



Candid Group

Pioneering AI-Powered
ITS Solutions

Bridging European Innovation with
Middle Eastern Excellenc.





Welcome to Candid Group

Who We Are:



A high-performance dual-entity organization driving innovation in AI, machine learning, and Intelligent Transportation Systems (ITS)



We bridge deep European R&D with fast-paced commercial operations in the Gulf



Industry-leading, customer-centric solutions provider



#1 player in our niche vertical with exceptional customer loyalty





Our Dual-Entity Powerhouse Structure

A Structure Built for Innovation and Growth

Candid ITS Kft. - Budapest, Hungary
(The R&D Engine)



- Team of 35+ elite AI/ML programmers.
- Develops all core algorithms and software.
- **Advantages:** Top talent, cost efficiency, and adherence to European standards.

Candid Security Solutions LLC - Dubai, UAE
(The Commercial Hub)



- Team of 60 technical & commercial experts.
- Manages sales, support, and client-driven development for the entire GCC and beyond.
- **Advantages:** Deep regional networks and direct market access.



Our Flagship Technologies

Core Intellectual Property Portfolio:



Hydra - License Plate Recognition Engine



HydraFlex - Container Number Recognition Engine



SekurZone - Integrated Parking Management System



FalconEye - AI-Powered ANPR/LPR Cameras

Each technology represents decades of specialized development and refinement



Hydra: The Recognition Powerhouse

License Plate Recognition Engine



Accuracy: 99.55% in challenging conditions



Specialization: Advanced algorithms for Arabic and foreign fonts



Database: Millions Of license plate images



Technology: Combination of optimized in-house development and custom development



Performance: Reliable in low light, dusty weather, and difficult angles



FalconEye: Intelligent Hardware

AI-Powered ANPR/LPR Camera Solutions



Premium weatherproof housing for 24/7 outdoor operation



Advanced LED illumination system



High-resolution imaging with night vision



Integrated AI processing for real-time analysis



Laser-printed branding for anti-counterfeiting protection



Designed for harsh environmental conditions -40c to +85c



Complete Product Ecosystem

Integrated Solutions Portfolio



Hydra LPR/ANPR Engine - Core recognition technology



HydraFlex - Container recognition specialization



AI Video Management System - Open source + Candid algorithms



SekurZone - Smart parking management



FalconEye LPR Camera - Complete hardware solution



Continuous Innovation - Advanced algorithms and techniques



SekurZone: Smart Parking Solutions

Integrated Parking Management



Automated entry and exit processing



Real-time occupancy monitoring



Dynamic pricing for revenue optimization



Mobile integration for enhanced user experience

Demonstrates our ability to apply core technologies to specific market needs



Our Market Presence

Geographical Footprint



GCC Core Market
(7,000+ Cameras)



Saudi Arabia
(1000+ Cameras)



Egypt - Africa Gateway
(450+ Cameras)



UAE: Headquarters
with extensive
deployment



Strategic locations:
Major airports and
parking lots



**New Administrative
Capital, Cairo**



**Kuwait, Qatar,
Bahrain, Oman:**
Established presence



**Largest regional
market with growth
potential**



**Strategic entry point
to African markets**



Technical Excellence & IP Protection

Our Competitive Advantages



Intellectual Property:



Internally developed algorithms with Arabic font specialization



Massive Millions of images database under various conditions



Specialized technical know-how accumulated over decades



Protection Measures:



Multi-layered technical security protocols



Strict confidentiality agreements



Advanced server security systems



Tiered access design for comprehensive protection



Quality & Accuracy Commitment

Why We're Different



99.55% Accuracy: Industry-leading performance metrics



Arabic Specialization: Unique capability in Gulf markets



Environmental Adaptation: Optimized for local challenges (dust, heat, low light)



Continuous Improvement: Real-time feedback from Dubai to Budapest teams



Quality Assurance: Rigorous testing across diverse conditions

Intelligent Highway Monitoring Solutions

Advanced ANPR/LPR Systems for Gantry Deployment

Purpose-Built for Highways

- Real-time vehicle identification at highway speeds
- Multi-lane simultaneous monitoring
- 24/7 operation in all weather conditions



Highway

FalconEye Gantry Configuration

- Weatherproof housing designed for elevated installation
- Advanced LED illumination for night operations
- High-resolution imaging with wide-area coverage
- Integrated AI processing for instant recognition



