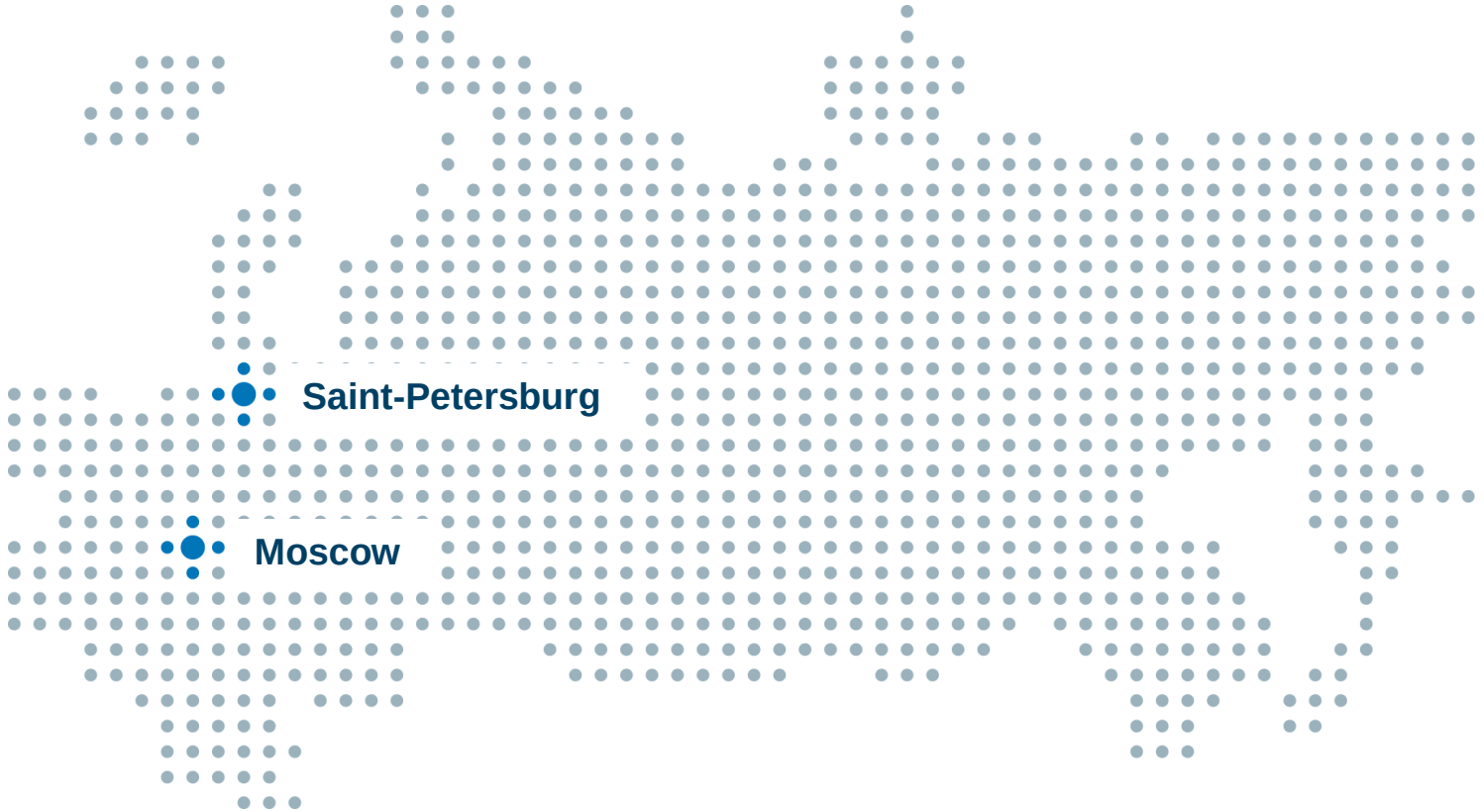
cars
Connected Car
Solution

Who are we



Solutions

Microsoft

sollers

Yandex

TRANSBAZA

What we are offering to customers

Operational efficiency

- Driving efficiency
- Vehicle usage efficiency
- Pro-active maintenance and repair
- Vehicle replacement forecast

Competitive Advantage

- Well-integrated preinstalled telematic device
- Simple & fast integration with current FMS
- External sensors integration

Service Delivery Cost

- Efficient remote diagnostics
- Vehicle Health Monitoring
- Warranty Claim Management
- Online monitoring
- DTC \ Mileage Dashboard
- Live map

Solution design

Scope of services proposed

Business Services

OEM Services

- Vehicle Remote Diagnostics
- Business Analytics & Reporting
- Vehicle Management
- Customer Communication
- Marketing Content Management
- Lead Management
- Master Data Management
- Customer Communication

Corporate Services

- Vehicle Tracking
- Direct communication with drivers
- Fleet Management
- Vehicle Self-Health Checkup
- API for Historical Data
- Vehicle Guides
- Real-time API
- Driving Style Scoring
- Dealership Communication
- Road Assistance
- P2P Car Sharing / Rent services

Infrastructure Services

- OTA
- Data Lake
- Data Analytics
- Connectivity / Messaging
- Logs & Diagnostics
- Portal Infrastructure
- Virtual Key Management

Data analytics

Power BI:

- Deliver insights throughout your organization
- Connect to hundreds of data sources
- Simplify data prep
- Drive ad hoc analysis

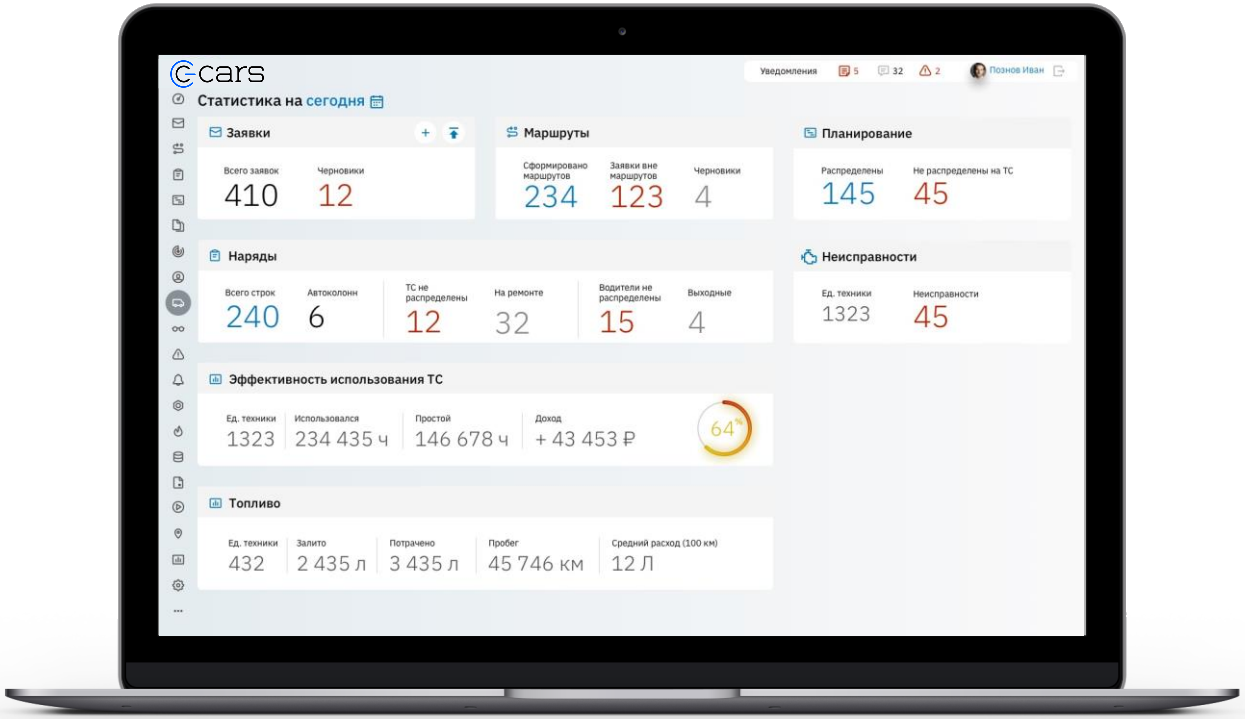
Data Lake:

- Customer segmentation
- Predictive maintenance
- In–vehicle Features Usage Analytics
- Telemetry Analysis (heat map reports and etc.)

Telemetry Analysis

- Driver portrait (preferred time of driving)
- Driving style
- Vehicle geography
- Lease contract conditions management
- Vehicle replacement
- General statistics, total mileage, the most requested model/year of issue
- Heat maps: user flow analysis to launch marketing campaigns
- Recall campaign – statistics based on quantity of vehicles integration

