

SPARKS

Smart Grid Protection Against Cyber Attacks

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Objectives

The key objectives of SPARKS are to provide an analysis of the current and future grid system in terms of cyber-security risks, vulnerabilities, and social and legislative concerns, to develop key innovative tools and technologies that provide real-time cyber-protection and monitoring of the grid, and to influence external stakeholders through an active programme of engagement

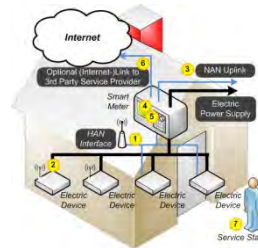
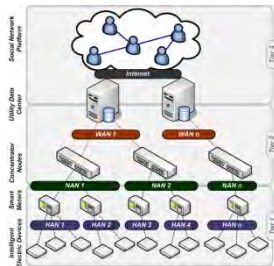
Key Research Objectives:

- **Analyse smart grid security and risk:** SPARKS will investigate novel risk assessment methods and cyber-attack impact analysis techniques e.g. using the AIT SmartEST laboratory.
- **Propose smart grid security standards:** SPARKS will build on NIST-IR 7628 standards and develop full security and compliance lifecycle tools by defining a workflow system to define and activate response processes, tools to track current open issues, trends and lessons learned, and services to help prepare, detect and respond to incidents.
- **Develop novel security measures and procedures:** SPARKS will investigate security data analysis techniques that are able to operate on voluminous and heterogeneous data in smart grids, including considering issues such as data aggregation, that may affect the fidelity of the data used for analysis.
- **Investigate financial, social and legal issues:** A pre-requisite to deploying cyber-security technologies is a sound cost-benefit analysis to motivate their usage. For this reason, SPARKS will develop a business case for each technology developed.

AIT SmartEST laboratory



Smart Grid Threat Analysis



#	attack action	estim. effort	c	i	a
1	HAN sniffing	low – medium	x		
2	HAN message tampering	medium – high		x	x
3	sm. meter NAN shielding	low			x
4	sm. meter false reporting	high		x	
5	sm. meter swapping	low		x	
6	configuration manip.	medium	x		x
7	social engineering	n/a	x	(x)	x

Coordinator:



Partners:

