WE DEFINE
FUTURE IMPACT

TECHNOLOGY
SOFTWARE
CONSULTING

Autonomous Driving
Market Intelligence
MaaS / TaaS / POV

Source: MOIA

BUSINESS
AS UNUSUAL

P3 AD Market Insights

Edition #5/2025

November 2025

We analyze global autonomous driving ecosystems in Mobility-as-a-Service, Privately Owned Vehicles and Goods Transport.

Created by:

Ricco Kämpfer
P3 automotive GmbH
Schlosserstraße 8
38440 Wolfsburg
Germany

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Contact

Ricco Kämpfer
Principal | Autonomous Driving Market & Strategy

T: +49 151 441 387 95
@: ricco.kaempfer@p3-group.com

Personal LinkedIn

Personal WeChat

P3 autonomous mobility

Address

P3 automotive GmbH

Schlosserstraße 8
38440 Wolfsburg

Germany

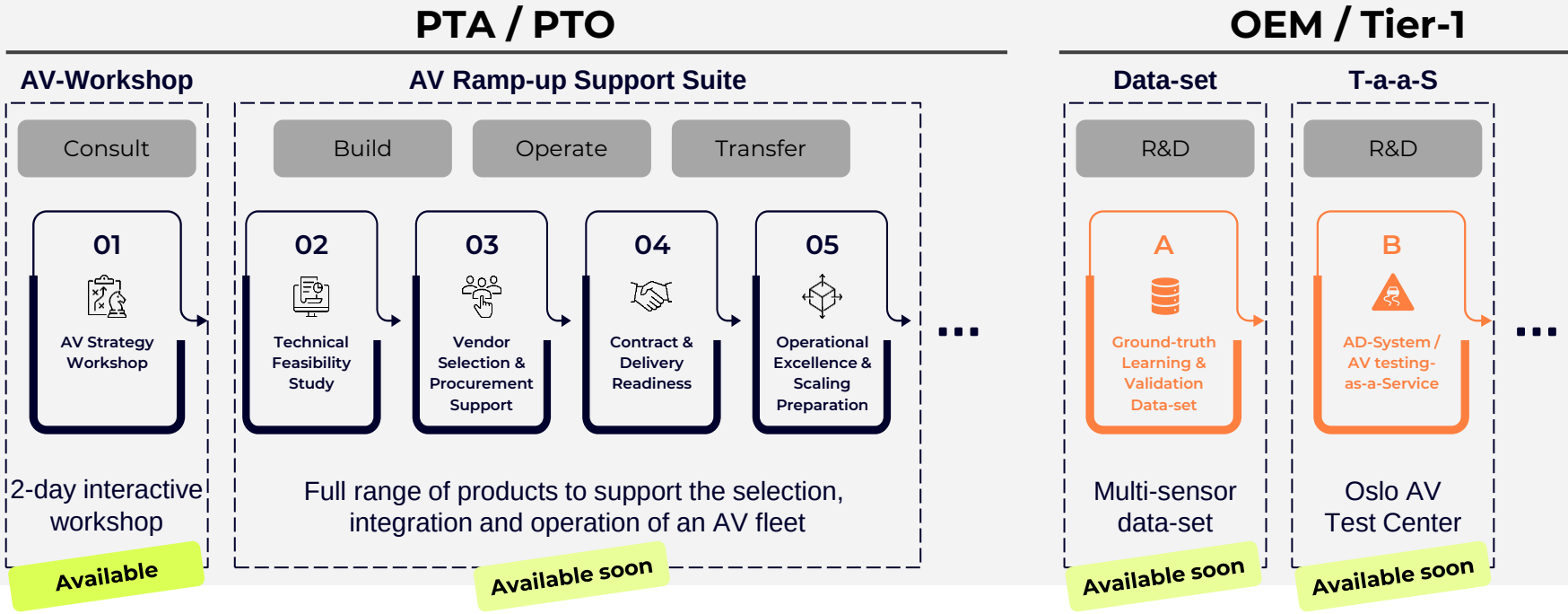
What’s new?

Operational excellence meets **leading strategic & technology advisory.**

Operational excellence meets leading strategic & technology advisory — shaping the future of autonomous mobility.

By combining **Holo's proven operational excellence as a leading AV implementer and integrator** with direct safety and product-shaping experience and **P3's deep strategy and global technology insights and advisory**, we provide cities, PTAs and operators with an E2E autonomous mobility partner.

Our joint offering harnesses the complementary capabilities of Holo and P3 to maximize value for our customers.



See it. Understand it. Map it to your own context.

holo P3

Pricing upon request

AV Strategy Workshop

Objective:

Enable leadership team to make confident, **well-informed decisions.** Get initial **individual AV Playbook.**

Format:

2 to 3-day, interactive onsite workshop (up to 6 participants) led by P3's AV technology and Holo's operational experts.

Key analysis areas

- Ride in an AV on public roads
- See live control & supervision setup
- Understand systems, SOPs & safety logic
- Learn permit & compliance pathways
- Gain holistic AV market insights
- Explore the full ecosystem and partners
- Dive into technologies and certification
- Uncover viable use cases

Key deliverables

- Clarity on in-house vs. partner roles
- First-hand operational insights
- 360° market and technology insights
- Executive summary highlighting key insights
- AV readiness checklist for deployment
- Business case (feasibility) indication
- Shared strategic direction and AV playbook
- Defined use cases with partner indication

All content tailored to your goals and mobility context

How we tailor the content to your needs

Step 1 – Alignment Call

- Clarify strategic goals & context
- Understand autonomous mobility environment & stakeholders
- Define expectations for workshop outcomes

Step 2 – Priority Topics

- Identify most relevant focus areas for your organisation (e.g., market entry, operational setup, permit & compliance, technology integration)
- Define depth & angle of discussion for each focus area

→ We prepare tailored workshop inputs to ensure maximum relevance & efficiency

Step 3 – Tailored Workshop

- We provide tangible, decision-ready outputs
- We equip you with clear next steps and an AV Playbook

You walk away with:

- Clear next steps for your AV journey
- A tailored AV Playbook for confident decision-making

A workshop fully adapted to your context – providing a clear AV Playbook, actionable insights and next steps

P3 & P3 autonomous mobility.

Short Introduction

Portfolio as unusual.

TECHNOLOGY

- Autonomous Driving
- Battery technology
- Electric Powertrain
- Energy Solutions
- Industrialization
- Charging infrastructure
- Operations Excellence
- Task Force Management
- Testing & Engineering

SOFTWARE

- Android Automotive
- Business Intelligence
- Cloud migration
- Cyber Security
- Data analytics
- Enterprise Solutions
- Financial Systems
- IT architecture
- Certification

CONSULTING

- Agile transformation
- Digital Product Lifecycle
- Artificial intelligence
- Life Sciences
- Marketing & Design
- M&A strategy
- Sustainability
- Project management
- Product Process Compliance
- Public Sector
- Organizational strategy
- Systems Engineering
- Transformation

P3 advises leading international OEMs, suppliers, technology and insurance companies in the field of autonomous driving and autonomous mobility.

P3 AUTONOMOUS MOBILITY /AS UNUSUAL

>9 years of international experience in autonomous driving consulting

>100 customers worldwide and more than 300 successful AD projects

>50 employees around the globe in the autonomous driving space

75% of the employees are engineers and software developers

We approach autonomous driving from many different perspectives. We understand the markets, know the players, but also have the technological know-how and the necessary software expertise.

Market & Strategy

- Go-to-market strategy
- Global market and competitive analysis for AD MaaS, TaaS & ownership
- MaaS & TaaS business model development incl. business case & TCO
- Competence analysis, assessment of “best-fit” partners
- (SDS) partnerships models and joint venture agreements
- AD shuttle / robotaxi and ADAS in-field testing & benchmarking

Technology & Regulation

- End-to-end architecture assessment and customization
- Cybersecurity, Functional Safety & SOTIF
- Regulation Implementation (AD SMS, SUMS & CSMS for SAE L3 & L4)
- Test Strategies & Management & Tool Confidence
- Sensor set evaluation and platform fortification strategies
- Support for Homologation (Type approval ODD and operation area)

Operations & Scaling

- AD Program Management incl. strategic setup, operations strategy, organizational build-up, project conduction & benchmarking
- Scaled Pilots: setup and management of runup schemes for AD pilot projects
- AD Product Lifecycle Management AD Logistics Concepts - Conceptualization of market-ready TaaS products

EXTRACT

Overview | Market & Strategy Portfolio

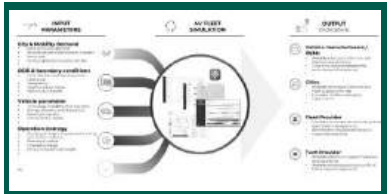

Robotaxi Benchmark

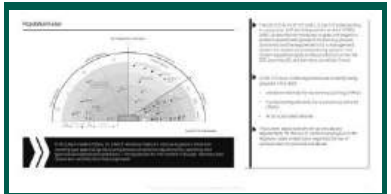

AD Market Models L2-4


AD Partner Scouting & Analysis

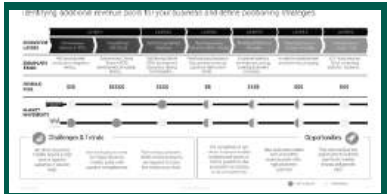

Go-to-Market Strategy


ADAS Benchmark EU, CN, US


AV Fleet Simulation (MaaS & Trucking)


AD Regulation Radar EU/CN/US


TCO for MaaS, TaaS, and Trucking


Value Chain and Positioning Strategy

P3 AD market, strategy, and technology intelligence portfolio

Working closely with our Technology & Regulation and Operations & Scaling teams, we provide holistic market, competitor, and technology intelligence and strategy development for your specific needs.

Our unique (autonomous) mobility market insights at a glance – for you, for free

P3 AD Market Insights

The most comprehensive AV market and competitor analysis at no cost. Explore global AD markets for **MaaS, personally owned vehicles, and goods transport**. The ecosystem analysis employs a layered approach: 5-Layer for MaaS and goods transport, and 4-Layer for POV.

In this comprehensive report you'll find:

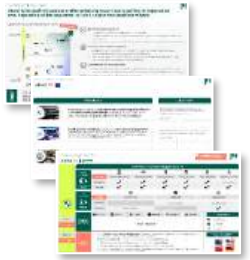
- ✓ In-depth analysis of **45 MaaS, 50 POV, and 39 autonomous goods transport companies** in North America, China, and Europe.
- ✓ A comprehensive **overview of use cases** for MaaS, POV, and goods transport.
- ✓ The latest **company updates, L4 roadmaps**, and a high-level profile for each company.

P3 ADAS Market Insights

Fascinating insights into L2/2+ and L3 ADAS function packages of **global OEMs and their ADAS capabilities across North America, Europe, and China**, with focus on driving functions, revealing the strategies manufacturers are using to stay competitive in this fast-evolving market.

In this comprehensive report you'll find:

- ✓ Detailed **competitor analysis, including OEM ADAS functions**, **supplier** overviews, **sensor setups** and **market availability**
- ✓ An overview of **the essential components driving ADAS performance**
- ✓ Exclusive **insights into the latest company-specific news** with P3's expert assessment



P3 SDV Market Insights

Landscape, advancements, and key trends in the SDV market, highlighting how **OEMs** & **suppliers** stay **competitive** in this **rapidly changing industry**. By leveraging the P3 SDV stack approach, the report provides a structured view of the **SDV supplier ecosystem** across multiple layers in NAR, EU, and Asia.

In this comprehensive report you'll find:

- ✓ Detailed **competitor analysis**, covering **12 OEMs** and their suppliers, along with a classification of **AI applications** and **market availability**.
- ✓ A detailed **breakdown** of the **fundamental components** driving the **SDV market** forward.
- ✓ Insider perspectives on the **latest company-specific updates**, complemented by P3 **expert evaluations**.

P3 AD Market Insights.

Let's start: P3 AD Market Insights Introduction.

-1 since last report

45

Companies focusing on autonomous **MaaS**

+1 since last report

50

Companies focusing on **privately owned vehicles**

39

Companies focusing on **goods transport and TaaS**

We **analyze** global Autonomous Driving **value creation networks and ecosystems** using **Layer Models** and **provide overviews** of **MaaS, privately owned vehicles & goods transport use cases**

Based on their respective **core business**, we identify **(strategic) partnerships**, **investments** or **acquisitions** of **specific market players** and place them in the layer model. We focus on **North America**, **Asia** (China, Japan and Korea) and **Europe**

All **insights are based on publicly available sources**. Project knowledge or other **undisclosed information is not considered**.
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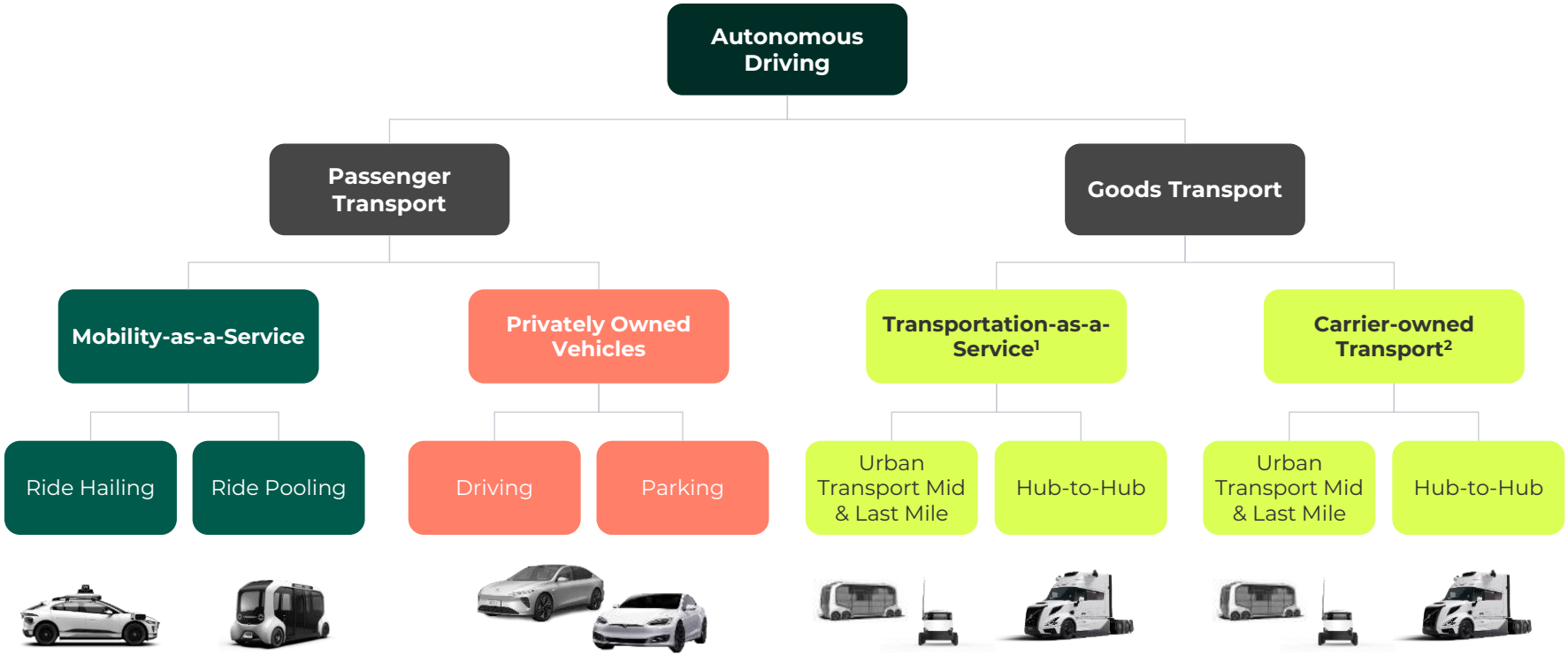
Autonomous Driving Use Cases.



1 Self-driving truck provider owns and operates the truck and offers transport / capacity on demand
2 Customer / carrier owns and operates trucks and pays a per-mile fee to the SDS / truck provider

What you'll find in this report.

Mobility-as-a-Service.

Intro | Use Cases & Layer Description

MaaS | Use Cases

			Gated Area	Highway	Urban	Suburban	Rural
			Airport, factories, yards, harbors, ...	Highways, freeways, ...	City center, designated streets, ...	Federal highway, residential areas, ...	Rural roads, gravel road, ...
Ride Hailing	SM		Robotaxi				
	M		Robotaxi				
Ride Pooling	SM		low speed autonomous shuttle (<25km/h)	-	low speed autonomous shuttle (<25km/h)		
	M		Roboshuttle				
	L		Roboshuttle				
	XL		Robobus				

MaaS | Layer Model Description

Layer 1 Automated Driving System (ADS)		Layer 2 AD Vehicle		Layer 3 Fleet Operations		Layer 4 Mobility Platform	Layer 5 Enablers
HW-Stack Chips / SoC / ECU	**SW-Stack Virtual Driver**	**AD Vehicle**	**ADS & AD Vehicle Operations Functions**	**Maintenance & Repair, Financing, Asset Ownership**	**AD Fleet Control Center**	**Mobility Platform & Passenger App**	**Cloud, V2X, others**

The **Automated Driving System (ADS)** encompasses SW and HW required to achieve Level 4 autonomy.
The HW-Stack involves activities such as hardware development, production, testing, automotive approval, and safety compliance.
The SW-Stack focuses on self-driving software development and includes activities such as testing & simulation, ODD (Operational Design Domain) management, SDS licensing, mapping, sensor data processing, E2E integration, and safety compliance.

AD Vehicles are considered L4 ready vehicle platforms. This layer centers on the development and design and include tasks such as platform & system architecture, regulatory compliance, safety concept, homologation, logistics, and production.

ADS & AD Vehicle Operations Functions describe all functions and interfaces required for AD-MaaS specific tasks performed by the AD Fleet Control Center and Remote Operator such as remote vehicle control, cabin and rider monitoring, operator & emergency call and remote ADS control/assistance.

Fleet Operations covers operational activities for AV fleets. Tasks include maintenance, service and repair, financing, concessions, charging, training, cleaning or parts supply.

Moreover, AD Fleet Control Center tasks include the execution of ADS & AD Vehicle Operations Functions (e.g., cabin and rider monitoring or remote ADS assistance) in a fleet management tool / user interface.
It also includes typical fleet management tasks such as mission management, health monitoring or maintenance & charging scheduling of the AV fleet.

The **Mobility Platform** is the rider frontend. It is point of sale and provider of the primary communication and interaction channel with the user. Tasks include booking, pricing, payment as well as vehicle assignment and dynamic routing (fleet intelligence features). Rider experience (e.g., music, entertainment) may also covered by mobility platforms.

