Open call – Build the future of mobility and automotive with STARTUP AUTOBAHN powered by Plug and Play

June 4 and 5 2025

- About the activity -

The European Innovation Council (EIC) invites EIC-backed startups and scaleups to apply for this EIC Multi-Corporate Day and tackle the challenges of leading corporates from the automotive and automation sectors like ZF, Eberspächer, DXC Technology, Mothershon and Togg.

This exclusive business acceleration initiative, delivered in partnership with Plug and Play, will provide selected EIC beneficiaries with a customised programme of tailored preparation and dedicated support. The objective is to maximise business opportunities with key decision-makers from major mobility and automotive companies.

Selected participants will finally engage in targeted networking and pitching activities during STARTUP AUTOBAHN Expo Summit—one of the leading events in the startup and scale-up ecosystem—taking place in Stuttgart, Germany, on 4–5 June 2025. This Expo Summit brings together prominent industry players, including Mercedes-Benz, Porsche, Volkswagen or Volvo.

- About the challenges -

Challenge 1: Material flow / automation program

ZF is searching for low-cost and automated solutions for its production sites to reduce the high personnel workload, especially in interface-heavy processes like material transport, unloading/loading, shelving, and other repetitive manual tasks. The goal is to automate as many of these steps as possible and to centralize or systematize decision-making—ideally supported by artificial intelligence (AI).
Challenge description:

- Automation is currently failing due to highly manual Interface processes, such as: Handing over paperwork, opening/closing tarps, sressing buttons, signing documents, simple logistical handling steps with high personnel dependency

- Operational knowledge is siloed within a few experts, creating bottlenecks in decision-making: Interest in smarter, data-driven, ideally AI-enhanced decision tools which centralize the knowledge of the few experts.
- Ideal solutions would cover many of these micro-interface cases - The more tasks automated, the better
- Currently building a Control Tower to centralize operations and decision-making: open to explore other companies with advanced, smarter features and AI-enhanced data and decision support.

Challenge 2: Plant Intelligence / Digital Twin for Plant Managers

Eberspächer is looking for AI-powered solutions that can create a real-time digital twin of the plant—an intelligent overlay that connects available production data into a dynamic system. Despite the availability of production data, plant managers lack an integrated, real-time view of the current state of their operations. Information is often fragmented across systems, dashboards, and reports, requiring manual analysis and interpretation.

Such a solution should:

- Provide daily prioritized updates to plant managers
- Highlight the biggest deviations, risks, and performance drops from the last 24 hours/week
- Include root cause suggestions or decision support to accelerate action
- Allow scalability across multiple plants and production line

The ideal solution should integrate with the existing systems, respect data security standards, and be easily usable by plant personnel without requiring deep data science knowledge.

SEAT is is searching for Transforming systems and production processes to leverage the potential of Digital Twins, including:

- PE- Maximum Efficiency Configuration of a Production Line
- PK-Pünktchen Simulation
- PF-Predictive Maintenance
- PP- Rapid Fahrweise Preparation with AI
- PL-Digital Twin for the management of the Martorell Campaign
- PV-Flexible Job-Shop scheduling prototype shop

Challenge 3: Dynamic Bottleneck Analysis in Manufacturing

Eberspächer is looking for solutions that enable a dynamic and continuous bottleneck analysis, driving transparency and performance optimization on the shopfloor—ideally in combination with production scheduling tools to realize end-to-end operational excellence. Without an intelligent system in place current bottlenecks in the production line are not always visible in real-time, so cycle time optimization potential remains untapped —especially as those bottlenecks shift over time due to improvements or changes in workload. As a result continuous improvement loops are slowed down by the need for manual analysis, which limits the ability to achieve and sustain optimal line performance.

They are looking for an AI-based solution that analyzes cycle time data to dynamically identify current bottleneck stations within a production line. The solution should:

- Provide automated, real-time bottleneck detection
- Adapt dynamically as bottlenecks shift due to implemented improvements
- Offer actionable insights on what is realistically achievable in terms of cycle time
- Recommend or support optimization measures to unlock line performance
- Ideally integrate with production scheduling systems to support end-to-end planning and execution

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Challenge 4: Artificial Intelligence

DXC Technology is seeking AI solutions that leverage intelligent agents and AI-ready data to automate business processes, improve data quality and governance, and drive innovation.

- Solving Data Challenges with AI: Modern Data Ecosystem, AI-ready Data and how can AI be used to solve Data Challenges? (Data Quality and Data Governance)
- Business Functions AI Agents:
    - Agentic Flow to solve business problems
    - Agentic Environments & Networks that take over entire business processes
    - Network of Business Function Agents (e.g., procurement) Can they keep up with the latest and greatest and mitigate using Deep Seek (Approach)

Challenge 5: Quantum Computing

DXC Technology seeks solution to harness quantum computing for logistics optimization, applies quantum machine learning to large-scale data challenges, and explores quantum resilience in testing RSA encryption.

