



R&E Networking in the Arab World

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What are Research & Education Networks?

- Research and education networks are **dedicated** networks connecting the Universities, Schools, Research Centers, Hospitals, Museums and any other institution that may have research and education activities.
- National Research and Education Networks (**NRENs**) are established to provide connectivity and communications services for the research and education communities at the national level
- Regional Research and Education Networks (**RRENs**) are connecting the NRENs to provide connectivity and services to researchers and educators across the borders.

Main Drivers for Research Networks

- **Technological:** Satisfy high demand *eScience* initiatives, **Multimedia Collaboration**, Distributed High Performance Computing (**HPC, GRIDs**) for **Earth Sciences, High Energy Physics** (CERN, LHC...), **Bioinformatics, Computational Chemistry, Radio-astronomy, Engineering Planning** (computations, emulations & simulations), **Cultural** (archiving, collaborative digital access & processing) ...
- **Organisation:** Common culture of R&E community, Virtual Organizations VOs, collaborative research, tele-education, Smoothing the Digital Divides, affordable high bandwidth linkage to the Global R&E community
- **Economic:** Demand aggregators: University & school staff, students, researchers. Consolidation & control of diverse public expenditures. Promotion of Information Society (e-Government, e-Business, e-Health). Stimulation of technological & telecom markets → Competitiveness

Major Objectives for R & E Networks

- Provide scientific research and education institutions with reliable means of communication in order to facilitate ease of cooperation and coordination
- Strengthen the notion of partnership and encourage joint scientific research among communities.
- Minimize cost of research by using diversified academic and technical resources to be made available for use on the network with no need for duplicating investment.
- The fact that students, teaching staff, and researchers use such dedicated networks would eventually uplift efficiency and productivity and would boost the concept of creativity and innovation.

Internet

(GEANT2)

STM4+STM1

MESRS, DGRSDT, UMBB, UNIV. ALGER (Ben-Aknoun1, Ben-Aknoun2, Bouzar
Beni-Messous, Dely-Brahim, Maherzi, Kharrouba, Dergana), ENTP,
USTHB, ENP, ESI, ENV, ENTP, ENSH, INA, EPAU, ISMAL, INPS, INC, ESC, ENS (K
ENS (BOUZAREAH), CERIST, CDTA, CDER, CSC, CRSTDLA, CREAD, CRAPC, UD
ANDRU, ANVREDET, UFC, INRAA, CGS, ENA, CRAAG, INFS/STS, CRNB, INRE

INRAA, CGS, ENA, CRAAG,
INES/STS, CRNB, INRE

U. Constantine, U. Emir AEK, ENS, CRBiotech.

U. ES-SENIA,USTO,ENST,CRASC
ANDRS.

Mostaganem

Sidi Bel Abbes

Bordj Bou Arreridj

(U. Biskra, CRSTRA)

(U. Ghardaia, URAER)

