This project is co-financed by the European Union
and the Republic of Türkiye

UFUK AVRUPA

ICTürkiye2025
10 April, İstanbul

PRESENTER FULL NAME: Gülenay Tunç

ORGANIZATION: Anadolu Isuzu Otomotiv San. Ve Tic.

WORKSHOP NAME: SMART Mobility

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REPUBLIC OF TÜRKİYE
MINISTRY OF INDUSTRY
AND TECHNOLOGY

#NATIONAL TECHNOLOGY INITIATIVE

COMPETITIVE SECTORS PROGRAMME

TÜBİTAK

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Anadolu ısuzu Otomotiv San. Ve Tic. A.Ş

ANADOLU GROUP

- One of the first centers to change status under the R&D Centers Law enacted **in 2009**
- R&D activities accelerated with a **$10M investment** in the new campus established in 2015
- **~300+** employees
- **6000 m²** indoor area

- **A center that covers all steps from sketch to product**, including the Design Office, R&D Office, Prototype Workshop, Special Projects Workshop, and Testing Center

- **20 Ongoing R&D Projects**
- **331 IP application**

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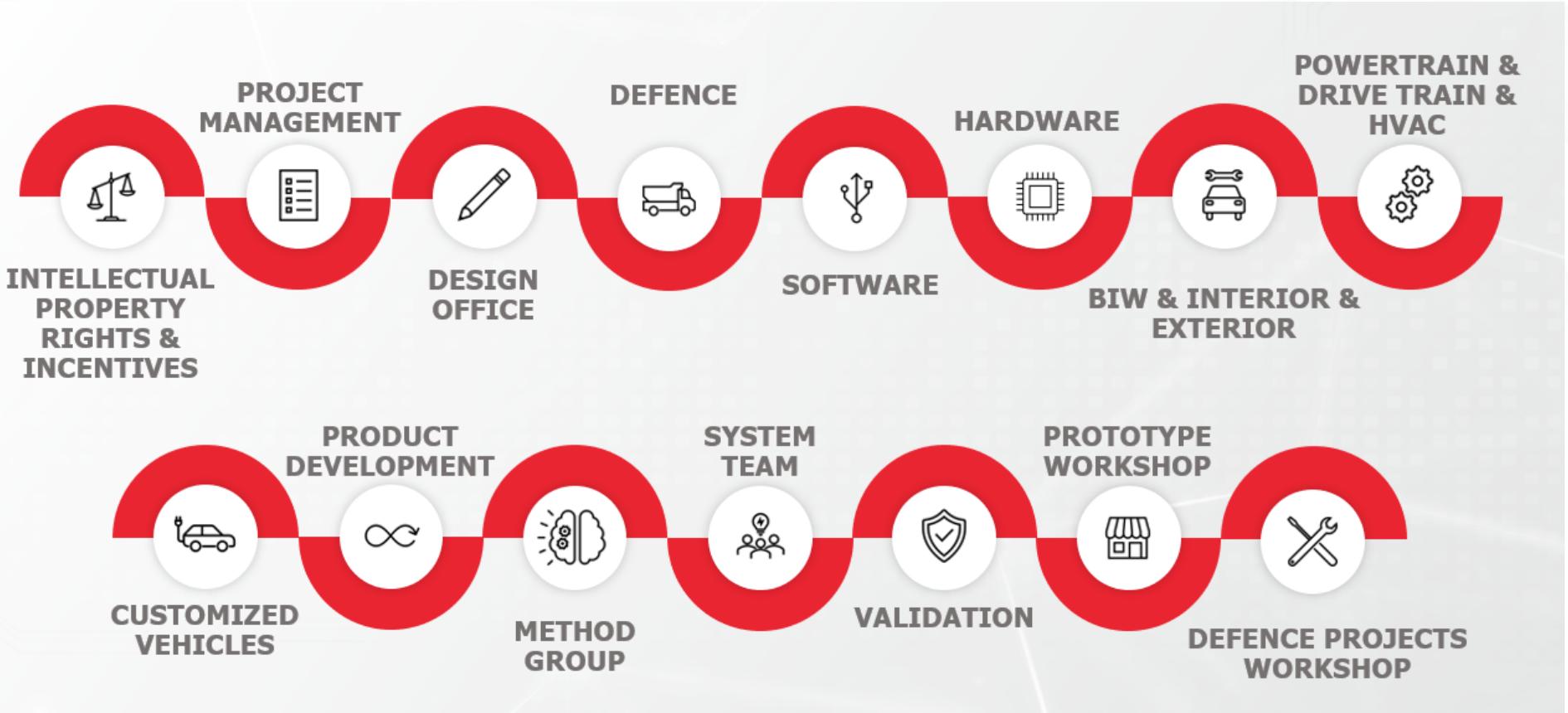
12 Main Specializations And 52 Sub-specialties



