Miflex Solutions joins METPET, a project funded by the European Space Agency (ESA), which aims to develop a new generation of capacitors for space electronics.

Miflex Solutions Sp. z o.o., a leading Polish capacitor manufacturer will bring its industrial design and manufacturing expertise to a European consortium developing high-temperature metallised PET film capacitors for future space sector applications.

Kutno, Poland 12 August 2026 — Miflex Solutions Sp. z o.o., a leading Polish manufacturer of capacitors and passive electronic components, has joined an international technology consortium working on METPET (High Temperature Metallised PET Film Capacitors), a project funded by the European Space Agency (ESA) under its Technology Development Element (TDE) programme.

The project brings together specialist expertise from Spain, Poland and Hungary with the objective of developing a new generation of compact, high-performance metallised PET film capacitors designed for the demanding requirements of space electronics.

The consortium is lead and coordinated by CIDETEC Surface Engineering of Spain and includes Budapest University of Technology and Economics (BME), Łukasiewicz Research Network – Institute of Microelectronics and Photonics (IMiF) in Poland and Miflex Solutions as the industrial capacitor partner.

For Miflex Solutions, participation in METPET represents an important step in applying the company's capacitor design and manufacturing expertise to advanced components intended for the European space sector.

A new capacitor to meet the demands of space electronics

Capacitors are fundamental components within satellite and spacecraft electronics, performing functions including filtering, energy storage, voltage stabilisation and interference suppression.

Metallised PET film capacitors offer several characteristics that make them attractive for demanding electronic systems, including low dielectric losses and stable electrical characteristics.

However, the continuing transition of the electronics industry towards smaller form-factor with higher capacitance and lead-free soldering still presents a significant technical challenge, which the consortium jointly aims to address.

Lead-free assembly processes require higher soldering temperatures, placing greater thermal stress on electronic components. For PET film capacitors, combining these temperatures with the industry's move towards compact surface-mounted (SMD) components presents a particular challenge.

METPET has been created to address this technology gap.

The project aims to develop a **metallised PET film capacitor in SMD format combining high capacitance and increased energy density with the thermal resistance required to withstand high-temperature lead-free soldering processes.**

Successful achievement of these objectives could enable PET film capacitor technology to be more readily integrated into compact, high-reliability electronic assemblies intended for future space systems.

From advanced materials to an industrial capacitor

A central strength of METPET is the combination of materials science, microelectronics research, testing and industrial capacitor manufacturing within a single European consortium.

As project coordinator, CIDETEC Surface Engineering is developing an advanced low-phosphorus nickel-phosphorus (Ni-P) metallisation technology. A nanometric Ni-P coating, approximately 20–100 nm thick, will be deposited onto polyester film less than 20 µm thick, with the objective of improving the material's thermal resistance while maintaining the electrical characteristics required by the capacitor.

As an industrial partner, Miflex Solutions contributes its expertise and knowhow in capacitor manufacturing, helping to advance the technology, design, and production of METPET capacitors. Its mission is to ensure successful project execution for the consortium in accordance with ESA requirements.

The involvement of an industrial partner is crucial to the project. Its objective is not only to develop the capacitor but also to transform and integrate the consortium's research findings in accordance with ESA specifications to ensure the creation of a new capacitor and its future industrial production in an SMD format.

Strengthening European capability in critical electronic component delivery

Space electronics place exceptional demands on component reliability. At the same time, satellite manufacturers face continuing pressure to reduce the size and mass of electronic systems while increasing performance.

The development of smaller capacitors which offer increased energy density, compatibility with SMD assembly and improved resistance to high-temperature manufacturing processes could therefore contribute to more compact and efficient electronic systems for future European space applications.

Participation in METPET also strengthens Miflex Solutions' involvement in advanced European R&D and provides an opportunity to apply decades of capacitor manufacturing know-how to the specialised requirements of the space industry.

Piotr Garstka, Operations Director, Miflex Solutions, said:

*"**METPET** is an exciting opportunity for Miflex Solutions to combine our experience in capacitor design and manufacturing with the specialist materials and research capabilities of our European partners. Our challenge is to help transform these developments into a practical, manufacturable capacitor capable of meeting the demanding requirements of modern space electronics."*

*"**For Miflex**, this project is also about looking to the future. European space systems require increasingly compact, efficient and reliable electronic components. We are proud that Polish manufacturing expertise will contribute to developing this next generation of capacitor technology."*

A European partnership

METPET is a 24-month European research and development project funded by the European Space Agency (ESA), launched in 2026, led and coordinated by CIDETEC Surface Engineering.

The consortium comprises:

- CIDETEC Surface Engineering, Spain — Project Coordinator
- Budapest University of Technology and Economics (BME), Hungary

- Łukasiewicz Research Network – Institute of Microelectronics and Photonics (IMiF), Poland
- Miflex Solutions Sp. z o.o., Poland — Industrial capacitor design and manufacturing partner

METPET is supported and funded by the European Space Agency (ESA) under the Technology Development Element (TDE) programme, Contract No. 4000151463/26/NL/VR/mmo with a total budget of €249,756 Euros. The project started on 07/04/2026 and targets a completion by 07/04/2028.

The TDE programme supports the development of critical technologies required for future European space missions.

About Miflex Solutions

Miflex Solutions Sp. z o. o. is a Polish manufacturer specialising in the design, development and production of capacitors, anti-interference filters and other passive components. Building on extensive experience in capacitor technology and industrial manufacturing, Miflex Solutions provides components and solutions for demanding electronic and electrical applications.

Miflex Solutions Sp. z o.o. specialises in the design and manufacture of capacitors, interference suppression filters, and other passive components. Drawing on extensive experience in capacitor technology and industrial manufacturing, Miflex supplies components and solutions designed for demanding electronic and electrotechnical applications.

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