



Daimler's Dr Jutta Schneider details the importance of realising e-mobility and the role of collaborative research schemes, including how the European Commission can make Horizon 2020 more appealing to major industrial players

Daimler's determination

Daimler is taking a lead in e-mobility. At this year's 'International Consumer Electronics Show' in Las Vegas, Nevada in the United States, the European vehicle manufacturer unveiled the Mercedes-Benz F 015 Luxury in Motion, a stunning and pioneering F-CELL PLUG-IN HYBRID of the future.

The concept car features a radical, innovative design and communicates with surrounding vehicles and pedestrians through advanced LED displays, acoustic signals and laser projection systems. It boasts luxurious passenger comfort in the form of swivelling lounge chairs, and users can interact with the car through gestures, eye tracking and high-resolution screens. With revolutionary engineering, Mercedes-Benz offers the car of the future as the ultimate 'private retreating space'. The automobile has since been exhibited in San Francisco, California.

Whilst the F 015 Luxury in Motion remains a concept, other pioneering designs are already entering the market, including the Mercedes-Benz A 180 CDI BlueEFFICIENCY, the Mercedes-Benz S 500 Plug-in Hybrid and the Mercedes-Benz B-Class Electric Drive. Realising these concepts often requires industrial co-operation in precompetitive research. Through participation in ARTEMIS and ITEA projects, Daimler is benefitting from multinational European collaboration whilst maintaining an innovative lead.

In March, Portal travelled to Berlin, the capital of Germany, and attended the two-day Co-summit 2015 conference. On the sidelines of the event,

the journal spoke to Dr Jutta Schneider, director of eDrive and software technologies at Daimler AG. In an extensive and wide-ranging interview, Schneider detailed the role that Daimler is playing in European projects as well as the EU's Electronic Components and Systems for European Leadership (ECSEL) Joint Technology Initiative (JTI), part of the €22bn Innovation Investment Package. Schneider also set out how, despite its crucial role in precompetitive research, more efforts need to be made to encourage the participation of major European industrial partners in Horizon 2020.

What contributions and achievements has Daimler made to ARTEMIS and ITEA over the last 12 months?

Daimler has contributed to or led several ARTEMIS and ITEA 2 projects. In particular, we have taken a role in the MBAT and CRYSTAL ARTEMIS projects, of which we are very proud.

We take part in precompetitive projects concerning tools and processes and have a

strong relationship with other German and European companies. In this arena, we correspond with competitors and encourage engagement in these projects.

What efforts would you like to see coming from the EU to improve the uptake of electric vehicles and e-mobility?

An important enabler is to push European standards for e-mobility, particularly in terms of electric charging and regulations; it is important to have good conditions for both companies and customers, as well as having incentives in the early phases of development.

Currently, we really need incentives to overcome the first hesitations of the customers and the higher prices before electric vehicles can enter the mass market. When you have higher numbers of a vehicle, then prices will drop, and we need to overcome that threshold.

In Europe, there are different approaches in different countries. In Norway, for example, there is no tax on purchasing an electric vehicle, and consequently there is great encouragement for people to buy these automobiles. There are similar benefits in the UK.

This is an interesting approach and you can see the immediate reaction of the market. Customers are keen to buy these cars when the price is attractive. We need to further develop this assistance in terms of governmental help, for example through taxes and subsidies, to ensure the prices of vehicles are appropriate.

How can the benefits of co-operation be balanced with ensuring fair competition?

Daimler often takes part in collaborative projects during the precompetitive stage to establish and develop basic settings and technologies in order to get faster results from research and innovation. It is important to have co-operation in the early phase of development. Once you move to a competitive view, namely the detailed features of a vehicle, then every company has to deal with its own problems.

To have a platform to support these types of projects and develop a tool settings process will be of particular benefit, as Daimler's main interests and focus are as a carmaker. If we are able to collaborate and develop tools that fit our processes, this is beneficial.



Schneider told Portal that Daimler often participates in collaborative, precompetitive research projects

We struggle with the settings of some programmes, but believe we have made good progress within ITEA and ARTEMIS. For ECSEL, we have had some challenges, and it has not been easy to get software projects launched within this JTI.

We have seen a shift in funding budgets from a software-driven to a more hardware-driven and semiconductor processes view, and whilst that is partially okay, the shift is so intense that there is a feeling that there is some movement in the wrong direction. Such collaborative projects are not an enabler for software technologies at the moment, but the hope is that this problem can be overcome – otherwise activities will decrease.

That is true not just for Daimler, but also for other original equipment manufacturers (OEMs) in Europe that are looking for this issue to be resolved.

To what extent should industry take the lead in more initiatives, or should this be a role for the EU?

