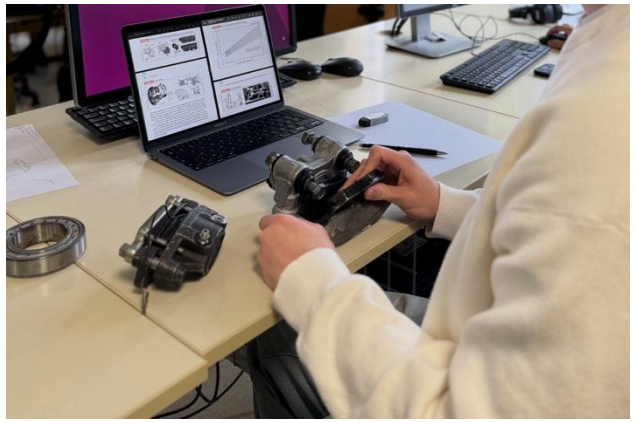
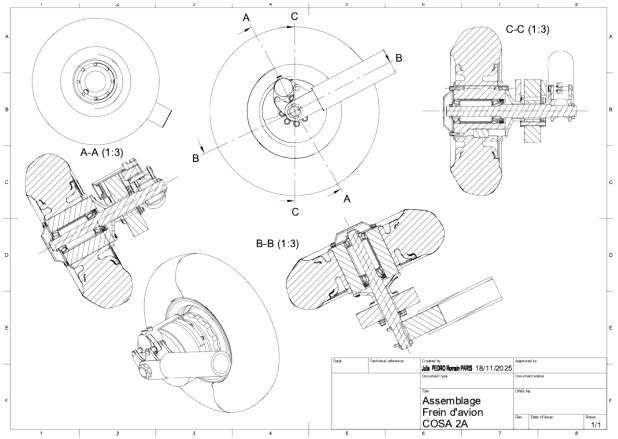
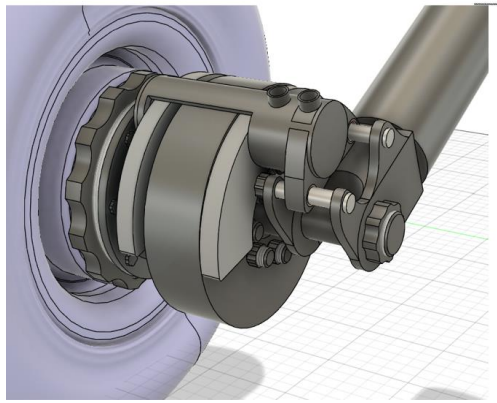
Aircraft Wheel Brake System Design
Research Project

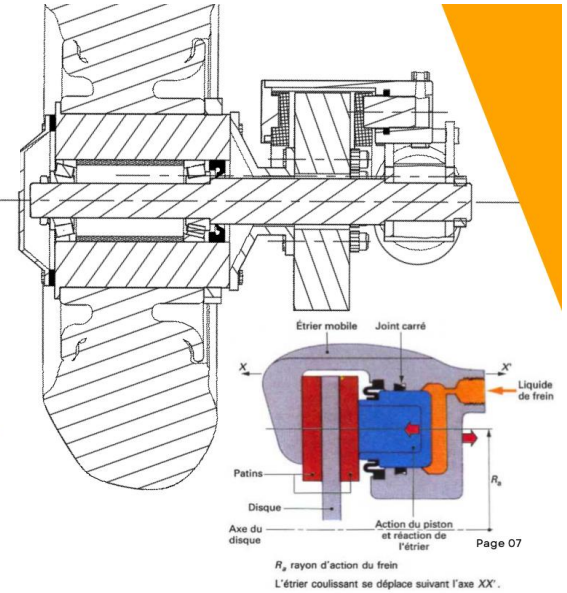
Arts et Métiers Sciences et Technologies





I designed a sliding-caliper braking system, where the caliper translates along the structure to apply braking forces, integrated directly into the aircraft assembly.





Objective :

Design a complete and realistic braking system for a light aircraft wheel, compliant with mechanical, safety, integration, and maintenance constraints, from functional architecture to validated mechanical design.

- Designed a complete braking system for a light aircraft wheel.
- Defined a disc brake architecture with floating caliper.
- Developed a full 3D CAD assembly (custom + standard parts).
- Integrated preloaded tapered roller bearings on a fixed shaft.
- Ensured safe torque transmission (bolted joints + key).
- Performed key mechanical and thermal validations.
- Designed for manufacturability, dismantlability, and maintenance.