



Smart TSO-DSO interaction schemes, market architectures and ICT  
Solutions for the integration of ancillary services from demand side  
management and distributed generation

## Regulatory Analysis

SmartNet Workshop series, 24-26<sup>th</sup> October 2018, Florence, Italy  
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This project has received funding from the European Union's Horizon 2020  
research and innovation programme under grant agreement No 691405

# Regulatory analysis

- Evaluate which policies are needed to enhance TSO-DSO integration and overcome potential barriers for DER participation in provision of AS
  - Lessons learned from evaluation and testing of new market and operational strategies
  - How proposed market architectures and operation/planning strategies relate to current EU and national (Denmark, Italy, Spain, Nordic, UK..) regulation/roadmaps
  - Produce a set of regulatory guidelines that reflect learning outcomes of the SmartNet project

Which AS to consider

### **TSO-DSO integration schemes**

Regulatory and implementation requirement for market designs and aggregation

Regulatory and implementation requirements for ICT

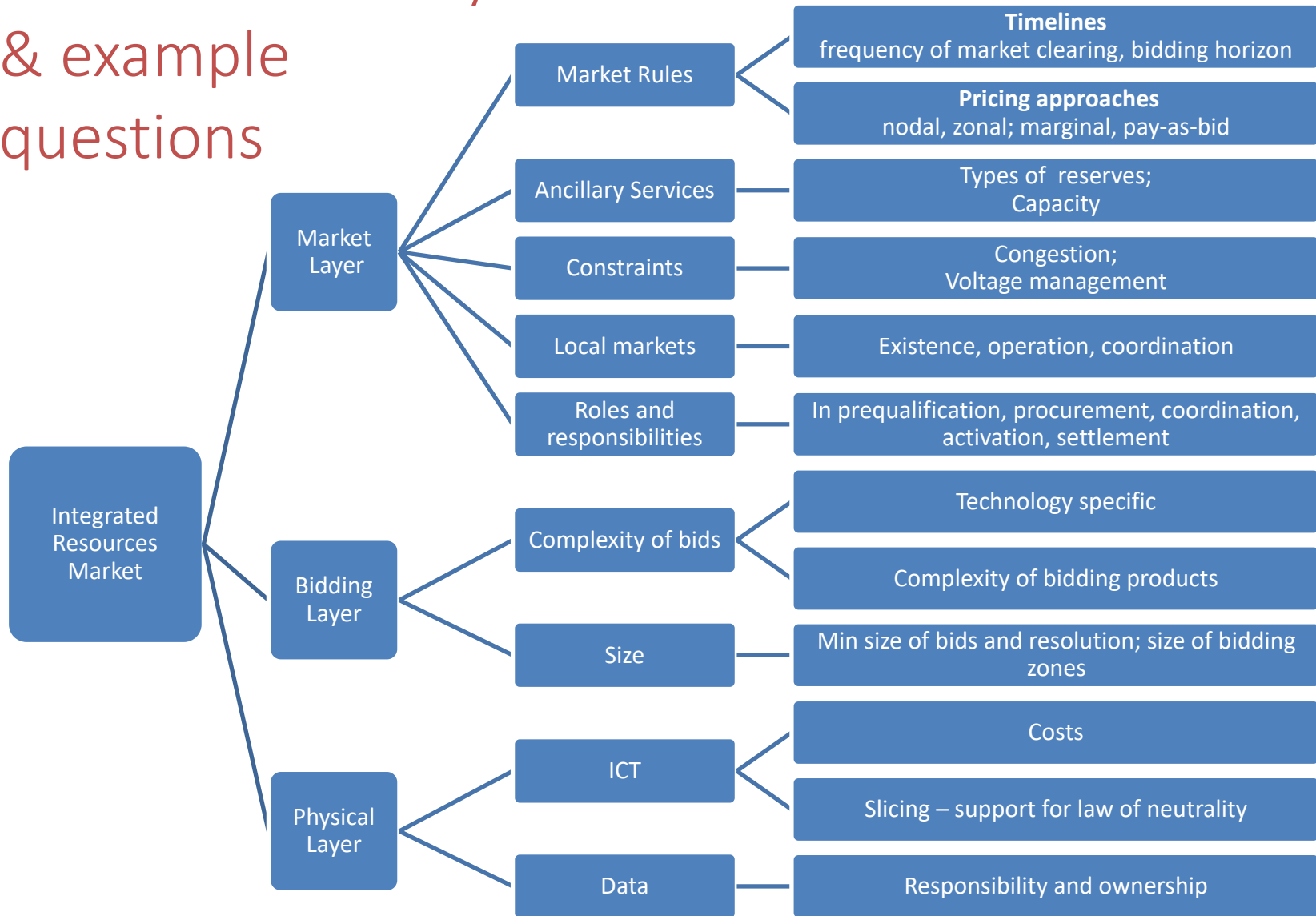
Lessons of market design implementation in the lab and trials

