

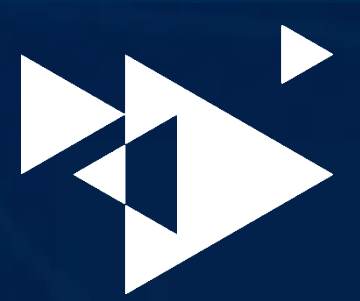
Türk Telekom
Değerli Hissettirir



Telecommunication Perspective in Intelligence Transportation

Fatih TÜRKOĞLU

Türk Telekom Product and Service Director



'Intelligent Transportation' Starts with 'Digital Transformation'

Transportation in Turkiye

68,7K km

Road network 28K km
Dual Roads 3,5K km Highways



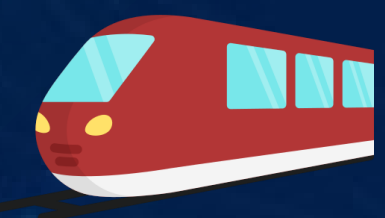
9,871

Bridges 774K meters long



13,1K km

Railway



57

Airports



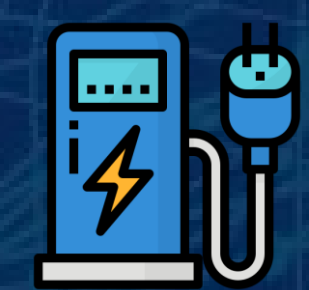
29 mn

Vehicles



%6

Electric Vehicle



5G

5G

Differentiator 5G and PLTE projects in industries with RAN, NFV and SDN investments



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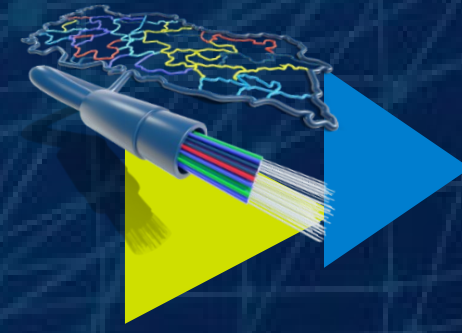
Leading Telco Operator

Serving as a digital and infrastructure transformers for business and consumer customers



437K km

Fiber network in 81 cities



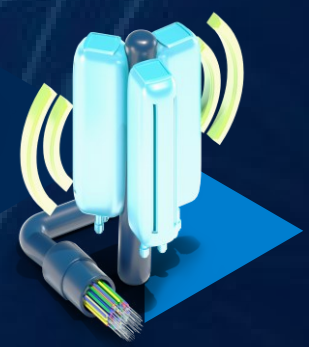
Building New Gen. Cities

Leading Smart Cities Solution Provider
25+ different verticals in 15+ Cities



Invest in Ecosystem

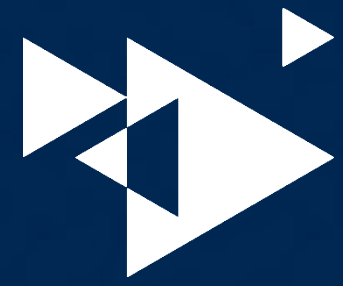
Mission of supporting Start-up Ecosystem and Local System Integrator



Market Setter in Cyber Security

Leader in Advanced Level Cyber Security and SOC





Transformation in Transportation



Waymo One-Robotaxi
Waymo has become the
World's largest fully
autonomous, paid ride-
hailing service

Volocopter – 3 types of
eVTOL Aircar –
Autonomous All-Electric
Air Taxi Joby – Electric
Aerial Ridesharing

Digital Twin – LIDAR
Tech Safer and
Smarter
Transportation

The global eVTOL aircraft market is expected to be worth **23.4 B USD** by 2030 growing at **CAGR of %52**

Today there are more than **250** entities developing electric vertical takeoff and landing (eVTOL) aircraft.

By 2030, the leading companies in the passenger advanced-air-mobility industry could have bigger fleets than **the world's largest airlines.**

And...

Cyber Security



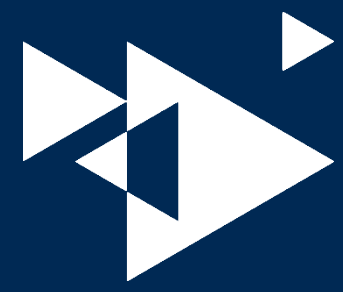
Travel Guidance and Planning System
Cyber Attack 2017
832 Vehicles - 80 Routes



Flight Information Display
Cyber Attack 2024

Flights will be shorter, averaging only **18 minutes**, with fewer passengers on board.

