Future Networked Car Symposium

FNC2025

Building Safe and Ethical AI Automotive Applications: The Need for Standards

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UNECE

ITU

AI for Good

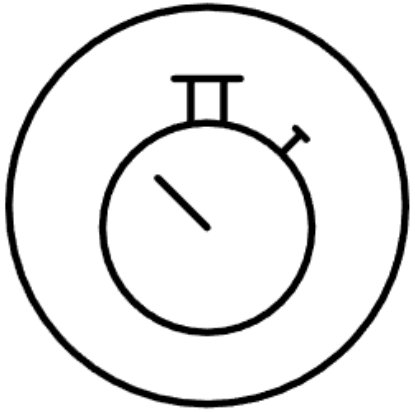
Hello

“I am a Special Fellow at ETRI focusing on international standardization for automated driving systems. My roles include

Sponsor for SAE J3016

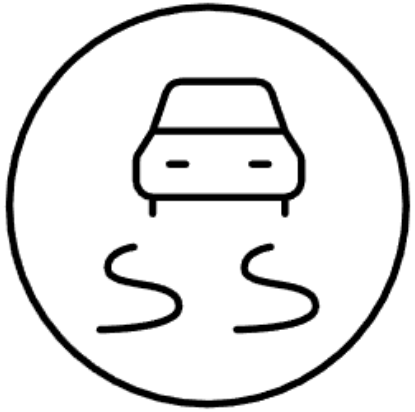
Associate rapporteur for ITU-T SG21 Q10/21.”

Do you know Standards?



Reaction Time

Minimize time for obstacle response



Braking Distance

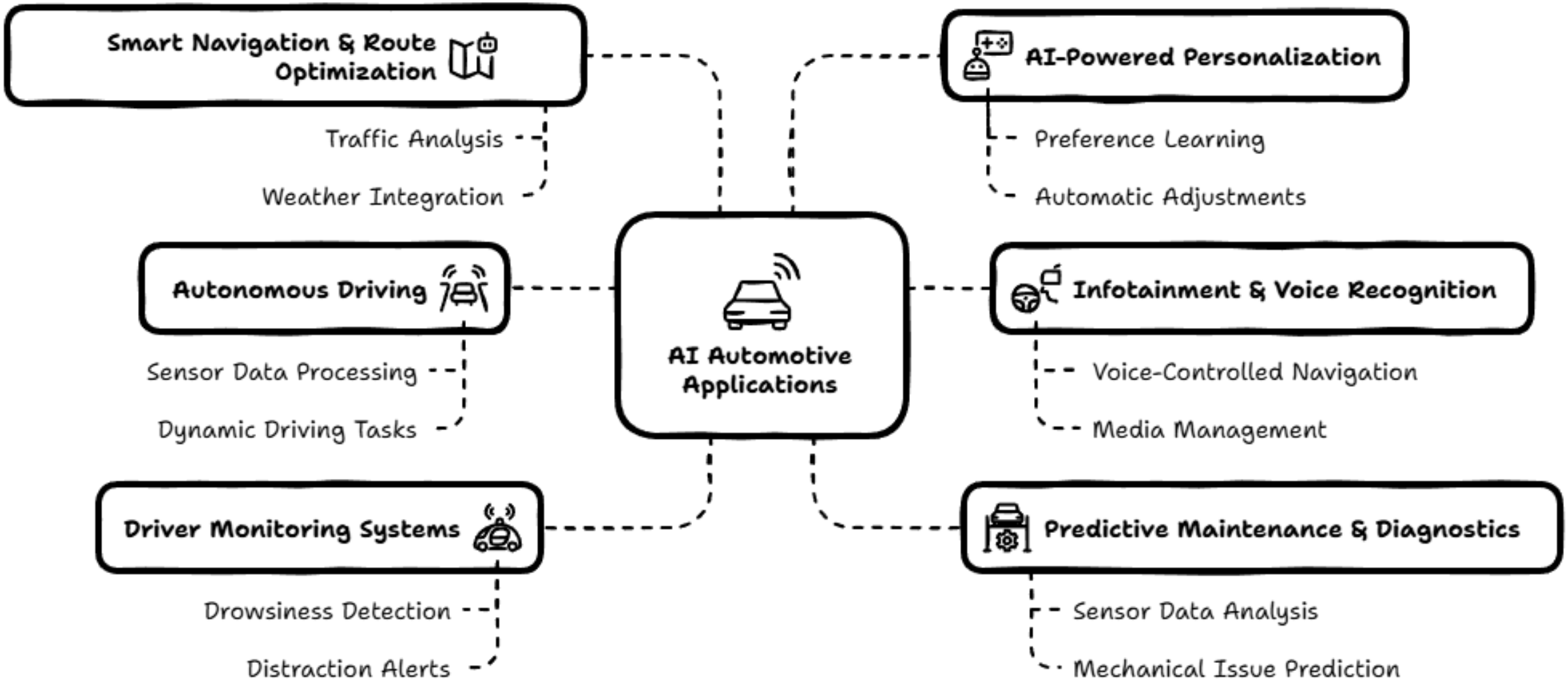
Reduce distance for safe stopping

“How to ensure safety of automated driving systems?”

