



Arab World Global Research & Education Networking

Connecting networks and applications
at lambda speeds

ASREN founders Conference
Cairo, december 8-9th 2010

Dear Research and Education Colleagues, why are we here?

Major research instruments can be anywhere, information repositories can be anywhere, competent collaborators and teaching staff can be anywhere. Research & Education Networks (REN) make it possible to share human and material resources and lower the cost of R&E while collaboration mostly produces better science and results.

Our goal is to provide our educators, researchers, scientists and students the communication tools to help them compete and serve their nations in a increasingly interdependent world and a Global Economy.

The Tata Group

140-year old largest private sector group
\$70.5 billion in revenues, 61% of business from outside of India

350,000 employees

3% of India's Gross Domestic Product (GDP)

Conglomerate comprising 93 operating companies

Acquired VSNL in February 2002

TATA Steel acquired Corus for \$23 billion

TATA Motors acquired Jaguar – Land Rover

Tata Consultancy Services (TCS)

- Asia's largest software & systems integration services company
- 33 countries across 5 continent



TATA CONSULTANCY SERVICES



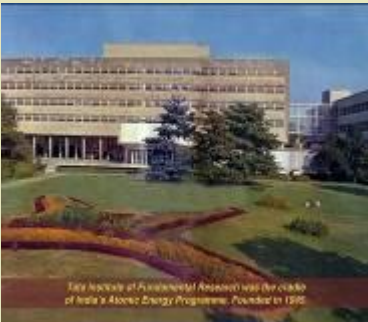
TATA POWER

TATA STEEL





Indian Institute of Science, Bangalore



Tata Institute of Fundamental Research, Mumbai



National Center for the Performing Arts, Mumbai

GROUP

66% Equity of Tata Sons in Public Trusts

Sir Dorabji Tata Trust

Sir Ratan Tata Trust

ACTIVITIES

- **Endowments for Creation of National Institutions:**
 - (1911) Indian Institute of Science
 - (1936) Tata Institute of Social Sciences
 - (1941) Tata Memorial Hospital
 - (1945) Tata Institute of Fundamental Research
 - (1966) National Centre for the Performing Arts
- **Development assistance in water harvesting, medical research, microfinance, bio-diversity**

Tata Council for Community Initiatives

Facilitating Role for companies' CSR activities

- **Triple Bottom-line Global Reporting Initiative**
- **UN Global Compact**
- **Tata Index for Sustainable Development**

COMPANIES

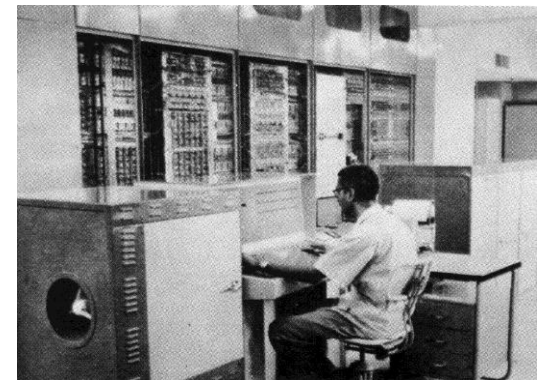
- **Annual Spend ~ USD 85 Mn:** Social Welfare Expenditure budgeted before preparation of P&L account
- **Commitment to adjacent communities incorporated in company Articles of Association**
- **Active volunteering programme:** over 10,000 volunteers
- **Company Examples:**
 - **Tata Steel:** HIV / AIDS Programme - Global Business Council winner
 - **Tata Consultancy:** Adult Literacy Programme



टाटा मूलभूत अनुसंधान संस्थान

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

- Founded in 1945 located in Mumbai
- Developed TIFRAC, the first Indian computer in 1956
- Obtained full university status in 2003
- Focus on mathematics and natural sciences
- very active in High Energy Physics and astronomy
 - Connectivity with CERN
 - e-VLBI connectivity for NCRA in Pune



