Smart Grids Plus
ERA-Net

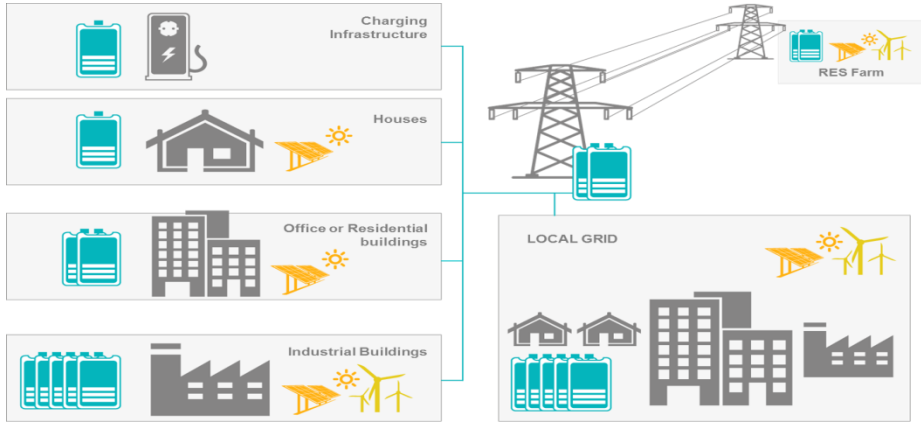
Scoping Workshop, Malmö 2015

Second life use of electric vehicle batteries in buildings and districts - the H2020-ELSA project

Dr. Michael Stöhr, B.A.U.M. Consult GmbH

ELSA VISION

- a 2nd life for electric vehicle batteries
- *smart storage systems for multi-energy integration in* business buildings and residential districts
- local ICT-based energy management system
- commercially optimised use of storage for the transition towards renewable energies



