

China Passenger Car Navigate on Autopilot (NOA) Industry Report, 2023

Dec. 2023



Intelligent driving is evolving from L2 to L2+ and L2++, and Navigate on Autopilot (NOA) has become a layout focus in the industry. How is NOA advancing at present? What are hotspots in the market? Who are players? What are their products and solutions? How to implement? These issues are exactly what ResearchInChina explores and studies in China Passenger Car Navigate on Autopilot (NOA) Industry Report, 2023

1. NOA is evolving from Highway NOA to Urban NOA.

Navigate on Autopilot (NOA) is divided into Highway NOA and Urban NOA by application scenario. At present, Highway NOA has been implemented on a scale, and Urban NOA is developing rapidly. ✓ Scenarios: highways, overpasses, urban expressways, etc.
 ✓ Since 2021, it has been

launched and has been applied on a certain scale.

- All urban scenarios, end-to-end driving assistance
- Since 2022, it has been launched. In 2023, it became an arena for players, and is available to more cities quickly.

Urban NOA

Highway NOA

Transitional mode of Urban NOA

Commute NOA

- Commuting scenarios, e.g., office and fixed routes.
- It emerged in H2 2023, and may boom in 2024.

Source: ResearchInChina



According to the statistics of ResearchInChina, from January to September 2023, the penetration of Highway NOA in passenger cars in China was 6.7%, up 2.5 percentage points from the prior-year period; the penetration of Urban NOA was 4.8%, up 2.0 percentage points. It is estimated that the full-year penetration of Highway NOA and Urban NOA will be nearly 10% and over 6%, separately.

Penetration of NOA in Passenger Cars in China, 2021-2023



Source: ResearchInChina



Urban NOA becomes an arena for OEMs

2. Urban NOA becomes an arena for OEMs.

In 2023, quite a few OEMs have dabbled in Urban NOA which was booming in Chinese cities.

As per the implementation process, OEMs have initially formed two echelons:

In the first echelon, Tesla, Xpeng, Li Auto, NIO, ARCFOX, Avatr, AITO, etc. plan to implement Urban NOA in 2023.

In the second echelon, IM, BYD, Jiyue, WEY, Leapmotor, ZEEKR, etc., plan to implement Urban NOA in 2024.





report@researchinchina.com

There are mainly two kinds of solutions implemented:

"High-weight perception": Usually Urban NOA uses LiDAR. Yet in the second half of 2023, vision-only Urban NOA solutions, such as Baidu Apollo City Driving Max, and DJI Chengxing Platform - 9V, emerged.

"Low-weight map": In 2023, the market demand has gradually shifted from "high-weight HD maps" to "non-/low-weight HD maps". Urban NOA solutions that do not rely on HD maps therefore debuted stunningly, such as Huawei ADS 2.0 and Xpeng XNGP.

In October 2023, Jiyue's first model, Jiyue 01, was launched on market, equipped with ROBO Drive Max based on Baidu Apollo City Driving Max. It uses BEV+Transformer + convolutional occupancy network (OCC) technology, and packs 11 HD cameras (including 7 8MP cameras), 12 ultrasonic radars, 5 radars, and dual Orin-X SoCs (AI compute: 508 TOPS) to enable such functions as Highway NOA, Urban Point-To-Point Autopilot (PPA), and AVP.

Jiyue PPA enables high-level intelligent driving assistance in highway and urban scenarios. In highway scenarios, it completes automatic change lane to overtake, on/off-ramp, obstacle avoidance in/between lanes, and other tasks. In urban scenarios, it can accurately recognize zebra crossings, traffic lights, give way to pedestrians, make unprotected left turns, and avoid non-motorized vehicles.

According to the planning of Jiyue, PPA will be available in Shanghai, Shenzhen and Hangzhou in 2023, and more than 200 cities in China in 2024.

