

Intelligent Mobility Solutions to mitigate climate change

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1.) Green transport policy needs from a business perspective

Consistency and stability in policy making are crucial for private sector innovations, viable business cases and the development of operator models. Aiming at shaping a greener international transportation agenda, integrated policy approaches should consider market-oriented patterns and greenhouse gas mitigation policies, always taking into account that unconditional and unilateral approaches threaten local industries. Global climate action and the transition to a low-carbon economy necessitate a global, balanced and fair effort-sharing approach. A swift introduction and roll-out of Cooperative ITS (C-ITS) is supportive to achieve these goals.

Greenhouse gas mitigation policies for cities and low emission zones

With the Paris agreement, a political contract is formed with the objective to completely decarbonise the economy until the second half of this century. The transport sector in particular is challenged with more ambitious targets to cut greenhouse gases than in the past.

From an industrial point of view, greenhouse gas mitigation policies should:

- > Engage cities alongside states to balance between providing guidance on urban mobility frameworks and leaving flexibility to cities.
- > Remove legal barriers at national level and develop interoperable methods and frameworks of non-binding criteria for charging schemes (common signage, user information on tariffs etc.) – no “one-size-fits-all”.
- > Foster ITS services linked to public transport and e-mobility (booking, charging, etc.).

Swift implementation of best practice mitigation policies and roll-out of C-ITS

There is enormous capability of ICT in vehicles today, but not much more intelligence in the infrastructure compared to one decade ago. ICT solutions in the vehicle can only be utilized to full potential if smart infrastructure is introduced in parallel. The industry is ready to prove that C-ITS is a game changer to promote green fuel economy as well as a catalyst to pave ways for implementing complementary low-carbon policies such as walking, cycling, eco-driving, parking area management and other measures supporting the wider choices of transport modes.

Policy action thus should:

- > Consider that the era of automated driving has started and that greenhouse gas mitigation is part of the bigger vision of automated, connected, electric and shared mobility. Connected¹ and automated vehicle technologies offer great potential to improve road safety, traffic flows and environmental performance of the transport system².

¹ A connected vehicle is a vehicle using a mixture of secure, time-critical peer-to-peer and cellular communication to communicate with other vehicles and the infrastructure.

² (EU) Declaration of Amsterdam on cooperation in the field of connected and automated driving, 2016.

- > Take into account that most of the environmental-ITS programs are additive and therefore greater benefits may be achieved when a multitude of these programs are put into place.
- > Couple environmental-ITS programs with specific travel demand management measures such as pricing³.

2.) Industrial tools to operationalize green transport policy objectives

The industry, and Kapsch in particular, provide tool sets to implement and operationalize green transport policy objectives.

Transport efficiency and environment tools to:

- > internalise external costs (noise, congestion, air pollution)
- > enforce market rules (emissions, weights, dimensions, speed, driving times etc.)
- > enforce competition rules (accessibility, non-discrimination, proportionality)
- > finance transport infrastructure
- > direct traffic flows, optimize installed infrastructure capacity and work towards modal shifts and sustainable modes of transport
- > visualize data for intelligent asset management and behavioural adaption.

3.) Engagement with stakeholders

Kapsch is more than just a provider of technology. With its expertise, Kapsch tries to make regulatory frameworks keeping track with technological developments, while being sufficiently flexible to allow the introduction of innovations.

- > standardization bodies – CEN, ETSI, ISO, IEEE
- > European Commission – ITS Advisory Group and C-ITS Deployment Platform
- > UNECE (UN Economic Commission for Europe) – Information exchange
- > ITF CPB (ITF Corporate Partnership Board) – Contributing to policy research projects on mobility data, autonomous driving and decarbonising transport.

³ U.S. National Centre for Sustainable Transportation, supported by the U.S. DOT, Intelligent Transportation Systems for Improving Traffic Energy Efficiency and Reducing GHG Emissions from Roadways, 2015.