



Conference Programme

(smartphone users: see <http://m.twoppy.com/critis2013>)

Monday September 16, 2013 location: **EYE**

13:15 Registration

14:00 Welcome and Opening
Annemarie Zielstra (TNO)

14:05 Amsterdam, A Smart City
Ton Jonker (Amsterdam Economic Board)

14:35 Intermezzo

14:40 A Hyperconnected World: EYE on the past, present and future
Henk Geveke (TNO)

15:00 From requirements for critical industry sectors... towards...
Jointly protecting our critical service chains
Ben Krutzen (Shell)

15:25 Tea/coffee break

15:50 Smart City, A Vision on 2030
Max Remerie (Smart City development, Siemens)

16:20 Future visions of Super Intelligent Transportation
Marie-Pauline van Voorst tot Voorst
(Netherlands Study Centre for Technology Trends)

16:50 Closing remarks

17:00 – 18:30
Ice breaker event

Tuesday September 17, 2013

location: **SHELL Technology Centre**

08:30 Registration

09:00 Opening
Eric Luijff (TNO)

09:05 Welcome and Safety Briefing
H.P. Calis (Site Manager STCA Shell)

09:30 Keynote: Future C(I)IP challenges – a view from the financial sector
Leon Strous (DNB - De Nederlandse Bank)

10:15 Coffee/tea break

10:40 Smart Cities, a view on developments
Giampiero Nanni (Symantec/EMEA)

11:20 Smart Grids in Smart Cities: Cyber Resilience and Data Protection
Panel Session – see background

12:20 Lunch break - General Tour (max. 30 participants)

13:45– 15:05

New Challenges (papers)

room: **Newton**

moderator: **Cristina Alcaraz** (University of Malaga, Spain, and Royal Holloway of the University of London, United Kingdom)

Security Challenges for Cooperative and Interconnected Mobility *Tjerk Bijlsma, Sander De Kievit, Jacco van de Sluis, Ellen van Nunen, Igor Passchier and Eric Luijff*

Study with the In-Data centre Backup Office for Banks *Yasutake Sayanagi*

Protecting a Federated Database Infrastructure Against Denial-of-Service Attacks *Arne Ansper, Ahto Buldas, Margus Freudenthal and Jan Willemson*

Minimizing the Impact of In-band Jamming Attacks in WDM Optical Networks *Konstantinos Manousakis and Georgios Ellinas*

Work-in-progress

room: **Volt/Ohm**

moderator: **Erich Rome**
(Fraunhofer IAIS, Germany)

Requirements to establishing resilient critical infrastructure, integrating safety and security *Stig Ole Johnsen and Nooshin Aghajani*

Towards a Security Analytics System *Christopher Richardson, Nicholas Race and Paul Smith*

Malicious MPLS Policies State Reconnaissance *Abdulrahman Al-Mutairi and Stephen Wolthusen*

CIPRNet: towards an advanced decision system for supporting prediction and management of CI crisis scenarios *Vittorio Rosato*

15:05 Tea break

15:25 House of Commons Debate: Towards Resilient Smart Cities
Roderik van Grieken (Netherlands Debate Institute)

17:10 Closing remarks
Annemarie Zielstra (TNO)

19:15 Conference Dinner
Restaurant d'Vijff Vlieghen

Background on the session on Smart Grids in Smart Cities

The trend in the population of the world is toward the concentration in large metropolitan areas. For assuring their sustainability and security, the cities of the future must incorporate new and smarter ways to manage fundamental functions such as energy, transport, health, etc. Smartness is an appealing, and nowadays popular though vague, concept that can be interpreted in terms of providing information-based technologies and operative strategies to assure the societal goals.

Electricity systems are a key energetic backbone of such modern cities and play a major role in making cities smarter. Many new services and opportunities are expected to be accommodated by the electricity systems of the future: from the exploitation of dispersed renewable and non-renewable energy sources, to the support of the electrification of the urban transportation system, from the efficient energy usage to new ways of managing public and private power systems, from self-healing to new services, market mechanisms and business opportunities.

In this new scenario, a vast and capillary layer with information exchange and computational power will represent the cyber backbone for making systems and cities smarter. Over the cyber layers various players (DSO, retailers, prosumers, EV users, service providers...) will exchange information with different purposes (secure operation of the distribution system, billing, optimal operation of devices and users' internal systems...). The capacity for grids and cities to be smart, hugely rely on the resilience of the cyber infrastructure. Different threats, both accidental and malicious, may threaten the communication and computational systems causing for instance operational failures, data impairments or system damages. In particular, the issue of the privacy of end users requires to be properly considered.

The EC JRC-led session addresses the resilience and data protection in smart grids, discussing present and future needs and perspectives.

