Special Session Proposal

- **Title**: Integration of UAS in the future smart city for mobility
- **Modality**: 
  - Half-day (e.g., 3 hours plus breaks)
- **Scope** (no longer than 4 pages), including the following sections:

  Road infrastructure becomes more and more congested. At the same time, a huge population expansion is predicted to generate a serious demand for innovative mobility solutions, causing further delays and environmental issues. One practical solution may be the utilization the urban airspace over our cities. The use of the “urban airspace” by Unmanned Aerial Systems (UAS) has been envisioned for decades. Urban Air Mobility (UAM), Urban Air Delivery (UAD) and mobility surveying using swarms of drones define the new era of a smart-city and have been in the centre of attention during the past decade between research, private and public stakeholders. Although the use of the urban sky is still at a premature stage and has mainly been the subject of experimental activities, it is expected that drones will soon conquer it, leaving the road infrastructure for cleaner and more sustainable mobility modes.

  In this direction, both the technology and the regulatory frameworks for the integration of UAS have developed with tremendous rates during the past years. Various opportunities have been presented, envisioning a smarter and greener city. For example, UAM has been proposed as the only way to go in congested metropolitan areas as another important player in the already busy multimodal mobility system. UAD sounds as an effective congestion relief measure for a faster, cleaner, and more efficient everyday supply chain. Due to the drones’ unique characteristics, they have recently been proposed as an effective way of monitoring road traffic, contributing to making mobility more predictable and controllable through a better utilization of data and existing resources. Based on the above, various open data initiatives have focused on providing vehicle trajectories obtained by drones to the ITS community so that people from many disciplines can use them to create and test their own models or revisit existing ones.

  The scope of this session is to discuss the opportunities and challenges of the integration of UAS, such as technological, regulatory, economic, and social. At the same time, existing and future research activities will be discussed. The topics of interest include but are not limited to:
• UAS for road surveying
• Urban Air Mobility
• Urban Air Delivery (especially last-mile delivery)
• Use cases of open datasets from drones
• Connectivity advancements 5G and 6G drones

Organizers (names, affiliations, emails, and short bio):
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Intended audience and expected attendance of the special session:
  o Academia from multiple disciplines (traffic, mobility, robotics, drones etc.)
  o Practitioners from multiple disciplines (traffic, mobility, robotics, drones etc.)
  o Public entities and decision makers regarding the use of urban air space and its regulations
  o Public authorities like cities that want to become living-labs.

Materials and equipment needed for the special session:
  o Standard presentation material

Contact details of the proposers (email, postal address, etc):

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