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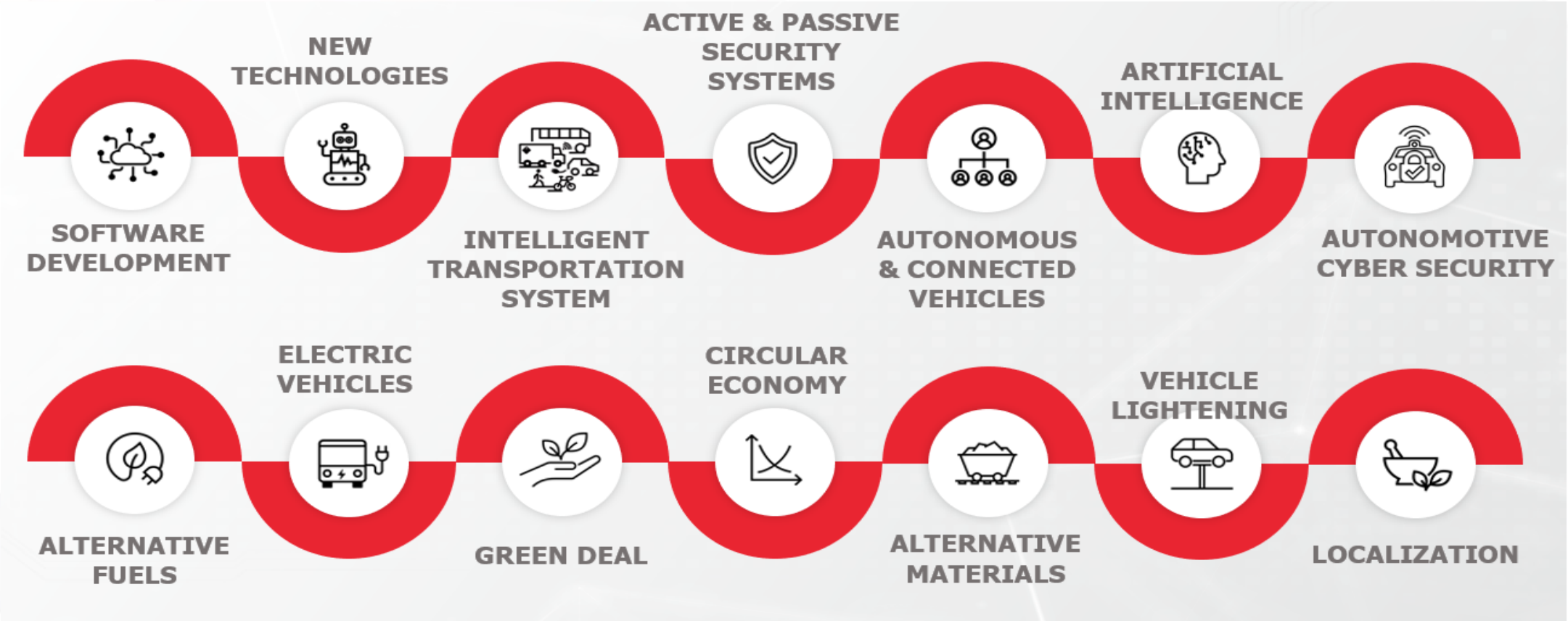
Our Focus



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Software

We are developing with different tools and software in all sub-fields that will support electro mobility. Especially in the development of software algorithms, we are developing in many depths such as EV system, HMI, Control algorithms etc.

SAE J1939

CREATING INFRASTRUCTURE ACCORDING TO J1939 STANDARD

IEC PLCopen logic ST LD IL SFC FBD IEC 61131-3

VEHICLE INSTRUMENT AND CONTROL UNIT SOFTWARE IN ACCORDANCE WITH IEC 61131-3 STANDARDS

VEHICLE INSTRUMENT SOFTWARE DESIGN AND PROGRAMMING

DESIGN AND INSTALLATION OF CAN ARCHITECTURE

CUSTOM DESIGN BASED ON CUSTOMER REQUIREMENTS

- PROGRAMMING THE BODY CONTROLLER
- CONTROLS OF EQUIPMENT: DOORS, HEADLIGHTS, WIPER ETC.

