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EDA Launches Project to Improve Battery Health Monitoring in Aircraft

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The European Defence Agency (EDA) has launched a new research project, BATTAGE, aimed at improving the monitoring and prediction of battery health in aircraft. Led by Italy and involving Belgium, Greece, the Netherlands, and Germany, this three-year project focuses on enhancing the performance and safety of aircraft power systems, particularly in hybrid-electric aircraft and Unmanned Aerial Vehicles (UAVs).

BATTAGE will focus on a specific type of battery crucial for future aircraft: structural Li-Ion/Po batteries. These innovative batteries not only store energy but also contribute to the aircraft's structural integrity, reducing overall weight and improving fuel efficiency.

The project will encompass several key objectives:

- **Design and development:** Creation of a multifunctional, advanced battery management system that integrates seamlessly with the structural battery construction standards.
- **Diagnostic and prognostic algorithm development:** Implementation of advanced algorithms to detect anomalies early, enhancing aircraft safety and operational efficiency.
- **Experimental validation:** Conducting rigorous laboratory testing on structural batteries and UAV components under realistic operational conditions to evaluate durability and performance.
- **Scaling PHM systems:** Extending methodologies from testing to full UAV component-level validation.

By bringing together the expertise and testing facilities of Member States, BATTAGE aims to accelerate

innovation and reduce research costs. The project's findings have the potential to benefit not only the defense sector but also civil aeronautics and even the automotive industry.

BATTAGE aligns with the EDA's CapTech Aerial Systems initiative, which seeks to advance European defense and aeronautical technologies. This project contributes to key European defense goals, including enhancing air combat capabilities, supporting armed Remotely Piloted Aircraft Systems (RPAS), improving airborne command and control, and enabling air transport with tactical cargo UAVs.

The project aims to achieve a Technology Readiness Level (TRL) of up to five, signifying that the developed PHM technology will be ready for testing in relevant environments.