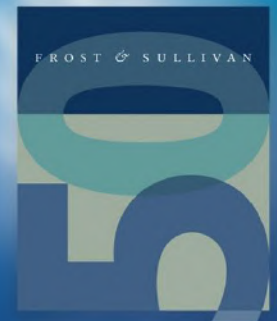


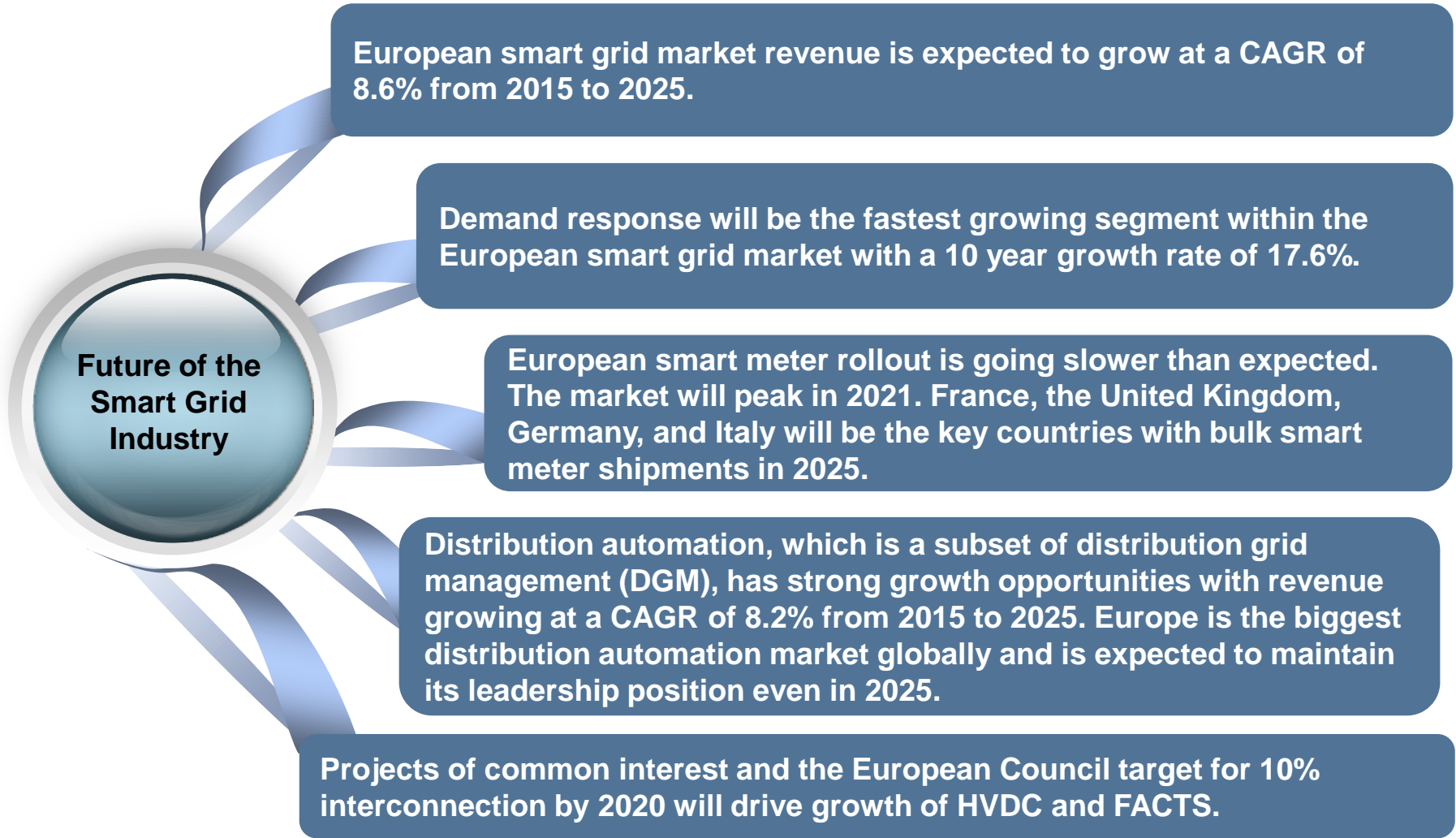
Frost & Sullivan European Smart Grid Market Overview

In the next 10 years European Smart Grid Market will Witness the Fastest Growth as Compared to Other Regions Globally

