Open Energy Market Places

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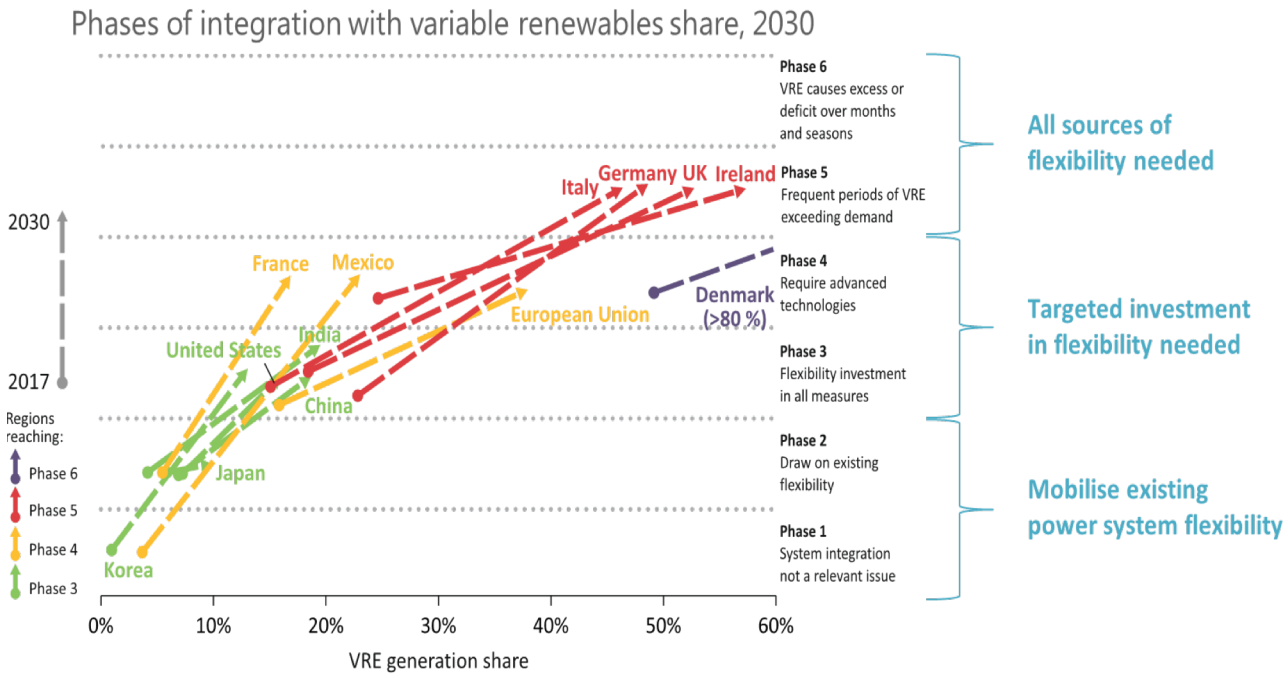
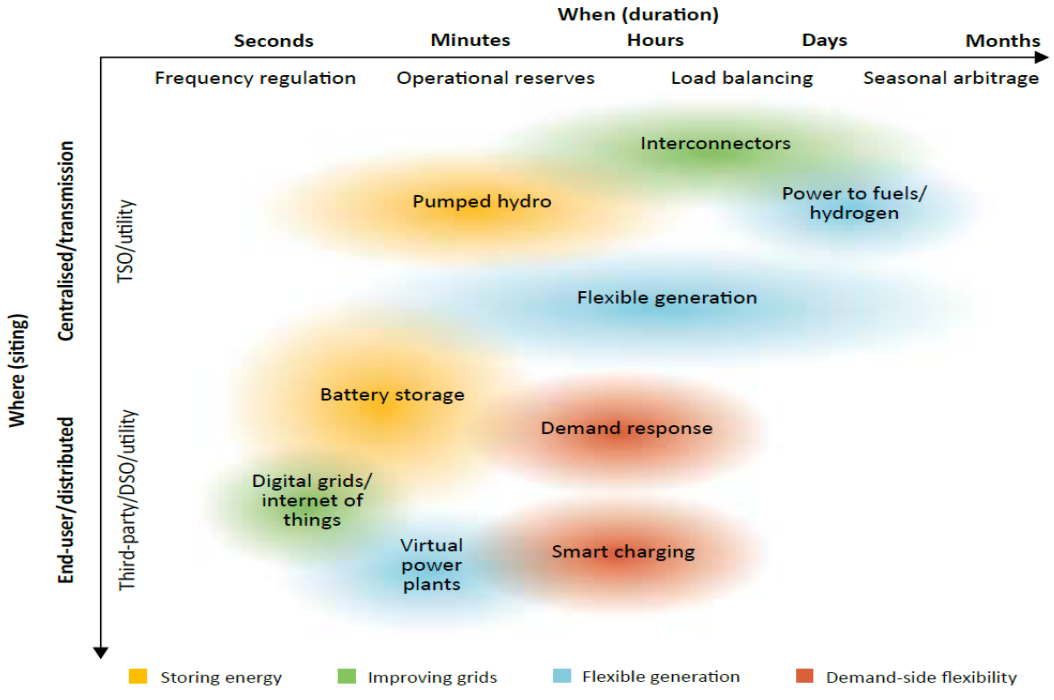
Flexibility needs and sources