Jiyue is equipped with the world's most advanced high-level intelligent driving technologies

BEV +Transformer vision-only solution + China's first convolutional occupancy network (OCC) + 28 intelligent driving sensors + dual NVIDIA Drive Orion-X SoCs





Commute NOA opens a new way for implementation of Urban NOA

3. Commute NOA opens a new way for implementation of Urban NOA.

In the second half of 2023, Commute NOA (memory driving) was favored by the industry. Commute NOA is actually a transitional mode of Urban NOA, with the following features:

Repeated training based relatively fixed on routes: When there are enough effective data for training, this function can be enabled; update comprehensive on HD maps is The not required; Generally, memorizing a simple route takes a week, and a complex route takes 2-3 weeks.

At present, Commute NOA has different names in the industry, for example, Xpeng calls it AI Valet Driver, and DJI calls it Memory on Driving, but the main purpose is to speed up the pace of "getting into the city" without HD maps. "The bottom layer of the AI Valet Driver mode does not rely on maps, and if Urban NOA gains an average score of 85 in the map-free mode, AI Valet Driver can score 90 or even 95", said He Xiaopeng, CEO of Xpeng.

By the end of 2023, OEMs such as Xpeng, Li Auto and IM, and solution providers like DJI, Haomo.AI, Baidu and QCraft have taken the lead in this filed. Among them, Li Auto has been the most aggressive player.

The Commute NOA mode introduced by Li Auto in June 2023 can cover more than 95% of common mobility scenarios. Li Auto began to push the close beta version of Commute NOA to early bird users in 10 cities including Beijing, Shanghai, Guangzhou and Shenzhen in September, and expanded it to 20 cities in October, 50 cities in November and 100 cities nationwide in December.

Comparison between Major Commute NOA Companies

	Li Auto	Xpeng	DJI		
Name	Commute NOA	AI Valet Driver	Memory on Driving		
Launch time	Jun. 2023	Oct. 2023	Aug. 2023		
Typical m <mark>odel</mark>	L Series Max	G6	Baojun Yunduo		
Sensor solution	1R11V12U1L	5R12V12U2L	1R7V12U		
Chip	2*Orin-X	2*Orin-X	TDA4		
Computing power	508TOPS	508TOPS	32TOPS		
Scenarios	Cover more than 95% of common mobility scenarios	Not restricted by cities	.com		
Landing plan	Sep. 2023: 10 cities Oct. 2023: 20 cities Nov. 2023: 50 cities Dec. 2023: 100 cities	Oct. 2023: close beta test Dec. 2023: open to some users	-		
Courses Doorseshie China					

Source: ResearchInChina



4. "BEV+Transformer" facilitates the application of City NOA

In the past two years, the voice of "more stress on perception and less stress on maps" has become louder and louder. Chinese players mainly use BEV+Transformer technology to optimize and upgrade system perception capabilities for lower dependence on HD maps, thus cutting down costs and promoting the rapid implementation of Urban NOA. Typical companies include Xpeng, Huawei, Li Auto and Haomo.AI.

Xpeng:

In October 2022, Xpeng launched the next-generation intelligent driving system XNGP. Based on the perception architecture XNet 1.0, this system enables Urban NOA without HD maps.

In October 2023, the upgraded XNGP introduced XBrain, an all-scenario intelligent driving architecture composed of XNet 2.0 and XPlanner. XNet2.0 is a perception system which can understand time and space. It adopts three-in-one architecture involving dynamic BEV, static BEV and occupancy network. With the longitudinal and lateral perception range increased by 200%, it can perceive 11 new types of objects, including small animals, ground locks and parked bicycles.

According to the planning of Xpeng, XNGP will spread to 50 cities in 2023. In 2024, it will achieve full coverage of road networks (including Class 1-4 roads) in major cities across the country.



Huawei ADS 2.0

Huawei

Huawei: the self-developed advanced intelligent driving system ADS has iterated twice.

