



International Symposium on Energy Innovation

SmartNet: Real time markets and
arbitrage with previous market sessions

Miguel MARROQUIN

Our New Energy



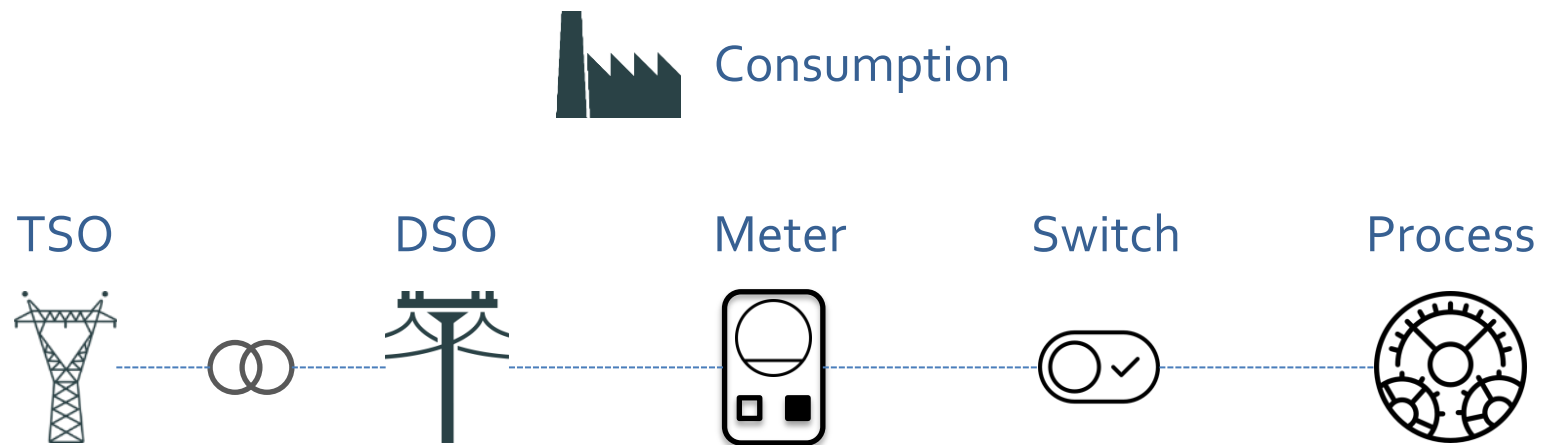
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Background

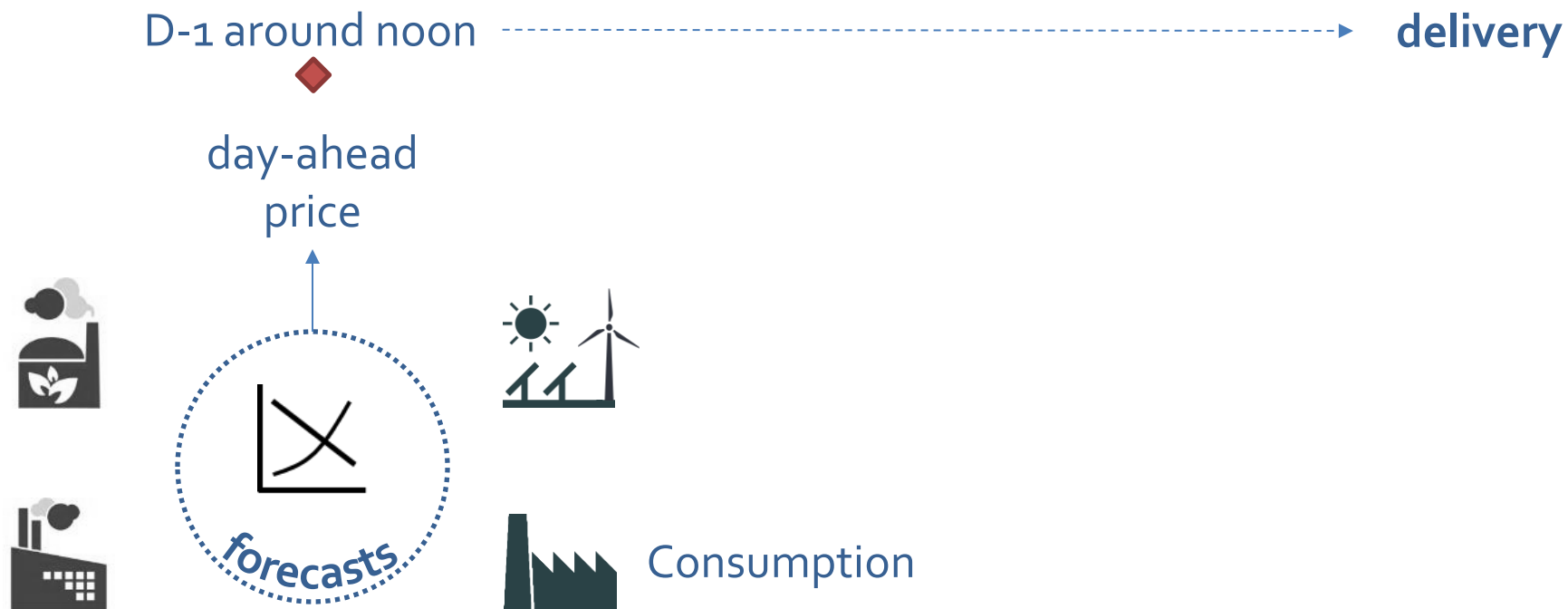
- Energy trilemma ▶ Energy markets **deep** and **transformational** redesign
- Electricity markets ▶ Physicality ▶ **Complex** and **Visionary**
- Increasing transparency ▶ **Democratization** ▶ Information **perfection**

