

Expression of Interest (EoI) – Eurostars 3

1. Company Information

Company Name: Seger Ses ve Elektrikli Gereçler San. A.Ş.

Website: www.seger.com

Address: Demirtaş Dumlupınar OSB Mah. M.Karaer Cad. No: 22 Osmangazi, Bursa, Türkiye

Contact Person:

Email:

Phone: +90 224 261 03 11

Year of Establishment: 1981

Number of Employees: 139

2. Core Business Areas

- Automotive Tier 1 supplier
- Design and production of acoustic warning devices
- Development and design of electronic control units (ECUs)
- Design and manufacturing of automation production lines
- Sheet metal forming mold design and production
- Plastic injection mold design and production

3. Expertise & Technical Capabilities

Seger is a leading automotive acoustics and electronic components manufacturer with over 40 years of experience in the sector. We specialize in developing innovative warning systems for vehicles, including traditional and electric vehicles (EVs). Our expertise includes:

- **Acoustic Warning Systems for ICEs , BEVs , HEVs , PHEVs , FCEVs –** Development of **acoustic warning systems** compliant with related regulations.
- **Electronic Control Unit (ECU) Development** – Hardware and software design for automotive applications.
- **Automation and Robotics** – Custom automation line development for high-efficiency manufacturing.
- **Mold & Tooling Expertise** – High-precision sheet metal and plastic injection mold manufacturing.
- **Industry 4.0 Solutions** – Smart manufacturing and digital transformation in production.

4. Specialized Expertise Areas

- Extensive experience in electromechanical system development.
- Deep expertise in acoustics and noise control.
- PCB design for automotive electronic control units (ECUs), using AEC-Q100-200 components, considering EMC regulations.
- Embedded software development following automotive software standards.
- Development of software using ANSYS Scade (Model-Based Design) and C programming.
- SIL and HIL testing using in-house developed test software and hardware.
- V-cycle methodology implementation in hardware and software development, following ASPICE processes.
- ISO 26262 Functional Safety Compliance in product designs and documentation processes.
- Automotive Cybersecurity compliance, ensuring secure software development.
- Mechanical design capabilities using NX and Catia software.
- Plastic part analysis & optimization using Solidworks Plastics.
- Comprehensive validation laboratory with TÜBİTAK and TUV Austria-certified semi-anechoic acoustic chamber.
- Full-scale electrical, mechanical, environmental, chemical, and sealing tests in accordance with ISO 16750 standards.
- CMM measurement capabilities for reverse engineering and standard measurement processes.
- Automated production line development, including pneumatic systems, robotics, electrical control systems, and PLC-based software integration.
- Development of futuristic or traditional electric vehicle sounds and any alert sounds based on customer expectations.
- CAN and LIN communication protocol development for automotive applications.
- Diagnostic and data exchange layer development for electronic control units.
- Active Noise Cancellation (ANC) system development using LMS filters to create optimized ANC models for various automotive applications.

- Integration and testing of AI-based advanced quality control systems on production lines, ensuring alignment with efficiency enhancement and sustainability criteria (energy savings, waste reduction, etc.).
- Providing a testing environment for third-party developed products under specified conditions in our comprehensive laboratory.
- Conducting ECE-R28 regulation tests in our laboratory.
- Supporting the development, testing, and optimization of third-party electronic software products for compliance with automotive electronics standards.

5. Previous Projects & Achievements

- ✓ **TEYDEB 1501 Project (2023):** Successfully developed AVAS technology for electric vehicles in compliance with ECE-R138 regulations. This system is ASIL-A functional safety compliant, fully aligned with automotive cybersecurity regulations, and equipped with a CAN communication protocol and diagnostic layers. The system can also download and integrate new sounds via the vehicle's infotainment system. The product was successfully commercialized.
- ✓ **KOSGEB ÜRGE Project (2024):** Developed an AVAS system tailored for commercial vehicles, capable of operating within a voltage range of 9V to 32V. This system enables multiple speakers to function from a single control unit, allowing different sounds to be played through various speakers. The project was successfully completed and commercialized.
- **Ongoing TÜBİTAK Projects:**
 - **Green Horn Project:** Aiming to develop a sustainable horn system utilizing completely recycled plastics and steels.
 - **TÜBİTAK 1832 Project:** Developing a comprehensive external vehicle sound system that integrates both AVAS (ECE-R138) and horn regulation (ECE-R28) compliance within a single mechanical and electronic platform.
 - **TEYDEB 1501 Project:** Focused on Active Noise Cancellation (ANC) to reduce in-cabin noise in electric vehicles by addressing road, wind, and tire noise through an advanced active noise suppression system. The project's goal is to enhance passenger comfort in electric vehicles by minimizing disruptive external sounds.
- ✓ **OEM & Tier-1 Partnerships:** Long-standing collaboration with major automotive OEMs and Tier-1 suppliers for customized acoustic solutions.

6. Potential Contribution to Eurostars Projects

Segeer is open to collaborating in Eurostars projects in the following areas:

- Development of next-generation AI-powered electronic and acoustic systems compatible with V2X communication.
- Integration of AI & smart sensors in warning systems for enhanced functionality.
- Advanced manufacturing processes & Industry 4.0 solutions for automotive production.
- Validation & certification of automotive acoustic systems in international markets.

Our company can contribute with:

- ✓ Engineering and R&D expertise in automotive electronic and acoustic systems.
- ✓ Prototyping, testing, and validation of acoustic and electronic products.
- ✓ Manufacturing know-how and automation integration.
- ✓ Regulatory compliance consulting for ECE-R138 & ECE-R28 and other global automotive standards.

7. Partner Profile We Are Looking For

We are seeking partners in the mobility and industrial sector, including:

- OEMs and Tier-1 suppliers specializing in electric vehicles and safety systems.
- Universities and research centers working on acoustic engineering, AI-based safety and warning solutions, and automotive electronics.
- Testing laboratories and certification bodies for acoustic and electronic systems.
- Startups or SMEs with expertise in smart vehicle technologies, sensors, and software development.
- Companies specializing in AI-based advanced digital solutions for automotive applications and industrial production systems.

Preferred countries: Germany, France, Netherlands, Spain, UK, Italy, Sweden, Finland , Ireland , Belgium , Denmark