Based on Transformer's BEV architecture. ADS 2.0 uses the RCR (Road Cognition and Reasoning, Road Topology Reasoning) and the innovative LiDAR GOD (General Obstacle Detection) network to fuse data from LiDAR, radar, and cameras to achieve high-level intelligent driving without HD maps. It was first installed on the Intelligent Driving Edition of AITO M5. In September 2023, ADS 2.0 was upgraded, highlighting the iteration of two algorithms. GOD 2.0 (General Obstacle Detection) can "understand objects and roads." Understanding objects means GOD 2.0 can recognize foreign objects outside the universal obstacle white list and accurately recognize obstacle types (ambulances, police cars, etc.). Understanding roads means RCR2.0 (Road Cognition & Reasoning) can match navigation maps with the real world.

In November 2023, Avatr 12 equipped with the latest ADS 2.0 was available on market, with an officially announced GOD recognition rate of 99.9% and an RCR perception area equivalent to 2.5 football pitches. In complex urban scenarios, it provides such functions as adaptive cruise control, intelligent lane change, obstacle avoidance, and special-shaped intersections/night/tunnels crossing. It can also pass TLC standard intersections on rural roads, change lanes in construction scenarios, change lanes in the same direction to avoid obstacles, and pass narrow roads (without lane lines).

	ADS1.0	ADS2.0
Release time	2021	Apr 2023
Hardware	Avatr 11 (Standard Edition) as an example: • 3 LiDARs • 6 radars • 13 cameras • 12 ultrasonic radars • HD maps • Huawei MDC810 (computing power: 400Tops)	 AITO M5 (Intelligent Driving Edition) as an example: A LiDAR (roof) 3 radars 11 cameras (8MP front-view stereo cameras) 12 ultrasonic radars Available with or without maps (available nationwide by the end of 2023) Huawei MDC610 (computing power: 200Tops)
Software	• Fusion perception BEV architecture	 Road topology reasoning (RCR) + innovative LiDAR GOD network (understandable)
Main functions	 Under the coverage of HD maps, enable Highway NOA and Urban NOA. Urban NOA (Shenzhen, Shanghai, Guangzhou, Chongqing, Hangzhou, etc.) / Highway NOA (as of April 2023, HD maps had covered over 300,000 kilometers in 259 cities) / parking. 	 Active safety: add low-speed emergency braking, emergency braking for foreign objects and emergency lane keeping. Comfort: add urban lane cruise control assist enhancement and sentry mode. Highway/Urban NOA, Commute NOA, AVP, etc.
Models supported	 ARCFOX aS (Huawei Inside (HI) Edition) Avatr 11 	 AITO M5 (Intelligent Driving Edition), AITO M7, AITO M9 Avatr 11 (HarmonyOS Edition), Avatr 12 LUXEED S7

Iteration of Huawei ADS



report@researchinchina.com

5. Extremely cost-effective solutions drag down NOA installation costs.

In 2023, the intelligent driving industry set off a wave of price reduction. Following this trend, many suppliers, such as DJI, Haomo.AI and Yihang.AI, launched a range of NOA solutions with high cost performance.

DJI:

In April 2023, DJI offered L2+ intelligent driving functions including urban Memory on Driving (32TOPS)/Urban NOA (80TOPS), which "use strong vision for online real-time perception and don't rely on HD maps or LiDAR".

According to DJI, the hardware cost (RMB5,000~15,000) of the solution takes up about 3% to 5% of the total vehicle price. This view is echoed by Cheng Peng, the CEO of NavInfo. Cheng Peng said that automakers would accept that the total cost of intelligent driving systems shares about 3% of the selling price of vehicles.



Source: DJI



Haomo.Al

Haomo.AI released three extremely cost-effective products of the 2nd generation HPilot to cater to high, medium and low-priced production models.

наомо.аі

Haomo.Al

Haomo.Al unveiled three cost-effective, map-free NOH solutions of the 2ndgeneration HPilot in November 2023. In HP570's case. the RMB8,000 Urban NOH doesn't rely on maps, and the computing power of 72/100TOPS supports drivingparking integration.





www.researchinchina.com

report@researchinchina.com

Yihang.Al

driving-parking integrated solution NOA. The released by Yihang.Al in May 2022, uses two TI TDA4VM processors with computing power of enabling 16 driving functions and 10 16TOPS. parking functions in scenarios such as highways/urban loops, including automatic overtaking, automatic road network switching, automatic on/off-ramp, automatic merge into/exit from the main road. This solution has been first applied to models like SAIC Maxus G90. The Urban NOA solution highlighting BEV and perception has been designated for mass production, with multiple models built and functions developed.