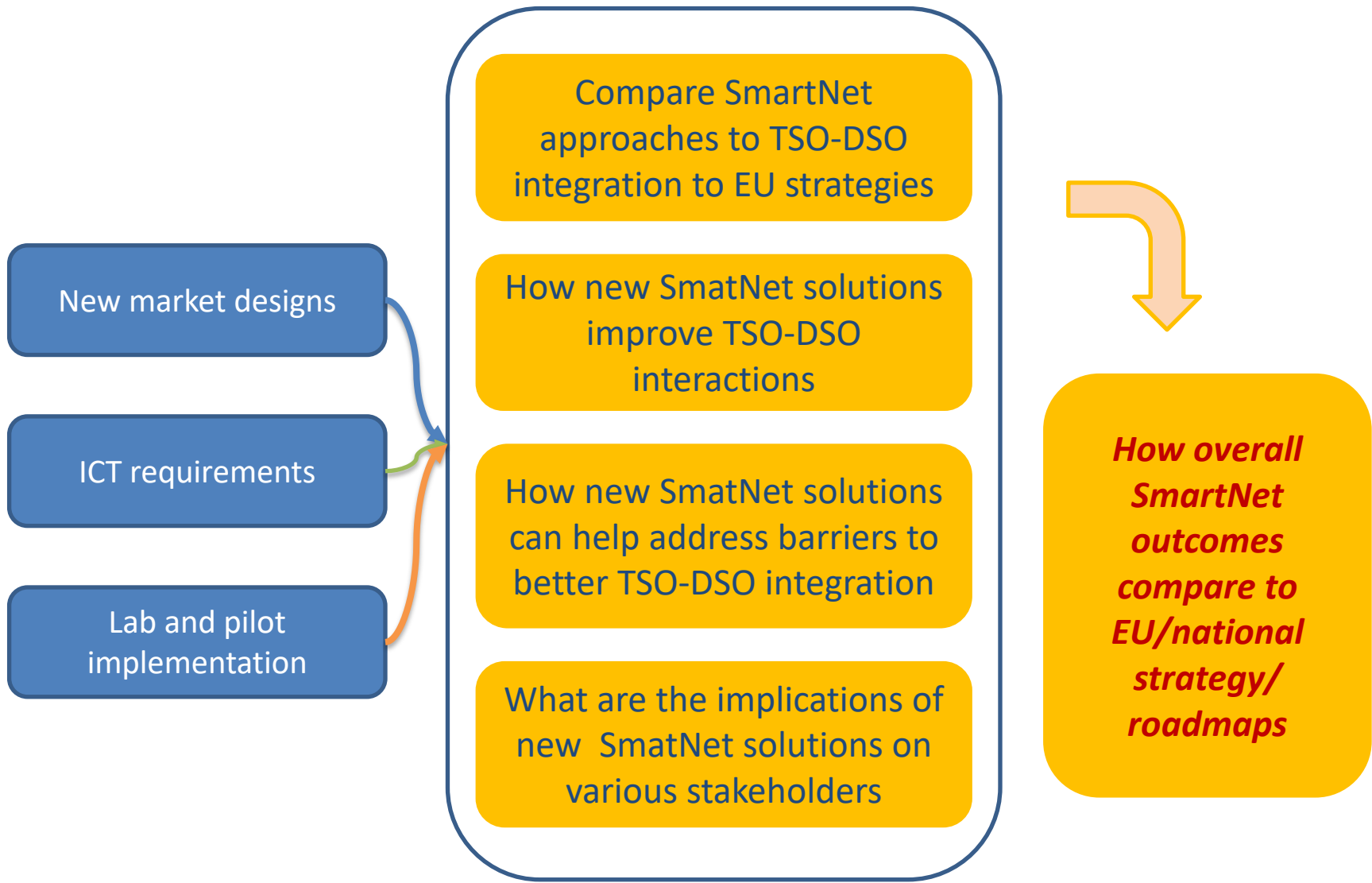
Arrangements for Ancillary Services by DERs

- Where does our learning fit in current EU/national regulatory plans?
- What are the lessons learned from evaluation and testing of new market and operational strategies?