Malavika Tohani
Research Director, Energy & Power



Key Findings for the European Smart Grid Market

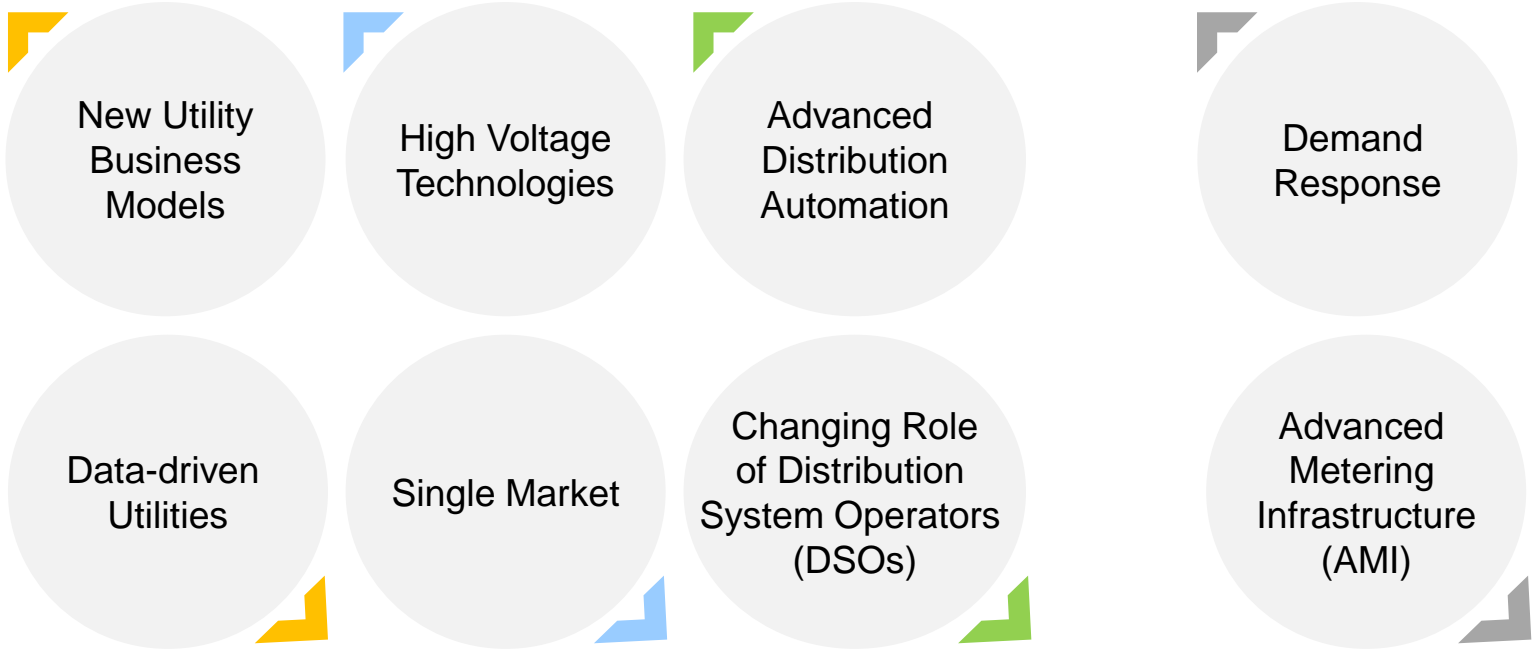


Source: Frost & Sullivan

Key Trends in the Future Electrical System



