



bozankaya
<teknoloji

Software-defined mobility systems

Energy • Fleet • Control • Integration

Timeline



2003

CHASSIS AND BODY PRODUCTION FACILITY

- Bus chassis and body production, Ankara

2024

BOZANKAYA TEKNOLOJİ

- Software Design and Development, Ankara

1989

BOZANKAYA GMBH

- Mechanical design and component manufacturing, Germany

2015

BOZANKAYA OTOMOTİV A.Ş.

- Bozankaya Rail System Design Factory, Ankara
- R&D center title, Ankara





ANKARA 12M E-BUS



LAMİS 12M E-BUS



YAŞ TRAM



**GEBZE DARICA
GOA4 METRO**



**TEMAŞVER BATTERY
TRAM**



**360KW CCS2
CHARGING STATION**



**MALATYA 25M
TROLLEYBUS**



**URFA 18M
TROLLEYBUS**

Passenger Information Systems Development

Platform Applications Development

Vehicle Tracking System Development

Website Development

Charger Embedded Software Development

Battery Management System Software Development

Wheeled Vehicle Controller Software Development

Rail Systems Controller Software Development

Driver Dashboard Design

Vehicle Tracking and Debugging

Product Lifecycle Management

Cyber Secure System Design in Automotive



Control Software

Vehicle Control Software

- Central Control Unit
- Vehicle Control Unit
- Driver Dashboard

IEC61131

EN50128

Automation Control Software

- Industry 4.0
- SCADA
- Industrial Automation



Gauge Designs

Software



- Hardware-independent dashboard software development

Design



- User-friendly enriched visual design



Vehicle Tracking System

Location Tracking

Data Analysis

Fault Tracking

Maintenance Tracking



Passenger Information Systems

Indoor/Outdoor Announcement Systems

In-Vehicle Media Dashboard

Route Dashboard

Indoor/Outdoor Camera Systems

Platform Applications



Diagnostic Systems

Real-time data monitoring

Event log tracking

Vehicle configuration

Simulation &
Testing

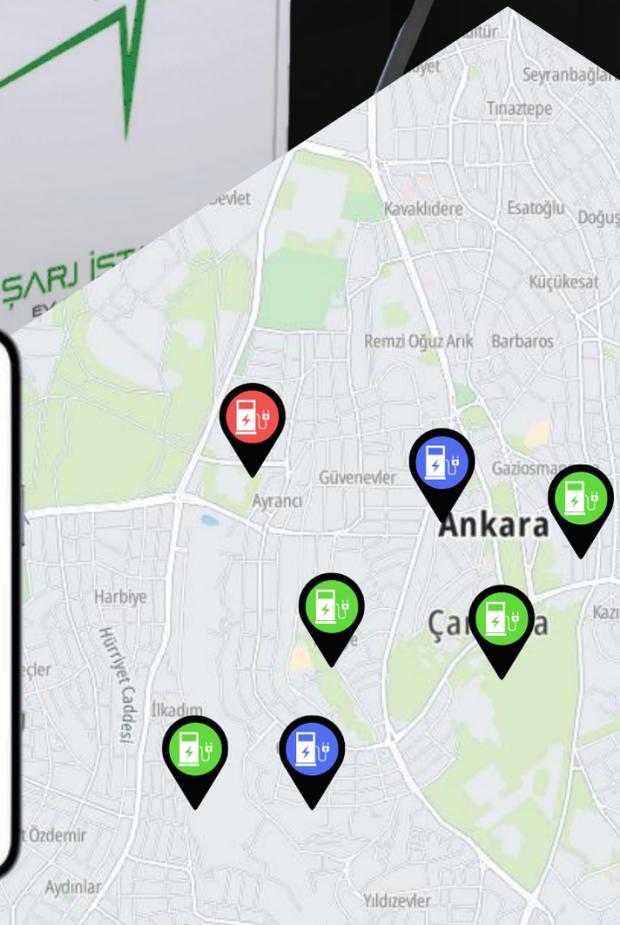
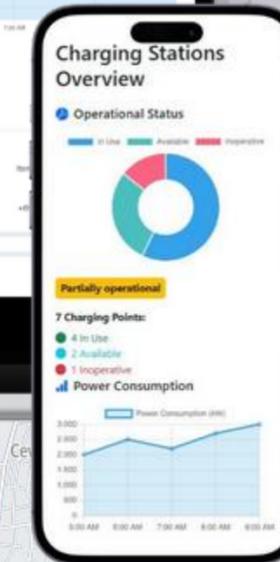
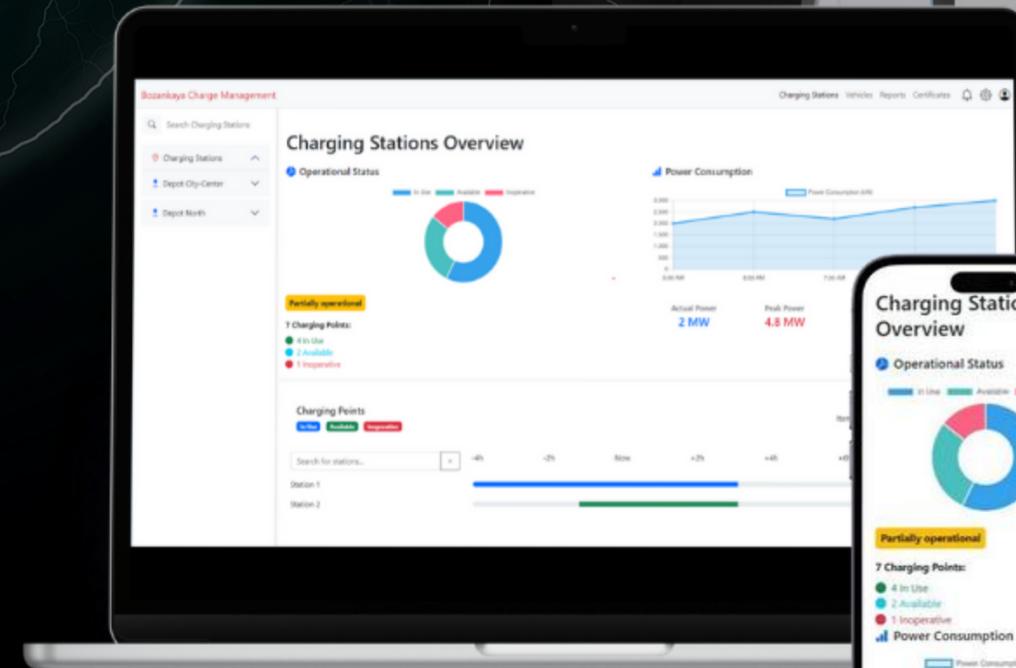


