# HPC-Cloud-based prediction of air quality





The challenge of this case study was to

demonstrate the use of Cloud-based-HPC services to **investigate air-quality at the scale of cities**. The possibility of running urban air-quality simulations using Cloud-based HPC would help to **increase the numbers of scenarios** which could be feasibly simulated in a given time. Using an HPC system would also reduce the costs and computational time needed for such simulations.

#### **The Solution**

- CERC software ADMS-Urban has been adapted to run on a Cloud-based HPC system.
- The results of the simulations were then



- made available via a familiar workstation environment.
- An evaluation of the viability of this service on commercial HPC clouds has been carried out and possible business models for such a service have been proposed.

## The Benefits

- CERC can now offer the ADMS-Urban software as a cloud service, on a pay-for-use basis.
- This allows for an attractive pricing option for customers needing an infrequent use of the model.
- For a simulation service, CERC needs to buy

#### **Organisations Involved**

End User: Software and Domain Expert: HPC Provider and HPC Expert:

## cycles on demand, this offers considerable flexibility to SMEs looking to set up a service.









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