The 2030 electricity storage market

ELSA brings distributed storage solutions to maturity

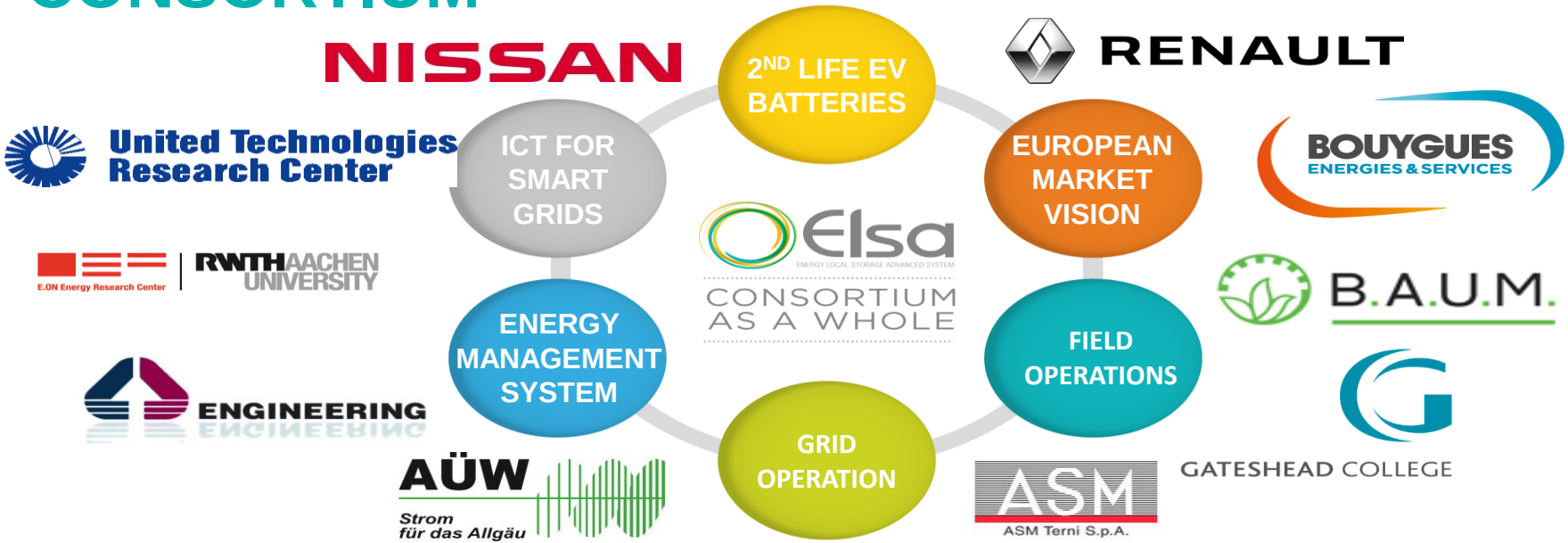
ELSA PROJECT IN BRIEF

- Energy Local Storage Advanced system

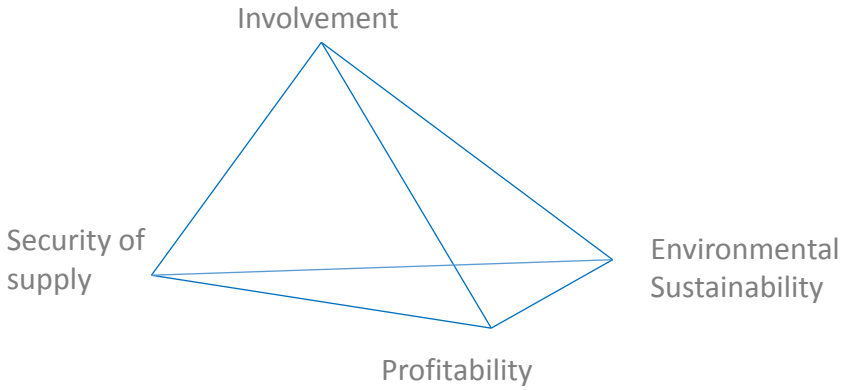
- Duration: April 2015 – March 2017 (36 Months)
- Total costs: 13 114 250 €
- EU grant: 9 861 614 €
- Call: H2020-LCE-2014-3
- Topic: Local / small-scale storage

ELSA is one of 17 Smart Grid and Storage projects in the 1st call of H2020.

WELL BALANCED AND EXPERIENCED CONSORTIUM



HOLISTIC APPROACH



- technically implementing low-cost, scalable and easy-to-deploy storage solutions
- developing innovative, service-oriented business models
- addressing legal and regulatory barriers
- pushing international standards
- ensuring sustainability through using 2nd life batteries and life-cycle assessment
- fostering social acceptance through socio-economic impact analysis
- involving a broad range of relevant stakeholders

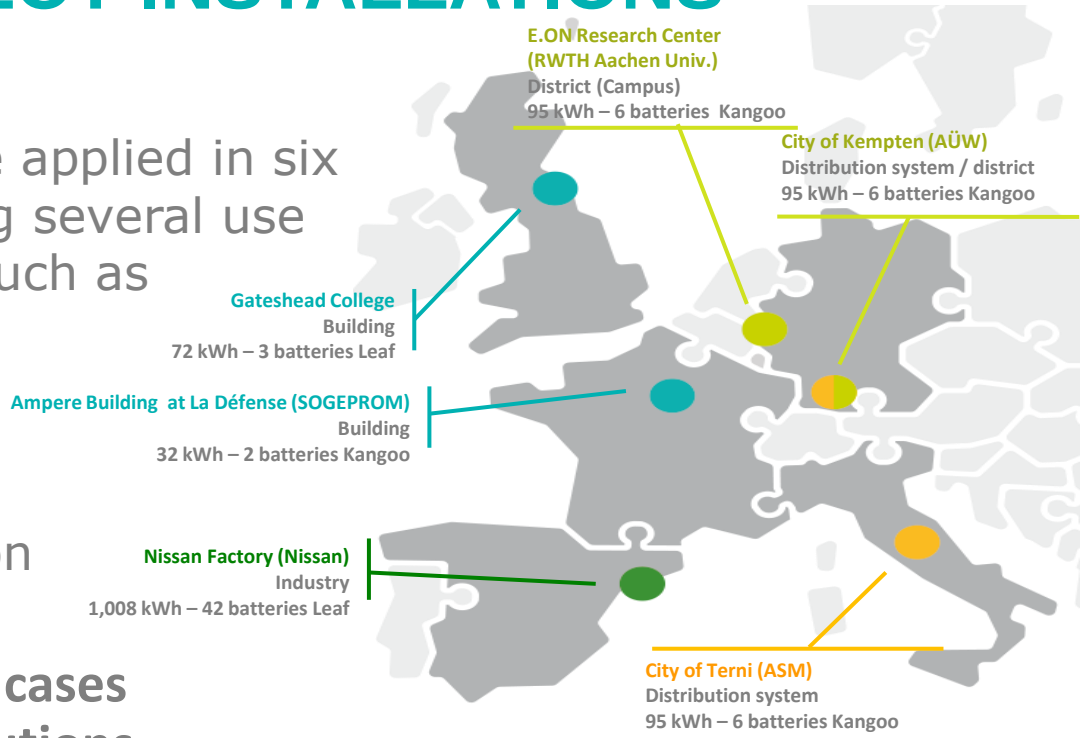
ELSA looks for business with ecological and societal benefits.

REPRESENTATIVE PILOT INSTALLATIONS

The ELSA storage system will be applied in six demonstration sites representing several use cases for storage as a service, such as

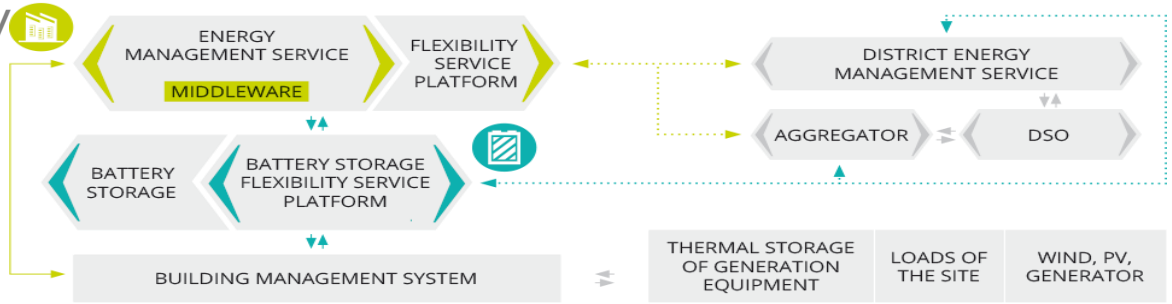
- grid congestion relief
- local grid balancing
- peak shaving
- voltage support and regulation
- optimization of self-supply

Pilots represent all important use cases for small and medium storage solutions.