TIFRAC-2



टाटा मूलभूत अनुसंधान संस्थान
TATA INSTITUTE OF FUNDAMENTAL RESEARCH

- TIFR institutes outside its main campus in Colaba and Mumbai:

Homi Bhabha Centre for Science Education at Deonar, Mumbai

National Centre for Radio Astrophysics at Pune

National Centre for Biological Sciences at Bangalore

TIFR Centre, Bangalore for Mathematics

TIFR Hyderabad (commencing in 2011)

October 20th 2010 :

Prime Minister Manmohan Singh laid the first stone of the TIFR Hyderabad campus

As reported by Topnews.in he emphasized the need for getting higher human resources in the area of science and technology to sustain competitive advantage in the knowledge economy.

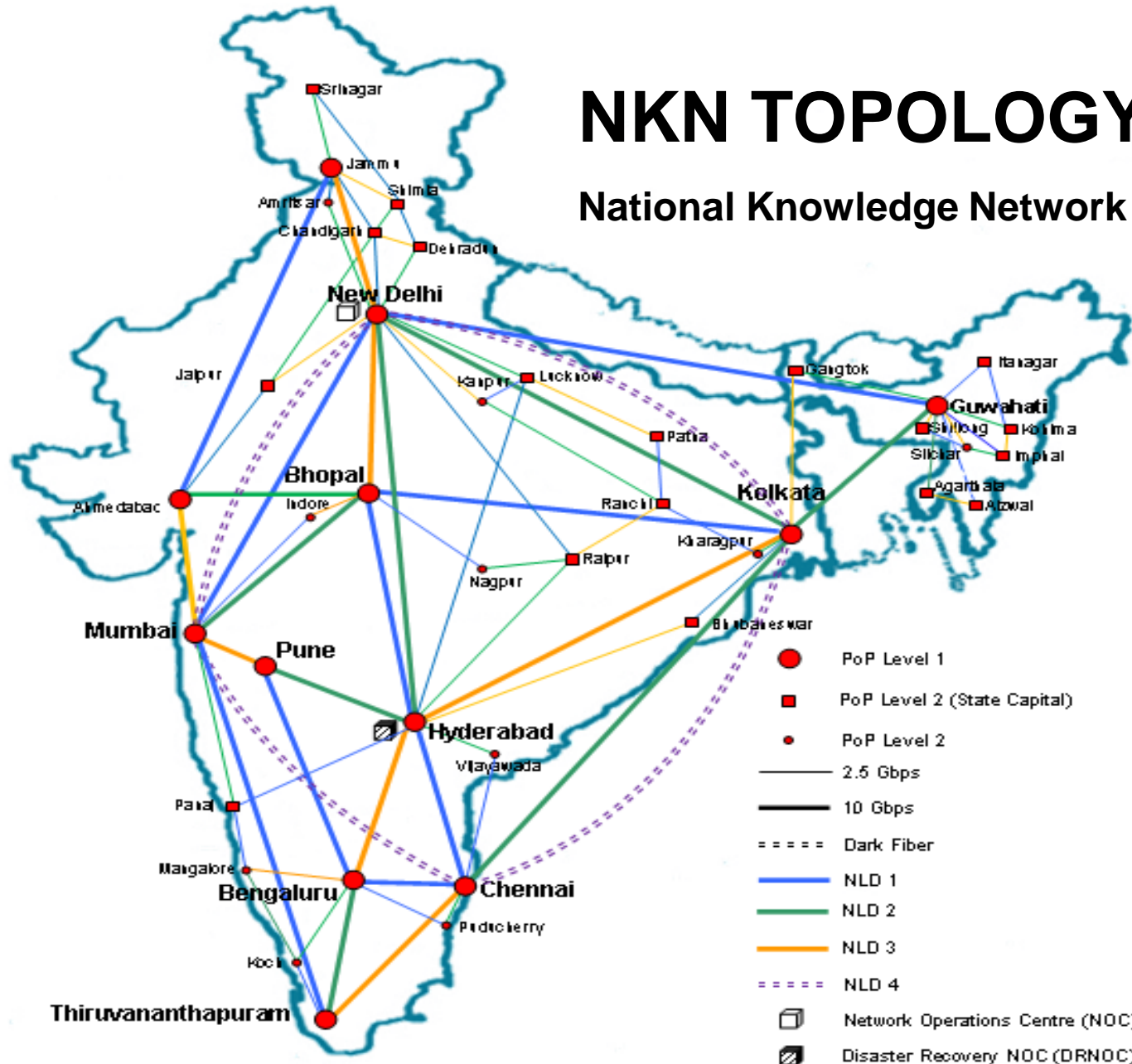
He said that the scientific and technological skill of a nation is a most important determinant of its state of development. Improvement and knowledge will be the key factors in a nation's progress.

