

FAUST Project Execution

The project is structured into three main work packages (WPs). WP 1 (Electro-Hydraulic Systems) focuses on developing a product line solution for hydraulic Power Packs. Requirements are defined, system solutions for large (HePP) and miniaturized (miniHePP) Power Packs are developed, and the concepts, including hybrid control, are verified in laboratory tests. The work concludes with an overall assessment of the technologies. WP 2 (Fluids of the Future) investigates alternative, environmentally compatible fluids through comparative analyses. Simultaneously, the influence of air content on system performance and service life, including the analysis of previously unknown time constants, is researched. In WP 3 (Holistic Assessment) a final evaluation and consolidation of all results, derives recommendations for future product lines, and assesses the exploitation perspective holistically based on feasibility, sustainability, and economic viability will be done.

AIRBUS

- **Airbus (Consortium Lead)**

Defining the OEM requirements and developing system architectures. Providing expertise and support on acoustic issues. Contributing to fluid discussions in external bodies (e.g., SAE or PFAS replacement) and sharing experience in the design, qualification, and handling of fluids. Creating the fluid requirement profile, considering compatibility with existing aircraft and safety standards.

LIEBHERR

- **Liebherr Aerospace**

Developing Power Pack concepts specifically tailored to Aircraft requirements. Special focus on miniaturization, theoretical design, and confirmation of predicted performance through specialized test campaigns. Simultaneously pursuing environmentally friendly materials as sustainable alternatives to existing ones.

HYDAC

- **HYDAC**

Developing the Hydraulic Reservoir with associated components (filters, valves) and an integrated hydro-pneumatic accumulator for compensating peak loads and system leakages.

 **TECHNISCHE
UNIVERSITÄT
DRESDEN**

- **Technische Universität Dresden**

Demonstrating the suitability of alternative hydraulic fluids (theoretically and in practical endurance tests). Investigating the behavior of dissolved gases in hydraulic fluids to maximize the service life and maintenance intervals of the hydraulic systems through fluid conditioning.

TUHH

Technische Universität Hamburg

- **Technische Universität Hamburg**

Model-based design of the electro-hydraulic systems. Performing thermal-dynamic simulations for property validation. Checking and optimizing the newly developed control and monitoring concepts. Experimental validation of results on the existing HePP system test bench with representative consumers. Further development for testing a miniHePP laboratory prototype.


NYCO

- **NYCO**

Advisory function as an expert in the formulation of high-performance lubricants such as hydraulic fluid