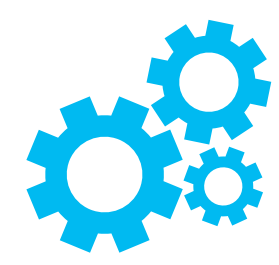


HPC-Cloud-based design of copper-alloy moulds



The Challenge

The challenge of this case study was to demonstrate the **benefits of HPC-based simulation** to IMR, who wanted to investigate how these could **improve the time to market and productivity**.



The Solution

- A **computer model to simulate the flow** of copper alloys was developed based on an open-source software package.
- This model produces a reliable simulation of the filling of a mould by the molten copper alloy at low pressure.
- The **simulation results have been validated** by comparison with physical tests.
- Using a Cloud-based HPC system, the time for a simulation could be reduced to an acceptable time frame.



The Benefits

- The use of HPC-based simulation **reduces the number of changes** to the mould prototype during its design.
- The simulation using HPC reduces by 20% the time for development of the mould and saves 20% of the cost of testing, before mass production can begin.
- These simulations create the opportunity for IMR to offer its customers a new, HPC-based design service.



Organisations Involved

End User:



HPC Provider and HPC Expert:



FORTISSIMO



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