



bridge

ENLIT – Session 3

10:00 – 11:30

1st December 2021

Stanislas d'Herbemont – BRIDGE Consumer and
Citizen Engagement WG Chair



Citizens at the center: Creating a consumer-centric
digitalization strategy

Agenda

Time	Topic	Speaker
10:00 – 10:05	Introduction – scope of the session	Stanislas d'Herbemont – Moderator
10:05 – 10:45	Projects Presentation (10' each): <ul style="list-style-type: none">• E-LAND• MERLON• FITGEN• COMPILE	Projects Representatives
10:45 – 11:20	Panel Discussion	All Panelists
11:20 – 11:30	Conclusions	Stanislas d'Herbemont – Moderator

• *SCOPE OF THE SESSION*

- **Citizens at the center - How citizens can be better integrated into the European digitalisation strategy - Consumer Empowerment pillar.**
- **The panel session will be structured around three questions:**
 1. **What opportunity does digitalization represent for consumers ?**
 2. **How does digitalization allow consumers to take an active role and ownership of the energy system ?**
 3. **What barriers need to be broken down to allow for more collective action to be better integrated in the market - and specifically what would be the role of energy communities, as the ultimate form of consumer collective action - in this market integration ?**

Project Presented and speakers



ELAND
Heidi Tuiskula



MERLON
Antonis Papanikolaou



FitGen
Mariapia
Martino



Compile
Tomi Medved



ELAND

Heidi Tuiskula



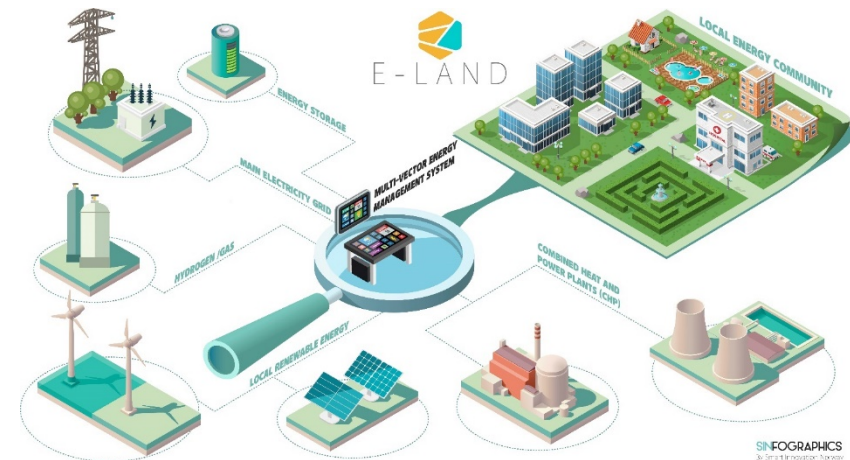
The E-LAND project

By building the E-LAND Toolbox for multi-energy islands, E-LAND aims to address specific technological, societal, and business challenges. The project's overall goal is to aid in the decarbonization of energy islands and remote villages.

The E-LAND toolbox is a set of methodologies and ICT tools designed to optimize and control multi-energy islands and isolated communities. The modular toolbox can be customized to meet local requirements and expandable to incorporate new tools as new challenges arise. The toolbox is structured in three layers, the community, business, and technology tool layers. All the tools are ready to be implemented and tested in three European pilot sites and two Indian pilot sites.

These tools are tested in three pilot sites in Europe and two simulated pilot sites in India.

The E-LAND project is also working towards creating a replication guideline for implementing the E-LAND solutions and the E-LAND Toolbox beyond the project.



E-LAND PILOT SITES

Walqa Technology Park

A sustainable Tech park which is pioneer in establishing Energy Community in order to demonstrate that EC are viable and replicable as an example of local energy markets.

The Industrial Port

An industrial harbor working on reducing peak usage in the hopes of becoming an energy hub by providing carbon free energy to ships and land transport.



The University Campus

An aspiring carbon neutral University campus working on minimizing CO2 footprint and increasing stakeholder awareness on energy efficiency.

