

# Energy Storage enabling Flexibility in Electrical Grid Systems

EEF Dinner Debate  
Strasbourg  
June 13, 2017

# Greensmith Overview

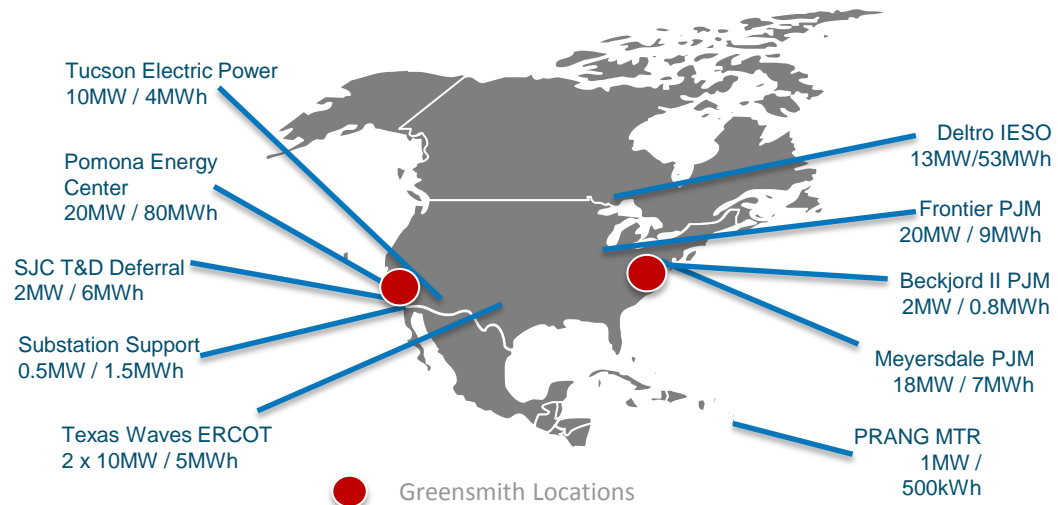
## Greensmith Energy at a glance

- Founded 2008
- US based company, global focus
- HQ in Washington, DC
- 180MW installed
- Turn-key Energy Storage System Provider
- Over 1/3 of US Grid Scale Energy Storage Market built (2016)
- Flagship products