Fact

“Almost all AI automotive applications collect data and make decisions that affect users, making ethical oversight universally necessary.”

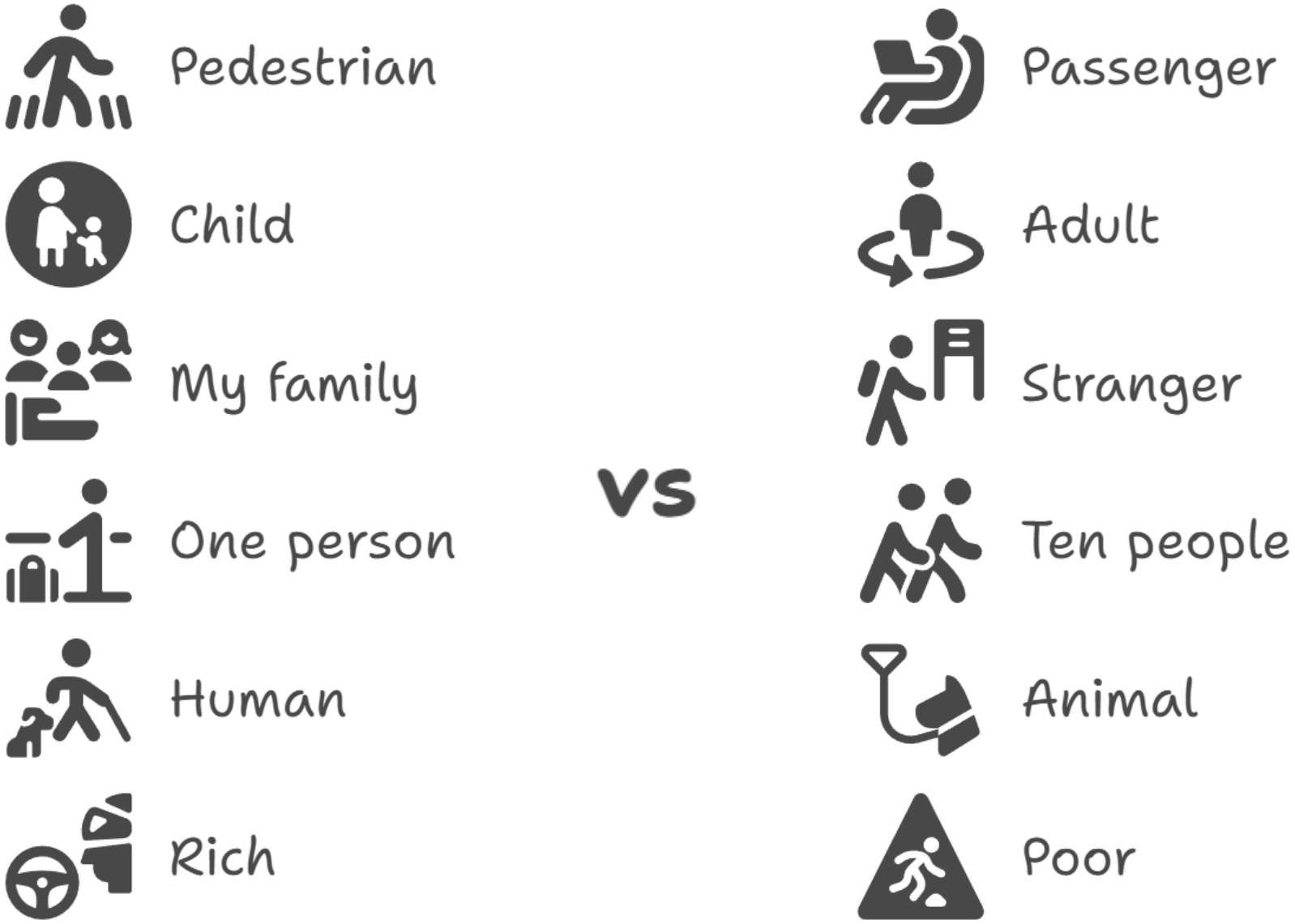
AI Automotive Applications



"They refer to the use of AI in the automotive industry to make vehicles smarter, safer, and more efficient."

