

Questions and Answers from Webinar 1 “Electricity Networks & Distributed Intelligence”

During the “Electricity Networks & Distributed Intelligence” webinar participants were able to submit questions about the OpenLV project to a panel. Answers were given to as many questions as there were time to answer in the webinar. Some questions that were asked are listed below, together with answers to these questions – answers to the remaining questions will be added later.

Questions and Answers

Question	Answer
Will the video and slides be made available?	Video and slides are available via the OpenLV website. The webinar recording available here .
Is there a catalogue of apps that have been developed/ in progress/ proposed?	Yes. More information is available in the project brochure. This can be found on the project website here .
Questions Answered During Webinar	
Is there a need for real-time low voltage (LV) data?	See the Webinar recording. (34:05) Answer provided by Jon Berry, Western Power Distribution (WPD)
OpenLV principles work on an innovation project but what next? (35:22)	See the Webinar recording. (35:22) Answer provided by Jon Berry (WPD)
How does LV CAP [®] fit into the work of the Energy Data Taskforce and the need for Open Data?	See the Webinar recording. (37:20) Answer provided by Dave Roberts (EA Technology)
Should we worry about risk to our electricity networks from this technology?	See the Webinar recording. (40:05) Answer provided by Arun Chidambaram (NCC Group)
What is the impact of LV switching on fault levels? Is it an issue? (43:13)	See the Webinar recording. (43:13) Answer provided by Chris Harrap (WPD)

How useful can distributed intelligence be if it is not cost effective for automated network control?	See the Webinar recording. (45:22) Answer provided by Tim Butler (EA Technology)
What does WPD do next?	See the Webinar recording. (57:45) Answer provided by Sam Rossi Ashton and Jon Berry (both WPD)
What is the anticipated investment required to roll out this technology in order to achieve the benefits of a more dynamic network?	See Webinar recording (50:40). Answer provided by Jon Berry (WPD)
What proportion of substations could benefit from LV monitoring and can you give any indication of cost?	See Webinar recording (50:40). Answer provided by Jon Berry (WPD)
Regarding comms fail, what happens if overloads occur as links opened e.g., on coupled transformers? Will LV networks become dependent on OpenLV control - and what happens when that control fails e.g., a comms interruption?	See Webinar recording (55:45). Answer provided by Tim Butler (EA Technology)
Given that this technology is very likely to be critical to the efficient implementation of low carbon technologies and this needs to be done at scale in the next decade, shouldn't we be installing it on a widespread basis during the RIIO-ED2 period and asking Ofgem for appropriate funding?	See Webinar recording (48:40). Answer provided by Jon Berry (WPD)
Is the substation data available? Do we have end-point monitoring to go with this?	See Webinar recording (54:10). Answer provided by Sam Rossi Ashton (WPD)
Will the data from the OpenLV project be released more widely after the project closure?	See Webinar recording (54:10). Answer provided by Sam Rossi Ashton (WPD)

Questions Not Covered In Webinar	
What happens when apps conflict over what to do?	Within the OpenLV project, this wasn't an issue as only the ALVIN Reclose[®] units were being actively controlled. In a BAU deployment, an oversight application that assigned 'application priority' would be deployed. Such an application would be configured in line with specific DNO requirements, potentially even for specific conditions within the local network, to determine what control decisions would take priority.
Is LV_CAP [®] working in a green-light (default is On_Load) or a red-light (default is No Load) context?	Red: In that active control was required to enable closure of the ALVIN Reclose [®] unit. In the event of communications failure between the two substation devices in any pair, automated control would cease and the circuit breaker was opened until a communications link was restored.
Can OpenLV help manage overloaded cables?	Yes, with the addition of controllable technology appropriate to the specific situation. For example, use of the specific use case as deployed in the OpenLV project may alleviate the strain on overloaded cables dependent on the location of load along the length of the cable.
Could you expand on the advantages of active switching over appropriate fixed load distribution between substations?	Outside of specific use cases, as discussed in the webinar, the use of active switching often doesn't provide a significant advantage. We found that in most cases, the normally open point was at, or very close to, the mid-load point on the cable. The benefits of distributed intelligence is likely to be more appropriate for load transfer between substations (where the voltage drop along the

	cable, and resulting fault currents allow it), and control of other network linked devices.
Have you had a chance to correlate the results with smart meter data? Could such data be a proxy for LV substation monitoring?	No, this isn't something the OpenLV project intended to demonstrate.
Who are the likely recipients of the network data and what benefits exactly are they going to have?	Network Operators plus industrial, academic and commercial partners. Benefits for network operators have been covered in this webinar. Benefits for other partners will be discussed in webinar 2.
What is the unit cost per substation deployment?	Cost will be determined on a case-by-case basis dependent on the location and level of functionality required. We are happy to discuss this further bilaterally.
What will be the approach for deployment considering that the business case stands better when the local community is actively seeking for such data capabilities? Will you make this an offering and communities can sponsor the deployment?	We will be discussing this further in Webinar 2, taking place on 26 th November 2020. To sign up to Webinar 2 please follow sign up here before the event.
Can the unit facilitate flexibility services? Can it manage connected flexibility customers based on flexibility market pricing? For example, can it run an automatic local auction for demand side response and dispatch accordingly.	The device can provide such a service, via an application deployed to the platform. written to provide that functionality.
Did the project look at the possibility that distributed intelligence in the substation could be used to control individual customer loads or generation downstream of the meter?	Yes, as a third-party trial demonstrated the ability to utilise an application on an LV-CAP [®] platform to ultimately initiate and curtail charging of an EV.

How might SMEs and other innovators use the OpenLV platform to provide new services to consumers?	We will be providing further information about this in the next webinar on 26 th November 2020. Further information is in the project brochure, which you can download here .
Do you have examples of where community groups or outside organisations have already been able to control devices based on LV monitoring?	The project brochure which can be downloaded of the project website provides case studies of the activities of the community groups and commercial organisations that volunteered to take part in this project. The brochure is available here :