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ITEA 3 is a EUREKA strategic ICT cluster programme

Exploitable Results by Third Parties

14039 SecureGrid

Project details

Project leader:	SOTEC Consulting S.L
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Name: Hybrid NB-IoT and PLC (Power Line Communication) meter reading in one single system		
Input(s):	Main feature(s)	Output(s):
▪ Meter Data Readings	▪ Usage of NB-IoT solution ▪ Usage of PLC solution ▪ One platform visualization	▪ Single Platform to visualize readings

UNIQUE SELLING PROPOSITION(S):	▪ Multiple communication solution visualized under one structure
INTEGRATION CONSTRAINT(S):	▪ Different nature of communication structure, NB-IoT as point to point communication, PLC via Gateway ▪ DLMS / Cosem (IEC62056) based communication, not all brands support DLMS / Cosem standard, replacement of proprietary communication protocols necessary ▪ Communication module to communicate through Smart Gateway such as Head End System, some HES not ready for new trend techs such as NB-IoT or new bread PLC
INTENDED USER(S):	▪ Electric utilities to use standardized structures ▪ Meter Reading service providers to give read outs to utilities
PROVIDER:	▪ All partners
CONTACT POINT:	▪ Spain: Sotec, Turkey: Gerade Software
CONDITION(S) FOR REUSE:	▪ License based subscription based on meter points connected

Latest update: Nov 4th 2020

Name: Analytics to determine change of data		
Input(s):	Main feature(s)	Output(s):
▪ Meter Data Readings	▪ Evaluate similar data, determine depth of change ▪ Change of data values	▪ Single Platform to visualize readings
UNIQUE SELLING PROPOSITION(S):	▪ Understanding of consumption activities, early determination of theft or failure of system	
INTEGRATION CONSTRAINT(S):	▪ Meter data delivery to the control center ▪ Real smart meters vs. digital meters ▪ Replacement investment (high compared to traditional meters) ▪ Coordination between regional offices or utilities and HQ necessary	
INTENDED USER(S):	▪ Electric utilities to use standardized structures ▪ Meter Reading service providers to give read outs to utilities	
PROVIDER:	▪ All partners	
CONTACT POINT:	▪ Spain: Sotec, Turkey: Gerade Software	
CONDITION(S) FOR REUSE:	▪ License based subscription based on meter points connected	
	Latest update: Nov 4th 2020	

Name: Honeypot for cyber attacks		
Input(s):	Main feature(s)	Output(s):
▪ Cyberattack from various environments	▪ Understand attacks ▪ Determine nature of attack ▪ Learn how and what attack started ▪ Prevent attackers	▪ Machine Learning from attacks ▪ Nature and type of attack ▪ Geolocation of the attack

UNIQUE SELLING PROPOSITION(S):	▪ Redirect attack to secure environment and MANAGE the attack
INTEGRATION CONSTRAINT(S):	▪ Redirect without being affected ▪ Integration of general meter reading systems to cyber security systems, different structure and aim of operation ▪ OT and IT integration, process and MO ▪ Machine Learning to Cyber attack
INTENDED USER(S):	▪ Electric utilities to use standardized structures ▪ Meter Reading service providers to give read outs to utilities
PROVIDER:	▪ All partners
CONTACT POINT:	▪ Spain: Sotec
CONDITION(S) FOR REUSE:	▪ License based subscription on serves installed
	Latest update: Nov 4th 2020

Name: Consumption control at customer and building levels		
Input(s):	Main feature(s)	Output(s):
▪ Meter readings	▪ Separate customer meters readings ▪ Consolidated meter reading of building	▪ Meter reading ▪ Total consumption comparing
UNIQUE SELLING PROPOSITION(S):	▪ Determine losses at first hand ▪ Theft and tampering at household level	
INTEGRATION CONSTRAINT(S):	▪ Additional meter at building conjunction points ▪ Sum-check at control center ▪ Replacement investment / new meter investment	
INTENDED USER(S):	▪ Electric utilities to use standardized structures ▪ Meter Reading service providers to give read outs to utilities	
PROVIDER:	▪ All partners	
CONTACT POINT:	▪ Spain: Sotec, Turkey: Gerade Software	
CONDITION(S) FOR REUSE:	▪ License based subscription on meters and serves installed	
	Latest update: Nov 4th 2020	