He called for amplification of scientific infrastructure, representation the brightest minds to scientific explore and creating institutions of the highest standards of quality.

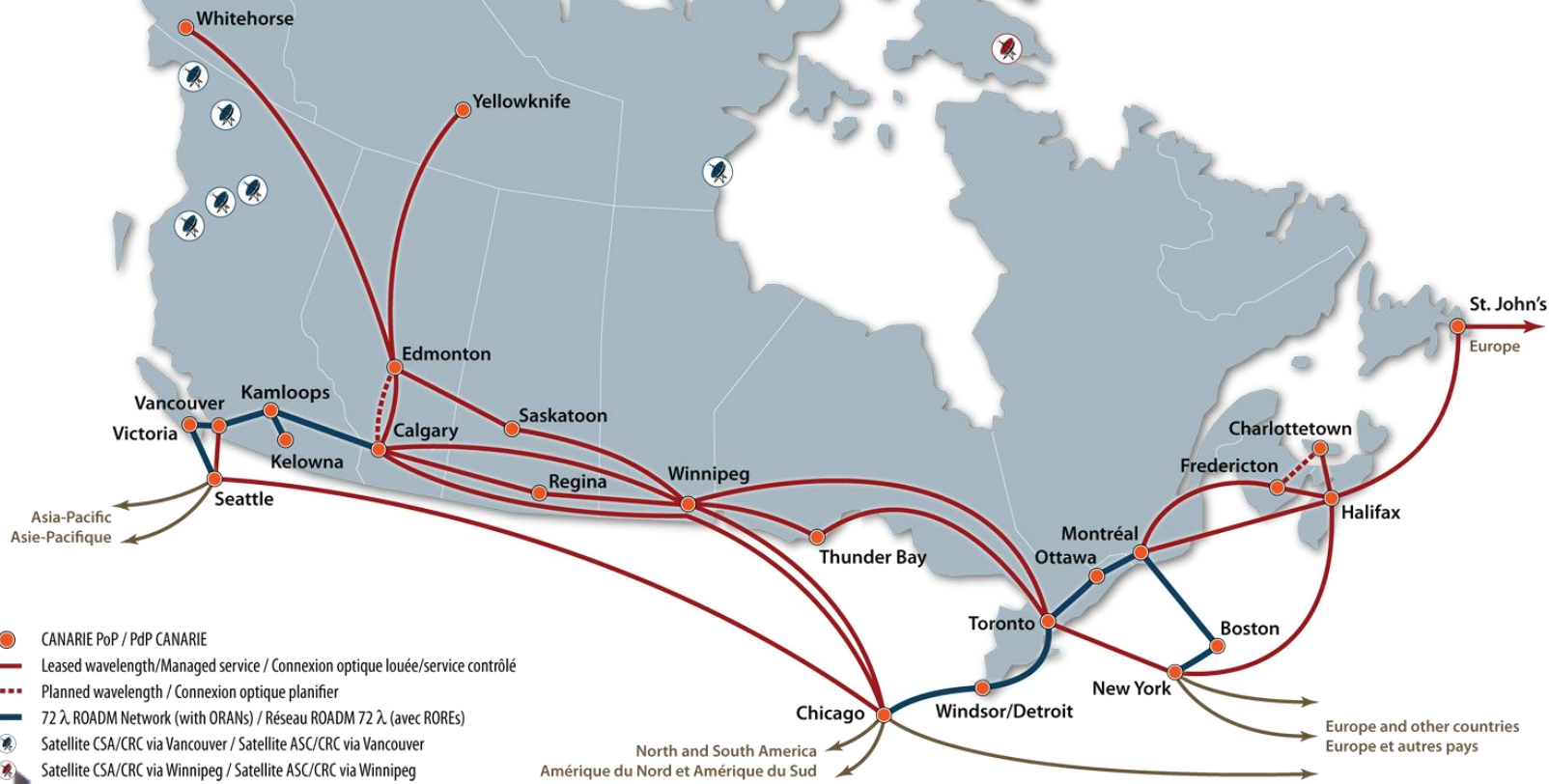


NKN TOPOLOGY

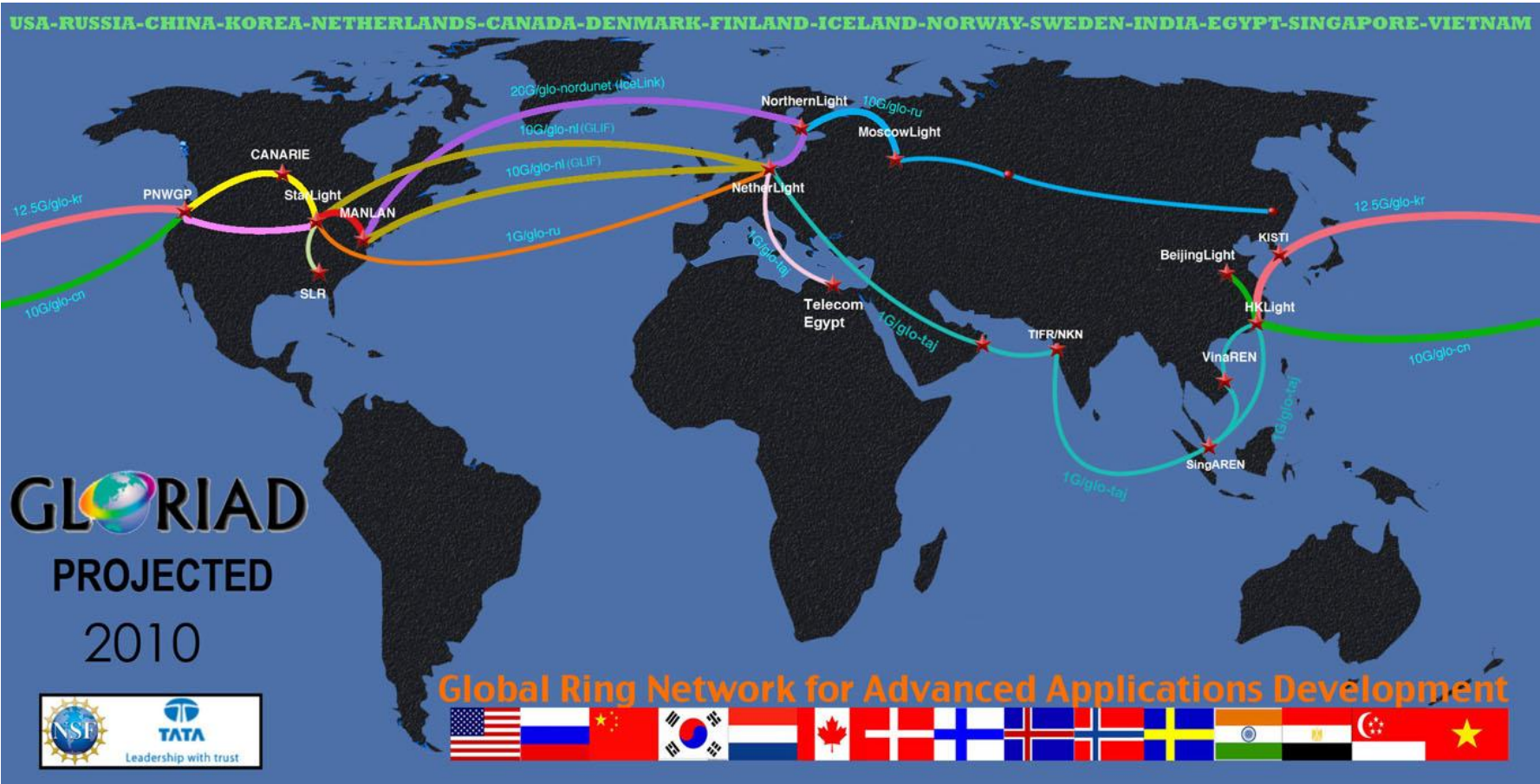
