



## **About MEDIATOR**

MEDIATOR will develop a mediating system for drivers in semi-automated and highly automated vehicles, resulting in safe, real-time switching between the human driver and automated system based on who is fittest to drive. MEDIATOR pursues a paradigm shift away from a view that prioritises either the driver or the automation, instead integrating the best of both.

MEDIATOR, a 4-year project led by SWOV, started on May 1, 2019.

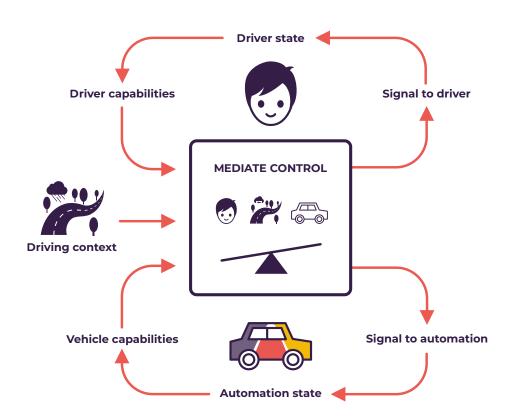
# **Vision**

Automated transport technology is developing rapidly for all transport modes, with huge safety potential. The transition to full automation, however, brings new risks, such as mode confusion, overreliance, reduced situational awareness and misuse. The driving task changes to a more supervisory role, reducing the task load and potentially leading to degraded human performance. Similarly, the automated system may not (yet) function in all situations. The objective of the mediator system is to intelligently assess the strengths and weaknesses of both the driver and the automation and mediate between them, while also taking into account the driving context.

MEDIATOR will optimise the safety potential of vehicle automation during the transition to full (level 5) automation. It will reduce risks, such as those caused by driver fatigue or inattention, or on the automation side imperfect automated driving technology.

MEDIATOR will facilitate market exploitation by actively involving the automotive industry during the development process.

To accomplish the development of this support system MEDIATOR will integrate and enhance existing knowledge of human factors and HMI, taking advantage of the of expertise in other transport modes (aviation, rail and maritime). It will develop and adapt available technologies for real-time data collection, storage and analysis and incorporate the latest artificial intelligence techniques, such as deep learning.



# **Outputs**

- MEDIATOR will develop an adaptive support system for road transport, reducing human error from new and existing sources during the transition to higher levels of automation (SAE Levels 2-4). This intelligent mediating system will enable safe, real-time switching between the human driver and automated system, based on which is fittest to drive. It will constantly weigh driving context, driver state and vehicle automation status, while personalising its technology to the drivers' general competence, characteristics, and preferences.
- MEDIATOR will develop:
  - o guidelines for measuring degraded driver performance;
  - o guidelines for safe, user-centred HMI design;
  - o a protocol for low-cost testing of mediator systems;
  - o recommendations on relevant legal and regulatory aspects.
- MEDIATOR will develop roadmaps for maximising the exploitation of results after the project's end.

#### **Partners**

MEDIATOR will be carried out by a consortium of highly qualified research and industry experts, representing a balanced mix of top universities and research organisations as well as several OEMs and suppliers. The consortium, supported by an international Industrial Advisory Board and a Scientific Advisory Board, will also represent all transport modes, maximising input from, and transferring results to, aviation, maritime and rail (with mode-specific adaptations).





























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