



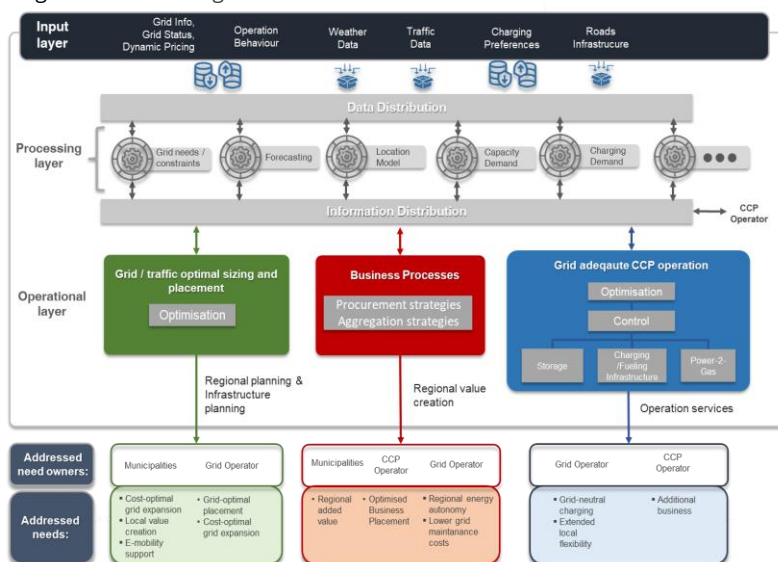
# CROSSCHARGEPOINT

## CrossChargePoint - Integrated Multi-Energy Storages Coupling the Power Network to the Transportation

” CCP addresses the resulting bottleneck of supplying new mobility concepts with a solution that integrates the management of energy supply of road transportation in a new way

CrossChargePoint aims at providing solutions for the optimised allocation of surplus energy to long- or short-term energy storages as well as transportation supply. Particular concerns of different regions with differing geographical, climatic and economic conditions are taken into account to develop a CrossChargePoint. The CrossChargePoint is a new type of charging station functioning as virtual power plant, combining fast charging capabilities with energy generation, transformation and storage. The CrossChargePoint provides fast charging simultaneously for multiple electric vehicles in periods of heavy transit traffic, as well as demand-side management capabilities covering fluctuating demands from transportation and consumption in the local electricity grid. Energy transformation by electrolysis and power-to-gas enables the CrossChargePoint to support gas/hydrogen vehicle fuelling and to operate as energy storage for the local grid, using different carriers for short-term and seasonal energy storage.

Figure 1. CrossChargePoint overall architecture



ERA-Net Smart Energy Systems



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### Project Duration

01.02.2021 - 31.01.2024

### Project Budget

Total Budget: € 2,791,078.-

Funding: € 2,074,703.-

### Project Coordinator

Deggendorf Institute of Technology (Germany)

### Project Partners

- Salzburg Research Forschungsgesellschaft mbH (Austria)
- Urban Software Institute GmbH (Germany)
- Yeruham Local Council (Israel)
- FENECON GmbH (Germany)
- AVL List (Austria)
- Bwv its GmbH (Switzerland)
- HyCentA Research GmbH (Austria)
- Livolt Ltd (Israel)
- ASKI Industrie-Elektronik GmbH (Austria)
- Energie Kompass GmbH (Austria)

ERA-Net  
Smart Energy Systems  
Joint Call 2019  
(MICall19)

This project has been awarded funding within the ERA-Net SES Joint Call 2019 for transnational research, development and demonstration projects. EUR 16.5 Mio of funding have been granted to 14 projects active in 15 regions and countries.

## Main Objectives

The main goal of the project is to investigate how intelligent planning and operation of regional fast charging stations with integrated energy storages for e-mobility supply can contribute to (1) cost-efficient grid reinforcement and grid stabilisation, (2) increased local energy consumption, and (3) increased local value generation through business models.

The long-term interest of is clear: to acquire the necessary knowledge to develop products and services that address the emerging energy-aware ICT solutions and consulting for their B2B and B2C portfolio.

## Expected Key Results

At the end of the project a working system for a CrossChargePoint prototype demonstrated in three relevant environments (demonstrators) will be available. The conditions for planning and operating a CrossChargePoint will be accumulated and put into a Localization & Optimization tool that by feeding the necessary data, will specify optimal locations, sizing and technologies such as an energy management system for new CrossChargePoints. A particular focus is given to the development of a blue print to enable the easy transfer to other regions with different economic, infrastructural and geographical conditions.

## Technology

- Generation of Location & Optimization tools accounting for local conditions
- Evaluation of forecasting processes required as input for a smart metering and monitoring structure
- Specification and implementation of a comprehensive and reliable ICT architecture for a regional energy management system

## Market

- Definition of a CCP operation structure, considering the benefits of stakeholders and need-owners
- Evaluation of an operational control algorithm to achieve grid adequate operation to provide ancillary services

## Adoption

- Estimation of business opportunities for CCP operators through integration of local electricity production, storage- and energy conversion capabilities, in three demonstrators
- Estimation of business opportunities for CCP operators through integration of local electricity

## Joint Programming for Flourishing Innovation – from Local and Regional Trials towards a Transnational Knowledge Community

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