National Knowledge Network



The Canadian NREN



Taj-Gloriad lambda R&E network



The vision : a new Golden Age of Arts and Sciences

..many of the central tenets of modern mathematics, engineering, physics and culture have their roots in the Islamic Golden Age

..the scientists, scholars and engineers of the Muslim Civilization helped lay the foundation for the European Renaissance and ultimately our modern world.

The National, UAE, March 24th 2010

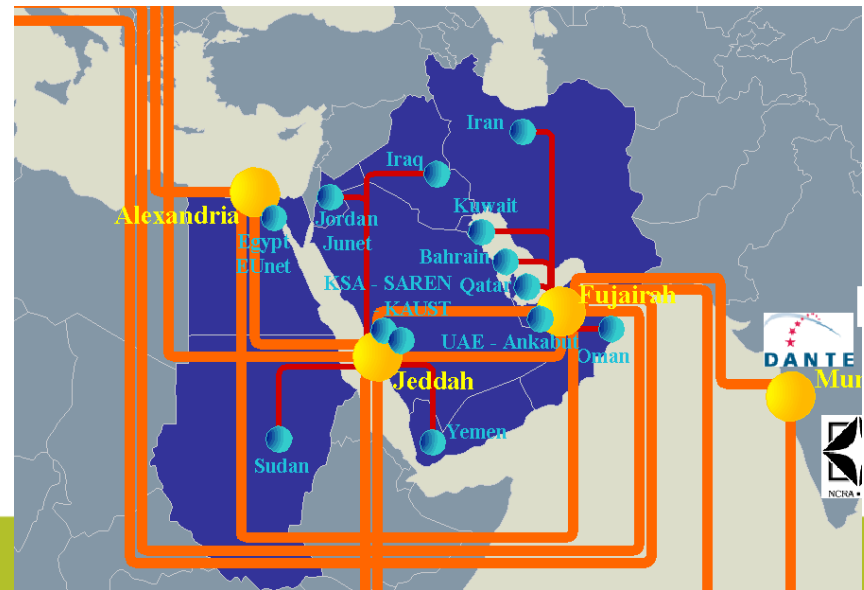
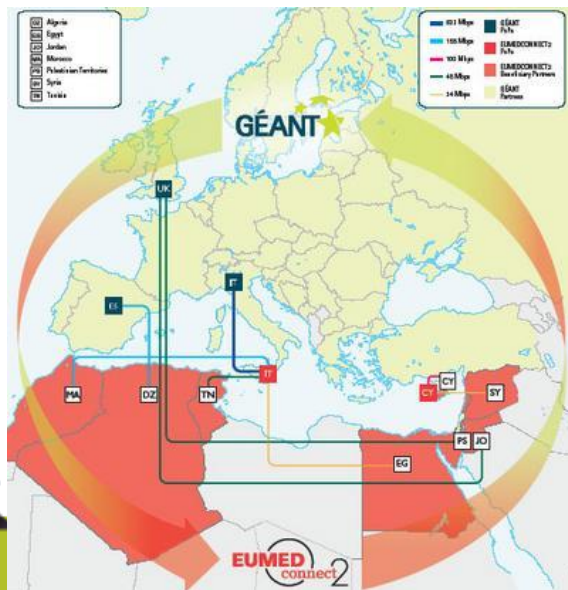
The Al Khawarizmi R&E Network concept

