Validation Report

Market

To gain insight into the current market conditions, a survey was conducted amongst electric vehicle drivers. The survey was shared on a Facebook group for EV enthusiasts. In one week, 50 responses were received. Results of the survey are discussed below.

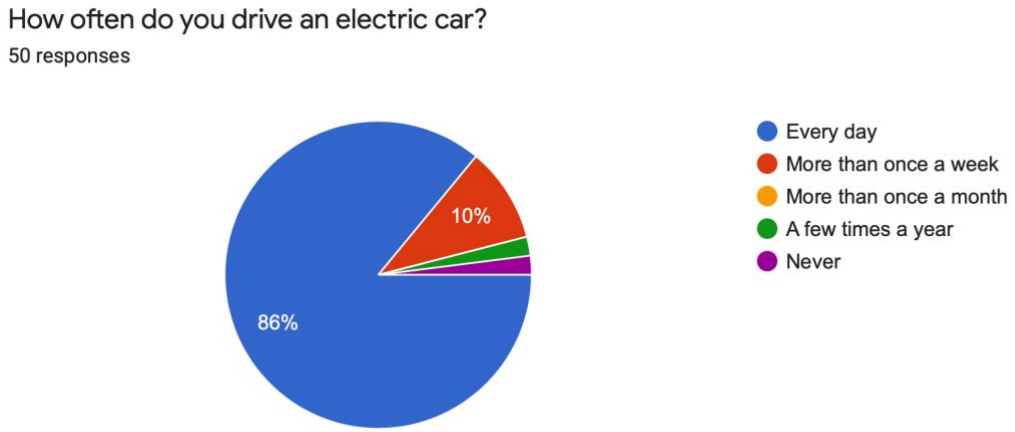

Figure 1

As was to be expected from our audience, the large majority of respondents (86%) drives an electric car every day.

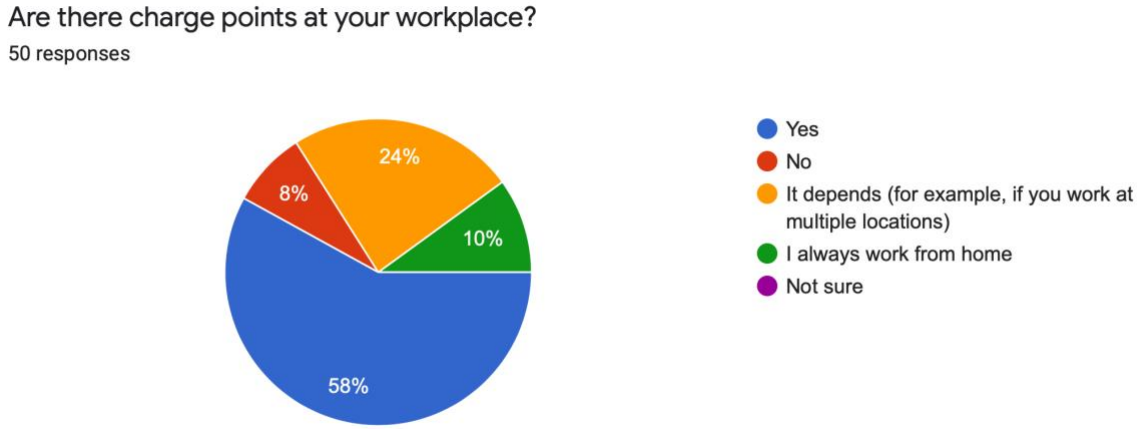

Figure 2

The majority of respondents (58%) have charge points at their workplace. Another 24% of respondents have multiple workplaces and therefore sometimes have access to charge points.

The next questions were only asked to people that drive electric vehicles daily or more than once a week and that at least sometimes have charge points at their worplace.

