

Prototype Earth Observation Platform

HPC-Competence Center

ICHEC is the national High-Performance Computing (HPC) in Ireland and is a centre of domain, systems and software expertise that provides high performance software solutions to academia, industry (SMEs and MNCs) and state bodies, through partnership, knowledge transfer, project delivery and service provision. ICHEC operates the national HPC service providing compute resources and software expertise for the research communities across all the main science disciplines through collaborative partnerships and programmes of education and outreach.



Enterprise

Parameter Space Ltd is a University College Dublin (UCD) spin-out. The company was established in late 2014 and is working on a number of projects under contract from the European Space Agency. The company is currently located in the School of Physics in UCD. Parameter Space is co-located with the Space Science and Advanced Materials Research (SSAMR) group in UCD. The research group carries out fundamental research on a wide range of topics including gamma-ray bursts, x-ray binaries, star formation in galaxies, nano ceramic glass scintillators and operates a telescope, Watcher, in South Africa. Parameter Space is a member of the Irish Space Industry Group.



How HPC makes the difference

The company collaborated with ICHEC after securing a strategic ESA partnership. The proposed platform shall provide Earth Observation services for the Atlantic region. However, the project came with a number of challenges, from the need to identify existing EO capabilities, to securing infrastructure and addressing scalability requirements. The collaboration enabled the company to access ICHEC's data archives from ESA Sentinel (1 & 3), work closely with ICHEC's team on pre-processing of these datasets, and design and develop virtual workstations for optimising. The on going collaboration is set to enhance the company's in-house expertise in EO data processing and knowledge of HPC.



Fig.: Satellite image over Ireland, parts of the UK and France