The Energy Community

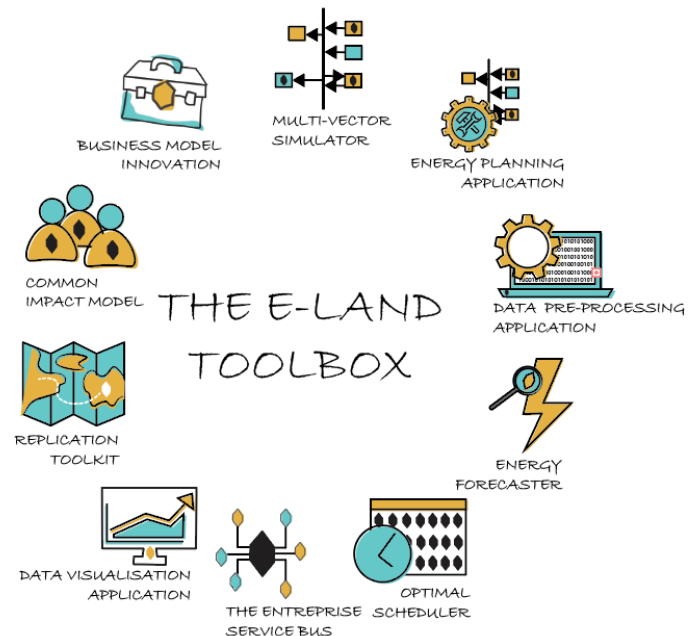
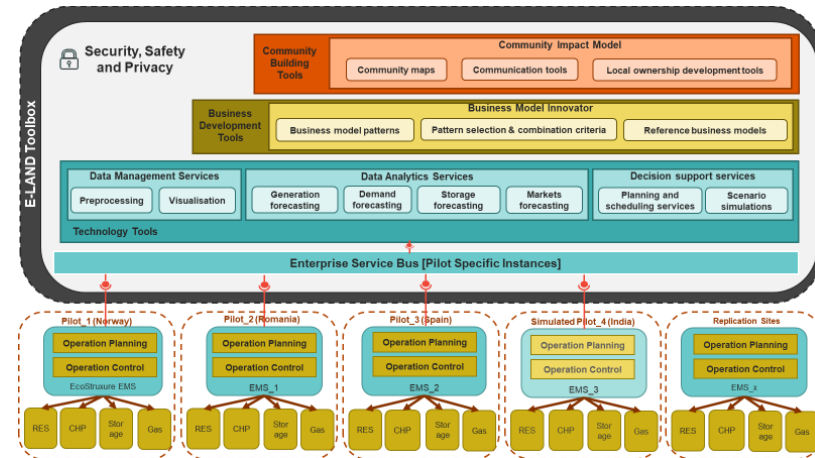
A small township-based community with 3000 residents that explores the most efficient ways of achieving carbon neutrality by 2030.

The Industrial Metropolitan

Licensed to supply and distribute electricity in the north and central Delhi, BYPL aims to reduce space constraint and manage the peak demand in the grid in an effective manners.

