#4 Recurrent Measurements of User Experience in AVs - A Method Development Experiment at AstaZero Proving Grounds

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Background
The experiment used quantitative and qualitative methods to investigate behavior over time when experiencing highly automated driving (AD).

Research questions:
- How does user behavior differ between two occasions?
- What factors indicate a shift from first encounter behavior (tense) to more experienced use (calm)?

Method
- Two occasions à 90 min for each test participant
- Within subject design
- Highly automated test vehicle (corr. SAE level 4)
- 8 test participants (4 female, 4 male)
- 80 km on rural road at Asta Zero proving grounds in Sweden

Results and conclusions
- Variations in driver behavior and first encounter effects were attenuated over time:
  - 1st occasion: exhilarated ("fun", "cool", "impressive")
  - 2nd occasion: neutral state ("positive", "safe", "good", "calm")
- Several factors indicated the shift from tense to relaxed, e.g.: perceived safety, glance behavior, time to engage in non-driving tasks

Future work
The studies continue in real traffic within the project Trust in Intelligent Cars (TIC).

Acknowledgements
Funded by SAFER Open Research at AstaZero, Knowledge Foundation, and Strategic Vehicle Research and Innovation (FFI).

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