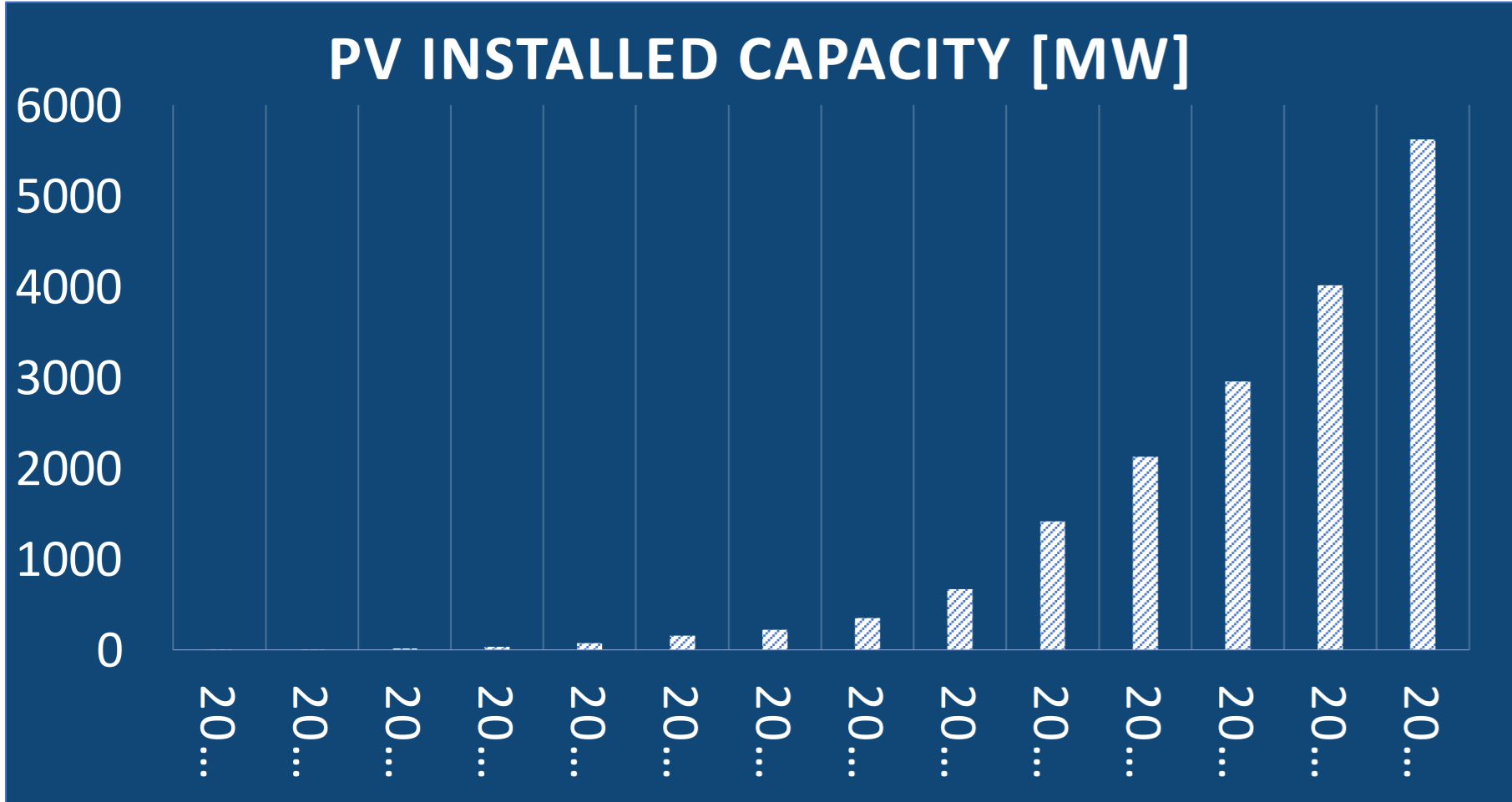


HUNGARY

Eastern Cluster Demonstrator

Problem Statement



Due to the proliferation of PV plants, connected to DSO MV lines or directly to the MV side of HV/MV substations, violation of standard voltage bands on MV lines and overloading of HV/MV transformers.

