

AUTOMATICAR 2023 KEYNOTE

How can collaboration unlock the path towards vehicle autonomy?

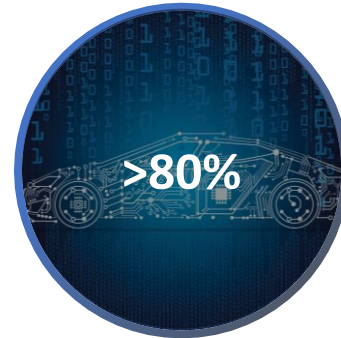
Dr. Maria J. Alonso
Autonomous Systems Lead
World Economic Forum

19 September 2023

ADAS/AD can clearly benefit society ..



... of **accidents** occur due to human error



... of **accidents** can be **prevented** by autonomous vehicles¹

... but these benefits should not be taken for granted

1. 94% of accidents occur due to human failure (e.g., recognition error) and can be prevented by advanced AD algorithms; Source: The National Motor Vehicle Crash Causation Survey (NMVCCS) conducted from 2005 – 2007 (N of incidents = 2,189,000); Goldman Sachs, UBS, IHS, Statista, BCG market model, own calculation.

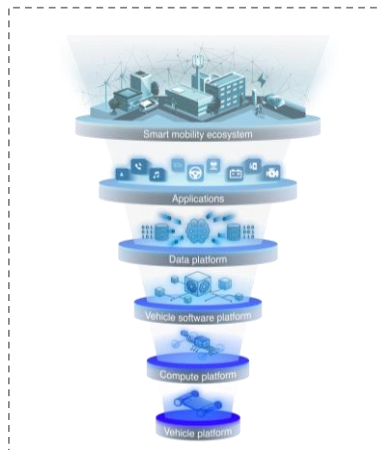


Collaboration is key

Three key aspects where multi-stakeholder collaboration is needed to achieve the positive transformative impact of autonomous driving technology