The Asset - Illustration

- DSO-connected flexible consumption
- Access to real-time market specialized information

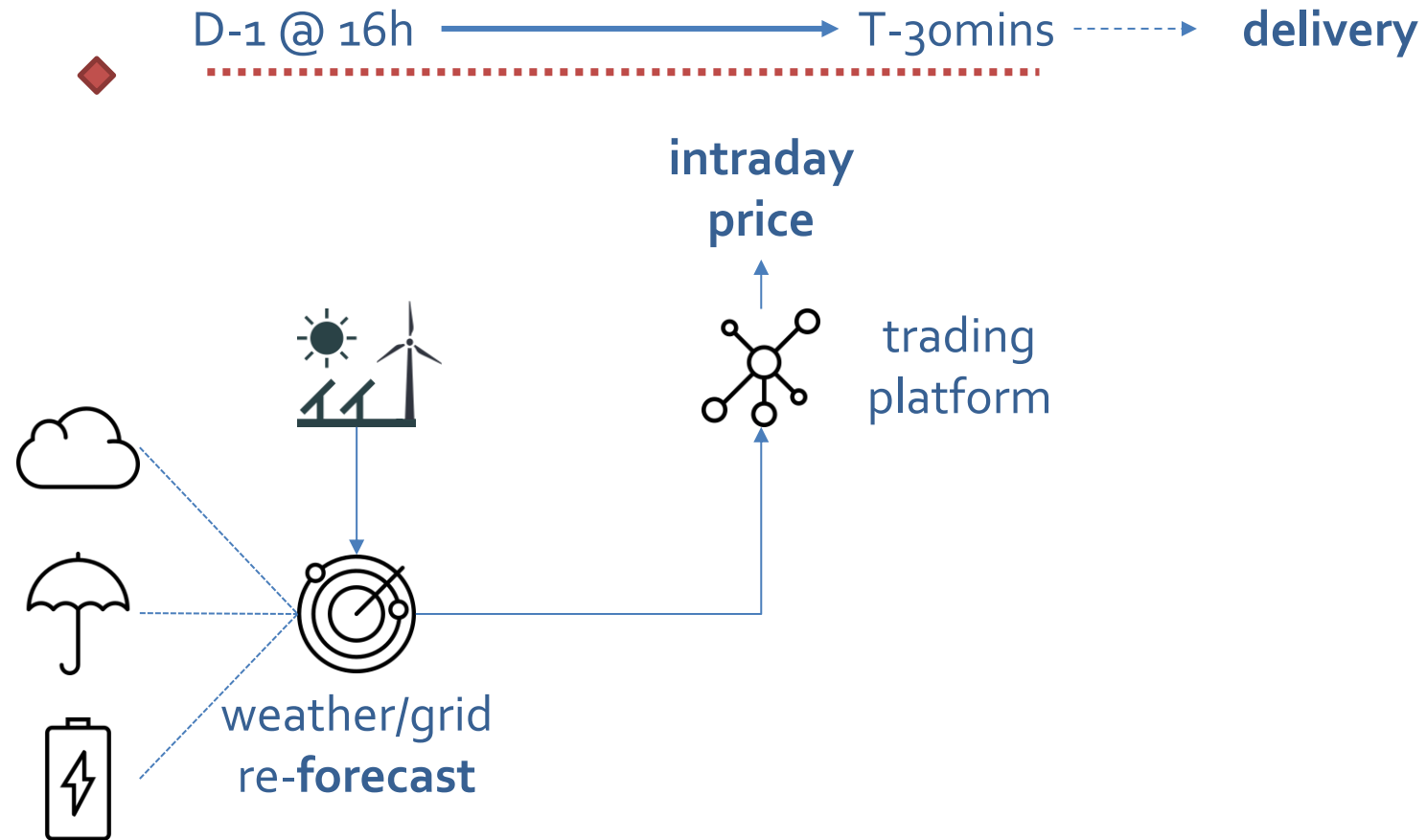


The Day-Ahead Market