Organisers: Marcelo Masera (EC-JRC-Institute for Energy and Transport)
Ettore Bompard (EC-JRC-Institute for Energy and Transport)

Views by: Ettore Bompard (EC-JRC- Institute for Energy and Transport)
Giovanni Griva (Polytechnic of Turin, Italy)
Marco Aiello (University of Groningen, Netherlands)
Bernhard Hämmerli (Lucerne University of Applied Sciences, Switzerland
and Gjøvik University College, Norway)

Wednesday September 18, 2013 location: **SHELL Technology Centre**

08:30 Registration

09:00 Opening

Eric Luijff (TNO)

09:05 Keynote: European Critical Internet Infrastructure:
past, present and future research

Rossella Mattioli (ENISA, EU)

09:50 – 10:30

Natural disasters (papers)

moderator: Stefan Brem (Federal Office for Civil Protection, Switzerland)

The Role of Critical Infrastructures on the Impacts caused by Natural Disasters *Ana Laugé, Josune Hernantes and Jose Mari Sarriegi*

Analysis of Severe Space Weather on Critical Infrastructures *Francesco Gaetano, Gabriele Oliva, Stefano Panzieri, Claudio Romani, and Roberto Setola*

10:30 Coffee/tea break

10:50 Keynote: From R&D to an International Operational Monitoring Centre:
monitoring the state of critical infrastructure(s) using sensor systems

Robert Meijer (Stichting IJkdijk, University of Amsterdam, and TNO)

11:30 – 12:30

Smart Grids (papers)

moderator: Paul Smith (AIT - Austrian Institute of Technology, Austria)

A Plug and Play, Approximation-Based, Selective Load Shedding Mechanism for the Future Electrical Grid *Yiannis Tofis, Yiasoumis Yiasemi and Elias Kyriakides*

A Framework for Risk Analysis in Smart Grid - Perspective Based Approach *Rani Yesudas and Roger Clarke*

Physical Attestation of Cyber Processes in the Smart Grid *Thomas Roth and Bruce McMillin*

12:30 – 13:30 Lunch break

Young CRITIS lunch corner

13:30: Threats and Risk (papers)

room: **Newton**

moderator: **Margrete Raaum**
(UiO-CERT & FIRST)

QSec: Supporting Security Decisions on an IT Infrastructure
Fabrizio Baiardi, Federico Tonelli, Fabio Corò, and Luca Guidi

Structural Controllability of Networks for Non-Interactive Adversarial Vertex Removal
Cristina Alcaraz, Estefanía Etchevés Miciolino and Stephen Wolthusen

Real Time Threat Prediction, Identification and Mitigation for Critical Infrastructure Protection using Semantics, Event Processing and Sequential Analysis
Dimitris Kostopoulos, Vasilis Tsoukas, George Leventakis, Prokopios Drogkaris and Vasiliki Politopoulou

Determining Risks from Advanced Multi-step Attacks to Critical Information Infrastructures
Zhendong Ma and Paul Smith

13:00 - 13:45: Young CRITIS

room: **Celcius/Kelvin/Fahrenheit**

moderator: **Imelda van de Voorde** (TNO)

Next Steps to Build the Community
(roundtable)

13:50: Short papers (papers)

room: **Celcius/Kelvin/Fahrenheit**

moderator: **Erich Rome**
(Fraunhofer, Germany)

Optimization Models in a Smart Tool for the Railway Infrastructure Protection
Antonio Sforza, Claudio Sterle, Pasquale D'Amore, Annarita Tedesco, Francesca De Cillis and Roberto Setola

Towards Automatic Critical Infrastructure Protection through Machine Learning
Lorena Cazorla, Cristina Alcaraz and Javier Lopez

Using NATO Labelling specifications in support of controlled information sharing between partners
Sander Oudkerk and Konrad Wrona

A Framework for Privacy Protection and Usage Control of Personal Data in a Smart City
Gianmarco Baldini, Ioannis Kounelis, Igor Nai Fovino, and Ricardo Neisse

14:50 Tea/coffee break

15:15 – 16:15

SCADA/ICS and Sensors (papers)

room: **Newton**

moderator: **Igor Nai Fovino** (JRC, Italy)

On the feasibility of device fingerprinting in Industrial Control Systems
Marco Caselli, Dina Hadziosmanovic, Emmanuele Zambon and Frank Kargl

Bridging Dolev-Yao Adversaries and Control Systems with Time-Sensitive Channels
Bogdan Groza and Marius Minea

An Indoor Contaminant Sensor
Demetrios Eliades, Michalis Michaelides, Marinos Christodoulou, Marios Kyriakou, Christos Panayiotou and Marios Polycarpou

16:15 – 16:30 Short break

16:30 Young CRITIS: next steps – results from the meeting
Young CRITIS

16:40 9th CRITIS Conference (2014), Cyprus – a preview
Christos Panayiotou (KIOS Research Center, Cyprus)

16:50 10th CRITIS Conference (2015), Germany – a pre-announcement
Erich Rome (Fraunhofer IAIS, Germany)

16:55 Closing and Farewell
Annemarie Zielstra (TNO)

17:00 End of conference