EMDENETZ

ENERGY MANAGEMENT SYSTEM FOR REGULATING DECENTRALIZED ENERGY GRIDS

The EmDeNetz energy management system for the regulation of decentralized energy networks was funded as part of the ZIM network IntelliZell. In the project plan, a system with decentralized operating regulation is developed for energy producers and consumers. This will facilitate cluster members to further extend their technical lead in the region.

By using neural networks to forecast heat and electricity consumption, schedules for decentralized power generation are built in advance and are continuously optimized. Supervised learning algorithms are used to transfer the findings to efficient on-site operations. Using peer-to-peer communication, the decentralized units are connected and they exchange important key data. According to the project partners Arno Friedrich (Optimus Meine Energie GmbH) and Achim Scheidl (SCH.E.I.D.L GmbH) there are to be different products for stable network operation in the future, which have shorter lead times to provide controlling power range. The cluster supports the cooperation with the participating companies and universities. The OTH Regensburg (Prof. Oliver Brückl) and the TH Deggendorf Campus Freyung (Prof. Wolfgang Dorner) intend to develop an energy management system that enables low-resource edge devices (energy managers in the field) to be equipped with AI and used as control elements in micro grids, which consist, e. g., of several consumers and producers in one building. Using a demonstrator, the function of the energy management system will be shown on the company premises of project partner EDV und Elektrotechnik Hardy Barth GmbH as use case in a micro grid and it will be presented to the players in the energy sector within the scope of the cluster.