The E-LAND project

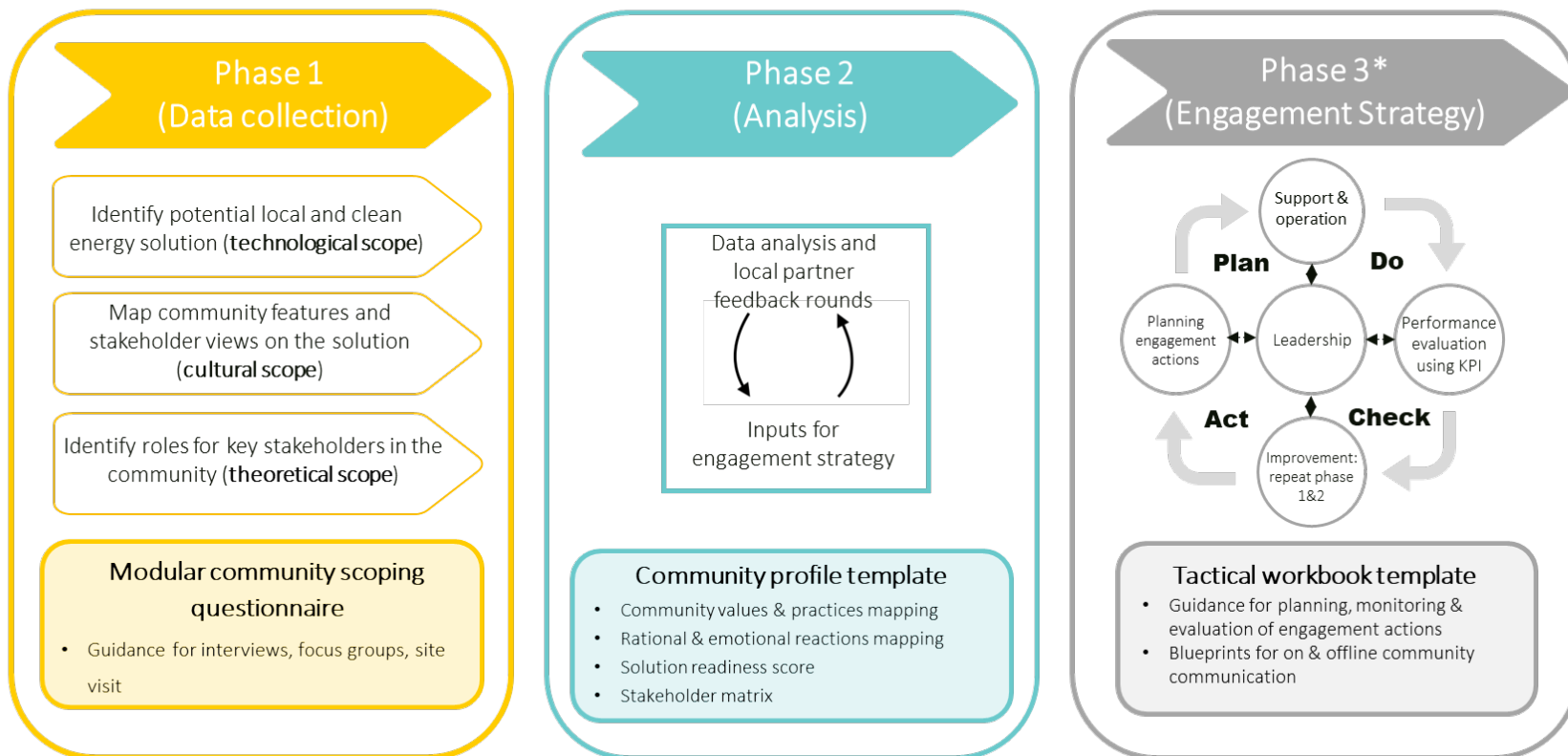
- **The Common Impact Model** establishes a three-step process for building community acceptance
- **The Business Model Innovation tool** is first of its kind tool tailored to the needs of energy communities under multi-vector settings.
- **The Multi-Vector Simulator** performs investment planning and evaluation of local sector-coupled energy systems
- **The Energy Planning Application** guides the end user through system design, data input, simulation and optimisation results, including economical, technical and dispatch information
- **The Data Pre-Processing Application** is a tool that detects/corrects missing, corrupt or inaccurate (outliers) data, re-samples them, if needed, and gets energy load profiles (daily, weekly)
- **The Energy Forecaster tool** provides hourly forecasting of electrical/loads and Photovoltaic/ wind generation
- **The Optimal Scheduler tool** provides an hourly scheduling of storage (when store or consume) and controllable assets (when switch on/off) in order to maximize the use of renewable energy resources
- **The Enterprise Service Bus** interconnects the technological tools of the toolbox with the Energy Management System of the LES
- **Data Visualization Application** is a web application presenting f the project's Key Performance Indicators and operational data of local energy assets; providing useful insights to ELAND's pilot owners and the local communities
- **The Replication Toolkit** gathers usable resources for you to utilise the E-LAND tools. It also includes guidelines and insights from experience in the E-LAND project.



E-land community engagement strategy



Common Impact Model



*in line with the highest standards for environmental management systems (ISO 14001)



E-LAND Toolbox
Elandh2020.eu



MERLON

Antonis
Papanikolaou



MERLON in a nutshell



Integrated Modular Energy
Systems & Local Flexibility
Trading for Neural Energy Islands
| 6 Countries | 10 Cities