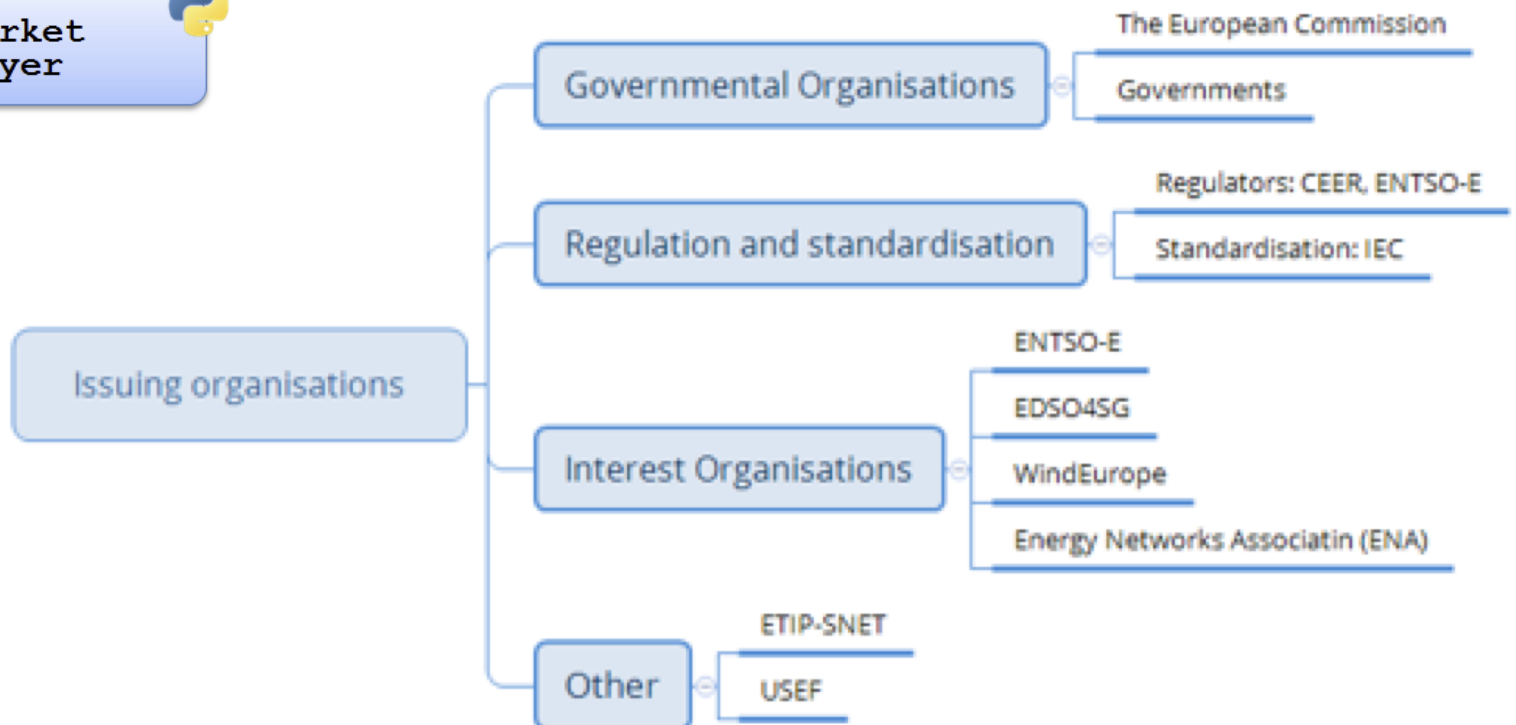
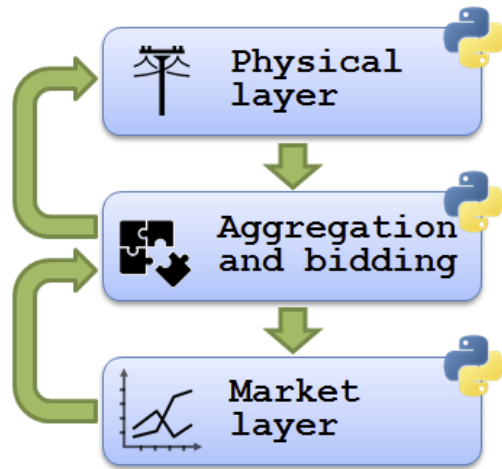
- **What can we recommended to regulators & industry?**