In general cost-effective NOA solutions exploit intelligent driving hardware, and enables vision-only high-level intelligent driving capabilities based on low-compute platforms. The implementation of these solutions will, to a certain extent, facilitate the use of high-level intelligent driving in vehicles priced below RMB200,000, improving the intelligence level of the whole automotive market.





Table of Content (1)

1 Sales and Solutions of NOA-enabled Passenger Car Models in China

1.1 Sales and Penetration of Models Equipped with NOA

1.1.1 Sales and Penetration of NOA-enabled Passenger Car Models in China, 2021-2023

1.1.2 Sales and Penetration of Models Equipped with Highway NOA (by OEM Type)

1.1.3 Sales and Penetration of Models Equipped with Highway NOA (by Price Range)

1.1.4 Sales and Penetration of Models Equipped with Highway NOA (by Auto Brand)

1.1.5 Sales and Penetration of Models Equipped with Highway NOA (by Energy Type)

1.1.6 Sales and Penetration of Models Equipped with Highway NOA (by Model)

1.1.7 Sales and Penetration of Models Equipped with Urban NOA (by OEM Type)

1.1.8 Sales and Penetration of Models Equipped with Urban NOA (by Price Range)

1.1.9 Sales and Penetration of Models Equipped with Urban NOA (by Auto Brand)

1.1.10 Sales and Penetration of Models Equipped with Urban NOA (by Energy Type)

1.1.11 Sales and Penetration of Models Equipped with Urban NOA (by Model) 1.2 Sensor Solutions of NOA-enabled Models

1.2.1 Overall Sensor Solutions of Models Equipped with Highway NOA, 2021-2023

1.2.2 Sensor Solutions of Models Equipped with Highway NOA, 2023: by Auto Brand/Model

1.2.3 Overall Sensor Solutions of Models Equipped with Urban NOA, 2021-2023

1.2.4 Sensor Solutions of Models Equipped with Urban NOA, 2023: by Auto Brand/Model

1.3 NOA Solutions of Major Suppliers

1.3.1 NOA Solutions of Major Chinese Suppliers

1.3.2 Comparison of Highway NOA Solutions between Major Chinese Suppliers

1.3.3 Comparison of Urban NOA Solutions between Major Chinese Suppliers 1.3.4 NOA Solutions of Major Foreign Suppliers and Their Layout in China

2 Passenger Car NOA Market Trends

2.1 ADAS Moves towards Higher Level

2.1.1 Penetration of ADAS above L2+ Increases Rapidly

2.1.2 Intelligent NOA Has Become an Arena for All Players

2.1.3 OEMs Have Implemented Pilot NOA

2.2 High-level NOA Is Evolving from Highway NOA to Urban NOA

- 2.2.1 Urban NOA Becomes the Focus of All Players
- 2.2.2 Three Technology Routes of Urban NOA
- 2.2.3 Booming Memory Driving (Commute NOA)

2.2.10 NOA Business Models Have Not Yet Been Unified 2.3 NOA Promotes the Technology Upgrade of the Industry Chain

2.3.1 Development Trends of Key Industry Chain Technologies

2.3.2 Cameras Are Upgraded to 8M

2.3.8 Building "Supercomputing Center+Data Closed Loop" Has Become the Key to Technology Upgrade

3 Passenger Car NOA Solutions and Application of OEMs

3.1 Xpeng

3.1.1 Development History of Autonomous Driving Team

3.1.2 Intelligent Driving System Development Roadmap

3.1.3 XNGP Intelligent Driving System

3.1.4 NGP Iteration History

3.1.5 Typical Models Equipped with NGP



Table of Content (2)

