NILM – Non Intrusive Load Monitoring

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Abstract

Digitization continues to affect wide parts of economy. This ongoing development entails the collection of massive amounts of data. In energy business the phenomenon of Big Data is driven by smart metering, integration of RES, decentralized generation and consumption and system automation – just to name a few relevant developments.

As an essential characteristic, "Big City" related data is originating from multiple sources. To build services on top, gaining access to it is key. The value of domestic electricity data is shown on the example of NILM (Non Intrusive Load Monitoring). Within the scope of a nationally funded project, innogy and its partners target at improved load disaggregation for SME and industry. The electrical characteristics of loads are analyzed by a sophisticated algorithm to derive information on the state of all components connected to the supply system. Services based on this information range from the identification of device specific energy consumption to condition based maintenance. The Project includes the hardware and software system development up to identification of appropriate customers for the subsequent field-tests under real operating conditions.