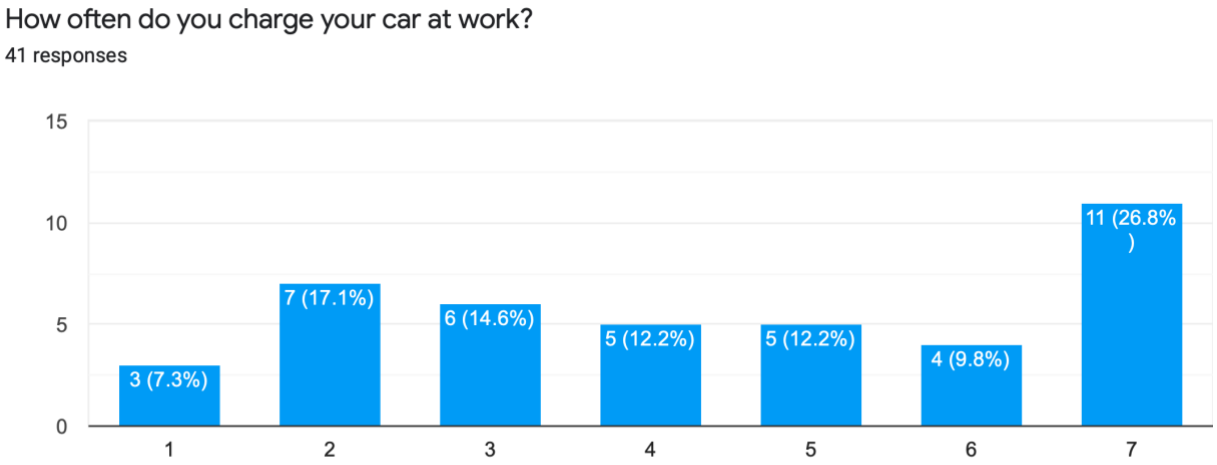

Figure 3

There is a surprising spread of the amount of respondents that charge at their workplace. The majority of the respondents charge at their workplace and the largest number of respondents always charge at their workplace.

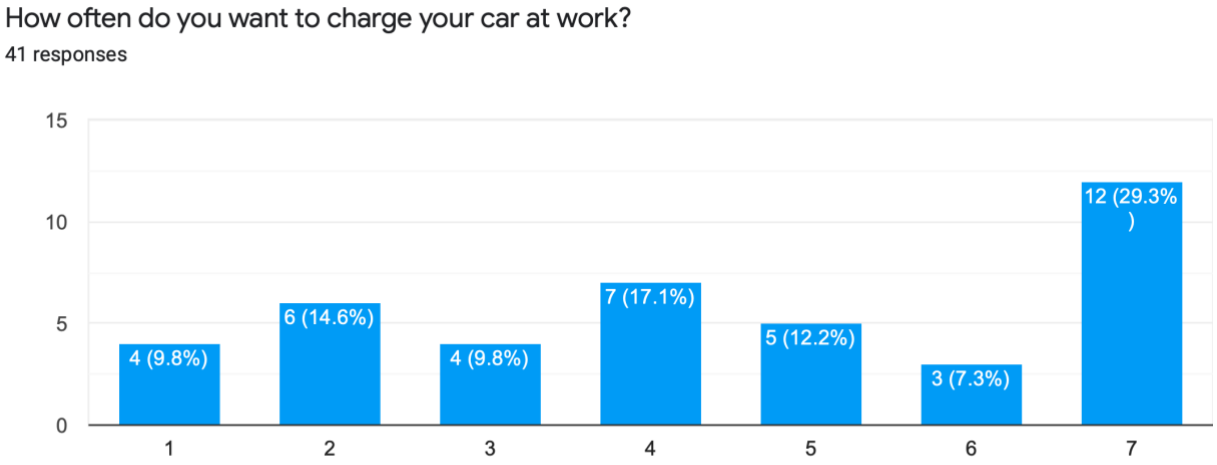

Figure 4

When we look at charge intent, we can clearly see a spread comparable to the previous question. One difference is that even more people would always want to charge at work, than that currently always charge at work.