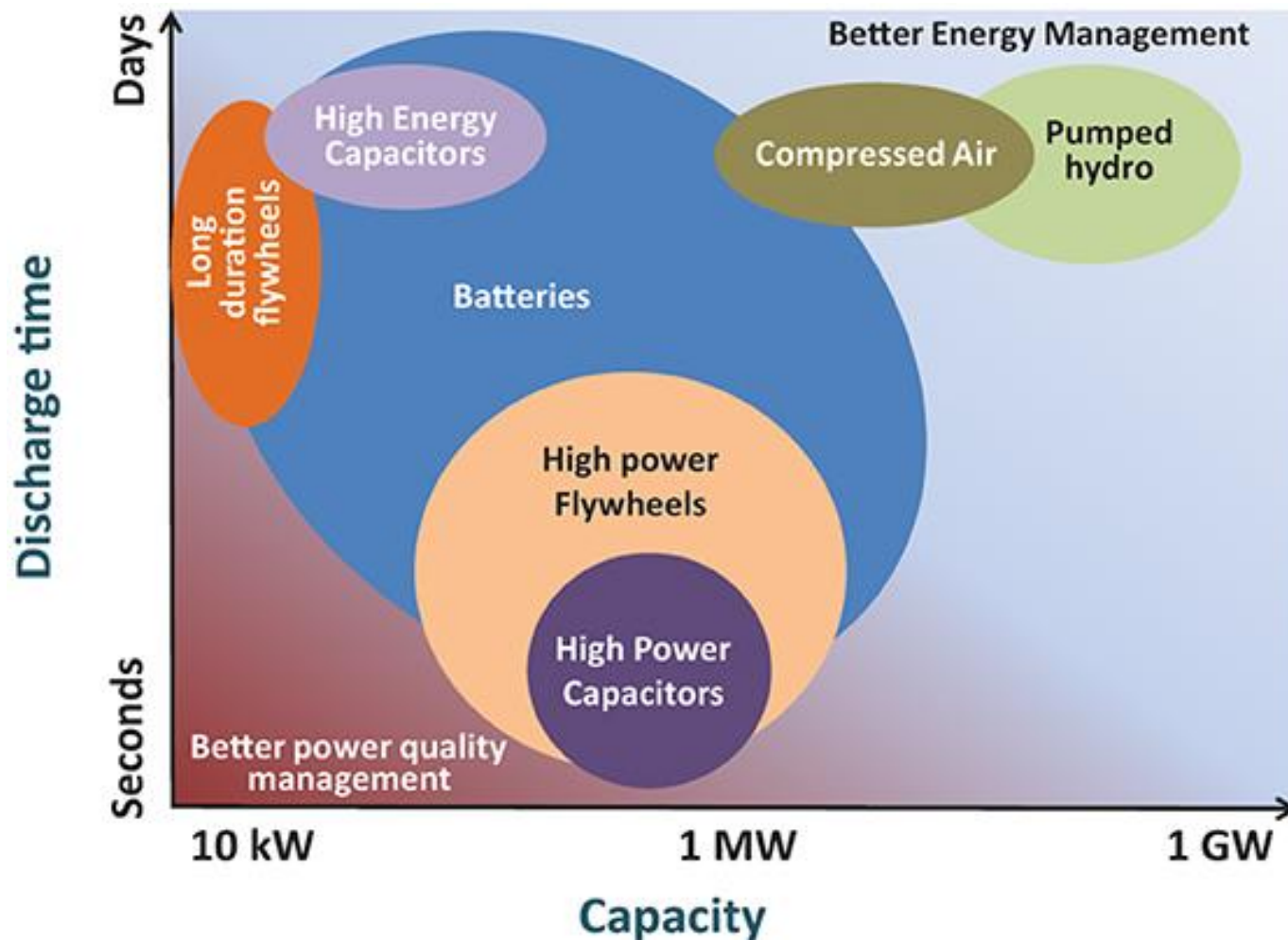
## Energy Management Systems for Energy Storage Assets

