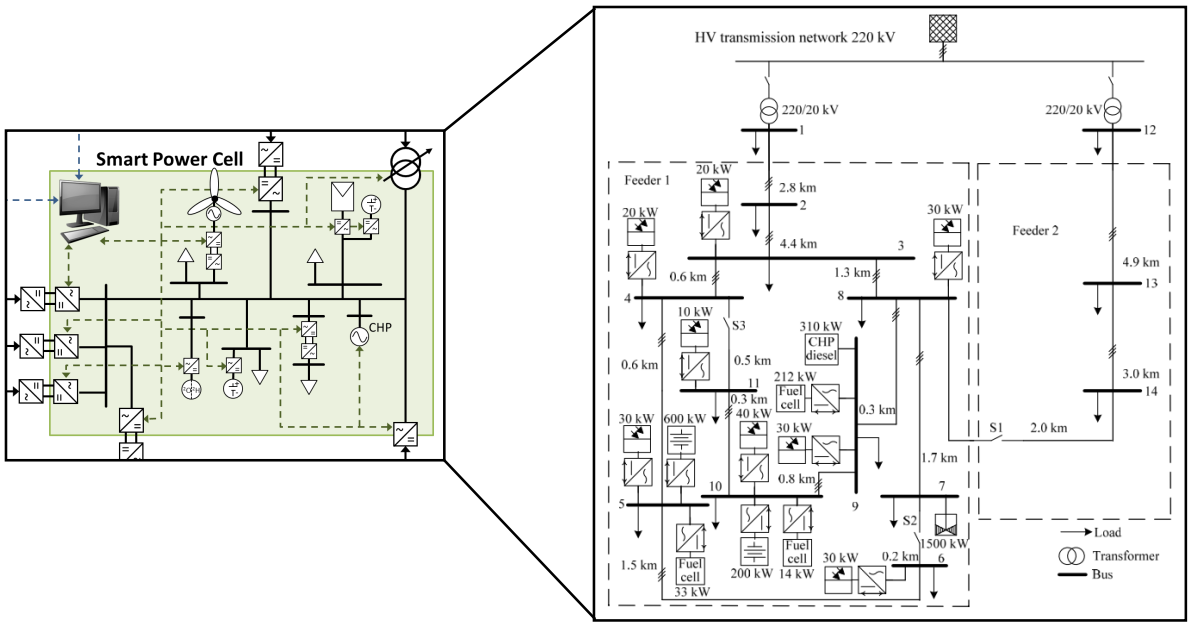
Master Project

Institut für Automatisierungstechnik

Case studies generation for testing smart power cell planning methodologies

Background A Smart Power Cells (SPC) is defined as a controllable subsection of the power system where electric distributed generators, storage devices and conventional, as well as flexible loads, are interconnected via medium and low voltage AC-DC networks and power-electronics-based multimodal interfaces. Therefore, a SPC is capable to generate, distribute and consume electricity locally (inside of the cell), and simultaneously exchange power and services with the main transmission grid, neighboring cells or multimodal power-to-gas (P2G) or power-to-heat (P2H) interfaces.



Case study of a smart power cell based on the CIGRE 14 Bus active distribution network

The main purpose of this master project is to provide from state of the art a set of case studies for testing SPD planning methodologies.

Tasks

- Identify and summarize the main characteristics of the smart power cells in terms of case studies for the planning problem
- Literature review to identify potential case studies that can be adapted to study the planning of smart power cells.
- Define and present a feasible case study for testing smart power cells planning methodologies.

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