Adran

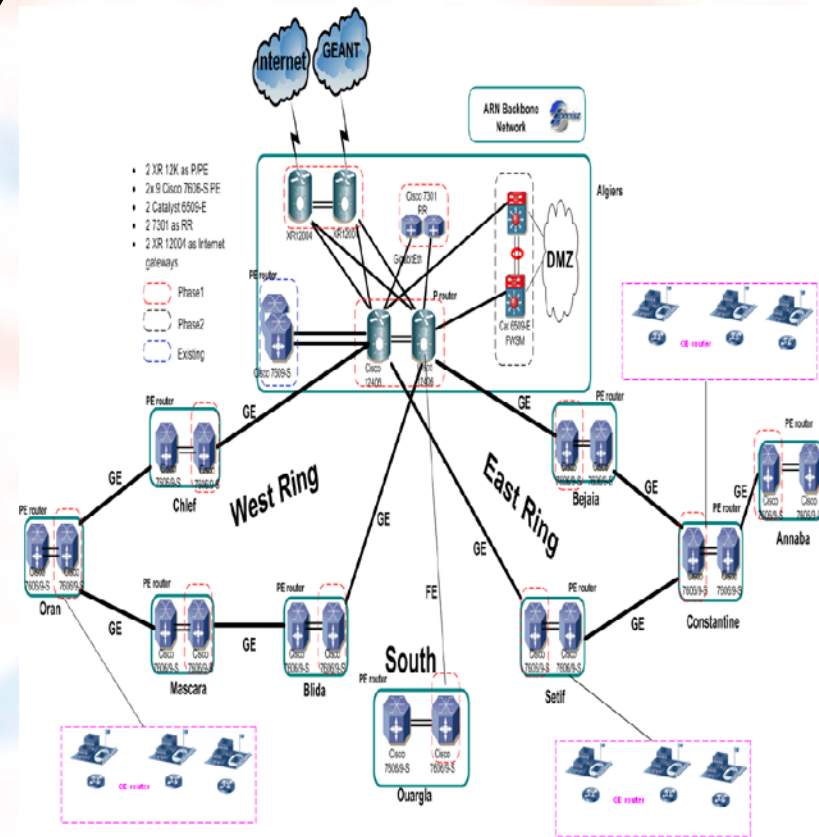
Lien GE
STM4
STM1
FE 100M
FE 10M

Tamanrasset

ARN

Architecture & services

- IPv4 & IPv6 (in progress)
- IP mpls network
- E-library services
- GRID services
- Visioconferencing
- CERT-ARN : security informations, alerts, advices and handling



Regional Efforts, historical background

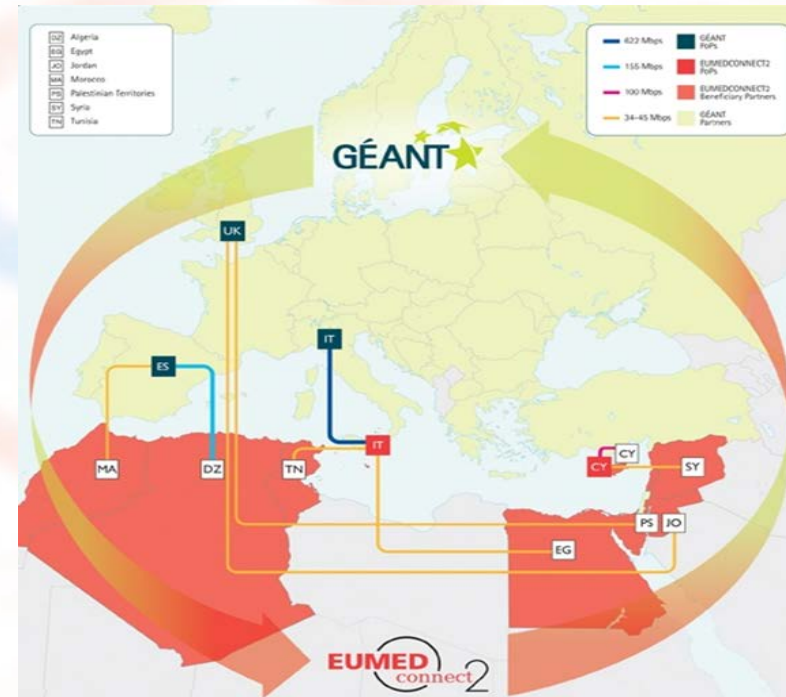
- **Eumedconnect Network, 2004**
- **PAN Arab Network, 2005**
 - Initiated by MoICT of Jordan to study the feasibility of using the power distribution grid network to build a PAN Arab network. The study was sent to the League of Arab States.....
- **Rome Declaration 2006**
 - The Arab MED NREN managers signed a declaration in Rome to work on establishing a consortium to take the responsibility of creating an Arab Med Network...
- **CAMREN 2007**
 - Was proposed as an action for the Rome Declaration....
- **ASREN 2010**
 - A legal entity build for integrating Arab states NRENs....