- Flexibility
- Efficiency
- Longevity

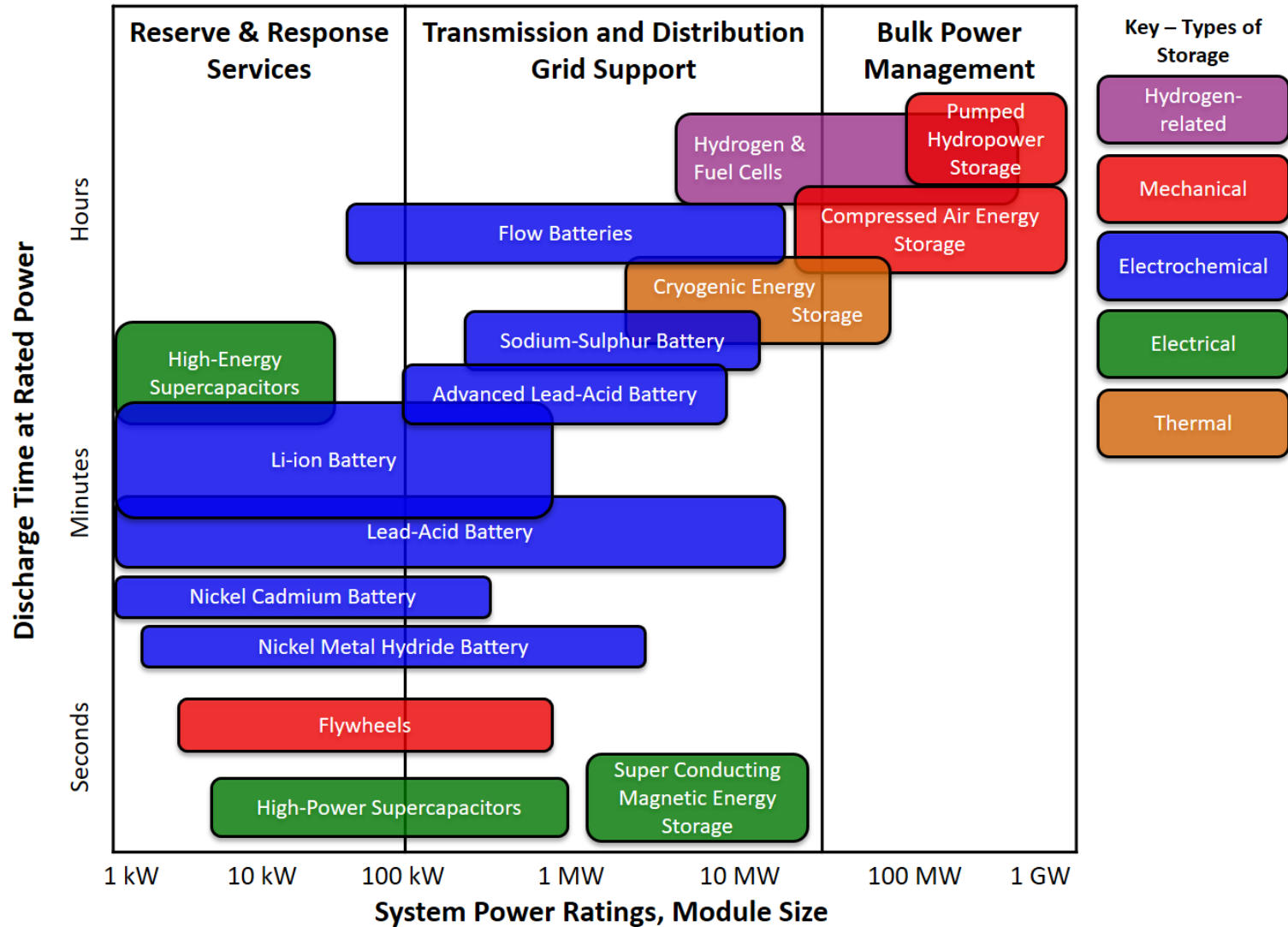
## Turn-Key Energy Storage