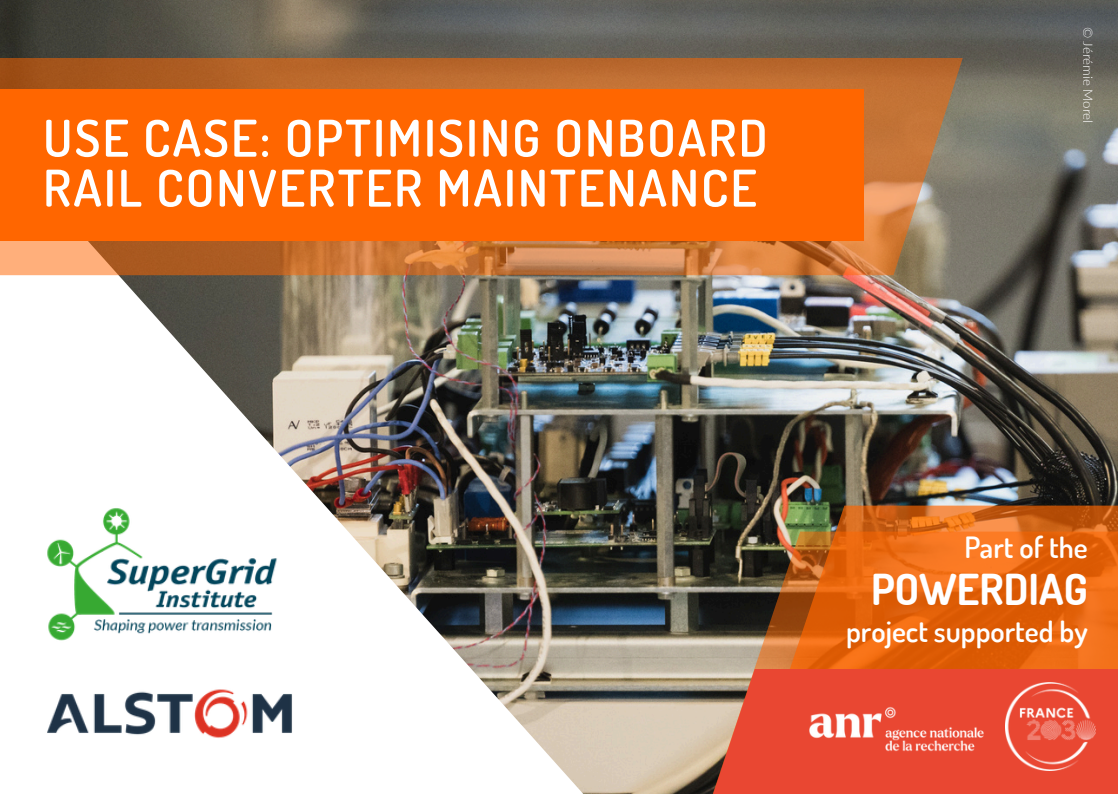
USE CASE: OPTIMISING ONBOARD RAIL CONVERTER MAINTENANCE



SuperGrid Institute
Shaping power transmission

ALSTOM

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POWERDIAG
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CLIENT'S CHALLENGE

Alstom, a global leader in mobility solutions, faced the challenge of optimising the maintenance of their onboard power converters to reduce costly train downtime and plan more efficient repair strategies.

Semiconductor components were identified as the most failure-prone elements of the power conversion chain making them the critical focus for lifetime prediction.

OUR SERVICES

- Test plan & monitoring board development
- Semiconductor module testing on a purpose-built test bench
- Building converter lifetime models to predict failure

ADDED-VALUE

- Near-application test bench combining real converter operation conditions with accelerated load cycling stress
- 5 converters tested simultaneously
- Components tested to real failure

THE RESULTS

A database of semiconductor aging measurements, lifetime models & remaining useful lifetime algorithms, enable Alstom to accurately track semiconductor health & establish predictive, data-driven maintenance to improve their assets' reliability.

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