Lonneke Driesen, Open Charge Alliance: The UK in 2024 Phase Three "Open Source and Market Shaping"

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Open Charge Alliance

Lonneke Driessen, Operational Director, Open Charge Alliance

Lonneke Driessen-Mutters is Operational Director of the Open Charge Alliance (OCA). OCA is a global consortium of public and private electric vehicle infrastructure leaders that have come together to promote open standards through the adoption of the Open Charge Point Protocol (OCPP). She is also Director of Standardisation and Test Lab at ElaadNL, the Dutch Knowledge and Innovation Centre in the field of smart and secure charging infrastructure. Within ElaadNL she is responsible for the EV Charging testing facilities, open standards development and Public Key Infrastructure solutions. Mrs Driessen has a longstanding career in the Utility Industry and has operated in key strategic developments, such as market liberalisation, smart metering and smart grids before entering the EV charging domain nine years ago. She has a Master of SDhwani.Shah@liteon.comcience degree in Electrical Engineering from the Delft University of Technology.

The Open Charge Alliance

Recently celebrating its 10th birthday, Open Charge Alliance ('OCA') is an organisation of about 15 employees, based in the Netherlands. It supports the electric vehicle ('EV') charging industry to accelerate its success and growth through the use of open standards.

One of OCA's founding members ElaadNL, developed the Open Charge Point Protocol ('OCPP') since 2009. It enables information exchange between a charging station and the back office.

Given the international adoption of OCPP, a new and international foundation was needed, to continue its governance with inclusion of more and international players and OCA was founded in 2014. Since then it has grown in size, in terms of the number of participants (from 30 to 400); the geographical area of focus (from the Netherlands, to global); and supported multiple OCPP versions. Today, with 10 years of history, OCA is still engaged in activities that were included in the initial deed of incorporation: development and promotion of the OCPP protocol, offering a certification program and developing a test tool.

OCA is funded through participants' fees, the sale of the OCPP conformance testing tool and a mark-up fee for individual conformance certificates

What motivates OCA?

The expedited adoption of EVs in recent years required to decarbonise transportation and stop climate change requires a good, affordable and ubiquitous charging infrastructure. This being interoperable is a prerequisite to expedite adoption of EVs. OCA believes that through working collaboratively on an open protocol we can develop better charging infrastructure, faster and more efficiently.

More about OCPP

OCPP handles the information exchange between an EV charging station and its back end management system. It handles a.o. charging sessions (start and stop charging), payments (using a token, bank card, QR code), manages the charging station itself (firmware updates, component monitoring) and controls the energy flows (charging speed, charging/discharging).

To ensure interoperability between different charging stations and management systems OCA offers a conformance testing tool, to check individual implementations and we host interop testing events 3 times a year.

When developing a new infrastructure, using an open standard results,due to its open nature, in the engagement and inclusion of multiple parties. These parties introduce competition into a market, which is good for price, quality, innovation and scalability. It's a state of cooperation where the parties compete and collaborate at the same time. So the market is shaped by openness that enables both collaboration and competition at one and the same time.

In a developing and turbulent industry, companies frequently drop out of the market. Because we have an open standard, other companies can pick up the stranded assets and continue their operation, which is a benefit we see from openness that is not often discussed.

OCPP has been adopted across the planet, apart from several networks that prefer to work with their own proprietary information exchange, as well as charging networks in China. In the UK some networks use OCPP, but not all and we would love to see the UK adopt it across the board. Clearly the openness of OCPP has shaped the EV Charging market.

What impact does OCPP have on the EV market?

It allows for companies to work faster and to save on development resources and costs, they can then spend that on something else and collaboratively benefit from the best innovations. They do not individually have to figure out the solution to a challenge faced by the market as a whole, e.g. how to transmit QR code information. Instead this has been done for them through the collaboration vehicle and each participant can rest assured that it will work with all other parties using OCPP in an interoperable way.

EV Charging station manufacturers can sell their stations to any Network Operator and Network Operators can choose from all charging station manufacturers that use OCPP. For both it will increase their market. And since OCPP is adopted globally, they can enter international markets capitalising on their domestic success.