SOFTWARE DEVELOPMENTS AND INTERFACE DESIGNS COMPLIANT WITH GSR AND REGULATIONS

- PROGRAMMING THE TRACTION CONTROL UNIT
- ELECTRIC TRACTION MOTOR TORQUE CONTROL AND FUNCTIONS

BATTERY AND CHARGING SCENARIO MANAGEMENT SOFTWARE

DESKTOP INTERFACES AND DIAGNOSTICS SOFTWARE

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Cyber Security and Software Testing

In cybersecurity, we are working on developing for sustaining the vehicle's defense mechanism against external attacks both cybersecurity software and management systems. In this way, we are preparing the vehicle for R155 and R156 compatibility.

CYBER SECURITY ORGANIZATIONAL STRATEGY AND SUPPLIER MANAGEMENT SYSTEM

SOFTWARE UPDATE MANAGEMENT SECURITY VULNERABILITY MONITORING & ANALYSIS & RESPONSE

CYBER SECURITY REQUIREMENTS ANALYSIS, ARCHITECTURAL DESIGN, THREAT ANALYSIS AND RISK ASSESSMENT

CYBER SECURITY SOFTWARE DEVELOPMENT, VALIDATION AND VERIFICATION

SOURCE STATIC CODE ANALYSIS

FUZZ & PENETRATION TEST

HARDWARE-IN-THE-LOOP (HIL)
SOFTWARE-IN-THE-LOOP (SIL)

PROTOTYPE TOOL SOFTWARE VERIFICATION AND DOCUMENTATION

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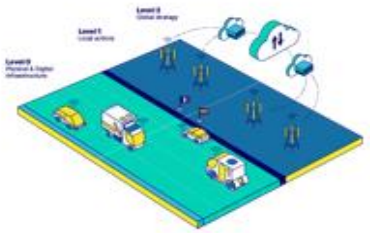
New Systems

The most important stage for vehicle software development and component selection is to perform the necessary software analysis of standards and requirements. We verify our design with numerical analysis methods and create appropriate requirement sets.

BATTERY SYSTEM SELECTIONS

ELECTRIC ENGINE COMPARISON SIMULATION AND SELECTIONS

ELECTRIC VEHICLE SYSTEM DESIGN AND CHOICES



INTERNATIONAL VALUE-ADDED PROJECTS

ALTERNATIVE FUELED VEHICLES

AUTONOMOUS VEHICLE STUDIES

SMART TRANSPORTATION SYSTEMS AND CONNECTED VEHICLES

FLEET TRACKING SYSTEMS

ALTERNATIVE CHARGING SYSTEMS

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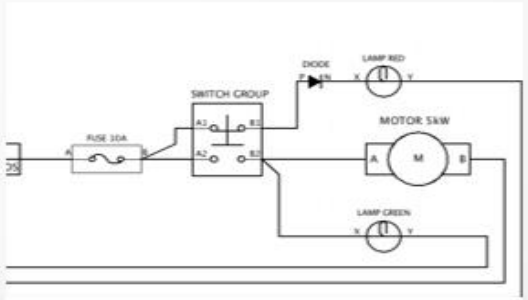
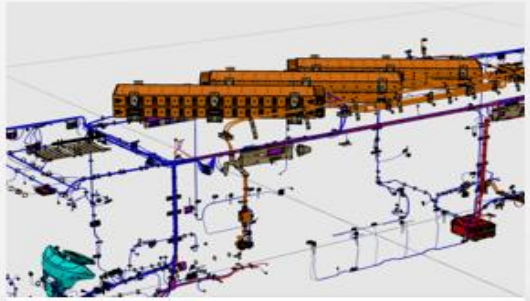
Hardware

With our in house HW development capability, we have all the competence and infrastructure to support e-mobility.

