PHOENIX

Electrical Power System's Shield against complex incidents and extensive cyber and privacy attacks

Newsletter no.3 – March, April, May 2020

Description and Benefits

PHOENIX is a Horizon 2020 collaborative project,
co-funded by the European Union.

It focuses on the protection of the European, end-to-end European Electrical Power Energy systems (EPES) via early detection and fast mitigation of cyber-attacks against their assets and networks from human activities, while protecting the utilities and end-users' privacy from data breaches by design. The consortium is coordinated by Capgemini Technology Systems and brings together 24 partners from 11 EU Countries.

The challenge of the project is to provide a cyber-shield armour to European EPES to survive coordinated, large scale cybersecurity and privacy incidents; guarantee the continuity of operations and minimize cascading effects in the infrastructure itself, the environment and the end-users at reasonable cost.

H2020 PHOENIX Project
At a glance

Title: Electrical Power Energy System's (EPES) Shield against complex incidents and extensive cyber and privacy attacks
Type of action: Innovation Action
Topic: SU-DS04-2018-2020
Grant Number: 832989
Total Cost: € 10 999 208,21
EC Contribution: € 7 995 004,25
Start Date: 01/09/2019
End date: 31/08/2022
Duration: 36 months
Project Web Site: www.phoenix-h2020.eu
Coordinator: CAPGEMINI

Project Objectives

1. Strengthen EPES cybersecurity preparedness
2. Coordinate cyber-incident discovery, sharing & response
3. Accelerate research & innovation in EPES cybersecurity via DevSecOps and innovative ML-based technologies.

Concept and approach

PHOENIX focuses on the protection of the European EPES via:
(i) Cybersecurity & Data Privacy by design and by innovation, (ii) cross-country Cybersecurity Information Sharing, realising NIS Directive (iii) realistic exploitation, penetration testing and verification/certification methodologies and procedures and (iv) validation in 5 real-life Large-Scale Pilots (LSP) across Europe.

The First International Online Video-Conference On Energy T&D Networks Organized by CRE

More than 220 participants representing over 120 organizations from 35 countries and 28 high-level speakers have jointly contributed to the success of the Event.

Romanian Energy Center (CRE) organized on the 30th of April 2020 the first International online video conference "Integrated Approach in the Management and Operation of Electricity Transmission and Distribution Networks". The format of the Event was an International Stakeholders Consultation focusing on the preliminary results and synergies within six EU funded projects: SOGNO, WISEGRID, PHOENIX, CROSSBOW, EDDIE and DEFENDER.

The main objectives of the event were:

- *Consultation with Stakeholders* on the Preliminary Results on Electricity T&D grid operation*, regulation, standardization,* as well as on *New Solutions and Services* proposed to TSOs and DSOs for improving the *operation* and *security* of the electricity grid trough Digitalisation and Education*.*
- *Dissemination* of the Projects Solutions for the Management of Variable Renewable Energies and Storage Units enabling more Secure Smart Grid.
- *Presentation of integrated solutions* and Business Models for the integration of more RES into the European Smart Grid with increased protection and fast mitigation of the *Cyber-Attacks* against assets and the Networks of the Future.
- *Identify synergies* within EU H2020 Projects on Electricity T&D.
- *Consolidating* the European dimension of Innovation and Development in the Energy Sector.

Highlights of the conference

The future look of the Energy and the European Green Deal enabled by a Stable and Smart Grid with high RES were two of the main topics addressed by the two distinguished keynote speakers in the Opening Part of the conference.

The first session *"Innovative T&D Solutions and ICT Services for Grid Operators", started with the SOGNO project achievements as for measures to increase network resilience by deploying more automated services in the MV and LV grid and live demonstrations for the Open Platform and Modular Services project developed.*

Next presentation was on WISEGRID and the project coordinator addressed key topics of the nine tools developed for the project, standardization cooperation and citizen engagement for the EU Smart Grid of the future.

PHOENIX was introduced by the coordinator Dr. Farhan Sahito whom pointed out that Phoenix will focus on a self-learning and centralized ecosystem, to protect existing and new EPES components, from known and un-known cyber-threats, while ensuring data-privacy.

The first session ended with a panel discussion on the topic of "The role of TSOs and DSOs for securing the Smart Grid towards up to 100% Renewables" and the Panel speakers went directly into the core part of the subject underlining the expanded responsibilities of the DSO due to large penetration of renewables and specifically of the distributed generation.

Second session "Developments in the Standardization for the Power Sector" highlighted through its speakers that the current paradigm and goal of energy self-sufficiency is too expensive and the best way for the future being cooperation, the blockchain technology can democratize the energy markets and can support the production and consumption of green energy while improving the efficiency of energy exchanges, the future role of DSOs is changing, considering that increased cooperation is being required between TSOs and DSOs in order to maintain the quality and safety in operation of power systems

The conference ended with a panel discussion on the topic "The Role of Regulation and Standardization and the Potential Impact in the Power Sector" and the focus was on the issues of software products and implementation at national and regional levels, regulatory implications, the impact of digitalization on standardization and standardizing cyber security products and services.

More information on the international conference:
http://www.crenerg.org/en/web-conference-sogno-eu-projects/

Highlights from the PHOENIX blog

Security By Design

Energy networks are becoming ever more decentralized with an increasing number of renewable resources connected to them.

https://phoenix-h2020.eu/security-by-design/

Secure EPES Incidents Information Sharing in PHOENIX

In the energy domain, cybersecurity incidents information sharing among the electrical power and energy systems (EPES) utilities is crucial …

https://phoenix-h2020.eu/secure-epes-incidents-information-sharing-in-phoenix/

Evaluating the security of electricity infrastructures

The electrical grid constitutes of legacy systems that were built with no security in mind. As we move towards the Industry 4.0 area though a high-degree …

https://phoenix-h2020.eu/evaluating-the-security-of-electricity-infrastructures/

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