

# PHOENIX

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

Newsletter no. 2 – December 2019 - January, February 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.



## 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.

## 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](http://www.phoenix-h2020.eu)

**Key Words:** Cybersecurity, Energy, EPES Project

**Coordinator:** CAPGEMINI

## 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. To know more about the LSPs, visit [PHOENIX Pilot Sites](#).

## PHOENIX second plenary meeting

The second plenary meeting of PHOENIX was successfully held at INTRASOFT International SA at Athens, Greece on 4th and 5th Feb 2020. The meeting was attended by the consortium partners and the EU Commission Project Officer. The two days saw interesting presentations and discussions about PHOENIX platform architecture, underlying technologies and the upcoming real-life large scale pilots.



During the initial phase of the project, a major effort by the partners has been placed in analyzing comprehensively the cyber threats associated with the European EPES (Electrical Power and Energy System). This work item is close to being completed. Simultaneously, the design of the various parts in the architecture of the PHOENIX platform have been initiated in the associated work packages. However, the intensity of the design efforts will increase significantly in the near future as the project progresses steadily towards its goals.

## Presence in Impact Creation Events



**Capgemini Analyst and Advisor Day**  
 Capgemini 147, Issy, Paris, December 4, 2019

The PHOENIX project objectives, expected impact and technology were introduced by Dr. Farhan Sahito (Project Coordinator, Capgemini) and Wafa Ben Jaballah (Thales Group) to the attendees of Capgemini annual Analyst and Advisor Day at Capgemini 147, Issy Les Moulineaux, France on 4 Dec 2019. The event was attended by 31 analysts and advisors from 21 different



**Secure Societies “Project to Policy” Kick-Off Seminar**  
 Brussels, January 31, 2020

The PHOENIX project was invited to present at the first Secure Societies “project to policy” kick-off seminar organized by REA B4, together with DG CNECT and DG HOME at Brussels on 31 Jan 2020. With an aim to understand the relevant policy drivers and integrate them into the project from the start, Dr. Farhan Sahito presented a view into how PHOENIX will contribute to the implementation of EU policies.

The PHOENIX project was presented to staff, students and industry representatives at **University of Mauritius** by **Dr. Ganesh Sauba**, Principal Consultant at DNV GL on 23 January 2020. The event received considerable participation and interest.



PHOENIX project partner CRE (Romanian Energy Center) are delighted to announce the successful acceptance to participate at INNOGRID 2020 event, in Brussels, 5-6 May.

The focus of this event will be the **paramount role of Networks to make the Green Deal a reality**, while putting customers and citizens centre stage. In particular, the event will look at "**effective cybersecurity framework**", a topic at the very core of the **EU funded Phoenix Project**.

This prestigious event is supported by [ENTSO-E](#) and [E.DSO](#) organizations.

For further information please visit [INNOGRID 2020](#) website.



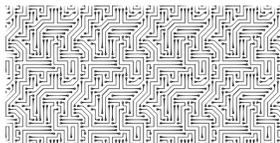
**Dr. Sofia Tsekeridou** from INTRASOFT International has been invited to participate in the **European Energy Information Sharing & Analysis Centre's (EE-ISAC) upcoming plenary meeting in Porto**, Portugal, in order to present the PHOENIX project, its objectives and the consortium.



## From the PHOENIX blog

### Cyber Physical Systems

#### *Synelixis*



Nowadays, the demand for designing efficient, end-to-end Network Intrusion Detection Systems (NIDS) for Cyber Physical Systems (CPS) has grown tremendously...

### A new (r)evolution

#### *Comsensus*



It is clear that electrical power and energy systems (EPES) are of key importance for almost all other domains and sectors that demand energy and electricity supply...

### Cyber Security in Electrical Power Grids

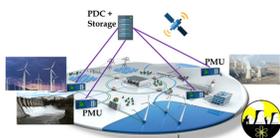
#### *RWTH*



Electrical power grids are part of what we call critical infrastructures and are essential for maintaining structure and order within our society. In the past, power grids were characterized by proprietary, isolated, legacy equipment, which in turn provided a barrier to malicious intrusion into the power system...

### Phasor Measurement Unit for Monitoring Power Systems

#### *CRE*



PMUs produce synchronized measurements of the phasors, frequency and the rate of change of frequency of the voltage and current signals, and output time stamped phasor data to a communication network using a standard format at a predefined reporting rate...

### Will Blockchain be a game changer in energy?

#### *Delgaz Grid*



A Blockchain, originally block chain, is a growing list of records, called blocks, that are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data...

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