COMPONENT SELECTION AND CREATING SYSTEM ARCHITECTURE

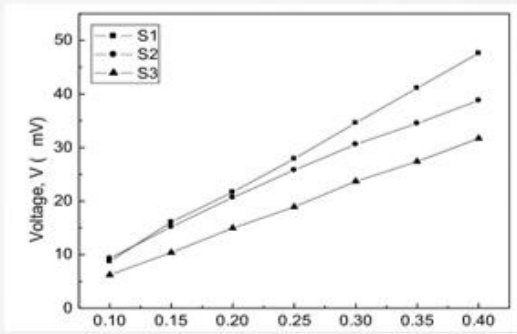


ELECTRICAL CIRCUIT DESIGN AND ANALYSIS

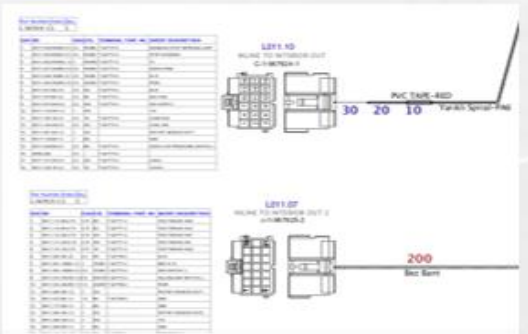


ELECTRICAL SYSTEMS LOCATION AND INTEGRATION

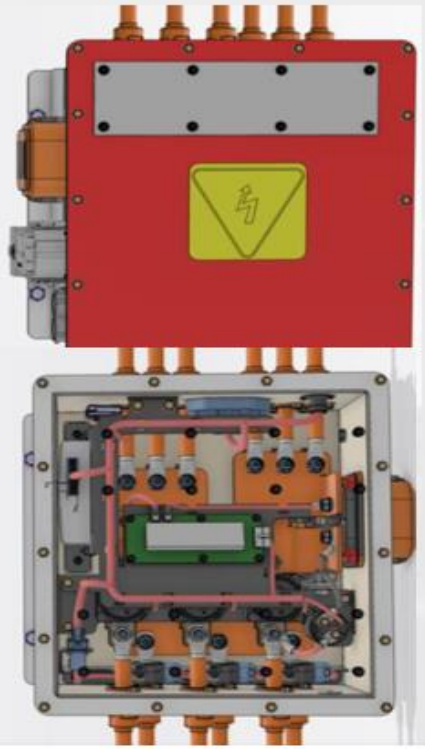
PROTOTYPE, COMMISSIONING, SIMULATION AND TEST



ELECTRICAL CHARGE ANALYSIS



ELECTRIC WIRING DESIGN



HARDWARE DESIGN

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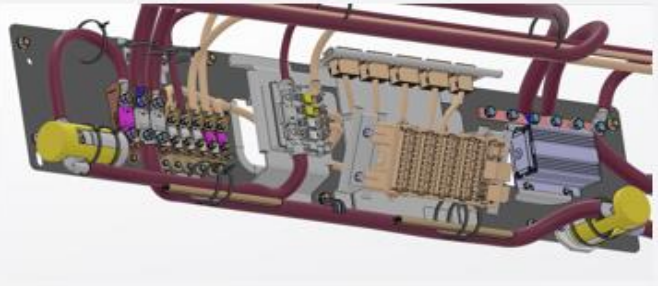
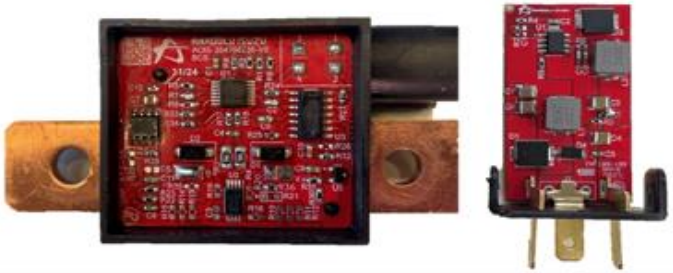
Hardware



MECHANICAL DESIGN FOR EE SYSTEMS



PRINTED CIRCUIT BOARD (PCB) DESIGN

COMPONENT-LEVEL TESTING

PRODUCT DEVELOPMENT

CUSTOM VEHICLE EE SYSTEMS DESIGN

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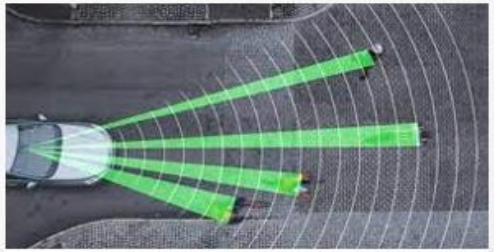
INTELLIGENT TRANSPORTATION SYSTEMS

