Open LV

The groundbreaking project that's making local electricity data openly available

OpenLV
Your Local Electricity Data

OpenLV is a groundbreaking project that's making local electricity data openly available.

The OpenLV project is trialling an open software platform in electricity substations that can monitor substation performance and electricity demand. The LV-CAP™ platform is designed to integrate with third party products to enable network control and automation, and increased customer participation in network management. The platform will host applications provided by a diverse set of developers, such as community groups, businesses and universities, providing a variety of services to network operators, communities and the wider industry.

As part of the OpenLV project, the software will be installed in 80 Low Voltage (LV) distribution substations located in Western Power Distribution's (WPD) licence areas – the Midlands, the South West and South Wales. The software could ultimately be deployed across the electricity network.

The project will use three approaches to demonstrate the platform's ability to provide benefits to the network owner, customers, and service providers:

Improving the capacity of the local electricity network

Community benefit

Development of apps

Improving the capacity of the local electricity network

The OpenLV software platform will measure and manage activity within the substation and will allow the substation to temporarily link with other substations to increase capacity, or release capacity through active management of the local electricity network via new software applications (apps), if required. Temporary load issues can be mitigated by sharing load between substations or existing assets until demand decreases. Doing this will reduce the cost of LV network reinforcement to customers.

Community benefit

The OpenLV software platform will be used to provide data about the local electricity network to communities, with the aim of providing benefit to customers. The project is working with community groups to see if apps can be developed and installed that they can benefit from. We have invited people to come up with novel ideas for using this data, either in the form of an app or in any other way. Chosen community groups are being supported to design, develop and deploy bespoke apps that will help them use OpenLV data in their community projects.

The project is also working with community groups to present and use electricity data in new ways. For example showing the times of day when it's cheaper to run appliances, flagging up times when electricity generation results in lower CO_2 emissions, using substation data to see if it's possible to generate more renewable energy in the area, or using information to develop new projects to make neighbourhoods more sustainable.

Development of apps

Third party companies are also developing their own apps for the platform using a base API (Application Programming Interface) provided by EA Technology. A range of companies and Universities have applied to develop apps or use project data.

The OpenLV Project team is now working with selected organisations, supporting them to develop new apps that can utilise this LV network data to provide benefits to Distribution Network Operators, community groups, the wider industry, the research community and, of course, customers.

The project is working with organisations wanting to control loads such as battery storage, hot water tanks, EVs and renewable generation in the most effective and efficient manner for the local electricity network.

The OpenLV project will provide vastly increased levels of knowledge about capacity on local electricity networks, which will be of benefit to sectors such as the following:

- Electric vehicle charging industry
- Battery/energy storage and solar/windfarm/ renewables developers
- Micro-generation
- Heat networks
- Commercial generation and storage
- Property and facilities management
- Smart buildings and smart cities
- Private network operators
- Power equipment developers
- Electricity industry
- Distribution Network Operators.

The OpenLV Team

EA Technology
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Western Power Distribution
www.westernpower.co.uk

Project suppliers

Nortech
www.nortechonline.co.uk

Lucy Electric GridKey
www.lucyelectric.com

CSE
www.cse.org.uk

Regen
www.regensw.co.uk

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Watch our video and find out more at our website: www.OpenLV.net

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