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Intelligent Transport Systems: differences of diffusion in Europe and the US

Sharing mobility, mobility as a service and autonomous vehicles have been proposed as two suitable solutions that will contribute to the enjoyment of more efficient cities and with a better living quality for its inhabitants. Researchers of the UAB participating in the European project Newbits have compared Europe and the United States (US) to discover the critical factors in its diffusion among the population. Reluctance to the use of tracking technologies and the support of local authorities in sharing mobility and cybersecurity, as well as ethics in the autonomous vehicle are some factors that have been detected.

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The European project Newbits is formed by an international consortium of 9 countries with participation of researchers from the UAB Department of Telecommunications and Business. A benchmark analysis of ITS innovation diffusion has been performed for three specific areas of ITS innovation: 1) Sharing Mobility, 2) Mobility-as-a-Service (MaaS), and 3) Connected and Autonomous Vehicles (CAV's).

According to this benchmark analysis, the critical aspect to consider in both the EU and US to

boost diffusion of sharing mobility innovation can be found in overcoming the critical mass barrier and this has been done in several cases by making massive use of tracking technologies and social networks. Additional success elements are increasing interoperability and allowing data sharing among platforms, incentivizing multimodal transport integration, extending pre-tax benefits, establishing a community of trusted users and developing supporting policy measures.

MaaS is at its initial stages of diffusion in the EU, whereas in the US organisational and institutional challenges have even prevented deployment. Forces driving innovation diffusion were found to be: user's willingness to move from a car-borne transport; the presence of the large majority of operators offering electronic payment, opening data and allowing third parties to sell their services; stakeholder cooperation; user incentives; and the inclusion of MaaS within regional transport policy strategies. On the other hand, restraining forces identified are: challenges to make users using one single app; strong market competition; lack of provision of government subsidies and lack of tax reduction benefits; and financial pressure on public transport operators in case profits are sought from the sale of monthly subscriptions and ticket sales.

The benchmark analysis for CAV's has indicated user acceptance and willingness to pay, data protection and cyber-security, ethics and liability, and policy and regulatory issues as the most critical factors of innovation diffusion. According to the evidence reviewed, data privacy is not considered a critical barrier to innovation diffusion, whilst it is considered that CAV will result in a shift from personal to product liability, which will significantly impact the insurance market. Further challenges are also posed by the need for regulatory actions, such as enforcing that all new vehicles are equipped with digital connectivity and communication capabilities allowing to interact with each other and the surrounding road infrastructure, defining open technology standards and developing comprehensive national frameworks.

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References

The full benchmark analysis is available online on http://newbits-project.eu/publications/deliverables/. To find out more about NEWBITS and current project news visit www.newbits-project.eu.

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