Camera



Speed

System Capabilities

- 99.55% accuracy at speeds up to 180 km/h
- Simultaneous monitoring of 4-6 lanes per gantry
- Real-time data transmission to control centers
- Integration with traffic management systems



Data

Why Gantry-Mounted Systems Deliver Superior Results

Key Advantages of Elevated Highway Deployment

Unobstructed View

- Elevated position eliminates vehicle occlusion
- Clear line of sight across all lanes
- Optimal angle for plate capture

Comprehensive Coverage

- Single gantry covers multiple lanes simultaneously
- Reduced infrastructure costs per lane monitored
- Scalable across highway networks



Toll



Speed Camera



Traffic Flow



Integration

Critical Applications

- Electronic toll collection (ETC)
- Average speed enforcement
- Vehicle tracking and journey time monitoring
- Traffic flow analysis and management
- Security and law enforcement support

Integration Ready

- Seamless connection to central traffic management systems
- Real-time alert generation for authorities
- Data export for analytics and reporting

Proven Performance on Major Corridors

Candid Technology in Action

Deployment Examples

- GCC highway networks with 100+ cameras deployed
- Integration with national traffic control centers
- Proven reliability in extreme temperatures and dust storms



Map

Technical Specifications for Gantry Use

- Recognition Speed: < 100ms per vehicle
- Coverage: Up to 6 lanes simultaneously
- Connectivity: Fiber, 4G/5G, or hybrid options
- Power: Low consumption with backup capability



Speed



Success

Success Metrics

- 98.90% accuracy maintained at highway speeds
- 99.9% system uptime
- Real-time data delivery to operations centers
- Thousands of successful toll transactions daily



Server

End-to-End Solutions for Highway Monitoring

From Consultancy to After-Sales Support



Consultancy

- Expert guidance on highway ANPR system design
- Site-specific solution recommendations
- Regulatory compliance assessment
- Performance requirement analysis



Design Engineering

- Custom-engineered gantry configurations
- Optimized camera positioning for maximum coverage
- Integration architecture planning
- Power and connectivity design



Project Management

- End-to-end project oversight
- Timeline and budget management
- Stakeholder coordination
- Quality assurance throughout deployment



Supply and Installation of Turnkey Solutions Via Certified Installer

- Complete system supply from a single source
- Professional installation by certified partners
- Factory-tested equipment
- Seamless handover and commissioning



Systems Integration

- Connection to existing traffic management systems
- Data feed integration with control centers
- API development for custom requirements
- Third-party system compatibility



After-Sales Support Via Certified Installer

- Ongoing maintenance and support
- Remote diagnostics and troubleshooting
- Spare parts availability
- Software updates and upgrades

Next-Generation ANPR for Highways

Candid Smart All-In-One Falcon Eye



Integrated, Ruggedized Highway ANPR Solution

- All-in-one unit combining sensing, compute, and storage
- Ruggedized design for continuous unattended operation
- Optimized for highways and expressways



Technical Specifications

- Integrated 256 GB onboard SSD for local storage
- Optimized power and thermal design
- 24/7 reliability in all conditions
- Single mountable unit for easy installation



Embedded AI Capabilities

- AI-powered vehicle detection (no external triggers needed)
- High-accuracy OCR for Arabic and international plates
- Visual vehicle characterization (make, model, color)
- Outperforms LIDAR and external radar for specific ANPR use cases



Superior Approach

- Embedded AI eliminates need for separate sensors
- Reduced infrastructure complexity
- Lower installation and maintenance costs
- Proven accuracy in high-speed environments

Our Technical Solutions: Flexible Deployment Options for Every Highway Need

Decentralized and Centrally Hosted Solutions



Industrial ANPR AIO Color Cameras

- High-performance all-in-one camera systems
- Industrial-grade reliability
- Optimized for Arabic number plate recognition



Decentralized Solution



Offline Operation: Continuous functionality during network interruptions



Database Support: Compatible with SQL and Oracle



Self-Powered: Solar cell capability for remote locations



Connectivity: 3G/4G or LTE data transmission



Centrally Hosted Solution



Web-Based Remote Access: Monitor from anywhere



Advanced Search: Multiple search types for plate lookups



Lane Occupancy Calculation: Based on OCR reads for traffic analytics



Multilingual Interface: English and Arabic supported



Minimal Bandwidth Usage: Optimized data transmission



Image Capture: Number plate pictures are taken and saved

Key Capabilities

- Automated Number Plate Recognition for Arabic plates
- Flexible architecture for any deployment scenario
- Scalable from single gantry to national networks

