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

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10 April, İstanbul

PRESENTER FULL NAME: RECEP ÖZKÖK

ORGANIZATION: TOFAŞ Türk Otomobil Fabrikası A.Ş.

WORKSHOP NAME: Digital, Chips and 6G

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Description of the Organisation

R&D Center

Founded in 1968, one of the most important automotive manufacturer of Türkiye. Joint venture of Koç Holding and STELLANTIS.

Producing Fiat Tipo, Egea passenger cars and Fiat Scudo, Peugeot Expert, Citroen Jumpy, Opel Zafira.

As one of Stellantis's important manufacturing and R&D centers, Tofaş creates added value for Türkiye's economy, industry, and R&D know-how.

- Production capacity: 450.000 cars/year
- 1.000.000 sqm total area, 350.000 sqm closed area
- 5.000 employees

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Production Technology

- Stamping – Die Engineering
- Painting Process Engineering
- Body in White Process Engineering
- Assembly Process Engineering
- Suspension Process Engineering
- Quality Engineering
- Logistics Engineering
- Facilities & Energy Center

Product Technology (R&D)

- Complete Vehicle Development
- Powertrain & Drivetrain (ICE, Hybrid, EV)
- Vehicle Integration & Performance Validation
- Virtual Simulation & Physical Testing
- Embedded Systems & Software Development
- Electronics & Electrical Architecture
- Advanced Materials & Lightweight Design
- Thermal & Energy Management
- NVH

Manufacturing engineering
Process design (2d-3d)
Fixture design
Process simulation
Robot programming
Ergonomics analysis
Logistics engineering &optimization
Energy engineering

Laboratories (Materials,NVH,Emission,HVAC,E&E)
Test Benches (body-chassis)
Prototype Shop
Virtual Analysis
Road Tests & Validation Dept.
Reverse Engineering

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Research Fields (Production)

Human robot collaboration
Autonomous mobility

Safer production for people
Connected mobility

Energy aware manufacturing
Vehicle electrification
(Battery- BMS-E- Motor-Power Electronics

Efficient production
Sustainability

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Research Fields (R&D)

Autonomous Mobility

Perception
Decision Making
Control

Connected Mobility

V2V, V2X, V2I
Infotainment
6G
Automotive SW

Electrification

Battery
BMS
E-Motor
Power Electronics

Sustainability

Recycle
Reuse
Reduce
Bio-based

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On-going Projects – Product Technologies

Production Technologies: 4 (Horizon 2020-HEU Projects)

Product Technologies: 13 (Horizon 2020-HEU Projects)

iBot4CRMs

Co-funded by the European Union

AI-powered self-learning robots for high-performance waste valorization and critical raw materials recovery

Call: HORIZON-CL4-2024-DIGITAL-EMERGING-01

-iBot4CRMs project will develop a self-learning robot that uses advanced AI tools to recover CRMs from urban waste.
-It will also dismantle end-of-life products (e-motor/Tofaş), thereby enhancing circularity and value chains across Europe.
-This robotic system will combine senso-mechanical perception with flexible manipulation, integrating reusable solutions from other sectors.
-The project will carry out four large-scale pilots in Spain, Portugal, Greece and Türkiye.

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On-going Projects – Production Technologies

ECOFACT

Energy Factory Management System

MAGICIAN

Imperfection detection & repair

JARVIS

User-Centric Human Robot Application

HARTU

AI-enhanced Robotic Technologies

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On-going Projects – Product Technologies

FRODDO
Safe, Resilient Transport and Smart Mobility Services

Safe Operational Design Domain

EdgeAI-Trust

Driver Drowsiness integrated Smart Camera

VITAL

Bio Foaming B Pillar Plastic

TWINLOOP

Eco Solutions for BEVs

SF
SHAPE FUTURE

Autonomous Veh. Fleet Management

InnoBMS

Wireless Battery Management

SMARTChain

Digital Integration in Steel

ACCOMPLISH
Ambient Lighting for safety

HEATWISE

Holistic Energy Management

NEXTBMS

Data Based BMS

HIGHSCAPE

EV Thermal Mng.

iBot4CRMs

Recycled magnet e-motor

FLASH
Flexible Laser-Based Manufacturing

Laser Welding of Different Metals

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Interested Calls – Cluster 4

HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-01	Twin Green and Digital Transition of Industry	Integrated approaches for remanufacturing (Made in Europe Partnership)
HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-02	Twin Green and Digital Transition of Industry	Physical and cognitive augmentation in advanced manufacturing (Made in Europe Partnership) (RIA)
HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-05	Twin Green and Digital Transition of Industry	Advanced manufacturing technologies for leadership of EU manufacturers in products for the net-zero industry (Made in Europe Partnership)
HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-32	Twin Green and Digital Transition of Industry	Green and resilient flexible production processes (Processes4Planet partnership)
HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-33	Twin Green and Digital Transition of Industry	Integrated use of renewable energy carriers in industrial sites (Processes4Planet partnership) (RIA
HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-34	Twin Green and Digital Transition of Industry	Smart integration of net zero technologies into Energy Intensive industries (Processes4Planet and Made in Europe partnership) (IA)
HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-36	Twin Green and Digital Transition of Industry	Safe and clean processing technologies and products (Processes4Planet partnership)
HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-38	Twin Green and Digital Transition of Industry	Synergies and mutual learning with national and regional initiatives in Europe on Industrial decarbonisation (Processes4Planet and Clean Steel partnerships)
HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-43	Twin Green and Digital Transition of Industry	Innovative Advanced Materials (IAMs) for robust, fast curing sealants and coatings for manufacturing and final assembly
HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-45	Twin Green and Digital Transition of Industry	Materials Commons for Europe
HORIZON-CL4-2025-03-MATERIALS-47	Twin Green and Digital Transition of Industry	Innovative Advanced Materials (IAMs) for conformable, flexible or stretchable electronics (RIA) (Innovative Advanced Materials for Europe partnership)
HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-62	Twin Green and Digital Transition of Industry	Strategic Partnerships for Raw Materials: Innovative Approaches for sustainable production of Critical Raw Materials
HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-43	Twin Green and Digital Transition of Industry	Innovative Advanced Materials (IAMs) for robust, fast curing sealants and coatings for manufacturing and final assembly
HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-44	Twin Green and Digital Transition of Industry	Innovative Advanced Materials Innovation Procurement
HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-45	Twin Green and Digital Transition of Industry	Materials Commons
HORIZON-CL4-2025-04-DIGITAL-EMERGING-05	Digital emerging	Soft Robotics for Advanced physical capabilities (IA) (AI/Data/Robotics Partnership)
HORIZON-CL4-2025-04-DIGITAL-EMERGING-07	Digital emerging	GenAI4EU in Robotics and industrial automation (RIA) (AI/Data/Robotics & Made in Europe Partnerships)

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Interested Calls - Cluster 5

HORIZON-CL5-2025-01-D5-01	Smart Mobility	Efficient wireless stationary bidirectional charging solutions for road Light Duty Vehicles (2ZERO Partnership) – Societal Readiness Pilot
HORIZON-CL5-2025-01-D5-03	Smart Mobility	Safe Post-crash Management of road Light Duty Battery Electric Vehicles (BEVs) (2ZERO Partnership)
HORIZON-CL5-2025-01-D5-04	Smart Mobility	Extended lifetime of road Battery Electric Vehicles (BEV) (2ZERO Partnership)
HORIZON-CL5-2025-01-D5-05	Smart Mobility	Road BEV Optimised user-centric solutions for energy efficiency design and consistent range throughout weather conditions (2ZERO Partnership)
HORIZON-CL5-2025-01-D5-06	Smart Mobility	Strategies, tools and concepts for optimised road Battery Electric Vehicles (BEV) long-haul logistics use cases (2ZERO Partnership)
HORIZON-CL5-2025-01-D5-07	Smart Mobility	Accelerating the transformation towards a circular automotive industry
HORIZON-CL5-2025-02-D2-03	Smart Mobility	Sustainable processing and refining of raw materials to produce battery grade Li-ion battery materials (Batt4EU Partnership)
HORIZON-CL5-2026-01-D2-01	Smart Mobility	Development of Sustainable and Design-to-Cost Batteries with (Energy-)Efficient Manufacturing Processes and Based on Advanced and Safer Materials
HORIZON-CL5-2025-01-D6-01	Smart Mobility	Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs (CCAM Partnership)
HORIZON-CL5-2025-01-D6-02	Smart Mobility	Preparing for large-scale CCAM demonstrations (CCAM Partnership) – Societal Readiness Pilot
HORIZON-CL5-2025-01-D6-12	Smart Mobility	Safe Human-Technology Interaction (HTI) in the vehicle systems of the coming decade – Societal Readiness Pilot
HORIZON-CL5-2025-02-D3-11	Sustainable, secure and competitive energy supply	Novel inverter technologies and flexibility in PV systems (EUPI-PV Partnership)
HORIZON-CL5-2026-02-D3-05	Sustainable, secure and competitive energy supply	Demonstration of thermal energy storage solutions for solar thermal plants and systems
HORIZON-CL5-2026-02-D3-19	Sustainable, secure and competitive energy supply	Innovation solutions for a generative AI-powered digital spine of the EU energy system
HORIZON-CL5-2026-02-D4-02	Efficient, sustainable and inclusive energy use	Smarter buildings as part of the energy system for increased efficiency and flexibility – Societal Readiness Pilot
HORIZON-CL5-2026-02-D4-06	Efficient, sustainable and inclusive energy use	Phase out fossil fuel in energy intensive industries through the efficient integration of renewable energy sources

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TOFAŞ Contribution

- **Use case definition:** TOFAŞ can prepare use cases relevant to technologies to be developed within the proposal scope by the help of wide industrial expertise and shop floor.
- **Technology Integration**: TOFAŞ can bring its technology integration knowledge in automotive to the project, particularly in areas like electric mobility, connectivity, autonomous vehicles, smart manufacturing solutions.
- **Testing and Validation**: With our state-of-the-art testing facilities and engineering expertise, TOFAŞ can help in the validation and testing of new technologies and solutions developed within the project.
- **Dissemination and Exploitation**: TOFAŞ can support the dissemination of project results, ensuring the exploitation of new knowledge and technologies across the automotive sector and related industries.
- **Project Management**: As an experienced leader in large-scale innovation projects, TOFAŞ can provide strong project management capabilities, ensuring timely delivery of project milestones.

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