Enablers especially include cloud infrastructure and data centers for processing and storing large amounts of AV data. Furthermore, particularly in China, V2X is a key pillar in pilot zones, enabling faster AV deployment and collaborative decision-making

MaaS | Layer Model Description

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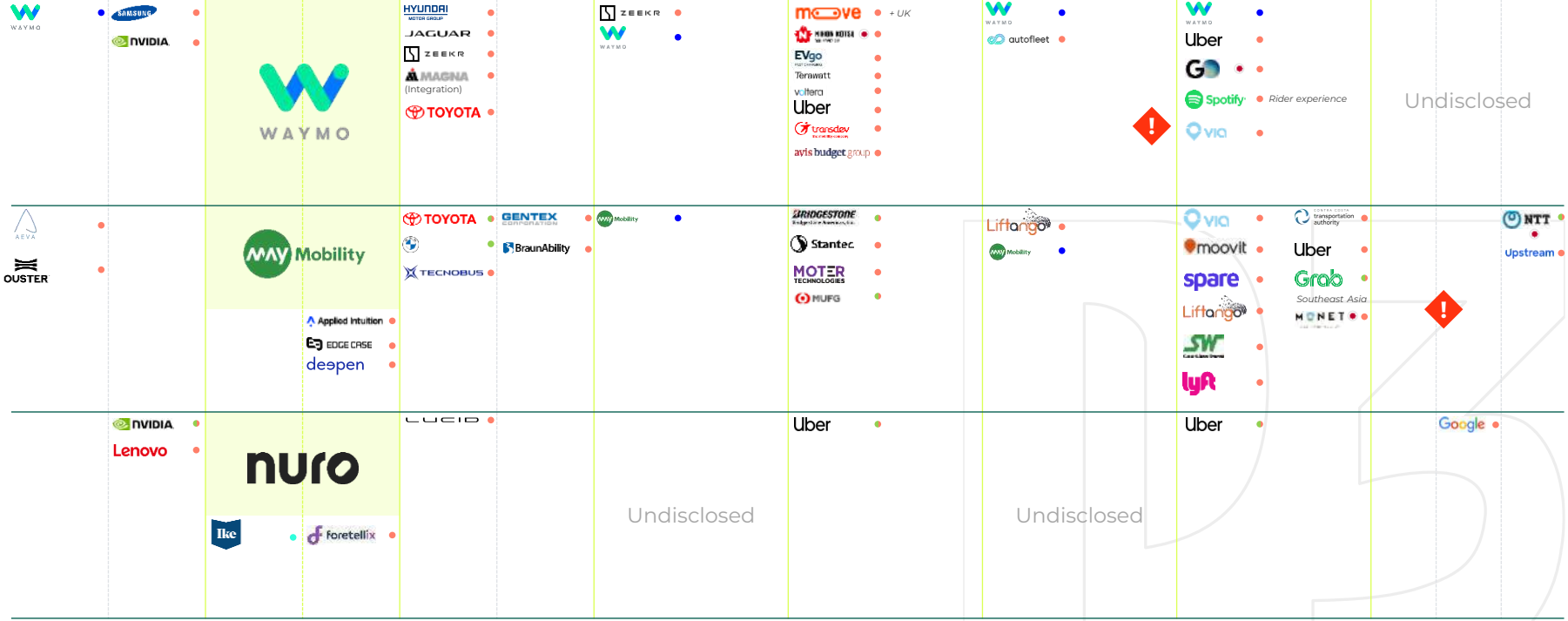
HW-Stack Chips / SoC / ECU	**SW-Stack Virtual Driver**	**AD Vehicle**	**ADS & AD Vehicle Operations Functions**	**Maintenance & Repair, Financing, Asset Ownership**	**AD Fleet Control Center**	**Mobility Platform & Passenger App**	**Cloud, V2X, others**
HW Development	SW Development	Design & development	Remote vehicle control	Hub Setup	Execution of ADS & AD Vehicle Operations Functions in UI	Rider App	V2X
HW Production	Testing & Simulation	Quality assurance	Rider authentication	Financing / Insurance		Booking	3rd party HD maps
Sensor Integration	ODD Management	Redundancy	Cabin & rider monitoring	Concessions	AD Vehicle Real-Time Tracking and Monitoring	Pricing	Cloud Infrastructure
Automotive approval	SDS Licensing	X-by-Wire	Departure control	Charging	Incident Management	Payment	
Sensor testing & approval	SW Testing & Approval	Regulatory compliance	Rider interfaces & assistance	Maintenance, Service, Repair	AD vehicle Maintenance Scheduling	Dynamic Routing & Optimization	
Sensor fusion	Mapping	Homologation	Operator & emergency call	Small Repair	AD Vehicle Charging Scheduling	Demand Prediction	
Calibration and Integration Support	Verification & Validation	After sales / aftermarket	ADS mission control	Washing & Cleaning	Emergency Response Coordination	Pooling Algorithms	
Safety & Compliance	E2E Integration	Safety concept	Telemetry, Monitoring & Diagnostics	Parts supply	AD Vehicle Mission Dispatch	API / Integration	...
...	Sensor Integration and Data Processing	AD requirements	Remote ADS Assistance	In/De-fleeting	Safety Driver Management	Customer Support	
	Safety & Compliance	Logistics	Remote ADS Troubleshooting	Training	Data Analytics and Reporting	3rd Party connection	
	...	Production	Data Management	In-field support	Customer interaction	Data Analytics	
		Battery & charging concept	E2E integration	...	...	...	
		...	...				

Mobility-as-a-Service. NAR.

Partnering & Value Chain, Level 4 Target & Latest News

MaaS NAR


Layer 1
HW-Stack Chips / SoC / ECU
SW-Stack Virtual Driver
Layer 2
AD Vehicle
ADS & AD Vehicle Operations Functions
Layer 3
Maintenance & Repair, Financing, Asset Ownership
AD Fleet Control Center
Layer 4
Mobility Platform & Passenger App
Layer 5
Cloud, V2X, others
Sensors
Chips, SoC, ECU, DCU, ...
Virtual Driver
Simulation, V&V, Dev Tools, ...
AD Vehicle
Components
Cabin Monitoring, Vehicle Control & Remote Assistance Functions
Maintenance & Repair, Financing, Asset Ownership
Fleet Control Center & Remote Assistance UI
Mobility Platform, MaaS Intelligence, Rider Experience
3rd party Maps
Cloud
V2X & others
WAYMO
SAMSUNG
NVIDIA
HYUNDAI MOTOR GROUP
JAGUAR
ZEEKR
MAGNA (Integration)
TOYOTA
ZEEKR
WAYMO
moove
+ UK
EVgo
Terawatt
voltera
Uber
transdev
avis budget group
WAYMO
autofleet
WAYMO
Uber
Spotify
Rider experience
via
Undisclosed
AEVA
OUSTER
MAY Mobility
Applied Intuition
EDGE CASE
deepen
TOYOTA
GENTEX CORPORATION
Mobility
BraunAbility
TECNOBUS
BRIDGESTONE
Stantec
MOTER TECHNOLOGIES
MUFG
Liftango
MAY Mobility
via
moovit
spare
Liftango
SW
lyft
Uber
Grab
Southeast Asia
MONET
NTT
Upstream
NVIDIA
Lenovo
nuro
Ike
foretellix
LUCID
Undisclosed
Uber
Undisclosed
Uber
Google
Core Business
Partnership or supplier deal
Investment
Acquisition
Parent / Subsidiary
Update
Partner outside US

MaaS NAR

Layer 1				Layer 2			Layer 3		Layer 4	Layer 5		
HW-Stack Chips / SoC / ECU		SW-Stack Virtual Driver		AD Vehicle		ADS & AD Vehicle Operations Functions	Maintenance & Repair, Financing, Asset Ownership	AD Fleet Control Center	Mobility Platform & Passenger App	Cloud, V2X, others		
Sensors	Chips, SoC, ECU, DCU, ...	Virtual Driver	Simulation, V&V, Dev Tools, ...	AD Vehicle	Components	Cabin Monitoring, Vehicle Control & Remote Assistance Functions	Maintenance & Repair, Financing, Asset Ownership	Fleet Control Center & Remote Assistance UI	Mobility Platform, MaaS Intelligence, Rider Experience	3rd party Maps	Cloud	V2X & others
	NVIDIA	AVRIDE		HYUNDAI MOTOR GROUP	AVRIDE	Undisclosed	Uber	Undisclosed	Uber	Undisclosed		
APTIV, OUSTER, HESAI	Ambarella, APTIV	Motional, Applied Intuition		HYUNDAI MOTOR GROUP, KIA	APTIV	Motional	PIVET	ottopia	Lyft, via, Uber, Grab			APTIV, EVERSOURCE, DENSO, BlackBerry
HESAI, OUSTER	NVIDIA	Strio.AI, ZOOX		ZOOX	ZOOX	ZOOX	ZOOX	ZOOX	ZOOX, STINGRAY MUSIC (Rider experience)	Undisclosed		

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update · Partner outside US

MaaS NAR

Layer 1				Layer 2			Layer 3		Layer 4	Layer 5		
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OUSTER FLIR	NVIDIA	ADASTEC	ADASTEC	KARSAN VMC		ADASTEC	VY ÜSTRA EUROBUS beep	ottopia Applied Autonomy beep guident	Kolumbus västtrafik ÜSTRA		aws	AECOM beyless
	NVIDIA	Waymo Motional Avride WeRide May Mobility Momenta pony.ai Baidu nuro	NVIDIA Segments.ai Update	Volkswagen Commercial Vehicles LUCID STELLANTIS			avomo	avomo	Uber		NVIDIA	
Covered by ADS & OEM partners		mobileye May Mobility Motional Baidu TENSOR Update	nexar	HOLON	Vehicles of ADS and OEM partners		flexdrive BENTELER Mobility (HOLON) Marubeni (Mobileye)	flexdrive	FREE NOW lyft			

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update · Partner outside US

MaaS NAR

Layer 1				Layer 2		Layer 3		Layer 4	Layer 5		
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OUSTER, LeddarTech	Horizon Robotics	COAST		COAST		COAST	COAST	COAST	Undisclosed			Cityssey
SICK, OUSTER, DENSO	intel	PERRONE ROBOTICS	WIND, aicas	PERRONE ROBOTICS, rampm, LIGHTNING MOTORS, tropos		PERRONE ROBOTICS	SP Sustainability, Gural Finance Group, First Transit	Liftango, guidenk, First Transit	Liftango			verizon
TESLA	SAMSUNG, AMD, NVIDIA	TESLA		TESLA		TESLA	TESLA	TESLA	TESLA			BROADCOM

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

MaaS NAR

At a glance	Latest news	L4 target
 Waymo's virtual driver is the world's **most experienced one.** The fully driverless I-PACE fleet in Phoenix, SF and LA impresses with a **terrific system performance**. In our view and bases on our benchmark rides, Waymo is **currently ahead of competition** in the AV space. Meanwhile, Waymo seems to be able to accelerate scaling by integrating E2E modules.	Safe, Routine, Ready: Autonomous driving in five new cities. (18.11.2025) Update Read	L4 achieved in Phoenix by **2020**.
 May's fleet is already **available to the general public** in many cities. The **SDS is designed for multiple vehicle platforms** and used in the Toyota Sienna Autono-MaaS vehicles, among others. By end of 2024, May launched the first autonomous e-Palette deployment at a Toyota Motor factory in Japan announced a 30-seater bus cooperation by 2025.	May Mobility to expand Its AV technology into Southeast Asia with Grab investment. (23.10.2025) Update Read	L4 achieved in Sun City by late **2023**.
 Nuro **has been a pioneer in last-mile deliveries** with a special purpose vehicle. In September 2024, Nuro announced to **start licensing its L4 technology** to manufacturers of personally owned vehicles and mobility providers, like ride-hail and delivery companies. By 2025, a **major robotaxi deal with Uber and Lucid** was signed.	Uber to launch a premium robotaxi service in Waymo's turf of San Francisco. (29.10.2025) Update Read	Not announced
 Avride is the **rebranded, international division** of the robotaxi and delivery robot company **Yandex Self-Driving Group**. While international assets have been separated from Yandex assets, Avride is testing AVs in diverse ODDs across the globe, focusing on safety. **Uber will be a key partner for MaaS and delivery**.	Avride secures strategic investment and other commitments of up to $375 million, backed by Uber and Nebius. (22.10.2025) Update Read	Not announced

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

MaaS NAR

At a glance	Latest news	L4 target
 JV of Hyundai and Aptiv, while the latter reduced its common equity interest from 50% to about 15% by end of March 2024. In this course, **Hyundai has agreed to invest nearly $1 billion in Motional by 2024**. The demise of Motional has thus been averted for the time being.	Hesai selected as exclusive short-range Lidar supplier for Motional's all-electric IONIQ 5 robotaxi. (04.09.2025) Read	**2026**
 Zoox is testing its purpose-built robotaxi on **public roads in the Bay Area and Las Vegas**. After starting employee rides in late 2024, Zoox began offering early rider access via waitlists in San Francisco's SoMa and along the Las Vegas Strip. Zoox built its robotaxis from scratch, deliberately eliminating the steering wheel to create a **purpose-built AV**.	Zoox to begin offering robotaxi rides to public in San Francisco. (18.11.2025) Update Read	L4 achieved in Las Vegas in **2025**
 Unlike most MaaS providers, ADASTEC is not focusing on robotaxis but developing an **AV stack for transit buses**, which marks a USP in the market. ADASTEC has **deployed buses in several locations** including the US and Europe.	Karsan Autonomous e-JEST, automated by ADASTEC: A new SAE Level-4 automated minibus, ready for U.S. roads. (06.11.2025) Update Read	**2026**
 Uber's self-driving unit was sold to Aurora in 2020. Instead of developing its own autonomous driving technology, Uber now forms **partnerships with a variety of leading robotaxi companies worldwide**, granting them access to a **massive customer base**.	Uber to launch a premium robotaxi service in Waymo's turf of San Francisco. (29.10.2025) Update Read	L4 achieved in Austin with Waymo in **2025**.

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

MaaS NAR

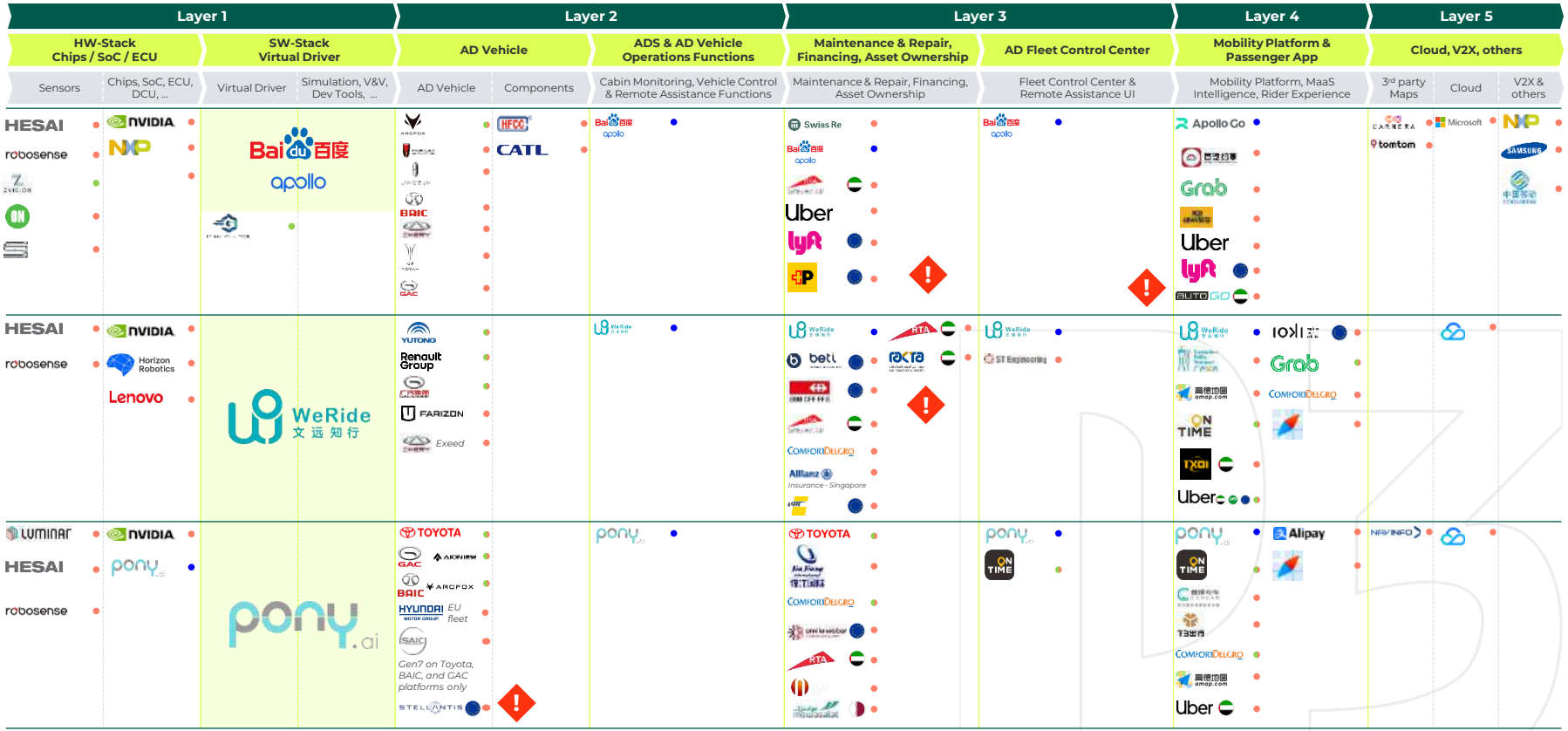
At a glance	Latest news	L4 target
 Lyft's self-driving unit was sold to Toyota's Woven Planet in 2021. Similar to Uber, Lyft **established partnerships with various AV providers** - and in combination with it's Flexdrive subsidiary, it now has a **clearer value proposition for additional and existing partners**.	Lyft and Tensor plan partnership to make world's first consumer-owned autonomous vehicles, powered by NVIDIA, "Lyft-Ready". (09.10.2025) Update Read	Not announced
 The company provides MaaS solutions for cities, theme parks, campuses, airports, rail yards, and other private sites. In the meantime, **COAST seems to be focusing primarily on use cases other than passenger transport** (e.g., harvesting, ports).	COAST Autonomous announces collaboration with the city of Winter Haven, Florida to explore deployment of autonomous transportation solutions. (30.03.2022) Read	Not announced
 Perrone been **developing autonomous vehicle solutions since 2003**. Apart from its low-speed shuttles, Perrone claims to have **outfitted over 30 vehicles types with its retrofit kit**. Despite its experience, we don't believe Perrone will become a leading market player.	Perrone Robotics surpasses one year of autonomous transit operations in Detroit. (12.11.2025) Update Read	Not announced
 Tesla launched its **first robotaxi deployment in June 2025** in Austin. The fleet is limited to 10 vehicles, operating only a **few hours a day in good weather**. A safety operator is onboard, and teleoperations are likely heavily used. A promising start for Tesla, but many questions remain. We're eager to see what's next.	Tesla to begin Cybercab production in April, Musk claims. (06.11.2025) Update Read	**2025** – high reliance on teleops expected

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

Mobility-as-a-Service. Asia.

Partnering & Value Chain, Level 4 Target & P3 Assessment

MaaS ASIA



Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update · Partner outside Asia

MaaS ASIA

Layer 1				Layer 2				Layer 3		Layer 4	Layer 5		
HW-Stack Chips / SoC / ECU		SW-Stack Virtual Driver		AD Vehicle		ADS & AD Vehicle Operations Functions	Maintenance & Repair, Financing, Asset Ownership	AD Fleet Control Center	Mobility Platform & Passenger App	Cloud, V2X, others			
Sensors	Chips, SoC, ECU, DCU, ...	Virtual Driver	Simulation, V&V, Dev Tools, ...	AD Vehicle	Components	Cabin Monitoring, Vehicle Control & Remote Assistance Functions	Maintenance & Repair, Financing, Asset Ownership	Fleet Control Center & Remote Assistance UI	Mobility Platform, MaaS Intelligence, Rider Experience	3rd party Maps	Cloud	V2X & others	
HESAI	Horizon Robotics	Horizon Robotics		哈啰, DONGFENG		哈啰	Undisclosed	Undisclosed	哈啰		Alibaba.com		
OUSTER, HESAI, Valeo, Benewake, robosense	NVIDIA, Valeo	DiDi Autonomous Driving		BAIC, TOYOTA, AION, VOLVO, XPENG	GOODYEAR	DiDi, DEEPMIRROR	DiDi, Update	DiDi	DiDi		NVIDIA	INCHTEK	
OUSTER, ZVISION, robosense	NVIDIA	DEEPROUTE.Ai		GWM, SAIC	Update	Undisclosed	Undisclosed	CAOCAO	CAOCAO		Microsoft, Alibaba.com		

Focus on L2+ and L3

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update · Partner outside Asia

MaaS ASIA

Layer 1		Layer 2		Layer 3		Layer 4	Layer 5		
HW-Stack Chips / SoC / ECU		SW-Stack Virtual Driver		AD Vehicle	ADS & AD Vehicle Operations Functions	Maintenance & Repair, Financing, Asset Ownership	AD Fleet Control Center	Mobility Platform & Passenger App	Cloud, V2X, others	
Sensors	Chips, SoC, ECU, DCU, ...	Virtual Driver	Simulation, V&V, Dev Tools, ...	AD Vehicle	Components	Cabin Monitoring, Vehicle Control & Remote Assistance Functions	Maintenance & Repair, Financing, Asset Ownership	Fleet Control Center & Remote Assistance UI	Mobility Platform, MaaS Intelligence, Rider Experience	3rd party Maps	Cloud	V2X & others
	Horizon Robotics	WeRide, QCRAFT					Undisclosed	Undisclosed				
Not relevant		WeRide, pony.ai		CHJ, WeRide, pony.ai ONTIME integrates 3rd party fleets		Undisclosed	Undisclosed	ONTIME	ONTIME	Undisclosed		
HESAI	DENSO, OTSL, TIER IV	TIER IV		pix moving, TOYOTA, TORAY	TIER IV, Astemo	TIER IV	AMANE, newmo	TIER IV	NIHON KOTSU, newmo		alc, elm	Undisclosed

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update ● Partner outside Asia

