1. ESSENCE PROJECT

The Essence project (***E**merging **S**ecurity **S**tandards to the **E**U power **N**etwork controls and other **C**ritical **E**quipment)* is a study to evaluate costs and benefits of the implementation of security standards to critical electric infrastructure, based on two case studies.

Networked computers reside at the heart of critical infrastructures, these become then vulnerable to cyber-attacks that can inhibit their operation, corrupt valuable data, or expose private information. Such attacks might affect large portions of the European power system, make repair difficult and cause huge societal impact, thus, pressure to ensure cyber security of control and communication systems is now very strong worldwide. Frameworks have been developed or are under development at present, but it is difficult to evaluate costs (which can be huge) and benefits of their adoption.

In this scenario the key objectives of ESSENCE include:

1. Developing a common understanding of industrial needs and requirements regarding the security of control systems and the related standardization efforts;

2. Identifying power system vulnerabilities induced by control systems, and estimating the likely socio-economic impact of failures due to faults and attacks exploiting those vulnerabilities;

3. Evaluating emerging frameworks for ensuring industrial control systems security, and establishing the costs of their adoption on an objective basis;

4. Recommending a pathway towards adoption of one or more of the above frameworks to the European power system infrastructure, having specific regard to EU transnational infrastructures as defined by the Directive 2008/114/EC.