When AIs do drive cars but do not pay bills

Cooperative model in vehicle automation

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AutoMate: rEvolution in vehicle automation

Our envisioned systems will enhance safety by using the strength of both the automation and human driver in a dynamic situation dependent way. The automation is understood and designed as the driver's companion or TeamMate.

Project number: 600705
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Topic: MS-3.6e-2015 Safe and connected automation in road transport
Tagg: Keywords: Man Machine Interface, Human-Machine Team, Driver and Situation Monitoring, Dynamic Driving Task Distribution, Shared Understanding, Mutual Support, Safety
Conceptual Model of Human-Machine Cooperation for highly automated vehicles
The Concept of Cooperation

Trust in the driver-automation team

Cooperation between the driver and the automation
Shift of paradigm in the interaction with automated agents:
The new role of the driver

Driver's role:

Driving tasks

Decision-making tasks

Traditional paradigm

Driver’s involvement

Level of automation

Shift of paradigm

The technology is used to decrease the human element

The technology is used to enable the driver to actively acquire a new role in the driving strategy
EXPLANATION TO INCREASE TRUST

Pillar 1
REDDUCTION OF THE «TAKE OVER ANXIETY»
STATE ADAPTIVE HMI: HUMAN-IN-THE-LOOP

Haptic seat

HMI on nomadic device
1° EVALUATION RESULTS AT DRIVING SIMULATOR

Experiment with 20 subjects
(9 males, 11 females)