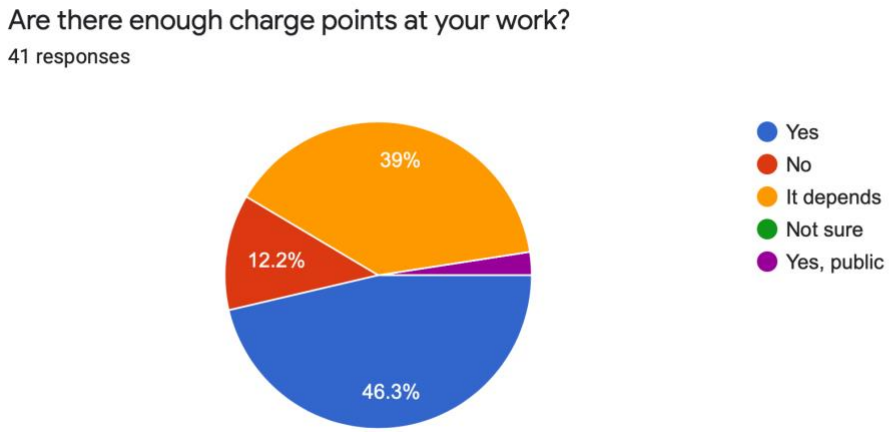

Figure 5

The largest group of respondents (46%) feel like there are enough charge points at their workplace. Only 12% of respondents feel like there are not enough charge points at their workplace.

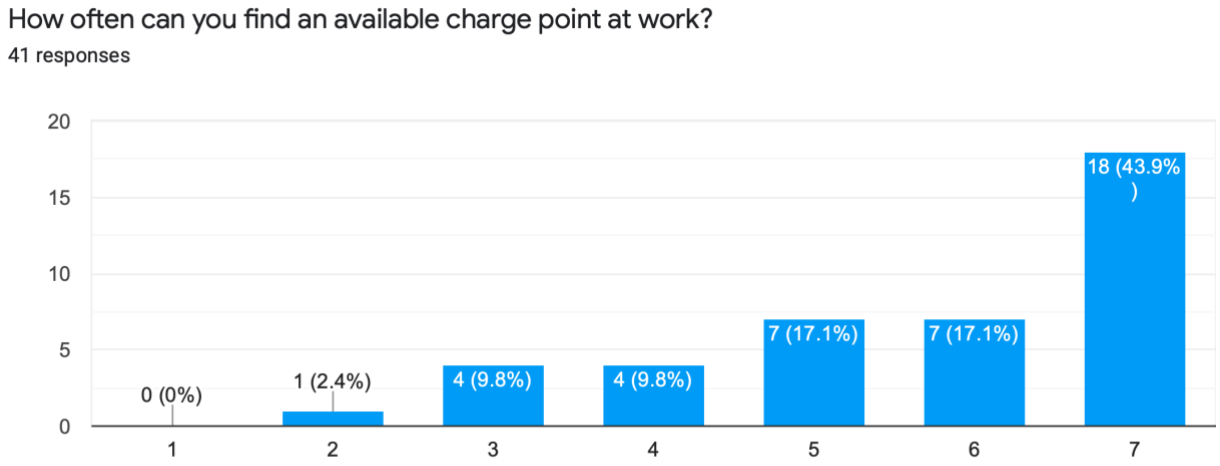

Figure 6

We can see that 78% of the respondents can find an available charge point at work often or always.

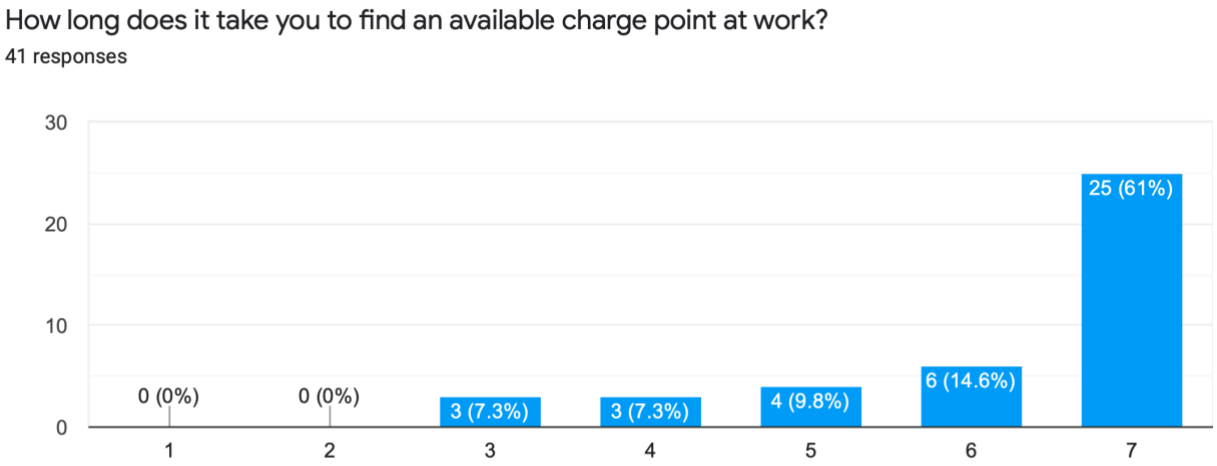

Figure 7

The majority of respondents to this survey do not have to spend a lot of time looking for a charge point at their workplace.