EUMEDCONNECT Programme

EUMEDCONNECT Research and Education network project 2004 -2014 (3 phases),
14M Euro of EC funding

The only regional Research and Educational Network in the Arab Region

National Research and Education Networks in Algeria (ARN), Egypt (EUN), Tunisia (CCK), Jordan (JUNET), Morocco (MARWAN), Palestine (PALNET) and Syria (HIAST) were connected to its European counterpart GÉANT



More 2 million users in around 700 institutions

An Internetwork for the Arab World

EUMEDCONNECT3 helps Arab researchers tackle problems the region is particularly vulnerable to, such as

Desertification



Thalassemia



*Water management
and sustainable
farming*



*Access to
education in
remote areas*

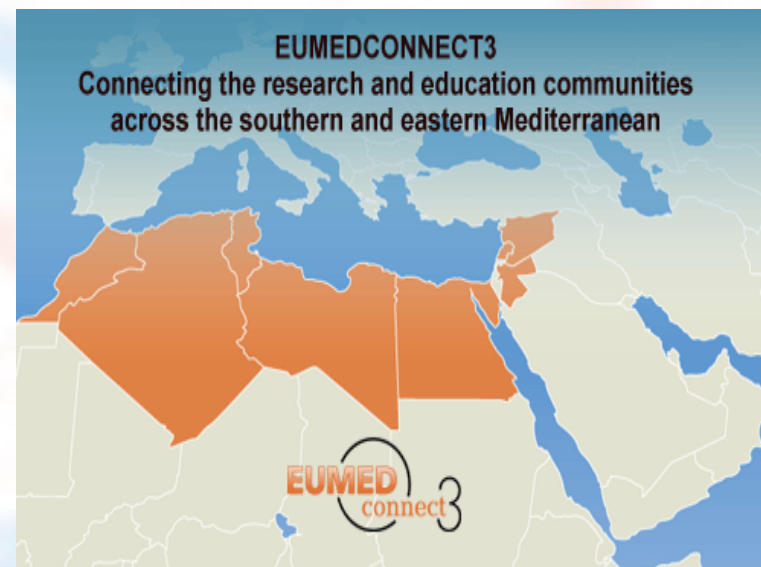


*Preservation
of cultural
heritage*

**EUMEDCONNECT3's network connectivity can
bring tangible benefits to Arab society**

The EUMEDCONNECT3

- **A new phase EUMEDCONNECT3 runs 2011 - 2014**
- **Co-ordinating Partners: DANTE and ASREN**
- So far Algeria & Palestine are connected using EUMEDCONNECT funding
- Scheme is open to: Egypt, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia
- Opportunity to extend the network to other Arab countries
- A first step towards a Pan-Arab network for research and education



Other Supporting Projects



The EUMEDGRID Support Project



Coordination and Harmonization
of Advanced e-INFRASTRUCTURES



Exchange Programme to advance
e-INFRASTRUCTURE Know-How



Linking Scientific Computing
in Europe and the Eastern
Mediterranean

ASREN, the Arab States Research and Education Network

NRENs of Morocco, Algeria, Tunisia, Egypt, Jordan, Palestine, UAE, Syria and Qatar and after several EUMED meetings in Cairo, Algiers and Rome, and monthly video/audio conference meetings, decided to establish the Arab States Research and Education Network (ASREN).



“The ASREN initiative will connect our researchers and scholars allowing them to share knowledge and to collaborate. It is a unifying network for the Arab region, and I commend it.”

