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PREEMPTIVE: PREventivE Methodology and Tools to protect utilitIEs

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The PREEMPTIVE project seeks to prevent and detect cyber-attacks against utilities by developing innovative methods and tools in security risk assessments and intrusion detection.

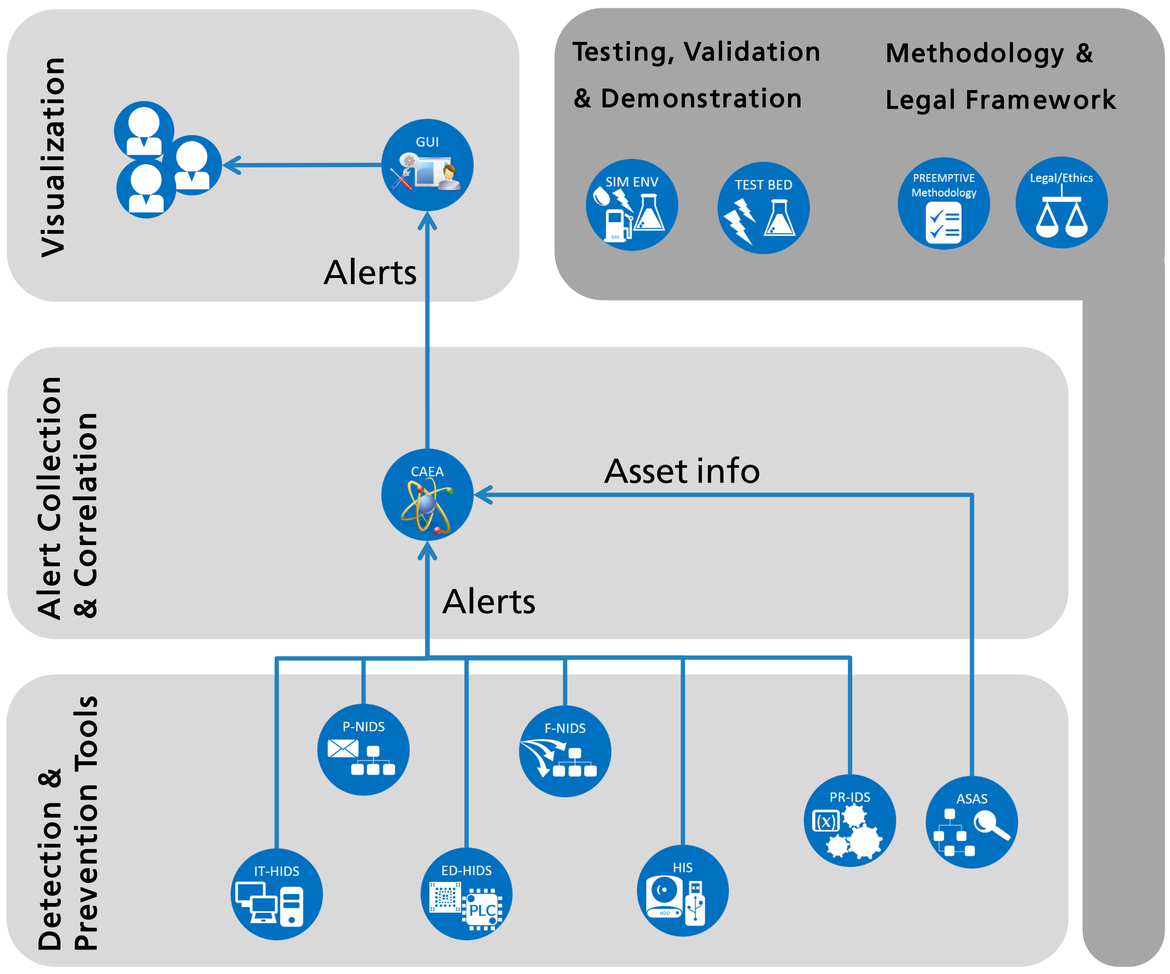
Project Objectives → Main Outcomes

- Taxonomy: Classification of utility networks and cyber threats → **Report**
- Modelling: Virtual environments for simulation purposes including gathering data on cyber attacks → **Software**
- Software detection (network, host and process based) and event correlation tools → **Software**
- Cyber Defense Methodology Framework → **Guidelines**
- Ethics, Social Impact → **Report**

Selected Results

- Payload-based network intrusion detection system (NIDS)
- Flow-based NIDS
- Host-based intrusion detection system (HIDS) for IT components used in industrial control systems (ICS)
- HIDS for embedded devices (e.g. PLCs)
- Integrity of storage devices (e.g. USB flash drives)
- Process-based intrusion detection system
- Asset Assessment: Asset detection and vulnerability testing for ICS and field devices

Project Architecture



The PREEMPTIVE detection architecture is based on alerts from

- host and network intrusion detection systems,
- on alerts generated from the process observation
- as well as on asset and vulnerability information gathered from passive network sniffing up to active probing.

A correlator generates an overview of security status which is presented to the operators.

www.preemptive.eu

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