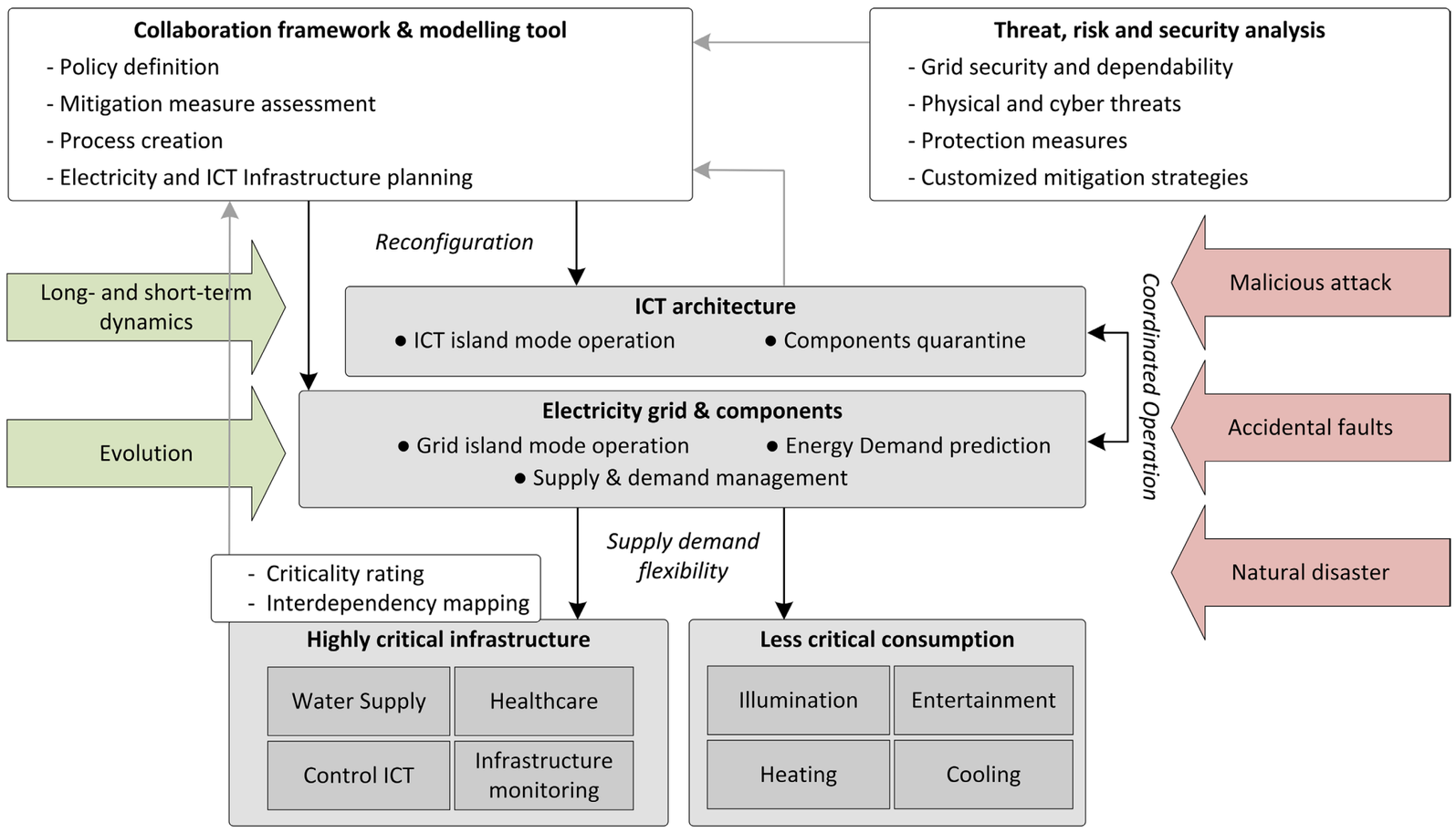
IRENE

This project focuses on utilising the decentralized nature of future energy generation to make it more robust against attacks, and on minimising impacts of power outages on associated critical infrastructures such as: water and gas supply communication systems, public transport and road traffic control.

The aim is to understand what social and technical measures should be considered when implementing these new technologies for the benefit of all stakeholders.



Results and expected impact

- The main outcome of the IRENE project is the energy resilience planner, more precisely a complete package offering the city authority, industry user or power generator the means to forecast, visualise and plan for future energy scenarios.

- The flexibility allowed to the user is expected to provide significant gains in the city planning process, quantifying the impact of proposed future urban development, as well as ensuring vulnerable citizens are not at risk.

- With the IRENE collaborative framework we provide a repository through which the key roles, processes and policies needed to plan the response to a power outage event are defined.

Aim/objective

- Investigating how to make future decentralized energy generation more robust to attacks

- Understanding social and technical measures to consider when implementing the decentralized energy generation

Approaches/methods

- Defining technical means of utilizing distributed energy generation

- Identifying security threats and their impacts

- Developing tools to help city planners and distribution system operators to guide the planning/deployment of smart grids

IRENE – Improving the robustness of urban electricity networks
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Partners: Ethos VO Ltd., University of Twente, Università degli Studi di Firenze, Queen Mary University of London, AIT Austrian Institute of Technology

Expected results and impacts

An integrated collaboration framework and tools to allow stakeholders to collaborate in developing an appropriate response to possible threats to their electricity supply and to evaluate its effectiveness.

About JPI Urban Europe

JPI Urban Europe is a transnational research and innovation programme on urban transition. With the ambition to develop and validate new solutions for sustainable and liveable cities, a cooperation platform and programme is provided to connect urban stakeholders, researchers, cities, business and society

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