Advanced-air-mobility will reduce the number of active pilots from **10,500 to 4,500.**



Bird's Eye View of Turk Telekom Digital Transformation and Infrastructure Capability

Best in Class Connectivity

437K km Fiber Network

Market and Investment Leader of the TELCO

Widespread Wi-Fi network
25M+ Consumer, 30 Million GB Data Consumption)

30K point Fiber Infrastructure for 150K CCTV

Leading Cyber Security Service Provider

Turkey's Largest Cyber Security Center

Turkey's Richest Product Portfolio

10+ Years of CS Experience
250+ Expert Engineers in the Field

24/7 service approach on network security, end user security and data security

Cloud Transformation Pioneer

13K m² White Space

500+ GBPS Data Center Access Capacity

Virtualization Technologies and Multi-Cloud with Amazon and Azure

Business Continuity with Non - Stop Service

Value Creator at Digital Transformation

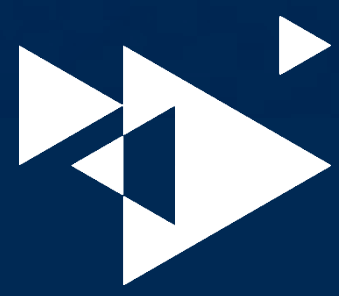
20K+ Delivered Projects

Strong Partnership with 400+ Business Partners

15+ New Generation Cities End-to-end management in ITS, OIS, Smart Cities

5G ready solutions in mobility, industry, government

The most 5G-ready telecom operator ...



Proud of serving solution for Transportation and Smart Cities Verticals

Connectivity in Mobility



25M Users



30M GB Usage



800 Buses



161K Flight



33 Kiosk



160K Connected Car

Intelligence for Traffic Efficiency

(Dynamic Junction Control System)



