

CASE STUDY



Supporting China's 4G and 5G Journey, One Road at a Time

Organization

China Telecom

Overview

The China Telecom 2024-2025 Drive Test Instrument Procurement Project aims to enhance network performance and quality of service across China. With a focus on the optimization and testing of 5G and 4G networks, this initiative supports nationwide network improvements, ensuring reliable and high-quality connectivity for users in diverse environments.

Requirements

The project required a testing system capable of delivering real-time network performance insights with an error margin under 10% and precise location mapping. The solution also needed to function reliably across various environments, maintaining accuracy and stability despite challenges such as GNSS loss, connectivity issues, or interference across different signal conditions.

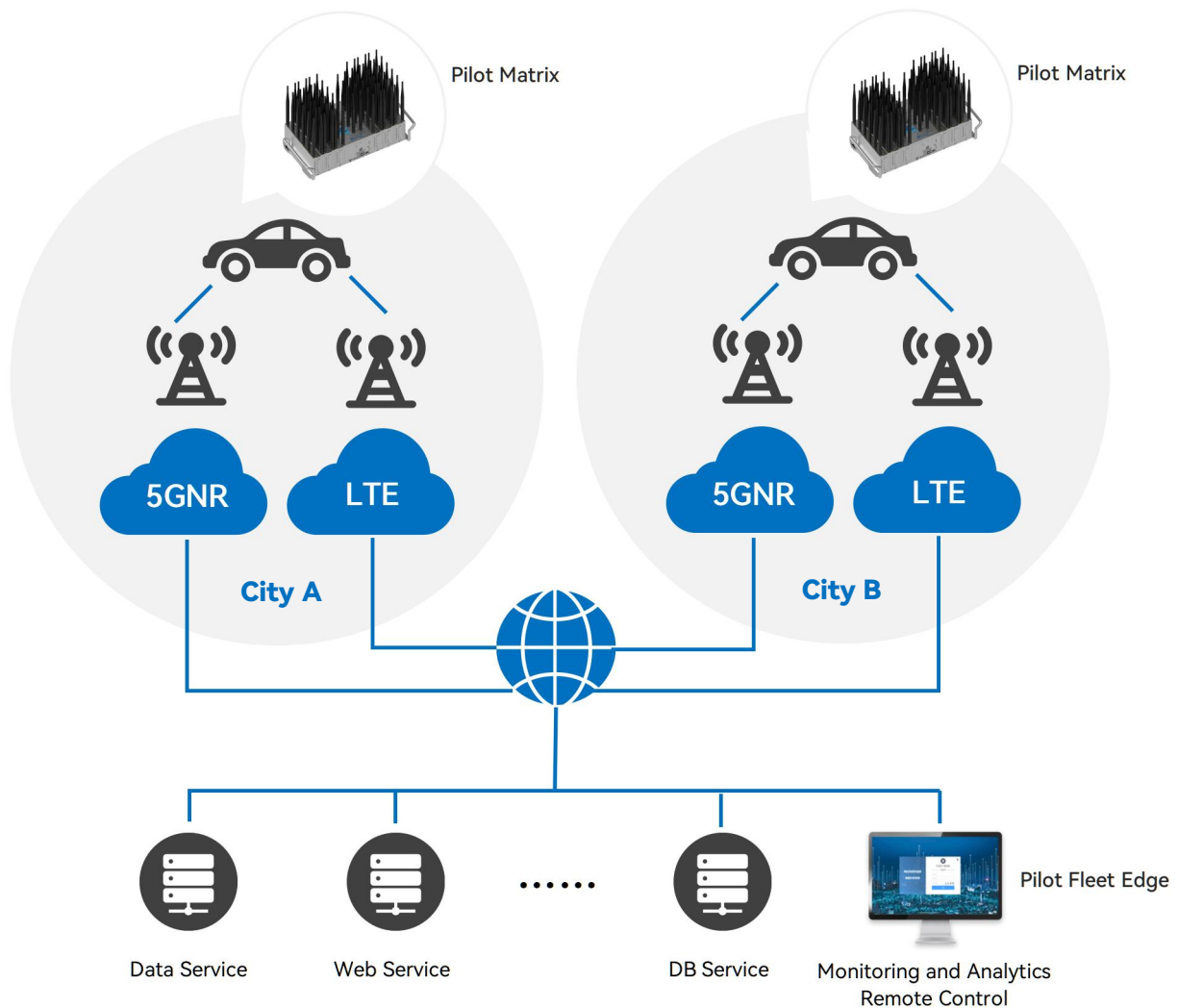


Solution

To meet China Telecom's nationwide network testing and optimization requirements, Dingli deployed Pilot Matrix, an automated drive testing system, alongside Pilot Fleet Edge, a robust data processing platform. Pilot Matrix supports 8–10 test modules and enables simultaneous voice quality testing for both 4G and 5G networks. With coverage of 5G NR and LTE bands across major Chinese operators, it provides efficient multi-band benchmarking and precise network quality assessments.

Pilot Matrix is designed for flexible installation on taxis, buses, and maintenance vehicles and performs reliably in high-speed rail and metro environments.

Pilot Fleet Edge enhances data processing with fully automated workflows, including test plan configuration, UE monitoring, data analysis, and accurate signal decoding. Together, these solutions significantly improve testing efficiency and data precision, streamlining network optimization efforts.



Results

Reliable 24/7 Operation

The test equipment provides continuous, safe operation, equipped with low-voltage alarms, over-voltage protection, a unified external power input, and 220V AC conversion.

Comprehensive 4G/5G Testing

Supporting both 4G and 5G modules, the equipment enables extensive testing options, including voice (with MOS), data (PING, FTP, HTTP, UDP, video), iPerf, and VoNR/VoLTE services, addressing a wide range of testing scenarios.

Portable and Flexible Design

Designed for versatility, the equipment can be easily carried in a backpack or trolley bag for indoor testing in locations like buildings and malls. Remote tablet monitoring and a 5-hour battery life support extended indoor testing needs.

Customizable Reporting

Users can define LTE/LTE-A/5G NR performance parameters, generate detailed reports with multi-network comparisons, and tailor outputs for specific regional needs, providing clear, visual testing results.



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Discover more use cases

Access more cases and learn how Dingli's solutions can address your network testing project challenges in real-life.

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Drive Testing



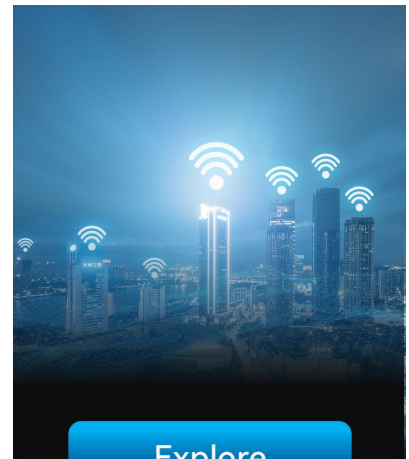
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