



**BUSINESS
SCHOOL**



DSO-TSO COOPERATION: DISTRIBUTION GRID CONGESTION MANAGEMENT

SAMSON Y. HADUSH & LEONARDO MEEUS
2ND WORKSHOP, FUTURE POWER MARKET PLATFORM
JULY 11, 2017 / MANNHEIM, GERMANY

- Fit and forget approach -> too expensive

1. SMARTER CONNECTION

	Additional wind (MW)	Smart connection (M€)	Reinforcement cost (M€)
Orkney	25	0.5	30
Shetland	10 - 15	33.54	300
Flexible P&P	24.2	6.7	15.3

Source: Kane & Ault (2014)

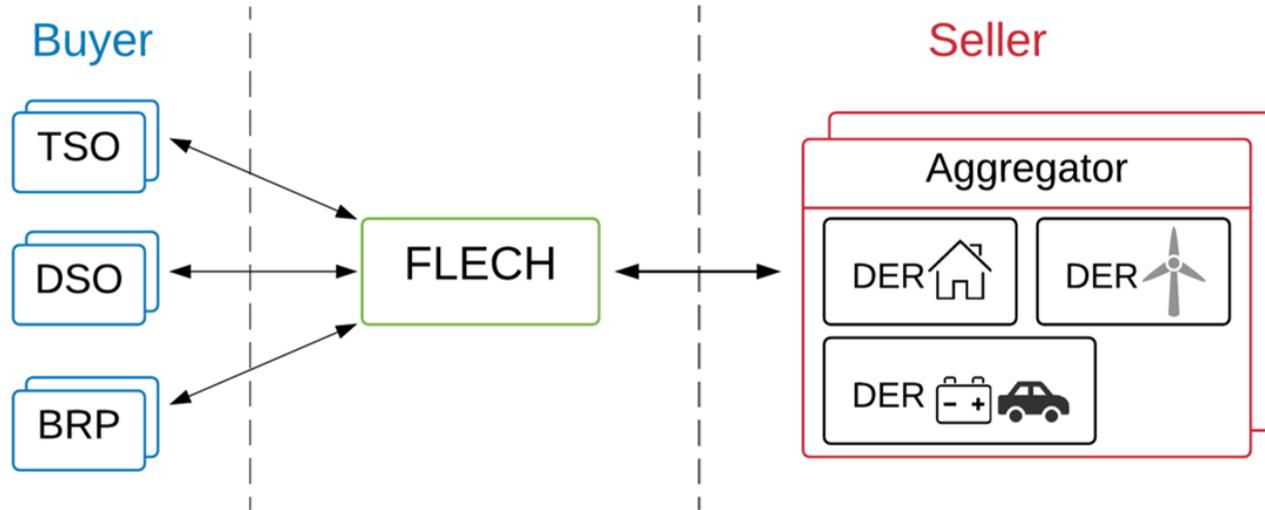
■ Curtailment risk

2. PROCUREMENT OF LOCAL FLEXIBILITY SERVICES

"Member States shall provide the necessary regulatory framework to allow and incentivise distribution system operators to procure services in order to improve efficiencies in the operation and development of the distribution system, including local congestion management."

Winter Package, ED, Article 32.1

2. PROCUREMENT OF LOCAL FLEXIBILITY SERVICES



- Market power
- DSO-TSO cooperation

3. CONGESTION PRICING

- Explicit versus implicit capacity auctioning

- Complexity
- TSO-DSO cooperation

SUMMARY & NEED FOR COMBINED APPROACH

- Managing supply of distribution grid capacity
 - “fit and forget”
- Managing demand for distribution grid capacity
 - “smart connection”
- Correcting the market outcome to deal with congestion
 - Analysing and communicating the need for correction
 - Taking corrective action by re-dispatching and procuring flexibility
- Integrating distribution grid constraints in the market design
 - Calculating and communicating distribution grid constraints
 - Nodal distribution grid pricing

Samson Yemane Hadush

samson.hadush@Vlerick.com

be.linkedin.com/in/samyhadush