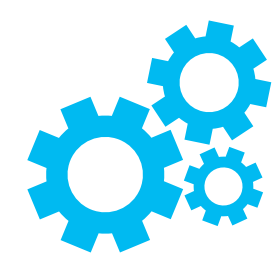


HPC-Cloud-based urban planning



The Challenge

The challenge of this case study is to demonstrate the **use of planning tool for cities**, which requires the performance of an HPC system because of the scale of the simulations being addressed. A major objective will be to enable Virtual Environment (VE) desktop installations and web-based interfaces to access the calculation resources hosted on an HPC-cloud infrastructure.



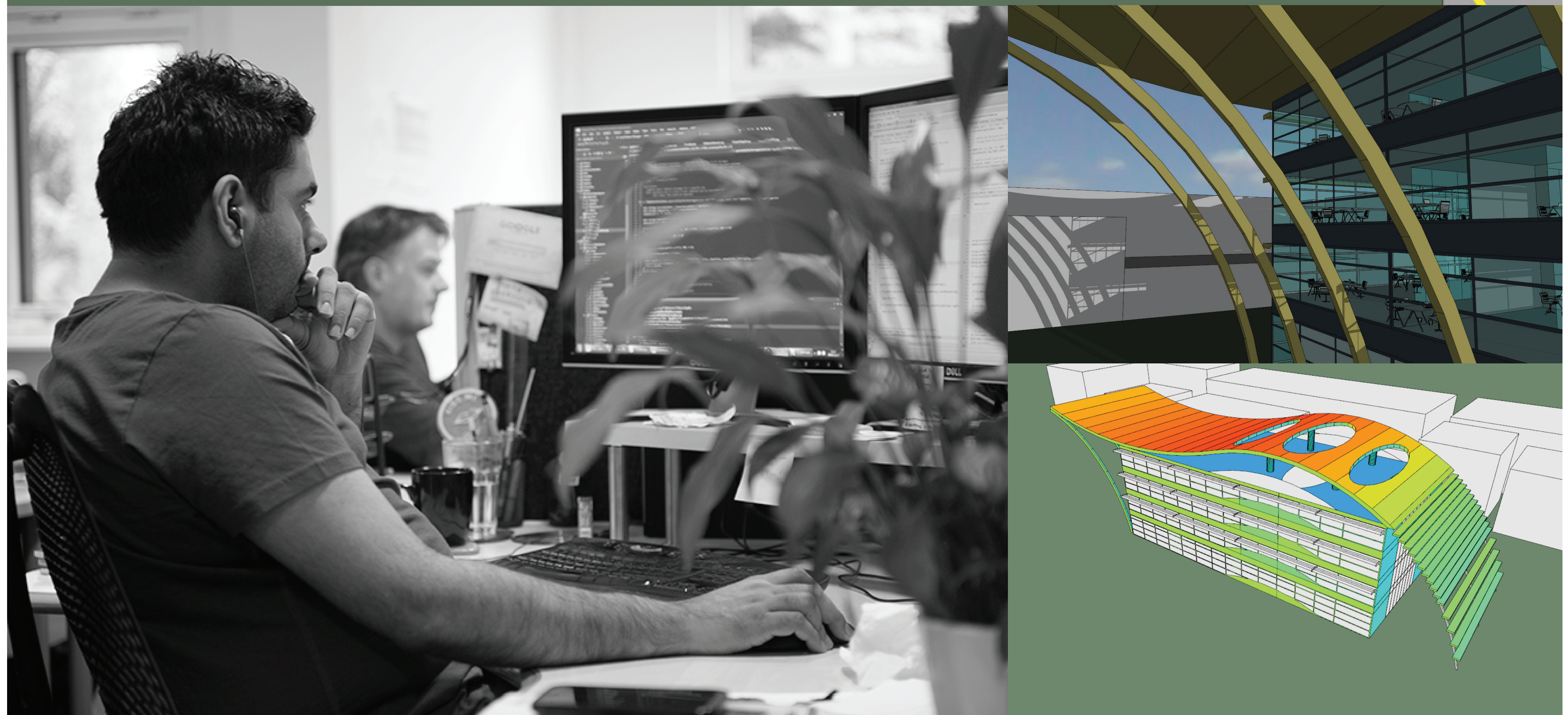
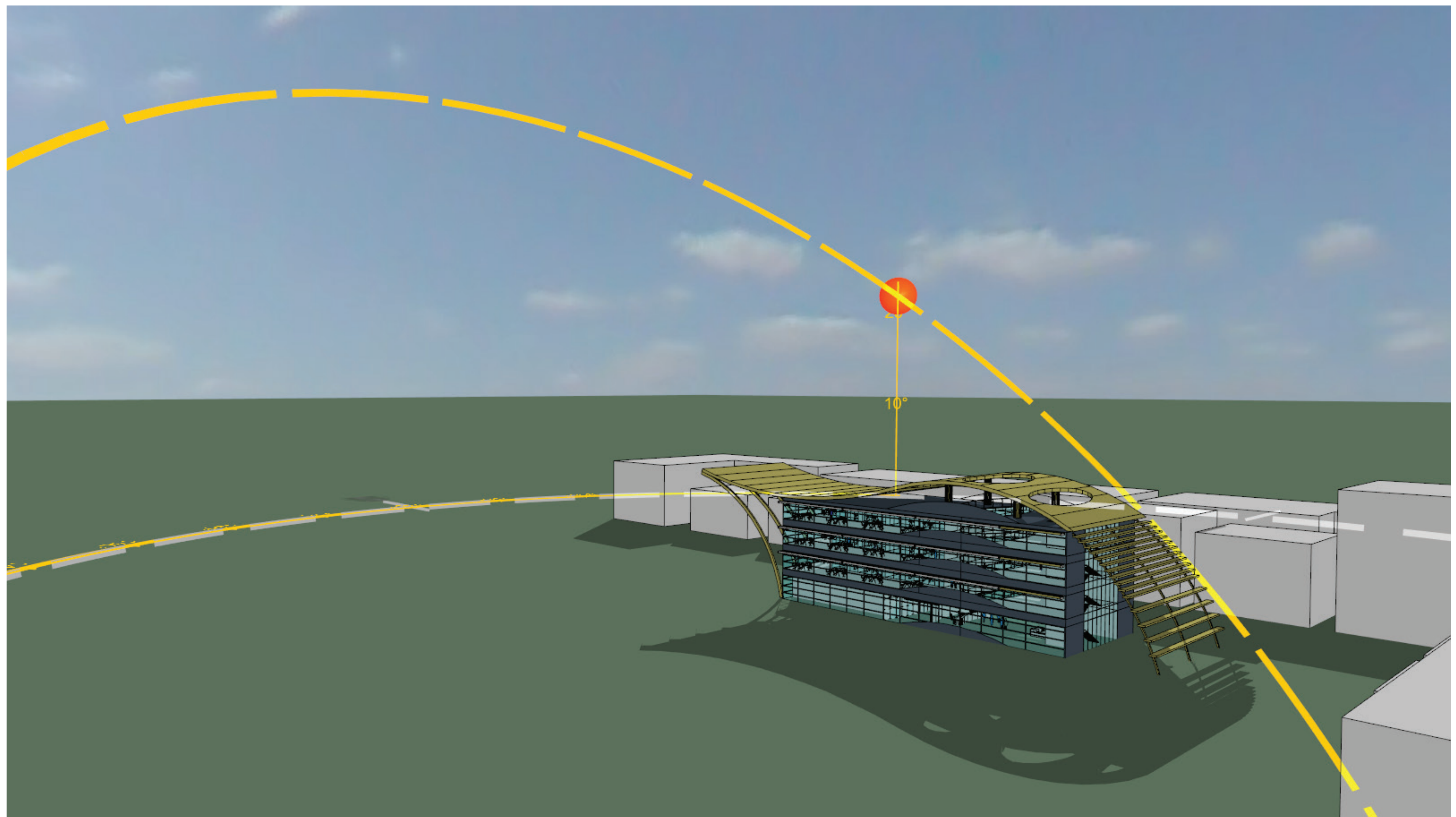
The Solution

- IES has developed a tool, based on its VE, which **addresses large simulations effectively and quickly** through the use of Cloud-based HPC, but still uses a familiar workstation for the display of data.
- Traditionally, IES has worked primarily with simulating individual buildings.
- This case study has shown that it is possible to decrease significantly the run-time of simulations whilst substantially **increasing the number of buildings in a simulation**.



The Benefits

- Typical speedups (comparing the workstation to the HPC system) were between 5 and 10 times, this offers **clear commercial benefits**.
- Based on the successful experiment, IES is now offering a pay-as-you-go HPC-based service (available from EPCC) to its customers.



Organisations Involved

End User, Application Expert and ISV:



HPC Provider and HPC Expert:



FORTISSIMO



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