



Intelligent Parking Software

Creating Value Through Advanced Software



Vision-primary multi-sensor fusion solution delivering low-cost, high performance parking products across AVM, APA, RPA, memory parking, and crowd-sourcing map making.

Vision-Primary Multi-Sensor Fusion

Our intelligent parking solution leverages advanced AI-based vision combined with ultrasonic radar for comprehensive parking space and obstacle detection. The system provides real-time “what you see is what you get” detection and display across diverse parking environments.

Fully Independent Development

All core algorithms and upper-layer applications are developed fully in-house and can be delivered independently or in any combination. Core algorithms include stitching, perception, fusion, localization, mapping, decision-making, planning, and control. Upper-layer applications cover AVM, HMI, and scene reconstruction with 3D rendering supported on both domain controller and cockpit ends.

Rich Scene Coverage

Extensive training and validation across 1,000+ parking lots covering diverse environments and conditions.

- › Indoor parking facilities
- › Outdoor open-air parking lots
- › Roadside parking environments
- › Favorable and adverse scene conditions

Comprehensive Parking Solutions

Complete coverage from basic Around View Monitoring (AVM) to advanced Autonomous Valet Parking (AVP). Our solution supports Automatic Parking Assist (APA) for one-touch parking in perpendicular, parallel, angled, and mechanical spaces, Remote Parking Assist (RPA) via smartphone, and Memory Parking for automatic navigation through parking lots.

Platform & Industry Alignment

Telenav Intelligent Parking Software is designed to align with customer trends and industry needs for hardware-software separation, software decoupling, and partial in-house development.

SUPPORTED SOLUTIONS

Single parking controller, integrated driving-parking domain, integrated cockpit-parking domain.

CHIP PLATFORMS

NVIDIA, TI, Qualcomm, Ambarella, Huawei, Horizon Robotics, Black Sesame Technologies, Axera Tech.

Modular Architecture

All modules can be delivered independently or in any combination, providing maximum flexibility for OEM integration and customization. Choose the exact capabilities you need for your specific product requirements.

Automatic Parking Assist (APA)

One-Touch Automatic Parking

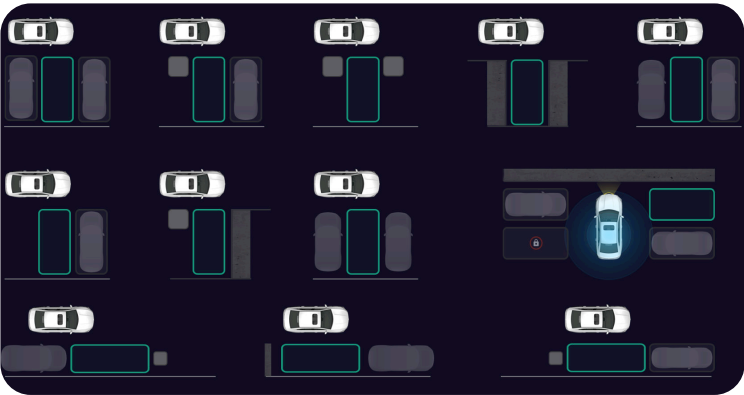
True automated parking with >95% success rate

Supports pull-in and pull-out for perpendicular, parallel, and angled spaces, including dead-end, mechanical, and narrow-aisle cases. Users can select head-in or tail-in direction for perpendicular and angled spaces, with partial or full pull-out modes available. The system automatically parks from any initial vehicle orientation.



Intelligent Path Planning

Obstacle-avoiding path planning with scenario-adaptive multi-mode algorithms including Hybrid A*, geometric method, and fusion method for optimal parking trajectories.



Valet Parking Assist (VPA) - Memory Parking

How Memory Parking Works

01 LEARNING PHASE

Drive manually once from entrance to parking space while the system builds a 3D map. The system guides users through a manual drive from starting point to target space, using surround-view cameras, ultrasonic radar, GNSS, and IMU for real-time positioning and environment perception to generate a path-based 3D vector map.

02 AUTOMATIC NAVIGATION

Vehicle automatically navigates from entrance to parking space on subsequent visits. After route memorization, the vehicle automatically matches position on the map. When entering the same parking lot next time, it takes over control, and navigates to the target space. Real-time detection covers 360 degrees, with automatic handling of oncoming vehicles, obstacle avoidance, detours, and emergency braking.

03 INTELLIGENT PARKING

Completes automatic parking or finds alternative space if target is occupied.