A

Aligning on the software-defined-vehicle transformation



B

Ensuring responsible and people-centred AV developments



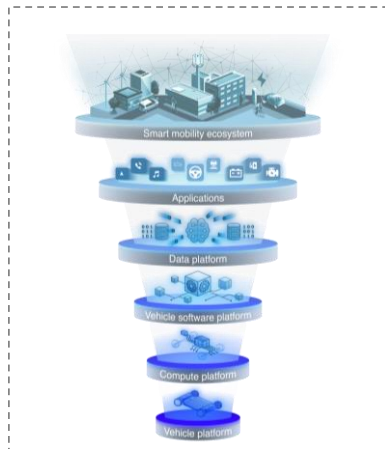
C

Advancing local on-the-ground AV regulations and deployments



A

Aligning on the software-defined-vehicle transformation



B

Ensuring responsible and people-centred AV developments



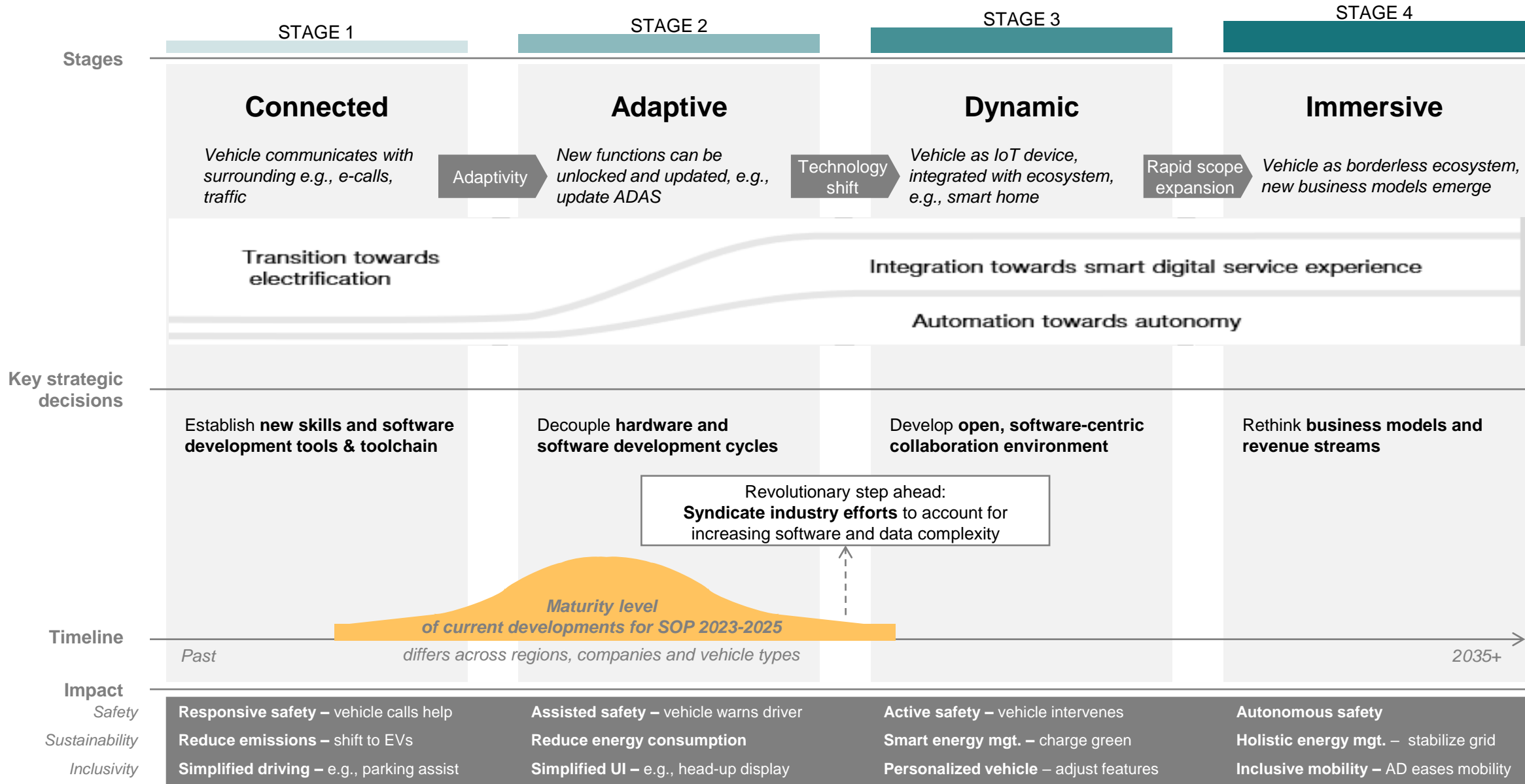
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Advancing local on-the-ground AV regulations and deployments