Limitations of Traditional ANPR Systems

Why Conventional Approaches Fall Short on Highways



Environmental Sensitivity

- Traditional ANPR systems rely on fixed thresholding and low compute power
- Struggle with variable lighting, glare, rain, fog, and night driving
- False negatives increase when plates are dirty, angled, or partially occluded
- Inconsistent performance in real-world conditions



Sensor Fragmentation

- Multi-sensor stacks (camera + LIDAR + external radar) create complexity
- Higher installation and calibration costs
- Multiple potential failure modes
- Integration gaps cause latency and maintenance overhead
- Disparate systems require ongoing synchronization





Limited Visual Context

- LIDAR and radar provide range and speed data only
- Lack detailed visual attributes needed for identification:
 - Plate typography and fonts
 - Vehicle badge and make
 - Precise color recognition
- Insufficient for forensics or advanced vehicle classification tasks



Data Fragmentation & Storage

- Dispersed data pipelines increase bandwidth requirements
- Higher cloud storage and processing costs
- Systems without onboard storage require continuous uplink
- Creates single points of failure
- Raises privacy concerns with constant data transmission

The Result:  Inconsistent accuracy, higher total cost of ownership (TCO)  and operational friction for large-scale highway deployments.

Introducing Candid Falcon Eye

AI-Powered Innovation for Highways: Next-Generation ANPR Solution



All-In-One Hardware

- Integrated camera with Industrial Graded White Light
- GPU-class embedded AI accelerator
- Environmental sensors for adaptive performance
- Fanless Aluminum Housing for durability
- 256 GB onboard SSD in rugged modular enclosure
- Simplified deployment with fewer field cables
- Reduced installation time



Embedded AI Inference

- On-device deep learning pipelines
- Real-time vehicle detection and OCR
- Make/model recognition and color estimation
- Day/night operation with low latency
- Privacy-preserving design: sends only metadata to central servers



Local Storage & Secure Buffering

- 256 GB onboard SSD for encrypted storage 
- Stores logs, captures, and model snapshots
- Native failover for resilient offline operation
- Forensic retrieval after connectivity loss 
- Continuous operation during network interruptions 

Make, Model & Color Recognition

Rich Visual Attributes for Complete Vehicle Identification



Make & Model Recognition

- Fine-grained CNN ensembles identify manufacturer and model family
- Example: Toyota Camry 2018–2021 with probabilistic confidence scores
- Models regularly updated
- Customizable for regional vehicle fleets



Color Detection

- Multi-spectral color normalization
- Estimates dominant exterior color with confidence bands
- Example: “Metallic Silver, 78% confidence”
- Accounts for shadows and reflections



Contextual Attributes

- Body type classification: sedan, SUV, truck
- Trailer presence detection
- Unique markers: company logos, aftermarket modifications



Enhanced Identification

- Attribute fusion (plate + visual features) increases matching accuracy
- Critical for partial plate reads or spoofed plates



Forensic Value

- High-quality visuals accelerate investigations
- Multi-criteria search capability
- Example: “silver pickup, plate not readable, highway exit 12”



Operational Use Cases

- Prioritization rules against watchlists
- Reduced false positives
- Streamlined enforcement workflows

Precision in All Conditions

Candid's Advanced OCR Engine



Intelligent Pipeline Architecture

- Adaptive image enhancement
- Optical character recognition with language/model priors
- Post-processing validation



Image Enhancement

- Dynamic denoising and deblurring
- HDR stitching for night and adverse weather
- Optimized for low-visibility scenarios



Text Recognition

- Convolutional recurrent networks
- Transformer-based language models
- Reduces character substitution errors
- Handles non-standard fonts and dirty plates



Confidence & Correction

- Contextual checks: state/province plate formats
- Checksum validation
- Cross-frame voting across multiple frames
- Achieves near-human accuracy

Key Metrics:

Metric	Value	Benefit
Plate Read Accuracy	>98%	Typical high-confidence reads in clear conditions
End-to-End Latency	<2s 	Real-time enforcement triggers
Onboard Retention	256GB 	Offline buffering and evidence retrieval

The Result: Minimized false reads and high confidence for automated ticketing, tolling, and investigative use.

