

# Otaniemi (Finland) smart energy pilot platform

Reboot Energy 13.6.2017 workshop  
Hannele Holttinen



## Brief contents

- Purpose of the workshop
- Introduction to the topic
- Ways of working - three questions
  
- Groupworking (45 min)
- Summary of results



## Purpose of the workshop

*The purpose is to find new potential ecosystems or other initiatives – and even to take first steps towards them today*

- Exchanging interests and ideas
- Networking and finding right contacts
- Developing and already documenting joint ideas
- Agreeing on next steps
- Discussing – Brainstorming – Being active!



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## Otaniemi Smart Pilot - Piloting new energy services in Otaniemi

### Focus areas

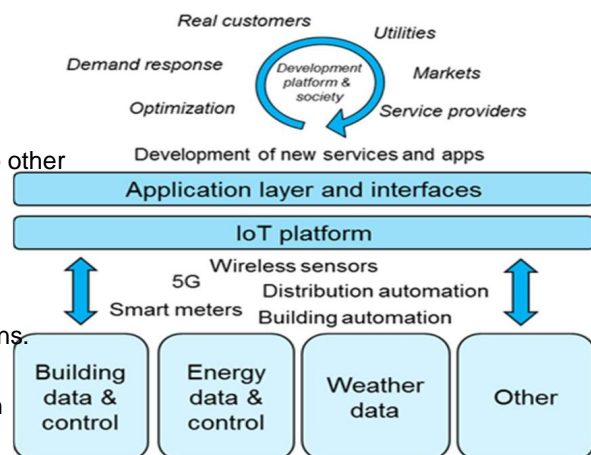
- Energy data for new applications and services
- Energy efficient and renewable Otaniemi
- Real-time monitorable and controllable area

### Objectives

- Internationally recognized pilot site
- Stepwise realisation of pilots in Otaniemi. Linking to other pilots → Finland pilot platform
- Living lab with real customers involved
- Ecosystem lasting and developing over time

### Impact:

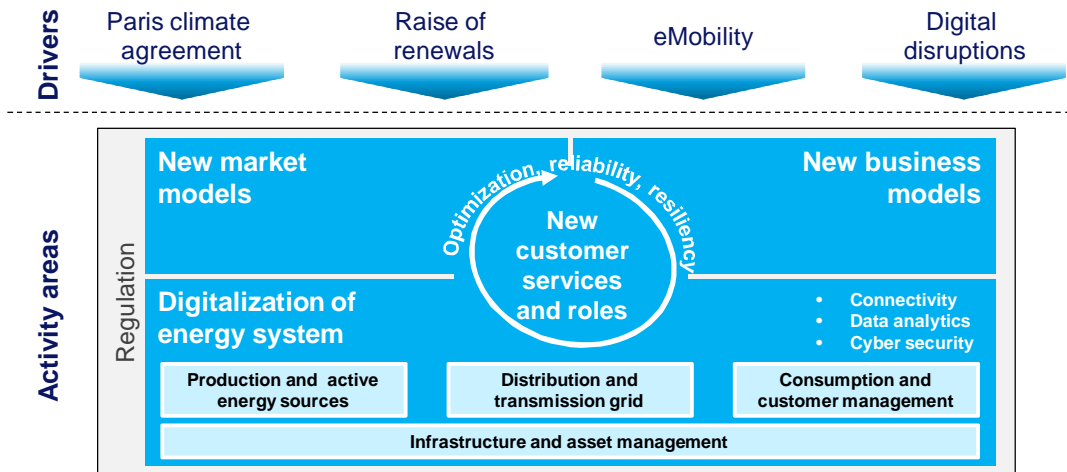
- Developing and demonstrating system-level solutions.
- New broader ecosystem network
- Legislation and market models supporting transition
- New solutions and references for export industry
- Invest in possibilities and EU-level discussions