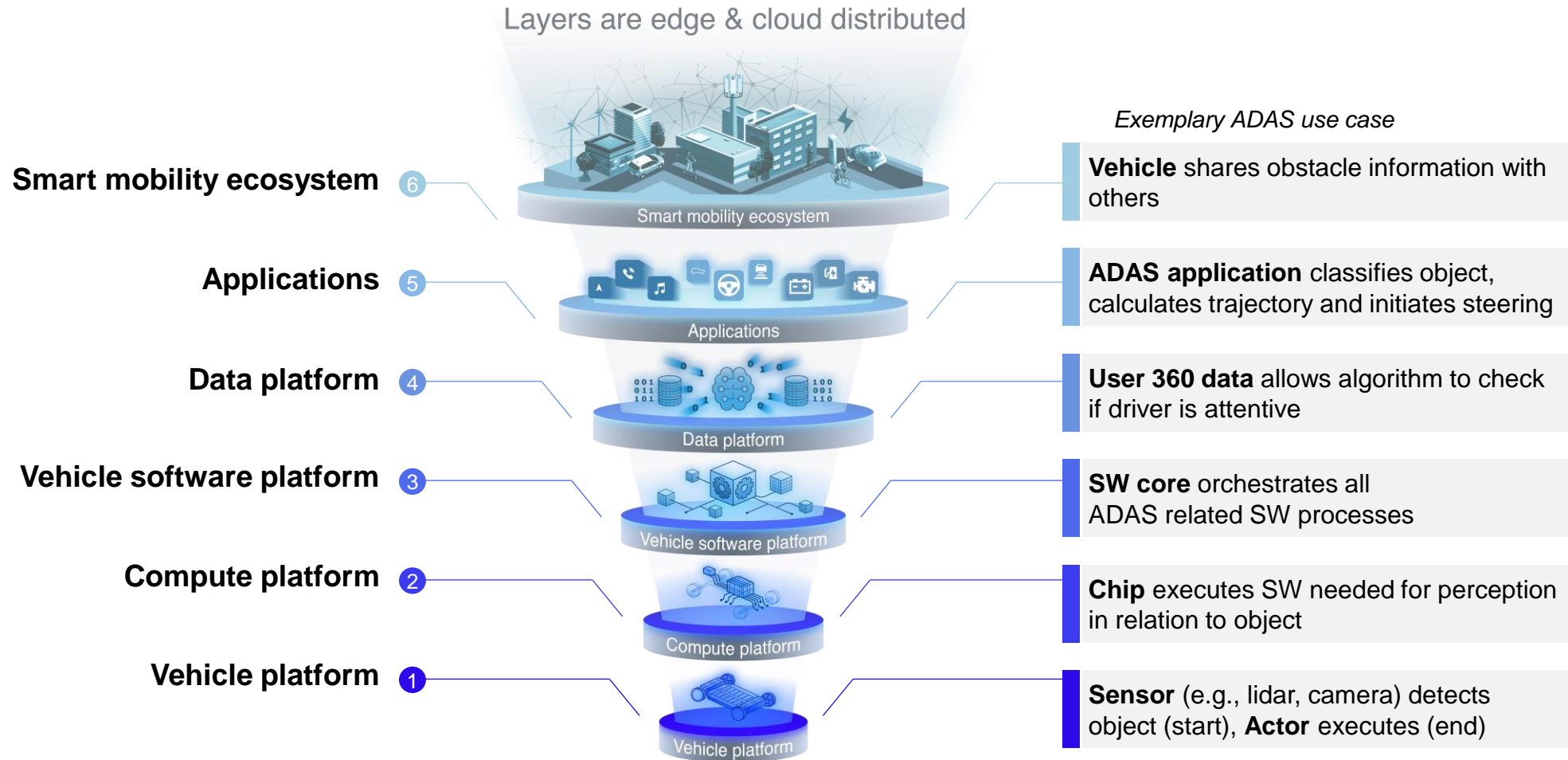


Advancing autonomy is part of a deeper automotive transformation

A

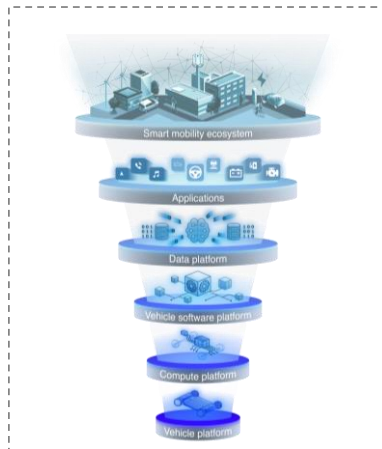


Advancing autonomy is part of a deeper automotive transformation... And an integrated approach is necessary to ensure safety



A

Aligning on the software-defined-vehicle transformation



B

Ensuring responsible and people-centred AV developments



C

Advancing local on-the-ground AV regulations and deployments



Ensuring responsible and people-centered AV developments requires a clear vision



(Co-)shaping a responsible automated and autonomous future

Multimodal mobility

Quality of life

Workforce

Social equity and inclusivity

Safety, security and privacy

Emissions and energy use

Ensuring responsible and people-centred AV developments starts today

B



Increase transparency on the technology strengths and limitations



Shed light on implications for industry, society and economies



Identify advanced use cases and best practices



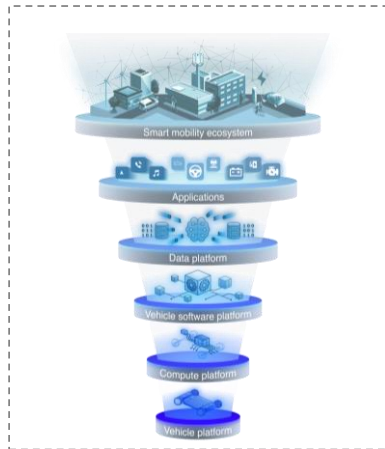
Develop a roadmap to autonomy, including requirements in mixed environments