368,000 people reached



MERLON Consortium
13 Project Partners
Coordinator: Hypertech Energy
Labs

Duration : 3 years



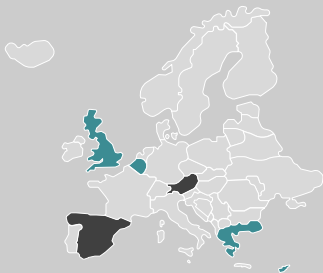
MERLON synergies and
collaboration

EU-India Collaboration 

Clean Energy for EU Islands 

BRIDGE  HOR. 2014-2020

MERLON in Europe



MERLON Partners



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twitter.com/MERLON_H2020



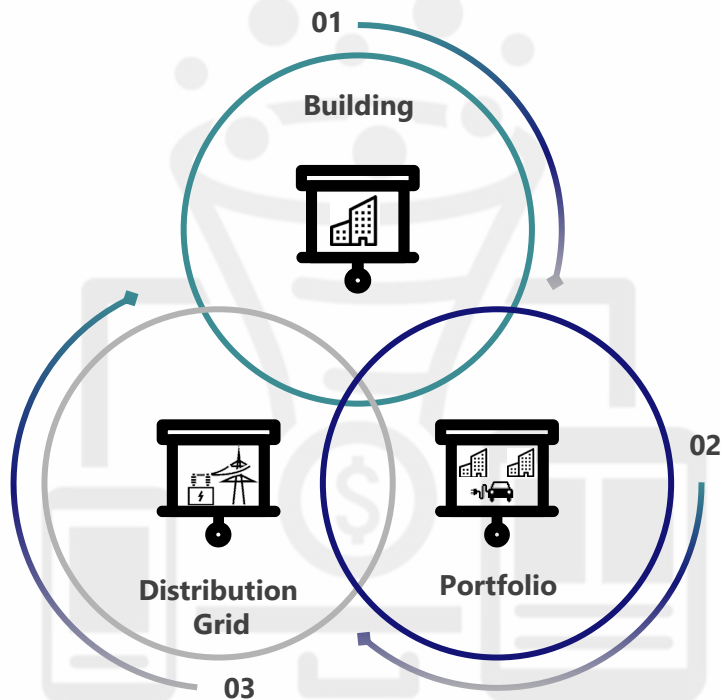
linkedin.com/company/merlon-h2020/



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MERLON Solution



Local distribution network management

Scope: Support economic operation and development of local distribution network by limiting power flows and thus mitigating thermal & voltage constraints



Provision of security of supply during emergencies

Scope: Minimise required load shedding and inconvenience costs during emergency conditions, by enabling islanded operation



Provision of balancing and ancillary services and participation in wholesale energy markets

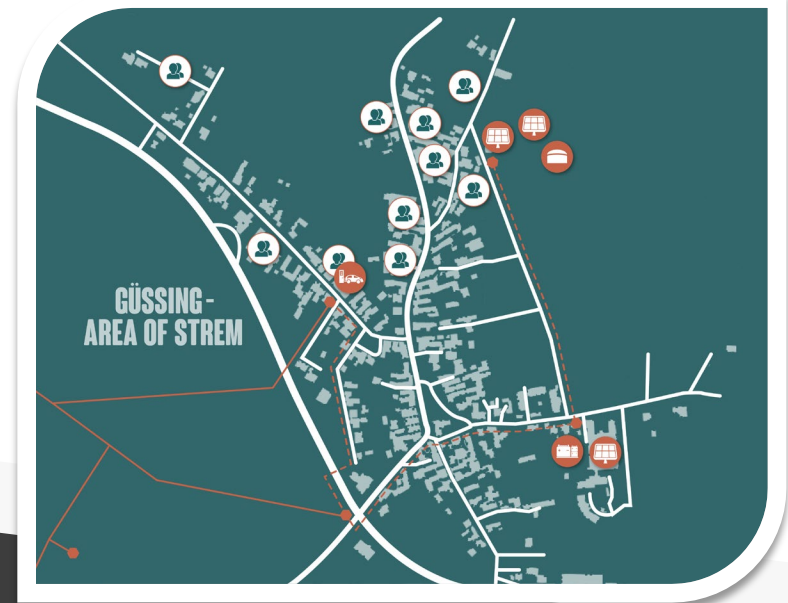
Scope: Participation of Local Energy System (LES) in balancing markets & reduce energy costs of LES consumers through e.g. time-varying energy prices



merlon-project.eu



Local Energy Communities



enercoop
GRUPO

Spain – Crevillent



Energie
GÜSSING

Austria – Strem

Living Lab Activities

- LL1 - Focus on providing information, raising awareness, engagement and acceptance as well as the involvement of end-users regarding the definition of their requirements.
- LL2 - End users and stakeholders are trained to participate in an integrated local energy system. The MERLON concept and solution are detailed
- LL3 - participants will be informed about the outcomes, results and the progress of the final activities in the pilot regions. All end-users and stakeholders will be involved in the evaluation of the MERLON results



CO-CREATION



EXPLORATION



EXPERIMENTATION



EVALUATION



FEEDBACK



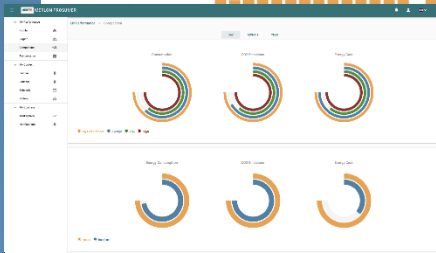
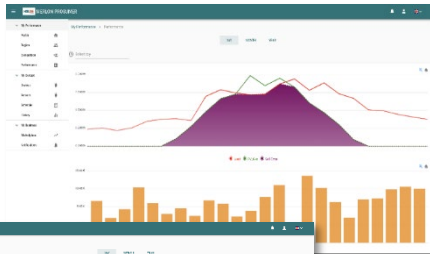
The citizens' perspective