Technical Excellence in Every Unit

Built for Continuous Highway Operation



Imaging Capabilities



3.2 MP Camera: 2048 x 1536 resolution at 55 FPS

- 1/1.8" 3MP CCD/CMOS Sensor
- White Light or IR LED: 6 pieces, up to 30m range
- Vari-focal Lens: 11-50mm for flexible installation



Durable Construction

- Fanless design with rugged full metal casing
- IP66 Rating: Dust-tight and protected against powerful water jets



Operation condition: -35°C to +80°C

- Built for extreme highway environments



Intelligent Processing

- AI Processor for on-device inference
- Built-in OCR engine
- Built-in storage and processor for offline operation (optional)



RTSP / Onvif-Profile S compliant for easy integration

Why It Matters: High-resolution capture at high frame rates ensures no vehicle is missed, even at highway speeds, while rugged construction guarantees 24/7 reliability in extreme conditions.

3.2 Smart Camera with Speed Radar

Complete Detection in a Single Unit




Integrated Radar Technology

- 3.2 MP Smart Camera with 1" CCD Sensor
- Microprocessor-controlled radar detector
- Network communication for seamless integration



Radar Specifications

- Sensor type: CW stereo-Doppler radar, planar module
- Detected speed range: 0.5 - 255 km/h 
- Operation condition: -40°C to +85°C
- Network connected to ANPR system



Vehicle Classification

Detected Categories:

- Trucks • Cars • Motorbikes • SUV • Pedestrians

Enables comprehensive traffic monitoring



Regulatory Compliance

- RED 2014/53/EU
- RoHS 2011/65/EU
- EC 1907/2006 REACH

Advantage: Single-unit solution combining ANPR and radar eliminates sensor fragmentation, reduces installation complexity, and ensures perfect synchronization between speed detection and plate capture.

Enhancing Highway Safety & Efficiency

Proven Applications Across the Transportation Ecosystem



Tolling & Congestion Pricing

- Automated plate capture for pay-by-plate tolling
- Dynamic congestion pricing implementation
- Reduces queuing at toll plazas
- Seamless enforcement without lane closures



Public Safety & Amber Alerts

- Real-time watchlist matching
- Prioritized alerts for stolen vehicles
- Dramatically shortens time-to-intercept for AMBER cases
- Critical tool for law enforcement



Automated Enforcement

- Immediate triggers for speed violations
- HOV lane enforcement when integrated with occupancy sensors
- Evidence-grade plate crops and visual attributes
- Ensures defensible citations



Traffic Analytics & Incident Response

- Vehicle trajectories and counts for travel-time estimation
- Real-time incident detection
- Resource dispatch optimization
- Reduces secondary collisions
- Improves overall throughput

Key Value: Falcon Eye delivers operational value across revenue collection, public safety, and transportation management with minimal infrastructure changes.

Why Choose Candid Falcon Eye

Comprehensive Advantages for Highway Operations



Increased Security

- 24/7 automated monitoring of highway networks
- Real-time alerting for suspicious vehicles
- Evidence-grade capture for investigations
- Deterrent effect on criminal activity



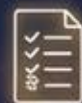
Automated Process

- Eliminates manual plate checking
- Reduces human error
- Scales across hundreds of lanes
- Consistent performance day and night



Statistical Benefits

- Rich traffic data for planning
- Usage patterns and trend analysis
- Evidence-based decision making
- Performance metrics for operations



Online Black/White Listing

- Real-time watchlist updates
- Immediate alert on matches
- Customizable rules per client
- Integrated with central authorities



Stolen Vehicle Location

- Track lost or stolen vehicles across highway network
- Last-seen alerts for investigators
- Regional coordination capability
- Rapid recovery assistance



Parking Fraud Prevention

- Extends to parking lot applications
- Prevent ticket fraud
- Verify paid vs. unpaid parking
- Integrate with payment systems

The Bottom Line: Falcon Eye transforms highway monitoring from reactive to proactive, delivering security, efficiency, and intelligence in a single integrated platform.

Actionable Intelligence Through Advanced Reports

Data-Driven Decisions for Highway Operations



Journey Time Management (JTM)

- Track average travel times between gantries
- Identify congestion patterns in real-time
- Historical journey time analysis for planning
- Performance metrics for road networks



Vehicle Statistical Report per Country/City

- Traffic volume analysis by vehicle origin
- Cross-border movement patterns
- Demographic insights for transportation planning
- Trend identification for peak travel periods



Roll Call Report

- Vehicle count by time intervals
- Lane utilization statistics
- Peak hour analysis
- Traffic distribution patterns



Vehicles Report

- Complete vehicle passage records
- Filter by date, time, location, lane
- Exportable data for external analysis
- Audit trail for enforcement verification