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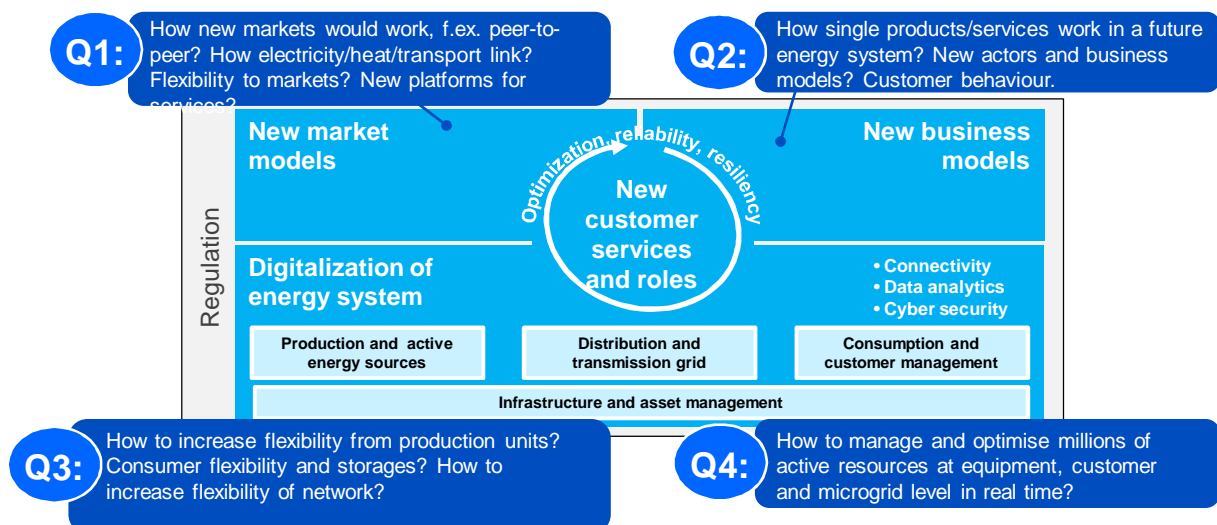
## The target is to address global grand challenges and drivers in an effective way



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## The activity areas of the program focus on critical system level questions



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## Example: Otaniemi test bed – digitalisation, customer data and services, 5G

### Online data

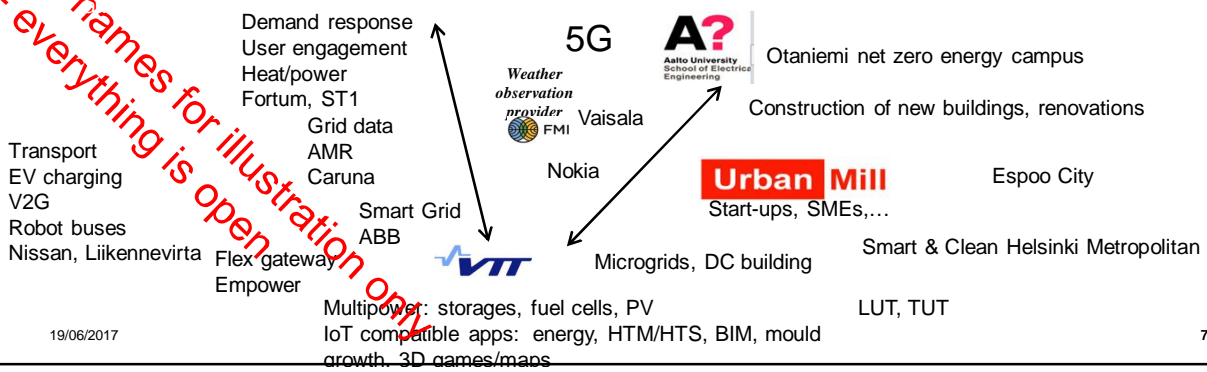
- About 1 billion data points (active/reactive power, district heating consumption, water consumption)
- Building automation data
- Energy self-sufficient sensors