3.1.6 Dynamics in Intelligent Driving System OTA	3.6.1 Intelligent Driving Business Layout
3.2 Li Auto	3.6.2 Iteration of Intelligent Driving System
3.2.1 Intelligent Driving Team and Product Development Model	3.6.3 "God's Eye" High-level Intelligent Driving System
3.2.2 ADAS Iteration Route	3.6.4 Models Equipped with High-level Intelligent Driving System
3.2.3 AD MAX & AD Pro System	3.6.5 Functions of NOA
3.2.4 Iterative Process of NOA	3.7 GAC
3.2.5 Urban NOA	3.7.1 Development History of Intelligent Driving Business
3.2.6 Dynamics in Intelligent Driving System OTA	3.7.2 Intelligent Driving Business Layout
3.3 NIO	3.7.3 Iteration of Intelligent Driving System
3.3.1 Intelligent Driving Business Layout	3.7.4 ADiGO 4.0
3.3.2 Full Stack Autonomous Driving Technology	3.7.5 Typical Models Equipped with NOA
3.3.3 Iterative Process of Intelligent Driving System	3.8 Geely
3.3.4 Next-generation Intelligent Driving System	3.8.1 Intelligent Driving Business Layout
3.3.5 NOP Iteration	3.8.2 Intelligent Driving Brand Layout Contrast
3.3.6 Highway NOP+	3.8.3 Iteration of Intelligent Driving System
3.3.7 Global NOP+	3.8.4 Dirive Safe 2.0
3.3.8 Dynamics in Intelligent Driving System OTA	3.8.5 Typical Models Equipped with NOA
3.4 IM Motors	3.9 Changan Automobile
3.4.1 Intelligent Driving Business Layout	3.9.1 Intelligent Driving Strategic Deployment
3.4.2 Intelligent Driving System and Planning	3.9.2 Comparison between Intelligent Driving Business of Three New Energy
3.4.3 Capabilities of Next-generation IM AD Intelligent Driving System	Brands
3.4.4 Development History and Planning of NOA	3.9.3 High-level Intelligent Driving System of Deepal
3.4.5 Application Cases of NOA	3.9.4 Deepal's Typical Models Equipped with NOA
3.5 AITO	3.10 Tesla
3.5.1 Intelligent Driving Business Layout	3.10.1 ADAS
3.5.2 Iteration of Intelligent Driving System	3.10.2 Iteration of FSD System
3.5.3 Next-generation Intelligent Driving System	3.10.3 Core Intelligent Driving Capabilities
3.5.4 Typical Models Equipped with NCA	3.10.4 Dynamics in Intelligent Driving System OTA
3.6 BYD	3.10.5 Layout in China



Table of Content (3)

4 Passenger Cars NOA Solutions of Domestic Suppliers	4.4.3 Iterative Process of ADS
4 1 Desay SV	4.4.4 ADS 2.0 (L2++) and Features
4 1 1 Profile	4.4.5 Comparison between Models Equipped with ADS 2.0 (L2++)
4 1 2 Intelligent Driving Lavout	4.4.6 Dynamics in Intelligent Driving Cooperation
4 1 3 Intelligent Driving Business Models	4.5 Baidu Apollo
4.1.4 Intelligent Driving Domain Controller Solutions	4.5.1 Profile
4 1 5 I 2+ Solutions	4.5.2 Business Model
4.1.0 L2+ Solutions	4.5.3 Intelligent Product Matrix
4.1.7 Cooperation Ecology and Dynamics	4.5.4 Intelligent Driving Technology
4.2. lingwei Hirain	4.5.5 Intelligent Driving Solutions
4.2 1 Profile	4.5.6 Hardware Configuration of Intelligent Driving Solutions
4.2.2 Intelligent Driving Lavout	4.5.7 L2+ Autonomous Driving Solutions
4.2.3 Intelligent Driving Solutions	4.5.8 L2++ Autonomous Driving Solutions
4 2 3 I 2/I 2+ Intelligent Driving Solutions	4.5.9 L2++ Autonomous Driving Solutions
4.2.5 Dynamics in Cooperation	4.5.10 Application Cases of Intelligent Driving Solutions
4 3 Freetech	4.5.11 Dynamics in Cooperation
4.3.1 Profile	4.6 DJI Automotive
4.3.2 Core Intelligent Driving Capabilities	4.6.1 Profile
4.3.3 Roadmap of Intelligent Driving Solutions	4.6.2 R&D and Production
4.3.4 L2 Driving-parking Integrated Solutions	4.6.3 Development History of Intelligent Driving Business
4.3.5 L2+ Driving-parking Integrated Solutions	4.6.4 All-scenario Intelligent Driving Solutions
4.3.6 L2.5 Driving-parking Integrated Solutions	4.6.5 Iteration of OSMO Intelligent Driving Technology
4.3.7 L2.9 Driving-parking Integrated Solutions	4.6.6 OSMO Intelligent Driving System 2.0
4.3.8 L3/L3+ Driving-parking Integrated Solutions	4.6.7 High-level Intelligent Driving System Deployment Strategy
4.3.9 Intelligent Driving Partners	4.6.8 Application Cases of L2 Solutions
4.3.10 Dynamics	4.6.9 Application Cases of L2+ Solutions
4.4 Huawei	4.6.10 Partners and Dynamics
4.4.1 Business of Intelligent Automotive Solution (IAS) Business Unit (BU)	4.7 Haomo.Al
4.4.2 HI Full-stack Intelligent Vehicle Solution	4.7.1 Profile