MaaS ASIA

Layer 1				Layer 2		Layer 3		Layer 4	Layer 5		
HW-Stack Chips / SoC / ECU		SW-Stack Virtual Driver		AD Vehicle		ADS & AD Vehicle Operations Functions	Maintenance & Repair, Financing, Asset Ownership	AD Fleet Control Center	Mobility Platform & Passenger App	Cloud, V2X, others	
Sensors	Chips, SoC, ECU, DCU, ...	Virtual Driver	Simulation, V&V, Dev Tools, ...	AD Vehicle	Components	Cabin Monitoring, Vehicle Control & Remote Assistance Functions	Maintenance & Repair, Financing, Asset Ownership	Fleet Control Center & Remote Assistance UI	Mobility Platform, MaaS Intelligence, Rider Experience	3rd party Maps	Cloud	V2X & others
LUMINAR HESAI ZVISION ZF robosense	TTTech	pony.ai autox momenta [illegible]		SAIC		cerence	Undisclosed	Undisclosed		DEEPMAP mobileye		
robosense	NVIDIA	pony.ai Baidu 百度		HONGQI FAW GROUP		Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed		
TIER IV robosense !		TIER IV	TIER IV	pix moving elaphe TIER IV SODA		Undisclosed		Undisclosed		Undisclosed		

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

MaaS ASIA

Layer 1				Layer 2		Layer 3		Layer 4	Layer 5		
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Sensors	Chips, SoC, ECU, DCU, ...	Virtual Driver	Simulation, V&V, Dev Tools, ...	AD Vehicle	Cabin Monitoring, Vehicle Control & Remote Assistance Functions	Maintenance & Repair, Financing, Asset Ownership	Fleet Control Center & Remote Assistance UI	Mobility Platform, MaaS Intelligence, Rider Experience	3rd party Maps	Cloud	V2X & others
LUMINAR		NISSAN		NISSAN	Undisclosed	Undisclosed	Undisclosed	Easy Ride	Undisclosed		
Covered by WeRide's suppliers		WeRide		YUTONG	WeRide	WiTricity	WeRide	WeRide	Undisclosed		
SAMSUNG 42dot		42dot		HYUNDAI 42dot	Undisclosed	Undisclosed	42dot GEOTAB HYUNDAI		Undisclosed		

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

MaaS ASIA

Layer 1				Layer 2		Layer 3		Layer 4	Layer 5		
HW-Stack Chips / SoC / ECU		SW-Stack Virtual Driver		AD Vehicle	ADS & AD Vehicle Operations Functions	Maintenance & Repair, Financing, Asset Ownership	AD Fleet Control Center	Mobility Platform & Passenger App	Cloud, V2X, others		
Sensors	Chips, SoC, ECU, DCU, ...	Virtual Driver	Simulation, V&V, Dev Tools, ...	AD Vehicle	Components	Cabin Monitoring, Vehicle Control & Remote Assistance Functions	Maintenance & Repair, Financing, Asset Ownership	Fleet Control Center & Remote Assistance UI	Mobility Platform, MaaS Intelligence, Rider Experience	3rd party Maps	Cloud	V2X & others
LUMINAR AISIN DENSO ZF robosense	NVIDIA QUOO	Aurora pony.ai May Mobility Level 5 momenta WAYMO	Applied Intuition parallel domain Apex.AI	TOYOTA	Undisclosed	Undisclosed	RIDECELL	Grab Uber DiDi	CARNERA tomtom NTT DATA MAXAR here	aws	PERCEPTIVE AUTOMATA
APTIV OUSTER ZENDAR Opsys	APTIV NVIDIA IONQ	WAYMO Motional Aurora pony.ai 42dot Baidu AVRIDE		HYUNDAI MOTOR GROUP	Motional	Motional	Motional	Motional Grab AIRS i.M	here		
BOSCH robosense HESAI	NVIDIA Qualcomm Ambarella	momenta			Undisclosed	Uber		Uber		Tencent aws	

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update · Partner outside Asia

MaaS ASIA

At a glance	Latest news	L4 target
 **Baidu Apollo Go** reported fully driverless weekly rides as of end of October 2025 have surpassed **250,000 orders**. Baidu is an absolute heavyweight in the Chinese AD market and among the strongest robotaxi players in China. Moreover, Baidu has expanded its footprint to Middle East and Europe.	Baidu's Apollo Go, AutoGo expand fully driverless robotaxi fleet in Abu Dhabi. (13.11.2025) Update Read	L4 reached in Guangzhou by **2021**
 WeRide was the **first company in CN** to operate a fleet with **>100 vehicles** for AD testing and was permitted to fest **fully driverless** both in **China** and the **USA**. Considering >20mn autonomous kilometers, WeRide is among the strongest AD players. By beginning of 2025, WeRide announced the 3rd deployment in Europe, showing their ambitions in this market.	WeRide, Grab secure approval to begin first autonomous mobility trials in Singapore. (14.11.2025) Update Read	L4 reached in Guangzhou by **2022**
 Pony.ai is an **industry leader in the development and commercialization of robotaxi services** in China and is currently preparing to enter the European market. Pony.ai has formed partnerships with leading OEMs, including Toyota, and GAC Group. Pony.ai is among the strongest AD players.	Pony.ai goes public on HKEX. (06.11.2025) Update Read	L4 reached in Beijing and Guangzhou by **2023**
 In 2025, Hello, a Chinese bike-sharing and ride-hailing firm, **launched its first mass-produced Robotaxi**, the HR1, **aiming for large-scale production by 2026** in over 10 cities. It partnered with Venucia (Dongfeng), Alibaba Cloud, Horizon Robotics, and Hesai Technology to drive R&D, manufacturing, and commercialization.	Hello unveils first purpose-built Robotaxi 'HR1'. (12.09.2025) Read	**2026**

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

MaaS ASIA

At a glance	Latest news	L4 target
 Following an 18-month suspension by the Chinese authorities, Didi was permitted to sign up new users by 2023. Its **active user base was >500m** in 2023. This means great market power - however, it has become **quiet around DiDi's AV division**.	DiDi Autonomous Driving partners with Abu Dhabi's ADIO to advance smart mobility in the Middle East. (13.11.2025) Update Read	**2025**
 DeepRoute pursues a **mapless approach**. In the meantime, DeepRoute has covered **10 million autonomous kilometers** on public roads by 09/23 and holds permission to carry passengers in China. The current focus seems to be rather on L2+ ADAS than robotaxis.	DeepRoute.ai to begin robotaxi service by year-end. (03.11.2025) Update Read	**2025**
 Horizon Robotics is particularly strong in the POV segment, with many OEM and Tier 1 partnerships regarding their Journey chips as well as smart driving solutions.. Horizon only has a **small footprint in the robotaxi / MaaS segment**, while NVIDIA is the dominant market player.	Horizon Robotics partners with Hello for Robotaxi development. (12.09.2025) Read	Not announced
 ONTIME (Ruqi Mobility) was founded by GAC Group and Tencent. Its business scope in terms of robotaxis is an **operation platform including remote supervision, remote management, remote control and remote evaluation**. ONTIME integrates fleets from partners such as GAC and Pony.ai and had a fleet of >280 vehicles by December 2023.	GAC-backed mobility service platform ONTIME launches 'Robotaxi+' strategy. (24.07.2025) Read	Not announced

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MaaS ASIA

At a glance	Latest news	L4 target
 TIER IV is a Japan-based company **specializing in Autoware-based AD solutions**. The company aims to make autonomous mobility technology scalable and accessible, collaborating globally to **advance AVs for different industries**. TIER IV participates in projects such as METI aimed at deploying robotaxis for transportation and autonomous trucks for logistics.	TIER IV partners with Elm to collaborate on autonomous driving solutions in Saudi Arabia. (26.09.2025) Update Read	Not announced
 By August 2022, SAIC accumulated **400,000km of automated driving testing** in China. SAIC has **partnered will well-known SDS providers**, such as Momenta and Pony.ai, to develop self-driving vehicles.	SAIC Motor set to launch autonomous driving services in Shanghai by August. (25.07.2024) Read	**2025**
 FAW's focus is primarily on privately owned vehicles. However, **its EV brand Hongqi** and its **3rd-generation robotaxi** rides on the same platform as its mass-produced vehicle to achieve economies of scale. FAW **co-developed the Hongqi robotaxi with Baidu** and additionally **invested in tech company Pony.ai.**	Hongqi's 3rd-gen L4 Robotaxi allowed for unmanned road tests in Beijing. (10.07.2024) Read	Not announced
 PIX Moving shares the vision of rebuilding the city with a special form of vehicles called **Moving Spaces**. These **multi-functional pods** can serve as moving working spaces or vending machines, among others. Great concept for technology-driven Asian markets and beyond.	RoboSense, PIX Moving form strategic partnership to accelerate global scale deployment of RoboBus, RoboShop. (31.10.2025) Update Read	Not announced

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

MaaS ASIA

At a glance	Latest news	L4 target
 Nissan plans to offer **autonomous mobility services starting in Japan by 2027**, working closely with third parties such as local authorities and PTAs and relying on its **inhouse-developed, autonomous-drive system**. Initial trials started in 2024 with the goal so have 20 supervised demonstration vehicles on the roads between 2025 and 2026.	Nissan demos autonomous driving on streets of Yokohama. (14.06.2024) Read	**2027**
 Yutong is China's top bus manufacturer and the world's largest one. For the AD MaaS Case, Yutong provides its **purpose-built electric robobus**, which is already operating driverless on public roads in cooperation with SDS provider WeRide. Yutong **will thus remain true to its core business.**	WiTricity and YuTong Bus revolutionize public Transportation with Wireless Charging for Autonomous E-Buses. (10.02.2023) Read	L4 reached by **2022** jointly with WeRide.
 Acquired by Hyundai Motor Group in 2022, 42dot is the **groups' global software center**. 42dot and Hyundai showcased SDV technologies under development to lead to a '**Software-defined Everything' (SDx) ecosystem beyond mobility** at CES 2024.	Geotab, Kia, and 42dot join forces to drive the future of fleet management. (12.09.2024) Read	Not announced
 In the AD MaaS space, Toyota is **focusing primarily on partnerships, investments and acquisitions**. The extensive portfolio includes, for example, Lyft Level 5, Momenta, Pony.ai or May Mobility. Toyota and Pony.ai are developing a robotaxi fleet of about 1,000 vehicles. A partnership with Waymo is set to explore future vehicle platforms for both ride hailing and POVs.	Waymo and Toyota outline strategic partnership to advance autonomous driving deployment. (29.04.2025) Read	Not announced

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

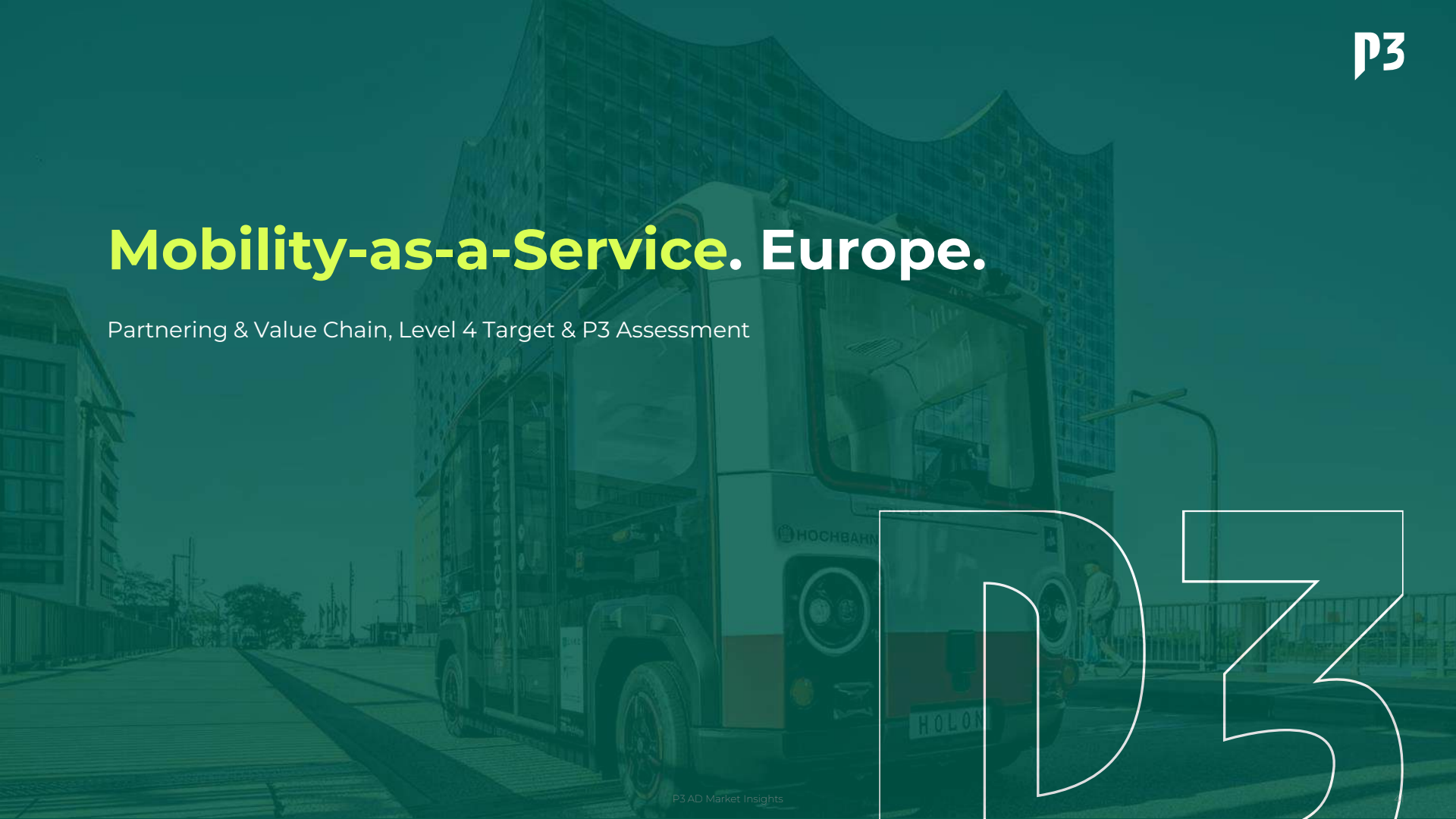
MaaS ASIA

At a glance	Latest news	L4 target
 Hyundai and Aptiv jointly established **Motional** to develop robotaxis. Moreover, the **acquisition of 42dot** is **intended to strengthen capabilities**. We are curious to what extent Hyundai, apart from Motional, will therefore position itself in the AD business in the future.	Hyundai Motor Group launches 'Pleos' software brand, unveiling new SDV technologies and collaborations. (27.03.2025) Read	**2026** (Motional)
 Momenta's shifted focus is on advanced L2+ solutions for OEMs in all key markets. However, **in 2025, major collaborations with Uber and SAIC Mobility were announced to deploy robotaxi fleets**. The partnership with Uber aims to launch international robotaxi services, starting in Europe by 2026.	Uber, Momenta to co-launch Robotaxi service in Munich in 2026. (08.09.2025) Read	**2025**

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

Mobility-as-a-Service. Europe.

Partnering & Value Chain, Level 4 Target & P3 Assessment



MaaS EUROPE

	Layer 1				Layer 2			Layer 3		Layer 4	Layer 5		
	HW-Stack Chips / SoC / ECU		SW-Stack Virtual Driver		AD Vehicle		ADS & AD Vehicle Operations Functions	Maintenance & Repair, Financing, Asset Ownership	AD Fleet Control Center	Mobility Platform & Passenger App	Cloud, V2X, others		
	Sensors	Chips, SoC, ECU, DCU, ...	Virtual Driver	Simulation, V&V, Dev Tools, ...	AD Vehicle	Components	Cabin Monitoring, Vehicle Control & Remote Assistance Functions	Maintenance & Repair, Financing, Asset Ownership	Fleet Control Center & Remote Assistance UI	Mobility Platform, MaaS Intelligence, Rider Experience	3rd party Maps	Cloud	V2X & others
	mobileye; INNOVIZ	mobileye	mobileye	mobileye	Commercial Vehicles		ADMT	MOIA; Uber; BVG; Update	MOIA; EMOTION3D (MOIA partnership)	MOIA; Uber	Undisclosed		
	mobileye; INNOVIZ	mobileye	mobileye	mobileye	HOLON; pininfarina; EDAG	cognizant; Continental Engineering Services; Q'STRAINT; BORGWARNER	valtech_mobility; Update	beep; HOCHBAHN; BENTELER; SAPTCO; Update	beep; HOCHBAHN	beep; hvv switch; MOIA; lyft; BLACKLANE; Update		valtech_mobility	
Moved from US chapter Primary focus on EU	INNOVIZ; mobileye	mobileye	mobileye		NIO; HOLON; Commercial Vehicles; MAN; verne		ADMT; HOLON	DB; holo; beep; SIXT; Marubeni	MOIA; holo; moovit; beep	MOIA; moovit; Ruter#; ioki; lyft	Undisclosed		

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update · Partner outside Europe

MaaS EUROPE

Layer 1				Layer 2		Layer 3		Layer 4	Layer 5		
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mobileye, INNOVIZ	mobileye	mobileye	mobileye	RIMAC, KIA, verne		verne	verne	verne	verne		Microsoft	
mobileye, INNOVIZ	mobileye	mobileye	mobileye	SCHAEFFLER, VDL		Shuttle project withdrawn.	Undisclosed	Undisclosed	Undisclosed			
Undisclosed		motor.ai		OMNICAR, Mercedes-Benz	motor.ai	Undisclosed	Undisclosed	Undisclosed	motor.ai	Undisclosed		

Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update | Partner outside Europe

MaaS EUROPE

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Undisclosed		WeRide, Waymo		Renault Group		Undisclosed	Renault Group	Undisclosed	Undisclosed	Undisclosed		
Continental, Ouster, Cepton	NVIDIA, Continental, Kalray, MicroSys	easyMile	Ansys, TRUSTINSOFT	Stellantis, Renault Group, Iveco		easyMile	Executed by several public transport operators.	ottopia, DriveU.auto, Applied Autonomy	easyMile, Ioki, Via	Undisclosed		
Ouster, Valeo, Hesai	NVIDIA	navya		navya, bluebus, tron-e	R3E	navya	Keolis, holo, Executed by several public transport operators.	Keolis, holo, Padam	Keolis, Padam			

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update · Partner outside Europe

MaaS EUROPE

Layer 1				Layer 2			Layer 3		Layer 4	Layer 5		
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mobileye	mobileye	mobileye	mobileye	MAN		Undisclosed	MVG	MVG	MVV	Undisclosed		
ADASKY	NVIDIA	IMAGRY MAPLESS AUTONOMOUS DRIVING		Otokar		Undisclosed		Undisclosed	CARIAD	Undisclosed		
OUSTER		auvetech		auvetech		auvetech	Undisclosed	APPLIED AUTONOMY, gudenk	robo			

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update Partner outside Europe

MaaS EUROPE

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NAVTECH RADAR HESAI ZF	NVIDIA ZF	oxa Google Cloud NVIDIA		Ford Applied EV NEVS EVERSEN	STREETDRONE	Undisclosed	beep Ibatt bp BAYANAT	beep STREETDRONE	beep ocado		Tencent Wiil Google Cloud	
	NVIDIA	WAYVE		Ford		Undisclosed	Admiral Group PLC Insurance of test fleet	Undisclosed	Uber S.RIDE		Microsoft	
	FOXCONN NVIDIA	pony.ai	NVIDIA	STELLANTIS		Undisclosed	Uber	Undisclosed	Uber		Undisclosed	

NEW

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update ● Partner outside Europe

MaaS EUROPE

At a glance	Latest news	L4 target
 Of all the European OEMs in the AD MaaS space, the **partnership of VWCV, ADMT, and MOIA** is the most ambitious and advanced one. The **ID. Buzz AD prototype vehicles with integrated Mobileye Drive ADS** are **hitting the roads in Germany and the US.** The series vehicle was unveiled in 2025..	Here We Go! Autonomous Shuttles for Berlin. (17.10.2025) Update Read	**2027**
 Benteler established **HOLON as its AD business unit**. Powered by Mobileye, the company has already established **various global partnerships** for its HOLON urban deployments, including USA, the Middle East, and Europe. By end of 2025, HOLON received approval for testing on German roads.	Milestone for mobility: HOLON receives approval for autonomous testing on German roads. (13.11.2025) Update Read	**2026**
 Mobileye is **testing its AV fleet in various locations around the globe**, including complex European traffic. **Initial pilot projects with various vehicle partners** are underway and will allow the L4 capabilities and MaaS features to be further developed and tested. Mobileye is currently the only well-known AV company with a **clear focus on Europe**.	Project update KIRA: Passengers can access autonomous driving shuttles in Darmstadt. (02.09.2025) Read	Not announced
 Verne creates an AV ecosystem consisting of three pillars: an **autonomous electric vehicle** for ride hailing, specialized **infrastructure**, and a mobility **service platform**. The goal is to reshape future mobility and create a unique user experience. While Europe's focus is on pooling, Verne will nevertheless find its place in the mobility ecosystem.	Construction of Verne autonomous EV production facility kicks off at VGP Park Zagreb. (11.02.2025) Read	**2026**

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

MaaS EUROPE

At a glance	Latest news	L4 target
 Schaeffler joined forces with VDL to build shuttles based on its rolling chassis and VDL's expertise in vehicle bodies. The vehicle was supposed to be powered by Mobileye technology. However, the shuttle's journey came to an end before it even began.	Schaeffler and VDL Groep to team up on self-driving shuttles. (31.08.2023) Read	Not announced
 MOTOR Ai develops a **full-stack software solution for L4**, **relying on raw sensor data**. The SW stack aims to be **SOTIF compliant and meet AFGBV regulations**. The company also **developed a retrofittable Drive-by-Wire system**. We look forward to seeing the first vehicles on public roads and if the ambitious timeline can be met.	MOTOR Ai gets $20M for autonomous driving software that will fast track global deployment of safe autonomous cars. (14.07.2025) Read	Not announced
 Renault teamed up with Waymo on autonomous driving back in 2019 – no further announcements yet. Also, **Renault is partnering with WeRide on self-driving public transit** in France. While a first showcase was deployed in 2024, we expect more to come.	Renault Joins Forces with WeRide for Low-Carbon Public Transit Practice in Europe. (15.05.2024) Read	Not announced
 EasyMile has been deployed vehicles >30 countries and >300 locations. the **EZ10 is the most widely used autonomous shuttle**. **ODD** and **SDS capabilities must be enhanced** to remain competitive in autonomous MaaS. However, EasyMile also provides driverless goods transportation solutions.	MicroSys and EasyMile collaborate on the development of safety-critical technology for autonomous driving. (02.04.2024) Read	L4 permission on one public road in France.