BLIND SPOT DETECTION SYSTEM



PEDESTRIAN AND BICYCLE DETECTION SYSTEM

TRAFFIC SIGNAL SYSTEM

DRIVER FAILURE AND VIOLATION DETECTION

ARTIFICIAL INTELLIGENCE

PREDICTIVE MAINTENANCE

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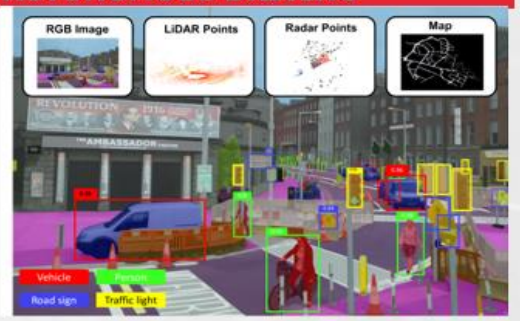
Our Focus

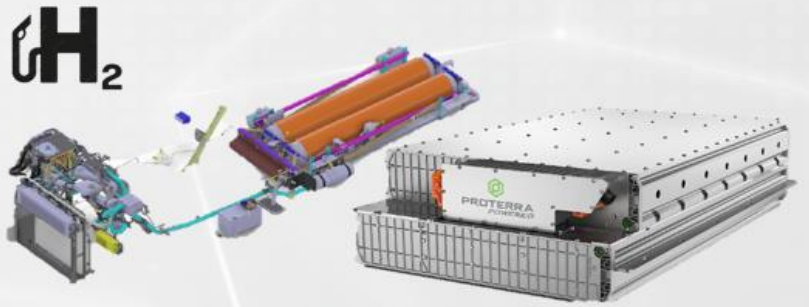
AUTOMOTIVE CYBER SECURITY

HARDWARE, SOFTWARE AND INFRASTRUCTURE DEVELOPMENT OF AUTONOMOUS DRIVING



DATA ANALYSIS

ALTERNATIVE FUELS



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Our Focus

ALTERNATIVE MATERIALS, BIOMATERIAL, GREEN DEAL, LIGHTENING, CIRCULAR ECONOMY

FLAX, OLIVE PIT, HEMP, RECYCLED PLASTICS

CTP

LIGHTWEIGHT FLOOR COVERING

RECYCLED SEAT FABRICS

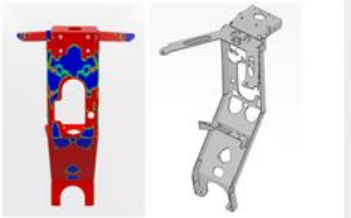
FABRIC AIR DUCT

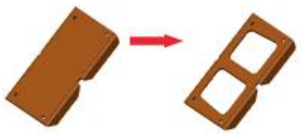
HDPE

TEA WASTE

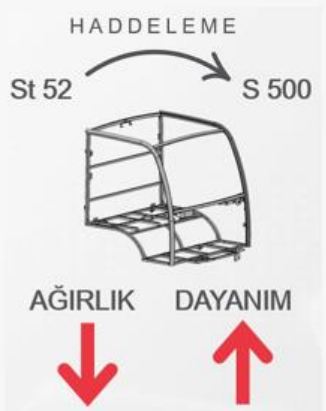
ALUMINUM BODY

PP





GEOMETRIC OPTIMIZATION OF COMPONENTS



HIGH-STRENGTH MATERIALS

DESIGN FOR RECYCLING

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Project Idea

Call Topic	Type of Action
HORIZON-CL5-2025-04-D5-01: Efficient wireless stationary bidirectional charging solutions for road Light Duty Vehicles (2ZERO Partnership) – Societal Readiness Pilot	IA
HORIZON-CL5-2025-04-D5-02: Cybersecure and resilient road e-mobility ecosystem (2ZERO Partnership)	IA
HORIZON-CL5-2025-04-D5-03: Safe post-crash management of road Light Duty Battery Electric Vehicles (BEVs) (2ZERO Partnership)	IA
HORIZON-CL5-2026-01-D2-01: Development of sustainable and design-to-cost batteries with (energy-)efficient manufacturing processes and based on advanced and safer materials (Batt4EU Partnership)	IA
HORIZON-CL5-2026-01-D2-04: Integrating advanced materials, cell design and manufacturing development for high-performance batteries aimed at mobility (Batt4EU Partnership)	RIA

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