Prosumer

Aggregator

Local Energy
Community

DSO



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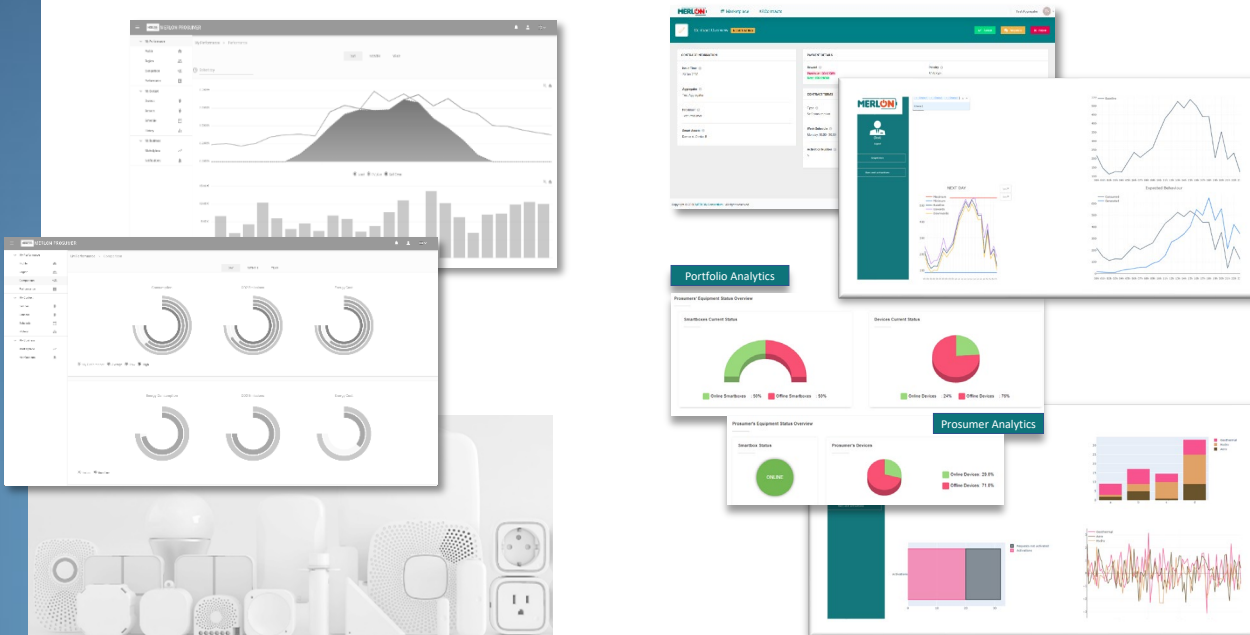
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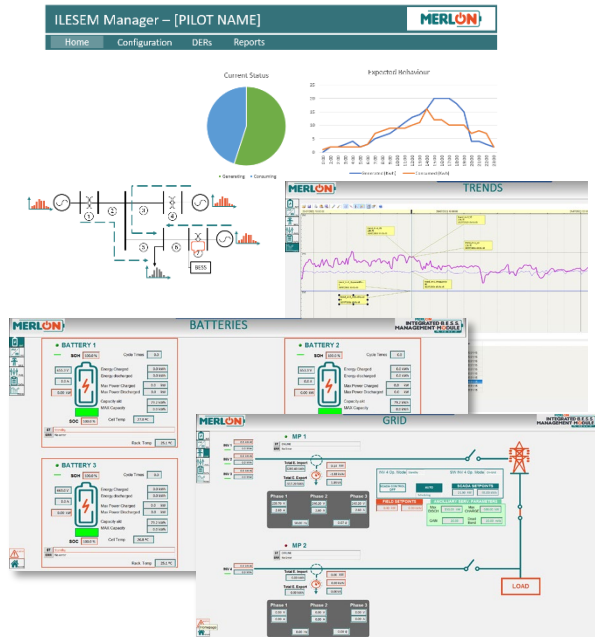
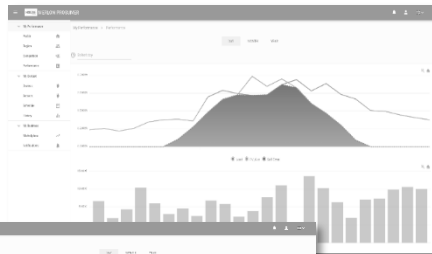
The citizens' perspective

Prosumer

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DSO



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European
Commission

Thank you for
your attention...!!!