Systems



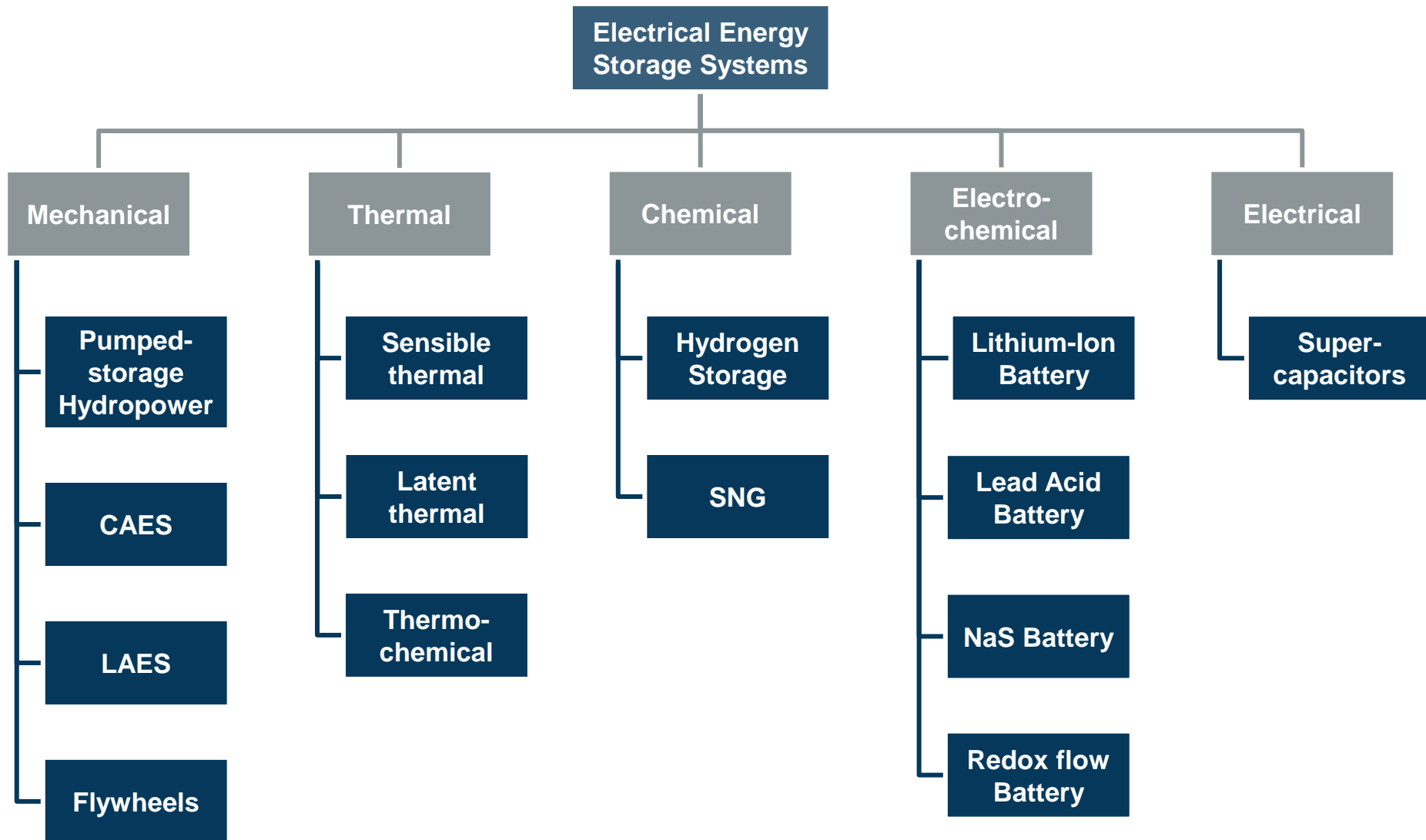
# Energy Storage Markets and Value propositions



