

AMPER-EV

AI-Powered Energy-Efficient
Software Optimization for
Battery Management in Electric
Vehicles



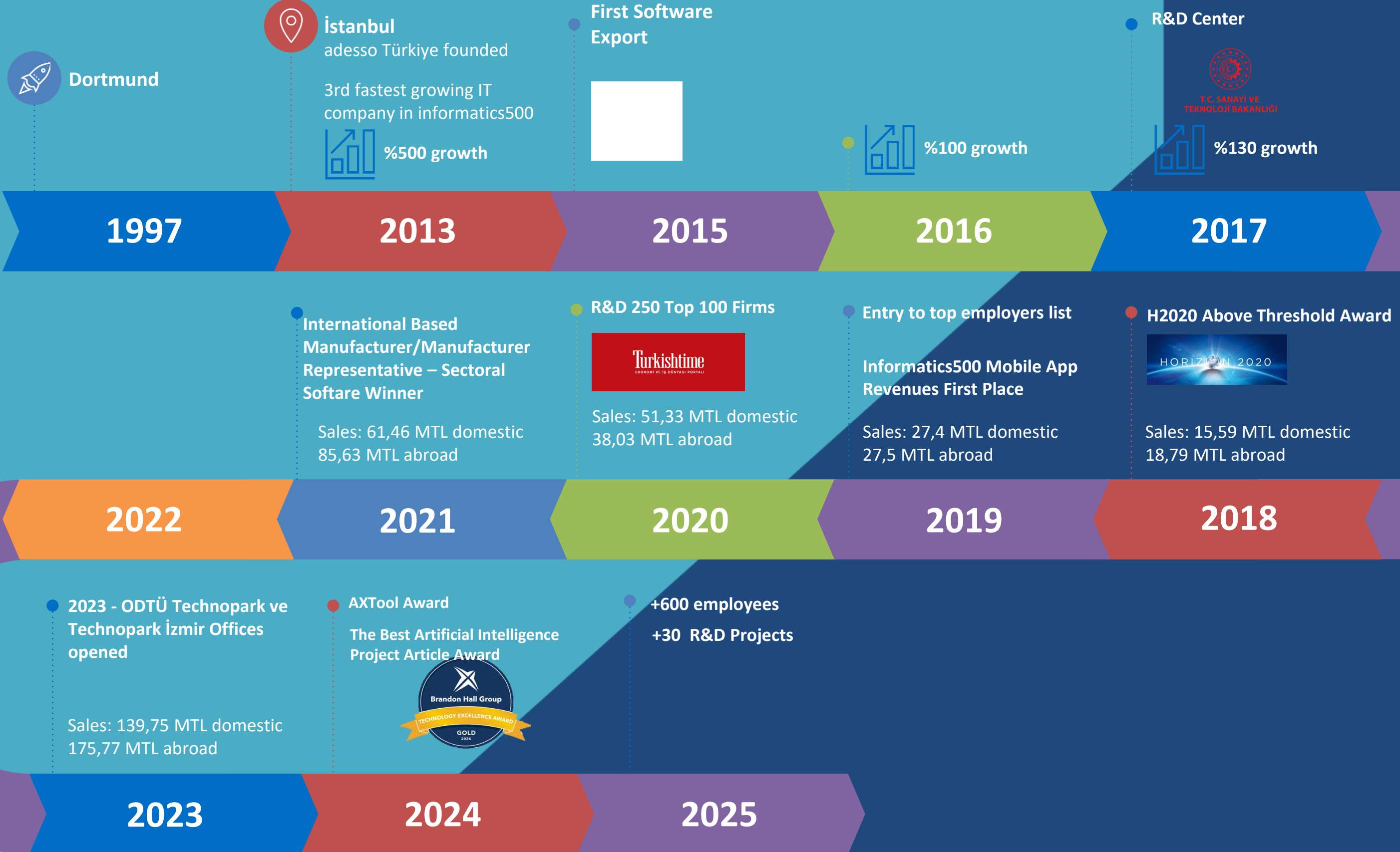
Project Coordinator: Adesso Turkey
Deniz Avcı / R&D Engineer