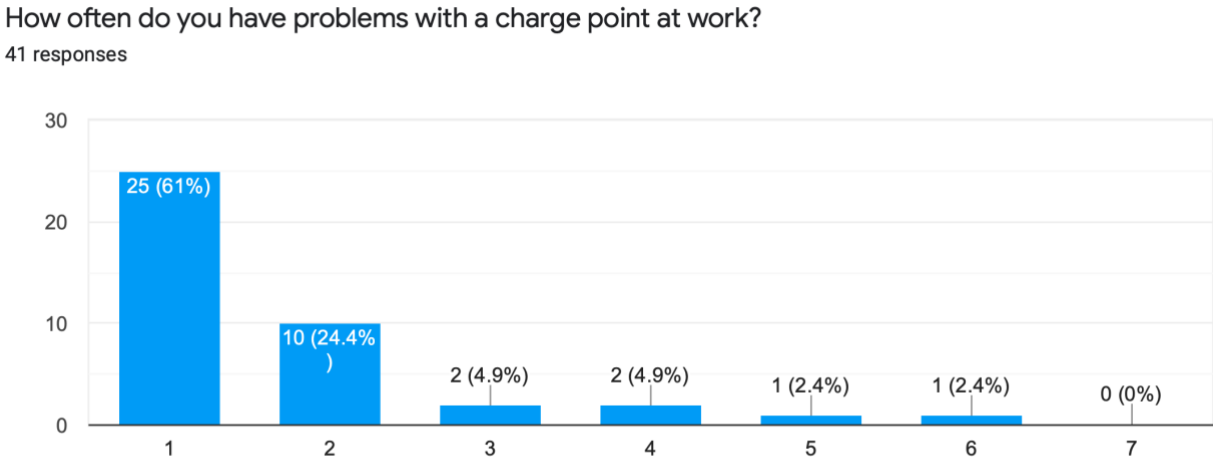

Figure 8

This graphic is quite comforting and normal because the majority (61%) of respondents does not often have problems with a charge point at work but there is still 39% of people who have some problems sometimes.

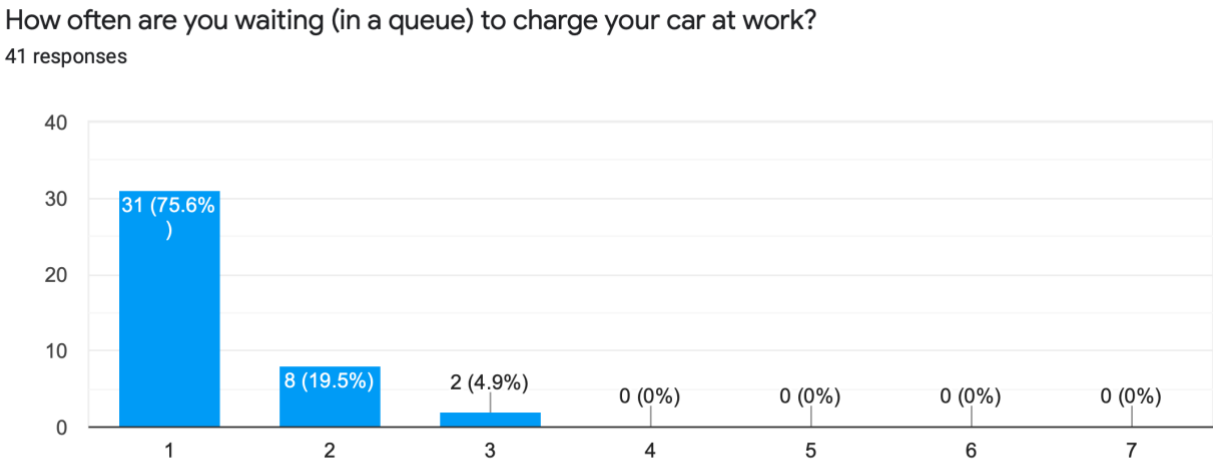

Figure 9

This question shows how much people are waiting in a queue to charge their car at work, it seems that they mostly don't have to wait to find a charge point but on another side it may seem that they are probably not using a queue list or not efficiently at work. It could be interesting to go deeper about this utilisation.

