Adapting to automated driving

ADAPTIVE FINAL EVENT
AACHEN

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KEY FIGURES ABOUT THE INDUSTRY

12.6 million Europeans work in the automotive sector

3.3 million jobs in automotive manufacturing

€396 billion in tax revenues (EU15)

€50.1 billion in R&D spending, largest private investor

€90 billion positive net trade contribution
THE CHALLENGES

• Major trends reshaping mobility and the auto industry
  o Demographic changes
  o Globalisation
  o Environmental challenges

• Main drivers of automotive innovation
  Decarbonisation
  Digitalisation

• Creating a cleaner, safer and smarter mobility ecosystem
• EUCAR priorities for safe and integrated mobility
  o Digitalisation: safe, smart and connected vehicles
  o Integrated mobility: vehicles, business models, solutions
  o Enabling SAE level 4 automated vehicles
CONNECTIVITY ≠ AUTOMATION

• Connected vehicle
  o Not automated
  o Communicates (V2V and V2I)

• Automated vehicle
  o Using internal sensors
  o Operates in isolation
  o Connectivity not necessary

• Yet, combining automation with connectivity more effective:
  o For example: truck platooning, see-through applications, advanced alerts on road works or local hazard warnings
The potential of automated driving
WIDER SOCIETAL BENEFITS

**Improved road safety**
- 90% of accidents today occur due to human error

**Decarbonisation**
- ITS can reduce CO2 emissions by up to 20%

**Increased traffic efficiency**
- Smoother traffic flows will lead to less congestion

**Wider economic impact**
- Increased productivity
- Less waiting time
- Efficiency gains in transport systems

**Improved access to mobility**
- Elderly and people with disabilities, or those who live in remote areas such as the country side
“Drops me off, finds a parking spot and parks on its own”

“Allows me to multi-task and to be productive during my ride”

“Switches to self-driving mode during traffic”

Source: BCG analysis, consumer survey August 2015
SMARTER MEANS SAFER AND CLEANER

Automation

Connectivity
Intelligent infrastructure

= Safer
Cleaner
More efficient
Automated and connected driving: Regulatory and policy challenges
Vertical approach

**VEHICLE**
- Type approval AD systems and software updates
- Privacy and data protection
- Third-party access to data: safety always comes first
- Security and safety
- Permissible tasks/safety in levels 3 to 5

**ROAD INFRA**
- New road design
- Testing on public roads
- Road safety
- Dialogue with manufacturers

**DIGITAL INFRA**
- Technology mix
- 5G deployment
- Spectrum co-existence for G5 and LTE-V
- Latency requirements
- Ubiquity
- Quality of service
- Net neutrality?
- Seamless across borders

**MULTI-MODAL**
- Integrated transport networks
- ITS as the enabler
- EU policy on multi-modal approach
REGULATORY AND POLICY CHALLENGES

Horizontal approach

DATA
- Flow of data
- Access to data
- Data protection
- Cyber Security

TECHNOLOGY
- 5G expansion
- EU cyber security policy
- Spectrum
- Liability in IoT environment
- Consumer acceptance

INFRASTRUCTURE
- Impact on road infrastructure
- Urbanisation policy
- Traffic management & safety
- Communications network architecture
ACEA PRIORITIES

- Need for a coherent & consistent legal/policy framework
- Need to enable cross-border testing
- Investments in digital infrastructure
- Access to vehicle data for third-party services
IMPORTANCE OF ADAPTIVE

- Understand impact of automated driving on:
  - Road safety
  - Traffic
  - Environment

- Identify barriers to implementation

- Examine legal conditions for automated systems

- Provide guidelines on legal aspects

- Evaluate in realistic driving situations
  - Advanced demonstrator vehicles: 7 cars and 1 truck

ACEA priority:
- Legal/policy framework
- Testing
Conclusion
CONCLUSION

• **Key challenges**
  - Affordability and accessibility of new technology
  - Consumer uptake and social acceptance
  - Regulatory environment to enable deployment of automated driving applications

• **Requires a more integrated approach**
  - Convergence of industrial sectors, requires dialogue: EATA
  - Covering global level and EU, but also cities, countries and regions

• **Innovation requires further support**
  - Need to strengthen industrial R&D in Europe
  - Importance of FP9 to safeguarding automotive innovation and competitiveness
THANK YOU FOR YOUR ATTENTION

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