



European
Automobile
Manufacturers
Association

Adapting to automated driving

ADAPTIVE FINAL EVENT

AACHEN

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ACEA MEMBERS

BMW Group



DAIMLER



FIAT CHRYSLER AUTOMOBILES



IVECO



**GROUPE
RENAULT**

TOYOTA

VOLKSWAGEN

AKTIENGESELLSCHAFT

VOLVO



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

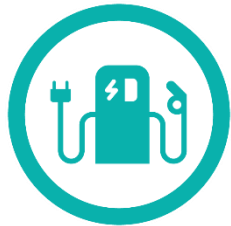
€90 billion positive net trade contribution

THE CHALLENGES

- **Major trends reshaping mobility and the auto industry**
 - Demographic changes
 - Globalisation
 - Environmental challenges

- **Main drivers of automotive innovation**

Decarbonisation



Digitalisation



- **Creating a cleaner, safer and smarter mobility ecosystem**

THE ANSWER: AUTOMOTIVE INNOVATION

Research



Implementation

Innovation

- **EUCAR priorities for safe and integrated mobility**

- Digitalisation: safe, smart and connected vehicles
- Integrated mobility: vehicles, business models, solutions
- Enabling SAE level 4 automated vehicles



**Safe &
Integrated Mobility**

CONNECTIVITY \neq AUTOMATION

- **Connected vehicle**

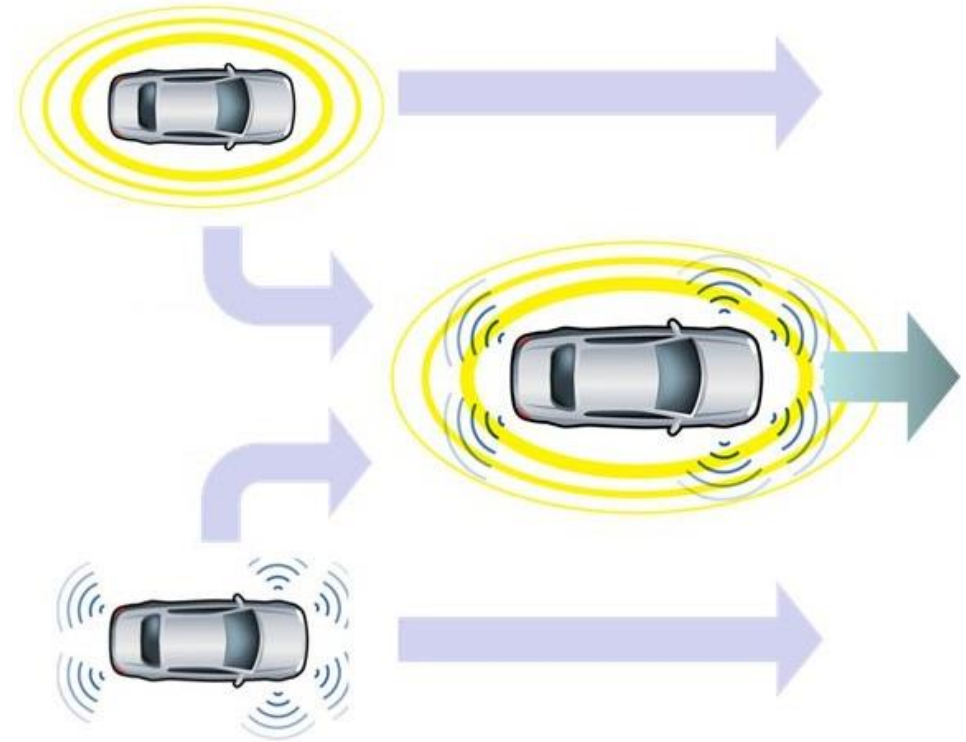
- Not automated
- Communicates (V2V and V2I)

- **Automated vehicle**

- Using internal sensors
- Operates in isolation
- Connectivity not necessary

- **Yet, combining automation with connectivity more effective:**

- 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



WHAT CONSUMERS ARE EXPECTING



“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”

