

### HPC-Cloud-based optimisation of aircraft wiring



The challenge addressed by this case study was to adapt a wiring optimisation application from KEW to run on a Cloud-based HPC system, so that

wiring layouts could be optimised in a feasible length of time and at an acceptable cost. Such a solution would involve computationally intensive **simulations** that could be run on a pay-per use basis.

## **The Solution**

- The solution has involved porting the KEW optimization software to run on an HPC system and **developing the software** to bring all the necessary software components together taking account of any software licensing issues.
- The successful implementation of this solution has enabled typical optimisations to be run on an HPC system much more quickly



### and effectively.

# **O** The Benefits

- The business benefits for electrical wiring companies are a reduction of about 90% in the lead-time for a single electrical design and a reduction of computational costs of about 8 to 10 times by using Cloud-based HPC.
- A single, optimised, wiring design may be used in hundreds of aircraft and so the impact of a single simulation may be very significant.
- By using more advanced simulations, KEW expects to improve the quality of its designs



#### and an expected reduction in costs.











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