Project Information

CyberWI

Project ID: C2014/2-9

Start Date: 1 February 2016

Closure date: 31 December 2018

Partners:

Centria University of Applied Sciences Ltd, Finland

City of Oulu, Finland

Elektro-Arola, Finland

Elektroniksystem i Umeå AB (Elsys), Sweden

Ericsson AB (EAB), Sweden

Finnish Meteorological Institute, Finland

HITEC Luxembourg S.A., Luxembourg

Imtech Traffic & Infra, Finland

q2d Solutions AB, Sweden

Rugged Tooling, Finland

SICS Swedish ICT AB, Sweden

Silverskin Information Security, Finland

Virve Tuotteet ja Palvelut, Finland

Co-ordinator:

Harold Linke

HITEC Luxembourg S.A., Luxembourg

E-Mail: harold.linke@hitec.lu

Project Website

www.celticplus.eu/project-cyberwi/

Cyber-security in the Wireless Industrial use cases

CyberWI works on security solutions integrating seamlessly over such infrastructures as Cloud Computing, IoT networks and Embedded Systems. The goal is to enable IoT for companies to deploy secure services operating across different infrastructures. Use cases and requirements to achieve the projects goal are gathered from industrial partners.

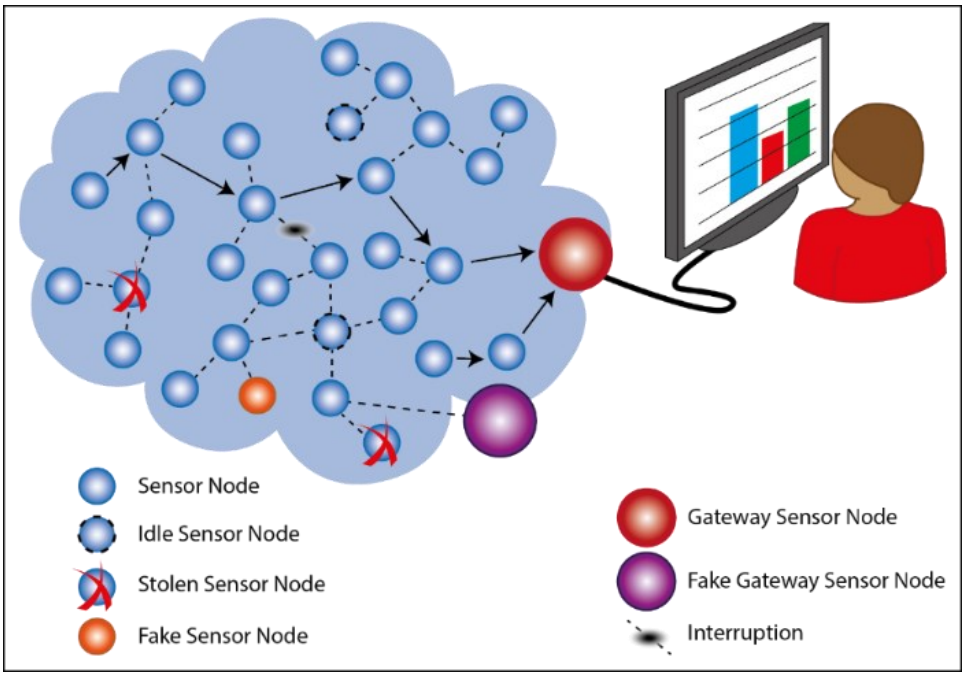
Main focus

Industrial systems have lately evolved from manual processes to efficient automated systems, increasingly interconnected, or connected to the Internet. When connecting the systems from physical domain to the Internet, security becomes an important concern. Currently many security solutions for cloud, Wireless Sensor Networks (WSN) or mobile are proprietary, and the available standardization is fragmented - if any. Available security solutions cover only parts of the necessary mechanisms for end-to-end security. Especially small industrial actors find it difficult to set up and evaluate secure systems and existing solutions. The main objective of CyberWI is to show a way towards deployment of commercially viable and accessible secure systems that can be implemented in the near future in Industrial Internet applications.

CyberWI will provide solutions to these problems by gathering security use cases from different industrial verticals. Based on them the project defines common problems and design solutions applicable to a broad range of verticals. .

Approach

Security is one of the biggest challenges to overcome before the applications can utilize the Industrial Internet. Security challenges should be tackled for the Internet



Most common threats in wireless network presented in one sketch.

to be utilized in critical industrial systems. CyberWI will face numerous telecommunication challenges including security solutions, suitable for limited processing and energy capability of M2M, mobile and wireless sensor application.

In order to ensure that the obtained results work in a production environment, demonstrators and test beds will be implemented and publicly presented. Project work will be disseminated through workshops and publications, as well as international standardization.

The target groups of the CyberWI exploitation activities are telecommunication operators, data processing related companies and industry, traffic and other related authorities and political decision takers. In addition, the equipment manufacturers (fixed or mobile), municipalities and commercial companies are targeted. CyberWI will produce a specific exploitation plan with detailed measurable list of activities and objectives for each target group.

Main results

CyberWI will design solutions for authentication and authorization, privacy protection and security testing across the different carrier technologies (cloud, IoT, WSN, mobile), thus ensuring seamless integration of such systems across technological boundaries (e.g. in a WSN reporting to a cloud service).

CyberWI will also actively participate in ongoing security standardization activities, in order to ensure that requirements from the CyberWI use cases are covered by the solutions that get standardized.

Impact

CyberWI will result in a harmonization of security approaches crossing different technological boundaries and different verticals, benefiting small commercial actors that need to implement or deploy security solution in one of these fields. It will provide possibilities to utilize innovation potential of the market of IoT, WSN, mobile, and cloud products and services with a standardized, security solution.

Security solutions will work as business enablers for technological innovations in products and services in various markets. CyberWI will provide new business opportunities to various kind of security testing, intrusion detection, DOS (Denial of Service)/ DDoS (Distributed Denial of Service) prevention and encryption tools and services in the industrial domain.

About Celtic-Plus

Celtic-Plus is an industry-driven European research initiative to define, perform and finance through public and private funding common research projects in the area of telecommunications, new media, future Internet, and applications & services focusing on a new „Smart Connected World“ paradigm. Celtic-Plus is a EUREKA ICT cluster and belongs to the intergovernmental EUREKA network. Celtic-Plus is open to any type of company covering the Celtic-Plus research areas, large industry as well as small companies or universities and research organisations. Even companies outside the EUREKA countries may get some possibilities to join a Celtic-Plus project under certain conditions.

Celtic Office

c/o Eurescom, Wieblinger Weg 19/4
69123 Heidelberg, Germany
Phone: +49 6221 989 381
E-mail: office@celticplus.eu
www.celticplus.eu

EUREKA