Services for OEM & Dealers



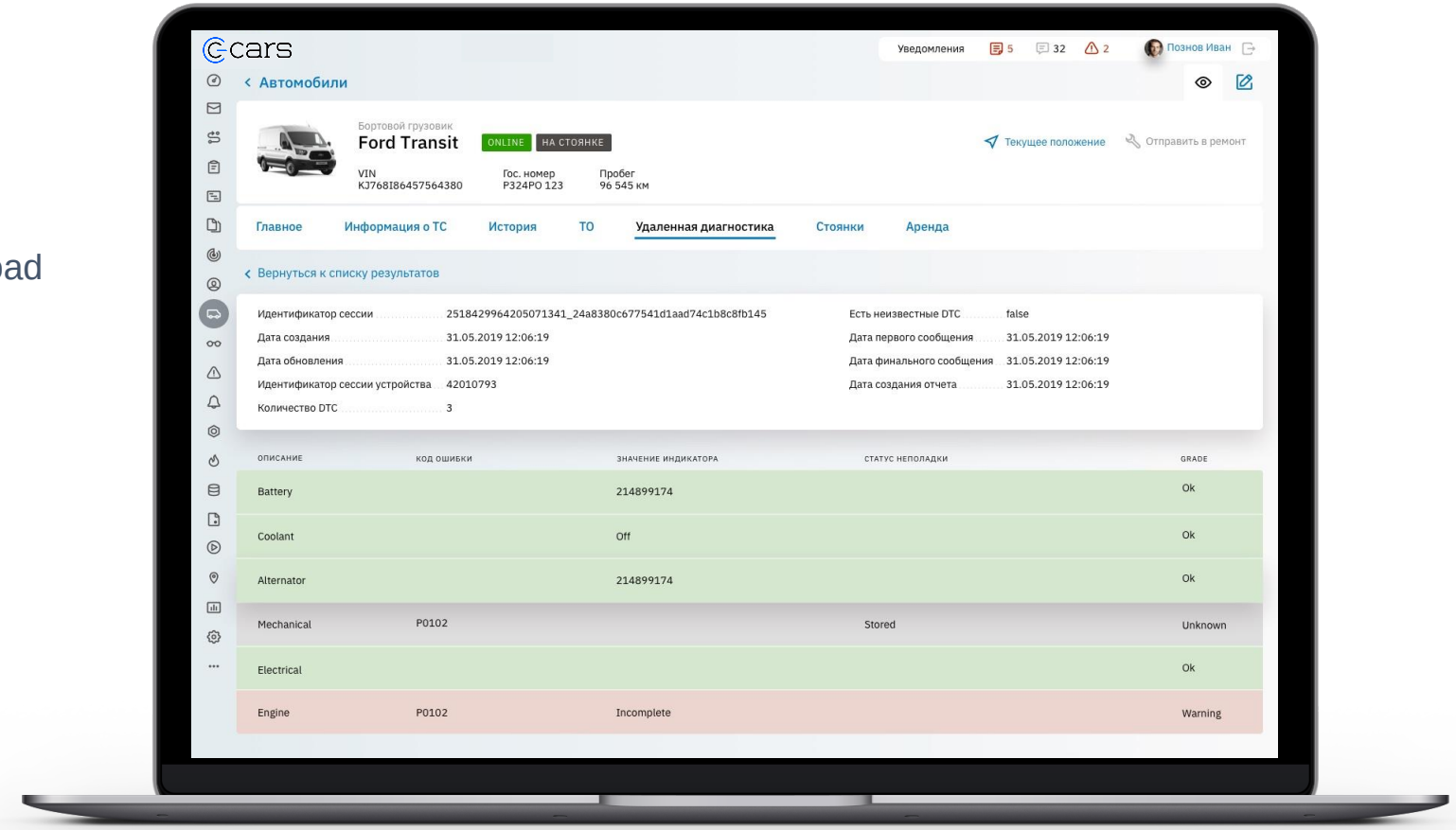
Improving service delivery

Remote diagnostics

- Fast and full diagnostics
- Remote diagnostics history
- Erase DTC remotely
- Load the DTC data from the vehicle:
  ECU Code / Title, DTC, Status, Date & time of load

Automatic Vehicle Health Check

- Starts when the engine is turned on
- Collects MIL and basic diagnostic data
- Alerting and notification (overheating, check engine, etc.)
- VHC history (how many km with Check Engine on, for example)



Resource tests - all sold vehicles as data source

Communication with consumers

Remote diagnostics

Direct interaction

limited notifications volume and customer base only on the cars sold by dealers

Push notifications

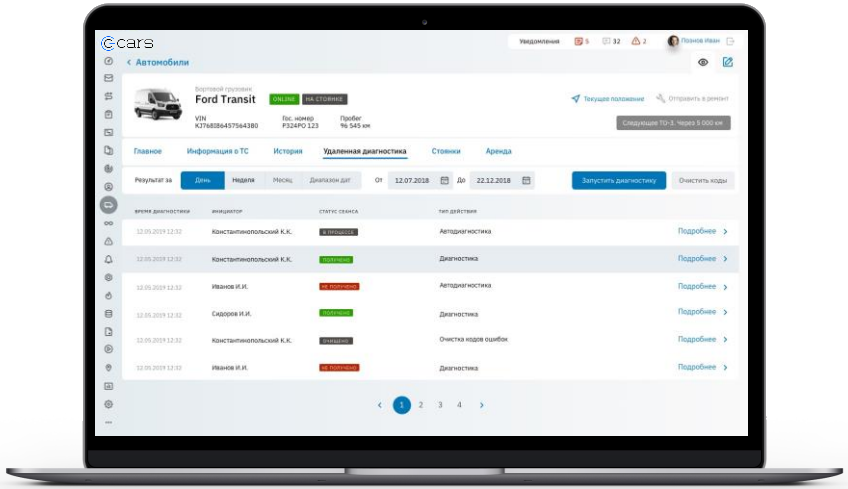
Manual delivery
anytime

- by mileage
- by schedule
- by time
- by Squadron.AI

Automatic delivery
by special rules

Service request Management

including automatic integration with the dealer calendar

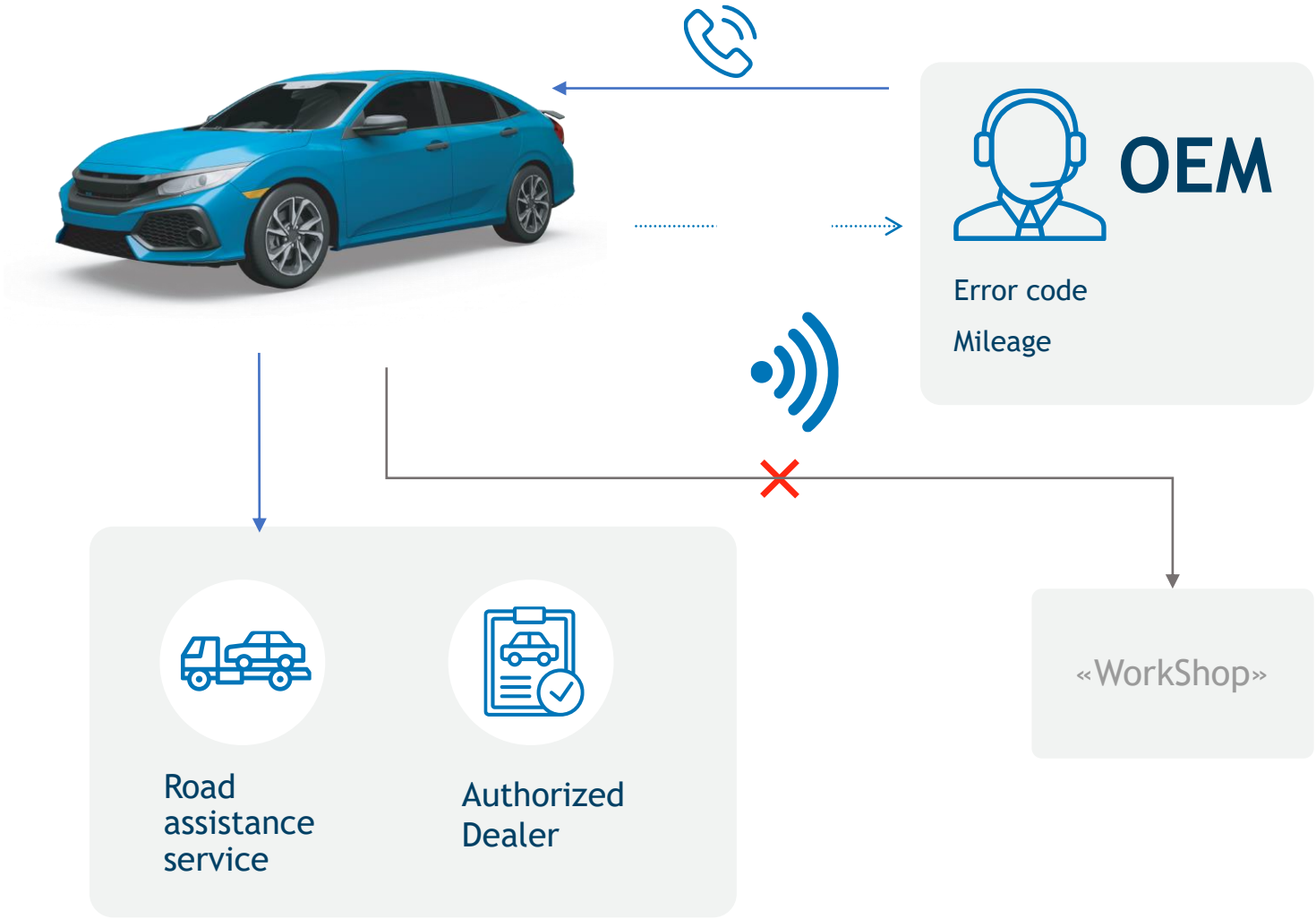


Increase in spare parts sales

Knowledge of the car status, errors, and mileage makes proactive customer service easier.

Take care of your customers and improve their loyalty:

— invite clients to the service station at the right moment,
— help clients using remote diagnostics



