**Workshop title**

Towards Fully-automated World-wide Mapping for HAD

**Workshop proposer(s)**

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**Abstract**

In this workshop, the goal is to, together with the mapping industry, identify critical bottlenecks in the automation of SAE L4 HAD mapping and to propose, validate, and discuss solutions.

The upcoming transition to highly automated driving (HAD) brings forward new requirements to digital maps. So called HAD maps for SAE L4 and above, need to be more accurate, richer in content, and more up-to-date than current maps used for route planning and advanced driver assistance systems. Specifically the usage of HAD maps for map-based vehicle localization requires adding new types of information. Although, advancements in deep learning, Simultaneous Localization and Mapping (SLAM), and Global Navigation Satellite Systems (GNSS) has brought great progress in the automation of map making, several costly manual processing steps are currently still required. In order to deliver SAE L4 HAD maps on a world-wide scale, for high-way, rural, and urban areas in a cost-effective manner, increasing the level of automation of creating and updating HAD maps is required.

This workshop focuses on several aspects of the mapping and updating process including: robustness, generalizability, and scalability.

Authors are invited to submit papers that fall into the area of digital mapping and map-based localization.

**Keywords**

- Accurate Global Positioning
- Sensing, Vision, and Perception
- Data Management and Geographic Information Systems

**Topics of interest**

- Deep Learning for automated map attribute detection.
- Simultaneous Localization and Mapping and GNSS fusion
- Graph-based methods and neural networks for automated map topology inference
- Automated visual and/or topological change detection
- Map update crowd-sourcing technology from low-cost devices or SAE L2,3,4 vehicles
- Efficient map representations based on vision, LiDAR, or RaDAR to facilitate localization