PASSenger Car Drives

The Future of Combustion Engines

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Many experts look no further than electric mobility as the only environmentally friendly and sustainable transport option. However, the internal combustion engine – in most cases, of course, as part of a hybrid system – will continue to shape private transport for many years to come. This applies not only in developing countries and regions that cannot – or do not wish to – provide a corresponding charging infrastructure, but also for industrial nations. Change will take time, no matter how strident the calls. Consequently, it is vital to eke even more potential out of what is already quite sophisticated combustion engine technology and exploit every opportunity to improve emissions and energy balance. This includes, not least, promoting natural gas-powered vehicles with regard to model range and user acceptance.

To this end, Volkswagen launched a CNG offensive in 2017 and is now presenting the new EA211 TGI evo natural gas engine. It is already designed for bivalent operation with liquid and gaseous fuels, offers exceptional compression and uses the efficient TGI Miller combustion process in combination with VTG supercharging. In an article entitled “Combustion Engine 4.0,” AVL describes a new generation of gasoline and diesel powertrains claiming that the new Euro 6d-Temp emissions standard can already be met using the current state of engineering. When combined with additional improvements such as new combustion processes, hybridization and networking, it can deliver emissions behavior that can be described as “zero impact emission,” with no identifiable negative impact on the overall pollutants released into the environment.

In the interview, Nikolai Ardey, Head of Powertrain Development at Audi, outlines the brand’s strategic orientation as part of efforts to realize this goal. One of the major related challenges is not allowing complexity and diversity to get out of hand. As well as increasing electrification of powertrains, other plans include making greater use of natural gas as a fuel and introducing synthetic fuels produced from renewable sources. Exploiting the full potential of the internal combustion engine – currently castigated for its environmental impact – could shore up its survival for a long time to come.

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