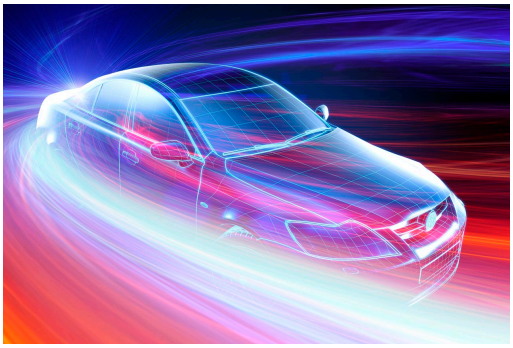
DELL Technologies

Brochure

A Complete, Open and Hybrid Approach to Autonomous Vehicle Development

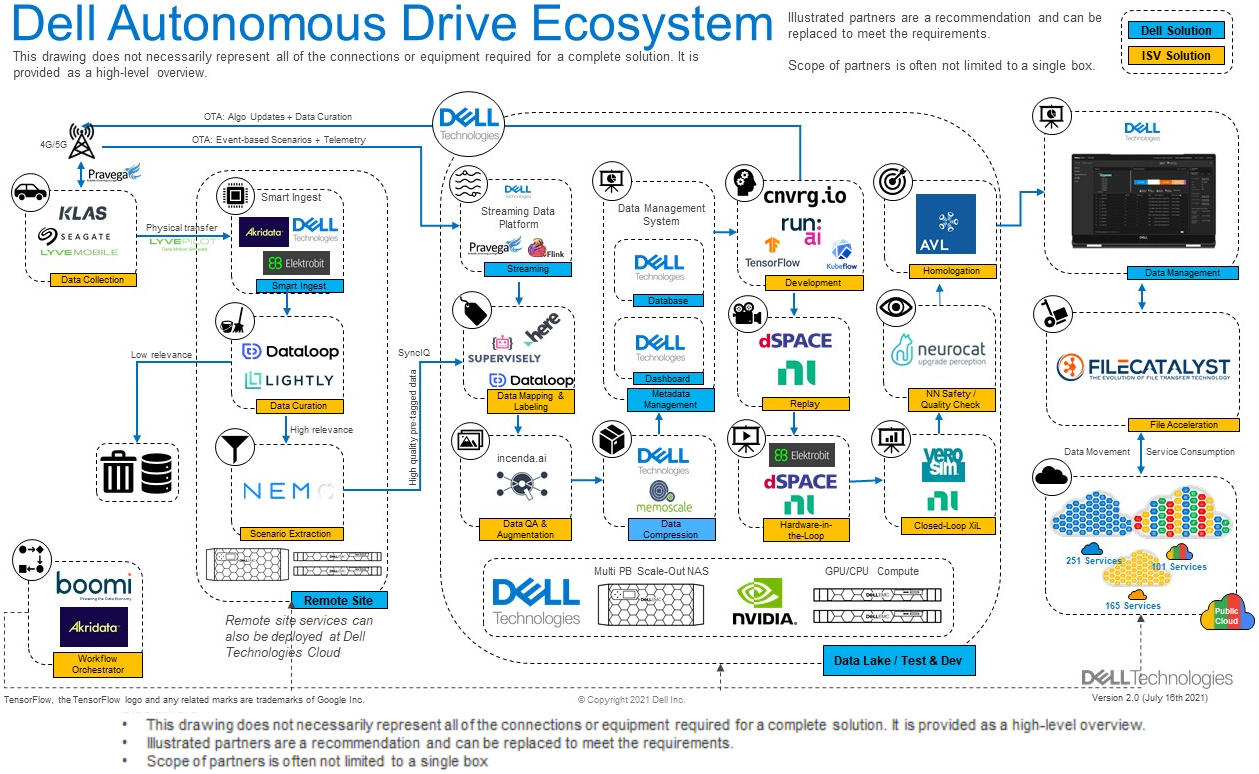


Top 6 reasons to use the Dell Autonomous Drive Ecosystem to develop Advanced Driver Assistance Systems and autonomous vehicles

Dell Technologies helps automotive companies pursue innovation in Advanced Driver Assistance Systems / Autonomous Driving (ADAS / AD) with the The Dell Autonomous Drive ecosystem - a comprehensive, open development system that extends from edge-to-core-to-cloud. This complete toolchain provides a roadmap of stable solutions that bring together leading-edge infrastructure, deep industry expertise, comprehensive services and specialized software from an extensive ecosystem of automotive partners. The following are just a few examples of why Dell Technologies is the partner of choice to build future-proof infrastructure for developing next-generation vehicles.