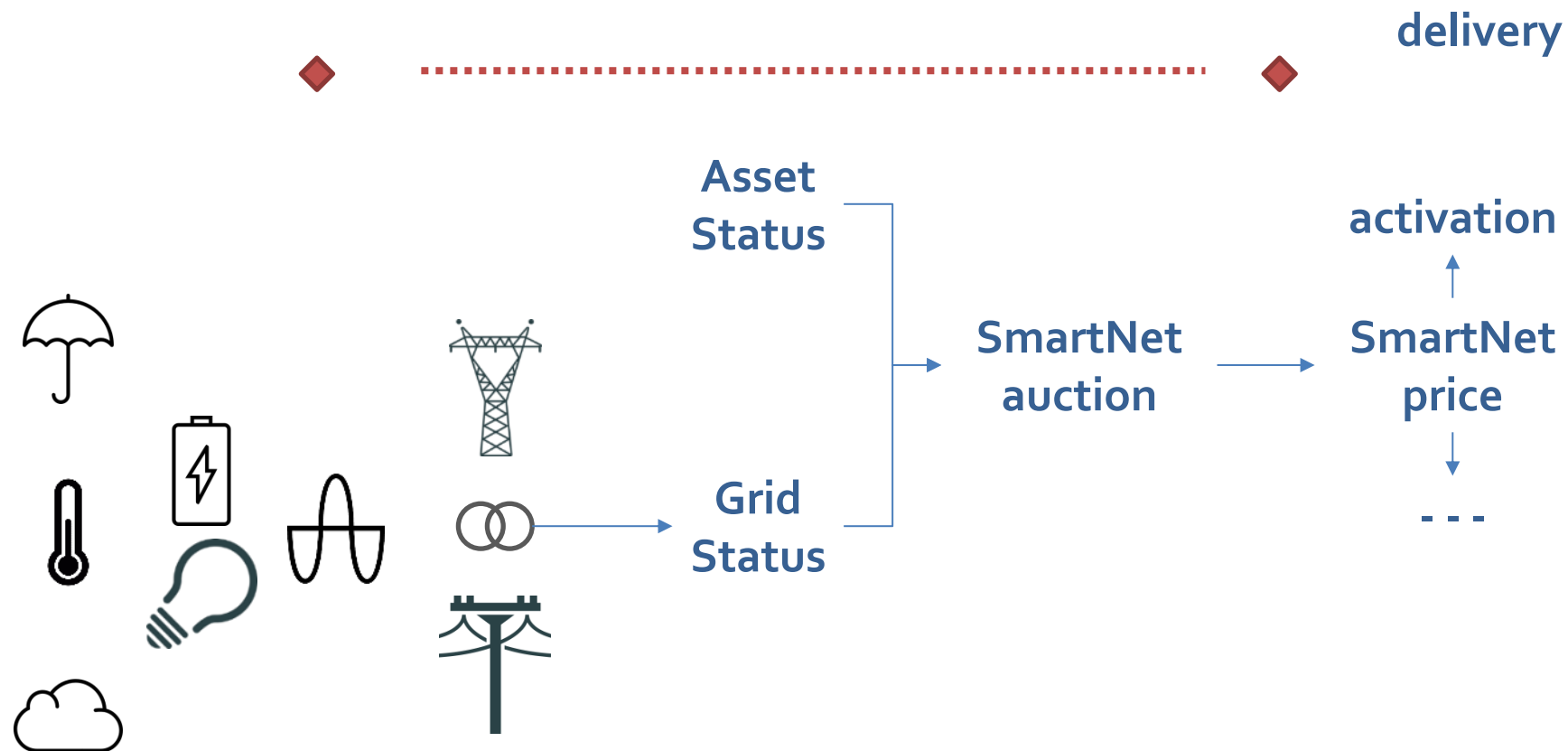
Day-ahead price resolved through EU-coupled auctioning system.
 Obligation to participate ► **Asset acquires volumen for its flexible consumption.**