SMARTER MEANS SAFER AND CLEANER

Automation



Connectivity
Intelligent infrastructure

Safer
Cleaner
More efficient

Automated and connected driving: Regulatory and policy challenges

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

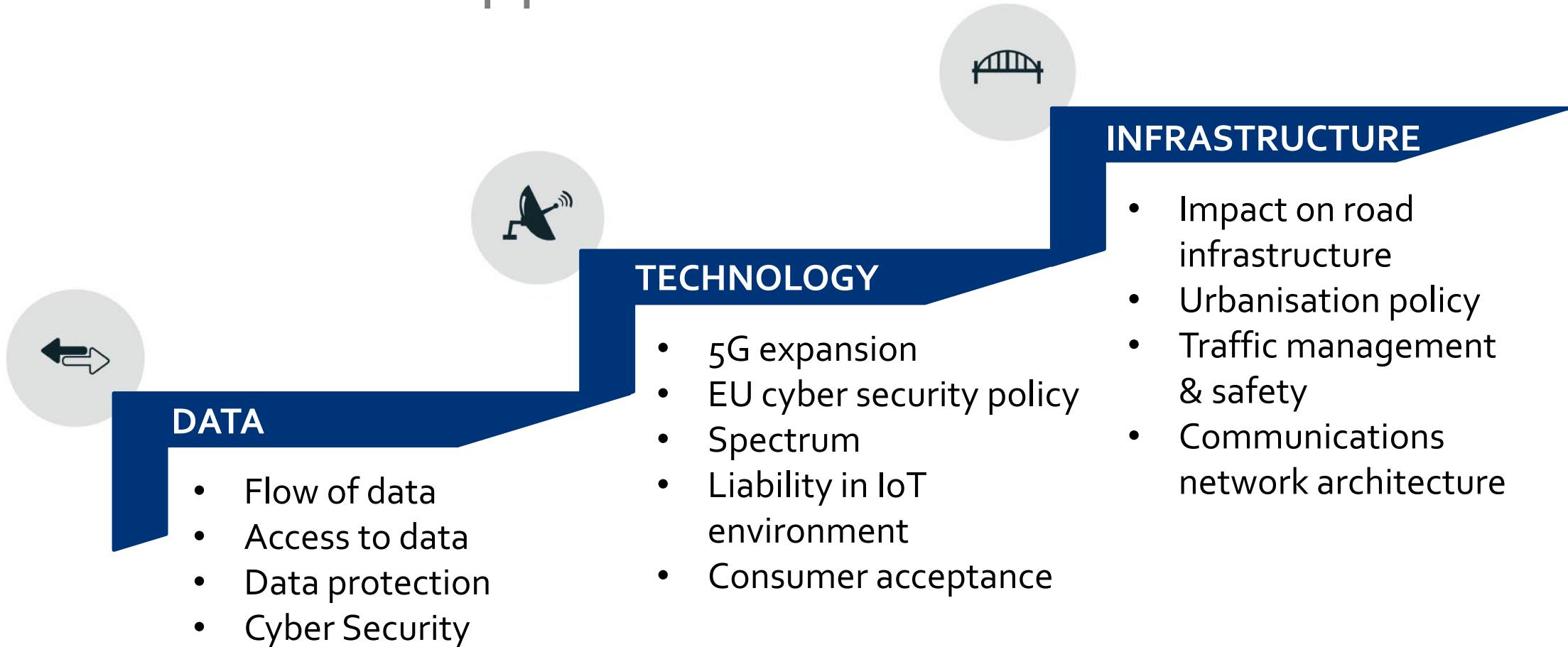
- Technology mix
- 5G deployment
- Spectrum co-existence for G5 and LTE-V
- Latency requirements
- Ubiquity
- Quality of service
- Net neutrality?
- Seamless across borders

MULTI-MODAL

- Integrated transport networks
- ITS as the enabler
- EU policy on multi-modal approach

REGULATORY AND POLICY CHALLENGES

Horizontal approach



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

Adapt//Ve

- **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

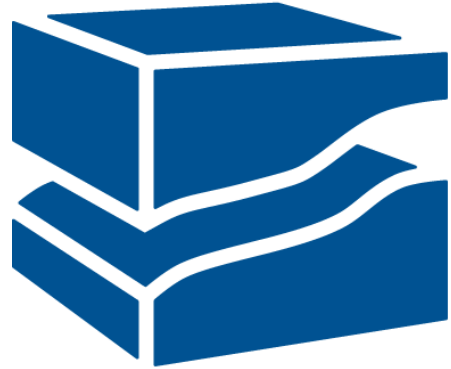
ACEA priority:
Testing

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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