

## **ARTS22 Breakout Session Title:**

331-Mitigating Climate Change with ART Technologies

### **Session Contact/Organizers:**

- Jaap Vreeswijk, Traffic Architect, MAP traffic management (session contact)
- Katherine Kortum, Senior Program Officer, Transportation Research Board
- Danielle Chou, Enabling Technologies Program Manager (FWHA), US Department of Transportation
- Tom Alkim, Strategic Advisor CCAM, MAP traffic management
- Wolfgang Backhaus, Team Leader Collective & Intelligent Mobility, Rupprecht Consult
- Siegfried Rupprecht, CEO, Rupprecht Consult

### **Session Description**

One of the major challenges for society today is to reach environmental goals. This session will brainstorm how ART technologies help us achieve this ambition. Many discussions about ART technologies revolve around automation feasibility and improving safety, but we have not fully explored the potential of automation as a catalyst or enabler to transform society to an ecologically sustainable state. The goal for this session is to hypothesize potential outcomes for both the urban environment and for mobility systems, and discuss what role ART technologies can play in achieving key environmental goals, especially decarbonization.

### **Goals/Objectives/Outputs**

- Increase awareness of how ART technologies can potentially either mitigate or worsen climate change;
- Create a new narrative for a sustainable transportation network and mobility system that can help mitigate climate change, and identify the role of automation in that vision;
- Identify ART research questions and analyses that need to be done in order to inform design of a sustainable mobility system

### **Agenda**

#### **10:30 PM – 10:55 PM Plenary introduction (25 min)**

Speakers will offer their views on the climate change urgency, the ambition to create climate neutral cities, and the challenges and opportunities for mobility systems and mobility planning. They will address the impact of vehicle automation to achieve climate goals. Finally, they will present concrete and practical instruments to support governments, planners, industry and providers of mobility solutions to move forward.

Introduction to the breakout session by session moderator

*Katherine Kortum, Senior Program Officer, Transportation Research Board*

EU strategy for Cooperative, Connected and Automated Mobility (CCAM) and its relation to the Climate-Neutral and Smart Cities Mission

*Suzanna Kraak, Policy Officer Future Urban & Mobility Systems – European Commission DG Research and Innovation*

Planning for Net Zero Cities

*Siegfried Rupprecht, CEO, Rupprecht Consult*

*Tom Alkim, Strategic Advisor CCAM, MAP traffic management*

**10:55 PM – 11:45 PM Design thinking a climate neutral mobility system (50 min)**

Facilitators: *Danielle Chou (US DoT), Katherine Kortum (TRB), Tom Alkim (MAPtm), Kristin White (ITS America)*

Breakout groups will be tasked to produce a set of recommendations that contribute to climate neutrality and lead to decarbonization of the mobility system with at least 50% in 2030. By designing a climate neutral mobility system, based on ART technologies, the breakout groups will be stimulated to generate as many ideas as possible for a fictive yet realistic scenery (*urban, peri-urban, rural, interurban*). One of the central questions being the enabling capacity of vehicle automation to serve society in this transition. Recommendations will be placed on different times scales (*tomorrow, 2 years, 5 years and 10 years*) and levels of maturity (*awareness, planning, implementation*). A canvas will be provided to support this process and in addition to organize recommendations categorical (*policy, planning, infrastructure, operations, technology*) and by stakeholder (*regulator, policy-maker, road operator, mobility service provider, industry/manufacturer*). Breakout groups are free to focus on passenger transport, freight transport or both. In addition, they will be challenged to also make their mobility systems responsible, i.e. safe, inclusive, high quality of life, affordable, resilient, etc.

Recommendations will be summarized on the provided canvas out of which a top 5 will be selected for presentation in the plenary conclusions part. Aside these recommendations and canvas, example products from this portion of the breakout session may include narratives, storyboards, perspective-taking, mind mapping, word clouds, architectural mockups and/or maps, product mockups, etc.

**11:45 PM – 12:00 PM Plenary conclusion (15 min)**

Each group will be asked to present their top 5 recommendations and reflect on any new opportunities for automation that they had not thought of before. Finally the facilitators will share their observations and together summarise the main conclusions.