systems and sub-systems. Many of them have planned testing tracks in Europe, anticipating what could be the start of commercial routes for passenger and freight transport. Nevertheless, many issues remain to be solved for what regards safety and serviceability performance. This study leverages the state of play of hyperloop development, identifies issues and challenges from a European perspective, and provides policy insights towards testing and commercialization. To this end, it follows a two-tier approach, that, (i) looks in depth into possible legislative, technological and other challenges and enablers for the introduction of hyperloop, and, (ii) analyses hyperloop technology developments, identifying possible R&I spill overs from and to other sectors using the methodology developed for the European Commission's Transport Research and Innovation Monitoring and Information System (TRIMIS).

Keywords: hyperloop; disruptive technologies; research; innovation; knowledge management; policy support

1.16 Scientific and technical session 16: Acceptance of automated transport

108 People perceptions and public acceptance of autonomous vehicles: A literature review

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Abstract

Nowadays, autonomous vehicles (AVs) are considered as a key factor for the future mobility, they are proposed as promising solutions for the different transport problems. However, before their implementation, testing AVs' effects on roads and analysing people acceptance is of utmost importance. This paper aims to review and critically analyse the surveys conducted on AVs, in order to investigate the factors influencing people perception and public acceptance of AVs to address the research gaps before their implementation. In literature, socio-demographic variables, experience, affect towards use, perceived usefulness, compatibility, trust, willingness to pay and attitudes towards AV appeared to be the most significant factors. After investigating such factors, it was found that the majority of people would accept AVs if they have the option to take over control. Another important outcome is that reliability of AVs as well as regulations on their use are not properly addressed in the past research.

Keywords: autonomous vehicles; driverless vehicles; public acceptance; surveys; people perception

221 On the road to automated vehicles: From perception to use

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Abstract

A safe and highly acceptable automated driving experience depends on how drivers, as the primary users of automated vehicles, understand and interact with technology. This study presents a literature review about the main driver-related challenges associated with different levels of automation, as well as an incremental approach to tackle these challenges, proposed under the AUTODRIVING project. AUTODRIVING combines an extensive survey on the perceptions of representative groups of drivers about the safety and usability of automated vehicles with a driving simulator study to evaluate driver-vehicle interaction under regular and critical automated driving scenarios. The project will deliver relevant decision-supporting and driving behaviour modelling tools for the development of technology and driving modes that mimic human behaviour and effectively address the needs and requirements of different users. These instruments will increase the capacity of industrial stakeholders and regulatory bodies to ensure a smooth transition to automated driving and promote societal acceptance.

Keywords: road safety; automated vehicles; driver behaviour; user acceptance; collaborative technology

421 Drive2theFuture: Concepts and methodology towards accepting our automated future

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Abstract

Following the emerging invasion of automation in the transport sector, what rises as a primary concern is whether the users of the transportation system are ready to accept and include the technological innovations in their lives and how this transition can occur in a safe, sustainable and user-friendly manner. Accepting this challenge, Drive2theFuture project aims to develop training, HMI concepts, incentives policies and other cost efficient measures to promote and then to comparatively assess several alternative connected, shared and automated transport Use Cases for all transport modes and with all types of users (drivers, travellers, pilots, VRUs, fleet operators and other key stakeholders), in order to understand, simulate, regulate and optimize their sustainable market introduction; including societal awareness creation, acceptance enhancement and training on use. This initiative is undertaken by 31 Partners from 13 European countries. This paper presents the project aims, its plans and some preliminary findings.

Keywords: automation; user acceptance; training; HMI; transport modes

Full paper:
https://www.researchgate.net/publication/339791475_Drive2theFuture_Concepts_and_methodology_towards_accepting_our_automated_future