ELSA ARCHITECTURE MODEL

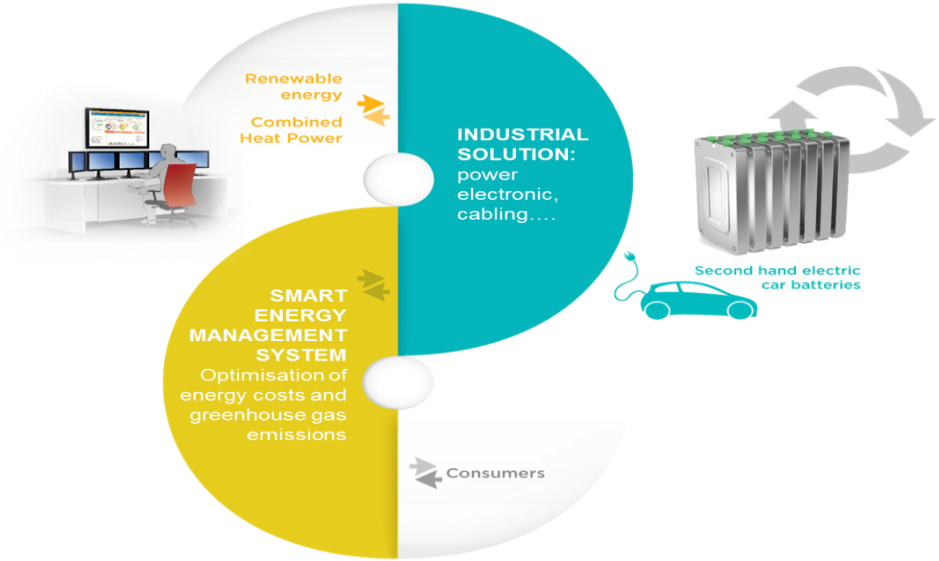
- Battery management linked to building or district management services
- Scalable storage solutions to adapt to local needs
- Interface to aggregators for optimizing use of storage for grid balancing and energy self supply



ELSA model meets needs of building, district and grid operators.

EXPECTED TECHNICAL OUTCOMES

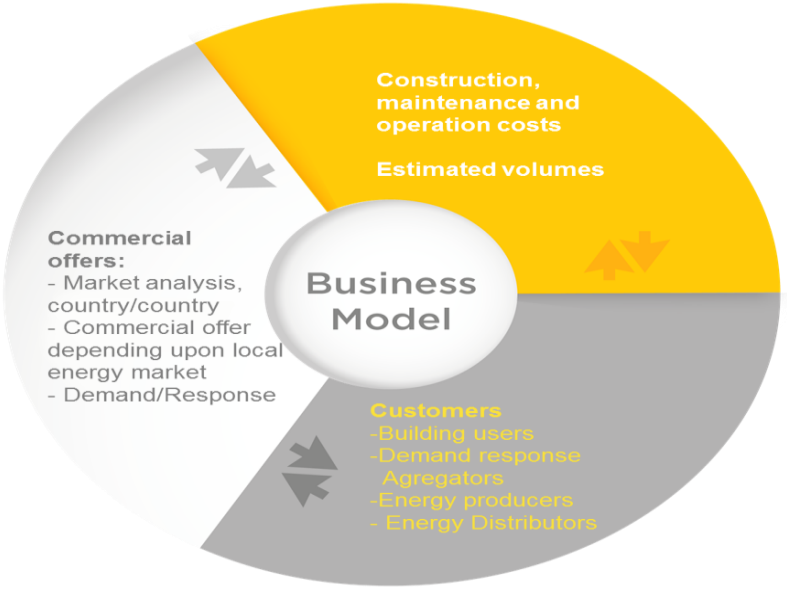
- hybrid storage systems applicable to many use cases
- flexible and adaptable ICT-based Energy Management System
- packaging ready for the market



Advanced ICT links batteries to residential and industrial frameworks.

EXPECTED COMMERCIAL OUTCOMES

- business models based on “storage
- as a service”
- recommendations for the adaption of European and national regulation
- contributions to development of international standards
- testimonials from pilot installations
- insights in measures to improve social acceptance of storage



ELSA solutions bring new business to service providers.

DR. MICHAEL STÖHR, B.A.U.M. CONSULT

Personal Contact:
- m.stoehr@baumgroup.de
- www.baumgroup.de

ELSA Contact:
- contact@elsa-h2020.eu
- www.elsa-h2020.eu