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Redefining Mobility Software

It was obvious to all those who visited this year's CES: The automobile has, in the meantime, progressed quite far along the path towards being a mobile device, the software-defined vehicle (SDV) is no longer a future concept but a contemporary one. On the surface, exhibitors demonstrated this with the implementation of AI in the car. Indeed, all technology giants had brought impressive innovation with them to Las Vegas. But in actual fact, the UI experienced by the user hides the middleware that guarantees the future capability of vehicles. One of the greatest challenges facing the sector is the rapidly growing complexity of software for the SDV. The average number of lines of software code per vehicle has doubled from 100 million in 2015 to 200 million in 2020. In the meantime, we all assume an increase to 650 million lines of code by 2025. This explosive growth poses a huge challenge for development departments at OEMs and supplier alike, particularly against the backdrop of the current economic situation, which is everything else but rosy.

Managers who keep profitability at the back of their minds face the challenge of creating their software as efficiently and as productively as possible. Functional safety must not suffer, and high costs are simply not an option. In order to combine all these requirements, the boundary conditions for mobility software need to be redefined. The field of SDVs which represents

the shift in automotive value from hardware to software development is therefore currently at a crossroads. I perceive a fading out of a maximally accelerated state of moderately well organized activities towards a more powerful ecosystem with scalable and profitable business and partner models. These ecosystems require a rethink within companies. OEM and supplier management need to decide which activities they wish to maintain, adapt, or stop. And they need to define where they wish to enter into partnerships with software specialists, and how they intend to build efficient software supply chains with these players. This all presupposes that the heavyweights in the automotive industry develop an appreciation and understanding for the associated necessities. They will have to deal with scenarios that the sector is facing. The focus must lie on the development of functions with end-user value. They will need to adapt their internal structures and at least secure those key components that ensure the full potential of SDVs is exploited.

There is huge potential here. The experts at EY forecast a total software market value of 118 billion US dollars and annual increases of over 15 % until 2030. Whoever wishes to participate in this success story will have to be quick. The window of opportunity for companies that wish to play an important role in the SDV ecosystem is beginning to close.