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Vaasan yliopisto
UNIVERSITY OF VAASA

Real Time Simulator for Secure Critical Infrastructure – Fundamentals and Training

By: University of Vaasa, Riga Technical University, OFFIS & National Technical University of Athens

VENUE: UNIVERSITY OF VAASA, Wolffintie 34, 65200 Vaasa , Finland

DATE: MARCH 20 & 21, 2023

THE SEMINAR IS FREE OF CHARGE AND LIVE ONLY.

What will you gain from attending this training?

- Participants will learn about Real-Time Simulation (RTS) systems, their importance, capabilities and use to simulate critical infrastructure (especially smart grids) and associated scenarios. For this, fundamentals of Real-Time Simulation are introduced on the first day of training, then on the second day hands on skills and application will be presented. Selected scenarios from the industry will be given to participants. Finally, a workshop and an open discussion session where participants can share their ideas, will be held.
- After completing this training, participants will be able to describe Real-Time Simulation systems and bring their use and applications to their organizations. Additionally, participants will be able to join advanced courses on this topic.
- Participants will have a chance to attend **Vaasa Energy Week**[2] [3] **2023**, where many interesting industrial sessions are held.
- Finally, participants will receive a certificate that they have attended and participated in the training.

Schedule

Day 1

Monday, March 20: Introduction to CC-RSG and CR-DES projects & The theoretical part of the course

10:15–10:30	Registration and welcome coffee
10:30–11:00	CC-RSG & CR-DES in glance, and introduction to the training • What are CC-RSG and CR-DES projects about? • What results were achieved? • Why and for whom we are doing the training? • Who are the trainers? • The structure of the training
11:00–12:00	Dissemination session • Identification of skill gaps in the field of cybersecurity in smart grids in the EU • Development of the cybersecurity education strategy for smart grids • Designing, developing, and piloting curricula on cybersecurity on smart grids, with main focus on real time simulation
12:00–13:00	Lunch (included)
13:00–15:00	Real time simulator, the theory • Recorded videos will be available as supplementary materials to cover more topics in details
15:00–17:00	Attendance of Energy Week[4] (otherwise we continue with the theory part)

Day 2

Tuesday, March 21: Hands on skills and workshop on real time simulation

9:00–9:15	Registration and welcome coffee
9:15–10:30	Introduction to smart grids and fundamentals of cybersecurity
10:30–12:00	Introduction to Digital Twins (OPAL-RT tools)
12:00–13:00	Lunch (included)
13:00–14:00	Hands on exercises on Digital Twins and related software and hardware • Recorded videos will be available as supplementary materials to cover more topics in details
14:00–15:00	Workshop with the attendees, exercises and open discussion • Scenarios for example • Knowing about sectoral challenges and specific demands • Emphasizing on the real time simulator as a tool for simulating the whole critical infrastructure, thus showing its capabilities and possibilities
15:00–17:00	Attendance of Energy Week[3] (otherwise we continue with the practice part)

Registration

https://link.webropolsurveys.com/S/DB72E1A2E841336A

About CC-RSG and CR-DES projects

Cybersecurity Curricula Recommendations in Smart Grid (CC-RSG) is a development of education project targeting the security of smart grid systems by bridging the gap of cybersecurity educational offerings associated with smart grids. The main objectives of the project are: higher education study programs in smart grids adopt cybersecurity learning outcomes; and, organizations dealing with smart grids train their professionals in cybersecurity issues. The project is an Erasmus+ funded project and is a collaboration between University of Vaasa (UVA), Finland, Riga Technical University (RTU), Latvia, University of Oldenburg (UOL), Germany, and National Technical University of Athens (NTUA), Greece.

Cybersecurity and Resilience of Digital Energy Systems (CR-DES) is a development of infrastructure project that aims at developing cybersecurity skills related to digital energy systems. The main objectives of the project are: strengthening the research, development and innovation infrastructure for the energy sector in Ostrobothnia; developing cybersecurity competencies related to the digital energy systems in the region's innovation ecosystem; and, supporting firms and networks of firms in developing new business models. The project is funded by the EU and the Ostrobothnia Regional Council, and is a collaboration with local energy and development companies, namely, Wärtsilä, ABB, Arcteq, Wapice, Vaasan Sähkö, and VASEK.

Notes:

1 For more information about Vaasa, please visit the link https://www.vaasa.fi/en/see-and-experience/

2 **Participants need to register for attending Vaasa Energy Week 2023** themselves via the link https://www.energyweek.fi/

3 Due to limitations, **participants are encouraged to book their accommodation as early as possible** to avoid any shortage of accommodation. For more information on available accommodation, please visit the link https://www.vaasa.fi/koe-ja-nae/nuku/

4 Depending on the program of the energy week that will be announced, attendance will be only on the first or second day, but not both