Automated Vehicles:
will you be fallback-ready?

Future next-level automation does not mean drivers can become complacent. Drivers must remain fallback-ready to take back control if necessary.

Driver Monitoring Systems and integrated Human-Machine Interfaces (HMIs) could help to keep them fallback-ready.

46 participants aged between 20-62 years participated in our study to assess how different HMIs may assist the driver's fallback-readiness when watching videos during automated driving.

Mobile (handheld)

Monitor
Head down position leads to lower rate of self-interruption

Fallback Ready
Less aware of surrounding environment

Task Switching
Switching between watching videos and checking the environment takes longer and requires more effort

HUD (Head Up Display)

Monitor
Higher frequency of self-interruptions

Fallback Ready
More likely to have a better situation awareness when asked to take over control

Task Switching
Able to switch between driving and watching videos more fluently & efficiently

This study was conducted in the CARRS-Q Advanced Driving Simulator.
Using handheld devices while driving today is illegal and dangerous.

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