Energy Management

Charging Station Controller Software

Smart Charging Management Systems

Energy Storage Systems (ESS)



CONSULTING

Consultancy

With certified engineers who are experts in their fields

Functional Safety

Cyber Security

Process Management

Code Analysis

50+

Project

10+

Process Management

1000+

Software Requirement

ISO 26262

Road Vehicles - Functional Safety

ISO/SAE 21434

Road vehicles — Cybersecurity Engineering



Documentation

Software System Design

Software Requirement Definitions

Revision Notes

Change Requests

Test Scenarios

Cyber Security Concept

Functional Safety Concept

PR1004_SRS_003122_SNG

Balans sigortası atık hatası

Şarj soketi takılı ($VCCU: S_Inlt_Conn_Stat == TRUE$) ve ESS'e gönderilen balans komutu aktifken ($ESS: C_Bal_Actv == TRUE$) 15 saniye boyunca ESS'ten gelen kayıp hücre sayısı toplam hücre sayısına eşitse ($ESS: X_Mss_Cell_Nb == X_Tot_Cell_Nb$) balans sigortası atık anlamına gelir.

Balans sigortası atık hatası aktifken şarj hatası ile şarj işlemi sonlandırılır.

Kaynak / Source: Necessity

Olay / Event: No

Siber Kritik / CS Critical: No

Güvenlik Kritik / Safety Critical: No

Durum / Status: Approved

Tahsis / Allocation: ECU

PR1004_SRS_003123_SNG

SCL hatası

Şarj soketi takılı ($VCCU: S_Inlt_Conn_Stat == TRUE$) ve balans işlemi aktifken (*bkz: Balans durumunun kontrolü*) ESS'ten hatalı hücre bilgisi 15 saniye boyunca aktif geliyorsa ($ESS: X_Cell_Err > 0$) SCL hatası olduğu anlamına gelir.

SCL hatası aktif olduğunda şarj hatası ile şarj işlemi sonlandırılır.

Kaynak / Source: Necessity

Olay / Event: No

Siber Kritik / CS Critical: No

Güvenlik Kritik / Safety Critical: Yes

Durum / Status: Approved

Tahsis / Allocation: ECU

PR1004_SRS_003124_SNG

Kayıp hücre hatası

Balans sırasında 60 saniye boyunca herhangi bir batarya hücresi ile haberleşme hatası varsa ($ESS: X_Mss_Cell_Nb > 0$) şarj hatası ile şarj işlemi sonlandırılır.

Kaynak / Source: Necessity

Olay / Event: No

Siber Kritik / CS Critical: No

Güvenlik Kritik / Safety Critical: No

Durum / Status: Approved

Tahsis / Allocation: ECU

SOFTWARE REQUIREMENT



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Thank you.

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📍 ASO Teknopark, Sincan/ANKARA

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