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MaaS EUROPE

At a glance	Latest news	L4 target
 **Navya Mobility's (ex-GAMA)** focus is SDS development, vehicle implementation and operation. As the technology is limited to **fixed routes** and **low speed applications**, it will be quite challenging to compete with more mature AV players. Gated areas seem to be the only promising use case in the future.	Navya Mobility launches EVO 3, its new autonomous shuttle for passenger transport. (07.10.2025) Update Read	Not announced
 MAN has not yet made an appearance in the bus segment in the context of autonomous driving. The **MINGA** project, in which MAN has a **strong partner at its side in SDS provider Mobileye**, is the first step. MAN needs a clear roadmap as demand among European transport companies for automated buses is gowing.	MAN Truck & Bus to make city buses autonomous with Mobileye. (17.05.2023) Read	Not announced
 Imagry's technology relies on **multiple 360° cameras** and is based on a **deep neural network** that learns to drive by imitating human behavior. At the end of 2025, the **first partnership in Europe** (Latvia) was announced, with the AV stack being integrated into passenger vehicles instead of buses.	Imagry and Carguru to launch autonomous mobility public transit roboshuttles in Europe. (12.11.2025) Update Read	Not announced
 The Estonian startup offers autonomous and sustainable last-mile solution and claims to develop the **first autonomous hydrogen vehicle** in the world. Although there are already pilot projects, it will be tough to prevail against the well-known shuttle providers.	MiCa 2.0 and Auve Stack 2.0 launching in May. (19.05.2025) Read	Not announced

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MaaS EUROPE

At a glance	Latest news	L4 target
 Oxa is **one of the few remaining autonomous technology provider in Europe**. First robo shuttle deployments in the US have been accomplished. The **partnership with eVersum** in particular is generating growing interest in Oxa among European transport companies.	Northern Ireland's Harlander AV Pilot completes operations. (07.11.2025) Update Read	Not announced
 Wayve does **not rely on HD maps** and **hand-coded rules** but **focuses on its deep and self-learning AI technology** based on cameras. The company raised $1bn in 2024 to take its Tesla-like technology for self-driving to many carmakers. With regard to AD MaaS, we only expect serious activities in the long term.	Wayve and NVIDIA announce discussions to evaluate proposed $500M investment in Wayve's next round. (18.09.2025) Update Read	Not announced
 **Stellantis partners with NVIDIA, Uber and Foxconn** to develop Level 4 robotaxi vehicles, aiming for production in 2028 and an initial deployment of 5,000 units in the US. **Stellantis also teamed up with Pony.ai in Europe** to integrate Pony.ai's autonomous-driving software with Stellantis' BEV van platform for testing in Luxembourg and broader rollout starting in 2026.	Stellantis advances global robotaxi strategy with new collaboration with NVIDIA, Uber and Foxconn. (28.10.2025) Update Read	**2028+**

Definition L4 target: a robotaxi service that is publicly available in a specific ODD and operated without a safety driver.

Privately Owned Vehicles.

Intro | Use Cases & Layer Description

Privately Owned Vehicles | Use Cases

			Private Ground	Highway	Urban	Suburban	Rural
			Airport, factories, yards, harbors, ...	Highways, freeways, ...	City center, designated streets, ...	Federal highway, residential areas, ...	Rural roads, gravel road, ...
POV	**Parking**		(home yard) parking	-	self parking pilot car park, urban self parking	self parking pilot parking place [e.g., supermarket], self parking	
	Driving		-	pilot (L2+), pilot (L3), chauffeur (L4)	urban navigate on pilot (L2+, L2++, L3) , city chauffeur (L4)	commuter pilot (L2+, L2++, L3), chauffeur (L4)	

POV | Layer Model Description

Layer 1		Layer 2	Layer 3	Layer 4
HW-Stack Chips / SoC / ECU	**SW-Stack Virtual Driver**	**AD Vehicle**	**Rider Experience / Content Provider**	**Cloud, V2X, others**
The **Automated Driving System (ADS)** encompasses SW and HW required to achieve Level 4 autonomy. The HW-Stack involves activities such as hardware development, production, testing, automotive approval, and safety compliance. The SW-Stack focuses on self-driving software development and includes activities such as testing & simulation, ODD (Operational Design Domain) management, SDS licensing, mapping, sensor data processing, E2E integration, and safety compliance.		**AD Vehicles** are considered L4 ready vehicle platforms. This layer centers on the development and design and include tasks such as regulatory compliance, safety management, homologation, logistics, and production.	**Rider Experience** enhances user experience through entertainment and connectivity. Tasks include in-vehicle advertisement, shopping, education, gaming, and multimodal connectivity features. May also be covered by the Mobility Platform provider.	Provides necessary supporting infrastructure. Tasks include V2X infrastructure, 3rd party HD maps, and cloud infrastructure and backend.

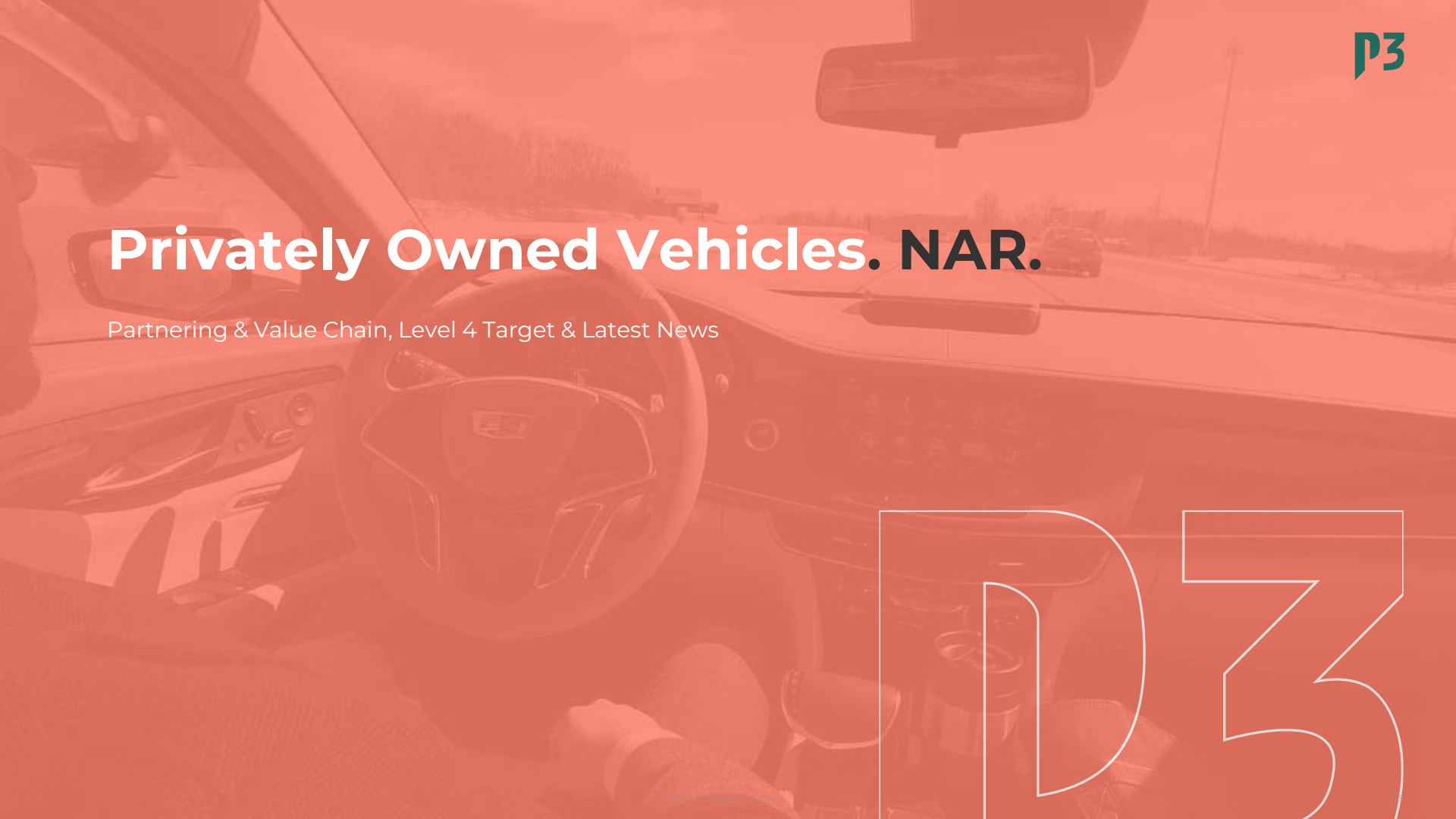
POV | Layer Model Description

Exemplary tasks

Layer 1		Layer 2	Layer 3	Layer 4
HW-Stack Chips / SoC / ECU	**SW-Stack Virtual Driver**	**AD Vehicle**	**Rider Experience / Content Provider**	**Cloud, V2X, others**
HW Development	SW Development	Design & development	In-vehicle advertisement	V2X
HW Production	Testing & Simulation	Quality assurance	Shopping	3rd party HD maps
Sensor Integration	ODD Management	Redundancy	Education	Cloud Infrastructure
Automotive approval	SDS Licensing	X-by-Wire	Working	
Sensor testing & approval	SW Testing & Approval	Regulatory compliance	Multimodal connectivity	
Sensor fusion	Mapping	Homologation	Gaming	
Calibration and Integration Support	Verification & Validation	After sales / aftermarket		
Safety & Compliance	E2E Integration	Safety management		
	Sensor Integration and Data Processing	AD requirements		
	Safety & Compliance	Logistics		
		Production		
		E2E integration		
...	...	...	...	...

Privately Owned Vehicles. NAR.

Partnering & Value Chain, Level 4 Target & Latest News



POV NAR

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Entertainment & advertisement	3rd party HD Maps	Cloud	V2X & Others
TESLA	SAMSUNG Intel Mobileye AMD NVIDIA	TESLA		TESLA		TESLA	Baidu 百度 China		BROADCOM
OUSTER CEPTON	Qualcomm UNTETHER AI NVIDIA	OCULII gm Mahindra Oak Ridge National Laboratory cruise	Applied Intuition	gm		gm	Dynamic Map Platform SPACE 42 UAE	Microsoft	
OUSTER		LATITUDE Baidu 百度 SAIPS nullmax		Ford		Undisclosed	EMG 领图通 DEEPMAP Civil Maps	Au	

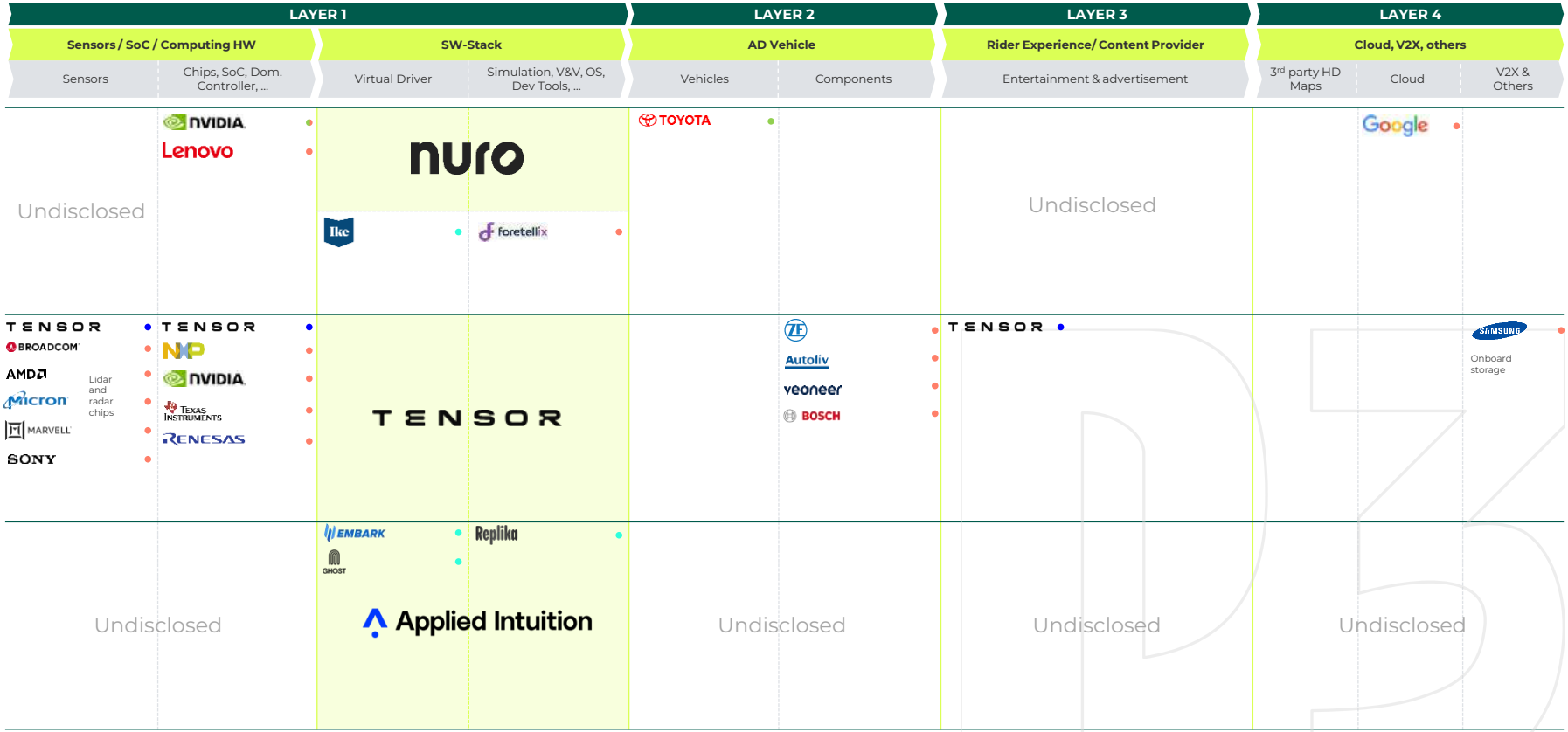
Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update

POV NAR

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Entertainment & advertisement	3rd party HD Maps	Cloud	V2X & Others
mobileye, Valeo	mobileye, Valens	mobileye	ecarx	Ford, GWM, Honda, BMW, Porsche, Zeekr, Stellantis, gm, Mahindra, Volkswagen Group		Undisclosed	Volkswagen Group		
Ouster	NVIDIA	helm.ai		Honda		Undisclosed	Undisclosed		
Aumovio, Bosch	NVIDIA	Lucid, NVIDIA		Lucid		Undisclosed	Undisclosed		

Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update

POV NAR



Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

POV NAR

At a glance	Latest news	L4 target
 Tesla **collects a huge amount of data** and build a unique ecosystem around the fleet. While there are still legitimate discussions about the robustness of vision-only approaches, the **performance of FSD in the US is already impressive**. Nevertheless, it is still an L2+ system.	Tesla China rolls out OTA update with urban Autopilot enhancement. (25.02.2025) Read	No binding roadmap for FSD
 GM has combined its former Ultra Cruise system with its Super Cruise program. By the end of 2024, GM announced to **cease funding the development of Cruise's robotaxi business**. Instead, the company plans to **integrate Cruise with its own efforts to advance driver-assistance systems**.	GM to introduce eyes-off, hands-off driving system in 2028 . (22.10.2025) Update Read	Not announced
 After getting off the robotaxi business with Argo.AI, Ford said **to focus on developing differentiated L2+ and L3 applications** for privately used cars. By 2023, Ford established Latitude to develop future automated driving technology.	Ford's BlueCruise expansion brings hands-free driving to the masses. (13.11.2025) Update Read	Not announced
 Mobileye is the **leading supplier for camera-based driver assistance systems**. In addition to L4 technology for robotaxis, **SuperVision is its state-of-the-art L2+ (eyes on) system**. Also, first **OEMs teamed up with Mobileye to integrate its Chauffeur** (eyes off) solution. We are very much looking forward to testing it on European roads.	Mobileye selects Valens Semiconductor's VA7000 MIPI A-PHY chipsets for automated and autonomous driving projects. (02.04.2025) Read	Not announced

Definition L4 target: an automated driving system that does not require the driver to take over at any time in a specific ODD. Hands-off, eyes-off, brain-off.

POV NAR

At a glance	Latest news	L4 target
 Helm.ai employs an AI-first approach to building AD software using an **unsupervised learning technology**. This technology allows to **train on vast volumes of data** without the need for large scale fleets or human annotation. Helm.ai will **power Honda 0 Series** models. Moreover, Helm.ai develops AI-generated video and simulation tools.	Honda to make additional investment in U.S.-based Helm.ai to further enhance development of Next-generation AD/ADAS. (15.10.2025) Update Read	**>2027**
 Lucid is advancing from its DreamDrive Pro driver assistance system **toward full Level 4 autonomy** by integrating **NVIDIA's DRIVE AV and AGX Thor platforms**, enabling a seamless progression from hands-free (L2++) to fully autonomous "eyes-off, hands-off, mind-off" driving in its future vehicles.	Lucid intends to deliver first Level 4 autonomous EVs for consumers with NVIDIA. (28.10.2025) Update Read	Not announced
 Nuro **has been a pioneer in last-mile deliveries** with a special purpose vehicle. In September 2024, Nuro announced to **start licensing its L4 technology** to manufacturers of personally owned vehicles and mobility providers, like ride-hail and delivery companies. A smart move to monetize its tech end create a viable business case.	Nvidia is latest investor to back AV startup Nuro in $203M funding round. (21.08.2025) Read	Not announced
 Tensor is the first company ever to **introduce a robocar specifically designed for private ownership**, built from the ground up for a dual operating mode – both manual and autonomous. **Evolving from AutoX**, which made its mark operating large robotaxi fleets in China, Tensor is now bringing that expertise to the consumer market with a clear focus on privately owned vehicles.	Robocar Startup "Tensor" Unveils Luxury Self-Driving Car For 2026. (13.08.2025) Read	**2026**

Definition L4 target: an automated driving system that does not require the driver to take over at any time in a specific ODD. Hands-off, eyes-off, brain-off.

POV NAR

At a glance

Applied Intuition provides an ADAS/AD development platform, a vehicle software platform, and an autonomy stack aimed at off-highway autonomy and trucking. In 2025, the company announced its proprietary **L2+ E2E SDS stack for automotive**. Due to the acquisition of full stack providers like Ghost and Embark, this move is not surprising.

Latest news

Applied Intuition unveils SDS for automotive: End-to-End ADAS that continuously learns and improves.