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FitGen

Mariapia Martino



Functionally Integrated E-axle Ready for Mass Market 3rd GENeration Electric Vehicles

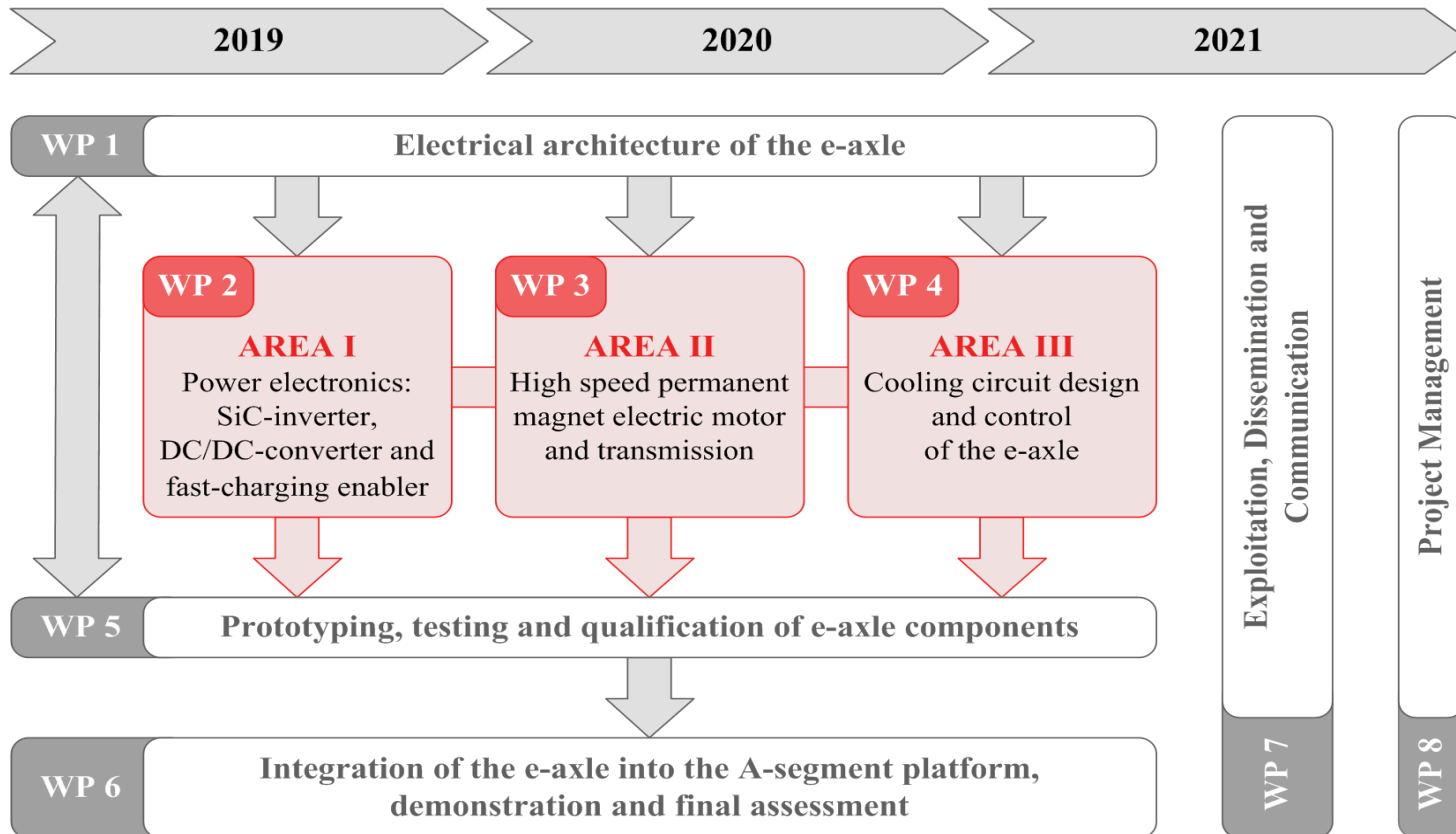




fitgen in a nutshell

- *In the last decade, research interest in the field of road transport moved from combustion engines to hybrid and electric vehicles*
 - **Reducing emissions in urban areas**
 - **Reducing environmental and acoustic impact**
 - **Improving the life quality of the citizens**
- *This trend was strongly supported by private and public investments*
 - New generation batteries
 - Advanced e-motors and PE converters
 - Innovative charge on board system

