



Linking Scientific Computing in Europe and the Eastern Mediterranean

HPC Roadshow

**LinkSCEEM-2: A computational resource
for the Eastern Mediterranean**



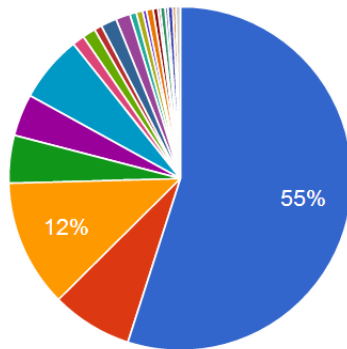
How it all began



FP7 under Grant Agreement Number: 222904

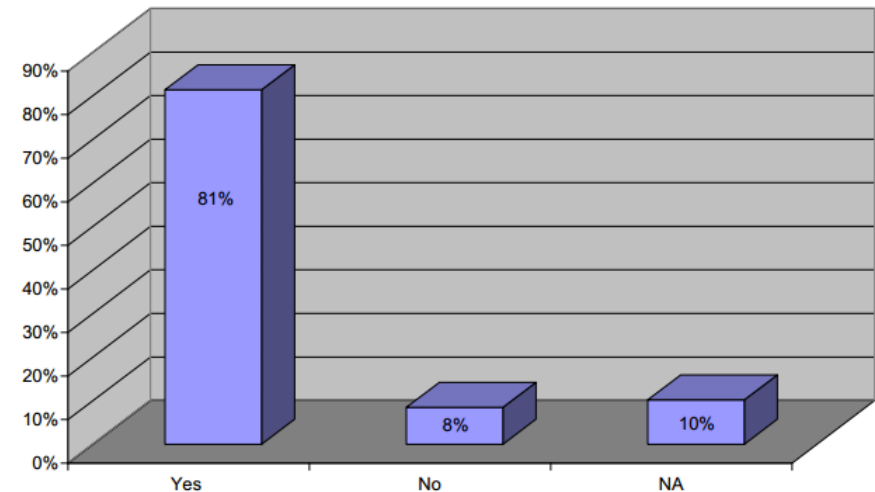
- **LinkSCEEM-1 project run from 2008-2009**
 - assessment of High Performance Computing (HPC) resources and users in the Eastern Mediterranean

Countries Performance Share



Saudi Arabia - 0.4%,

countries by HPC resources (status Nov 2012, source www.top500.org)



Need for additional computational resources (regional survey LinkSCEEM-1)



How it all began



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▪ LinkSCEEM-1 project run from 2008-2009

- assessment of High Performance Computing (HPC) resources and users in the Eastern Mediterranean

Conclusions:

Main factors that have hindered the development of computational science in the region

- limited access to HPC resources
- limited knowledge on HPC
- inadequate regional connectivity
- limited awareness of simulation as a scientific tool