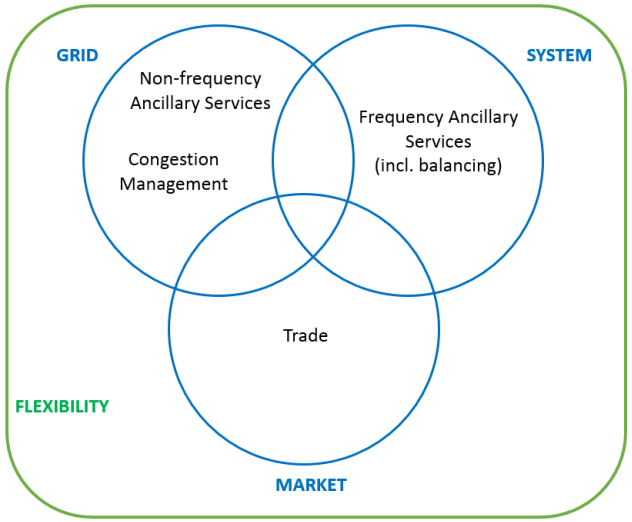




Source IEA 2018

TSOs perspective on flexibility sources, services and products

Flexibility services will evolve



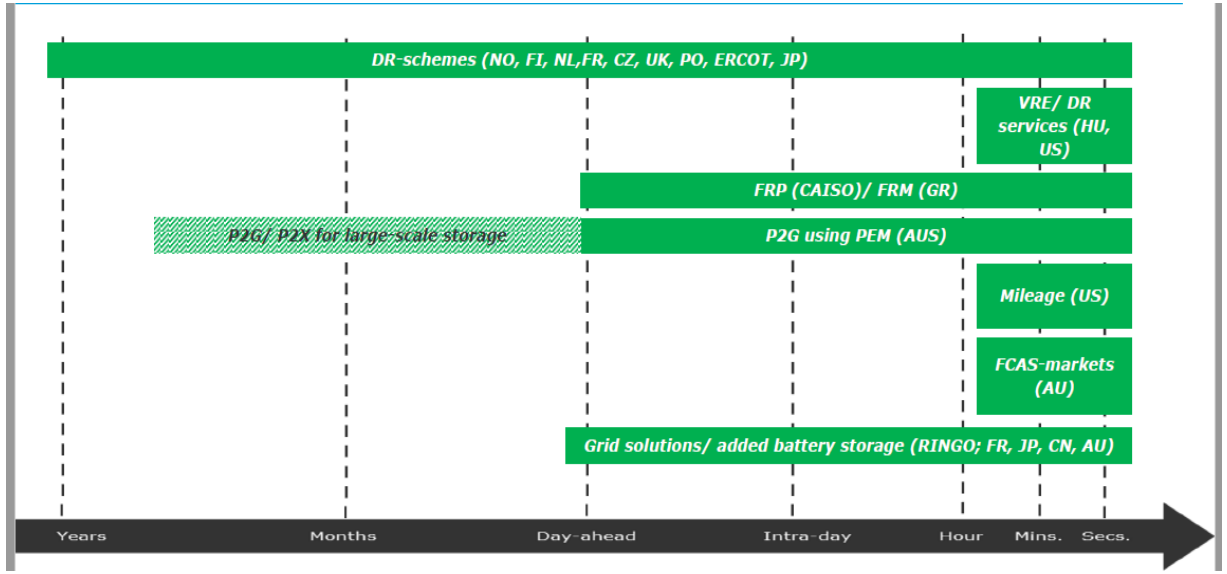
Technology

Storage, DR, IOT, Flexible Gen , Blockchain

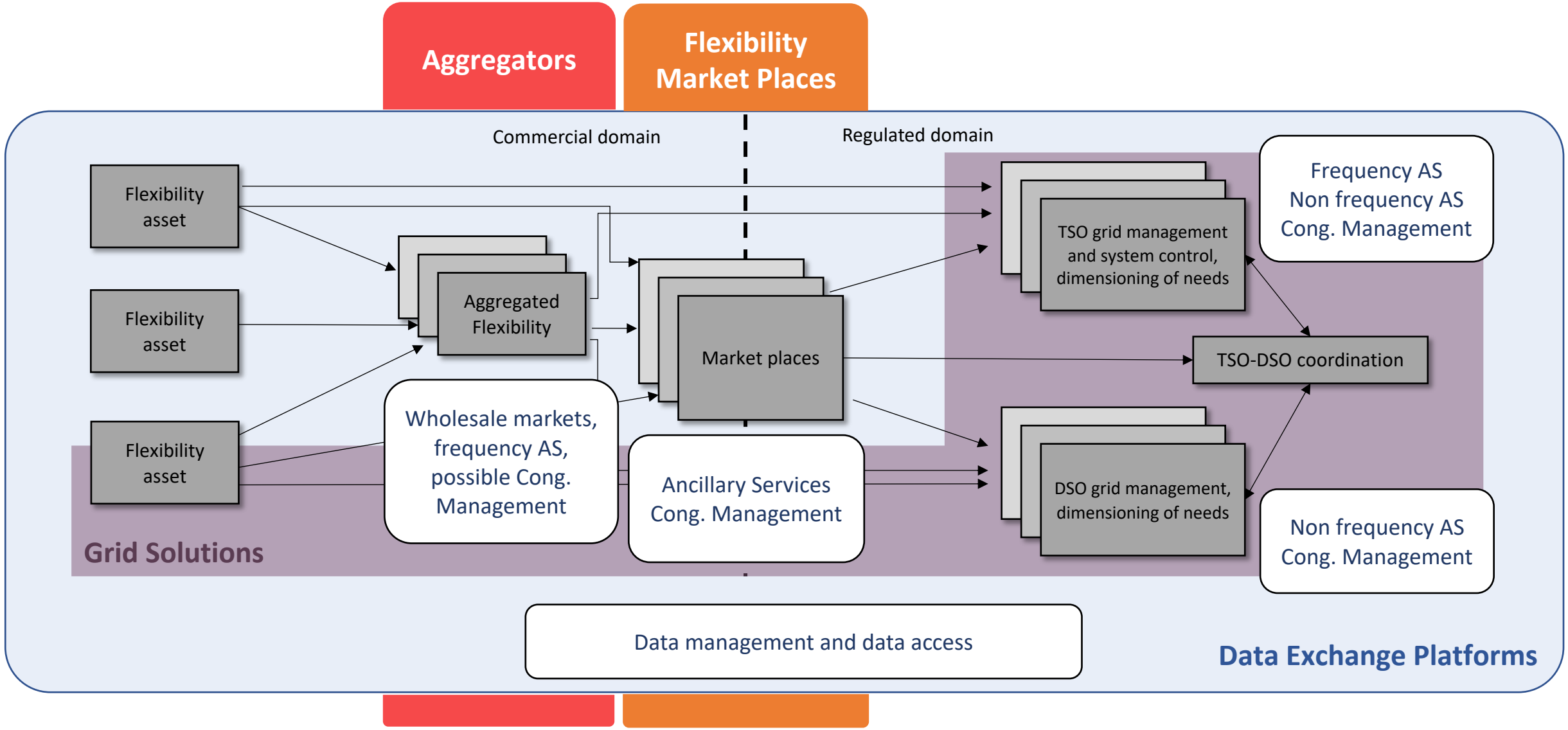
Markets

Market and product design

Power system flexibility development



Which platform for which services?



Which platform for which functionalities?

Aggregators

Decentralized Assets
- CROSSBOW (VSP)
- Limejump; Next Kraftwerke
- Newmotion
- Powerhouse

Centralized Assets
- Direct participation of centralized actors (e.g. big consumers, chemical industry, greenhouses in the Netherlands)
- To be investigated with SmartEn

Decentralized and Centralized Assets
- REstore; Innowatio; Orsted; e2m; Aggregio (EDF); Voltalis
- EU-SysFlex (aggregation and coordination of flexibility multi-services)

Flexibility Market Places
operated by:

Power exchange
- Enera
- Nodes
- ETPA Stedin TenneT Alliander
- FLEXITRANSTORE Wholesale and Clearing Market

DSO
- SmartNet Spain

TSO
- Cross-Border Balancing (MARI, PICASSO, TERRE, CROSSBOW)
- Flexibility resource participation to AS (Italy)
- Flexibility resource participation to AS (Spain)
- Small-scale assets to FCR (the Netherlands)
- OSMOSE (near real-time cross-border wholesale market)
- NEBEF (France)

TSO-DSO jointly
- SmartNet Denmark
- New 4.0 (local consumption)
- Designetz
- WindNode
- Csells (solar electricity local consumption)

Blockchain
- Small-scale assets to aFRR (the Netherlands; Germany)

Other third party
- Piclo (technology provider)
- Cornwall (supplier)

Grid Solutions

TSO-DSO physical interface (control system)
- CLASS (UK)
- FLEXITRANSTORE (substation controller with storage)
- SmartNet Italy (observability)
- TDI 2.0

