Partner Search for Compliant Mechanism-Based Electric Motor Design Project to be applied Eureka Lightweighting Call 2025

Summary

Profile type	Company's country	POD reference
Research & Development Request	**Türkiye**	**RDRTR20250910008**
Profile status	**Type of partnership**	**Targeted countries**
PUBLISHED	**Research and development cooperation agreement**	**• World**
Contact Person	**Term of validity**	**Last update**
Enrico FRANZIN	**10 Sep 2025** **10 Sep 2026**	**10 Sep 2025**

General Information

Short summary

Akım Metal from Türkiye would like to apply to Eureka Lightweighting Call 2025.

Conventional electric motors consist of multi-part stators and rotors, leading to increased manufacturing and assembly costs. In this project, we propose an innovative compliant mechanism-based design to develop an integrated stator-rotor structure in a single piece.

Full description

Conventional electric motors consist of multi-part stators and rotors, leading to increased manufacturing and assembly costs. In this project, we propose an innovative compliant mechanism-based design to develop an integrated stator-rotor structure in a single piece.

This approach will enable:

More compact, lightweight, and durable motor structures through mechanical flexibility,

Significant reductions in manufacturing and assembly costs,

Improvements in vibration, noise, and maintenance requirements,

High-performance applications in aerospace, defense, automotive, and robotics sectors.

The project will leverage compliant mechanism design and advanced simulation methods to achieve these objectives. Through international collaboration, we aim to commercialize this technology and adapt it across diverse industrial sectors.

Advantages and innovations

Advantages
-Reduced manufacturing and assembly costs through integrated single-piece design
-More compact, lightweight, and durable motor architecture
-Improved performance in terms of vibration, noise, and maintenance needs
-High efficiency and applicability in demanding sectors such as aerospace, defense, automotive, and robotics

Innovation
-First-time application of compliant mechanism approach in electric motor stator-rotor integration
-Novel single-piece motor architecture as an alternative to conventional multi-part structures
-A new design paradigm based on flexibility, overcoming limitations of traditional manufacturing
-Potential to set new industry standards for next-generation electric motors

Technical specification or expertise sought

-Companies with expertise and proven experience in compliant mechanisms,
-Firms working on exoskeletons, space applications, and robotics projects where integrated -motors can be applied,
-Institutions specialized in mechanical design optimization and advanced simulation,
-Industrial partners focusing on application integration and commercialization.

Stage of development

Concept stage

IPR Status

No IPR applied

IPR Notes

Sustainable Development goals

- **Goal 9: Industry, Innovation and Infrastructure**

Partner Sought

Expected role of the partner

-Contribute expertise in compliant mechanism design and structural optimization
-Support prototyping, testing, and validation of compliant structures within the motor

-Provide application integration know-how in domains such as robotics, exoskeletons, and space technologies

Type of partnership

Research and development cooperation agreement

Type and size of the partner

- **SME <=10**
- **SME 11-49**
- **Big company**
- **SME 50 - 249**

Call Details

Framework program

Eureka

Call title and identifier

Transnational Eureka Lightweighting call for projects

Submission and evaluation scheme

Anticipated project budget

Coordinator required

No

Deadline for EoI

23 Oct 2025

Deadline of the call

23 Oct 2025

Project duration in weeks

Web link to the call

https://eurekanetwork.org/programmes-and-calls/network-projects/network-projects-lightweighting-2025/

Project title and acronym

Dissemination

Technology keywords

- **02002009 - Machine Tools**
- **02009002 - Hybrid and Electric Vehicles**

Market keywords

- **09001005 - Motor vehicles, transportation equipment and parts**
- **08003007 - Other industrial equipment and machinery**

Targeted countries

- **World**

Sector groups involved