# Structure of Analysis & example questions



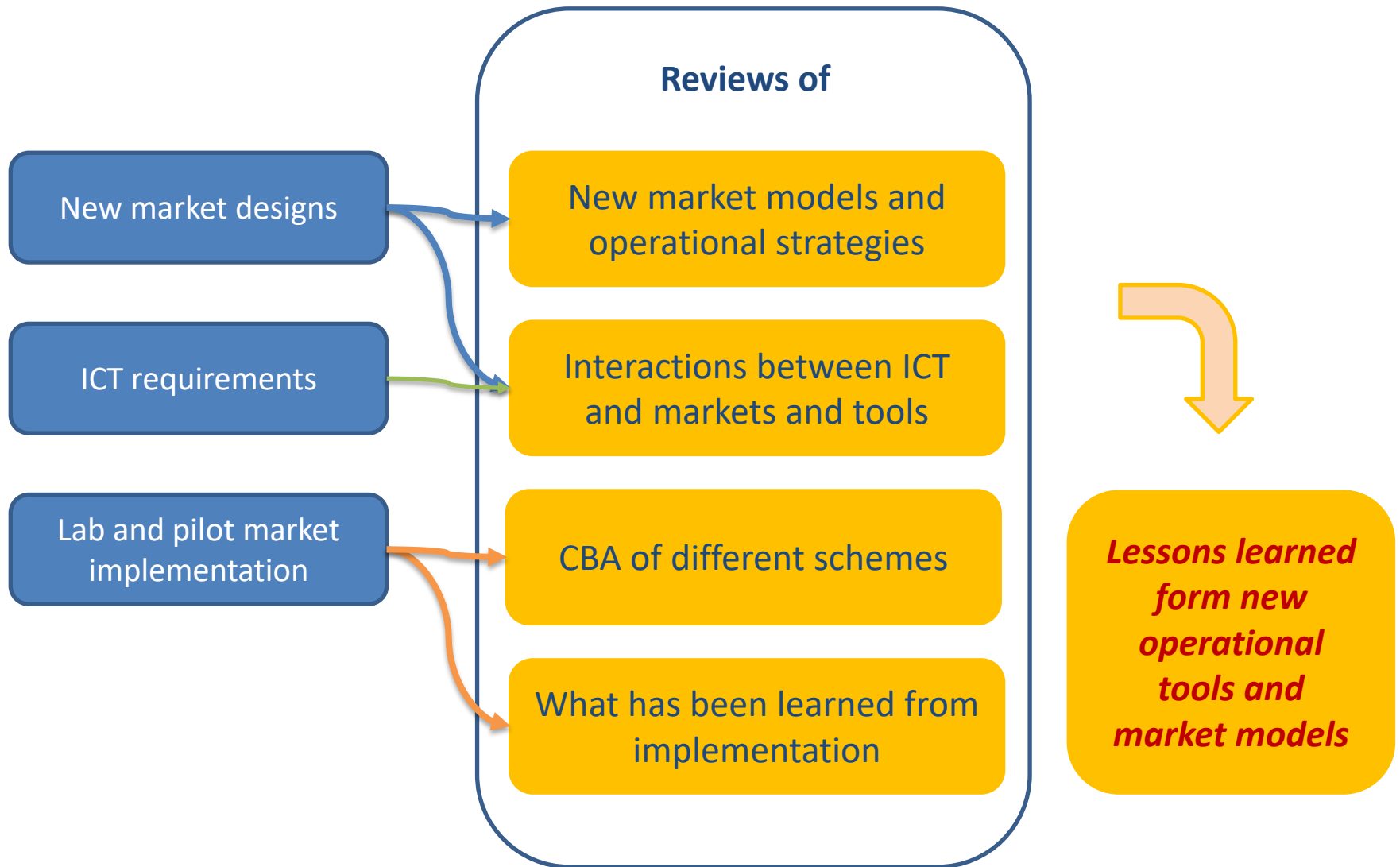


# Evaluation of SmartNet



# Regulatory alignment

- The aim is to evaluate how SmartNet aligns with the regulatory and legislative framework, as well as stakeholders' positions (over 40 documents)
  - which has already been implemented
  - has been suggested for the implementation or are in development
- Evaluation of regulatory alignment
  - Legislation
  - Regulation
  - Strategies
- Stakeholders' views
  - Position papers
  - Roadmaps
  - Other



