



The future of mobility. Will it be emission free? Could we be riding or even flying around in autonomous vehicles? But most crucially, does anyone actually know what the future holds for vehicles?

After attending the 'Driving The Future' event in July, Alan Cherrington, COO at [Integral Powertrain Ltd](http://www.integralp.com), talks to Imogen Moody of ISL Recruitment about the state of play in EV development and his predictions for the future of mobility.

What is the standout point you took from the event?

That the future of the automobile is unpredictable and even today we don't really know what the next 10-15 years are going to look like.

There are so many factors to consider, one being the future of the electric vehicle. We really need to consider every aspect of electric vehicles, including that they aren't actually completely zero emission vehicles. When you plug in your EV, where is that power coming from? Is it linked to a coal powered fire station somewhere that is in fact producing emissions? We need to understand whether consumers are OK with that, if they're not, we need to further develop the product or look for alternative sources of power to compliment this.

What surprised you about the event?

The data presented on diesel technology gave a surprising insight into how clean it could be. Technological developments will see the future introduction beyond Euro 6 variant, making diesel a cleaner fuel option. There was clear disappointment from the audience as diesel development highlights how far we could be from an EV future, and

moving away from the use of fossil fuels as soon as possible.



What do you think the biggest challenge is in the development of the electric vehicle?

Battery technology, it really is a catch 22 situation. Demand for EVs will be critical to drive funding for development in battery technology, however concerns over battery range restrictions could reduce consumer demand.

When it comes to consumer range anxiety surrounding EV's I believe people need to reflect on their lifestyles. For people living in the city and predominately making shorter journeys, an electric vehicle is perfect. However, those same people have concerns around length of time to charge and lack of range when travelling. I think those types of anxieties really will need to

be tackled before EV can become the future.

Do you think UK EV infrastructure is holding us back?

Currently, I don't believe there's a problem as the number of EV's is still quite low. Looking ahead, a lack of charging points in cities could be an issue, as cities will be the hubs for EVs. I do believe this potential problem is being recognised by the government, recently the Mayor of London announced a big infrastructure import that will see thousands of ports and chargers being implemented by 2025 in London.



Do you see the talent shortage as a prohibitor to EV technology growth?

Not a prohibitor, but there is certainly a talent shortage, resulting in salaries and rates for top talent increasing rapidly. Electronics and software engineers are in demand, and will inevitably be critical to EV development and our success in the UK. Building relationships with universities and other types of educational institutions to secure some of the best engineers is going to be paramount for our talent pipeline, ultimately securing the future of our business.

What do you think the government can do to support the development of electric vehicles?

The government needs to clearly define their areas of concern, then allow engineers to develop the most effective and efficient technology to combat those areas, without influencing the method or defining the solution. For example, if CO₂ emissions are of concern, then we need to consider CO₂ across the lifecycle of the EV. From manufacturing, running emissions, charging, battery recycling and charge electricity origination – what is the CO₂ impact across the whole lifecycle, and how can we address the problem holistically rather than in isolation across that lifecycle?

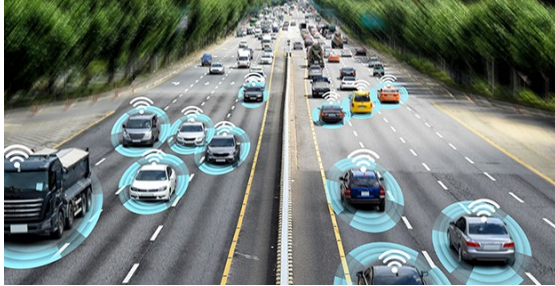
For you, what are the stand-out ideas for the future of mobility?

I think we have to be mindful of consumer behaviour; we often assume that because technology moves quickly, people are equally quick to adopt it. In reality I don't think people necessarily do. Ultimately, the future is going to be driven by the consumer so it's hard to predict where we will end up.

Developing public transport and interconnectivity throughout cities is a big topic at the moment, questioning whether the car will still be people's main mode of transport in the future. Car ownership may become a thing of the past with people opting for 'Uber' style app to order a car to get from A to B. In a similar vein, to help combat battery lifecycles, we might see battery renting and recycling schemes from the major car manufacturers.

Another big topic is aviation type applications. As a company, we get a lot of enquiries into aviation products, indicating

this is definitely an area of exploration for the future.



If autonomous vehicle technology is approved, there will be a heavy shift towards autonomous vehicles and the future will change dramatically. However, if not signed off, the future won't shift that far from where we are now, with development focused on alternative fuel technologies (Bio fuels etc.), battery and fuel cell technologies.

In such a dynamic industry, how does the company stay ahead of the curve?

Investing in their products. We invest heavily in R&D programs, researching what the consumer wants and developing our products accordingly. It's a key requirement to maintain our position in the marketplace, as our competitors are

constantly evolving their products. Our products need to continually improve in their efficiency and power density to meet the ever changing demands of the applications they are expected to be used in.

What are your top tips for future engineers that want to get into the industry?

My top tip is to get a good education and get into the industry through apprenticeship schemes. Apprenticeships are really good ways of developing skill sets regardless of whether engineers then go into a more practical, scientific or technology based roles. Practical experience coupled with an education will make future engineers versatile and extremely attractive to future employers.

“Overall, be persistent, don't give up! People can give up very easily when confronted with difficulties but having a can-do attitude, working hard and believing in yourself is the key to success.”

Written by: Imogen Moody of ISL Recruitment



Imogen, a Senior Consultant at [ISL Recruitment](#), specialises in helping great engineers find roles in some of the top electronic and embedded engineering companies in the Midlands. She has a keen interest in automotive, aerospace and IOT technologies following some of the most interesting technology developments. [LinkedIn Profile](#)