Table of Content (4)

4.7.2 Business Model 4.11 HoloMatic Technology 4.7.3 Main Business 4.11.1 Profile 4.7.4 Iterative Roadmap of HPilot System 4.11.2 Main Business 4.7.5 First-generation HPilot System 4.11.3 Intelligent Driving Solutions and Models Supported 4.7.6 Second-generation HPilot System 4.11.4 Core Intelligent Driving Capabilities 4.7.7 Models with Intelligent Driving 4.11.5 Intelligent Driving Partners 4.12 SenseTime 4.7.8 Customers and Partners 4.8 Momenta 4.12.1 Profile 4.8.1 Profile 4.12.2 Intelligent Driving Solutions 4.8.2 Autonomous Driving Strategy 4.12.3 L2 Intelligent Driving Solutions 4.8.3 L2+ Autonomous Driving Solutions 4.12.4 L2.5 Intelligent Driving Solutions 4.8.4 Intelligent Driving Solutions without Maps 4.12.5 L2.9 Intelligent Driving Solutions 4.8.5 Dynamics in Autonomous Driving 4.12.6 Intelligent Driving Capabilities 4.12.7 Automotive Partners 4.9 Yihang.Al 4.9.1 Profile 4.13 Horizon Robotics 4.9.2 Business Model 4.13.1 Autonomous Driving Products and Solutions 4.9.3 Autonomous Driving Solutions 4.13.2 L2-L4 Autonomous Driving Solutions 4.9.4 L2.5 Solutions 4.13.3 L2+ ADAS Solutions 4.9.5 All-scenario FSD Solutions 4.13.4 Autonomous Driving Cooperation Models 4.13.5 Partners and Cases 4.9.6 Partners and Dynamics 4.10 Hong Jing Drive 4.14 Neusoft Reach 4.10.1 Profile 4.14.1 Profile 4.10.2 Business Layout 4.14.2 Intelligent Driving Solutions 4.10.3 Business Model 4.14.3 L2++ Intelligent Driving Solutions 4.14.4 Core Intelligent Driving Capabilities 4.10.4 Intelligent Driving Solutions 4.10.5 Lightweight Driving-Parking Integrated Solutions 4.15 MAXIEYE 4.10.6 High-level Intelligent Driving System Solutions 4.15.1 Profile 4.10.7 Core Capabilities of Autonomous Driving 4.15.2 Intelligent Driving Business and Planning 4.10.8 Key Partners 4.15.3 Intelligent Driving Solutions



Table of Content (5)

