Competition in Level 4 Autonomous Vehicles is intensifying powered by Generative AI, computing and collaborations

Auto2x examined the strategies, technologies & market position of carmakers, suppliers & start-ups in Autonomous Vehicles to find leaders, gaps & opportunities

KRAKóW, LONDON, POLAND, October 28, 2024 /EINPresswire.com/ -- Building in-house capabilities in Artificial Intelligence for Level 4 Autonomy and strong partnerships for in-vehicle computing are crucial steps to compete in the Autonomous Vehicles race, finds Auto2x.

> Learn about the strategies, technology roadmaps, strategic partners and marketing positioning of automakers, suppliers and start-ups in Autonomous Vehicles”
>
> *Auto2x*

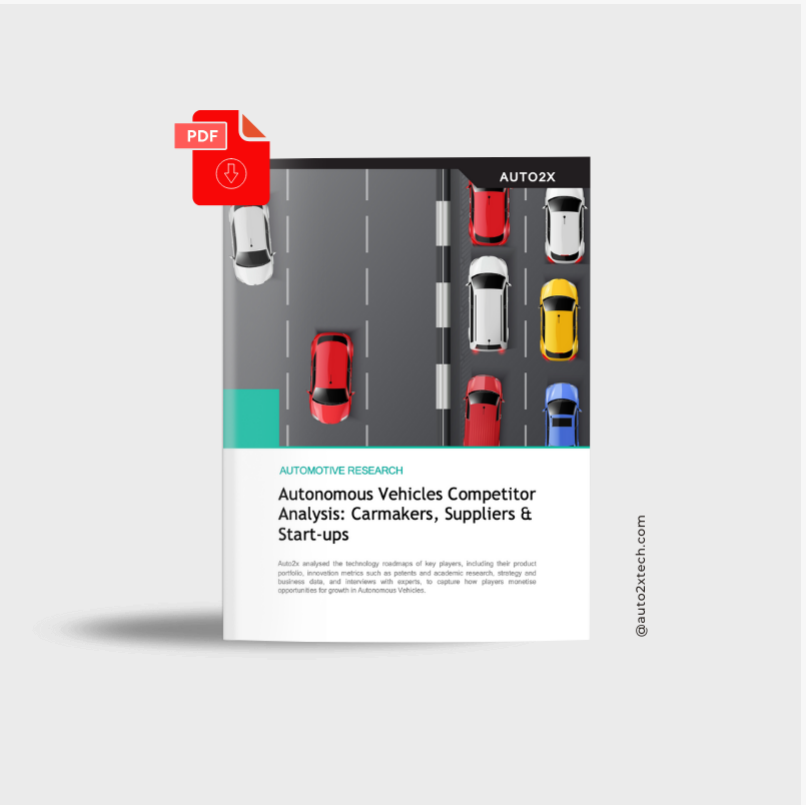
Competition in ADAS, Autonomous Driving and Autonomous Vehicles is fierce as vehicle manufacturers, automotive component suppliers, and new entrants strive to monetise the huge opportunities for new revenues from sensors, over-the-air (OTA) features and novel services.

Auto2x's new report analyses the strategic moves and technological innovation of competitors in Autonomous vehicles as players strive to
- monetize the rising sensor content in vehicles, e.g. radars, camera, lidar to support higher levels of automation;
- respond to the need for data processing and compute to support new cruising and parking features;
- democratise software-defined vehicles to keep vehicles always-up-to-date and secure.
- take advantage of changing regulation to capture new markets and customers

Level 4-Autonomous Driving is expanding from robo-taxis / robo-shuttles to private cars for parking and cruising.

Robotaxis from Waymo, Baidu and other autonomous shared mobility providers have been monopolising the deployment of Level 4-Full Autonomy, but Chinese suppliers are now bringing eyes-off / brain-off features to cars powered by vision language models.

