



Telenav AI Technology

Driving Intelligence Forward

Advanced AI solutions that enhance appeal, ease of use, safety, and relevance of in-car software applications.



Addressing Industry Challenges

The automotive industry faces unprecedented challenges across economic, regulatory, and technological dimensions. Telenav’s strategic investment in artificial intelligence directly addresses these challenges by delivering solutions that enhance:

- **Appeal:** Creating engaging, intuitive experiences that delight drivers
- **Ease of Use:** Simplifying complex interactions through intelligent automation
- **Safety:** Reducing driver distraction and enhancing awareness
- **Relevance:** Delivering personalized, context-aware functionality



Computer Vision

Telenav’s computer vision technology focuses on detecting road landmarks to facilitate use cases that rely on surrounding awareness. Our advanced detection capabilities are customized on a feature-by-feature basis, enabling precise identification of critical visual elements in the driving environment.



Predictive Models & Behavioral Analytics

Telenav predicts behaviors and parameters for future trips based on patterns derived from existing data. By analyzing big data, we identify patterns that enable detection of road conditions and empower drivers to leverage “local knowledge” even when driving in unfamiliar places.



Natural Language Understanding

Our natural language processing technology enables drivers to have human-like conversations with their vehicles. This significantly extends voice-controlled use cases while substantially lowering development costs, making sophisticated voice interaction accessible and intuitive.

THREE CORE AI FOCUS AREAS

- › Computer Vision
- › Natural Language Understanding
- › Predictive Models & Behavioral Analytics

AI-Powered Features



Augmented Reality Navigation

Visual guidance overlays atop front camera video in real time
Overlays navigation elements directly onto real-world view, including path/carpet rendering, maneuver arrows, POI pins, and vehicle detection. Advanced capabilities include pedestrian crossing detection, obstacle identification, and path prediction.



Dynamic Lane Level Navigation

Precise guidance on lane changes to stay on route
Delivers lane-accurate positioning with real-time lane change recommendations. Supports multiple rendering options including cluster, AR overlay, and HUD, with integration capabilities for blind spot detection systems.



EV Trip Plan Personalization

Personalized energy predictions and charging habits
Delivers accurate trip planning through personalized energy consumption models and charging behavior analysis. Provides alerts for charger availability issues with alternative recommendations tailored to individual driving patterns.



Conversational AI Search

Complex voice search queries in natural language
Enables sophisticated search through natural conversation with multi-language support. Understands complex requests like “I want Italian food at a good restaurant” or “I am cold and need a coffee” (multi-domain), intelligently mapping intent to find the best match across ratings, open hours, and route optimization.



Predictive Navigation

Anticipates destinations and routes based on patterns
Predicts driver destinations and identifies usual routes, proactively alerting to traffic conditions and recommending optimal alternatives before issues arise.



Self-Parking Car

Sensor fusion with computer vision for autonomous parking
Advanced parking assistance combining sensor fusion and computer vision. Features underground garage mapping without GPS, inertial navigation with car sensors, and autonomous parking capability after just 2-3 training drives—no special garage equipment required.



Traffic Light Wait Time Prediction

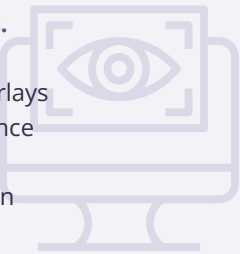
Improved ETA accuracy with wait time information
Predicts traffic light waiting times based on route direction, time of day, and traffic conditions, enhancing ETA accuracy and informing drivers of available wait time.

Telenav AI Technology At-A-Glance

Computer Vision Excellence

Advanced visual detection and analysis capabilities that enhance driver awareness and enable sophisticated autonomous features.

- Real-time augmented reality overlays
- Lane-level positioning and guidance
- Autonomous parking capabilities
- Pedestrian and obstacle detection



Predictive Intelligence

Machine learning algorithms that anticipate driver needs and optimize the driving experience through behavioral analysis.

- Destination and route prediction
- Personalized EV energy consumption
- Traffic light wait time forecasting
- Proactive traffic alerts and rerouting



Natural Language Mastery

Human-like conversational interfaces powered by advanced large language models for intuitive vehicle interaction.

- Complex search queries in natural language
- Multi-language support globally
- Intent detection and attribute mapping
- Cross-domain command understanding



Production Ready

Telenav’s AI technology portfolio spans from production-ready solutions to advanced capabilities in active development.

In Production:

Predictive Navigation, EV Trip Personalization, Self-Parking (basic)

Demo Available:

AR Navigation, Dynamic Lane Navigation, Traffic Light Prediction, AI Search

In Development:

Advanced AR features, Self-Parking (advanced), Multi-domain conversational AI

