

Laying the foundations for CAV testing on British roads

Case study overview

HORIBA MIRA was commissioned to develop a set of guidelines for low speed autonomous pod commercial deployment for the UK Government's Department for Transport.

Based on HORIBA MIRA's extensive experience of both connected and autonomous vehicle (CAV) development and regulatory testing, the document's aim was to provide a technical reference for future regulations surrounding the safety assurance of autonomous pods on UK roads.

Engineering team deployed: Three engineers plus one project manager.



Connected and Autonomous Vehicles (CAV)



Passenger vehicles and commercial / goods vehicles



UK



This project has given us a deep understanding of the safety standards that autonomous vehicle manufacturers will need to work towards, along with the tools and processes required to achieve that.

Alastair Evanson, Head of Commercial and Business Development for ASSURED CAV

HORIBA MIRA



Approach

The HORIBA MIRA team liaised with representatives from the Department for Transport to establish the scope and boundaries of the work package, which in this case focused on the safety of the Automated Driving System (ADS).

The first task was an extensive literature review to establish which elements of this system were covered by existing regulations or standards, such as ISO 26262 and ISO 21448, in order to avoid any duplication. Where none existed, the first consideration was whether there were relevant regulations or standards in other industries, such as rail or aerospace, which could be adapted to the automotive sector.

Much of the work was split between HORIBA MIRA's CAV and functional safety teams, which collaborated to assess the suitability of existing requirements and to draft new guidelines where required. This was carried out in regular consultation with the Department for Transport and the Vehicle Certification Agency (VCA), along with technical partners across industry and academia.

Successes and benefits

This work at the cutting edge of the regulatory process for autonomous vehicles has given HORIBA MIRA a unique insight into the direction of future legislation, both in the UK and beyond. Key points in the project included:

- ✓ Creating a set of guidelines that will ensure that governments are better informed on the **technical requirements** when defining future autonomous vehicle testing regulations
- ✓ The ability to establish best practices for a new branch of **non-prescriptive testing and development**
- ✓ Working with a respected independent industry partner who provided a **deep understanding** of the regulatory issues surrounding autonomous vehicle testing that can be applied to future engineering projects
- ✓ Knowledge of how to plan and execute a **safe and efficient test programme** for autonomous vehicles



Deliverables

- ✓ Guideline report on autonomous pod commercial deployment
- ✓ Abridged guideline report