Baidu's Level 4 Apollo Self Drive features in JIDU Auto's Robocar 07, according to an announcement in September 2024. JIDU Auto, a Joint-Venture between Baidu and Geely, is the first brand to adopt Baidu Apollo ADS, which combines pure vision with an end-to-end large-scale model to support fully unmanned Level 4-Autonomous Driving tailored to Chinese roads.



Cover, Autonomous Vehicles Competitor Analysis

Haomo.ai launched DriveGPT in WEY as Level 2+, but it could reach up to Level 4. Haomo.ai's DriveGPT is an autonomous driving generative large-scale model aiming at end-to-end self-driving cognition.

In March 2024, autonomous truck start-up Waabi introduced its Copilot4D for Level 4 Autonomy. The integration of generative AI into Copilot4D enables it to learn from vast amounts of sensor data without requiring extensive human supervision. This is pivotal for scaling autonomous driving technologies effectively and safely by allowing them to predict future scenarios based on real-time data from LiDAR sensors.

Which suppliers are better prepared for the new era of Autonomous Vehicles?

Auto2x examined the technological competitiveness, strategy execution and market positioning of the Top-20 ADAS Tier-1s including Aptiv, Bosch, Continental, Denso, Mobileye, Harman, Haomo, Helm.ai, Hyundai Mobis, Hitachi, Valeo, ZF, Baidu, Alibaba, Amazon and others.

Major automotive suppliers face further transformation to develop capabilities in AI and software, expand into software business models and face new competition.

Traditional ADAS suppliers still maintain the lion's share in autonomous vehicles. But they face competition from US, Chinese and other Tech giants who are capitalizing on their expertise in AI, Cloud and Software transforming automotive.

Opportunities in Artificial Intelligence for Fully-Autonomous Vehicles.

Generative AI and neural rendering could revolutionise simulation for AVs. Researchers and Developers are harnessing foundation models, such as vision language models, to generate complex scenarios aimed at stress-testing vehicles. By utilizing Generative AI for the simulation of scenarios and “edge cases”, developers could improve the efficiency and performance of autonomous driving software.

The rise of High-Performance Computing in cars powered by NVIDIA and new market entrants.

The computing power required to shift from Level 2 to Level 5 increases exponentially. A Level 5 Autonomous vehicle will require 1,000 TOPS computing processing power, up from 100 TOPS for Level 4 and 10 TOPS for a Level 2 vehicle.

NVIDIA is a strong player in AI-vehicle brain by supplying their AI-computer to many Chinese brands, such as BYD, Hyper, Li Auto, Nuro, XPeng, Zeekr, and other carmakers such as Volvo (Geely). NVIDIA is also supplying autonomous trucking companies, such as Waabi and robo-taxi / robo-shuttle providers such as WeRide.

Autonomous Trucks move from pilots to deployment and the market consolidates.

Waymo’s decision to shift away from autonomous trucking, the failure of Embark Trucks and its sale in May and TuSimple’s decision to seek a possible sale of its U.S. operations show consolidation in the Autonomous Trucking market.

However, the remaining players are actively bringing new solutions to the market for new domains. Autonomous Mining, deliveries and logistics have high market potential and market readiness.

Key questions this report answers:

What are the most promising opportunities in Autonomous Vehicles by Market Potential and Technology Readiness?
Which car markets are leading the race to full autonomy? What is the outlook?
What are the roadmaps of carmakers in ADAS? What is their Strategy, Technology & Market Readiness?
Which suppliers hold the largest market shares and have the most advanced Autonomous Vehicles Technology?
Which start-ups have the biggest potential to solve key challenges in the digital transition, disrupt Autonomous Mobility and bring new value for customers?

Who is this report for:

Competitor Analysis, Market Intelligence and Strategy functions in global OEMs, Tier-1/2 automotive suppliers
Innovation teams and R&D
Engineering teams
Investors and investment professionals
Software development professionals
Regulators, policy-makers and other stakeholders

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