

Electric aviation expertise at the highest level.
Pioneer knowledge for your innovations.
Efficient planning, reliable implementation.

Our speakers



Axel Lange
Engineer, Pilot



Vladislav Gribov
Development



PERFECT ENGINEERING OF ELECTRIC AIRCRAFT

5-DAY INTENSIVE COURSE

PRACTICAL KNOWLEDGE FOR PROFESSIONALS:

Electric propulsion systems, safety analysis, certification. This 5-day intensive course offers aviation engineers practical knowledge for the efficient development and approval of electric aircraft systems.

- ✓ Electric Flight Components
- ✓ Hard- & Software Development
- ✓ Battery Safety
- ✓ Safety Assessment
- ✓ Hybrid Drive
- ✓ Certification, Verification



We founded this academy because the future of aviation is electric, and we need engineers who are willing to shape that future.
– Axel Lange

Agenda – 5-day course

DAY 1 Introduction to Electric Aviation

- Learn about essential components such as motors, power electronics, and batteries.
- Overview of architectures of electric propulsion systems and their functions.
- Certification processes for electric propulsion systems in general aviation (CS-23).

DAY 2 Safety Analysis for Electric Propulsion Systems

- Conducting a functional hazard analysis (FHA) for electrical systems.
- In-depth study of the failure mode and effects analysis (FMEA) and safety objectives.
- Introduction to safety standards (ED-79, ARP4761).

DAY 3 Hardware and Software Development

- Overview of the hardware development process according to DO-254/ED-80.
- Software development according to DO-178C/ED-12C.
- Practical exercises for identifying components and determining IDAL values.

DAY 4 Battery Safety and Hybrid Operation

- In-depth analysis of safety risks in battery systems.
- Overview of AC/DC charging systems and challenges in hybrid operation.
- Safety requirements for lithium-ion batteries, including DO-311 Subpart C.

DAY 5 Tests for Certification and System Verification

- Practical testing of hardware and software systems.
- Conducting black box and white box tests for electrical systems.
- Verification of battery and hardware tests in accordance with DO-311 and DO-160.

Price: 5,400 € p.P. plus VAT.

The RED Pioneers Academy is at the forefront of training engineers in electric aviation and is run by Lange Aviation GmbH. We combine more than two decades of pioneering work in electric flight technology with practice-oriented training and certification.