Road assistance

System

automatically detects problem with the customer's car

Remote diagnostic

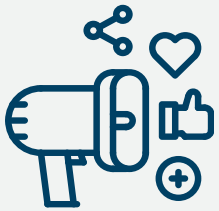
Road assistance service

Use diagnostic data for better service

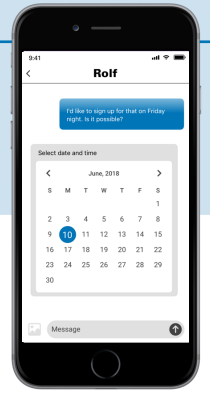
Service & Recommendations

AI-First Ecosystem

OEM/Dealer Landing



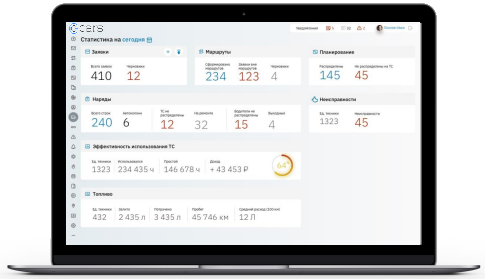
Omnichannel marketing campaigns



Digital Assistant AI Chatbot

OneDealer Sales and AS Workspace

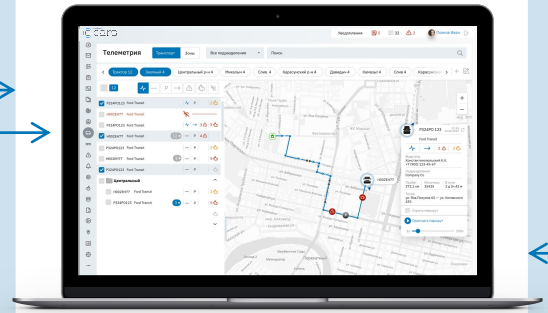
Fleet Management System



Connected apps

Connected customer/fleet

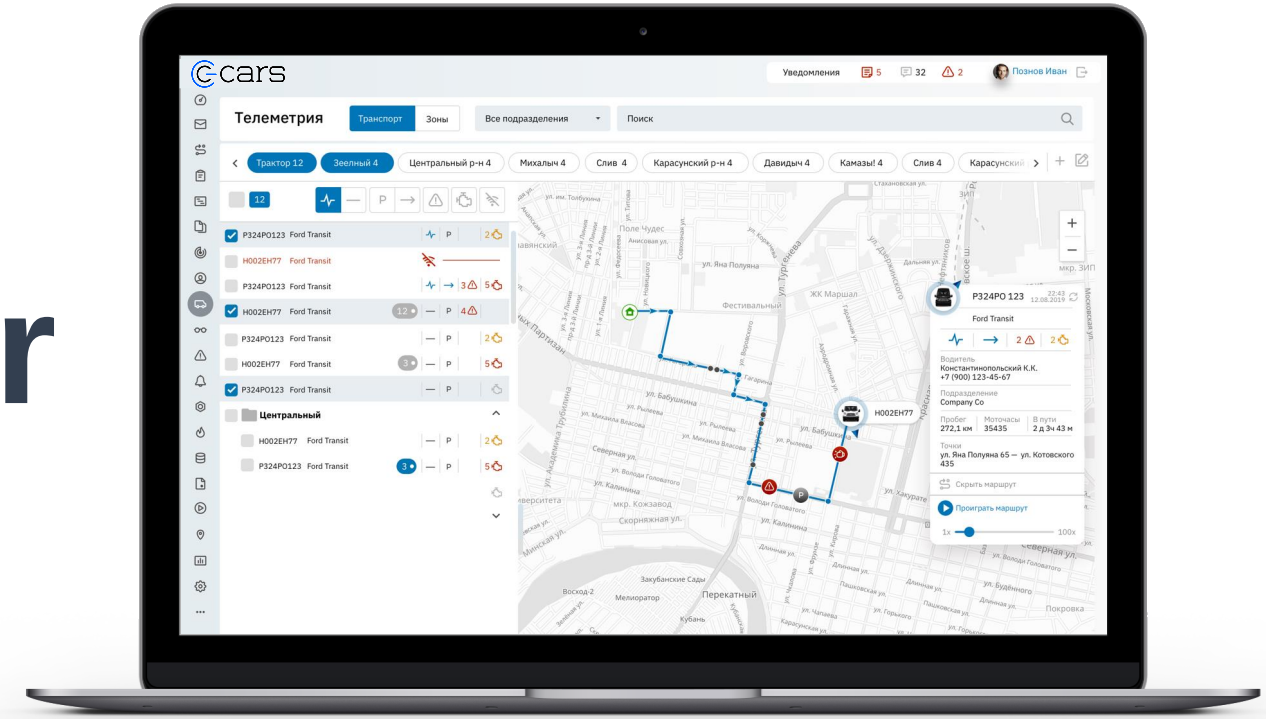
Fleet Management System



In-house DMS, CRM

Online Booking Platform that enables businesses and individuals to easily and confidently rent/buy and sell a vast range of commercial vehicles

FMS for Fleet Consumer



Advantages for Fleet customers

- ✓ No need to install additional hardware
- ✓ Vehicle warranty is not violated
- ✓ Connectivity price included
- ✓ Immediately take control of your fleet
- ✓ All required telematics data is available immediately
- ✓ Simplify communication process between fleet manager and vehicle driver through Mobile apps (Android & IOS)
- ✓ Avoid purchasing a Fleet Management System if you have a small fleet as all required telematics data will be visible on the Connected Car portal
- ✓ Lease contract conditions management

X5 RetailGroup

Комус

Утконос

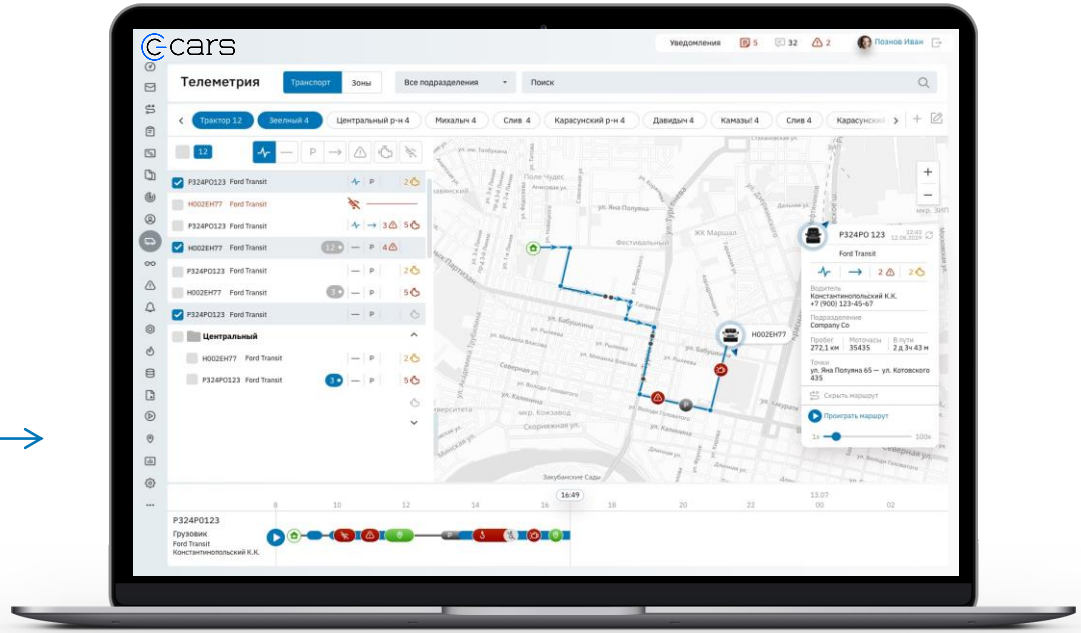
МИРАТОРГ

All data in one web portal

- Remote Vehicle Diagnostics
- Driving Style Scoring
- Vehicle GPS coordinates
- Automatic Vehicle Health–Check
- Vehicle Status
- Vehicle Indicators
  - Speed
  - RPM
  - Odometer
  - Fuel level from CAN–bus or dashboard meter
  - Coolant temperature
  - etc.
- External Sensors

Simple integration with current client Fleet system

Easy to integrate with Customers' Fleet Management Solution

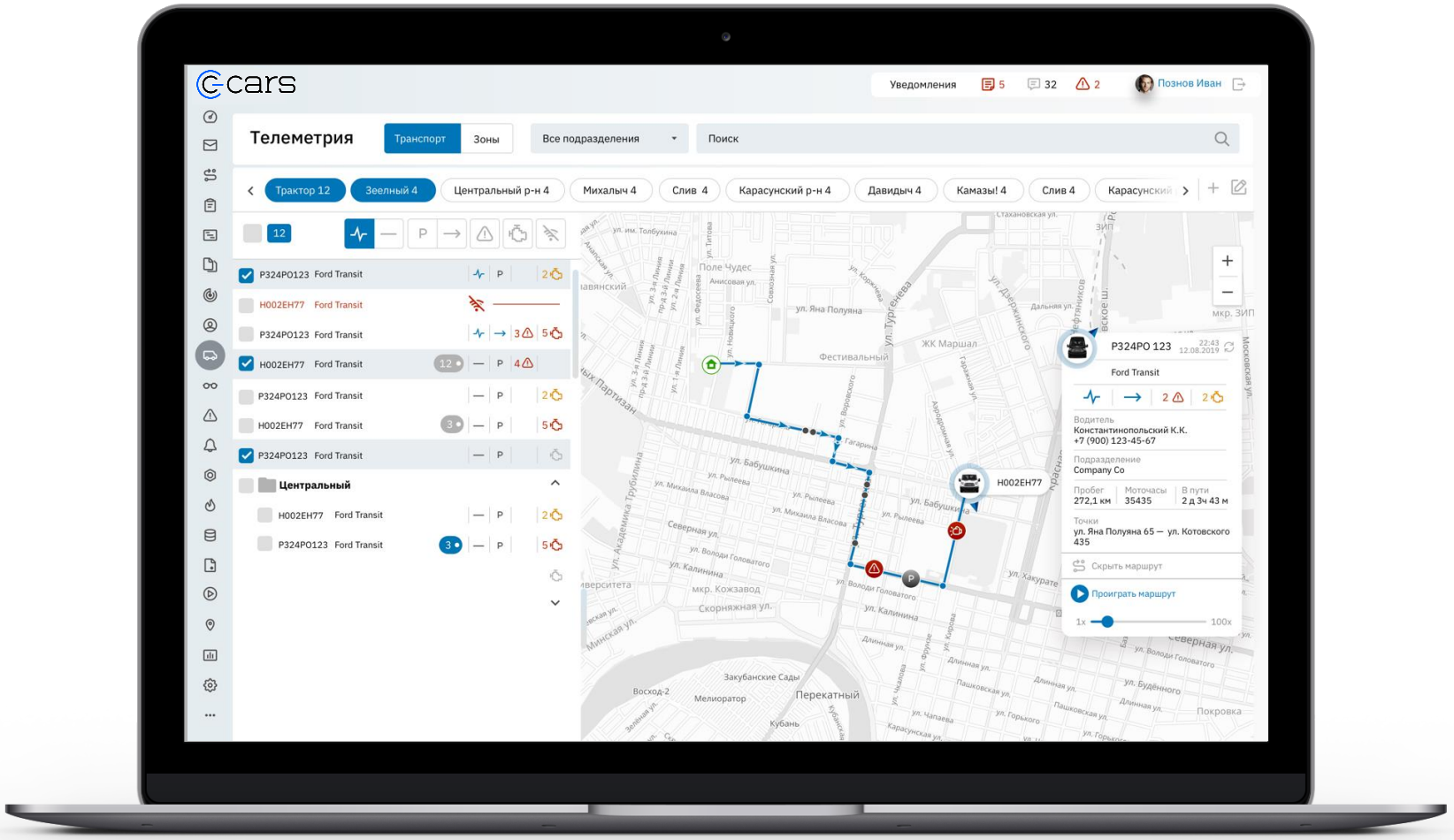


Sharing model for fleet customers
Additional utilization of fleet vehicles
Quick rent process from customers

Telemetries

Vehicle’s telemetric

- Vehicle list
- Current geo-location indication
- Vehicle route
- Vehicle status
  - Daily mileage
  - Motor hours
  - Driver details
- Time of arrival / leaving the POI
- Incidents notifications
  - Speed limit violation
  - Accidents
  - Towing
  - etc