Reduction in
Waiting Period

%30

16 second

%34

30 second



Fuel Saving

147M TL / year

45M TL / year



Reduction in
Carbon Emission

9.270 Ton

2.880 Ton



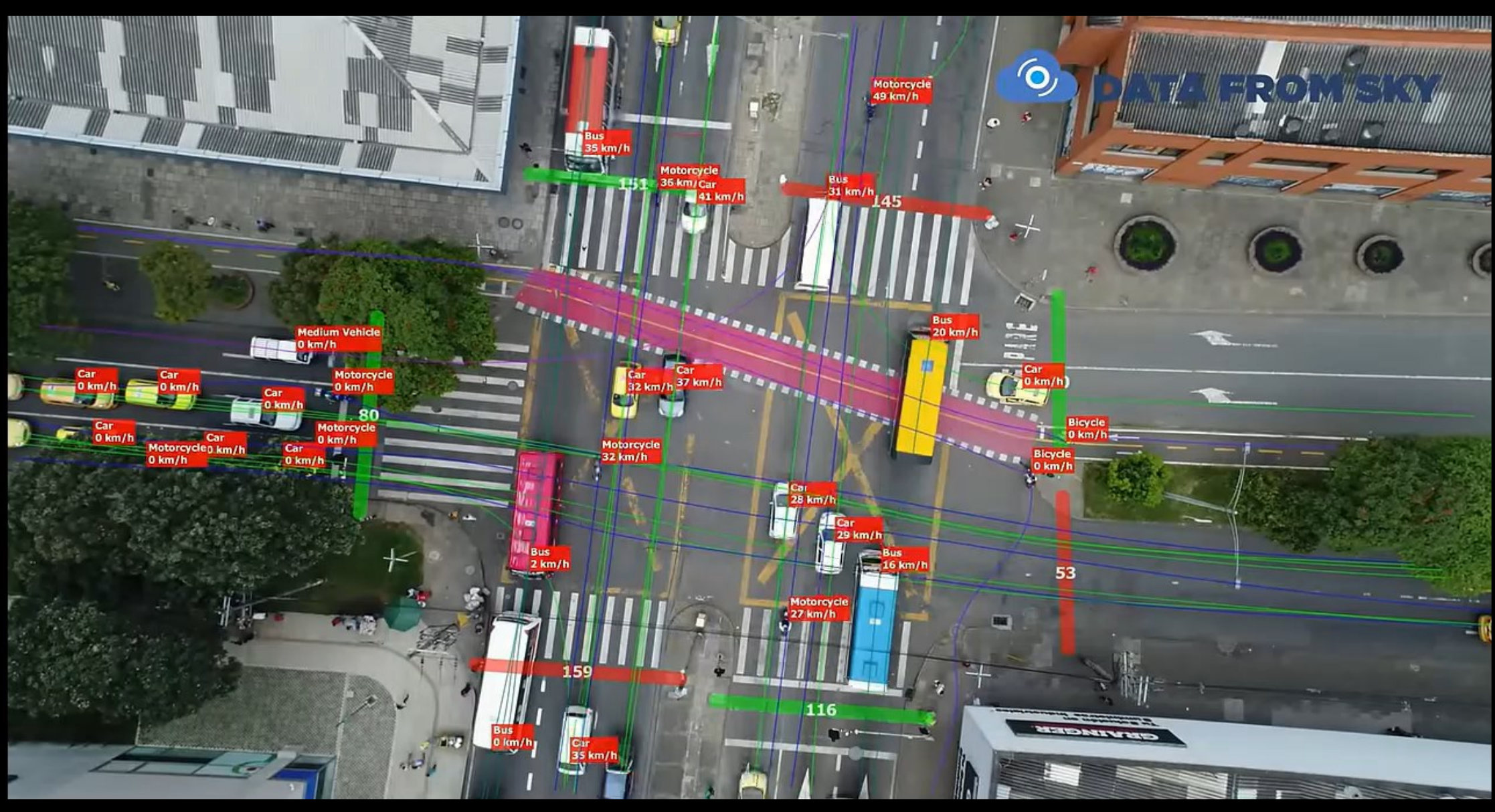
Intersection

14 M

12 M
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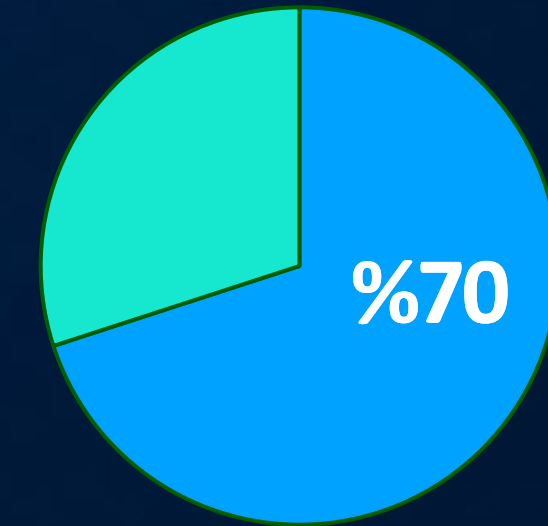


5G is crucial for Intelligence Transportation

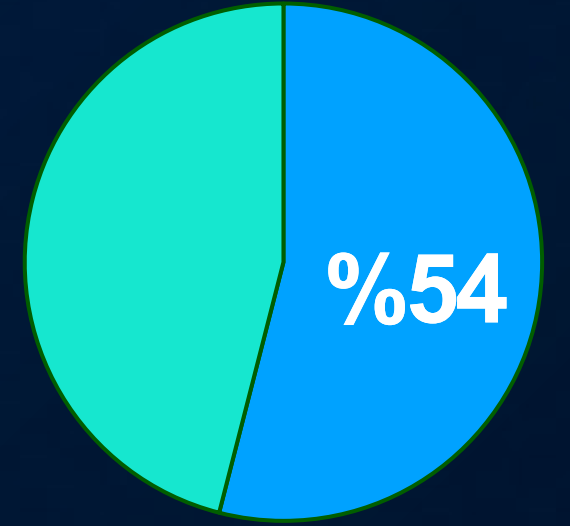


By 2026 **67 million** New Vehicles worldwide will be equipped with telematics capabilities. **5G** telematics communications modules, introduced only last year, are expected to account for more than **25%** of the total vehicle telematics market.

Source: Strategy Analytics



5G to Disrupt Auto Industry Most



2028 5G vs Non-5G Cars



5G smart transportation city in Guangzhou



RAILWAY

Incidence rate	%20 ↓
Maintenance cost	%20 ↓
Vehicle Efficiency	%70 ↑
Manpower	%25 ↓
Work Efficiency	x10 ↑

BUS

Scheduling Bus Lines	x7 ↓
Traffic	%10 ↓

METRO

Operation Efficiency	%20 ↓
Manpower	%30 ↓
Metro train on-time rate	%30 ↑

Türk Telekom

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Thank You

Fatih Türkoğlu

Türk Telekom Product and Service Director