Go beyond autonomous vehicles: learn from other autonomous systems such as autonomous air mobility

A

Aligning on the software-defined-vehicle transformation



B

Ensuring responsible and people-centred AV developments

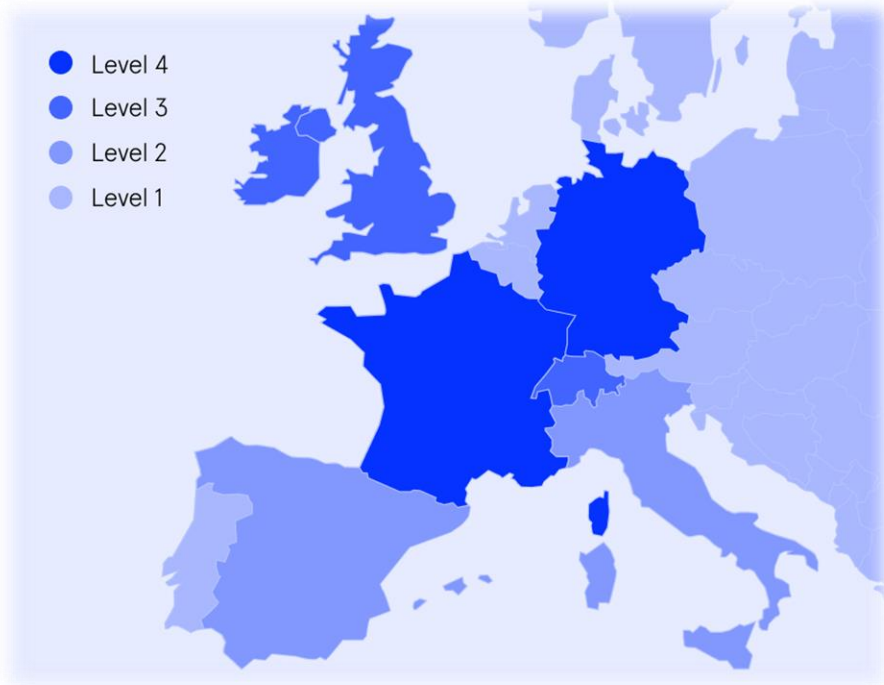


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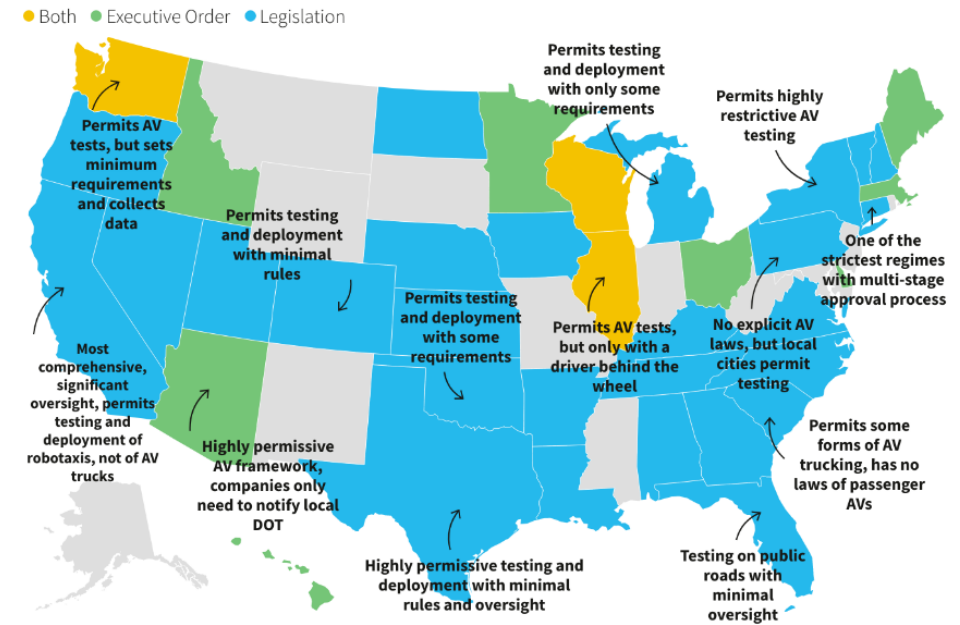
Advancing local on-the-ground AV regulations and deployments