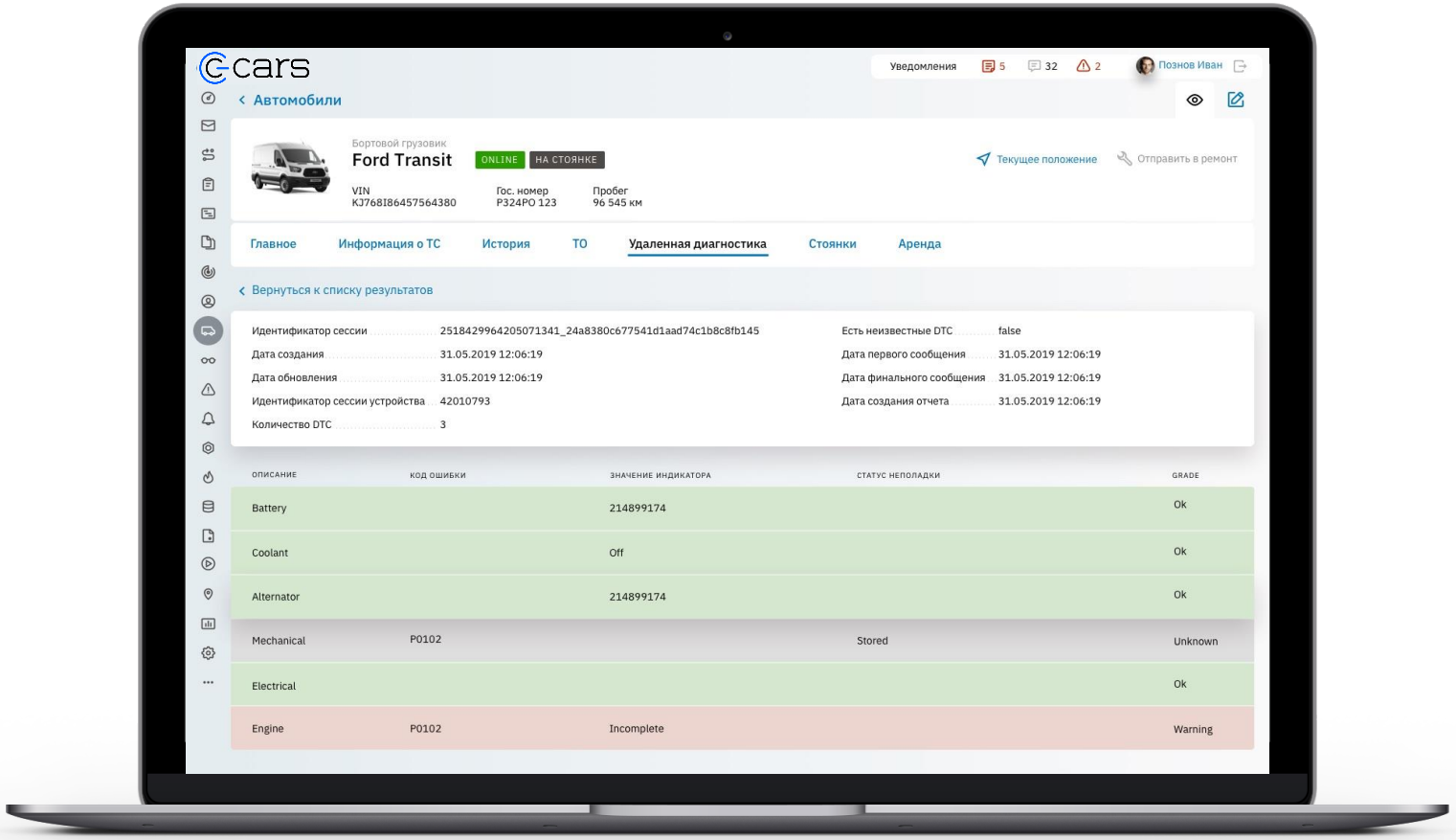
Remote diagnostics

Remote diagnostics

- Fast and detailed diagnostics
- Diagnostic history
- Remote DTC cleaning
- Uploading diagnostics data

Automatic health check

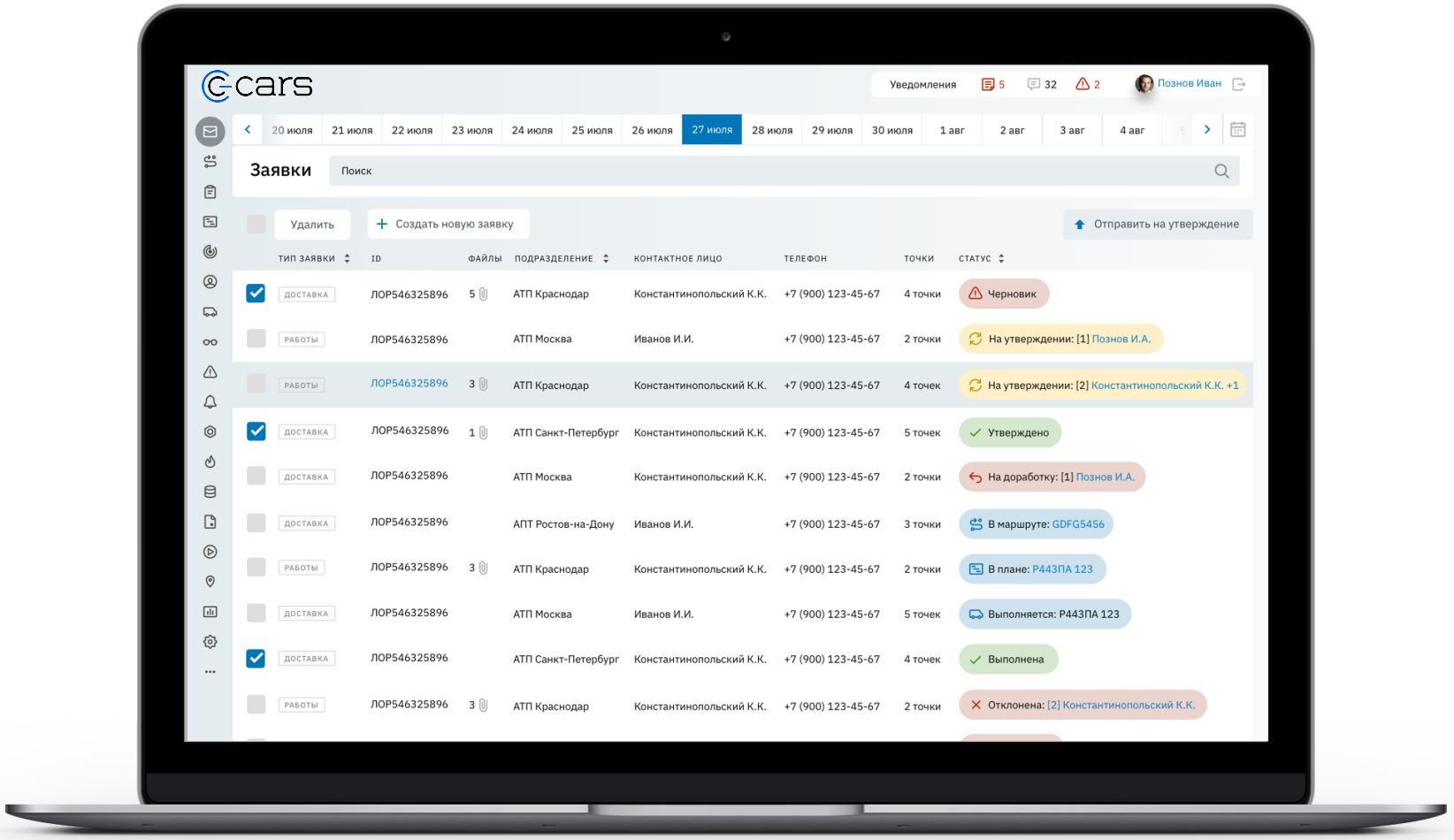
- Launches on startup
- Collects main diagnostic data
- Notifications
  - High temp
  - Engine DTC
  - etc
- DTC history
  - Mileage from detection



Order list

Order list

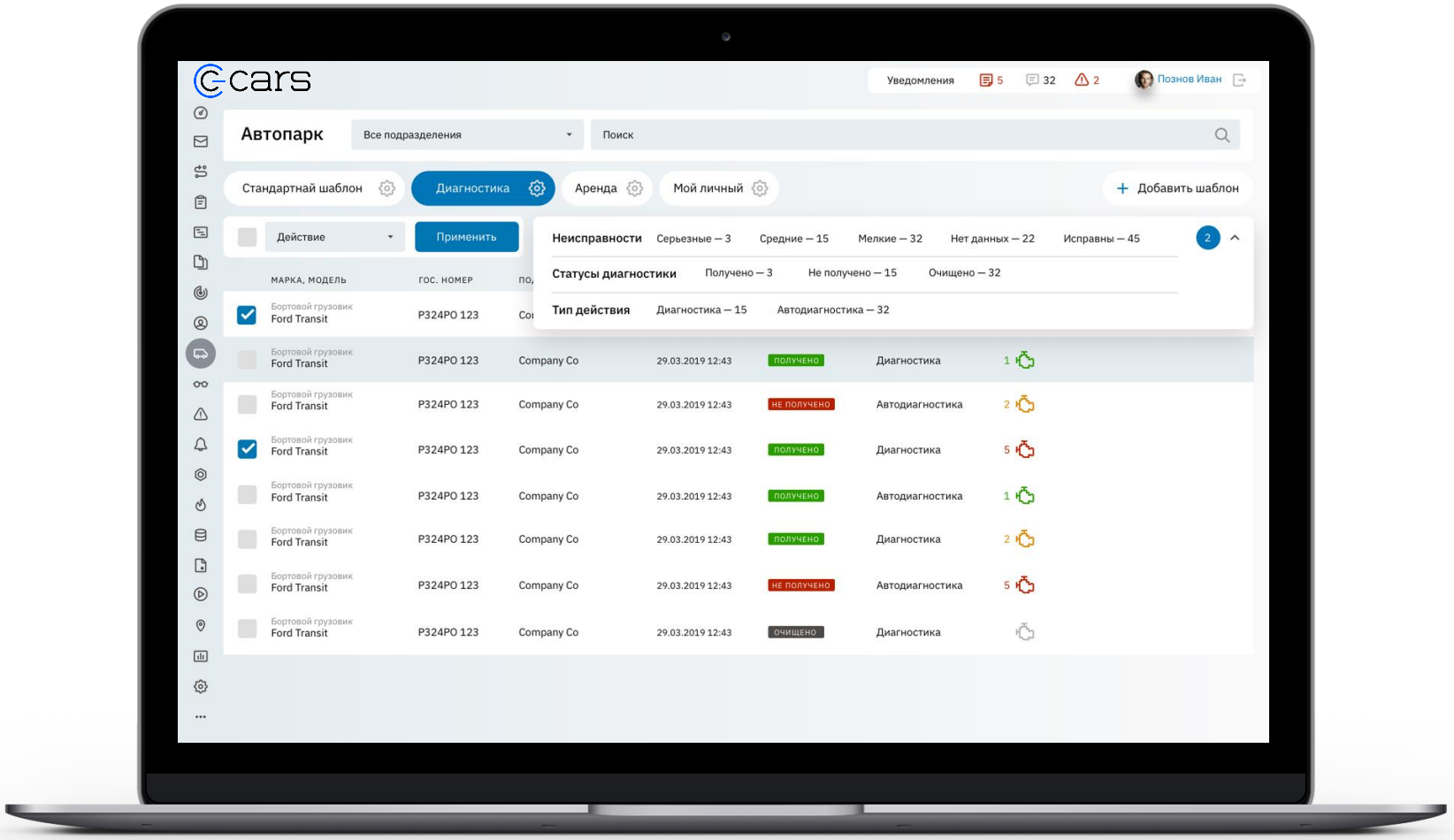
- Order type
  - Works
  - Delivery
  - Rental
- Order status
- Order modification (editing)
- Filters
- Search



