PRACE International Cooperation

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Challenges:
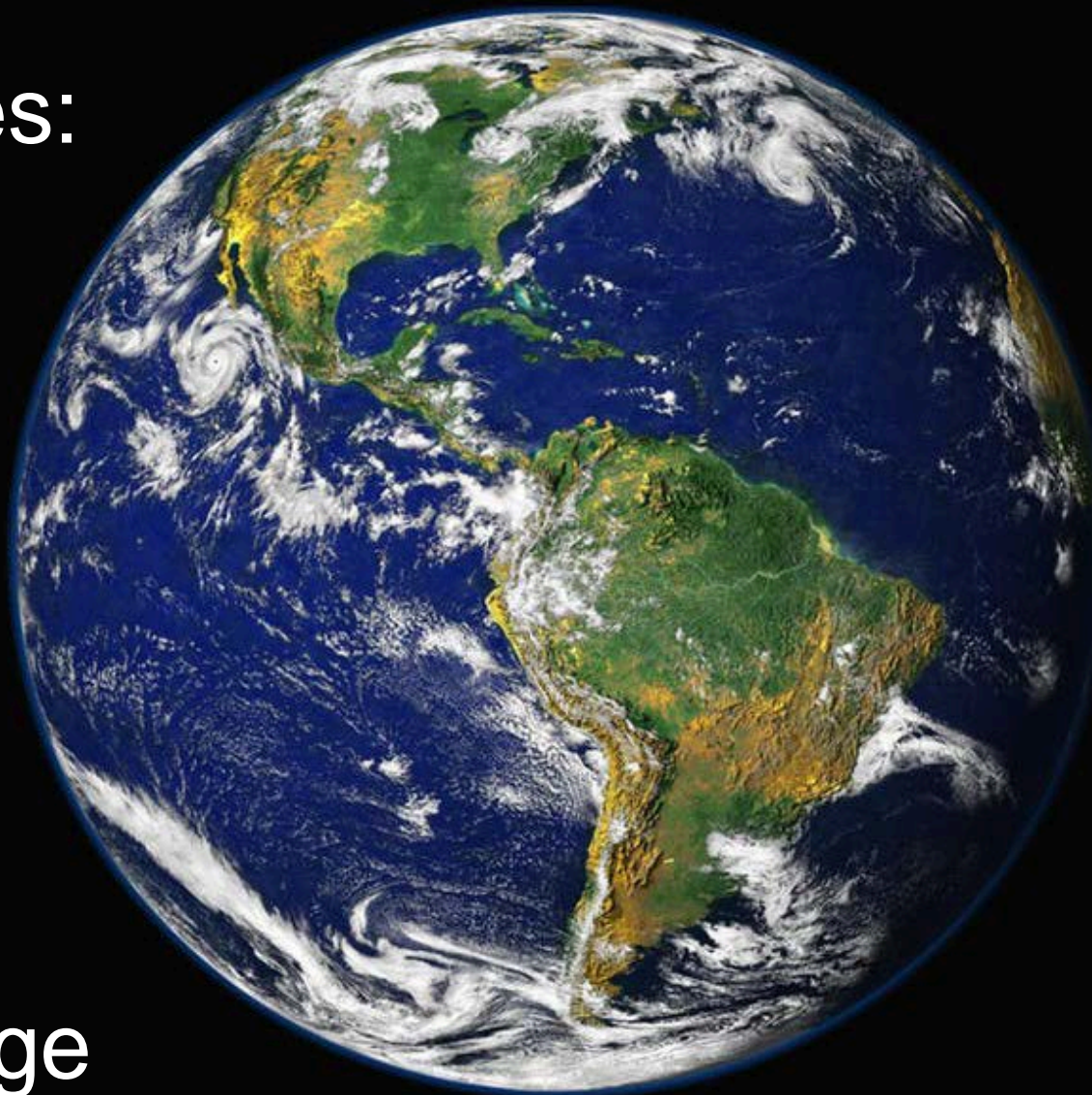
Aging Society

Energy

Food

Growing population

Climat change

Can we address these challenges independently?

PRACE International Cooperation

▸ PRACE itself is an international cooperation with 25 European countries working together

▸ PRACE is committed to promote and extend the international cooperations

▸ MoUs were signed with our international peers

  ▸ RIST, Japan

  ▸ XSEDE, USA

  ▸ CHPC, South Africa

▸ Additional MoUs are planned

  ▸ PAWSEY SUPERCOMPUTING CENTRE, Australia

PRACE-XSEDE

▸ December 2013 PRACE and XSEDE jointly opened an invitation to submit requests for support for interoperable services between PRACE and XSEDE resources by collaborating teams

▸ Three proposals (out of seven) awarded for support by both PRACE and XSEDE

▸ Projects started April 2014, support ended January 2015

Achievements of PRACE-XSEDE Projects (1)

▸ **Smart Data Analytics for Earth Sciences across XSEDE and PRACE**

    Morris Riedel, Shahbaz Memon, Markus Götz, Christian Bodenstein (Jülich Supercomputing Center, Germany)

    ▸ Created new Parallel version HPDBSCAN of DBSCAN, driven by the scientific case study

        ▸ *Open-source, available for XSEDE/PRACE (maintained on best effort basis)*

▸ **Interoperable High Throughput Binding Affinity Calculator (BAC) for Personalised Medicine**

    Peter V. Coveney (UCL), Prof Dieter Kranzlmuller (LRZ/LMU), Shantenu Jha (RADICAL, Rutgers)

    ▸ Successful large scale ensemble runs of molecular dynamics simulations

Achievements of PRACE-XSEDE Projects (2)

▸ **UNICORE Use Case Integration for XSEDE and PRACE**

   Sandra Gesing (University of Notre Dame, Technische Universitat Dresden, Helmholtz-Zentrum Dresden-Rossendorf,
   University of Tubingen,Jülich Supercomputing Centre)

   ▸ The MoSGrid science gateway for the molecular simulation community uses UNICORE as
   the underlying tool to access different resources from both PRACE and XSEDE

▸ **Results have been published in a paper (as part of the XSEDE'15
proceedings)**

PRACE-XSEDE-RIST

▸ Build on joint call 2013

▸ Two levels

  ▸ User support / interoperability

  ▸ Joint allocation for production

International HPC Summer School

▸ Collaboration between PRACE, XSEDE, Compute Canada, RIKEN

2015 school in Toronto,   2017 school in Boulder

2016 school in Ljubljana   2018 school in Prague

PRACE-CHPC

▸ MoU signed in June 2017

▸ Objectives:

  ▸ Exchange of information in the fields of Computational Science and Engineering

  ▸ Identify collaboration and partnership opportunities

Thank you for your attention!

Questions?