### Example building

- 4500 data points
- Customer feedback
- PV, Solar Thermal, ground heat
- Low-temperature heating system
- Waste water recovery
- Room-level control of temperature



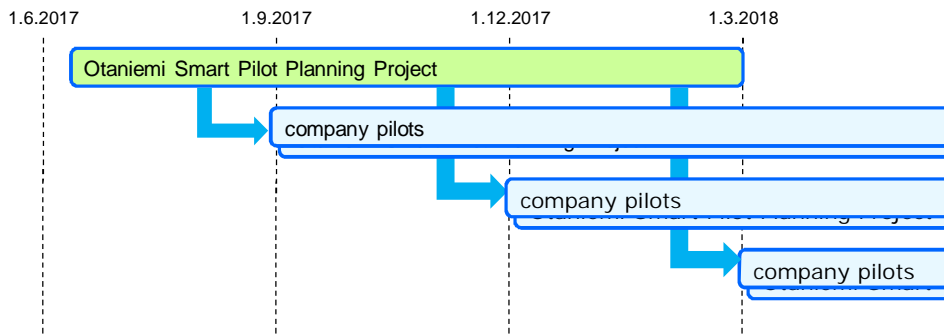
All names for illustration only - everything is open



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## Otaniemi planning – TEKES funded project aiming at company pilots



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## Ways of working

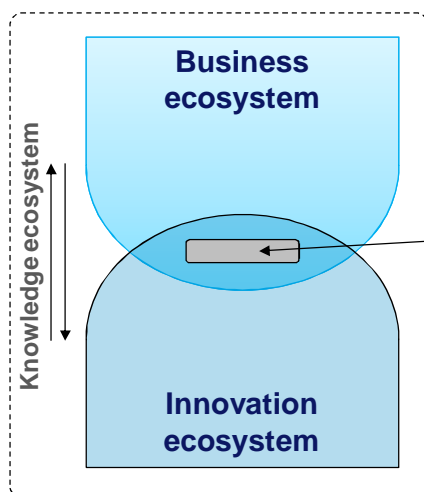
- Three questions
  - 1: Best possible ecosystem for Otaniemi – who should be in?
  - 2: What pilots in Otaniemi
  - 3: From Otaniemi to Finland – linking pilot platforms
- Split in groups or together
- Documenting the output on a template
- Short summary presented by the end of the workshop
- Some notes:
  - Need to assign key actors to take the idea further
  - Tekes expert support is available



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## Workshop questions 1 - Best possible ecosystem for Otaniemi – who should be in?



- Business driven strategic agendas – customer value focus
- (large) companies as focal point, SMEs, Start-ups, Research partners, in relevant roles.
- Business relationships between actors are highlighted
- Open platforms, pilot and test infrastructures in key role for transferring innovations to business .
- Focus on new innovations – co-creation and exploitation of knowledge.
- Dynamic network approach - Strong innovation HUBs as focal points.
- All players, Companies, SMEs and research partners in relevant roles.
- Decentralized and distributed knowledge nodes

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## Integrated pilot platform