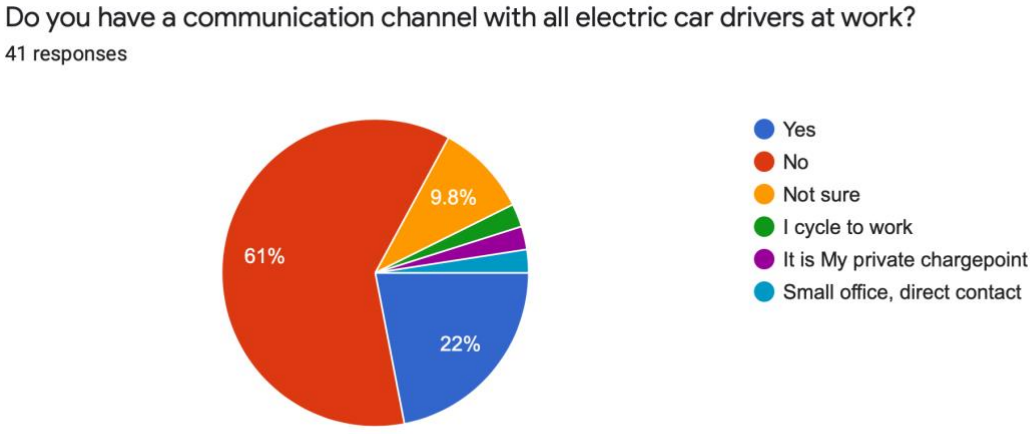

Figure 10

These results are quite interesting, it shows that the majority (61%) of people don't have a communication channel with their EV driving colleagues at work, only 22% have one and some are not sure about or don't really need one.

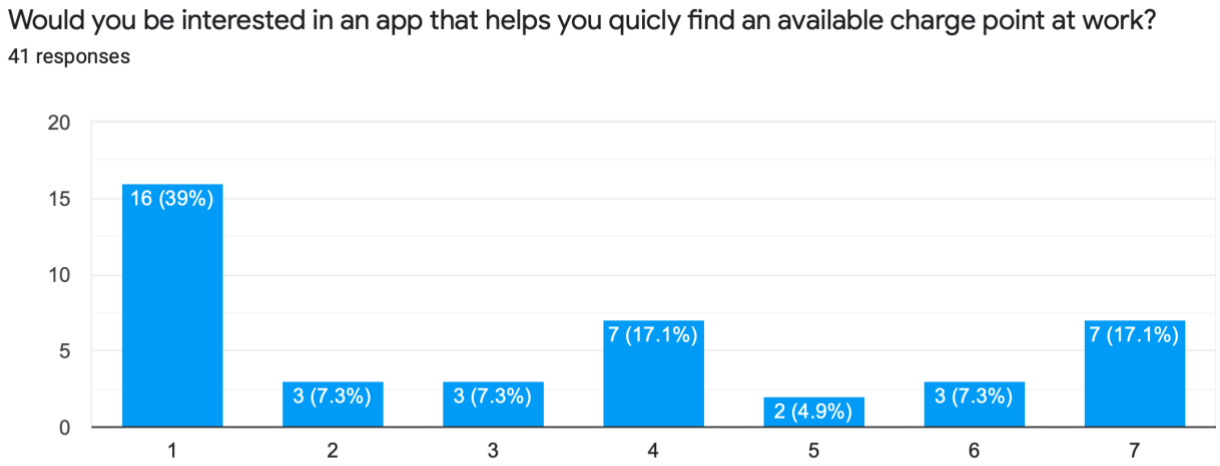

Figure 11

This last question is about ChargeDASH, it shows that the audience has mixed reception, half would be interested, and the other half wouldn't be too interested.

It seems that there is still some market to go for.

