Smart Storage

ICT as a key technology

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ICT role, trends and technologies

• ICT general trends – technology convergence and integration
• Energy, mechanical and thermal systems getting correlated
• New ICT based concepts such as SmartGrid, SmartCity …
• Advanced monitoring, optimization and control needed!
• New business models are not possible without ICT solutions (such as Internet, SmartMeters, billing, CIS, DSM etc.)
• We must build an optimal ICT structure that optimizes in the most efficient way requirements of all stakeholders
• Key challenge: how to build an ICT structure to enable – Smart Storage – balancing demand-supply, tech-market ? Interacting with other SmartX!
How to build an optimal ICT structure!?

• Common communication model/platform
• An instrument to efficiently collect requirements (avoid early stage conflicts; see differences in various regions etc.)
• System requirements must reflect user requirements – technical, social and commercial! State of the art solutions considered
• We focus on commercial aspects as a show case
• We need inputs from various stakeholders to build methodology that should result in an reference architecture
• System engineering will help us correlate, extract and transfer best practices - getting common sense of the project as a whole!
• Efficient modeling instruments such as SysML and BPMN
• Results: scalable and portable ICT architecture to optimally satisfy needs from both sides clients and market
Modern power systems and storage integrations

- Local control -> Decentralized control -> Central control
- Distributed Management Systems (DMS)
- New applications - modules and improved existing ones
Reference architecture – AlpEnergy example
Use case – EV – mobile storage aggregation

• Aggregate storages to achieve better position at the market (i.e. ancillary services such as secondary reserve)
• External and internal negotiation/contracting – GeoGreen cell!
Contacts and more info

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Thank you for your attention!