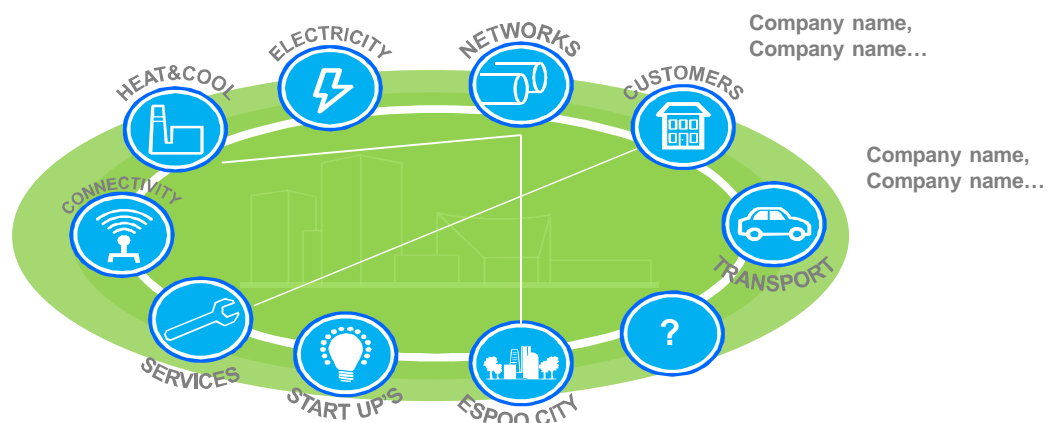
- Open platform for pilots
- Linking pilots with different subobjectives towards a common big objective
- Step up from local towards system-level demos
- Data exchange, facility remote use, joint test setups, integrated research activities
- Easy access for companies – test your solution flexibly
- Open for future pilots - flexible interfacing
- International co-operation



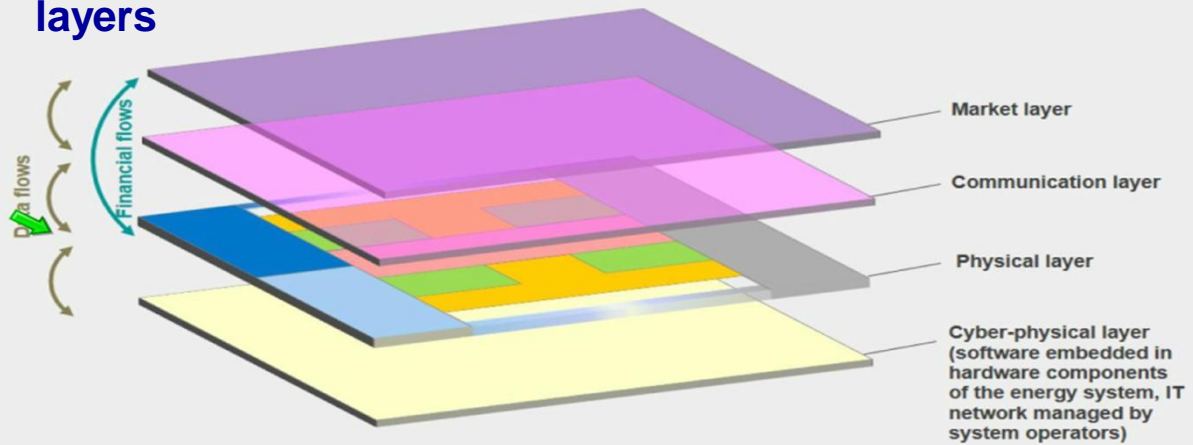
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## Integrated pilot platform