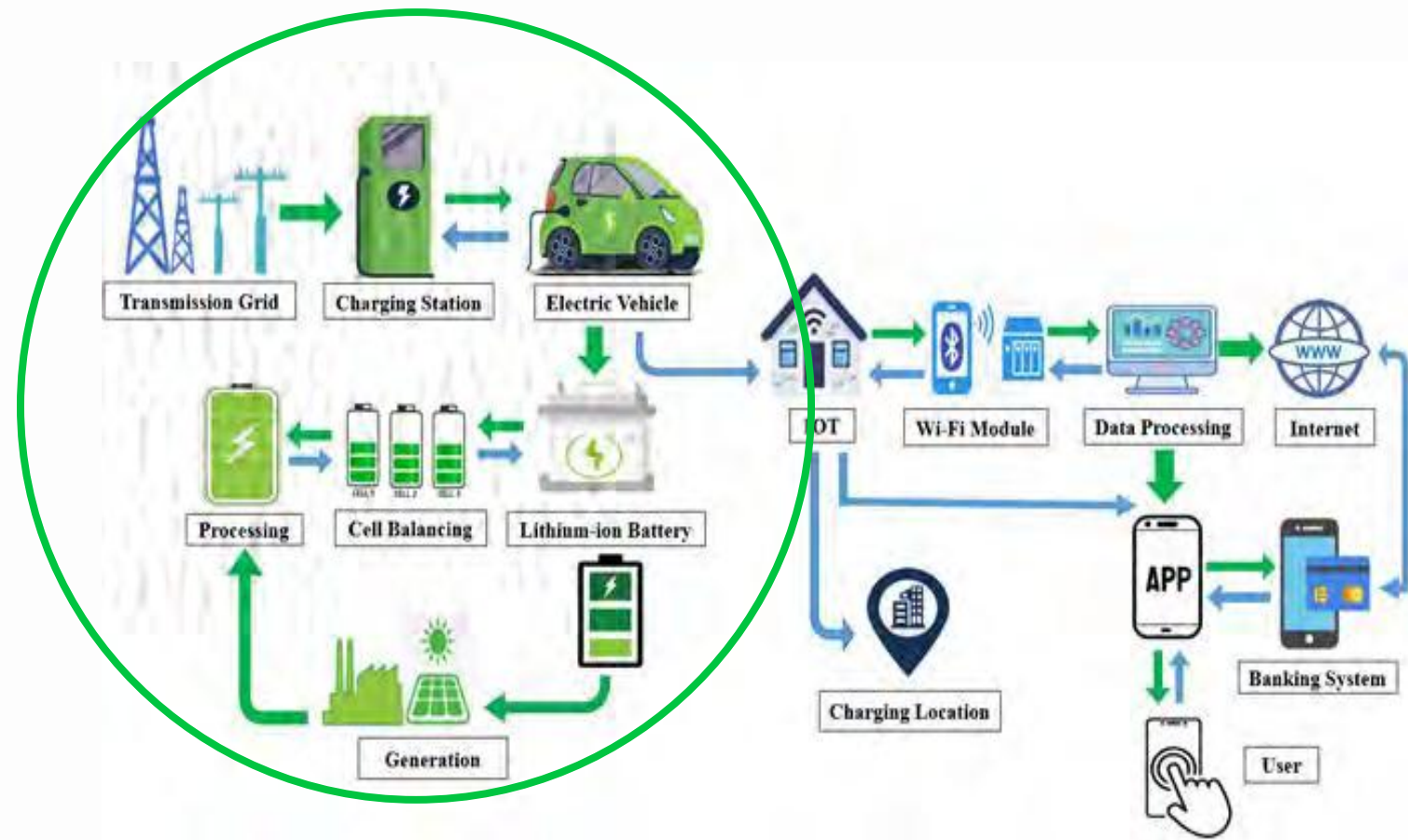
- *Adesso Turkey is part of the international Adesso SE group, a major IT service provider in Central Europe.*
- *We operate in 72 offices worldwide, with a strong focus on innovation and digital transformation.*
- *Our Turkey branch was established in 2013 and has become one of the top 3 fastest-growing IT companies in the country.*