(19.08.2025)

Read

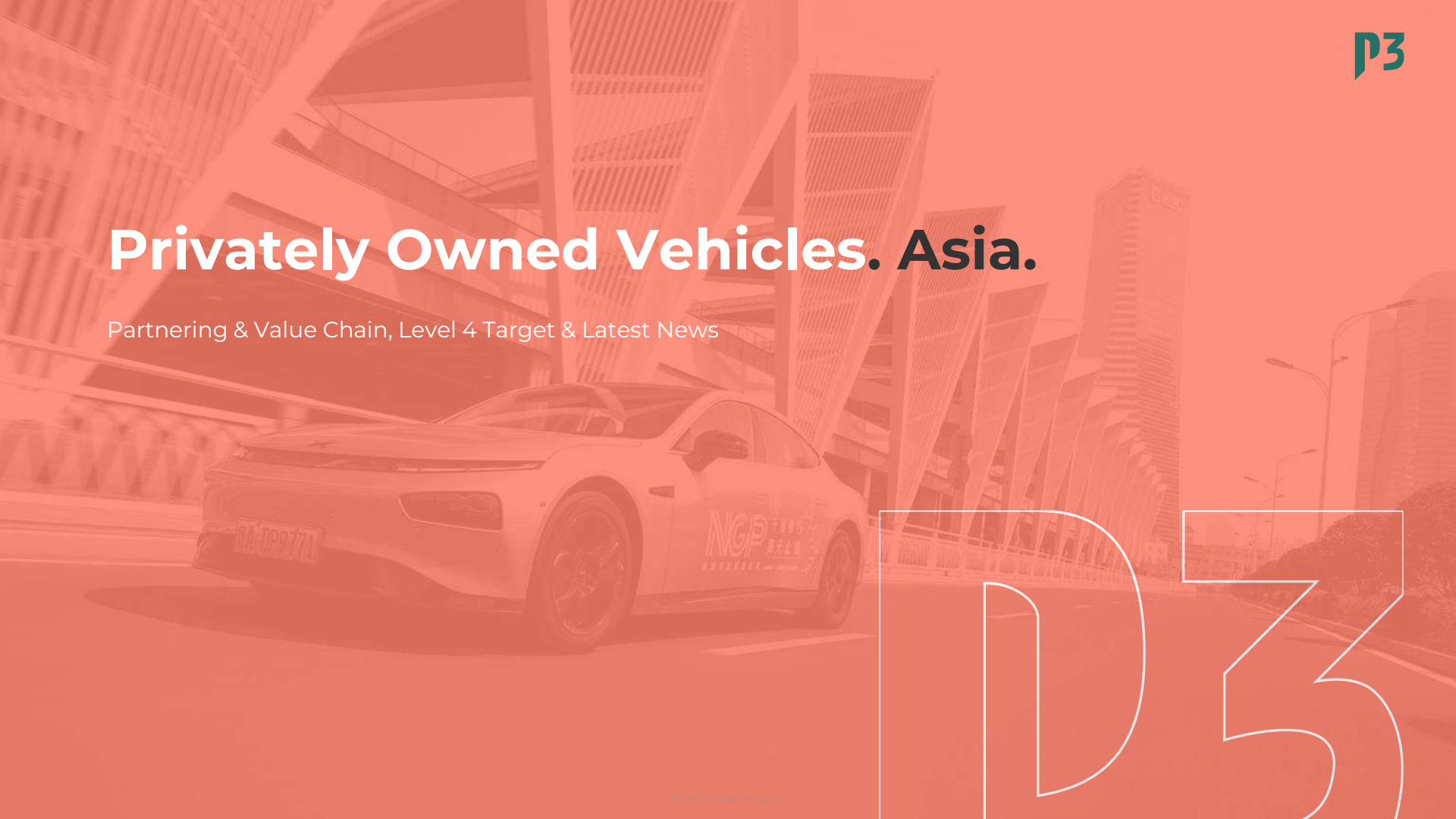
L4 target

Not announced

Definition L4 target: an automated driving system that does not require the driver to take over at any time in a specific ODD. Hands-off, eyes-off, brain-off.

Privately Owned Vehicles. Asia.

Partnering & Value Chain, Level 4 Target & Latest News



POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Entertainment & advertisement	3rd party HD Maps	Cloud	V2X & Others
HESAI	NVIDIA	NIO		NIO		nreal	Tencent 腾讯		Qualcomm
BOSCH	辉羲智能 RHINO					Qualcomm			
				JAC	AUMOVIO				
NXP					ZF				
ZVISION	NVIDIA	XPENG		XPENG		Qualcomm	高德地图 amap.com		
LIVOX	XPENG					Undisclosed			
robosense									
AUMOVIO									
BOSCH									
mobileye	mobileye	mobileye		ZEEKR		Undisclosed	mobileye		
robosense	NVIDIA	NIRA							
HESAI				GEELY					

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Entertainment & advertisement	3rd party HD Maps	Cloud	V2X & Others
robosense HESAI Pony.ai HUAWEI	NVIDIA Horizon Robotics HUAWEI	Momenta Baidu apollo nullmax HUAWEI ZHUOYU		BYD		Undisclosed	高德地图 amap.com	HUAWEI	
mobileye ibeo robosense HESAI	mobileye Qualcomm SemiDrive Horizon Robotics NVIDIA	mobileye HAOMO.AI OCULII LiangDao nullmax ZHUOYU		GWM		Undisclosed	NAVINFO 高德地图 amap.com	HUAWEI 中国移动 China Mobile	
robosense HUAWEI arbe	BOSCH	DiDi pony.ai HUAWEI		ARCFOX BAIC		Undisclosed	EMG HUAWEI	中国移动 China Mobile	

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
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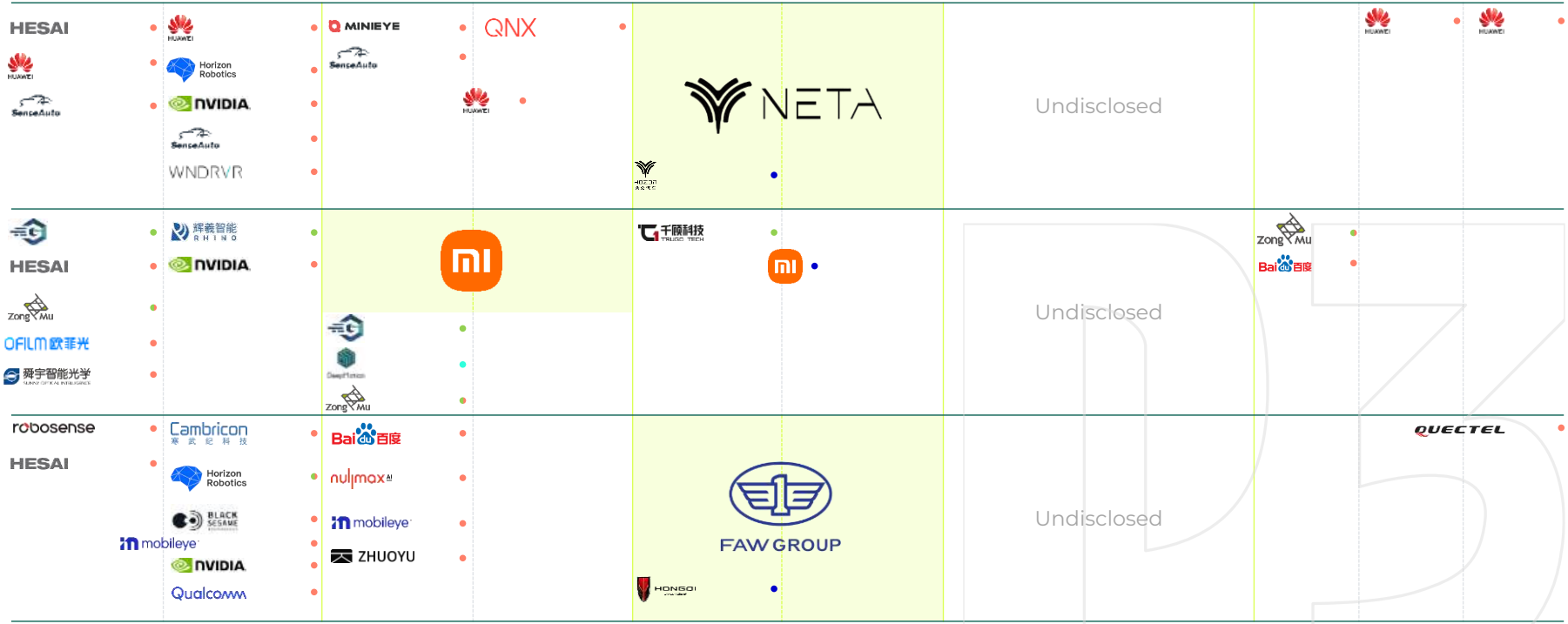
Luminar mobileye robosense ZF Hesai	SemiDrive Qualcomm TTTech Horizon Robotics NVIDIA	momenta nullmax AI HUAWEI ZHUOYU			SAIC	Undisclosed	mobileye here		ZTE
robosense	NVIDIA Qualcomm	momenta		SAIC		Undisclosed			Alibaba.com
HESAI BOSCH OFILM 欧菲光	NVIDIA Horizon Robotics 德赛西威	Li Auto 轻舟智航 QCRAFT		Li Auto		Undisclosed	高德地图 amap.com		

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA


LAYER 1
LAYER 2
LAYER 3
LAYER 4
Sensors / SoC / Computing HW
SW-Stack
AD Vehicle
Rider Experience/ Content Provider
Cloud, V2X, others
Sensors
Chips, SoC, Dom. Controller, ...
Virtual Driver
Simulation, V&V, OS, Dev Tools, ...
Vehicles
Components
Entertainment & advertisement
3rd party HD Maps
Cloud
V2X & Others
HESAI
HUAWEI
Horizon Robotics
NVIDIA
SenseAuto
WNDRVR
MINIEYE
QNX
NETA
Undisclosed
辉羲智能 RHINO
Zong Mu
OFILM 欧菲光
舜宇智能光学
千顾科技
Baidu 百度
robosense
Cambricon
BLACK SESAME
mobileye
nullmax
ZHUOYU
Qualcomm
FAW GROUP
HONGQI
QUECTEL
Core Business
Partnership or supplier deal
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Acquisition
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Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Entertainment & advertisement	3rd party HD Maps	Cloud	V2X & Others
HESAI BOSCH	Horizon Robotics MINIEYE	Baidu 百度 HUAWEI DEEPAL & Avatr		长安汽车 CHANGAN		HUAWEI DEEPAL		Baidu 百度	
QUANERGY dji mobileye HESAI	NVIDIA mobileye Horizon Robotics Motion BOSCH	Baidu 百度 MINIEYE ZHUOYU nullmax AI Motion WeRide 文远知行 HUAWEI momenta FULWIN		BTL CHERY EXEED 星途 LUXEED		IFLYTEK	mobileye	QUANERGY BOE	
robosense HESAI	Horizon Robotics NVIDIA	HOLOMATIC 禾多科技 momenta pony.ai DiDi Autonomous Driving		AION 埃安 GAC		Undisclosed		Tencent 腾讯 Alibaba Cloud HUAWEI	

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Entertainment & advertisement	3rd party HD Maps	Cloud	V2X & Others
HESAI DESAY SV	BLACK SESAME	Baidu 百度 Voyah 东风日产 PhiCent Voyah ZHUOYU		DONGFENG DONGFENG MOTOR CORPORATION	HUAWEI	Undisclosed	HUAWEI Tencent 腾讯 ByteDance VOYAH		
robosense HESAI BOSCH DENSO	Horizon Robotics Continental NVIDIA NXP UAES SAIC intel ZF	Horizon Robotics MAXIEYE MINIEYE UNTOUCH Zongmu QCRAFT JF nullmax NAVINFO pony.ai Motion	ThunderSoft WNDRVR STRADVISION	VOLKSWAGEN GROUP 理想 GM GWM BYD AION HONGQI CHERY BAIC		UNTOUCH 未动科技	NAVINFO		

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
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	HUAWEI	HUAWEI		STELATO, LUXEED, CHERY, 长安汽车 CHANGAN, SAIC	DONGFENG	Undisclosed	Baidu 百度	HUAWEI	PATEO, HUAWEI
KANKAN	BLACK SESAME, Texas Instruments, NVIDIA, Horizon Robotics, HUAWEI, Ambarella, RENESAS	nullmax AI		Ford, BYD, SAIC, FAW, CHERY, GWM		Undisclosed	NAVINFO		
HESAI, robosense, OUSTER	NVIDIA, Horizon Robotics, NAVINFO, Qualcomm	轻舟智航 QCRAFT		DFM, Li Auto		Undisclosed	NAVINFO		

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
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OUSTER, Valeo, mobileye	RENESAS, mobileye, Qualcomm	helm.ai, momenta		HONDA		SONY			
NEW	Undisclosed	WAYVE	Applied Intuition	NISSAN		Undisclosed	Undisclosed		
BOSCH, robosense, HUAWEI, HESAI, Valeo	NVIDIA, Qualcomm, HUAWEI, Ambarella, Valeo	momenta		NIO, SAIC, TOYOTA, 东风日产, BYD, HONDA, GAC, CHERY, BMW		Undisclosed	here	Tencent, aws	

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
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robosense Ambarella		LOTUS ROBOTICS		LOTUS GEELY LYNK&CO		Undisclosed	here	LOTUS ROBOTICS	
BOSCH HESAI robosense	BOSCH NVIDIA Horizon Robotics	WeRide 文远知行 QNX		CHERY EXEED		Undisclosed	Tencent 腾讯	Tencent 腾讯	
LUMINAR HESAI robosense	NVIDIA Horizon Robotics pony.ai	pony.ai		Undisclosed		Undisclosed	NAVINFO		

Probably no focus anymore

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
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DESAY SV OFILM 欧菲光 RACH	NVIDIA NXP BLACK SESAME	Baidu 百度 apollo		Filed for bankruptcy		Undisclosed	CARNERA tomtom	Microsoft	NXP SAMSUNG 中国移动
OUSTER ZVISION robosense	Qualcomm	DEEPROUTE.AI		DFM SAIC GWM smart		Undisclosed	Tencent 腾讯	Microsoft 阿里巴巴 Alibaba.com VolcanoEngine	
mobileye Zeekr QUANTUMSCAPE Autoliv	mobileye Zeekr NVIDIA QIANLI 智力 DreamSmart 星纪魅族	mobileye Zeekr zenseact Baidu 百度 Ji Yue apollo LOTUS ROBOTICS	foretellix	GEELY Filed for bankruptcy ZEEKR		Undisclosed	高德地图 amap.com	Tencent 腾讯	

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
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ZHUOYU	NVIDIA ZHUOYU Qualcomm	ZHUOYU		GWM, ARCFOX, DONGFENG, CHERY, BYD, China	!	Undisclosed		Alibaba.com	ZHUOYU Liability Insurance
robosense	Qualcomm	HAOMO.AI		GWM, HYUNDAI		Undisclosed	NAVINFO		

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV ASIA

At a glance	Latest news	L4 target
 While NIO premium EVs are **hitting several markets outside China**, ADAS capabilities and functions of other competitors in China seem to be slightly more advanced and widely available. In 2024, NIO announced to rely on **end-to-end large models** for ADAS development. In doing so, they are following the fundamental trend of Chinese OEMs and tech suppliers.	Start of series production for Steer-by-Wire steering at Chinese car manufacturer NIO. (17.02.2025) Read	Not announced
 XPENG announced that its XNGP urban intelligent driving system has achieved **100% HD map-free operation** with the goal to achieve full coverage of XNGP functions in major urban road networks across China by the end of 2024. XPENG **shows strong ambitions towards L4** for consumer vehicles.	XPENG P7+ model comes standard with Tianji XOS 5.4 system. (25.10.2024) Read	Not announced
 Geely's announced to integrate Mobileye's SuperVision system for privately owned vehicles. However, this cooperation seems to struggle as Zeekr officially launched its **G-Pilot intelligent driving system** by March 2025, including a L3 smart driving architecture-	ZEEKR unveils G-Pilot intelligent driving system. (19.03.2025) Read	Not announced
 In December 2021, **BYD and Momenta**, one of China's major SDS developers, formed a **joint venture for autonomous driving**. In 2025, BYD unveiled its "God's Eye" ADAS which will be integrated in its entire model lineup.	Horizon Robotics' Journey® 6 series in-car computing solution debuts on BYD's God's Eye C smart driving system. (13.02.2025) Read	Not announced

Definition L4 target: an automated driving system that does not require the driver to take over at any time in a specific ODD. Hands-off, eyes-off, brain-off.

POV ASIA

At a glance	Latest news	L4 target
 GWM aims to provide complete mobility ecosystems with dedicated brands for the European markets. **Regarding AD**, GWM has been working with companies such as **Mobileye, Qualcomm** or Nullmax. By end of 2024, GWM **announced the roll out of its all-scenario HD map-free NOA** functions nationwide	AutoNavi, Great Wall Motor inaugurate 'Mobility Joint Innovation Lab'. (07.01.2025) Read	Not announced
 While BAIC teamed up with Baidu to develop robotaxis, its EV brand **Arcfox models are equipped with Huawei software and sensor suite**. Our regular ADAS benchmark drives in China showed: **Huawei system's performance is stunning**.	BAIC Group announces $70.35 million investment in Pony.ai. (02.12.2024) Read	Not announced
 China's largest carmaker intends to equip premium electric vehicle models with **Momenta-developed intelligent driving technology**. SAIC may not seem as 'fancy' in its outward appearance as some startups from China – that's why they co-founded IM Motors in a JV with Alibaba.	SAIC Motor, Huawei forge partnership to co-build smart new energy vehicles. (21.02.2025) Read	Not announced
 IM Motors, **co-founded by SAIC Motor, Zhangjiang Hi-Tech, and Alibaba** pushes its AD capabilities through **joint development with Momenta**. While urban NOA was implemented swiftly, IM also obtained the official AV testing license for highway/expressway in Shanghai for L3 testing.	IM Motors, NVIDIA, Momenta to co-pioneer DRIVE AGX Thor chip in mass-produced intelligent driving systems. (18.11.2024) Read	Not announced

Definition L4 target: an automated driving system that does not require the driver to take over at any time in a specific ODD. Hands-off, eyes-off, brain-off.

POV ASIA

At a glance	Latest **news**	**L4** target
 Li Auto is another EV company aiming for autonomous driving. Just like its main competitors, Li Auto also relies **on end-to-end architectures** for its smart driving capabilities. Li Auto **teamed up with company QCraft** to provide advanced driving features.	Hesai secures exclusive Lidar design wins for Li Auto's New-Generation assisted driving platform. (11.11.2025) Update Read	Not announced
 NETA Auto, a Hozon Auto brand, is one of several Chinese OEMs that has entered into **in-depth cooperation with Huawei**. Furthermore, teaming of with Hesai for future vehicle models shall further enhance automated driving capabilities.	Wind River powers NETA Auto's intelligent controller. (19.07.2024) Read	Not announced
 Xiaomi sets sight on several autonomous electric vehicle brands by **substantially investing in smart car technology**. The unveiled **Xiaomi SU7 offers great user experience at lower cost** than Western OEMs – the ADAS has still some weaknesses but is about to catch up with competition.	Xiaomi EV rolls out OTA update on Xiaomi SU7 model with VLM integration. (24.12.2024) Read	Not announced
 FAW Group established several **partnerships along the AD ecosystem** – **tech providers such as DJI or Mobileye** are about to integrate their smart driving solutions into FAW Group's vehicles, usually starting with FAW's Hongqi brand.	Horizon Robotics joins hands with FAW Bestune in smart driving field. (24.02.2025) Read	Beyond **2025**

Definition L4 target: an automated driving system that does not require the driver to take over at any time in a specific ODD. Hands-off, eyes-off, brain-off.

POV ASIA

At a glance	Latest news	L4 target
 CHANGAN is **working closely with Huawei on Level 4 Autopilot**, 5G, and C-V2X, and plans to offer **L4 capabilities in 2025**. Recently, the company announced a strategic cooperation with Geely, among others, to combine strengths and share resources in the development of autonomous cars.	MINIEYE Secures CHANGAN's New ADAS Project, Expected to Deliver in Q4 2025. (17.07.2025) Read	**2025**
 In March 2025, Chery introduced its **"Falcon" smart driving system,** which will be implemented across al brands and models in 2025. Falcon 500, an integrated driving & parking system for highway NOA or urban memory navigation; Falcon 700, w/ enhanced compute for full-scenario navigation; and Falcon 900, a L3 system using VLA and a world model for advanced autonomy.	Chery unveils intelligent strategy, aiming for global smart driving expansion. (19.03.2025) Read	**2025**
 GAC is the fifth largest car manufacturer in China and sells its vehicles under various brands. The company has always **worked closely with Huawei.** In March 2025, Chery announced plans to release China's first L3 autonomous production vehicle equipped with ADiGO GSD (**GAC Self-Driving**) in 2025)	GAC Group, Alibaba Cloud expand partnership into full-stack AI. (17.11.2025) Update Read	Not announced
 Dongfeng's **VOYAH brand vehicles** are about to be equipped with **Baidu's intelligent driving system**, offering features like Navigation on Autopilot. By end of 2024, **Dongfeng Nissan teamed up with Momenta,** while Dongfeng's **VOYAH announced a partnership** with **PhiGent Robotics**	Desay SV, Dongfeng Motor step up strategic partnership with focus on smart mobility. (19.08.2025) Read	Not announced

Definition L4 target: an automated driving system that does not require the driver to take over at any time in a specific ODD. Hands-off, eyes-off, brain-off.