Unrecognized Vehicles Report

- Identify vehicles with damaged or obscured plates
- Flag for manual review or investigation
- Quality assurance for system performance
- Continuous improvement feedback loop



Vehicles Status (Stolen, Wanted, VIP)

- Real-time status classification
- Priority alerts for law enforcement
- VIP vehicle tracking for security
- Stolen vehicle recovery assistance

Engineered for Excellence

Key Technical Capabilities of Candid Falcon Eye



Exceptional Recognition Rate

- Providing a very high ANPR recognition rate of 95% plus
- Consistent performance across diverse conditions
- Industry-leading accuracy for Arabic plates



24/7 Reliability

- Highly reliable running day and night all through the year
- Engineered for all weather conditions
- Zero downtime in rain, fog, dust, and extreme temperatures



Tilted Plate Recognition

- The ability to recognize tilted plates at an angle of up to 20%
- Critical for vehicles changing lanes or on curved roads
- Maintains accuracy even with non-ideal camera angles



Lightning-Fast Processing

- Takes a fraction of a second to read, process, and identify
- Real-time alerts and enforcement triggers
- Zero delay at highway speeds



High-Speed Vehicle Identification

- Compass can identify cars traveling at speeds of up to 260 km/h
- Suitable for the fastest highways and motorways
- No missed vehicles at high velocity



Comprehensive Database Search

- LP database searchable using:
- Plate number
- Time and date
- Employee name
- Flexible query options for investigations
- Plite number
- Site location
- Lane number

Intelligent Features for Seamless Operations

Beyond Basic ANPR



Automated Failure Notification

- Notifies the failure of any component to the responsible staff member
- Instant email alerts for immediate action
- Minimizes downtime and service disruption
- Proactive maintenance capability



Vehicle Attribute Recognition

- Vehicle Make recognition during daytime
- Vehicle Model identification
- Vehicle Color detection
- Enhances identification beyond license plates
- Critical for partial plate or spoofed plate scenarios



System Intelligence

- Self-diagnostic capabilities
- Performance monitoring in real-time
- Automatic adjustment to environmental conditions
- Learning and optimization over time



Operational Benefits

- Reduced manual intervention
- Higher confidence in automated decisions
- Enhanced forensic capabilities
- Streamlined enforcement workflows

A Solution for Modern Infrastructure

Designed for Phased Rollouts and Long-Term Growth



Open APIs & Protocols

- HTTP/HTTPS and MQTT for metadata transfer
- Optional ONVIF for selective imagery transfer
- Watchlist synchronization in real-time
- Device management and OTA model updates
- Maintain detection and OCR accuracy as fleets evolve



Flexible Deployment Options

- Multiple mounting configurations:
 - Gantry mounting
 - Pole mounting
 - Cabinet installation
- Power options: PoE or 12–24V DC
- Adaptable to any infrastructure



Edge-First Architecture

- Reduces central compute requirements
- Store-and-forward with 256 GB SSD
- Ensures operational continuity during network outages
- Privacy-preserving design



Deployment Phases

Phase	Focus
Phase 1	Proof of concept & localized watchlists
Phase 2	Regional rollout and analytics integration
Phase 3	Full corridor coverage and multi-agency sharing



Interoperability Focus

- Minimal disruption to existing sensor suites
- Run standalone or fuse with LIDAR/radar feeds
- Rich visual metadata enhances existing systems

Sékurzone Intelligent Transportation System

Comprehensive Management Platform



Multi-Sector Application

-  Hotels: Guest parking and valet management
-  Government: Secure facility access control
-  Factory: Employee and logistics vehicle tracking
-  Malls: Customer parking and loyalty integration
-  Fuel Station: Quick-service and fleet monitoring



Location-Based Services

- Parking: Real-time occupancy mapping
- Restaurants: Nearby dining options
- Hotels: Accommodation locations
- Shopping: Retail center access
- Parks: Recreational area monitoring
- Sports Facilities: Event parking management
- Other Services: Custom POI integration



Map Dashboard Interface

- Default Map: Standard navigation view
- Google Maps Integration: Familiar interface
- Paths: Route visualization
- Directions: Turn-by-turn guidance
- Public Transport: Multi-modal integration


Map Reaching Area


- Visual coverage mapping
- Hybrid view options
- Default and Google map layers
- Path and direction planning tools


Get in Touch


Let's Discuss Your Highway Monitoring Needs

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Ready to Transform Your Highway Operations?



Contact our team for:



Technical consultations



Pilot program discussions



Deployment planning



Partnership opportunities