“Ethical decisions are most critical in life-threatening driving moments, yet hardest to standardize.”

Dilemma



"Ethical decisions are most critical in life-threatening driving moments, yet hardest to standardize."

Standards Areas with Ethical Considerations

Human-AI Collaboration

Enhancing driving with AI while preventing driver overwhelm.

Data Privacy Issues

Prioritizing data sharing while protecting personal information.

Equitable Access

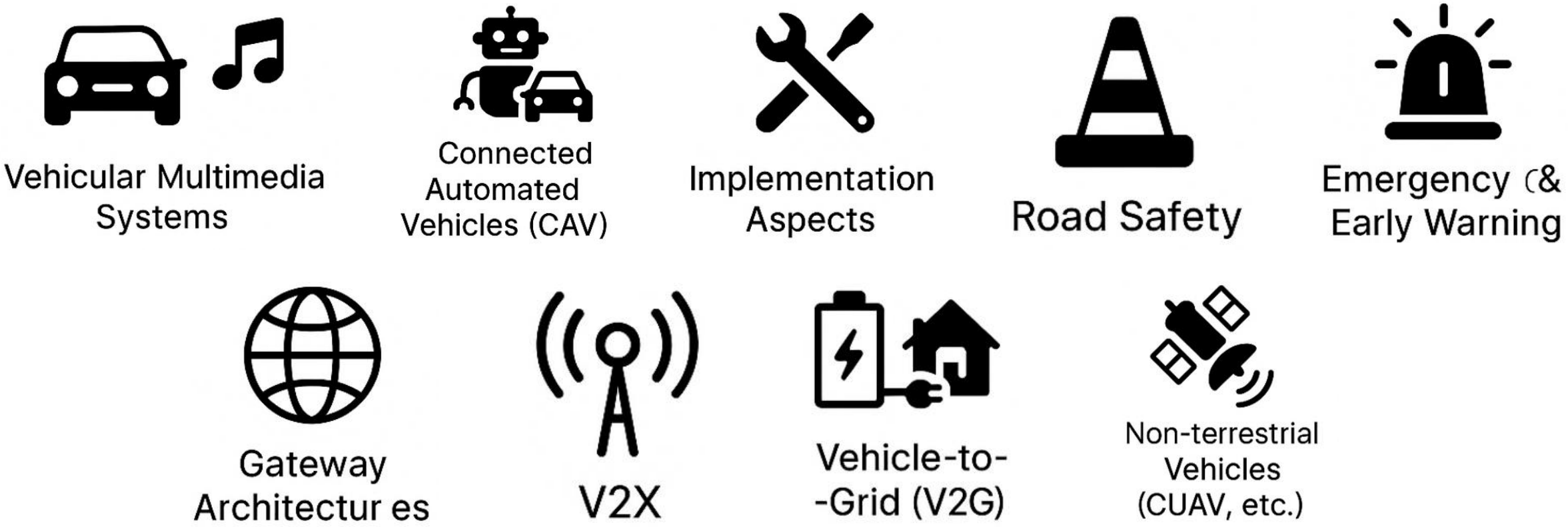
Ensuring AI automotive technology is accessible to all.

Safety Measures and Ethical Response

Implementing safeguards and ethical criteria for AI malfunctions.

“AI in the automotive sector raises ethical issues”

ITU-T SG21 Q10/21 (Vehicular multimedia communications, systems, networks, and applications)



"We are exploring how to integrate AI into these key areas to enhance standardization efforts."

Possible Future Work Items at the ITU-T

Data Privacy Issues

- Data collection priorities:

  Public Expectations on Accident Data Recording

- Personal information protection approaches:

  Comprehensive Privacy Framework (GDPR, DPIA, Child Protection)

- Ethical considerations of continual monitoring:

  Legal-Ethical Boundaries for Vehicle Data Collection

Safety Measures and Ethical Response

- Safeguards for AI system malfunctions:

  Ethical Safety Measures for AV Accidents

- Ethical judgment criteria in accident situations:

  EC independent expert group's 20 Recommendations Standards

- Liability and compensation:

  Responsibility Distribution Framework (Manufacturers, Users, Governments)

International Telecommunication Union

ITU-T Technical Report

TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU

(02 December 2021)

Focus Group on AI for autonomous and assisted driving (FG-AI4AD)