BUCs:
EACL-HU-01: MV feeder voltage control
EACL-HU-02: HV/MV transformer overload

Demo's Innovation



FUNCTIONAL EXTENSIONS FOCUS ON FOUR AREAS

Definition of new potential standardized flexibility services

- EACL-HU-01: MV feeder voltage control
- EACL-HU-02: HV/MV transformer overload

Elaboration of related product and grid prequalification processes

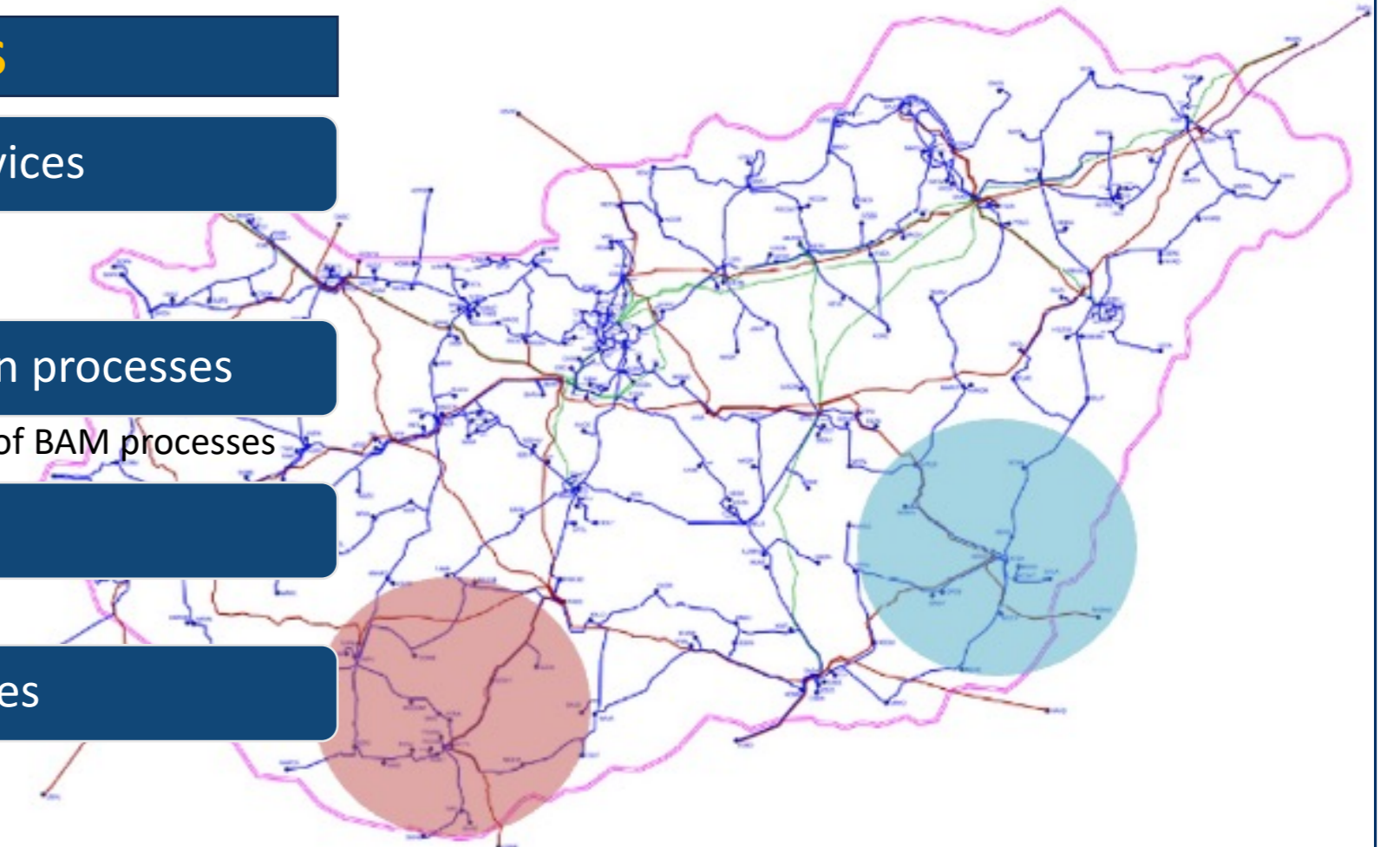
- P and/or Q product, W-1 reservation, D-1 activation, independent of BAM processes