The Arabic peninsula is seeing a number of new cables which will make it possible to connect economically the national R&E networks in the region and beyond. The objective is to one day connect all Centres of Higher Education, Learning and Research in the Islamic World to each other and to the rest of the world through a high speed world class R&E network.

The complementarity of the ASREN and Al Khawarizmi initiatives

Eumedconnect2 allows for Algeria, Egypt, Jordan, Morocco, Palestine, Syria and Tunisia R&E to connect to the pan-European Dante R&E network.

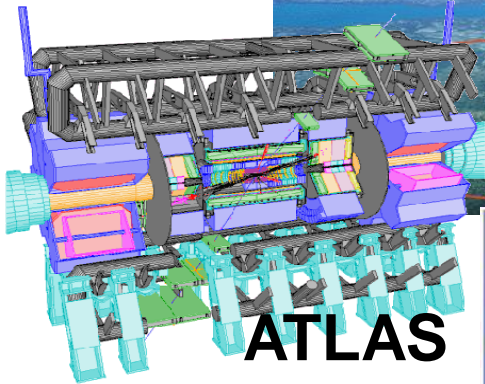
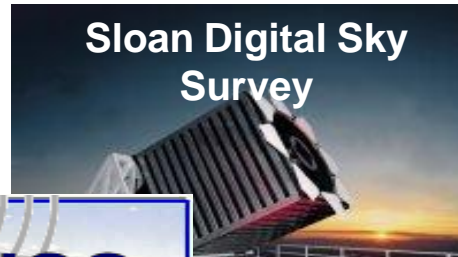
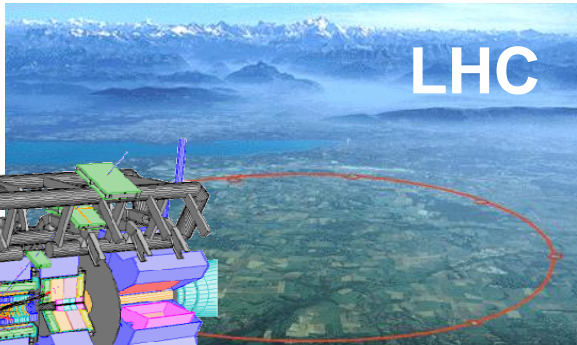
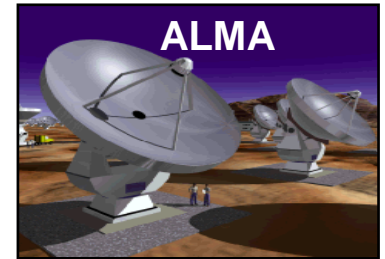
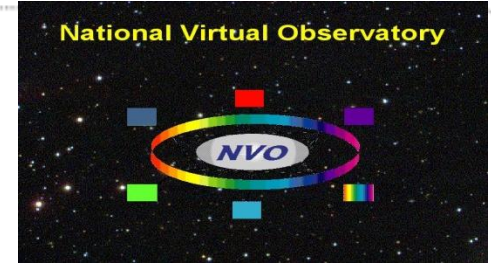
Combining ASREN with its early Mediterranean focus and Al Khawarizmi, initially more centered on the Arab Peninsula, will, God willing, accelerate the creation of an Arab World Global Research and Education Network.



e- Research and e-collaboration examples



NEPTUNE Canada



Thank you for your attention