TSO grid
- OSMOSE (coordinated control of devices, smart management of the system)

TSO-DSO- customers: multiple players
- INTERRFACE
- COORDINET

Data Exchange Platforms
operated by:

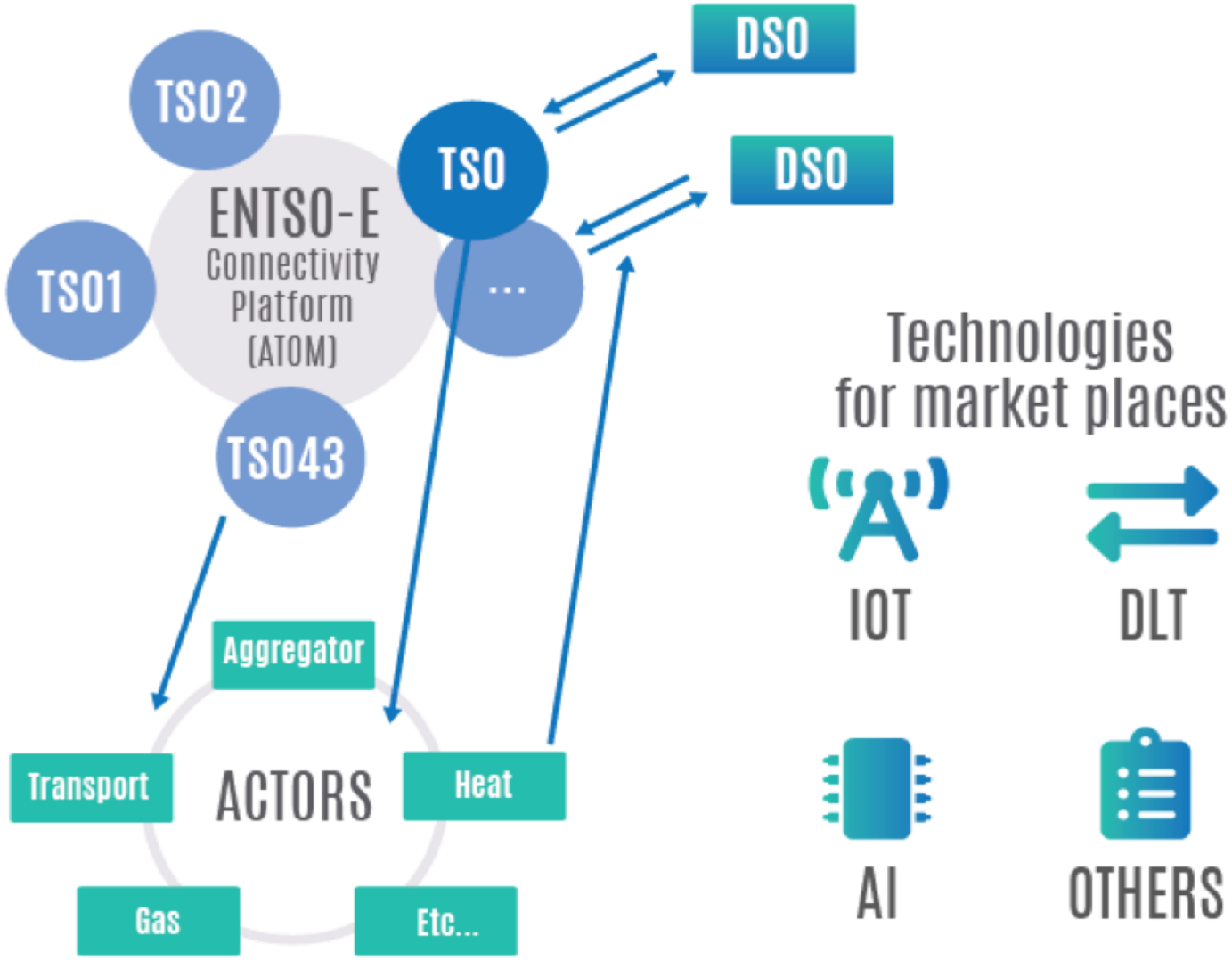
TSO-DSO
- TDX ASSIST
- TSO-DSO Flex Datahub (Belgium)
- DA/RE (Germany)
- EDSN (the Netherlands)

TSO
- Estfeed
- Energinet
- ElHub
- CROSSBOW (real-time data)
- EU-SysFlex (cross-border and cross-sector data management)

DSOs' ownership
- Atrias (Belgium)
- MRSO (Ireland)

Third Party
- SII (Italy)

Future vision – multiple interoperable platforms



Thank you

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ΜΕΠΣΟ
nationalgrid
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Διαχειριστής Συστήματος Μεταφοράς
Κύπρου
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