Conceptualisation of location-based service activation

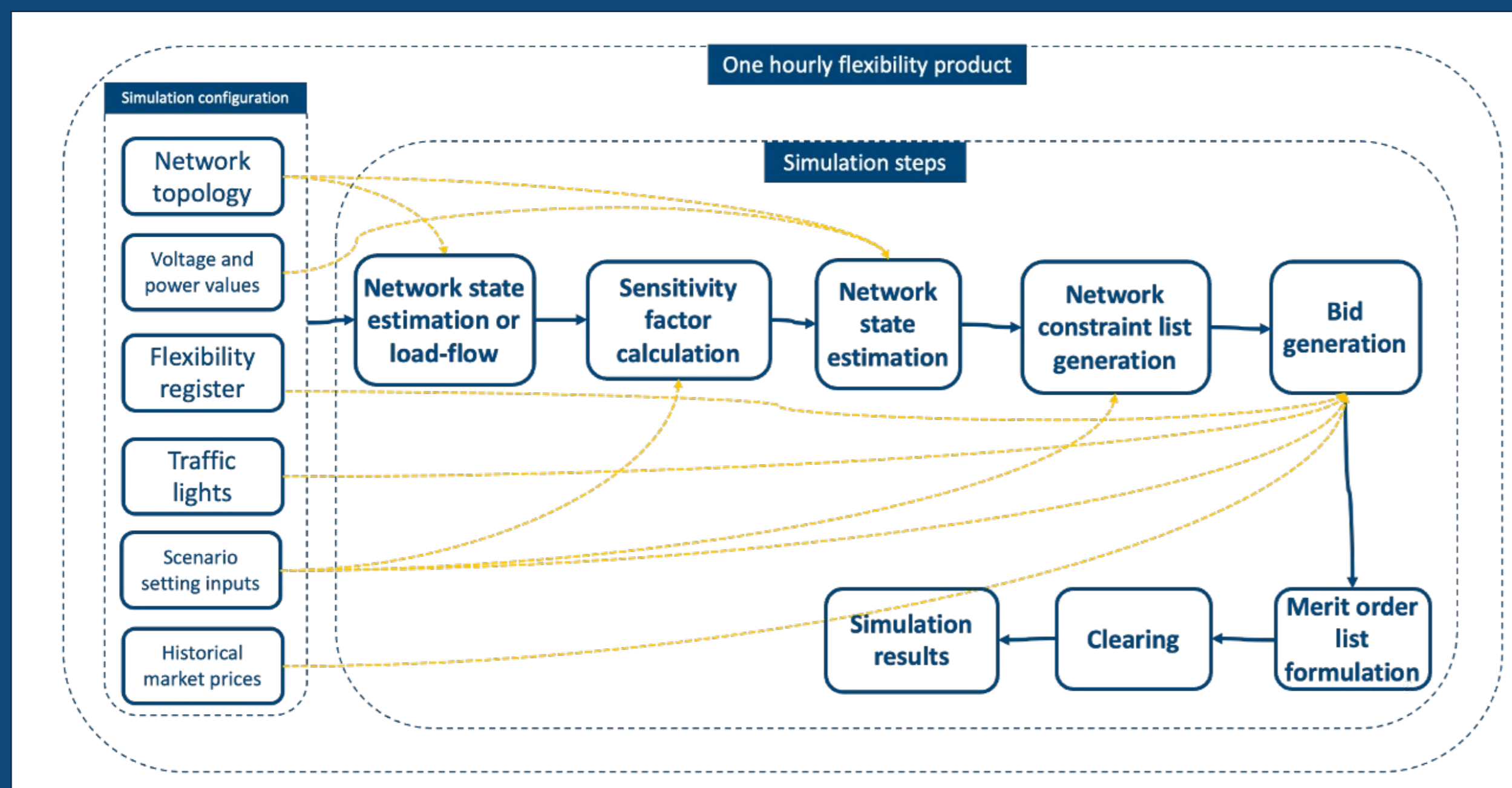
- 'Sensitivity factor'

Coordination of access to local and system-level services

- Traffic light concept with DSO priority



Results and Lessons Learned



		TSO		
		Red	Yellow	Green
DSO	Red	The DSO is prohibited to redispatch the unit that is not based on renewable energy sources and are accredited BSPs.	The DSO will apply redispatch to the asset or unit.	The DSO will apply redispatch to the asset or unit.
	Yellow	The DSO is prohibited to redispatch the unit that is not based on renewable energy sources and are accredited BSPs.	The asset or unit is an accredited BSP by the TSO and has a winning bid on the DSO flexibility market.	The asset or unit is an accredited BSP by the TSO and has a winning bid on the DSO flexibility market.
	Green	The DSO is prohibited to redispatch the unit that is not based on renewable energy sources and are accredited BSPs.	Expected insufficient daily capacity procurement.	No action to be taken.
			No action to be taken.	No action to be taken.

Main Challenges

- Ensuring error-free operation of functional extensions demands substantial resource investment from developers and companies.
- Identifying data sources and pre-processing varied data at DSOs is resource-intensive, hindering replication potential.
- The gap between the design and implementation of functional extensions presents challenges.
- Managing multiple products across various voltage levels and congestion zones requires a unified platform.
- The time lag between bidding and market activation introduces uncertainty for users (DSOs) and suppliers (FSPs).

Recommendations

The appearance of business benefits would be clearly supported if several entities started to work in coordination with each other in the flexibility markets.

The appearance of an independent market operator could facilitate the processes, especially if this actor is financially interested in the operation of the market.

