The MAGNITUDE Consortium

MAGNITUDE brings together 16 partners from 9 different countries forming a multidisciplinary and complementary consortium consisting of:

- Energy related experts from industry, consulting and academia, capable of coping with technologies and tools among the whole spectrum of multi energy systems
- Experts for energy market simulation and analysis, and industrial market actors from the trading and retail markets
- SMEs that develop IT based solutions for system operation optimisation and aggregator companies
- Local multi utility companies operating energy networks and facilities
- Experts in the definition and implementation of dissemination strategies and in engaging dialogue with a broad community of stakeholders





































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Bringing flexibility provided by multi energy carrier integration to a new **MAGNITUDE**





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The MAGNITUDE project aims to develop business & market mechanisms as well as supporting coordination tools to provide flexibility to the European electricity system, by increasing & optimising synergies between electricity, gas and heat systems. Ultimately, MAGNITUDE will:

- Provide flexibility options to support the cost-effective integration of variable renewable energy sources and the decarbonisation of the energy system while enhancing the security of supply.
- Bring under a common framework, technical solutions, market design and business models.
- Contribute to the ongoing policy discussion in the energy field.

MAGNITUDE ensures the validity of developed results relying on 7 real life case studies of multienergy systems in different European countries.

MAGNITUDE's objectives

Provide tools and models to **ENABLE** the provision of flexibility to the electricity system from the integration of multi energy systems' operation.

Develop business & market mechanisms to **EXPLOIT** the full potential value of the flexibility provided and identify potential regulatory barriers.

VALIDATE the solutions on case studies of Multi-Energy Systems (MES) of different sizes and technological features.

MAXIMISE THE IMPACT by disseminating the results, achievements and lessons learnt. Contribute to the defintion European of policy strategies.



The approach is based on the following main activities:

- Select the most relevant flexibility services to be provided by MES.
- Study the actual flexibility options offered by identified cross-sector technologies and MES.
- Simulate and optimise control strategies to maximise MES flexibility provision.
- Propose innovative market designs to maximise synergies, implemented on a market simulation platform.
- Quantify the benefits of pooling flexibilities from decentralised MESs through an aggregation platform.
- Develop recommendations and policy strategies in a pan-European perspective.

Project workplan