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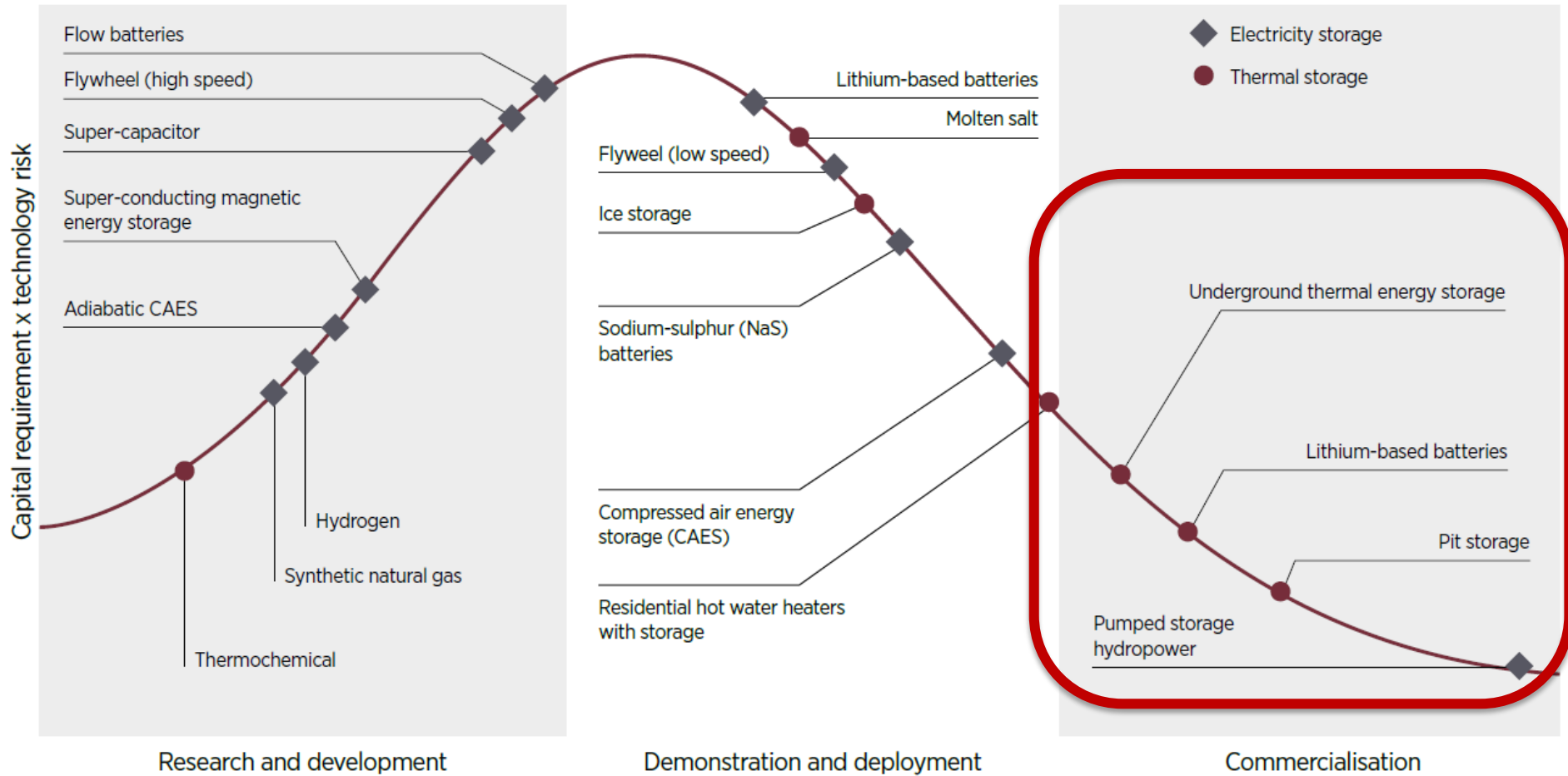