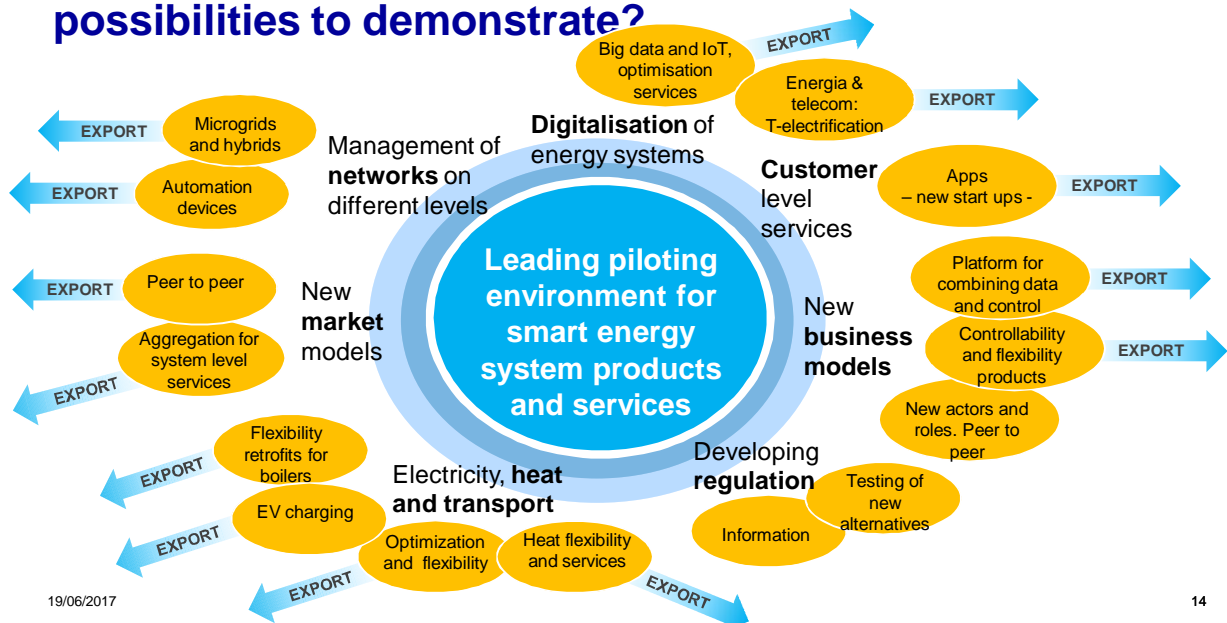
## Question 2: what pilots in Otaniemi, combining layers



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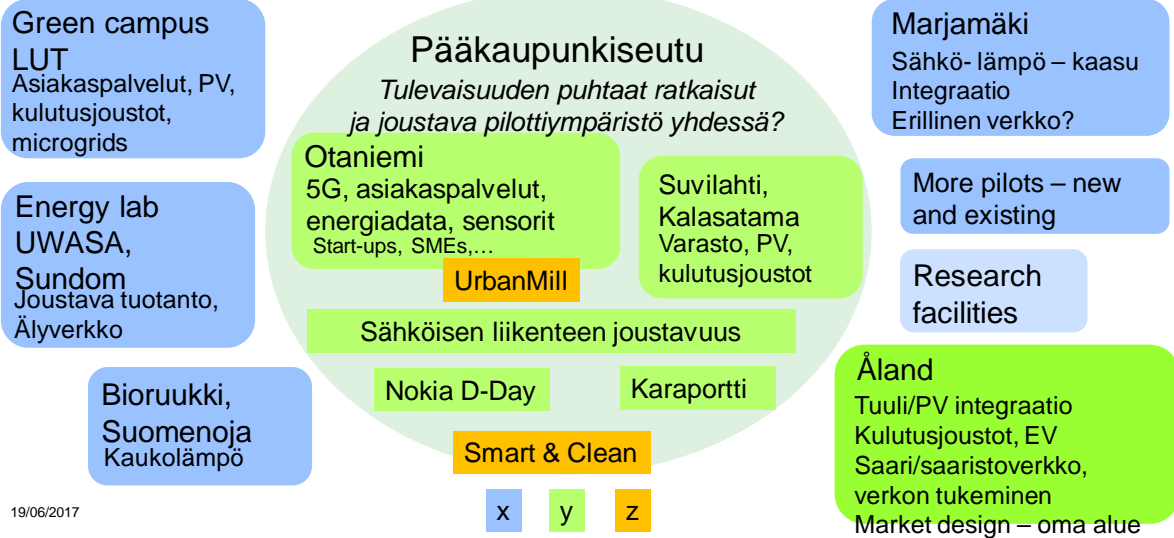
## Question 2: Step towards energy system – possibilities to demonstrate?



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### Question 3: From Otaniemi to Finland – linking pilot platforms



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### Topic: Otaniemi (Finland) pilot platform

<b>Description</b>	Platform for smart flexible energy systems		
<b>Benefits</b>			
<b>Challenges</b>			
Team Leader with contact info: NN			
Team members w/contact info:			
Concrete Actions/Next steps		Schedule	

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