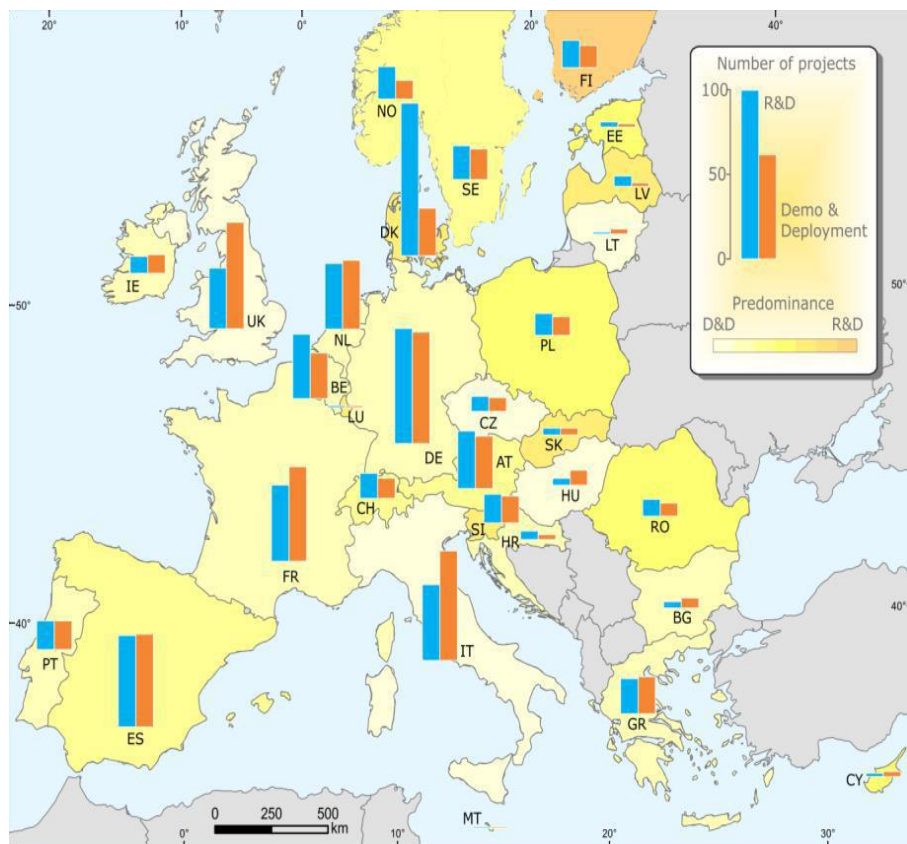
Key Trends



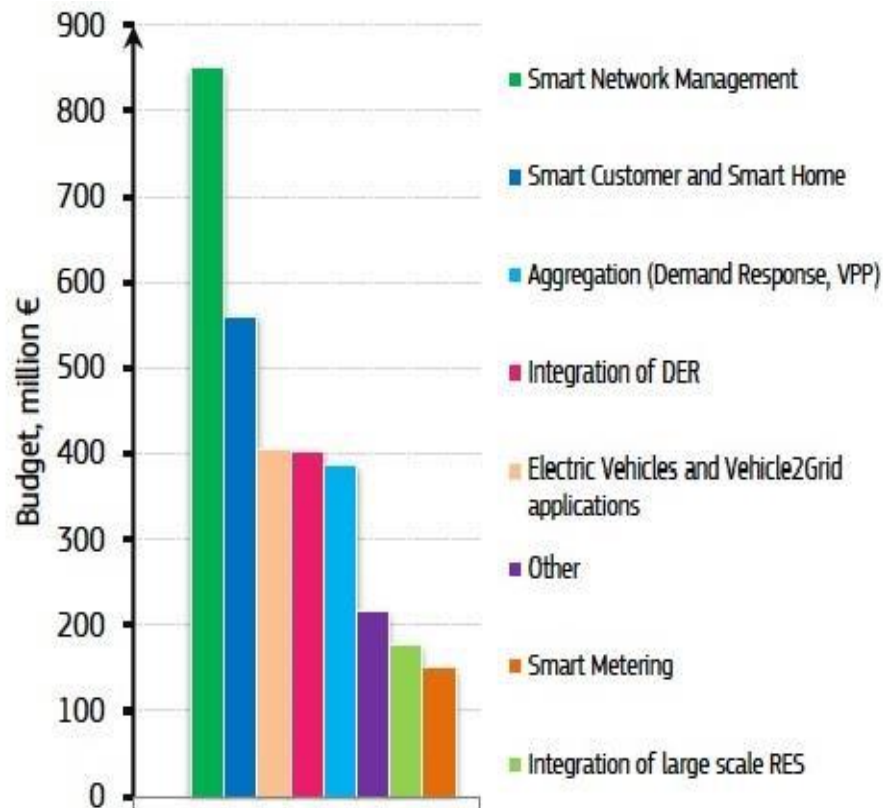
Source: Frost & Sullivan

European Smart Grid Projects – Where is the Focus in Terms of Countries and Applications?