# Energy Storage Technologies Life Cycle



# Energy Storage Industry

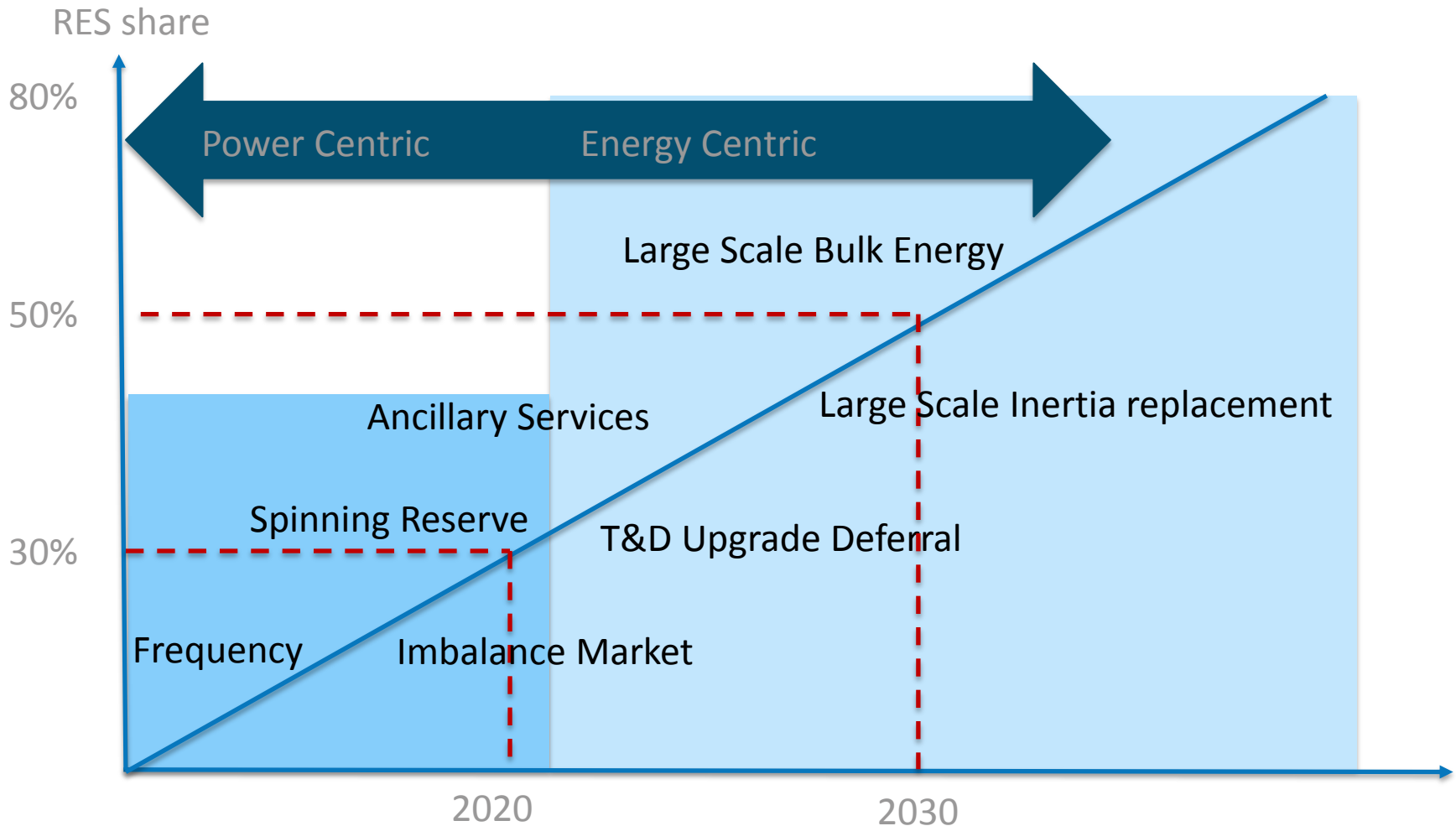
## MATURITY OF ENERGY STORAGE TECHNOLOGIES



Source: Schlumberger Business Consulting Energy Institute, Paris

# Energy Storage Solutions to solve Grid Stability

## Future Services needed



# European Key Market Developments

## *Positive developments for Storage Industry and Grid Infrastructure*

- UK market leading application development for commercial storage deployment
  - ⇒ **Gaining solid experience to leverage Energy Storage benefits**
- Energy Storage System sizes seen in the range of 10MW to 100MW
  - ⇒ **Enables distributed deployment in DSO grid operations in accordance to the winter package**
- Understanding of Energy Storage as best choice for short and ultra-short grid support function
  - ⇒ **Technology outpaces capabilities of and benefits expectations for the European Grid system**
- Today Energy Storage offers already commercial solution to fast response grid stability problems beyond pumped hydro storage



# European Key Market Developments

## *Barriers for EU Energy Storage deployments*

- Classification and harmonization of Energy Storage as a third pillar in European Energy Supply chain
  - = > Energy Storage is neither a Generator nor a Consumer
- Lack of clearly defined trading and market segments to take advantage of the benefits of Energy Storage
  - => Fast acting reserve market segment
- Modernization of smart grid technology enabled networks allows new re-definition and understanding of grid stabilization
  - => **Paradigm shift to a faster grid system**

# We look forward to working with you

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