The Intraday Market



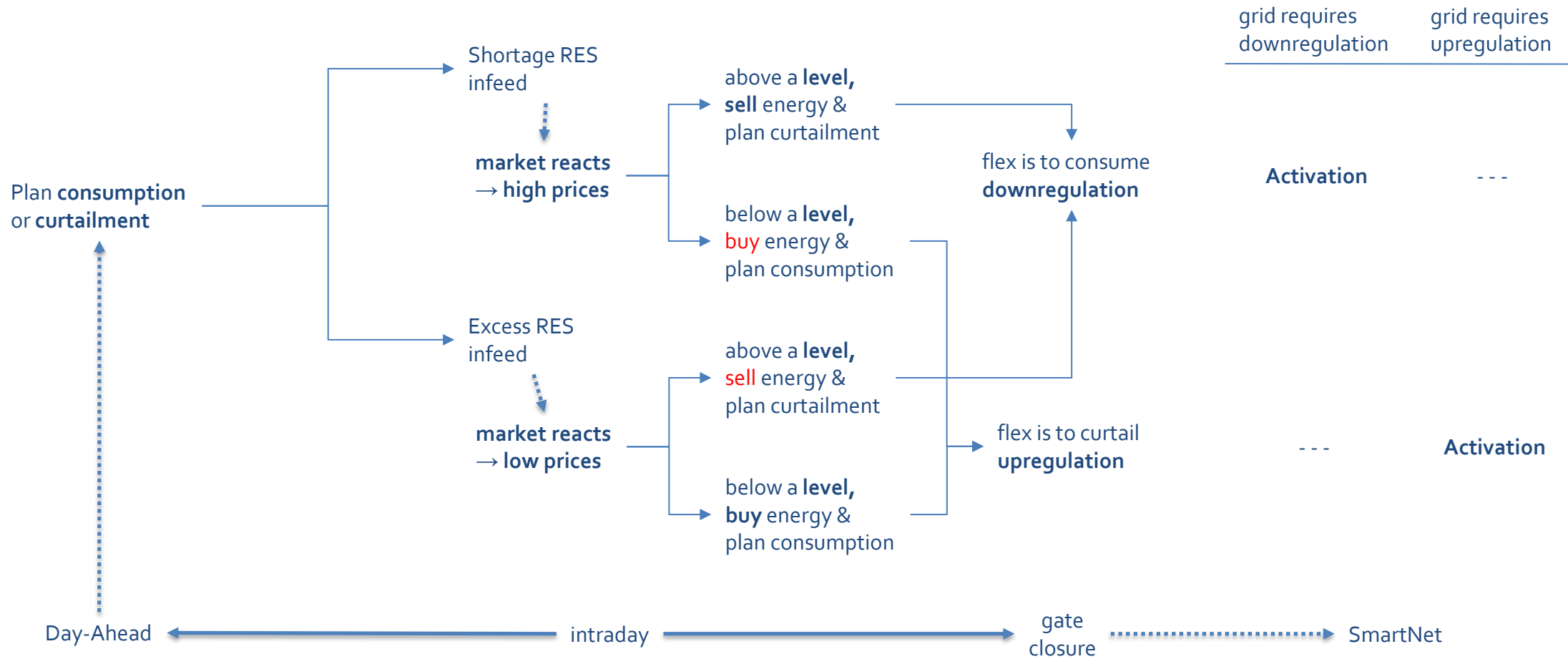
Increased forecasted RES output push intraday prices down ► **oversupply**.
 Inversely for reduced forecasted RES output. Asset **can react** to these prices.

The SmartNet Market



SmartNet maps real-time in clusters of 5 minutes ► auctioning real-time flexibility.
 SmartNet represents the **last opportunity to value flexibility.**

Multiple options



As a rational participant, best strategy is to participate to all possible market layers. Participation is expected at opportunity costs (including market time-value).

Take-aways

- Subsequent markets carry new information ► Price effect offers market participants to adopt a **speculative** strategy to extract **time-value**

- How to integrate this in our simulations?
 - Simulation of resolution of day-ahead auction ► **Optimal Power Flow**
 - Simulation of intraday price action ► **auto-correlated forecast errors**
 - Time-value effect ► **market discomfort premium (risk premium)**

Thank You!