- *We now have over 600 employees and continue expanding with new offices in ODTÜ Technopark and Technopark İzmir.*
- *We contribute to national and international R&D through TÜBİTAK projects, Eureka Cluster calls (such as ITEA and Celtic Next), and Horizon Europe initiatives.*



ABOUT US - HAKKIMIZDA





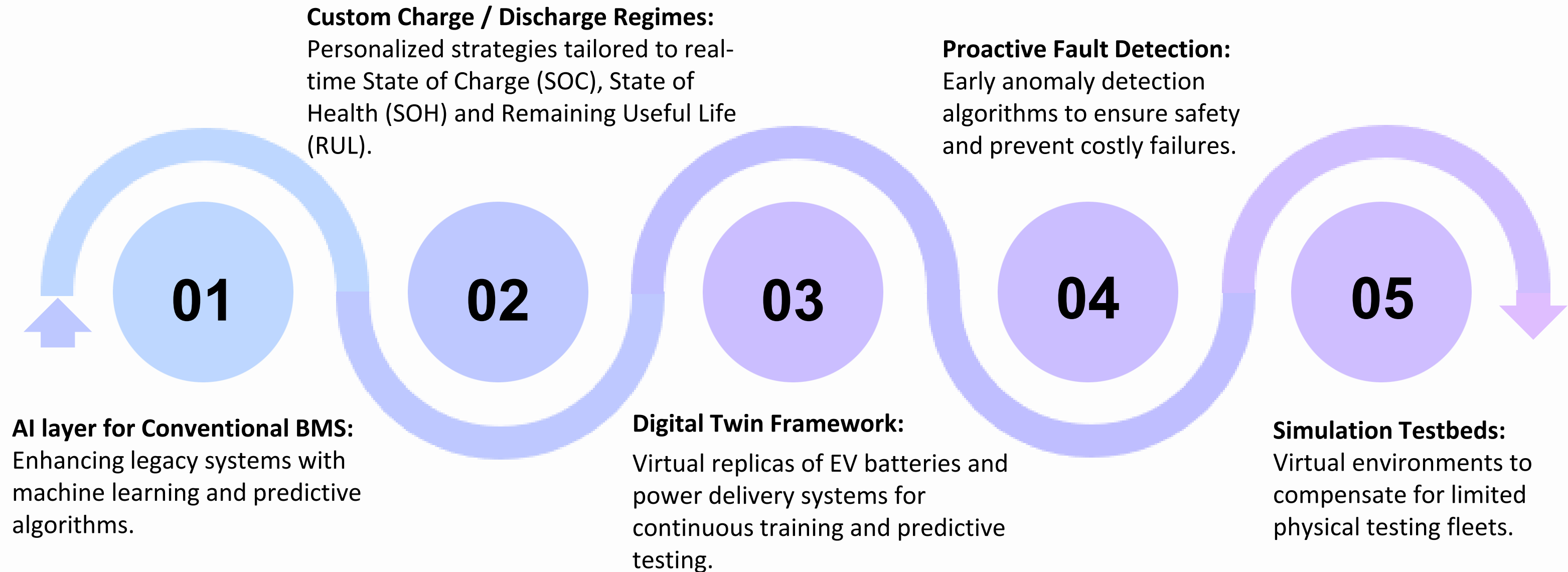
VISION

- Envisions the **next generation of Battery Management Systems (BMS)** by embedding an **AI-driven layer** that adapts charging and discharging strategies in real-time, based on the unique state of each EV's batteries and characteristics.
- create **digital twins of EV batteries** and power delivery systems, enabling continuous learning, predictive control and virtual testing. This approach not only extends battery life and range but also empowers drivers with user-friendly, real-time guidance/tips on driving, charging and battery health preservation through explainable AI techniques.
- if/when sufficient test vehicles are not available, the project will employ simulation environments to model, train, and validate AI models.
- Due to its marginal value, the project aims to focus on the battery management systems of EVs rather than other aspects of the vehicles.