Vehicle list

Vehicle list

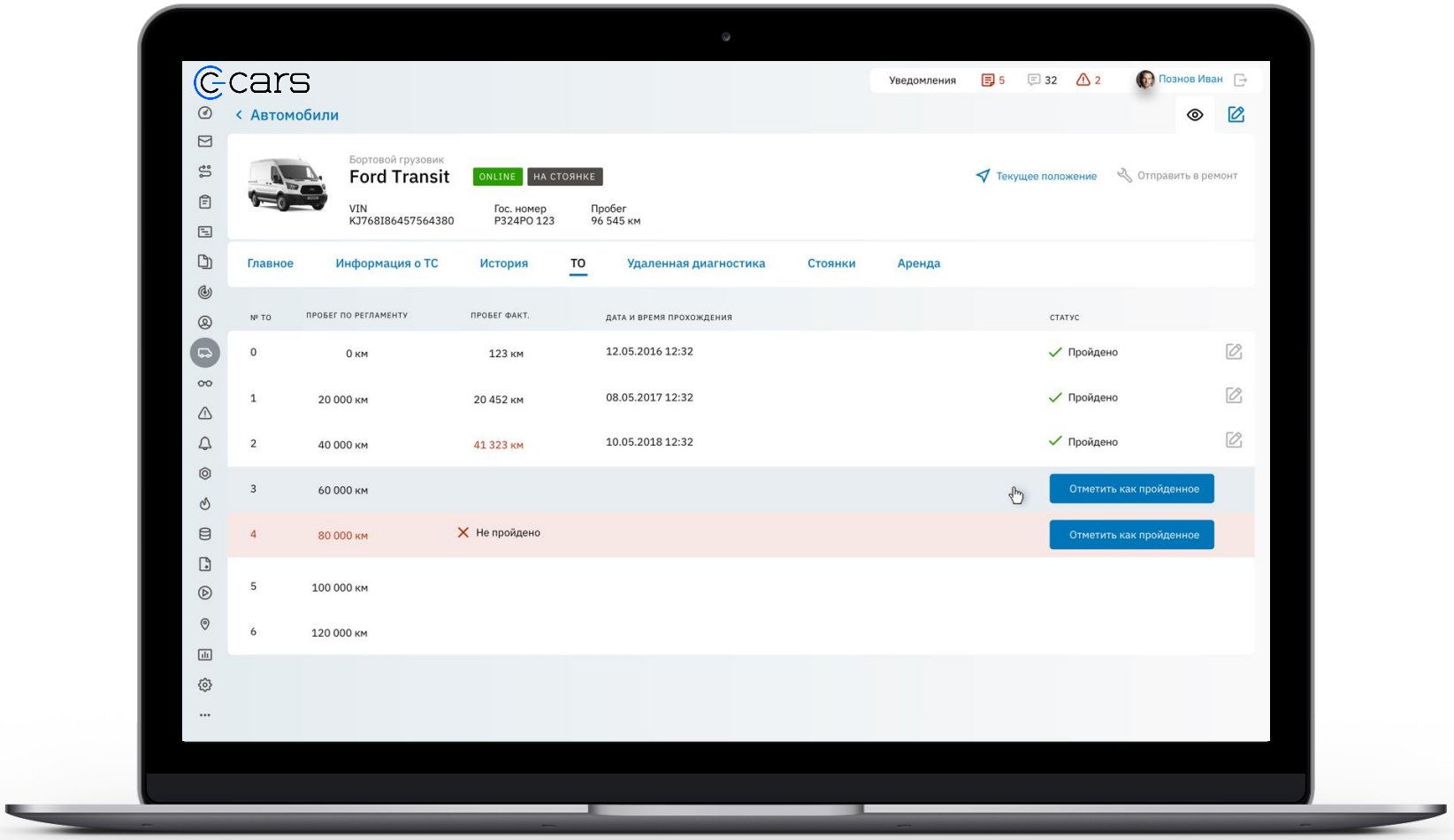
- Vehicle status
- Adjustable columns & fields
- Filters
- Search
- Grouping



Maintenance management

Maintenance

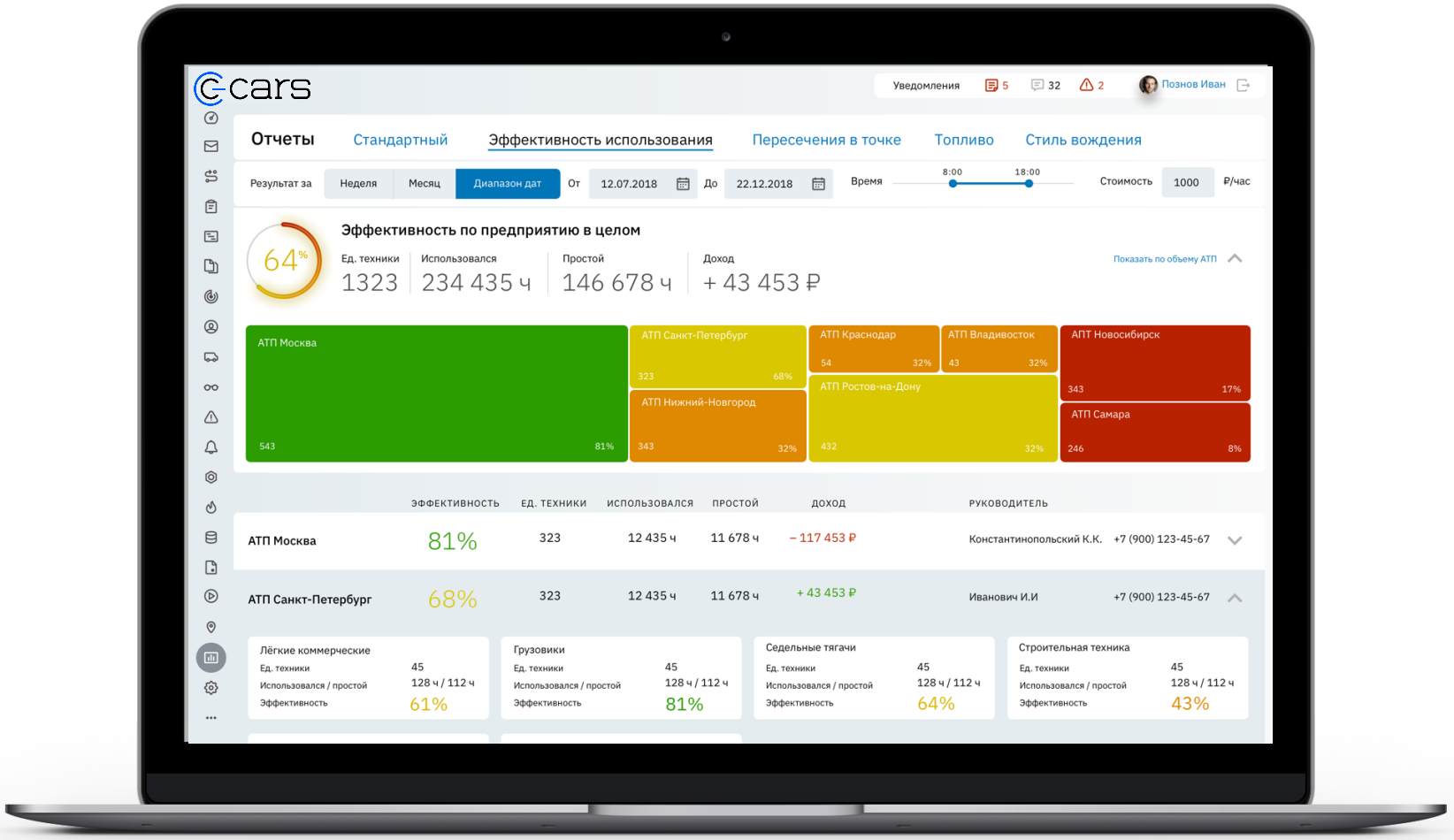
- Predictive analysis based on vehicle data
- Maintenance history
- Maintenance calendar & planning
- Maintenance monitoring



Fleet effectiveness

Effectiveness reports

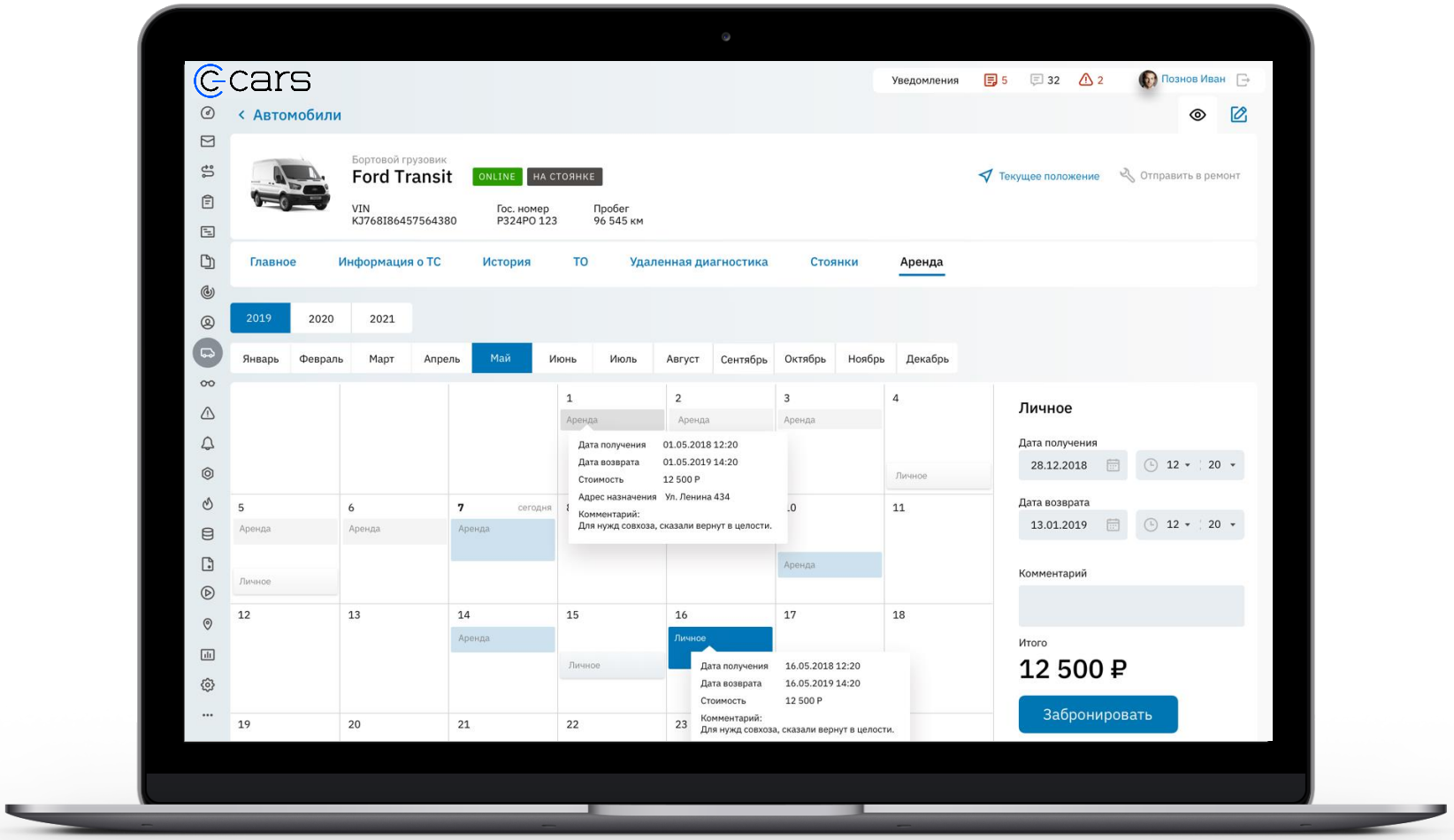
- Utilization
  - %
  - time
  - Idle time
- Revenue
- Vehicle type break down
- Region break down
- Department break down
- Department manager contacts