fitgen project structure



fitgen value proposition

- *Demonstrate the e-axle in an A-segment fully electric vehicle platform (i.e. FIAT-500e) at:*
 - **TRL 7 (system prototype demonstration in operational environment)**
 - **MRL 7 (capability to produce systems, subsystems or components in a production representative environment) reaching a production volume of 200,000 units/year by 2025 and 700,000 units/year by 2030.**
- *Enable a driving range from approx. 700 to 1,000+ km (including 75 minutes of recharging time) and matching a cost target of 2,000 €/unit.*



fitgen social media



<https://www.facebook.com/FitgenProject>



<https://twitter.com/FitgenH2020>



<https://www.linkedin.com/company/65462881/admin/>

www.fitgen-project.eu



Politecnico
di Torino





Compile

Tomi Medved

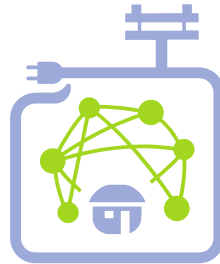


COMPILE

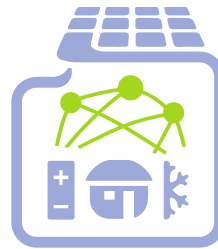
- *The main aim of COMPILE is to show the opportunities of energy islands for decarbonisation of energy supply, community building and creating environmental and socioeconomic benefits.*
- **OBJECTIVES:**
 - **Empowering Local Energy Systems (transition from a centralized system into a flexible but secure decentralized network).**
 - **Foster the creation of energy communities taking into account positive effects on the local economy and user acceptance considering vulnerable groups.**
 - **Optimal integration and control of all energy vectors, storage and electromobility options to maximize decarbonisation and energy savings.**
 - **Create new ways to stimulate actors in the value chain to cooperate to maximize the societal benefit, to foster the adoption of the technological solutions and enable a large-scale replication of the developed technological solutions and business models.**