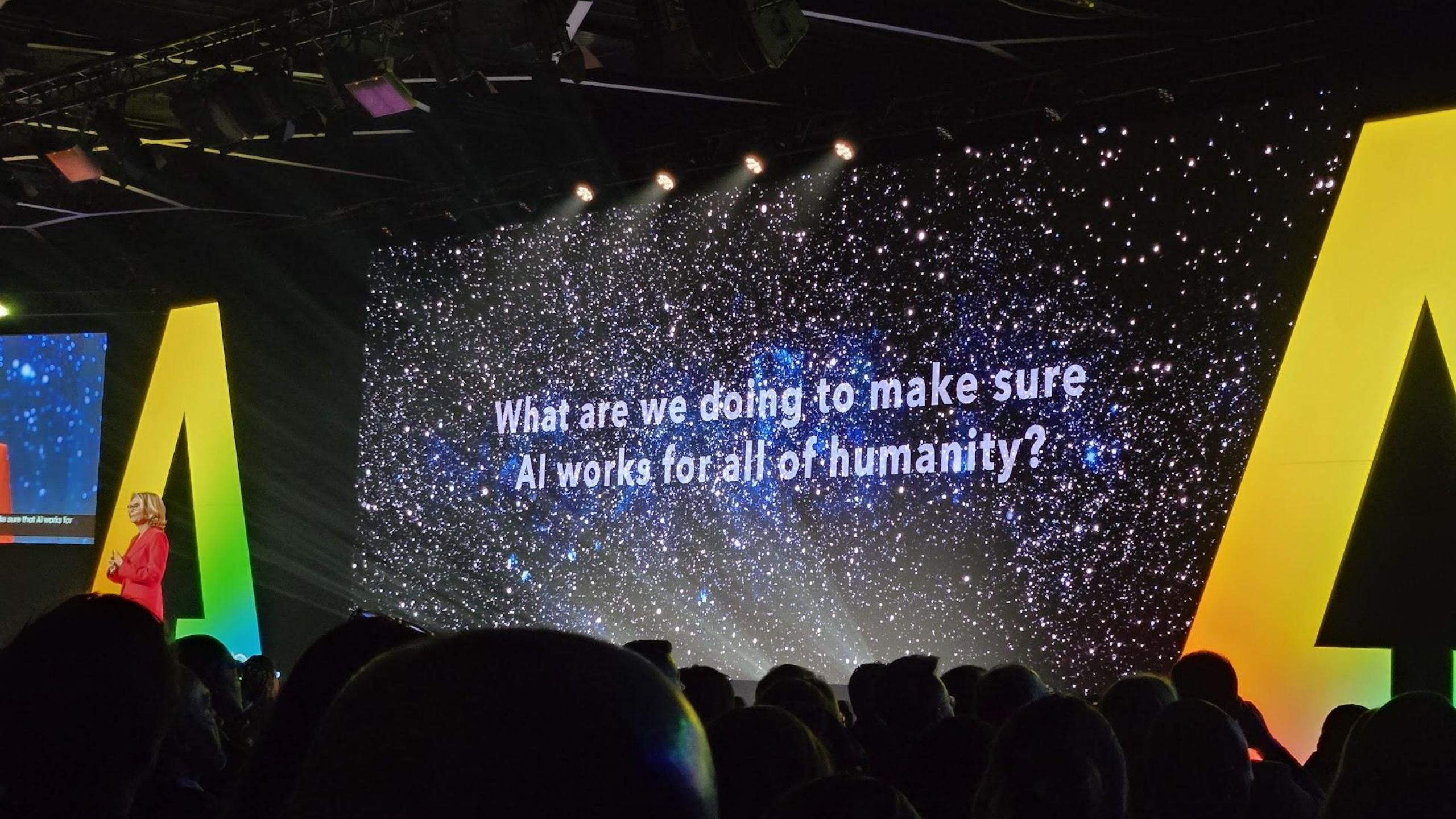
FGAI4AD-02

Automated driving safety data protocol – Ethical and legal considerations of continual monitoring

- SAE J3016: Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles
  - Levels 0~5 driving automation and key terms used throughout the automotive industry

- SAE J3312: Artificial Intelligence Use Cases for Ground Vehicle Applications
  - AI applications (emissions control, battery health monitoring, vehicle automation, ADAS, etc.) to improve safety and efficiency
  - Emerging trends (e.g., physics-informed ML) to accuracy and reliability

- SAE J3298: Artificial Intelligence Data for Ground Vehicle Applications
  - Data collection, processing methods, and usage for AI in vehicles


What are we doing to make sure
AI works for all of humanity?

Thank you