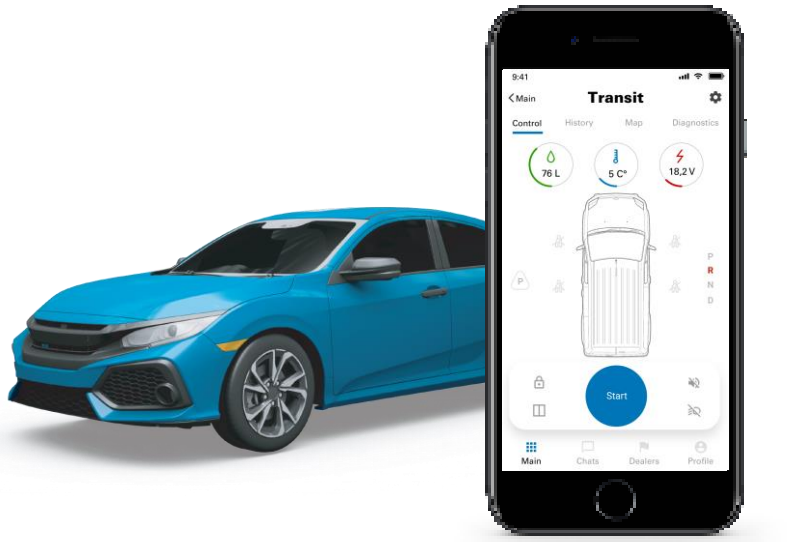
Vehicle planning & rental

Vehicle rental

- Availability calendar
- Price setting
- Renting dates planning



Insurance services



Connected Car Server

Data for smart insurance from devices

Insurance API

Data adopted for UBI

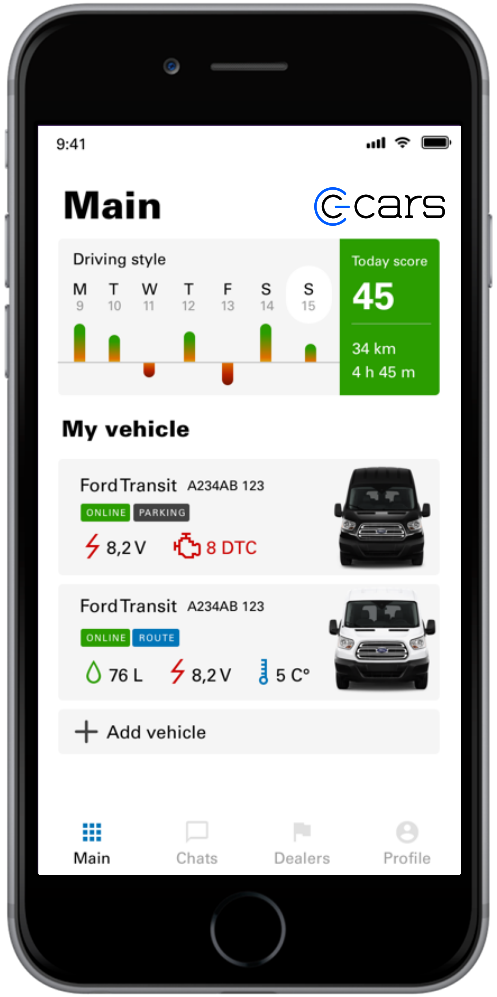
1. Smart Insurance Scoring Model
2. Data for prognosis: speed, accelerations, brakes, time of the day, mileage

UBI

Data of accidents

Insurance

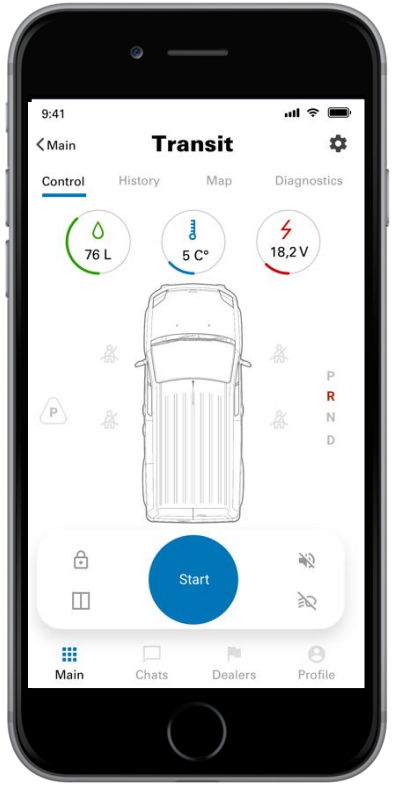
Mobile App for Fleet Consumer



All-in-one consumer services

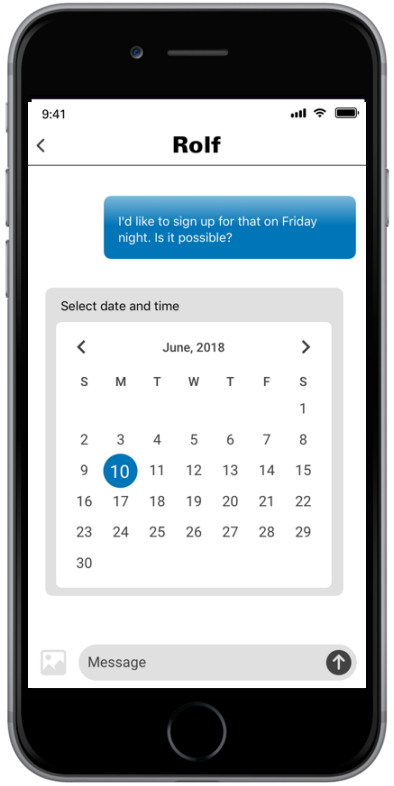
CONSUMER-TO-VEHICLE

- Remote car control
- Geolocation services
- Driving style
- Security settings
- Vehicle self-health check
- eCall, bCall and SVT

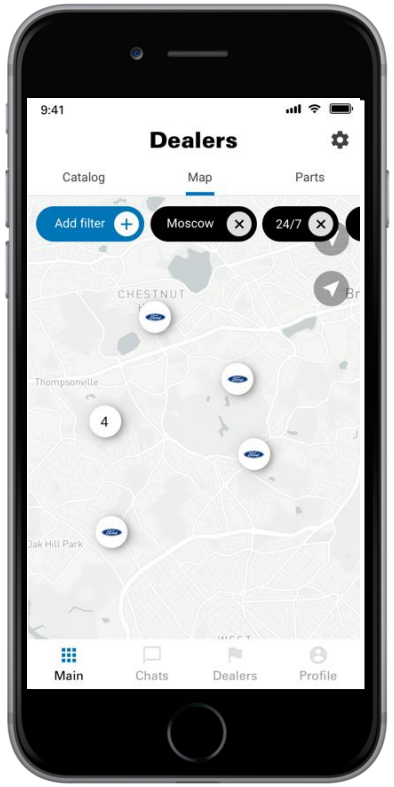


CONSUMER-TO-DEALERSHIP

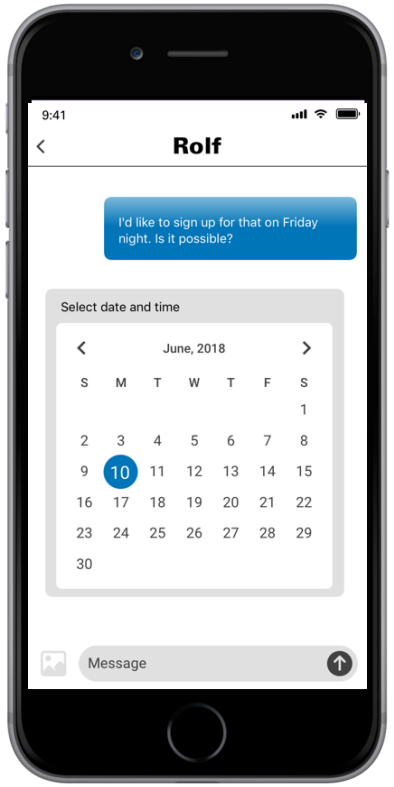
- Built-in online chat and chat bots
- Dealerships visible on map, navigation and filters
- Mobile requests for maintenance and services
- Loyalty programs
- Mobile payments



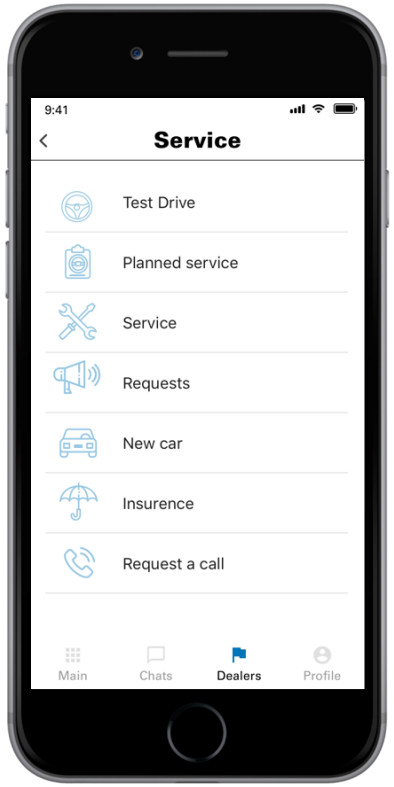
All dealership services in consumer pocket