COMPILE TOOLS

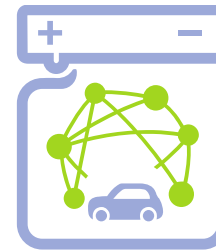
Technical tools



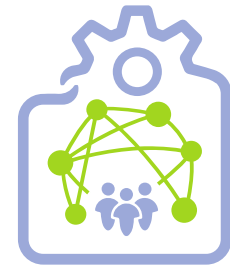
GridRule



HomeRule



EVrule

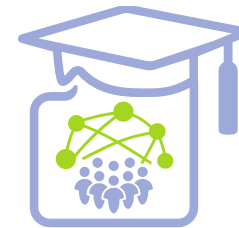


ComPilot

Creation tools

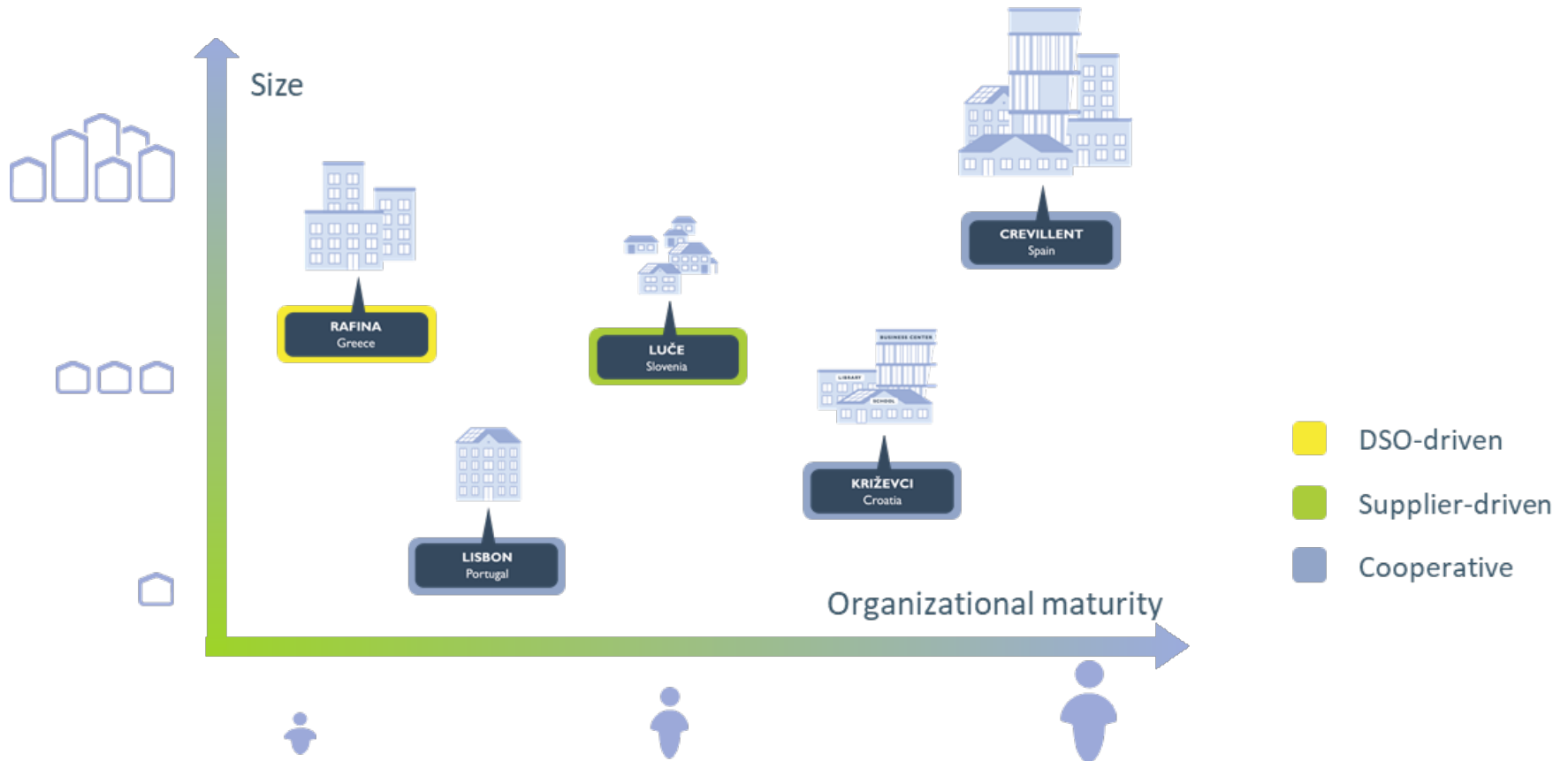


ValueTool



COOLkit

COMPILE pilot sites



PANEL DISCUSSION

Panellists



Elena Boskov-Kovacs
ETIP SNET WG4 Co-
chair



ELAND
Heidi Tuiskula



MERLON
Antonis Papanikolaou



FitGen
Mariapia
Martino



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PANEL Discussion – 1st Question

- **What opportunity does digitalization represent for consumers ?**

➤ ***Contributions from E-LAND***

- *Better understanding of their own energy consumption, possibilities to optimise energy usage and to lower energy costs*
- *Facilitate information sharing about the importance of reducing energy usage and engaging in initiatives that promote clean energy usage.*

PANEL Discussion – 2nd Question

➤ **How does digitalization allow consumers to take an active role and ownership of the energy system ?**

➤ ***Contributions from E-LAND***

- *Intelligent tools allow better monitoring and control of energy consumption for different consumer groups*
- *Opportunity to optimise energy use, such as heating and cooling in residential (and public) settings*
- *Using intelligent tools, energy communities would have improved means to control loads, distribute energy, and allow for greater variability enabling better integration of renewable energy sources.*
- *Energy communities and distributed energy production require and allow greater participation of citizens as prosumers and active energy users – digitalisation is a means that facilitates the management of energy communities*

PANEL Discussion – 3rd Question

- **What barriers need to be broken down to allow for more collective action to be better integrated in the market - and specifically what would be the role of energy communities, as the ultimate form of consumer collective action - in this market integration ?**

- ***Contributions from E-LAND***

- *Intelligent tools to monitor and optimise energy consumption require collection of sensitive data. Concerns related to data privacy and security need to be addressed.*
- *Legislative barriers that limit the opportunities for energy communities to integrate to energy markets, equally reducing negative price signals*
- *Well functioning digital tools that will allow “hassle-free” integration to the market for prosumers/ consumers are needed*
- *Lack of knowledge and understanding of how energy communities work and why it would be beneficial to take collective action*
- *How to convince people to adapt the use of “yet-another-digital-tool”, such as digital tools for engagement or for example platforms designed for peer-to-peer markets.*
- *In general, how to make collective action an effortless option for people so that it will be easy to for them to join initiatives and maintain positive energy use habits*
- *Common rules/ regulation across Europe to facilitate digitalisation and energy market across the EU*

Conclusions

Stanislas d'Herbemont
**BRIDGE (WG Consumer
and Citizen Engagement
Chair)**

Moderator





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