Fragmented, yet dynamic, regulatory landscape – public-private discussions crucial as regulations continue being shaped



Source: MOIA, 2023



Note: Regulatory state as of June 16, 2022; at least a dozen AV bills are pending across the country

Source: National Conference of State Legislators, Dentons, Reuters research

Autonomous driving regulations in U.S. states; as of June 16, 2022 – (C) Reuters Research

Source: Reuters, 2022

Some examples of projects with our affiliate network – in a variety of geographies



Inform AV pilot regulations

C4IR Israel

Detailed guide for developing a regulatory framework to govern the testing and commercial operation of autonomous vehicles.



Draft an AV regulatory sandbox

C4IR Saudi Arabia

Project aims to help shape the trajectory of technological change, with an emphasis on ensuring safety, and increasing awareness and transparency.



Test AVs in enclosed spaces

C4IR India

Project aims to improve safety and efficiency. Focused on enclosed spaces such as those in airports, ports, industrial hubs or mining sites.

As deployments increase in scope and relevance, we need to put all the pieces of the puzzle together


CHINADAILY 中国日报网 中文
[China Daily / 2023-07 / 10 / Page001](#)

Driverless taxis to start paid service in capital

By Luo Wangshu | China Daily | Updated: 2023-07-10 00:00

A larger fleet of driverless taxis will soon be available for hire in the capital city as the Office of the Beijing High-Level Autonomous Driving Demonstration Zone has decided to launch the commercial operation of autonomous vehicles and expand their serviceable area.

On Friday, authorities in Beijing made a policy decision to allow eligible companies to operate driverless taxis without safety supervisors on board and charge passengers for the rides, marking a definite step in commercialization of intelligent transportation.

Self-driving taxis were rolled out on a trial basis in the capital in March following a series of road tests, which were conducted with safety supervisors on board.


The Washington Post Sign in

California just opened the floodgates for self-driving cars

After a state regulatory board ruling, San Francisco will have 24/7 robotaxis on its streets. A Washington Post analysis shows how it's a pivotal moment for the industry.

By [Trisha Thadani](#) and [Jeremy B. Merrill](#)

Updated August 10, 2023 at 10:06 p.m. EDT | Published August 10, 2023 at 9:15 p.m. EDT

SAN FRANCISCO — California regulators voted Thursday to allow self-driving car companies Waymo and Cruise to offer 24/7 paid taxi service in San Francisco, a major win for the industry that could pave the way for more widespread adoption of the technology.

Three key aspects where multi-stakeholder collaboration is needed to achieve the positive transformative impact of autonomous driving technology

A

Aligning on the software-defined vehicle transformation



- ✓ Advance autonomy as part of a deeper (holistic) automotive transformation: **the software-defined vehicle (SDV)**.
- ✓ Define a common “**lingua franca**” for the SDV.
- ✓ Provide a **target picture** on the way forward.

B

Ensuring responsible and people-centred AV developments



- ✓ Increase **transparency**, and shed light on **implications** for industry, society and economies.
- ✓ Identify **advanced use cases and best practices**.
- ✓ Develop a **roadmap**, including mixed environments.

C

Advancing local on-the-ground AV regulations and deployments



- ✓ **Account for geographical differences** - Different regions, different strengths and needs for autonomous applications.
- ✓ **Learn by doing** in a multi-stakeholder environment.
- ✓ **Amplify impact** sharing of best practices and network effects.

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The logo for the World Economic Forum, featuring a blue arc that partially encircles the text.