Dealerships on the map, details and navigation



Chat bots



Interactive request for service, test-drive or maintenance

Single click mobile payments

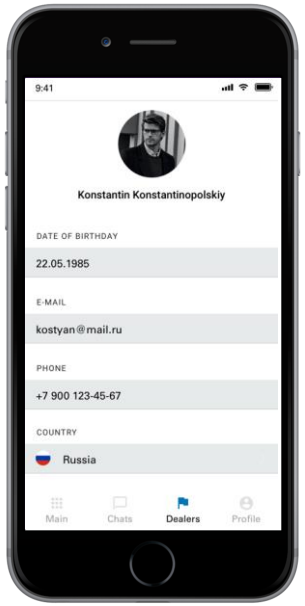
Loyalty program

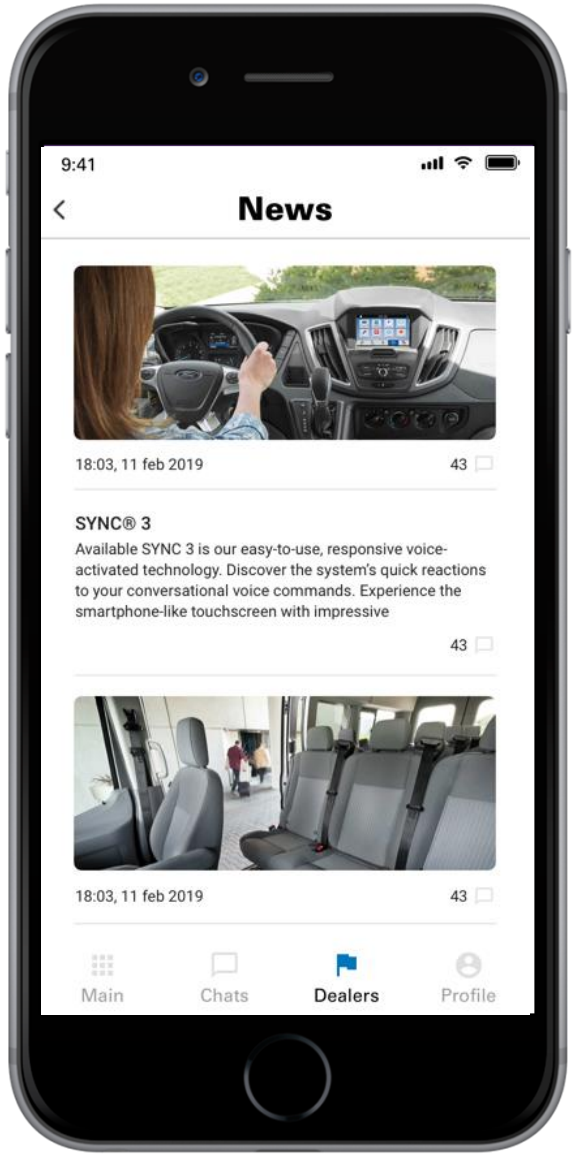
…and much more!

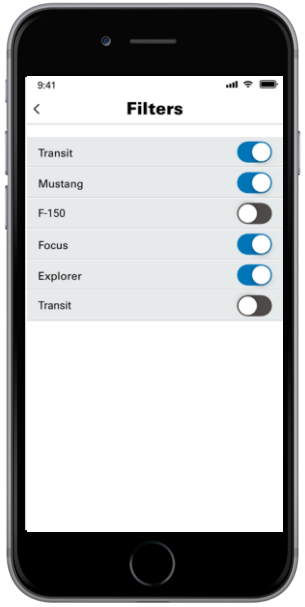
News section

Possibility
to connect several
RSS feeds for
publishing news:
brand, dealers,
and partners

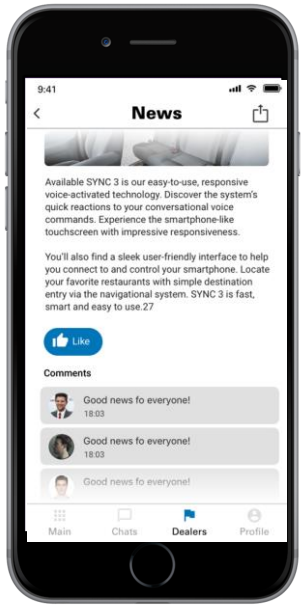
Possibility to share
news by email, text
messages, in social
networks







Possibility
to filter news
channels

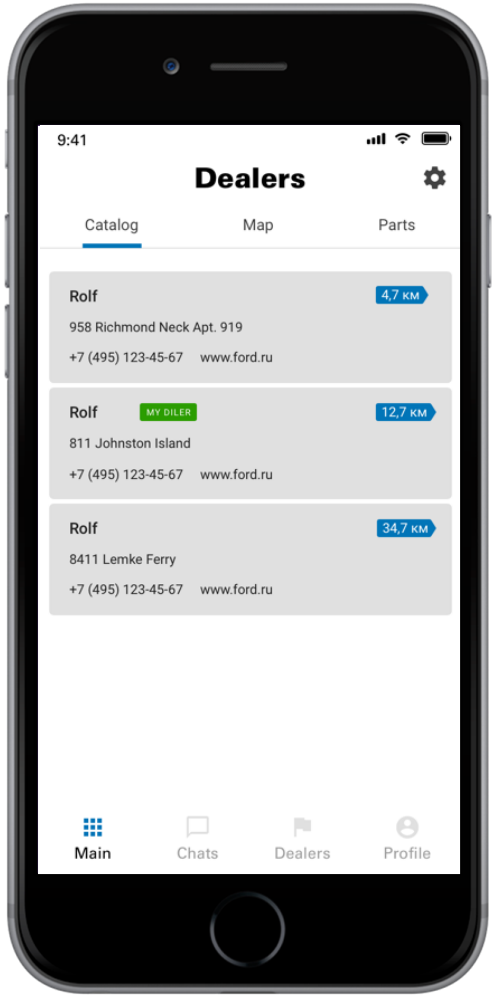


Users can like news items
and leave their comments.

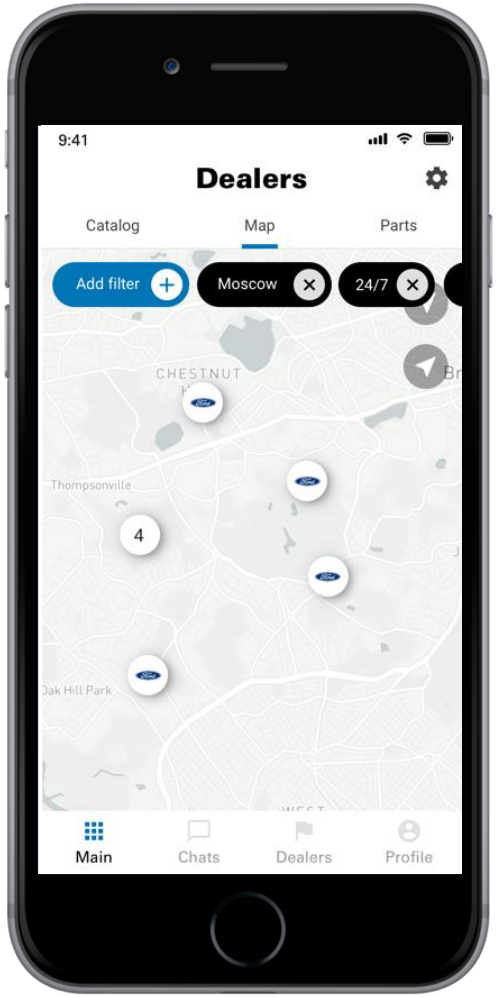
Activities in the mobile app
can be rewarded
with points/coins*

All comment posters
and comments can be found
on the control panel (CP)

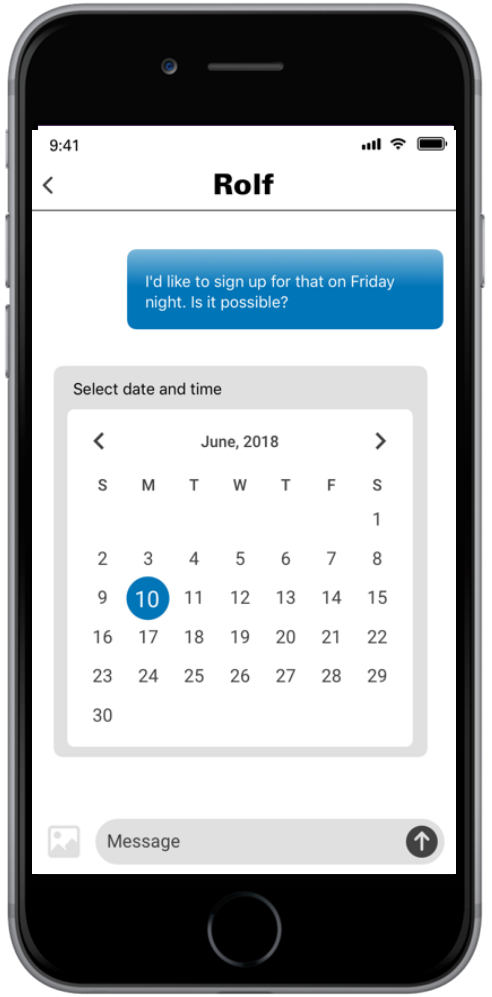
Dealers and partners



Dealer’s cards
and services



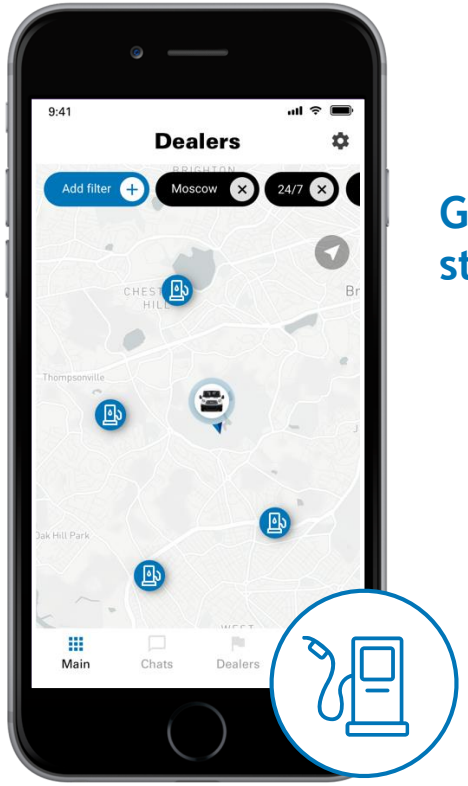
Dealers and partners
can be filtered, sorted
and shown on the map



