Connected Cars: From a Car to Mobility as a Service

We are living in times when our refrigerators, thermostats and light bulbs are being connected to the Internet. However, first we still have work to do on one of the most sophisticated and powerful computer that we may own – our car. Only 11% of cars are estimated to be connected today. This is now expected to change very fast in next few years – by 2020 it is estimated that 150 million cars will be connected. With this, our cars will truly enter the digital world and a whole new field of innovation will open up. This will likely redefine automotive industry as we know it.

Digital world has a different dynamics than the physical world. In the connected digital world the user is so closely connected to the technology as never before. The user comes to the centre stage and all innovation starts with defining a new and improved user experience. This is a major change compared to the thinking in a non-digital world, where we were many times thinking mostly about features & functions of a product. This shift makes a huge difference. Let's look at autonomous car for example. When will we have a fully autonomous car? Looking from a product point of view, it is very obvious that artificial intelligence is nowhere near being capable to robustly cover the infinite number of scenarios that an average driver is facing with his car. It is quite certain that we are at least 20 years away from a fully autonomous car. However, if we put a user to the centre stage (which we should), the question becomes different. When will our mobility experience be improved by a fully automated vehicle? Well, most likely in few years from now. Fully autonomous vehicles that can significantly improve our mobility experience are already on the streets in Beta testing. It is very likely that before 2020 we will be able to use them in some areas as a service with a significant benefit to our mobility experience.

When an industry becomes part of the connected digital world, then the user experience is redefined, as well as the associated business models. We move from a product business into a service business based on a digital platform. This change influences every part in the value chain according to the platform economics.

Uber is the first company to massively benefit from getting the "connected car" user experience right. A digital platform that connects drivers and passengers became a new standard for how user mobility experience in the future might look like. If anyone thinks that this company valued at $40B is just a taxi ordering service, then this person completely misunderstood the digital transformation of our mobility. Similarly as Nokia misunderstood Apple Iphone and Android based phones when they came to the market. Both set of phones brought with them a digital platform that simply swept away with the Nokia phones, even though from a product point of view (features & functions) the superiority is far from obvious.

We are entering a new era in the automotive industry where innovation will be much more closely linked to end user needs. This will affect every component within a car. Service based architecture will become essential, as the race for faster innovation cannot be won unless architecture fully supports unforeseen changes. And other industries have proven that a modular architecture according to SOA principles is the right approach.

Secondly, it will be all about the data – big data. The true value of connectivity only comes when the right data is exchanged fast. Some use cases are very obvious, such as getting prompt traffic and road information, getting information to find free parking space, information to allow remote diagnostics or predictive maintenance. Other use cases are not obvious and will come with time. However, the software in a car should get ready for this now.

Thirdly, a lot of logic will move from a car to the back end. It simply does not make sense to build millions of super computers, when many times the problem can be solved much better and more efficient in an aggregated form in a data centre. That is exactly how most of our smart phones apps work today.

The new era in automotive industry can be in many ways seen as an era of Frugal Innovation. It will not be so much about making things more complex to get more value for end users, but rather simplifying what we have so that the users will get a much better and improved end user experience through the power of a digital connectivity. It seems that with connectivity, the technology disruption has finally arrived to the automotive industry.

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