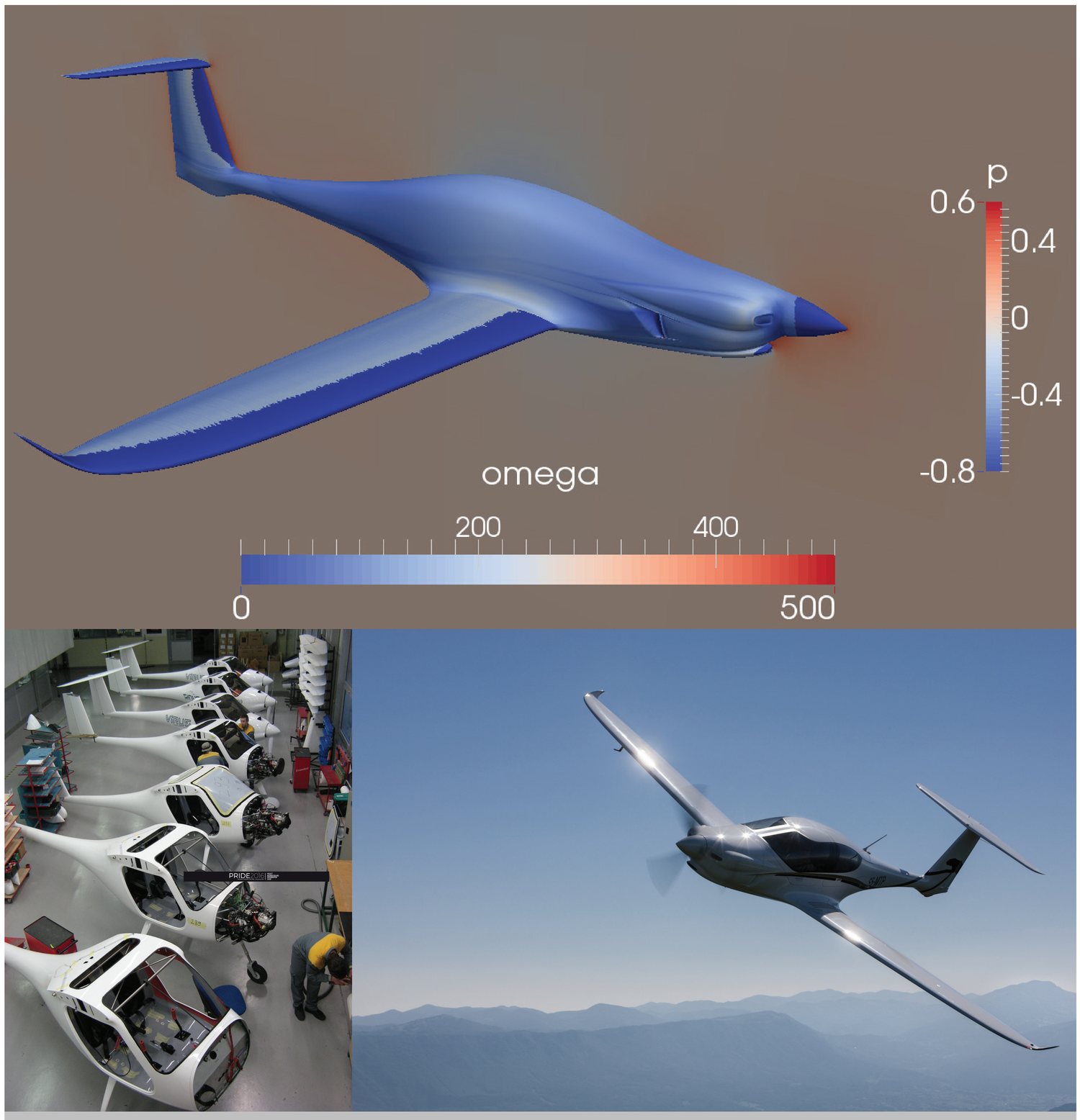
HPC-Cloud-based simulation of aerodynamics of light aircraft

The Challenge

The challenge facing Pipistrel was to perform simulations of the flow over its aircraftwhich were sufficiently detailed to model real physical effects accurately. The use of Cloud-based HPC offers the possibility of running such simulations on a pay-per-use basis which isfinancially viable for an SME.



The Solution

- The use of Cloud-based HPC allowed simulations of a higher fidelity than with in-house systems.
- Simulations closely modelled real-world behaviour and gave accurate information on how the aircraft would behave in flight.
- The use of HPC enabled Pipistrel toobtain results of much more complex simulationsin a reasonable time. It also offered a cost-effective solution to running such large simulations.

The Benefits

- Pipistrel ranmore demanding, higher fidelity simulations
- It gained considerable experience in the use of HPC-based simulation.
- The higher-resolution simulations give more and better data to be incorporated into each design phase. This bothaccelerates the design phase and reduces the number of the design cycles.

Organisations Involved

End User: PIPISTREL

HPC Expert: XLAB NOT IDLE

HPC Provider: ARCTUR

FORTISSIMO

European Commission

The Fortissimo project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement No 609029. The Fortissimo 2 project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680481.

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SEVENTH FRAMEWORK PROGRAMME