

# Preface

The 2015 International Conference on Critical Information Infrastructures Security (CRITIS 2015) was the tenth conference in the series, which has accompanied and in many cases anticipated the developments in information infrastructure security and the increasingly tight integration of information systems with the physical infrastructure and cyber-physical systems in general. The conference not only provides a forum for the research community from academia but also offers links to the application domains, government, and supranational entities.

The present volume contains the carefully reviewed proceedings of the 10th CRITIS, held October 5–7 at the Fraunhofer Forum in Berlin, Germany. As the field expands, the conference still retains its concentrated single-track character to ensure that discussion and analysis are possible. As a result of this, we were able to accept 18 papers out of a total of 53 submissions, each of which was carefully peer reviewed anonymously by at least three expert reviewers, resulting in an acceptance rate of approximately 34 %. In addition, six short papers with work in progress were also selected for oral presentation.

The topics covered by the research papers range from the abstract analysis of resilience and robustness in individual and interconnected infrastructure networks employing a number of distinct approaches to analyses of cyber-physical and particularly control systems security with an emphasis on the energy sector. Another area of continued interest to the community also reflected in the papers is the construction and validation of models or exercises, which are accompanied by case studies allowing the validation and sharing of experiences.

As in previous years, while CRITIS is proudly international in its scope, it also serves as an informal forum for the European research community in the critical infrastructures area. By offering a space for poster presentations and discussions, researchers are made aware of on-going developments that are perhaps not yet or not fully reflected in publications and are given an opportunity to exchange views on them and not only on the oral presentations of finalized research.

This continuation of the series of successful CRITIS workshops has once again allowed the research and stakeholder community from academia, research institutions, industry, and government entities to meet and exchange views covering the key areas facing critical infrastructure protection. This was reflected in the carefully selected full research papers as well as in discussions and the poster talks.

The research papers in this volume further reflect the feedback and discussions at the workshop. Similar care was also applied to demonstrations and poster presentations. ENEA demonstrated a decision support system for CI operators that is in use by CI operators in Italy, showing that it is possible to transfer CIP research results into practical application. The posters displayed a representative sample of current C(I)IP research.

In continuation of an initiative first taken up at the 2014 CRITIS, the conference also included an award for young researchers in the area (the 2nd CIPRNet Young CRITIS Award), seeking to recognize and encourage the integration of talented younger researchers into the community. The three candidate papers are featured in a dedicated section of this volume. This year's CYCA award was bestowed to Varun Badrinath Krishna for the paper titled "ARIMA-Based Modeling and Validation of Consumption Readings in Power Grids."

A number of keynote talks rounded off the conference program, covering government, academia, industry, and supranational entities. Cyrill Brunschweiler (Compass Security, Germany) spoke on "Urgency and Key Success Factors of Security Audits in Critical Energy Infrastructure," continuing the informal emphasis on energy infrastructure security. The cyber aspect was presented by Andy Mühlheim (SwissGrid, Switzerland) in his keynote "Critical Systems Protection in a Connected World." Resilience was the main theme of the keynote talks by Evangelos Ouzounis (ENISA, Greece; "Enhancing the Security of Critical Infrastructures — ENISA's Approach") and Margot Weijnen (TU Delft, The Netherlands; "Shaping Resilient Critical Infrastructures in a Fragmented World"), while the keynote by Timo Hauschild (Federal Office for Information Security, Germany) investigated the balance between government–industry cooperation and regulation in his talk ("Cooperative and Regulation Approaches in a Changing IT Threat Landscape"). We would like to use this preface to once again express our gratitude to these keynote speakers.

A year that has seen the security of control systems and particularly their use in cyber-warfare move from a somewhat theoretical approach only recently to a commonplace aspect of conflict that is also reflected in mainstream media and the national security strategies of many nations continues to emphasize the importance of the CRITIS conference while a number of related, specialized events pick up on some of the themes originating over the past decade at CRITIS. As the research community as a whole grows it may no longer be possible to have a single integrating event, but we believe that the role of CRITIS will continue to evolve as a nucleus for such lines of enquiry.

As always, the realization of a conference does not happen in a vacuum, and it is first and foremost the authors and conference participants with their original research contributions and interactions with speakers and panelists that shape the character and success of the CRITIS conference. We would also like to thank the Technical Program Committee members whose timely and thorough reviews helped ensure not only the high quality of the research contributions, but also provided valuable insights to authors. We look forward to the second decade of the CRITIS conference.

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