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[Home](#) > [Blog](#) > [Automotive](#) > [ADAS and Highly Automated Driving](#) > [National Autonomous Vehicle Day: A Celebration Among Industry Partners](#)

National Autonomous Vehicle Day: A Celebration Among Industry Partners

[Alisha Perkins](#) May 31, 2020

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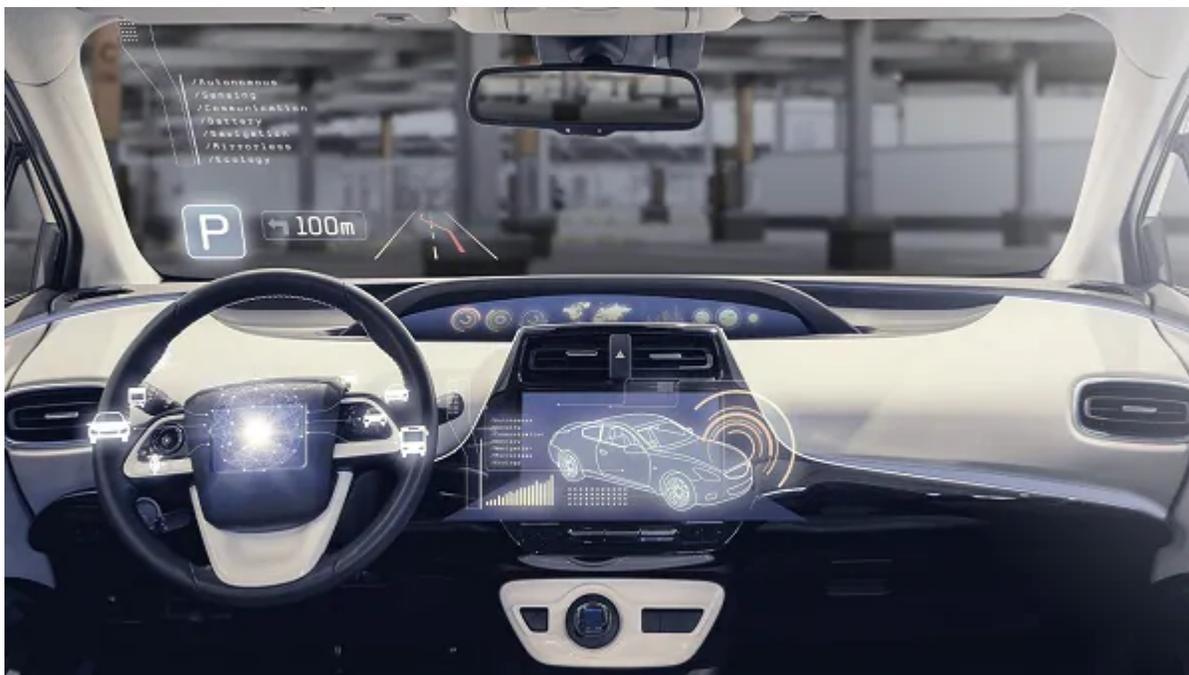


Everyone involved in the autonomous vehicle technology domain freely acknowledges its difficulties, including myriad requisite technology disciplines and immense development complexities. From hardware to the software and design tools, there are many moving parts that require careful orchestration.

And yet, despite all the hard work still to be done, on the eve of National Autonomous Vehicle Day (May 31) there's a lot to celebrate. Together we look forward to a future era of fully autonomous, L5-class vehicles that transport passengers and cargo with the utmost safety and efficiency. There is a lot of progress being made and NXP is proud to be at the forefront of this effort.

Amid all the design complexities at play, all automotive OEMs and Tier One suppliers agree on passenger and pedestrian safety as the preeminent goal. There can be no compromises in this regard. Safety cannot be an afterthought nor should it be addressed with retrofits to technologies originally targeted for other domains.

On the hardware side, a processing platform designed for consumer and/or datacenter-class applications is less than ideal for embedded automotive apps for a host of reasons relating to power efficiency, thermal management, cost—and most importantly, safety. Conformance with automotive safety standards should be baked into the processing solution from day one.



Of course, the processing platform is just one of the many technologies at play during system testing, validation and production processes. Among the many other key enabling technologies, you need massive processing acceleration, safety-certified real time operating systems (RTOS), advanced motion control, and pathfinding capabilities and precision traffic and sensor simulation. Ideally, you'd also leverage an open-source software development platform that liberates you from proprietary vendor tools locking you into a fixed set of features and functions, limiting your ability to differentiate in the market.

Today there is no single technology vendor that offers all of these capabilities. These technology

functions can't be single-sourced and automotive OEMs and Tier One suppliers can't go it alone. The good news is that they don't have to. NXP is helping to build the requisite vendor ecosystem to address all of the aforementioned design considerations—and we've [publicly demonstrated these capabilities](#). These are the core elements of NXP's Safe Central Compute initiative.

Automotive OEMs and Tier One suppliers are counting on this growing ecosystem of technology providers to converge on a common framework that prioritizes safety above all else on the pathway to L5 vehicle autonomy. Ultimately, they need a clear, consistent

development path from L2 onward that leverages scalable embedded processing capacity and software resources that are proven compatible and help to minimize major system re-designs in the years ahead.

Together with technology leaders like Kalray, Green Hills Software, Embotech, dSPACE and others—in coordination with non-profit organizations like the Autoware Foundation promoting open-source development initiatives—NXP is harnessing our efforts into a unified framework that ADAS and automotive AI system designers can trust for ASIL-grade quality and reliability, even as their designs evolve. The end goal is to help OEMs and Tier Ones minimize workflow and interoperability complexities—and associated costs—to help them innovate the future of autonomous vehicle technology.

The road ahead to full L5-class autonomous vehicles will be difficult, but the destination holds tremendous promise. On National Autonomous Vehicle Day, alongside our trusted technology partners, we celebrate what's to come.

Learn more about NXP's [Safe Central Compute initiative](#).



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