4.15.4 L2 Intelligent Driving System 4.15.5 L2.5 Intelligent Driving System 4.15.6 Core Capabilities of High-level Intelligent Driving System 4.15.7 Dynamics in Autonomous Driving Cooperation 4.16 iMotion 4.16.1 Profile 4.16.2 Development History 4.16.3 Revenue and Breakdown 4.16.4 Product Route 4.16.5 Products and Features 4.16.6 Intelligent Driving Solutions 4.16.7 Core Capabilities of Autonomous Driving above L2 4.16.8 Main Mass production Projects 4.17 Nullmax 4.17.1 Profile 4.17.2 Main Products 4.17.3 MaxDrive Intelligent Driving Solutions 4.17.4 Core Intelligent Driving Capabilities 4.17.5 Partners and Dynamics 4.18 ZongMu Technology 4.18.1 Profile 4.18.2 Intelligent Driving Products and Solutions 4.18.3 Partners and Dynamics in Cooperation 4.19 AutoBrain 4.19.1 Profile 4.19.2 Intelligent Driving Products and Solutions 4.19.3 L2.5 Intelligent Driving Solutions 4.19.4 Core Intelligent Driving Capabilities 4.19.5 Partners and Dynamics

4.20 QCraft 4.20.1 Profile 4.20.2 "Dual Engine Strategy" 4.20.3 Intelligent Driving Products and Solutions 4.20.4 L2+/L2++ Solutions 4.20.5 Partners and Dynamics 4.21 DeepRoute 4.21.1 Profile 4.21.2 Business Layout 4.21.3 High-level Intelligent Driving Solutions 4.21.4 L2++ Intelligent Driving Solutions 4.21.5 Core High-level Intelligent Driving Technology 4.21.6 Partners and Dynamics 4.22 Pony.ai 4.22.1 Profile 4.22.2 Development History 4.22.3 Intelligent Driving Solutions for Passenger Cars 4.22.4 Intelligent Driving Solutions for Passenger Cars 4.22.5 L2.5 Intelligent Driving Solutions 4.23 NavInfo 4.23.1 Profile 4.23.2 Revenue and R&D Investment 4.23.3 Intelligent Driving Solutions 4.23.4 Driving-parking Integrated Solutions 4.23.5 Partners and Dynamics

5 Passenger Car NOA Solutions of Foreign Suppliers

- 5.1 Bosch
- 5.1.1 XC



Table of Content (6)

- 5.1.2 Intelligent Driving Solutions and Planning
- 5.1.3 High-level Intelligent Driving System Software and Hardware
- 5.1.4 Intelligent Driving Solutions and Planning
- 5.2 Continental
- 5.2.1 Intelligent Driving Business
- 5.2.2 Full-stack Intelligent Driving Solution Planning
- 5.2.3 Intelligent Driving Solutions and Planning
- 5.2.4 Intelligent Driving Business Layout in China
- 5.2.5 Intelligent Driving Products and Solutions
- 5.3 ZF
- 5.3.1 Profile
- 5.3.2 Autonomous Driving Solutions
- 5.3.3 L2++ Intelligent Driving Solutions
- 5.3.4 Intelligent Driving Layout in China
- 5.4 Aptiv
- 5.4.1 Profile
- 5.4.2 Intelligent Driving Business Deployment
- 5.4.3 ADAS Platform Solutions
- 5.4.4 Driving-parking Integrated Intelligent Driving Solutions
- 5.4.5 Dynamics in Intelligent Driving Cooperation in China
- 5.5 Mobileye
- 5.5.1 Profile
- 5.5.2 Main Products and Business
- 5.5.3 Intelligent Driving Product Route
- 5.5.4 Intelligent Driving Solutions
- 5.5.5 L2+ Autonomous Driving Solutions
- 5.5.6 L3/L4 Autonomous Driving Solutions
- 5.5.7 Core Intelligent Driving Technology
- 5.5.8 Customers and Partners





Beijing Headquarters

TEL: 13718845418 Email: report@researchinchina.com Website: ResearchInChina

WeChat: Zuosiqiche



Chengdu Branch

TEL: 028-68738514 FAX: 028-86930659