Number of smart grid projects per stage of development



Investment per smart grid application

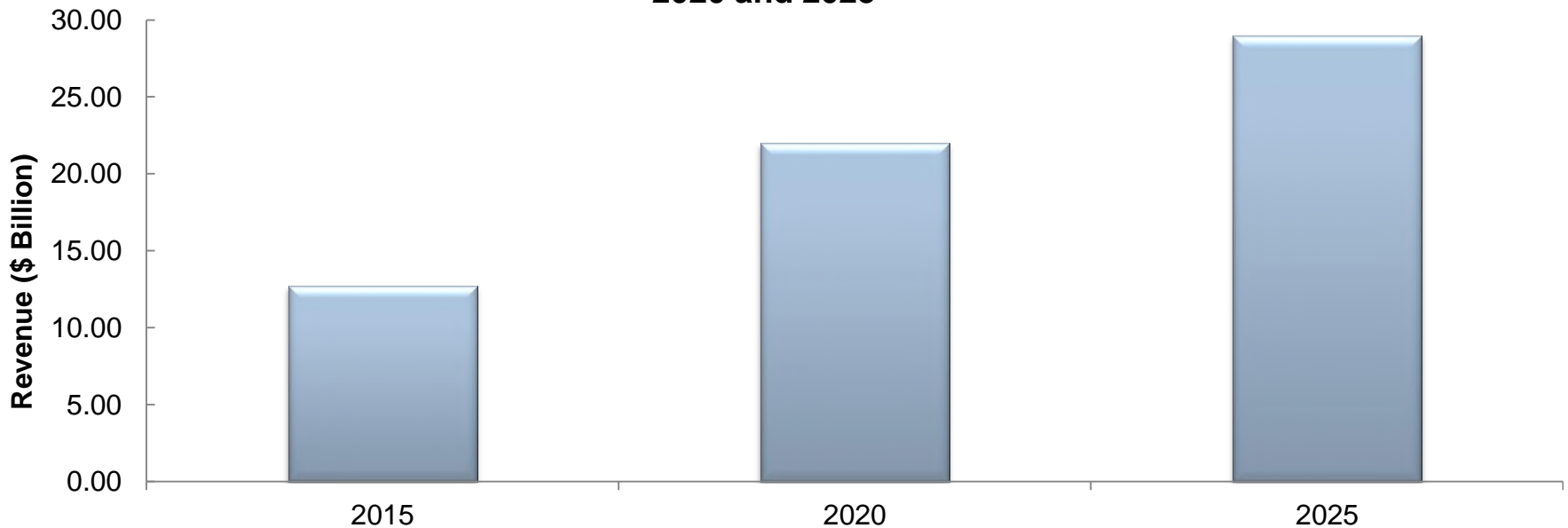


Source: Joint Research Center, Frost & Sullivan.

- Smart Network Management projects accounted for 26% of the total budget.
- Germany leads the European nations in terms of the number of smart grid projects, followed by Denmark.

How Big Is the European Smart Grid Market and How Fast Is It Expected to Grow?

European Smart Grid Market: Revenue Forecast, 2015, 2020 and 2025



Source: Frost & Sullivan analysis.

- European smart grid market is expected to grow at twice the rate from 2015 to 2020 as compared to from 2020 to 2025.
- Smart Grid includes AMI, demand response, DGM, and HV technologies.
- Although DGM occupies around 68% of the revenue, AMI and demand response are expected to grow the fastest.

Top Growth Areas within Smart Grids in Europe



AMI

AMI revenue is likely to grow at a CAGR of 12.4% from 2015 to 2025. The revenue will witness very high growth of 31% between 2015 and 2020 due to massive rollouts in the United Kingdom and France. In fact, France is expected to surpass Spain to become the largest smart meter market in Europe in 2018.



Demand Response

France, Switzerland, the United Kingdom, Sweden, and Belgium offer good growth opportunities for demand response. The National Grid in the United Kingdom has tied up with various aggregators to implement DR programs and recently tendered for 200 MW of fast frequency response. EDF in France offers load management to its customers and is now in the process of setting up third-party aggregators to facilitate load curtailment during peak periods.



Smart Network Management

The European substation and distribution automation market was worth close to \$3.1 billion in 2015, and is expected to grow at around 8% CAGR till 2020. New technological trends include intelligent equipment that are able to perform remote monitoring and are based on wireless sensor networks (WSNs).



