Extending the Automation Pyramid for Industrial Demand Response

by

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Abstract

Industrial demand response uses a multitude of energy flexibility measures. Their planning and control requires various production IT systems. A widely accepted approach to classify these inhouse IT systems are the levels of the automation pyramid in companies. This paper broadens the scope of this concept to overcome the limitation to companies’ (virtual) borders by including required IT systems that refine and monetarize a company’s energy flexibility, e.g. energy markets, aggregators, etc. Therefore, a holistic approach for the classification of functionalities for industrial demand response across companies and energy markets is developed and applied exemplarily.

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