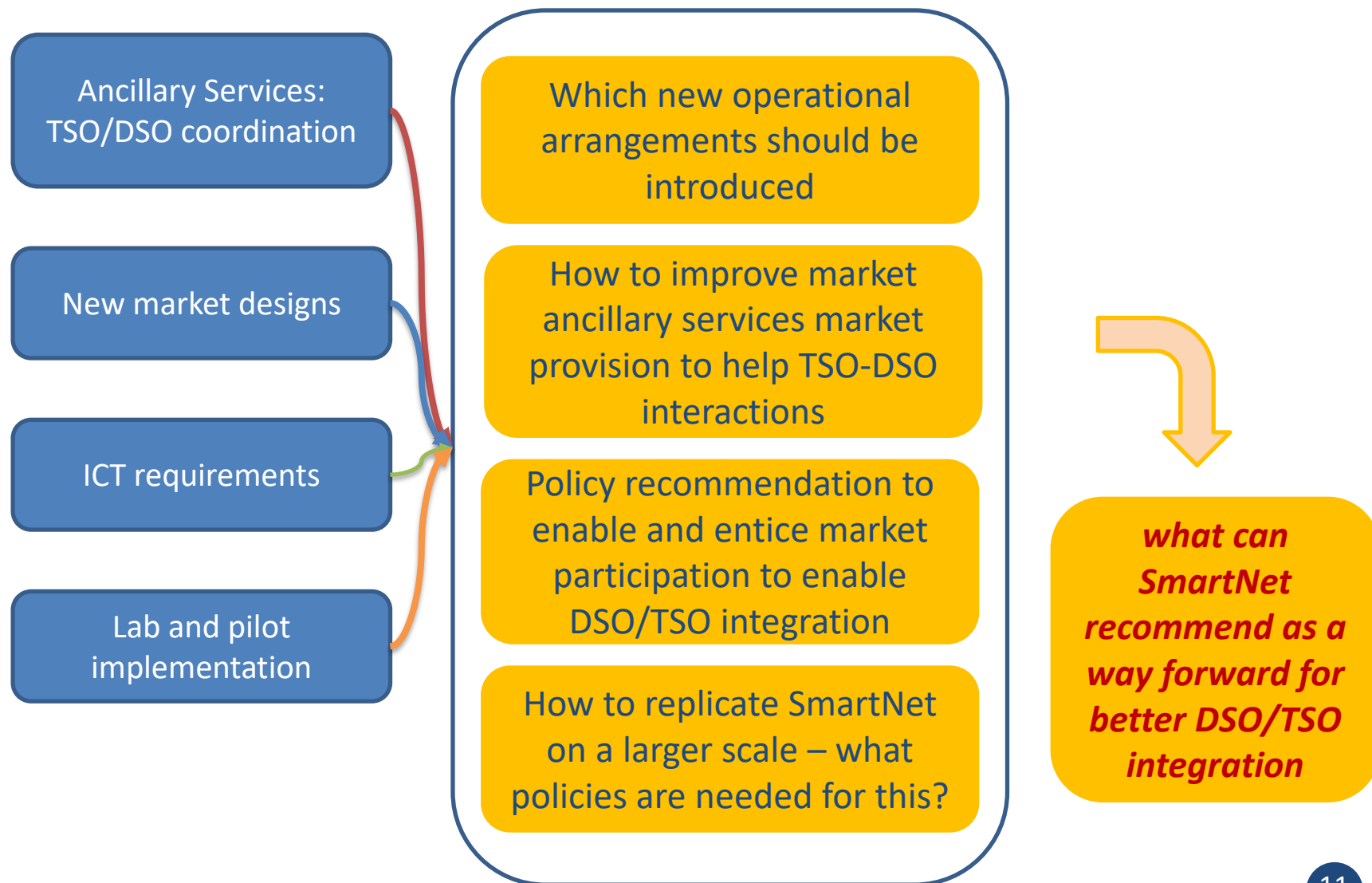


## Some of the results

- Market clearing frequency
  - it was proposed a market with a clearing frequency 15 minutes in SmartNet – this is in line with the common European requirement for the energy and imbalance settlement trading of 15 min or shorter time intervals from 2025
- Minimum bid size and resolution
  - EU regulation does not consider this, however, in some countries Balancing Guideline foresees movement towards smaller balancing products
  - In local markets it is necessary to have small size bids in order to enable adequate liquidity – in SmartNet min size is 1kW per node in distribution level

## Some of the results

- Prioritisation of control traffic (support for network slicing)
  - The Regulation of Open Access to Internet stipulates that traffic management needed to enable the low latency transmission of small real time control signals will be allowed as long as it does not reduce the quality of the normal Internet access of the end users and network capacity is assured
  - The SmartNet concept requires that the control signals are always very reliably transmitted to the DER in less than 0.5 - 1 minute.
  - That is why it is necessary to have prioritization, if internet access connections are used for the purpose.
  - The interpretation of “specialized services” will have impact on implementations of SmartNet control traffic by allowing the new network slicing methodology in software defined networking





[SmartNet-Project.eu](http://SmartNet-Project.eu)

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# Thank You

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