Personal messages
are saved in the “Inbox” folder
on the client profile

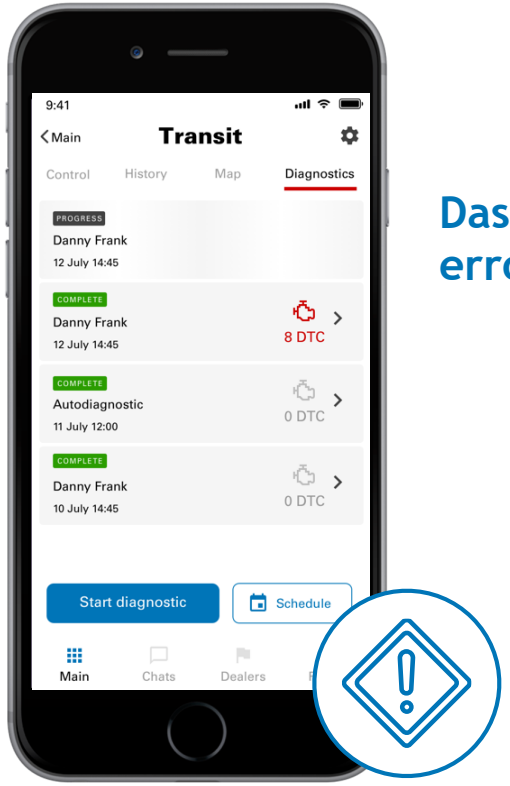
Additional services in App or Web portal

To increase frequency of mobile app usage



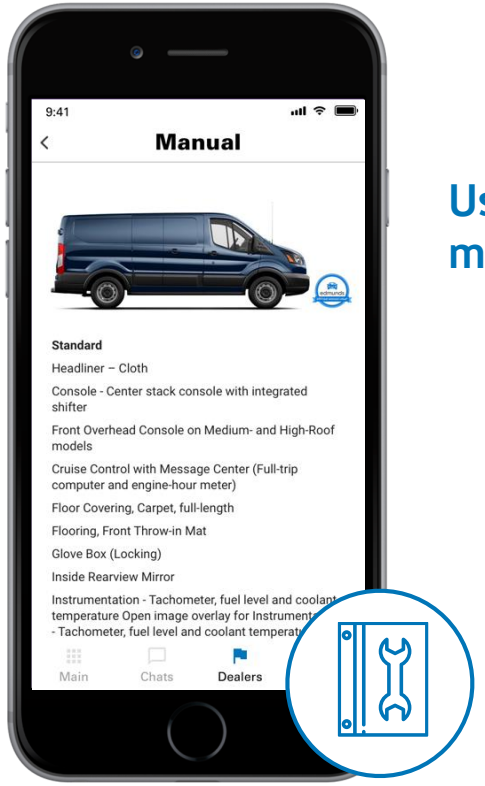
Gas stations

Integration with the database GPS coordinates, prices, phone numbers, photos and reviews; concierge service etc.



Dashboard errors

The indicator panel will help the car owner in case of critical errors

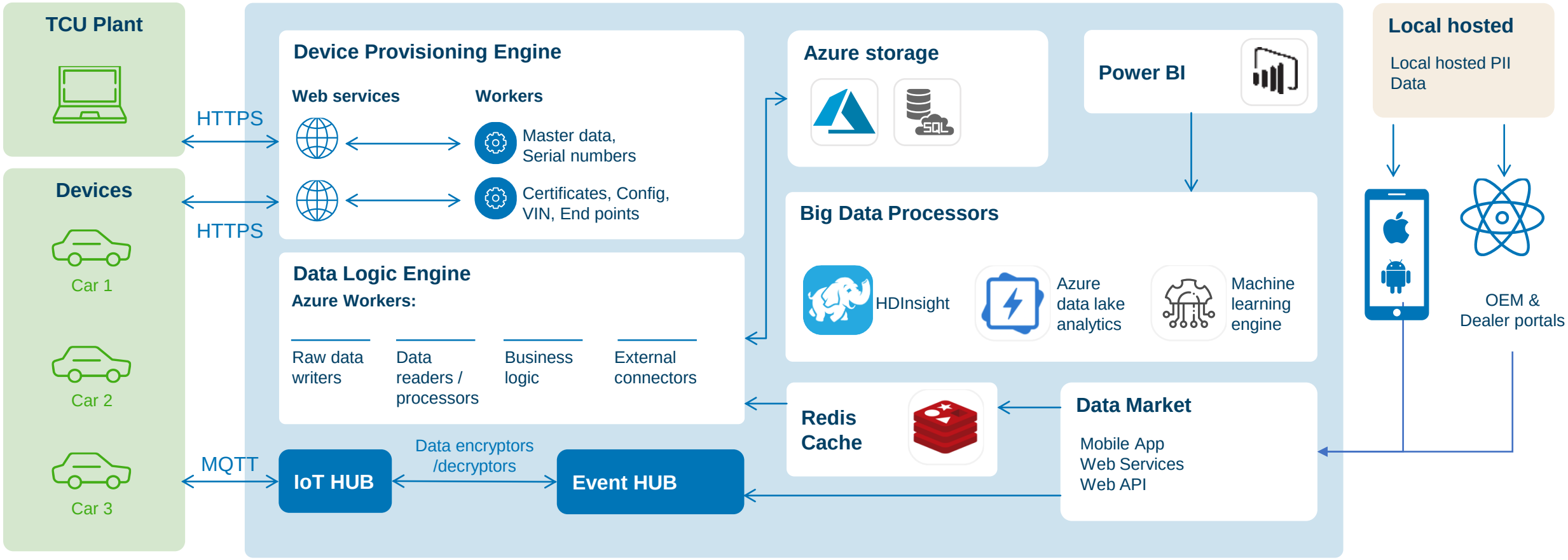


User's manual

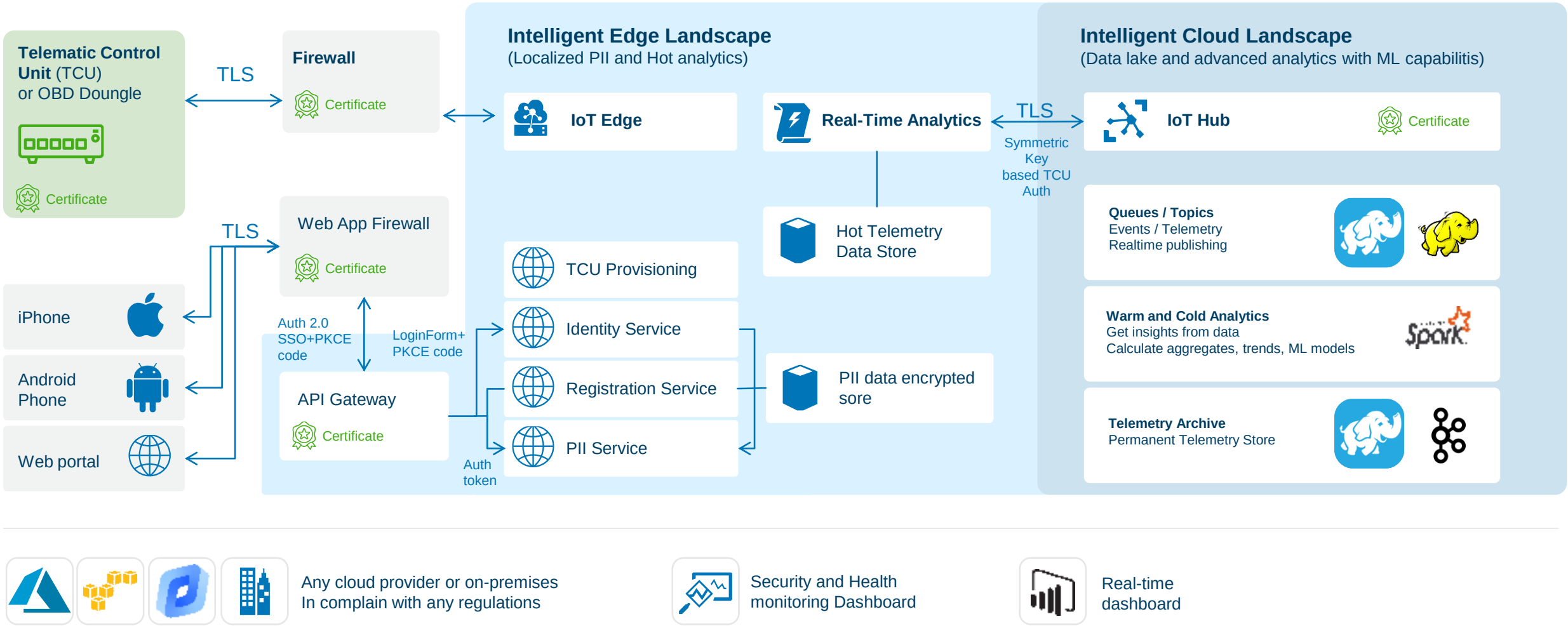
The user's manual can be downloaded and installed on the device for offline access

Security & Architecture

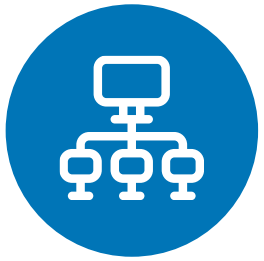
Principal Architecture of Connected Car Cloud Platform



Security scheme



Cyber security



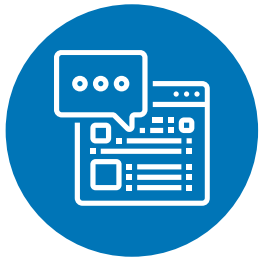
BackEnd

Microsoft datacenters
provides compliance with best security practices

Azure IoT Hub
provides a secure and private Internet of Things cloud solution

Localized PII servers
helps to separate and secure users data and comply with personal data legislation requirements (GDPR, 152–FZ)

Blocking process
prevents external attacks on the server



User Applications

2–Factor Authentication
adds an additional layer of protection beyond passwords (SMS OTP, Session Token)

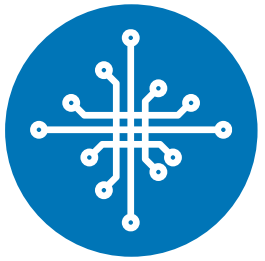
Code analysis tools
used in the development phase to reveal and mitigate vulnerabilities in source code

Code obfuscation
helps to prevent usage of Apps debugging methods

Certificate pinning
helps to be sure that App are connecting to the valid trusted server

Jailbreak and root detection
is a feature to prevent Apps reverse engineering

Access management
role–based methodology is used to restrict accesses to the information



Hardware

Device encryption
Flash encryption is a feature for encrypting the contents of the flash by AES–256 algorithm

Direct connectivity through dedicated communication channel
Certificate pinning helps to be sure that device connecting to the valid trusted server

Connectivity encryption
All connections are encrypted using TLS 1.2 with two–way authentication based on X.509 certificates

Private key identification
Shared access signature provides delegated access to resources in back–end storage accounts

Fully controlled provisioning process
Device Provisioning is a service that helps to configure zero–touch device provisioning to a specified IoT hub

Next steps