- Optimisation:
  - Extension of logistics use cases into a multi-dimensional TSP
  - Innovative forward looking technologies for advanced workflow optimisation, logistics, supply chain utilizing QC and Quantum algorithm capabilities to solve multi-dimensional optimization loops
  - Solve real-time logistic demands where different transportation steps can have different weightings in e.g. priority, CO2 emission
  - Usages in multiple sectors thinkable: Supply-Chain, T&T, Manufacturing, Robotics
- QML (Quantum Machine Learning)
  - Innovative proposals and implementations solving quantum-classical QML challenges on large dimensional data sets
  - Showcase how current NISQ HW with limited availability can be seamlessly integrated into datacenter scaled AI & esp. ML applications, such to solve non constant trainings
  - Use cases can range here from automotive production & development to finance like e.g. portfolio optimisation
- Quantum Resilience
  - Using currently available the best implementation of Shore's algorithm what is the biggest RSA Key that can be broken using accelerated simulators and available real quantum backends (QPU)

Challenge 6: Blockchain

DXC Technology is seeking for blockchain solutions for digital asset tokenization while exploring DeFi, stablecoins, digital identity, and ESG-driven applications.

- Digital Assets and Tokenization: Around Digital Assets and Tokenization, we are looking for comprehensive end to end solutions for tokenization of digital assets. This includes tokenization platforms custody and wallet infrastructure, smart contract templates for issuance, regulatory compliance, investor onboarding (KYC, AML) and marketplaces for secondary trading
- Other topics include:Institutional DeFi & TradFi, Stablecoins/CBDC, Digital Identity, Supply Chain & Circular Economy (Digital Trade), ESG and Carbon Markets, Decentralized AI Agents

motherson

Challenge 7: Functional paints for exterior applications

Motherson is a diversified global manufacturing specialist and one of the world's leading automotive suppliers for original equipment manufacturers (OEMs). We are committed to supporting our customers' evolving needs across various industries and actively engaging with them to build a culture of continuous learning and collaboration. We are proud to be part of the success of the world's most admired OEMs

Innovative paint or surface coating for different applications:

- Surface coating optimized for sensor application (radar or lidar)
- Surface coating optimized for light integration. Focus on applications like hidden until lit
- Adaptive surface coating like tinted on demand or changeable colors

Further surface coating functions can be considered.

Togg

Challenge 8: Towards a software-defined vehicle

Togg is looking for solutions that help transform traditional, hardware-centric OEM processes into software-driven, agile structures. The focus is on enabling a true Software-Defined Vehicle (SDV) approach—across internal teams, supplier collaboration, and product management—by adopting software product management principles end-to-end.

- In-car Entertainment: HMI Operating Systems

Challenge 9: Electric vehicle technologies

Togg is seeking advancing electric vehicle technologies with integrated powertrain solutions, cutting-edge battery and electrification technologies to enhance energy efficiency and vehicle range.

- Powertrain innovation focuses on advanced engine and powertrain control technologies to boost energy efficiency
- Battery Management System to increase range, optimize battery life and increase efficiency by managing driver behavior

Challenge 10. New Polymers, Smart Materials, Advanced Batteries, and Thermal Management

OPmobility, a leading Tier-1 automotive supplier, produces highly innovative and advanced components and modules to the world's leading OEMs. Driven by a strong commitment to innovation and the advancement of sustainable mobility, OPmobility is actively seeking partnerships with startups and exploring solutions in New Polymers, Smart Materials, Advanced Batteries, and Thermal Management to accelerate progress in this field.

- New Polymers and Composite Materials
- Smart Materials and Responsive Systems
- Alternative Manufacturing Materials
- Advanced Batteries and Power Management Technologies
- Battery Management Systems
- Thermal Management and Cooling Systems

Challenges from other industry players present at STARTUP AUTOBAHN

Challenge 11: Automatic Data Labeling for Automotive Applications

This challenge focuses on developing advanced solutions for automating the data labeling process while maintaining high accuracy and reliability for automotive applications, including:

- Balancing automation speed with human-level precision for safety-critical applications
- Addressing the challenges of diverse data sources (sensors, cameras, LiDAR) while maintaining consistent labeling quality
- Creating hybrid approaches that combine the efficiency of automation with necessary human verification

- Developing specialized annotation tools for automotive-specific elements (pedestrians, vehicles, road signs, lane markings)

Startups could focus on solutions that accelerate the annotation process while ensuring the high standards required for ADAS and autonomous vehicle development.

Challenge 12: Secure Data Exchange Platform for AI Model Training

This challenge addresses the need for a secure environment to share sensitive intellectual property (particularly CAD data) with startups for AI training purposes, including:

- Creating a sovereign data exchange environment with enforceable data contracts and usage policies
- Implementing robust security measures to prevent unintended or illegitimate use of shared CAD files
- Establishing monitoring capabilities that go beyond traditional legal contracts
- Ensuring compliance with relevant regulations while facilitating innovation

The ideal solution would enable Volkswagen to share valuable training data with startups while maintaining control over its intellectual property throughout the collaboration process.

Challenge 13: AI-Driven CAD Model Generation

This challenge focuses on developing AI systems capable of generating high-quality CAD models via text prompts or other simplified inputs, including

- Creating AI systems that can understand and interpret design intent from natural language prompts
- Ensuring generated CAD models maintain engineering validity and manufacturing feasibility
- Developing methods to generate diverse design variations while adhering to specified constraints
- Integrating real-time performance simulation capabilities with generated designs

This solution would revolutionize the design process by allowing rapid generation and exploration of design alternatives without extensive manual CAD work.