POV ASIA

At a glance	Latest news	L4 target
 Horizon Robotics has **partnerships with many well-known OEMs and Tier1s** with whom they are jointly developing autonomous driving functions based on their Journey chip. Additionally, Horizon offers a variety of **smart driving solutions** ranging from basic assistance systems to **full-scenario NOA** and parking.	Horizon Robotics, ZF introduce advanced coPILOT system to bring city-level NOA driving to market by 2026. (27.10.2025) Update Read	Not announced
 During our benchmark drives in China, **Huawei's ADS 2.0 performance was stunning**. ADS 3.0 is about to be unveiled by the end of 2024 and promises another leap in performance. Also, the solution has been integrated in different EV models. Huawei had the goal to become China's Bosch – towards **SW capabilities, it's already much more advanced in China**.	SAIC Motor, Huawei forge partnership to co-build smart new energy vehicles. (21.02.2025) Read	Not announced
 Nullmax pursues a '**Machine Learning First**' approach and has **teamed up with several OEMs, chip suppliers and other companies**. While the depth of cooperation is often unclear, you should keep an eye on Nullmax and its **vision-based, multi-sensor fusion and perception technology** route.	Nullmax signs MOU with leading European automaker to launch new era of "AI-Defined Vehicles". (27.08.2025) Read	Not announced
 QCraft's robobus operates in 18 cities, 18 cities, including Beijing, Suzhou, Wuhan, and Chongqing. The company's focus is on both **L4 robotaxis and delivery solutions as well as L2++ ADAS.** At IAA 2025, Qcraft officially announced globalization and establishment of a European HQ.	Autonomous driving innovator QCraft globalizes with European HQ and forms partnership with Qualcomm. (08.09.2025) Read	Not announced

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POV ASIA

At a glance	Latest news	L4 target
 Honda has not also invested in **Helm.ai**, but both parties have also stepped into **a multi-year ADAS joint development for mass production consumer vehicles**. Honda also teamed up with Momenta do deploy ADAS solutions in China.	Honda to make additional investment in U.S.-based Helm.ai to further enhance development of Next-generation AD/ADAS. (15.10.2025) Update Read	**>2027**
 Nissan has a history of collaborating with tech partners. The company introduced its ProPILOT system in 2016, followed by a 2nd generation version in 2019 designed to enhance highway driving. **In 2025, Nissan announced plans to launch its next-gen ProPILOT** technology, which will feature **Wayve's AI Driver software**.	Nissan showcases assisted driving system using UK startup Wayve's technology. (22.09.2025) Read	Not announced
 While still running s small robotaxi fleet, Momenta shifted **focus is on advanced L2+ solutions for OEMs** in all key markets. Momenta **teamed up with several automakers** including SAIC VW, BMW, Mercedes, Honda, GM and IM Motors to develop and roll out end-to-end intelligent driving large model driving solutions.	BMW and Momenta's co-developed driver-assistance system to debut on next-generation BMW iX3. (17.11.2025) Update Read	Not announced
 **Lotus Robotics, the intelligent driving arm of Lotus Technology**, provides comprehensive intelligent driving solutions, including advanced platform software, cloud toolchains, and operation solutions. While the company may be relatively unknown in Europe and the USA, its **AD capabilities are seen by local experts as among the best in the Asian market**.	Lotus Robotics and HERE Technologies collaborate on Highway Navigation Pilot for Automated Driving. (03.04.2025) Read	Not announced

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POV ASIA

At a glance	Latest news	L4 target
 Apart from L4, WeRide's portfolio also includes **ADAS for passenger vehicles using L2+ and L3**. The company formed a **partnership with Bosch**, combining its SW stack with Bosch's industrialization and engineering capabilities. The joint solution, **WePilot AiDrive**, was launched in August 2025.	WeRide, Bosch achieve SOP for one-piece end-to-end ADAS solution. (06.11.2025) Update Read	Not announced
 Pony.ai offers OEMs & Tier 1 its proprietary **POV solution**, "**Xiaoma Shitu**," which supports high-speed and urban NOA. It's available in three configurations: **PonyClassic, PonyPro, and PonyUltra**. PonyClassic is equipped with 6 cameras and 1 millimeter-wave radar, while the advanced PonyUltra version features a setup of 11 cameras, 5 millimeter-wave radars, and 3 LiDAR sensors.	RoboSense, Pony.ai announce all-around partnership expansion. (13.01.2025) Read	Not announced
 Baidu Apollo **provides OEMs and Tier 1s** with an AD platform called **Apollo Pilot**. Its AI-driven solutions focus on scalability and safety, collaborating with global automakers. The first production model of Baidu's and Geely's joint venture Ji Yue relied on solely visual perception algorithms. **In 2024, Ji Yue filed for bankruptcy.**	Baidu launches Apollo Open Platform 10.0 to advance autonomous driving development. (05.12.2024) Read	Not announced
 DeepRoute initially focused on L4 robotaxi and delivery van deployments but **shifted in 2022 to L2+ and L3** technology. In late 2024, it **raised $100 million** in a Series C1 funding round to **boost R&D in its DeepRoute IO "end-to-end" model**, expand collaborations with global automakers, explore future robotaxi opportunities, and recruit more AI-native talent.	DeepRoute.ai showcases DeepRoute IO 2.0 platform, VLA model at IAA Mobility 2025. (09.09.2025) Read	**2025**

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POV ASIA

At a glance	Latest news	L4 target
 Geely is advancing AD for POVs through **partnerships and in-house development**. It collaborates with companies like Mobileye, integrating these technologies into models from brands like Volvo, and Polestar. Geely's and Baidu's joint venture, **Ji Yue**, **filed for bankruptcy in 2024.**	Geely launches unified intelligent driving solution suite 'G-Pilot'. (04.03.2025) Read	Not announced
 ZHUOYU provides **intelligent driving systems and self-developed core components**, such as sensing modules and domain controllers. As of April 2025, **over 30 new models are in development** under the company's ClixPilot program. At Auto Shanghai 2025, ZYT introduced its **VLA large model,** which supports both ADAS and in-cabin intelligent applications.	ZYT makes European debut at IAA Mobility 2025, announces local market strategy. (10.09.2025) Read	Not announced
 Haomo.ai is **backed by GWM** and develops its urban navigation-assisted Hpilot for mass-production. Haomo.ai still exists as of mid-2025, but it's facing increasing turbulence and uncertainty	Haomo.AI hits crossroads amid leadership shakeup and tech setbacks. (19.06.2025) Read	Not announced

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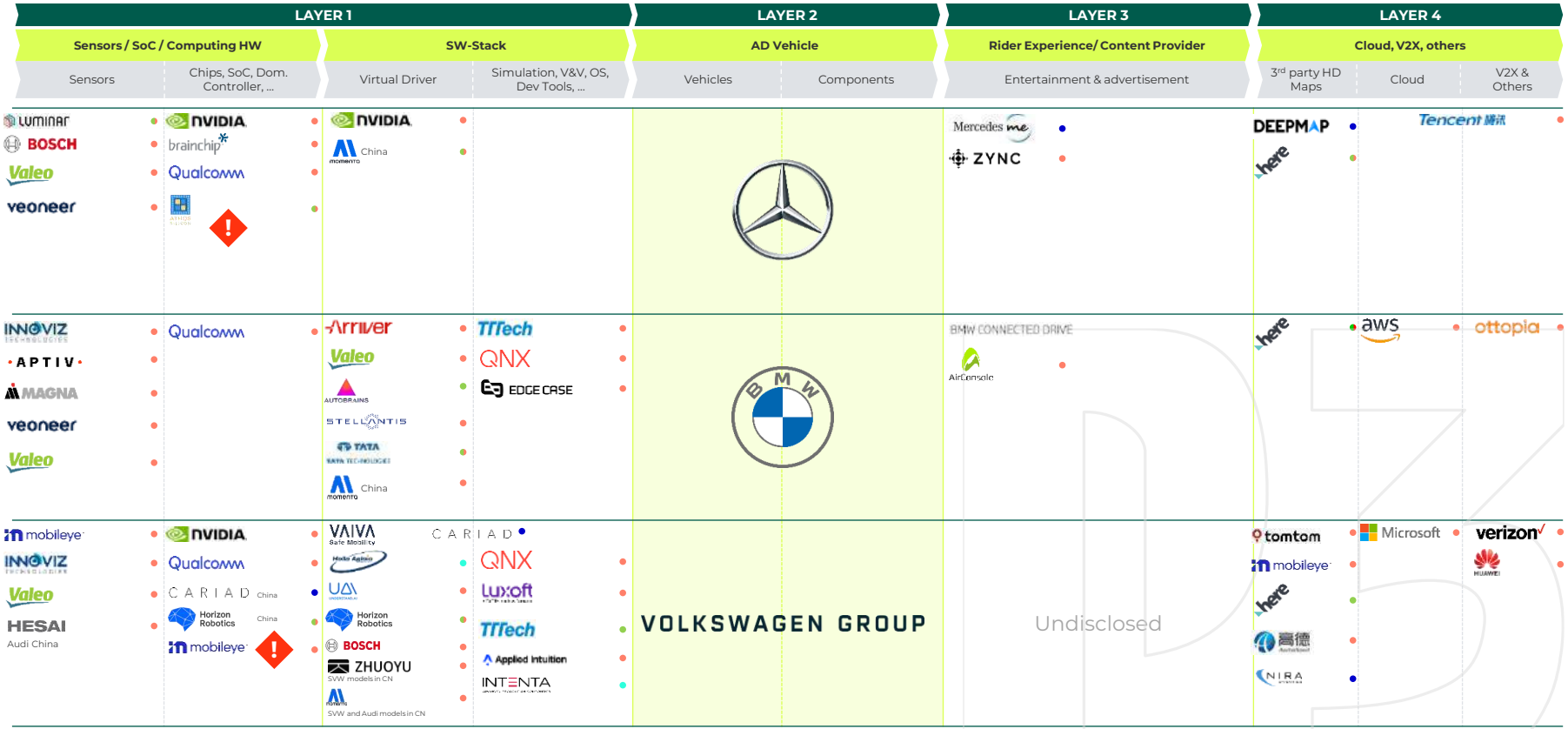
Privately Owned Vehicles. Europe.

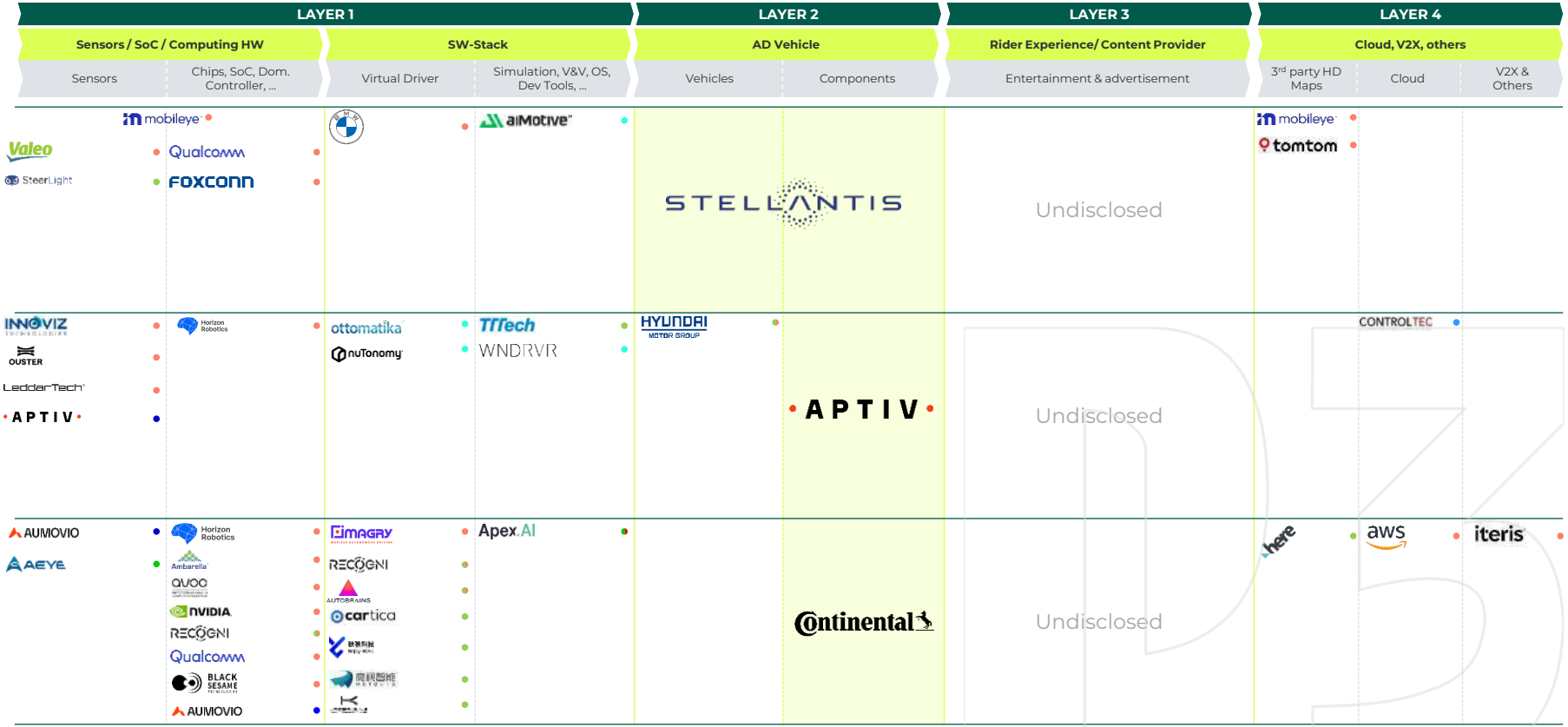
Partnering & Value Chain, Level 4 Target & Latest News

POV EUROPE



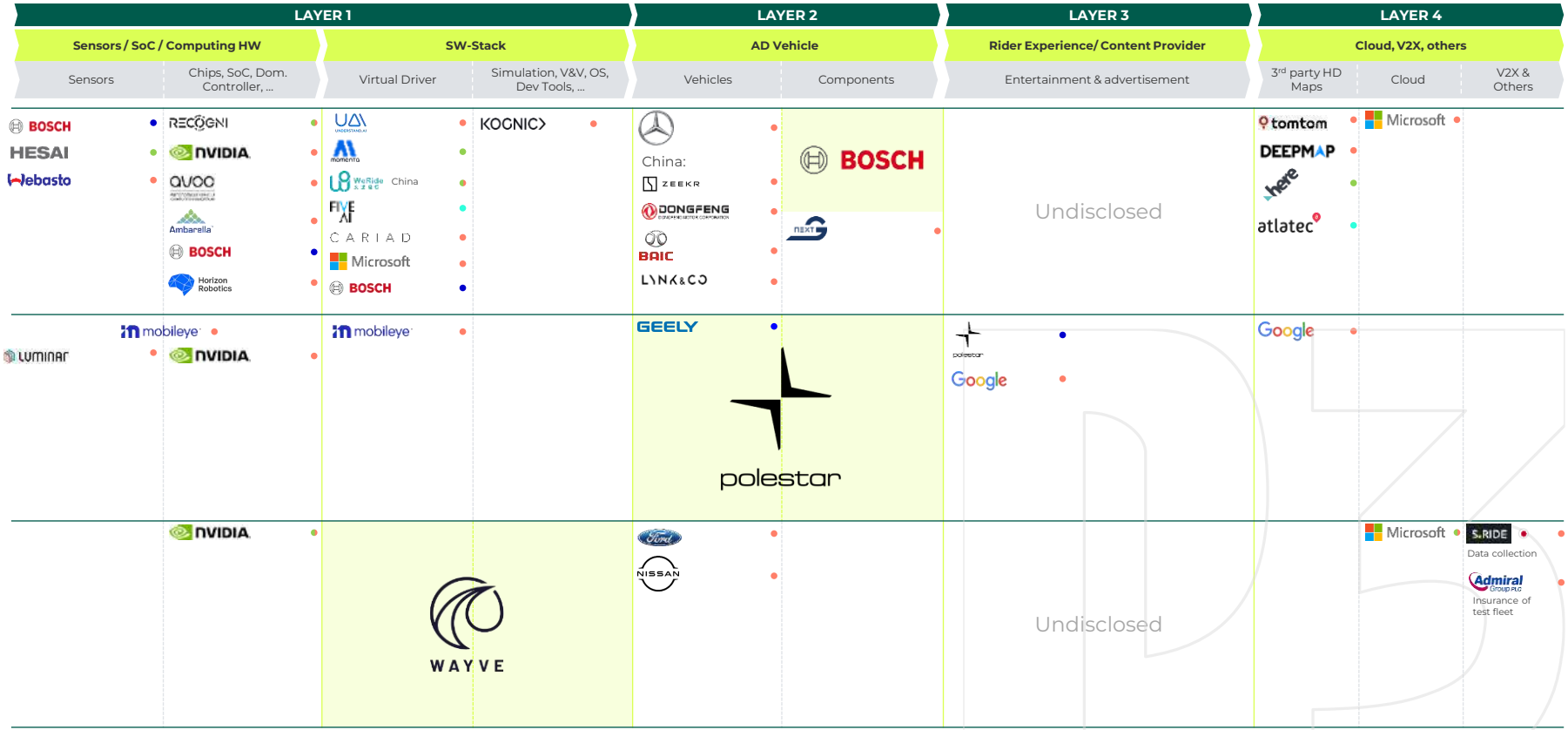
Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

POV EUROPE



Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update

POV EUROPE



Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

POV EUROPE

LAYER 1				LAYER 2		LAYER 3	LAYER 4		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Rider Experience/ Content Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Entertainment & advertisement	3rd party HD Maps	Cloud	V2X & Others
JOYNEXT	Ambarella	AUTOBRAINS		BMW, TOYOTA, VINFAST	Continental, KNORR-BREMSE	Undisclosed	Undisclosed		

Core Business ● Partnership or supplier deal ● Investment ● Acquisition ● Parent / Subsidiary ◆ Update

POV EUROPE

At a glance	Latest **news**	**L4** target
 **Drive Pilot is the world's first** ADAS to gain **type approval for a L3 system** and available in Europe and the US. Initially, the supported speed was limited to 60 km/h. In 2024, an upgrade was announced, enabling the system to follow a vehicle on the motorway at up to 95 km/h. In China, Momenta is Mercedes' ADAS partner.	Mercedes-Benz announces reference design collaboration with Athos Silicon. (26.09.2025) Update Read	Not announced
 During our regular ADAS benchmark drives, BMW's driver assistance systems consistently deliver the strongest performance among European OEMs. In 2025, **BMW and Qualcomm announced a partnership towards a new driver-assist system**, enabling **hands-free driving** on approved roads.	BMW Group is the first car manufacturer in Germany to receive international approval for innovative assistance systems in accordance with the new "DCAS" regulation. (30.10.2025) Update Read	Not announced
 **CARIAD is primarily responsible for software development** in the **private ownership** segment. There is also a development partnership (Automated Driving Alliance) with Bosch. Moreover, Volkswagen Group is strongly working with Mobileye in the European market.	Volkswagen Group introduces first self-developed chip. (05.11.2025) Update Read	Not announced
 Stellantis is working on **L3 solutions with technology partners** - especially **BMW**. In 2025, Stellantis announced STLA AutoDrive, its first in-house-developed L3 automated driving system.	Stellantis unveils STLA AutoDrive, hands-free and eyes-off autonomous technology for a new era of driving comfort. (20.02.2025) Read	Not announced

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POV EUROPE

At a glance	Latest news	L4 target
 Aptiv is a leading company in the development of ADAS for and invested a huge amount of money in Motional, a JV with Hyundai, before reducing its common equity interest from 50% to about 15% by end of March 2024. **Aptiv has acquired or at least invested in software companies to strengthen in-house capabilities** towards ADAS and AD.	Horizon Robotics, Aptiv join forces to develop localized intelligent driving solutions. (03.07.2023) Read	Not announced
 Continental **spun off its own AD unit**. Traditional Tier 1 such as Conti compete with strong SW players as OEMs/ customers increasingly purchase HW and SW separately. However, partnerships and investments in AI companies show that Conti **is willing to keep up the race.**	Continental offers aContact tires specifically for autonomous vehicle fleets and robotaxis. (14.08.2025) Read	Not announced
 Bosch acquired AV company Five AI to strengthen its AD capabilities and **teamed up with CARIAD** to jointly develop automated driving functions. In **China, Bosch is collaborating with WeRide**, among others, and achieved SOP for a one-piece end-to-end ADAS solution by the end of 2025.	WeRide, Bosch achieve SOP for one-piece end-to-end ADAS solution. (06.11.2025) Update Read	Not announced
 Polestar is a renowned EV player in the EU market. While ADAS of both Polestar 1 and 2 can't compete with many competitors, there is supposed to be a **significant leap with Polestar 3 and 4**. With **NVIDIA, Luminar and Mobileye**, they have solid technology partners at their side.	Polestar 4 to integrate Luminar LiDAR with Mobileye Chauffeur. (09.11.2023) Read	Not announced

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POV EUROPE

At a glance	Latest **news**	**L4** target
 Wayve does **not rely on HD maps** and **hand-coded rules** but **focuses on its deep and self-learning AI technology** based on cameras. The company raised $1bn in 2024 to take its Tesla-like technology for self-driving to many carmakers. This approach is different compared to companies like Tesla.	Wayve and NVIDIA announce discussions to evaluate proposed $500M investment in Wayve's next round. (18.09.2025) Update Read	Not announced
 Autobrains, pursuing an **End-to-End AI approach**, provides scalable automated driving solutions from single front camera vision to advanced AD solutions. While Autobrains has **well-known investors**, an **ADAS design win in China** and a **collaboration with top OEM on a L4 project** have already been announced, without disclosing the customers.	Autobrains and JOYNEXT revolutionize smart camera solution powered by Autobrains' affordable safety ADAS software. (04.12.2024) Read	Not announced

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Goods Transport & TaaS.