Customers

ChargeDASH has been devoting part of its time since its inception to potential interesting clients. The main customers that ChargeDASH focuses on are large organisations and companies. These large companies include only those companies that have a (more or less important) part of their employees driving electric cars.

A number of large companies have been contacted directly to try and see what interest they might have in this product. A large majority of them have not yet responded.

One of the first potential customers who was interested in ChargeDASH from the beginning was Bol.com, a large company in the Netherlands (known for their online bookstore in the Netherlands).

Pricing

The pricing model for ChargeDASH is a subscription based, tiered pricing model. The price is calculated based on the number of chargepoints that will be managed by the ChargeDASH software. To stimulate the placement of more charge points, the monthly price of ChargeDASH will get lower as the amount of installed charge points gets higher. An overview of the current pricing is shown in Table 1.

Table 1 ChargeDASH pricing model

Number of charge points	< 10	10 – 40	40 – 80	> 80
Price per charge point per month	€ 16	€ 14	€ 13	€ 10
Price for BETA users	€ 8	€ 7	€ 6,50	€ 5

*For an organisation with 20 charge points, this would result in a monthly fee of (9*16 + 11*14=) € 298. This might seem like a high price, but the savings that ChargeDASH can provide, are high. Charging at a public charge point can cost anywhere between € 0,30 and € 0,59 per kWh[1]. The tariff for charging at fast chargers such as FastNed is € 0,59 per kWh[2]. The costs of charging at the workplace depend on the tariff that has to be paid to the power company, for larger amounts of kWhs, this is less than € 0,11[3]. If we compare charging at work to charging at a public charge point, we save € 0,19 on each charged kWh.*

In the scenario of an enterprise with 20 charge points, the monthly fee of ChargeDASH would be earned back if 79 kWh per charge point is charged at the workplace. This is roughly the battery capacity of one large EV or two smaller ones.

Unique Selling Point

The current unique selling point of ChargeDASH is "[..] that our product integrates with a company's employee applications." To evaluate this unique selling point, an ***expert assessment*** *was conducted. The CTO of a well-established brand in the Dutch EV charging business was interviewed.*

The results of this free-form interview are very interesting. This CTO advised against the current USP, mostly because the implementation costs for integrating our system into existing business applications would be very high. It would also require the customer to invest more time into ChargeDASH, raising the barrier for new customers drastically.

The advice he provides us with is to find an alternative USP, that would make adoption of new clients easier. He urged us to look into the possibility of building a mobile-friendly website or app of our own.

1 https://www.e-flux.nl/kosten-opladen-elektrische-auto/
2 https://fastnedcharging.com/nl/kies-je-prijsplan
3 https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81309NED/table?fromstatweb

Validity

The validity of ChargeDASH has been made conscientiously in accordance with the various risks and contingencies that could intervene in the success of our product. There are some doubts and uncertainties that have to be considered. Moreover, ChargeDASH is a project oriented on a technological advance which is quite recent and which remains to be exploited. This makes this project future-oriented, of course, but also leads to some threats that are hard to validate.

The first parameter to be taken into account is the number of chargers present in the car parks in the course of an uncertain future. Indeed, if the number of installed chargers were to increase exponentially, it would be more difficult for us to work on it because the need may no longer exist. Linked to this, a second uncertain parameter corresponds to the number of electric vehicles in the near and distant future. If this number falls and the use of an electric car is no longer viable and profitable, this could lead to a loss of interest on the part of companies in this field.

Another important factor to be taken into consideration would be that the number of interested companies is not sufficient and that they do not feel concerned by this product. Also related to the future are certain parameters on which ChargeDASH is dependent and that it could not influence. Firstly, the cost of energy in the future remains uncertain, if it increases sharply and is no longer profitable, then the number of employees and users of electric cars in general will fall sharply. A second factor, which has already been taken into account before, is the potential future competitors that could emerge and impact the ideally expected market share, while at the same time taking potential customers with more attractive or other offers. Another point, which may be a risk at the moment, is that ChargeDASH has received the expertise of only one expert despite the valuable recommendations and opinions that may have been put forward. And finally, as it is possible to see, the survey that has been set up has been submitted to electric vehicle enthusiasts, which could perhaps make the form a little too one sided with regard to the overall vision of the project and the potential interested parties.