We hope that this open standard will allow organisations to continuously engage and enable a multitude of players, both global and smaller local players to compete on an even playing field. This is critical to the sustainability of the planet and the transition to zero emission transportation. This needs local players to drive the change locally, benefitting local companies. Inclusion of local players is needed to move quickly and get everyone involved and embracing this transition. The openness of the standard and interoperability and collaborative innovation it enables is shaping the EV charging market but also shaping a more ecologically sustainable future.

How does OCA ensure that the protocol remains relevant and up to date with the latest technological advancements and market needs?

By listening. We listen to regulators, our participants, to the market in general. And then we quickly include these necessary features benefiting from the input of our participants, in an agile way.

What challenges have you faced while developing and updating OCPP?

For us, the decision to open up a standard was not difficult. The goal of helping the industry accelerate was clearly going to be best served by opening OCPP as an open standard. We knew this from day one.

Patent Threat

In EV charging, there were and still are a lot of companies filing patent applications. Some do this because they always have, some because a 'patent wall' is expected of them and others because of a defence strategy, some because they think it will make them rich. We just let them and continue with our open source standard strategy.

Years ago, the then US market leader in EV charging infrastructure lost out on a major contract in the public sector and subsequently filed a cease and desist order against the small company that won the contract. It took a year of costly litigation but fortunately that resulted in the dismissal of the market leader's complaint by the US Supreme Court. One year after that, the market leader who had instigated the litigation joined the Open Charge Alliance and is now one of the biggest supporters of OCPP. Who would have thought!

The upside of this story is that we now know how to handle such a case. So should in future there be more IP claims, we are prepared and will know how to act. Patents are a challenge to open standards like OCPP and can adversely shape the market we are evolving in.

Building Corporate Communities and Collaboration

Generally, I think we have faced the same challenges around opening a standard and engagement as everyone else: how do you get people to contribute and not only consume when you openly share? How do you fund open source development? The US is more advanced in this funding than Europe and we have dealt with this through having a diverse group of participants. In theory we only need a couple of them to get the discussion started and over time they can see enough value to invest.
Some of the typical 'consumers' of openness then join in the discussion and gradually begin to help. It's a journey. But inevitably there will always be parties that prefer not to share with others. As for the funding, we pay dedicated Technical Editors to do the actual 'legwork', using the participants' fees – a way of socialising the cost of technical writing.

Support from the Open Ecosystem

Luckily we have had great help from the open source community: OpenUK, the Linux Foundation, Open Invention Network, the Joint Development Organisation and many others have supported our 10 year evolution. This is yet another aspect that is at the core of open source and open innovation: to support and help each other because it is the right thing to do. We are very grateful for what this has enabled and that collaboration and support from other organisations in the ecosystem has not only helped us to develop but shapes the market in openness. The more successful organisations there are in open source and open innovation, the more new ones will form and the greater the chance that they will succeed.

In terms of public sector adoption, the challenges depend greatly on the country. For example, South Korea and the US are quite effective in adopting an open standard, moving quickly and pragmatically. India is also very pragmatic in its adoption of open standards. The European Union is quite bureaucratic, their decision making process is anchored in laws and procedures, aimed at achieving long term agreement and predictability but this makes them slow. In a new and quickly evolving industry, these bureaucratic procedures favour the ruling class and the market is slow to adapt, so the bureaucracy has a major impact on the success of an agile and open innovation like OCPP. The ruling class either doesn't want to change at all, or at the very least wants to control its speed and direction. In our case, the ruling class in automotive is Germany and they have asked the EU to reject OCPP as an open standard. We hope the EU will instead listen to all other European countries that do support OCPP. The market in the EU will certainly be shaped by their response to the ruling class, the establishment, to change.

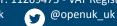**Is there anything else you would like to add?**

I want to thank the open source community, for your example inspires others to follow the same path. You show what is possible and you are willing to help others out selflessly. The impact that you have on society is way bigger than you may realise. We are very proud to be a part of this!

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