Intro | Use Cases, Market Insights & Layer Description

Goods Transport & TaaS | Use Cases

			Gated Area	Highway	Urban	Suburban	Rural
			Airport, factories, yards, harbors, ...	Highways, freeways, ...	City center, designated streets, ...	Federal highway, residential areas, ...	Rural roads, gravel road, ...
Transport	S		last mile delivery	-	last mile delivery	last mile delivery	last mile delivery
	ML		automated yards, e.g., intralogistics trucks (L4)	-	hub-and-spoke robo transporter	hub-and-spoke robo transporter	robo transporter
	XL		automated yards, e.g., intralogistics trucks (L4)	hub-to-hub self-driving truck	-	-	-
Platooning			automated yards, e.g., intralogistics trucks (L4)	hub-to-hub self-driving truck	-	-	-
Off-Highway / Gated Area			e. g. snow clearing (L4), rob harvesters	-	e. g., street sweeping machines (L4)	e. g., street sweeping machines (L4)	e.g., robo tractor

Automated Yards

Transportation within gated areas, yards, hub or similar confined areas

Hub-to-Hub

Hub-to-hub transportation between logistic hubs incl. drayage run

Hub-and-Spoke

Hub-and-spoke transportation from a hub to different spokes incl. drayage runs

Robo Transporter

Robotransporter Free float autonomous transport vehicles & other use cases such as shuttles

Goods Transport & TaaS | Longlist

		WAYMO	kodiak	Aurora	DAIMLER TRUCK	nuro	Plus	KARGOBOT	TRATON	einride	VOLVO
Transport	S										
	ML	P				P				G/P	
	XL	P	P	P	P		P	P	P		P
Platooning					P			P	P		P
Off-Highway / Gated Area			G/P		P				G/P		G

Activities | No activities | Stopped activities | G=Gated Area | P=Public road

Goods Transport & TaaS | Longlist

		udelv	AVRIDE	Gatik	amazon	pony.ai	IVECO	Ford	TESLA	TRUNK	INCEPTIO
Transport	S		P 		P 						
	ML	P 		P 		P 					
	XL					P 	P 	P 	P 	P 	P 
Platooning						P 	P 	P 			
Off-Highway / Gated Area											

Activities | No activities | Stopped activities | G=Gated Area | P=Public road

Goods Transport & TaaS | Longlist

		STARSHIP	STACK	TORC	MARS	SAIC	NEOLIX	HYUNDAI MOTOR GROUP	PACCAR	Applied Intuition	Alibaba.com
Transport	S	G/P 						P 			
	ML						P 				G/P 
	XL		P 	P 	P 	G/P 				P 	P Da Man Lv - No picture available yet
Platooning								P 	P 		
Off-Highway / Gated Area											

Activities | No activities | Stopped activities | G=Gated Area | P=Public road

Goods Transport & TaaS | Longlist

		SHACMAN	UNITY DRIVE	FACTION	nuport	Waabi		WAYVE	serve	Motional	DELIVERS.AI
Transport	S								P 		P 
	ML		P 	P 			P 	P 		P 	
	XL	G 			G 	P 					
Platooning											
Off-Highway / Gated Area			G/P 				P 				

Activities | No activities | Stopped activities | G=Gated Area | P=Public road

Goods Transport & TaaS | Longlist

		westwell	kiwibot	cartken	DEEPWAY	DEEPROUTE.AI	BOT.AUTO	whale dynamic		AUTRA TECH	ZF
Transport	S		P 	P 							
	ML					P 		P 			
	XL				P 		P 		P 	P 	P 
Platooning											
Off-Highway / Gated Area		P 									

Activities | No activities | Stopped activities | G=Gated Area | P=Public road

Goods Transport & TaaS | Longlist

		driveblocks	robione	ZELOS	robomart	TIER IV	Outrider	embotech	OSHKOSH	FERNRIDE	EASY MILE
Transport	S										
	ML		P 	P 	P 						
	XL	P 				P 					
Platooning											
Off-Highway / Gated Area		G 					G 	G 	G 	G 	G 

Activities | No activities | Stopped activities | G=Gated Area | P=Public road

Goods Transport & TaaS | Longlist

NEW

		CLEVON	LOXO	宏景智驾 HONG JING Drive	pinkbot	OTTONOMY.IO	NEUBILITY	DOORDASH	MINIEYE
Transport	S	P 			P 	P 	P 	P 	
	ML		P 						P 
	XL			P 					
Platooning									
Off-Highway / Gated Area									

Activities | No activities | Stopped activities | G=Gated Area | P=Public road

Goods Transport & TaaS | Layer Model Description

Layer 1		Layer 2	Layer 3		Layer 4	Layer 5
HW-Stack Chips / SoC / ECU	SW-Stack Virtual Driver	AD Vehicle	Fleet & Hub Operations	Fleet Monitoring & Control Center	Transport & Platform Provider	Cloud, V2X, others

The **Automated Driving System (ADS)** encompasses SW and HW required to achieve Level 4 autonomy.
The HW-Stack involves activities such as hardware development, production, testing, automotive approval, and safety compliance.
The SW-Stack focuses on self-driving software development and includes activities such as testing & simulation, ODD (Operational Design Domain) management, SDS licensing, mapping, sensor data processing, E2E integration, and safety compliance.

AD Vehicles are considered L4 ready vehicle & truck platforms. This layer centers on the development and design and include tasks such as regulatory compliance, safety management, homologation, logistics, production, and provision of TaaS and remote operations functions and components.

Fleet Operations covers operational activities for AV fleets. Tasks include hub setup, financing, concessions, charging, maintenance, training, cleaning or parts supply.
Moreover, Fleet Monitoring & Control Center tasks include goods and vehicle monitoring, remote vehicle control, departure checks, and remote assistance.

Transport providers (i.e., carriers) carry goods from shippers (e.g., grocery stores) to B2B or B2C customers using autonomous vehicles.
Freight matching may be executed by **Platform providers** that connect shippers and carriers or transport demand and supply. They are responsible for order management or disposition planning based on data analysis and simulation.

Provides necessary supporting infrastructure. Tasks include V2X infrastructure, 3rd party HD maps, and cloud infrastructure and backend.

Goods Transport & TaaS | Layer Model Description

Exemplary tasks

Layer 1		Layer 2	Layer 3		Layer 4	Layer 5
HW-Stack Chips / SoC / ECU	**SW-Stack Virtual Driver**	**AD Vehicle**	**Fleet & Hub Operations**	**Fleet Monitoring & Control Center**	**Transport & Platform Provider**	**Cloud, V2X, others**
HW Development	SW Development	Design & development	Hub Setup	Execution of ADS & AD Vehicle Operations Functions (e.g., remote assistance) in UI	Logistics platform	V2X
HW Production	Testing & Simulation	Quality assurance	Financing / Insurance		Booking	3rd party HD maps
Sensor Integration	ODD Management	Redundancy	Concessions	AD Vehicle Real-Time Tracking and Monitoring	Pricing	Cloud Infrastructure
Automotive approval	SDS Licensing	X-by-Wire	Charging	Incident Management	Payment	
Sensor testing & approval	SW Testing & Approval	Regulatory compliance	Maintenance & Service	AD vehicle Maintenance Scheduling	Disposition planning	
Sensor fusion	Mapping	Homologation	Washing & Cleaning	AD Vehicle Charging Scheduling	Fleet Intelligence (e.g., fleet & load optimization)	
Calibration and Integration Support	Verification & Validation	After sales / aftermarket	Training	Emergency Response Coordination	Order management	
Safety & Compliance	E2E Integration	Safety management	In/De-fleeting	AD Vehicle Mission Dispatch	API / Integration	
	Sensor Integration and Data Processing	AD requirements	Parts supply	Safety Driver Management	Customer support	
	Safety & Compliance	Production		Data Analytics and Reporting	Customer authentication (delivery services)	
		ADS & AD Vehicle Operations Functions (e.g., for remote assistance)		Customer interaction	Data Analytics	
		E2E integration			E2E Integration	
...	...	...	...	...	...	...

Goods Transport & TaaS. NAR.

Partnering & Value Chain, Level 4 Target & Latest News

Goods Transport & TaaS NAR

LAYER 1				LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
Waymo	Samsung, Intel	Waymo	Latent Logic	Jaguar		AutoNation, Swiss Re, transdev	Waymo, autofleet	Uber Freight, DoorDash	Undisclosed		
Luminar, Aeva	NVIDIA, flex.	TORC, algolux	TNO, Applied Intuition, foretellix, DeepScenario, NVIDIA	Freightliner		Penske		Schneider, C.R. England, Uber Freight		aws	
Plus, Ouster, Teledyne FLIR, Aeva, Luminar	NVIDIA	Plus, TIER IV	QNX, NVIDIA	PACCAR, Traton, Iveco, SAIC, FAW Group, JAC, Hyundai	Cummins, Yellow Cab, Schaeffler, Bosch, Goodyear	Goodyear		amazon, SF Express, DSV, dm, Worldex		aws, Alibaba Cloud	Transurban

Note: trucking will not be considered here anymore.

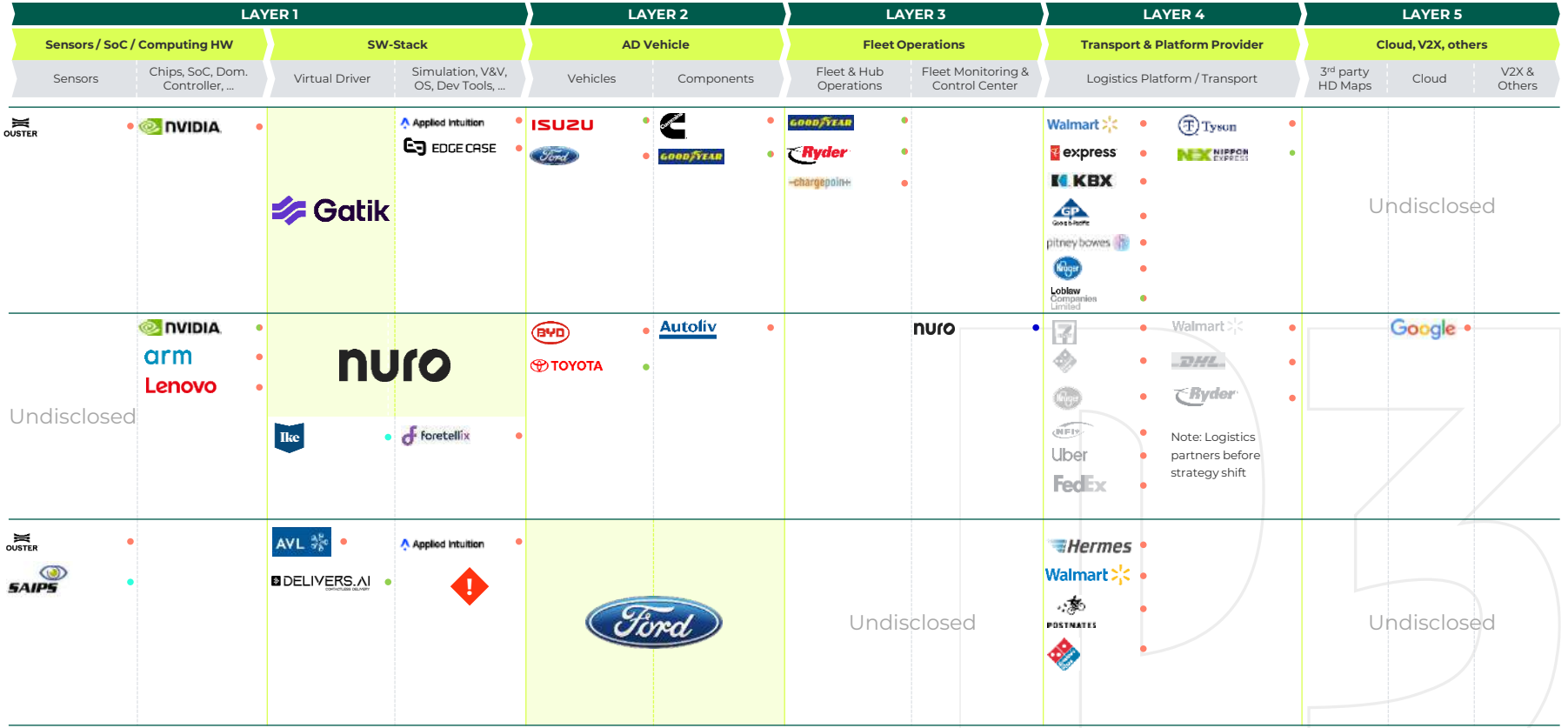
Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update | Partner outside US

Goods Transport & TaaS NAR

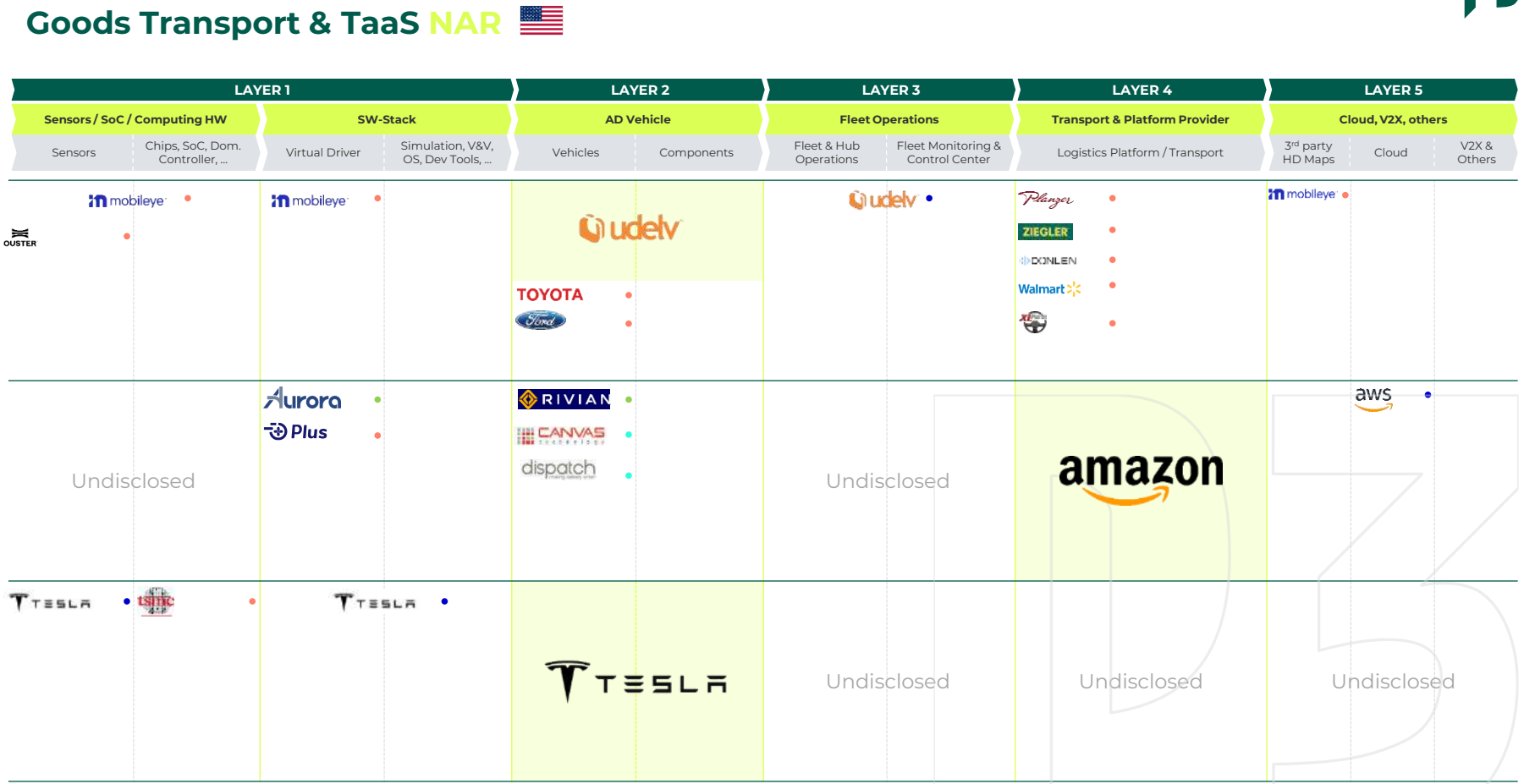
LAYER 1				LAYER 2		LAYER 3		LAYER 4		LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider		Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport		3rd party HD Maps	Cloud	V2X & Others
Luminar HESAI ZF	NVIDIA Ambarella NXP	kodiak embedl	Applied Intuition KOGNIC>	PACCAR ROUSH Truck upfitting	VICOR ZF	SK BRIDGESTONE Pilot Ryder WABASH	vay	CEVA U.S. XPRESS IKEA WERNER Forward	MB Martin Brower C.R. England LOADSMITH MAERSK Atlas off-highway J.B. HUNT	Undisclosed		Drivewyze
	NVIDIA	waabi		Peterbilt VOLVO SCANIA PORSCHE SE		Undisclosed		Uber Freight		Undisclosed		
Aurora blackmore OURS AUMOVIO	NVIDIA AUMOVIO	Aurora Uber ATG	EDGE CASE	PACCAR VOLVO	AUMOVIO	Ryder	Aurora McLeod	FedEx amazon U.S. XPRESS Uber Freight WERNER Covenant	Hirschbach		aws	AUMOVIO

Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update

Goods Transport & TaaS NAR



Goods Transport & TaaS NAR



Goods Transport & TaaS NAR

LAYER 1		LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations	Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
whale dynamic Whale Dynamic AV stack consists of 3rd party HW		whale dynamic		ONX		zeeba	robomart AVERY DENNISON	Undisclosed			
Undisclosed		EMBARK Replika GHOST Applied Intuition kodiak TORC Gatik driveblocks		ISUZU DAIMLER TRUCK TRATON einride		Undisclosed	Undisclosed	Undisclosed			
AVRIDE NVIDIA		AVRIDE		AVRIDE		Undisclosed	Uber GRUBHUB Rakuten	Undisclosed			

Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update

Goods Transport & TaaS NAR

LAYER 1				LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
	NVIDIA	BOT. AUTO		FREIGHTLINER		Riggy's MarshMcLennan Insurance		STEVES J.B. HUNT	Undisclosed		
	HYUNDAI										

Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update | Partner outside US

Goods Transport & TaaS NAR

At a glance	Latest news	L4 target
 The Waymo Driver has **over a decade of deep AD experience** including **millions of miles on public roads** and **billions of miles in simulation**. Waymo has **reduced trucking efforts to a minimum** in order to focus on the ride hailing case. Also, the existing fleet is used for food delivery via Uber Eats.	Your DoorDash order, delivered by Waymo. (16.10.2025) Update Read	Focus on ride hailing and urban delivery with I-PACE fleet
 Torc is an independent **subsidiary of Daimler Truck AG** and the **first AV company to enter an integrated partnership** with a **truck OEM**. Torc and DT are ramping up development and testing in the US. Go-to-market is targeted for 2027.	$5.6M autonomous truck engineering hub opens near Ann Arbor. (07.08.2025) Read	**2027**
 PlusDrive follows an **evolutionary path from L2++ to L4**. **Global initiatives in cooperation with IVECO, TRATON Group, and Hyundai have been announced**. In contrast to competitors, Plus is already testing its self-driving and highly automated trucks on European roads.	International and PlusAI accelerate Level 4 autonomous truck development powered by NVIDIA DRIVE AGX Hyperion Platform. (28.10.2025) Update Read	**2027**
 Kodiak Robotics develops autonomous technology for long-haul trucking and carried the **first commercial freight just eight months after being founded.** After long considering Kodiak as an acquisition candidate, they meanwhile became **one of the strongest players in the market**.	Kodiak AI and ZF partner on steering for 100 Kodiak-powered driverless trucks. (04.11.2025) Update Read	**2025**

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS NAR

At a glance	Latest news	L4 target
 Toronto-based Waabi is renowned for both it's founder and its **closed-loop simulator**, Waabi World, which targets an **AI-first approach**. Waabi has entered promising partnerships with Volvo and Uber Freight. The company is worth observing.	Waabi unveils autonomous truck made in partnership with Volvo. (28.10.2025) Update Read	**2025**
 Instead of deploying robotaxis, Aurora is **focusing primarily on TaaS** and has already entered into truck **collaborations with PACCAR, Volvo and Continental**. These **collaborations promise to scale their test fleet** to get their product ready for production.	Aurora expands self-driving trucks route to El Paso. (28.10.2025) Update Read	**2026**
 Gatik focuses on **short-haul, B2B logistics** for the **retail industry.** More specifically, hub-and-spoke supply chain operations. The vehicles are restricted to **fixed, repeatable routes.** Gatik has found a niche that no other market player is dedicated to now.	Gatik and Loblaw announce largest commercial deployment of AV trucks. (23.09.2025) Update Read	L4 target reached in Arkansas by 2021
 Nuro **has been a pioneer in last-mile deliveries** with a special purpose vehicle. In September 2024, Nuro announced to **start licensing its L4 technology** to manufacturers of personally owned vehicles and mobility providers, like ride-hail and delivery companies. A smart move to monetize its tech end create a viable business case.	Nvidia is latest investor to back AV startup Nuro in $203M funding round. (21.08.2025) Read	Not announced

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS NAR

At a glance	Latest news	L4 target
 After Argo's shutdown, it's unclear how Ford will proceed for urban delivery and trucking. Nevertheless, **Ford Otosan is cooperating with AVL** in this area. We believe they can't keep up with the leading self-driving truck companies.	Developing ADAS with high-fidelity vehicle models and integrated controllers. (17.11.2025) Update Read	Not announced
 Udelv has been doing **commercial deliveries for Walmart** for some time. With the **'Transporter**' they now have their own **versatile special purpose vehicle**, equipped with Mobileye's promising SDS. It's been quite around Udelv for a while – as other companies, Udelv seem to struggle towards industrialization of its vehicle.	Ziegler orders autonomous and electric delivery vehicles from the company Udelv. (05.01.2022) Read	Not announced
 Amazon has **invested in Aurora and conducted road tests with Embark, which later didn't survive market consolidation**. Amazon's vision could be to cover the entire logistics chain - in the future also with autonomous trucks, delivery vehicles and last mile delivery solutions.	Amazon stops field tests of its delivery robot Scout. (07.10.2022) Read	Not announced
 Little is still known about Tesla's Semi Truck and targeted automated driving capabilities. According to the company, it will be the first vehicle to drive fully autonomously. The truck is to be equipped with **'enhanced' autopilot functionalities for automated highway driving**. At least we still have doubts.	Tesla Semi with sensor rig spotted potentially ground truth calibrating for FSD. (30.09.2024) Read	Not announced

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Goods Transport & TaaS NAR

At a glance	Latest news	L4 target
 Robomart has teamed up with a couple of companies to establish the **Autonomous Retail Collective (ARC**), an ecosystem aimed at developing and advancing self-driving shops. Collaboration is key in the autonomous mobility space – therefore, Robomart is worth to 'watch-out'.	Robomart unveils new delivery robot with $3 flat fee to challenge DoorDash, Uber Eats. (25.08.2025) Read	Not announced
 Applied Intuition provides various solutions for its customers, including an ADAS and AD development platform, a vehicle software platform, and an **autonomy stack aimed at off-highway autonomy and trucking**. In 2023, the company **acquired Embark's trucking assets**, which may serve as the basis for their autonomy stack.	Applied Intuition acquires Reblika's generative AI technology for creating fully configurable 3D digital humans. (08.07.2025) Read	Not announced
 Avride is the **rebranded, international division** of the robotaxi and delivery robot company **Yandex Self-Driving Group**. While international assets have been separated from Russian-owned Yandex assets, Avride said it's testing AVs (and probably the rover as well) in diverse ODDs across the globe, focusing on safety.	Grubhub expands robot delivery partnership with Avride to its marketplace. (23.10.2025) Update Read	L4 achieved
 **Founded in 2023 by a former TuSimple CEO**, Houston-based Bot Auto has grown its autonomous trucking fleet to eight vehicles. The company currently operates with safety drivers, **targets driverless deliveries in 2025**, and named **Steves & Sons its first shipping partner** through a deal with J.B. Hunt..	Marsh backs Bot Auto with specialty driverless trucking insurance. (12.11.2025) Update Read	**2025**

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS. Asia.

Partnering & Value Chain, Level 4 Target & Latest News

Goods Transport & TaaS ASIA

LAYER 1				LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
LUMINAR HESAI robosense pony.ai (Sensor fusion)	Horizon Robotics NVIDIA pony.ai	pony.ai		SANY NEOLIX	ZF	CYANTRON		Yamibuy Meituan	Undisclosed		
HESAI	NVIDIA	WeRide 文远知行		JMC		Undisclosed		ZTO	Tencent 腾讯	Tencent 腾讯	
OUSTER TRUNK 主线科技 BOSCH	Horizon Robotics	TRUNK 主线科技		中国重汽 SINOTRUK 北汽集团 BAIC Group NIO		TRUNK 主线科技		德邦 申通快递 express JDL 京东物流	Undisclosed		

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

Goods Transport & TaaS ASIA

LAYER 1				LAYER 2		LAYER 3		LAYER 4		LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider		Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport		3rd party HD Maps	Cloud	V2X & Others
ZVISION, BOSCH	Ambarella, Horizon Robotics	INCEPTIO TECHNOLOGY		NIO, DONGFENG, SINOTRUK	ZF	Undisclosed		JDL 京东物流, Meituan, 壹米滴答, 跨越速运, 德邦快递, SF EXPRESS 顺丰速运, YTO	中国邮政 CHINA POST, 中国物流, ZTO, STO 申通快递, Nestlé, UT 优通	NAVINFO		
HESAI		SAIC Plus		SAIC		Undisclosed		Undisclosed		Undisclosed		
OUSTER, HESAI	Horizon Robotics, NVIDIA	NEOLIX, pony.ai		NEOLIX		Undisclosed		JDL 京东物流, FedEx, Grab Food, foodpanda, Meituan				ncs, FIXPOSITION

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

Goods Transport & TaaS ASIA

LAYER 1				LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
OUSTER, HESAI, robosense, ZVISION	NVIDIA	DEEPROUTE.AI		ISUZU		Undisclosed		Alibaba, 德邦快递 DEPPON EXPRESS	Tencent 腾讯 SD maps – probably consumer vehicles only		
HESAI, arbe, WETFU威孚	Horizon Robotics	KARGOBOT		SHACMAN, FOTON		Elenergy			Undisclosed		
Undisclosed		Baidu 百度 apollo		DEEP WAY		Undisclosed		SAP, LIONBRIDGE		Qualcomm	

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

Goods Transport & TaaS ASIA

LAYER 1				LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
LIVOX		Plus, HUAWEI		FAW GROUP		Undisclosed		Undisclosed		HUAWEI	
HESAI	DENSO, OTSL, TIER IV	driveblocks, Plus, TIER IV		ISUZU, Mitsubishi Corporation	Astemo, ヤマト運輸, Trailers	Undisclosed		Undisclosed		Undisclosed	

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

Goods Transport & TaaS ASIA

At a glance	Latest news	L4 target
 Pony.ai is a leading player in L2+ solutions for OEMs as well as L4 robotaxi deployments. However, Pony **will jointly develop premium autonomous heavy-duty truck with SANY and Sinotrans**. They are among the **pioneers in the Chinese self-driving truck market**.	Pony.ai, Sinotrans renew agreement on autonomous logistics service joint venture. (17.01.2025) Read	Not announced
 WeRide unveiled **China's very first L4 self-driving cargo van** in September 2021 and also has other products like robo sweepers in its portfolio. In February 2025, WeRide launched **Robovan W5**, a purpose-built delivery solution.	WeRide launches Robovan W5, pioneering new class of autonomous delivery vehicle. (06.02.2025) Read	**L4 achieved**
 **Investments from Bosch, Nio and BAIC** made Trunk.Tech known outside China. It is without question **one of the most promising startups** in the Chinese self-driving truck / freight haulage space.	TRUNK nabs multi-hundred-million-yuan strategic funding to expand global autonomous trucking business. (11.09.2025) Read	Not announced
 Chinese startup with the **aim to build a nation-wide freight network** using autonomous trucks. Unlike other AV truck companies, **Inceptio initially focuses on L3**. However, it could possibly be a hidden champion among autonomous trucks with regard to full autonomy - at least in China.	Inceptio's L2+ trucks log one million kilometers daily in China. (04.11.2025) Update Read	Not announced

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS ASIA

At a glance	Latest news	L4 target
 SAIC Hongyan, in collaboration with UTOPILOT, launched a 5G+L4 smart heavy truck that completed fully driverless testing & operations on public roads by 2023. Within 3 years, a fleet of ~300 truck was formed, making it the **world's largest commercial fleet of smart heavy truck**. By 7/2024, the fleet has accumulated **>10 million kilometers** of AD operation.	SAIC Hongyan's 5G+L4 Smart Heavy Truck to Begin Trial Operations in Danzhou. (03.07.2024) Read	Not announced
 Nearly **1,000 Neolix delivery vehicles have been deployed** in nine countries and **over 40 cities worldwide**, with a cumulative mileage of more than 6 million kilometers by 2024. The shuttle may be compared with Nuro, which is currently focused exclusively on the US market.	Chinese RoboVan solution developer Neolix raises over $600 million in Series D financing. (24.10.2025) Update Read	**L4 achieved**
 DeepRoute.ai **announced an autonomous medium-duty truck business line for urban logistics**. Having started a first commercialization project with Deppon Logistics, DeepRoute is **backed by Alibaba and its huge network** of ecommerce, logistics & community shopping, among others. Reads well.	DeepRoute.ai showcases DeepRoute IO 2.0 platform, VLA model at IAA Mobility 2025. (09.09.2025) Read	Not announced
 **KargoBot** was launched during Auto Shanghai 2023 **by MaaS giant DiDi** and focuses on a pilot vehicle approach with a human driver onboard and multiple L4 trucks following its lead. We will closely trace KargoBot's development.	KargoBot.ai partners with SuperPanther to develop new energy L4 autonomous heavy-duty trucks. (08.09.2025) Read	Not announced

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS ASIA

At a glance	Latest news	L4 target
 DeepWay - a **subsidiary of Baidu** - plans to offer heavy Level-3-trucks by June 2023. The vehicles will have a range of 300 km, and in addition to a fast-charging function, it will also be possible to swap batteries in 6 minutes. The integration of fuel cells is targeted for the future.	DeepWay secures 750 million yuan in Series B financing. (26.12.2024) Read	**2024-2026**
 By 2020, FAW Jiefang and Zhito Technology unveiled the J7 L3 super-truck, marking the first mass production heavy-duty truck to use lidar. FAW Jiefang is **developing automated heavy-duty trucks based on Plus.ai's stack** while also having a s**trong partnership with Huawei** in place.	Plus, FAW Jiefang Qingdao to co-develop autonomous gas-powered heavy-duty truck. (10.07.2024) Read	**2025**
 TIER IV is a Japan-based company **specializing in Autoware-based AD solutions**. The company aims to make autonomous mobility technology scalable and accessible, collaborating globally to **advance AVs for different industries**. TIER IV participates in projects such as METI aimed at deploying robotaxis for transportation and autonomous trucks for logistics.	Yamato Transport, Mitsubishi Fuso and TIER IV join Japanese government autonomous trucking project. (27.08.2025) Update Read	Not announced

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS. Europe.

Partnering & Value Chain, Level 4 Target & Latest News

Goods Transport & TaaS EUROPE

LAYER 1		LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations	Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
Luminar		TORC	Applied Intuition Apex.AI	DAIMLER TRUCK		Undisclosed		Undisclosed	tomtom aws		
Undisclosed		Plus TRATON	Applied Intuition BTC embedded systems	TRATON	KNORR-BREMSE LEONI BOSCH	FERNRIDE		HAVI RHOLA			Die Autobahn
	NVIDIA	einride	Applied Intuition IVEX	einride		einride		GATLY! apotea-se MICHELIN DB SCHENKER Lidl DP WORLD	DEEPMAP		

Core Business | Partnership or supplier deal | Investment | Acquisition | Parent / Subsidiary | Update

Goods Transport & TaaS EUROPE

LAYER 1				LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider	Cloud, V2X, others		
Sensors	Chips, SoC, Dom. Controller, ...	Virtual Driver	Simulation, V&V, OS, Dev Tools, ...	Vehicles	Components	Fleet & Hub Operations	Fleet Monitoring & Control Center	Logistics Platform / Transport	3rd party HD Maps	Cloud	V2X & Others
	NVIDIA	Aurora, waabi		VOLVO, ISUZU			VOLVO	DFDS, DHL, Uber Freight, ascend, CONVOY	Undisclosed		
INNOVIZ, APX		ROSAS, LOXO		LOXO, VW			NOVIV, HEIA-FR HTA-FR	MIGROS, Planzer, REWE, !	Undisclosed		
	NVIDIA	Plus		IVECO		Undisclosed		DSV, dm	here	Continental	

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

Goods Transport & TaaS EUROPE

LAYER 1				LAYER 2		LAYER 3		LAYER 4	LAYER 5		
Sensors / SoC / Computing HW		SW-Stack		AD Vehicle		Fleet Operations		Transport & Platform Provider	Cloud, V2X, others		
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Undisclosed		WAYVE		MAXUS, JAGUAR		Admiral		ocado GROUP, dpd, ASDA		Microsoft	
kodiak	ZF	ZF, embotech, STRADVISION		CLEVON	ZF, kodiak		ZF	ZF		Microsoft	
		driveblocks, TIER IV	Applied Intuition, Apex.AI, b-plus		pepper, SENSE	Undisclosed		Undisclosed	Undisclosed		

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

Goods Transport & TaaS EUROPE

LAYER 1				LAYER 2		LAYER 3		LAYER 4		LAYER 5		
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	NVIDIA Texas Instruments	STARSHIP		STARSHIP		Undisclosed		GRUBHUB veriff DOORDASH coop	Bolt foodora	Undisclosed		
HESAI		AVL embotech		TERBERG BMW GROUP	ZF	VOLKSWAGEN APM TERMINALS		Undisclosed		Undisclosed		
	NVIDIA	QNX FERNRIDE		TERBERG KRONE	JOST	HHLA VW		DB SCHENKER		Undisclosed		

Core Business · Partnership or supplier deal · Investment · Acquisition · Parent / Subsidiary · Update

Goods Transport & TaaS EUROPE

At a glance	Latest news	L4 target
 DTNA's **Cascadia trucks with an integrated Torc AV stack** are already **hitting the roads in the US** with a targeted go-to-market by 2027. Currently, there is **no disclosed roadmap for the European market** yet.	Daimler Truck and TORC Robotics select Aeva to supply advanced 4D LiDAR technology for series-production autonomous trucks. (09.01.2024) Read	Not announced
 As TRATON's partnership with TuSimple came to an end, **Scania, MAN, and International will now work together with Plus** to intensify the development of L4 self-driving trucks. The companies will focus on hub-to-hub operations – using the **same AV stack across all major TRATON brands** is a reasonable approach.	International begins autonomous fleet trials, takes the next step in self-driving freight transport. (08.09.2025) Read	Not announced
 The **Einride Pod** is unique from other self-driving trucks as there is **no driver's cab**. The pod currently operated in gated areas on fixed routes. Towards L4 with higher speeds on public roads there need to be leaps in development. However, Einride's ecosystem is unique.	Autonomous-truck company Einride plans to go public in SPAC deal. (12.11.2025) Update Read	Target reached in gated areas
 The **"Volvo VNL Autonomous"** fully redundant truck was unveiled in 2024 and will be **powered by Aurora**. In addition, **Volvo has invested in Waabi** and thus betting on a second horse. The approach seems to make sense in order not to be dependent on an SDS provider in its self-driving roadmap.	Waabi unveils autonomous truck made in partnership with Volvo. (28.10.2025) Update Read	Not announced

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS EUROPE

At a glance	Latest news	L4 target
 LOXO'S last mile delivery vehicle is reminiscent of some US and Chinese market players' solutions but is the **first vehicle of its kind made in Europe**. **Commercial success** in Europe **requires both a technically mature solution and a profitable business case**. In 2024, LOXO and Planzer announced a joint pilot based on an ID. Buzz, shifting away from the SPV.	We bring autonomous grocery delivery to Germany. (18.11.2025) Update Read	Not announced
 **IVECO and Plus are jointly developing self-driving trucks** and conducting **test drives on European highways**. **Pilot projects have already been announced** - so the two could be pioneers for autonomous trucks in Europe along TRATON.	IVECO, Plus, dm-drogerie markt and DSV launch automated trucking pilot in Germany. (15.11.2023) Read	Not announced
 Wayve does **not rely on HD maps** and **hand-coded rules** but **focuses on its deep and self-learning AI technology** based on cameras. The company raised $1bn in 2024 to take its Tesla-like technology for self-driving to many carmakers. Let's see if delivery vehicles are still a targeted use case for Wayve in the future.	Wayve and NVIDIA announce discussions to evaluate proposed $500M investment in Wayve's next round. (18.09.2025) Update Read	Not announced
 ZF offers a **comprehensive portfolio for commercial vehicle automation** such as sensors and high-performance computers. While ZF has already **supplied L4 truck companies**, we don't believe ZF will develop an own L4 SDS but rather focus on lower SAE levels and components.	Kodiak AI and ZF partner on steering for 100 Kodiak-powered driverless trucks. (04.11.2025) Update Read	Not announced

Definition L4 target: commercial self-driving service operated within a specific ODD without a safety driver.

Goods Transport & TaaS EUROPE

At a glance	Latest **news**	**L4** target
 driveblocks develops a **modular; scalable AD software** stack for commercial vehicles. **It allows OEMs/Tier1 to integrate it with their vehicles and solutions in an open and flexible way**. Meanwhile, the company is rather focused on off-highway solutions.	Developing a mapless architecture for Autoware. (27.08.2025) Read	Not announced
 Starship delivery robots completed **>6mn autonomous deliveries**. It is **unlikely that these robots will become widely accepted for last mile delivery**. However, there could certainly be use cases in gated areas. Being a pioneer in the robot delivery space, more and more new players have entered the market.	foodora and Starship Technologies continue to innovate the last-mile experience with the expansion of their autonomous robot delivery fleet. (17.06.2025) Read	Reached at various locations
 Embotech, a Swiss ETH spin-off, develops AI-based decision software for autonomous driving. Their PRODRIVER system enables **Level 4 autonomy in logistics and industrial settings**, powering automation in car factories and ports	APM Terminals Maasvlakte II signs unique cooperation contract with Embotech and Terberg for the purchase and implementation of 30 electric automated terminal trucks . (09.01.2025) Read	Not announced
 FERNRIDE **enables autonomous, electric trucking using human-assisted remote control**. Based in Munich, it serves major logistics clients like VW and DB Schenker, addressing driver shortages and sustainability with scalable yard automation solutions across Europe.	FERNRIDE launches comprehensive driverless testing. (22.01.2025) Read	Not announced

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BUSINESS AS UNUSUAL

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