

Rotating electrical machines with integrated converters

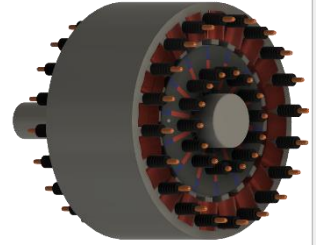
Technology

Development of windings integrating energy conversion cells for on-board electric motors.

In the context of the integration of power converters within electrical machines, this project makes it possible to insert conversion structures into the machine windings.

Thanks to their new design, these new windings will benefit from extended functions in terms of machine operation, reconfiguration and functional safety.

This new type of winding will also allow a completely new design of the machine insulation system.



Keywords

- Electrical machines
- Converters
- Winding
- Electrical insulation
- Machine control



Intellectual Property

Patent filing in progress



Development Status

Laboratory Prototype (TRL3)



Partnership

- Co-development
- Co-maturation
- Licensing

Benefits

- **Safety:** increasing functional safety by considering global or local faults in the control of the machine
- **Machine control:** optimizing the flexibility of switching between different operating modes
- **Insulation:** reducing the electrical stresses on the winding by completely redesigning the electrical insulation system

Applications

- Car manufacturers
- Aeronautics
- Railways



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