ATT

Cross border integration of electricity markets and growth of large scale Renewable Energy Sources (RES) are driving the growth of advanced transmission technologies (ATT). Revenue for HVDC and FACTS accounted for \$2.0 billion in 2015 and is expected to reach \$2.8 billion in 2020. Wireless power transmission is a ground-breaking technology which is still in the demonstration phase and if successful, could revolutionise the transmission of electricity.

Frost & Sullivan Overview



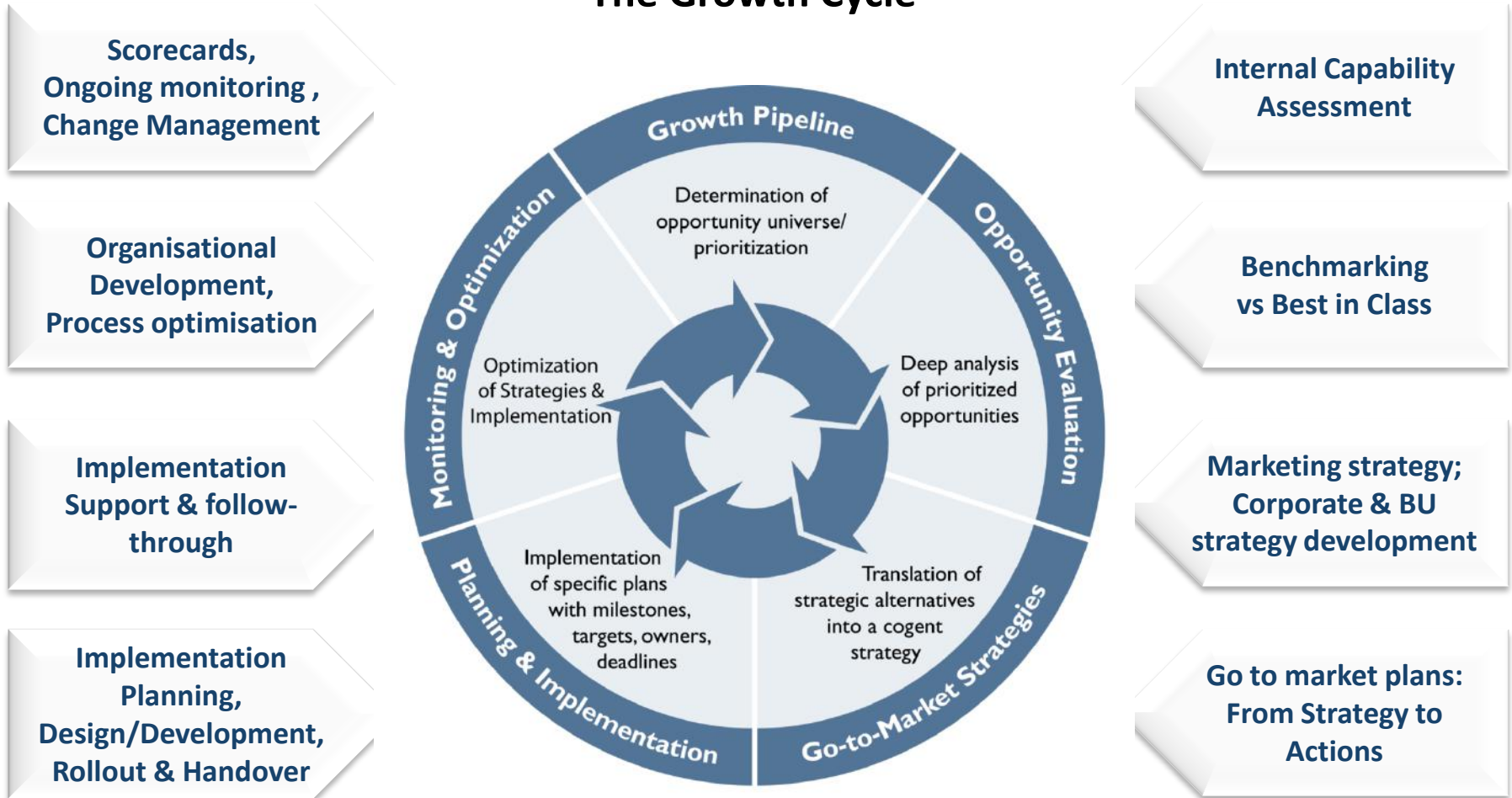
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The Growth Cycle



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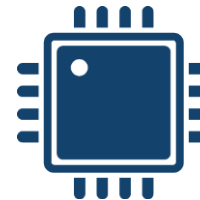
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