1 | End-to-end, Open Toolchain

There are many vendors today that offer various tools and services for ADAS / AD development. But few offer end-to-end solutions and even fewer can claim to be truly open. The Dell Autonomous Drive ecosystem provides an end-to-end toolchain, from concept to production, that is built from the ground up to be open. With Dell Technologies and our partners, you have the ultimate flexibility to adapt as little or as many of the services as you need. You can integrate into your home-grown tools and even have the option to outsource staff to support them. While our mission has been to adhere to open solutions, you can even integrate proprietary solutions as well, whether on-prem or in the Public cloud.



- This drawing does not necessarily represent all of the connections or equipment required for a complete solution. It is provided as a high-level overview.
- Illustrated partners are a recommendation and can be replaced to meet the requirements.
- Scope of partners is often not limited to a single box

Dell Autonomous Drive Ecosystem: A new approach to AD/ADAS development

2 | Future-proof and Software-defined

The one thing that is always certain in life is uncertainty. That's why the smart planner plans for the unknown. For the automotive industry that means managing the entire lifecycle of the vehicle – from the earliest stages of development through to production, homologation and long-term support. And just as market preferences can change like the wind, OEM and supplier development flows must have the flexibility to change with it. That means open standards and vendor interoperability – with existing solutions as well as new ones. But none of this matters if the underlying data infrastructure is not equally future-proof or software-defined. That too must be flexible, performant, and scalable to meet unknown and unbounded future growth rates. This is the essence of the Dell Autonomous Drive ecosystem – the matching of open technologies with an equally open and future proof infrastructure that is ready for wherever the market leads you.

3 | Edge-to-Core-to-Cloud

The cars of today are already packed with electronics, and with increasingly sophisticated ADAS / AD and vehicle electrification on the horizon, the dependence on electronics will only grow – as will the need for connectivity. Whether in development or production, vehicles will be generating data constantly, and the need to process that data for safety purposes, both in real-time, as well as for the long haul (measured in decades), up-front planning for the data lifecycle is critical. Dell understands this, and provides some of the most flexible solutions for building and scaling your data lake – and extending it to include edge computing, real-time streaming analytics and multi-cloud support.

4 | Real-time Streaming Analytics

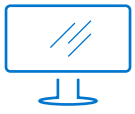
Real-time data streaming and analytics will create yet-to-be-identified new revenue opportunities across the supply chain. Open source big data analytics software is difficult to update, manage, and scale. To analyze real-time streaming data for business insights, enterprises require a scalable, secure and manageable turn-key "analytics operating system" that avoids the pitfalls of DIY big data analytics. Pravega, the enterprise-ready streaming analytics and storage software platform from Dell Technologies allows for a repeatable process of launching streaming and batch analytics solutions that addresses both the needs of the people who write the programs and the needs of the people who manage the data flow and data storage.

5 | Proven ADAS Solutions & Services

Key to any ADAS / AD Development program is managing data. SAE level 3 ADAS solutions typically require 50 to 110 petabytes of sensor data. As the industry progresses towards level 5, fully autonomous vehicle development, data is expected to grow into the exabyte range. This data is used for everything from AI algorithm development to Software- and Hardware-in-the-Loop (SiL/HiL) testing. An infrastructure architecture that is designed to grow with the project and manage the data for the decades-long life of the vehicle is critical. That includes the storage as well as the CPU / GPU compute. This is where PowerScale, along with PowerEdge, rises to the task. With its key features and scale-out architecture, it's no wonder that approximately 70% of ADAS / AD sensor data already lives on PowerScale storage today[1].

6 | Global Support

Increasingly, automotive development targets markets that span the globe. Sensor data is captured across the globe for development – and the teams themselves are global too. That requires a partner like Dell Technologies that is equally capable of supporting your efforts – with partners, services and support teams available world-wide, 24x7.



Learn more about Dell EMC automotive solutions

Contact a Dell Technologies Expert

View more resources

1 - Based on Auto2x rankings & market shares of top tier-1 ADAS suppliers by 2020 (https://auto2xtech.com/articles/adas-supplier-market-shares-2020/) and Dell Technologies internal analysis conducted in April 2020

DELL Technologies