

Realistic Prediction of Material Behaviour for Elastomeric Components

REPMABE





ORGANISATION PROFILE

CIKAUTXO S.COOP. - Automotive Tier 1 supplier

- **Country:** Spain
- **Employees:** +450
- **Products/Services:** Elastomeric and plastic components – anti-vibration, sealing, and fluid-handling systems for automotive applications
- **Technical Areas:** Material compounding, product design, process development
- **R&D Expertise:** Advanced manufacturing, elastomer modelling, sustainability, participation in regional and international R&D projects through CIKATEK (R&D Unit)



PROPOSAL INTRODUCTION (I)

Vision: main project goal

Research and develop a predictive methodology for elastomeric components in automotive anti-vibration applications, replacing costly physical prototyping with reliable virtual simulations. The outcome will enable faster, cost-effective development while supporting industry trends toward digitalisation and sustainability

Motivation: why the project is necessary

Automotive OEMs are demanding zero-prototype product development, requiring highly reliable virtual validation of elastomeric components.

Current models cannot accurately predict the complex, time-dependent behaviour of these materials, making new predictive methods essential for competitiveness and sustainable innovation.

Content: which are the developments to be made in the project

- New material characterisation techniques, predictive models, and simulation tools to accurately predict softening, stiffness loss, fatigue life, and aging in elastomeric and TPV materials.
- Developments will be implemented and validated in commercial software and demonstrated on real automotive components for reliable virtual validation.

PROPOSAL INTRODUCTION (II)

Expected outcome: descriptions of the results to be obtained in the project

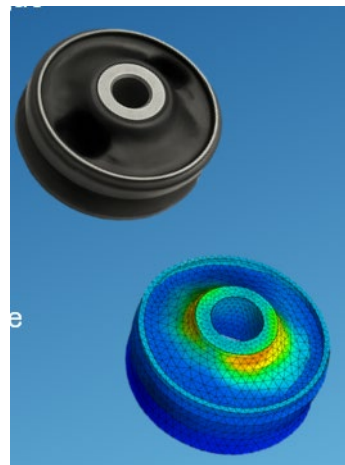
- Advanced Predictive Algorithms for Softening and Fatigue Life
- Demonstrator component for real-world validation
- Novel material characterisation techniques and standards
- Implementation into commercial simulation software

Impacts: what will be the expected market impact of the project

- Replace physical prototyping with validated virtual simulations.
- Enable faster, cheaper, and more sustainable product development.
- Support adoption of recyclable TPV materials.
- Strengthen European leadership in advanced, sustainable automotive manufacturing.

Schedule: start and end dates for the project. Duration.

The project will start on 1 st September 2026 and is scheduled to end on 31st December 2028, thus completing a duration of **28 months**



WP n°	Title	WP Coordinator	Start Month	End Month
WP1	Development of new material characterisation techniques	ENDURICA	M1	M12
WP2	Development and validation of predictive methods	CIKAUTXO	M11	M23
WP3	Deployment of new technologies	CIKAUTXO	M23	M28

PARTNERS

Partner search: Partners interested in **Life Cycle Analysis about the transition to thermoplastic elastomers** to join the consortium.



CONTACT INFO

Contact info: of the person coordinating the project proposal

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