



TODAY

Fragmented availability of automated driving functions and frequent takeover requests

The complete set of conditions that allow safe operation of an Automated Vehicle (AV) is defined as Operational Design Domain (ODD). Today, even within the parameters of the ODD, the AV encounters a number of challenges that require the driver to switch back to manual driving from automated driving mode. This situation compromises the overall travel experience and is unacceptable for a marketable vehicle.

Hi-Drive

Widespread and continuous Operational Design Domains (ODDs) on European roads

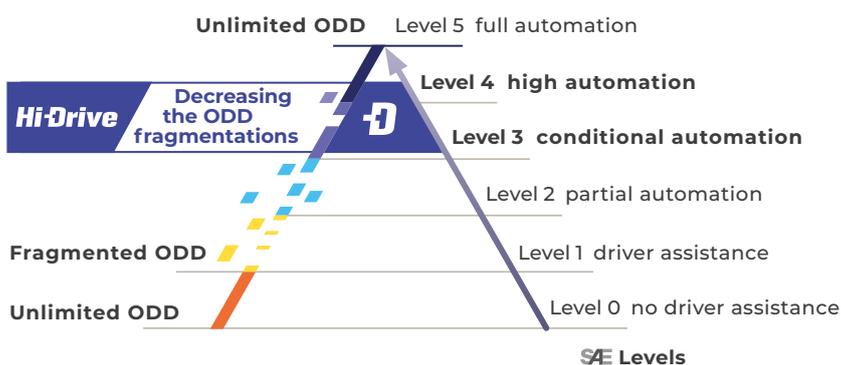
Hi-Drive strives to extend the ODD and reduce the frequency of takeover requests by selecting and implementing technology enablers leading to highly capable Connected Automated Driving Functions (CADFs). Passenger cars and trucks will demonstrate CADFs in a large set of traffic environments on motorways, in cities and cross-border scenarios, with a specific attention to demanding, error-causing conditions.

TOMORROW

Robust and reliable high automation across borders and brands

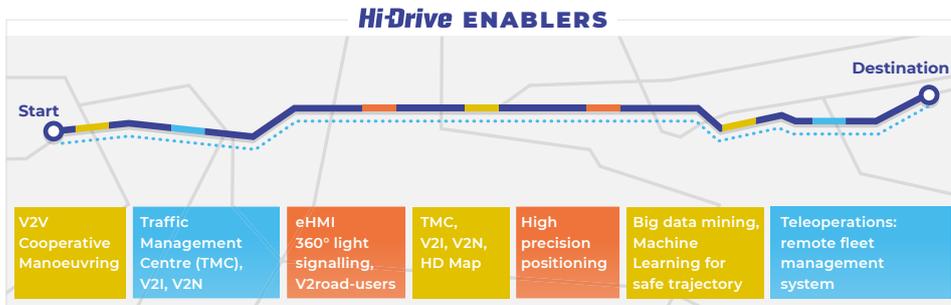
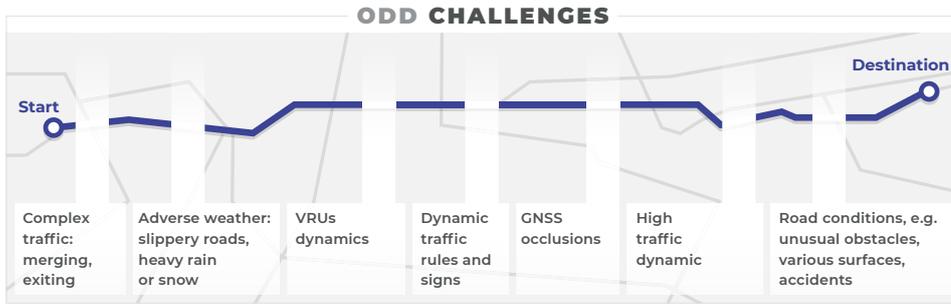
Connected Automated Vehicles (CAVs) equipped with robust and reliable technology enablers bridge the ODD gaps. The removal of fragmentation in the ODD paves the way towards a gradual transition from a conditional operation towards higher levels of automated driving. The result is a safe and efficient automated road transport system, in which CAVs operate for longer periods and interoperability is assured across borders and brands.

DESIGNING AUTOMATION



Exploring Operational Design Domains (ODDs) and the challenges within the different levels of Driving Automation as classified by SAE standards

Hi-Drive advances the European state-of-the-art of automated driving from SAE L3 'Conditional Automation' further up towards 'High Automation' by demonstrating in large-scale trials the robustness and reliability of CAD functions. We focus on testing and evaluating a variety of functionalities, from motorway chauffeur to urban chauffeur, explored in diverse scenarios with heterogeneous driving cultures across Europe.



— ODD (Operational Design Domain) — Automated Driving — Manual Driving
 Continuous Automated Driving in cybersecurity, interoperable, interactive and user-aware vehicles

“Extending today’s limited ODD will have a tremendous impact on the future of automation.”

Aria Etemad,
Hi-Drive coordinator



TARGETS

1. Create, harmonise and manage a Europe-wide testing and demonstration environment for high automation.
2. Define enabler technologies, targeting defragmentation and extension of the ODD for each test area and vehicle owner.
3. Implement and further develop an already proven common testing methodology across all test sites.
4. Test and demonstrate the functionality of high automation vehicles in demanding traffic scenarios across Europe.
5. Investigate user reactions, interactions, understanding and attitudes towards high-level automation.
6. Evaluate the project’s impacts ranging from single-user behaviour to the societal level.

PROJECT FACTS

Budget € 60 million | Funding € 30 million | Consortium 53 partners | Involvement 13 countries |
 Timeline July 2021 – June 2025 | Project coordinator Aria Etemad, Volkswagen Group Innovation,
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PARTNERS



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