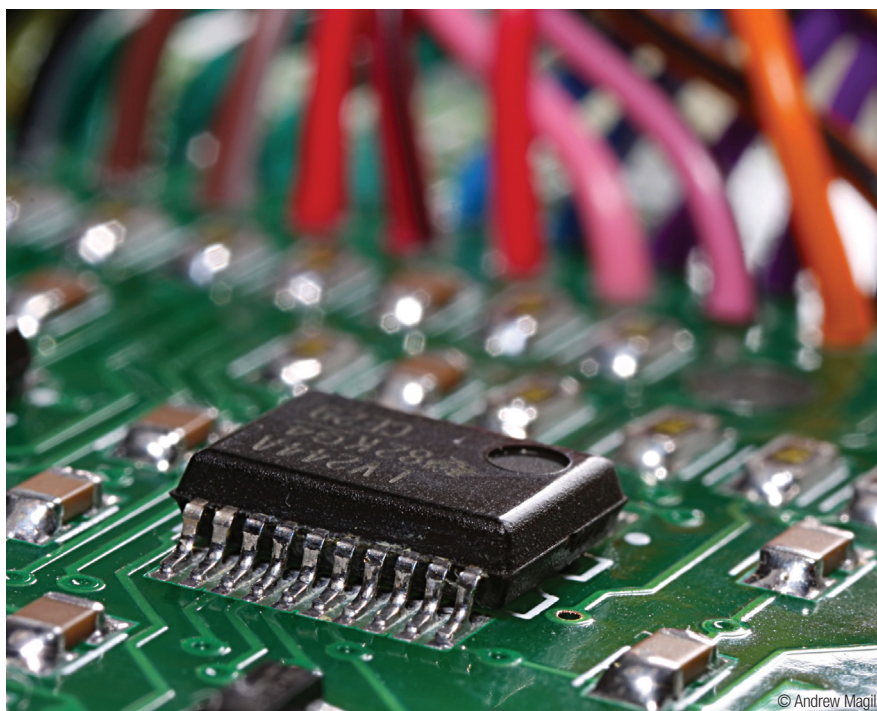
EU initiatives are a platform to enable broad industrial projects. By bringing together partners in the automotive and software industries, there is a broad range of project partners in collaboration. It is important to have a platform to realise these aims and enable these projects.

Further, it is important to involve between 20 and 40 partners and correspond with all of them. It is also important to take a snapshot of the work that has happened over recent years, and whilst new groups come together and develop new proposals, it is tough to arrange these projects.

Another significant aspect is to develop a European setting for future projects and have a good co-operation with partners between different countries and between different sectors; variety is crucial to Daimler.

How important do you see Horizon 2020 and other EU-led initiatives in encouraging innovation?

Horizon 2020 is particularly important. This is a platform with dedicated money for certain project areas from which benefits can be derived. We



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have submitted some solid proposals to the European Commission in Horizon 2020, but they are yet to be realised. We are fighting for these projects and it is really positive when these projects come to life.

Daimler has submitted a number of project proposals to the ECSEL JTI

Within the first ECSEL call, less than 10% of the funding went to automotive projects, whilst more than 50% of the funding went into semiconductor projects; this is what we call 'struggling' in ECSEL. If you take into account how many jobs and how much tax revenue are being put into these programmes compared to other industrial platforms, then we feel there is a real struggle.

What efforts need to be made to make Horizon 2020 more attractive to industrial players?

In the past, there were many different software-related projects covering a variety of topics. The projects included many different partners and we need to continue this success in the future – that is really important. If we do not, we will see a decrease in projects at a time when we need an increase. If we see a decrease, the projects will stop, and collaboration will reduce.

OEMs really do not depend on Horizon 2020 for their survival, but we think this EU research and innovation framework programme is a good European scheme where there is business impact and where job-oriented projects are funded. The European semiconductor industry has a struggling future, not only in engineering but also in the manufacturing process chain. This is very different to the aviation industry or railway industry, which are both strong in Europe.

It is important to make a good argument and engage in political debates as to where funding should be directed: subsidising those who would otherwise have a particular problem, or subsidising those who are strong today and need to be strong tomorrow, thereby supporting future generations.

In general, the software industry is very job intensive, so there are multiple employment benefits when money is invested in the industry. A similar experience is enjoyed in the tools and the embedded software sector, where there is a very good proportion of money being invested, leading to significant job creation and value.

The semiconductor business, on the other hand, is very investment intensive: investing money in machines, but having few benefits in terms of jobs. The sector is very much oriented towards method production, with very few jobs in that industry; this is a key trait in process industries.

It is important for Horizon 2020 and ECSEL to indicate which industry should be the future of Europe. From my point of view, the semiconductor industry belongs to Europe, even though it is not money or job intensive.

We would love to take some of those process efficiencies in manufacturing where there is a high degree in automation. However, there are limitations to other industries learning from the semiconductor sector. As a consequence, they are a good partner in some of our projects, but not the majority.

How important are EU initiatives in helping to ensure the future international competitiveness of the European automotive sector?

International competition is a fact. There is competition in software, in processes and in tools, as well as other areas, across the whole value chain.

In Europe, we need to strengthen our capabilities to compete with Asian countries, in particular India, and, of course, there is also the United States. It is necessary to strengthen the robust assets that we have developed so far, as well as our research and development specialist topics, for example embedded software and automotive software, so as to become globally competitive.

HORIZON 2020

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artemis-ia.eu/co-summit-
2015/index.html](http://www.daimler.com/artemis-ia.eu/co-summit-2015/index.html)