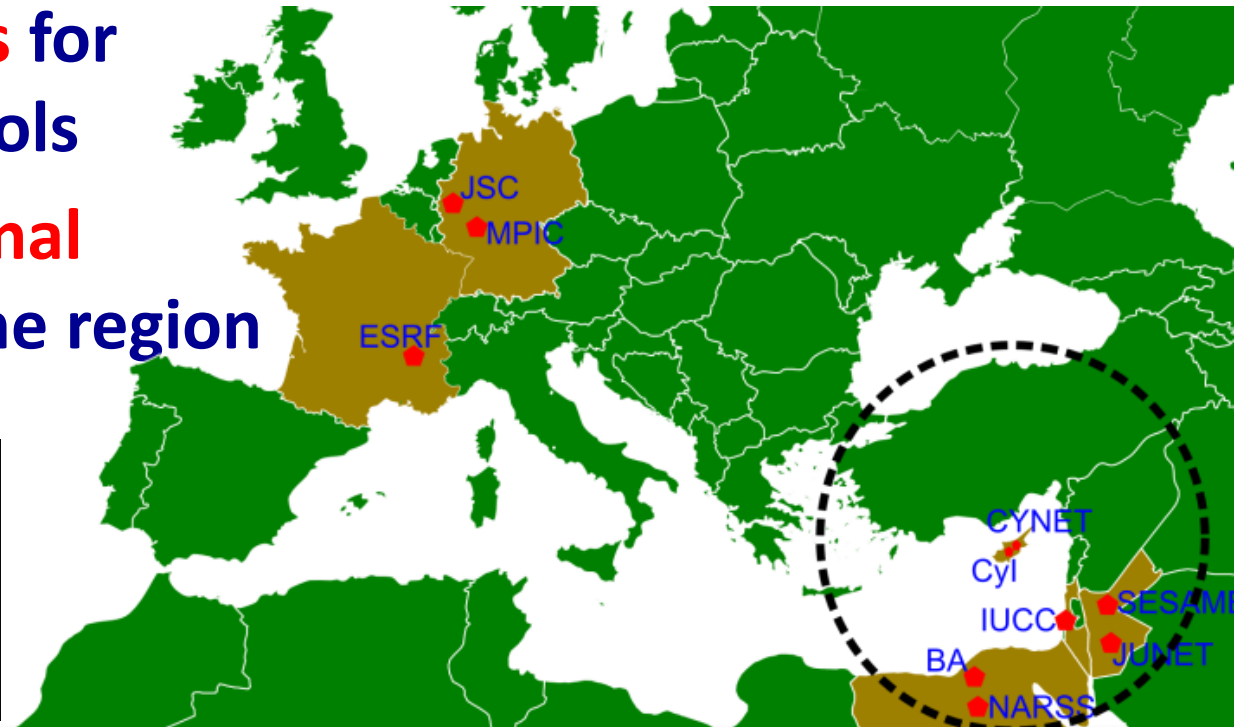


LinkSCEEM-2 - Establish a HPC EcoSystem in the Eastern Mediterranean

- Provide **access** to HPC resources
- Provide **training** in HPC
- Raise **awareness** for HPC research tools
- Bring **international expertise** into the region



FP7 under Grant Agreement Number: 261600



Project consortium

- Regional research institutions and international centres of excellence in high performance computing (HPC)

Coordinator



MAX-PLANCK-GESELLSCHAFT



Project objectives

- Integrate regional computational resources
- Create user support and training programs
- Enable research of particular relevance to the region (Climate, Cultural heritage, Synchrotron)
- Contribute to the upgrade of the regional network connectivity
- Build strong links to the European Research Area in accord with the European Neighbourhood Policy

Access to HPC facilities within LinkSCEEM

Regionally distributed LinkSCEEM e-infrastructure is being accessed through a joint call

- **CaSToRC:**

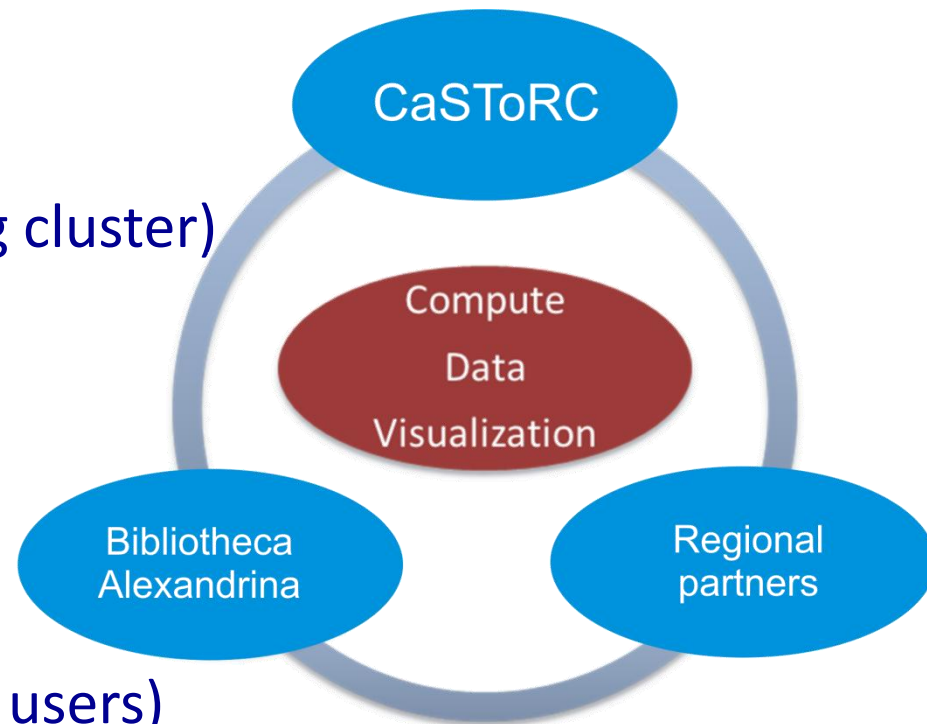
- Cy-Tera (CPU/GPU cluster)
- EUCLID (LinkSCEEM training cluster)

- **BA:**

- Sun cluster (CPU cluster)