ENVIRONMENTAL IMPACT

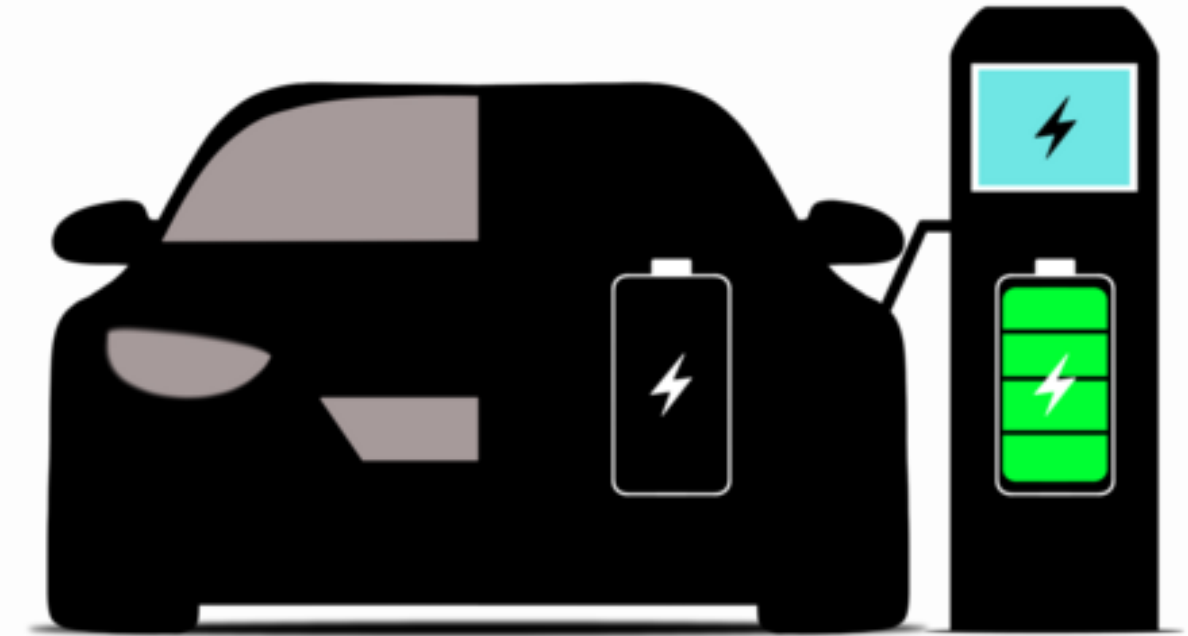
As the EU's **Green Deal** and **Fit for 55** impose stricter energy efficiency and CO₂ reduction targets, OEMs will need **non-hardware, cost-effective solutions** to improve sustainability metrics.

INNOVATION



IMPACT

- Extended battery lifespan through AI optimized charging cycles
- Increased driving range without hardware changes.
- **Predictive maintenance to reduce downtime and costs.**
- Lower demand for battery replacements - reduced e-waste
- Decreased carbon footprint by prolonging battery usage.
- Strong alignment with EU Green Deal and international climate goals.
- Reduced warranty costs for OEMs.
- **Improved resale value of EVs.**
- Creation of a first-mover advantage in AI-assisted, code level optimization for EV BMS.
- **Real-time driving and charging tips to extend battery life.**
- **Increased trust and satisfaction in EV ownership.**



PARTNERS: TURKEY

adesso

EX EXPERILABS

Togi
TEKNOLOJİ

PARTNERS: SPAIN



POT.



Vostok

POT.

PARTNERS: GERMANY



LET'S DEV

PARTNERS: PORTUGAL



POT. PARTNERS: UNITED KINGDOM



PARTNERS: REPUBLIC OF KOREA





Contact Details

For any questions

Deniz Avci

R&D Engineer

Adesso Turkey Bilgi Teknolojileri Ltd. Şti.

deniz.avci@adesso.com.tr

+905318353606

website: [adesso Turkey](#)

linkedin: [adesso Turkey: Posts | LinkedIn](#)