security Engineering (SAFE 2005). The meeting provided a forum for the presentation and discussion of the most recent developments in the theoretical and practical aspects of Safety and Security Engineering.

The book covers a wide variety of subjects in the following sections:

- Modelling and theoretical studies
- Risk analysis, assessment and management
- ARAMIS: an integrated risk assessment methodology
- Novel techniques, systems and devices
- Information and communication technologies
- Integrated technological systems
- Fire prevention and protection
- Infrastructures protection
- Transportation problems
- Population protection
- Environmental protection
- Emergency and disaster prevention, control, management and recovery
- Terrorism prevention and protection

- Case studies
- Forensic studies
- Industrial environment

The editors would like to express their appreciation of the valuable advice they received from the members of the International Scientific Advisory Committee and thank the contributors for the quality of their papers.

The Editors
Rome, 2005

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