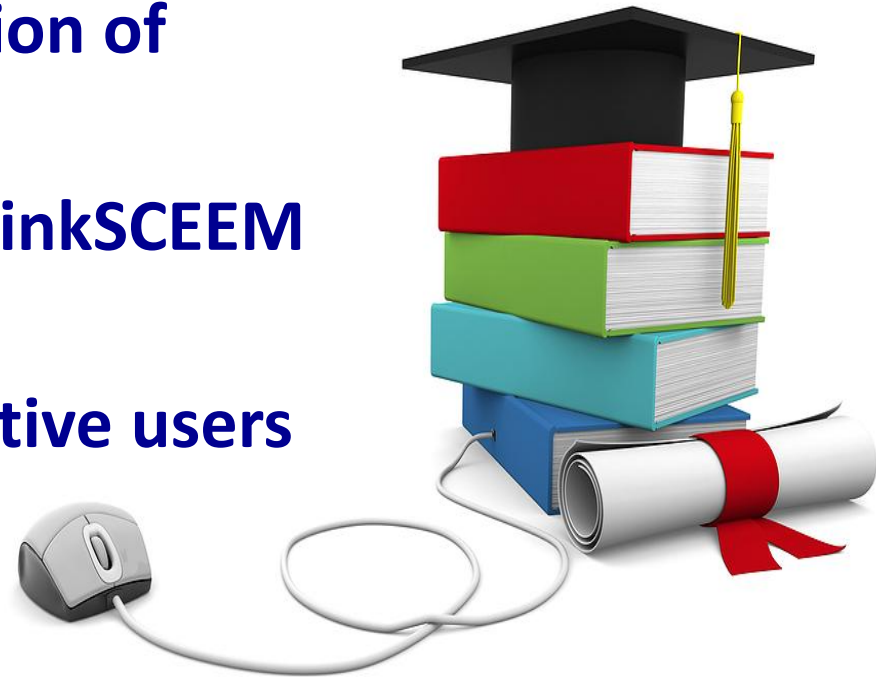
- **Regional collaboration**

- HP-SEE
(pilot access for LinkSCEEM users)



LinkSCEEM training program

- Annual program of user meetings and training workshops
- Constantly growing collection of online training content
- Educational access to the LinkSCEEM training cluster
- User support system for active users

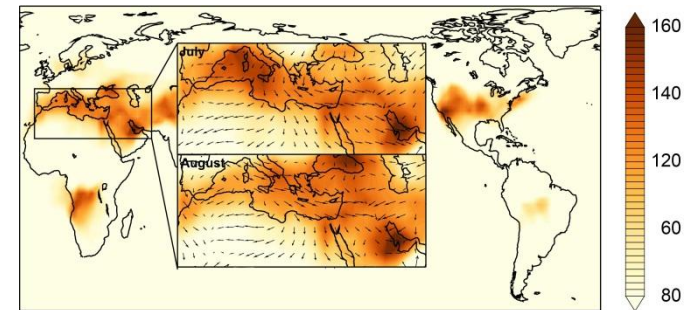


Project Research Themes

- **Cross sectional research**
 - performance analysis and optimisation for community codes
- **Climate**
 - development of atmospheric chemistry climate models to study the Eastern Mediterranean region
- **Digital cultural heritage**
 - imaging and image processing of regional artifacts
- **Synchrotron radiation data analysis**
 - synchrotron data analysis and simulation on GPU systems



Polynomial Texture Mapping of a copy of an ancient coin from Petra, Jordan, depicting Alexander the Great or one of his successors



Mediterranean and Middle East hot spot of ozone air pollution

How to be up to date?

- **Announcements are broadcasted on**
LinkSCEEM webpage (<http://www.linksceem.eu>)

LinkSCEEM mail-list

International Science Grid this Week (www.isgtw.org)

Linked in LinkSCEEM group

Conference on Scientific Computing - CSC 2013

Pafos, Cyprus

3-6 December 2013



- Co-organised by PRACE/LINKSCCEM-2
- Internationally renowned scientists as keynote speakers
- More info: <http://cyprusconferences.org/csc2013/>
- Fellowships available for young scientists from the region

HPC roadshow

- **Introduce you to the resources we offer and how to access them**
- **The following presentations will be given**
 - Overview of HPC systems and software available within the LinkSCEEM project
 - HPC training opportunities
 - LinkSCEEM resource allocation
 - Hands on training session for core skills



Thank you!

Acknowledgement

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Topic: INFRA-2010-1.2.3: Virtual Research Communities

Funding Scheme: Combination of CP & CSA

