Introduction to current capability of ICV tests in China

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Submitted by the experts from China
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China has carried out comprehensive research and capacity building on ICV test
In order to meet the ICV testing needs in different scenarios, China has established more than 50 ICV test demonstration zones, and issued more than 800 autonomous driving real-world test licenses, with a total test mileage of more than 10 million kilometers.

Map of Test sites

Beijing: Beijing Network cloud-controlled high-level autonomous driving Demonstration Zone
Beijing: Beijing Intelligent Connected Vehicle Demonstration Zone (Shougang Park)
Chongqing: National Vehicle Networking Pilot Zone in Chongqing (Liangjiang New Area)
Chongqing: Chongqing G5021 Shi-Yu highway Fufeng section wisdom highway
Jiangsu: Wuxi national Vehicle networking Pilot zone
Jiangsu: Suzhou (Jiangsu provincial) vehicle networking pilot area
Jiangsu: Nanjing Sushui District Intelligent Connected Vehicle Test Road
Hunan: Changsha (Xiangjiang New Area) national Vehicle networking pilot zone
Tianjin: Tianjin (Xiqing District) national vehicle networking pilot zone
Fujian: The first 5G new infrastructure project of the National Development and Reform Commission - Fuzhou Langqi Wisdom Island
Shanghai: National intelligent connected vehicle pilot demonstration zone
Hebei: Smart Vehicle and Smart Transportation Industry Innovation Demonstration Zone (Xushui)
Hubei: Wuhan Intelligent connected Vehicle Demonstration Zone
Jilin: National Intelligent network vehicle application (North) Demonstration zone
Sichuan: Chengdu Sino-German Intelligent Connected Vehicle Demonstration Base

Note: The above data is from public reports and is available until 2023
Automated driving test capability

- China has established a number of ICV test centers with full coverage of complete vehicles and parts, and a combination of real vehicles, benches and simulations.

**Active Safety**

Yancheng, Tianjin actual car test site

**Driver assistance**

Site closure and development of road test equipment

**Automatic drive**

Software in the loop/hardware in the loop/Driver in the loop/vehicle in the loop
China has established a full range of intelligent cockpit testing capabilities covering components, systems and vehicles, including a voice interaction laboratory based on Chinese dialects.
Network test capability

- China has established adaptive test capabilities according to the characteristics of connected terminals and connected vehicles.

**Network-connected terminal**
- ETC terminal test
- GPS terminal test
- V2X terminal test
- Wireless terminal test
- Bluetooth, WiFi test
- DSSAD test

**Networked vehicle**
- Antenna test in laboratory
- Antenna test in actual road
- Road Test
- V2X test in actual road
- GPS test in whole vehicle
- ETC test
- Vehicle networking test
- C-NCAP V2X test
- Data conformance testing
Security test capability

- Some automobile inspection agencies in China are building cybersecurity database to ensure the consistency of cybersecurity test results.

![Diagram of cybersecurity database and testing tool](image)

- Input test scheme
- Cybersecurity Database
- Data feedback

Tool for testing vehicle security
Thank you for your attention!

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