Name: SDN based network		
Input(s):	Main feature(s)	Output(s):
▪ Alerts detected	▪ Network control ▪ SM connection & disconnection ▪ Management of priority queues, ▪ Management of bandwidths, etc.	▪ Automatic actions conducted based on rules ▪ Network reconfiguration ▪ Network Topology displayed

UNIQUE SELLING PROPOSITION(S):	▪ Prevent network attacks ▪ Isolate compromised nodes ▪ Automatic reconfiguration of the network based on defined rules
INTEGRATION CONSTRAINT(S):	▪ The attacks should be detected by additional tools that could be integrated into the SDN-based network
INTENDED USER(S):	▪ all types of networks that may be vulnerable through different types of attacks
PROVIDER:	▪ Experis
CONTACT POINT:	▪ Spain: Experis
CONDITION(S) FOR REUSE:	▪ License based subscription

Latest update: Nov 20h 2020

Name: SDN based network - CAT		
Input(s):	Main feature(s)	Output(s):
▪ Alerts detected	▪ Automatic isolation of a SM compromised to a honeypot server ▪ Prevent & Learn from attackers	▪ Network reconfiguration ▪ Cyber Attack detection

UNIQUE SELLING PROPOSITION(S):	▪ Prevent network cyber attacks ▪ Isolate compromised nodes in Honey Pot ▪ Automatic reconfiguration of the network based on defined rules
INTEGRATION CONSTRAINT(S):	▪ Integration of general meter reading systems to cyber security systems, different structure and aim of operation ▪ Attacks should be detected by additional tools that could be integrated into the SDN-based network ▪ Redirect without being affected
INTENDED USER(S):	▪ Electric utilities to use standardized structures ▪ Meter Reading service providers to give read outs to utilities
PROVIDER:	▪ Experis, SOTEC
CONTACT POINT:	▪ Spain: Experis, SOTEC
CONDITION(S) FOR REUSE:	▪ License based subscription

Latest update: Nov 20h 2020

Name: Deep Learning for Power Consumption Fraud		
Input(s):	Main feature(s)	Output(s):
▪ Meters Readings	▪ Anomaly detection module	▪ Fraud Detection Alerts

UNIQUE SELLING PROPOSITION(S):	▪ elearning module able to identify consumption patterns and detect anomalies in energy consumption (possible cases of fraud)
INTEGRATION CONSTRAINT(S):	▪ Need lots of datasets coming from Smart Meters in order to identify patterns.
INTENDED USER(S):	▪ Electric utilities to use standardized structures ▪ Meter Reading service providers to give read outs to utilities
PROVIDER:	▪ Experis
CONTACT POINT:	▪ Experis
CONDITION(S) FOR REUSE:	▪ License based subscription

Latest update: Nov 20h 2020

Name: SIM Card / Meter pairing and firmware validation for meters		
Input(s):	Main feature(s)	Output(s):
▪ Meter & SIM Card data	▪ Check whether the SIM card and meter's ID are paired ▪ Validate Firmware and tariffs with database	▪ Prevent SIM cards from stolen ▪ Tariffs to the right meter

UNIQUE SELLING PROPOSITION(S):	▪ Protection of SIM Cards, Meter Firmware and Tariffs / asset protection and revenue assurance
INTEGRATION CONSTRAINT(S):	▪ Meter's ID with the SIM card to be record before field roll out ▪ Meter's configuration periodical check with field forces to ensure data collected remotely (shorter periods) with manually acquired data ▪ SIM card can easily be taken out of the meter, eSIM still not mass deployed ▪ PLC or RF Meters without SIM cards can only be check on the firmware and tariffs no SIM card present, SIM cards only at Data Concentrator level
INTENDED USER(S):	▪ Electric utilities to use standardized structures ▪ Meter Reading service providers to give read outs to utilities ▪ Telecom infrastructure provider
PROVIDER:	▪ Gerade, Baskent, Ericsson
CONTACT POINT:	▪ Spain: Sotec, Turkey: Gerade Software
CONDITION(S) FOR REUSE:	▪ Database check on SIM card and Meter pairing

Latest update: Nov 23rd 2020