ARTIFICIAL INTELLIGENCE IN THE **AUTOMOTIVE INDUSTRY: WHAT'S NEXT?**

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A Glimpse

Al-driven approaches in the automotive industry promise safer, more sustainable mobility, but face hurdles like data quality and talent shortages. However, the integration of AI into both conventional vehicles and autonomous ones can enhance road safety and accelerate decision-making through real-time

data analysis, and simulation. Strategic deployment and talent development are crucial for success. The aim is to explore how AI approaches can overcome key challenges and capture opportunities to upgrade innovation.

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Results

Challenges

UHASSELT

KNOWLEDGE IN ACTION

- Cultural differences
- Who is to blame?
- Data from real-world
- Privacy and ethical concerns



AI Approaches

- **Big data analytics** \bullet
- Natural Language Processing (NLP)
- Human modeling
- Simulation

Regulations

Opportunities

- Faster decision-making & research
- Creation of new jobs
- Road and user safety
- Personalized maintenance

- Drag-guided diffusion models for vehicle image generation
- Innovative design support
- Machine learning
- Predictive analytics and data modeling



- Training programs & initiatives
- Cooperative partnerships: R&D projects, universities, government
- Attract and retain diverse professionals
- Invest in AI R&D
- Interaction between humans and AI systems
- Al-driven robotics
- Autonomous vehicles