H.E. Amro Moussa, Secretary General of the Arab League , 2010



“Investing in e-Infrastructures will advance inter-Arab research and education and promote cooperation with Europe and the World”

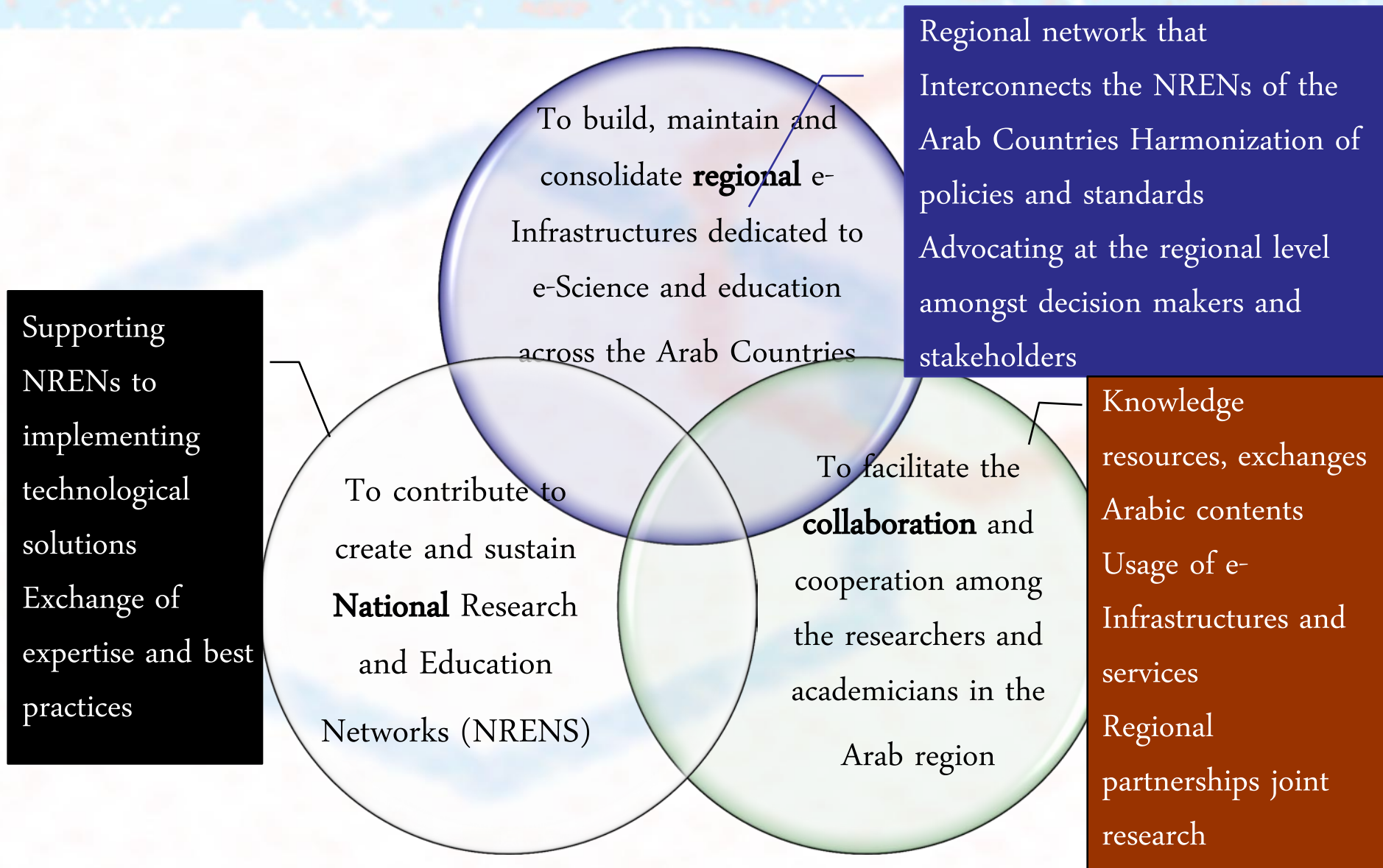
H.E. Talal Abu-Ghazaleh, Chairman of ASREN

One Year of History (2010)

- ASREN was proposed in Cairo, January 2010, by Arab NRENs during the EUMEDCONNECT2/EUMEDGRID Support Meetings.
- Announced in Brussels March 2010 During the 3rd EUMEDEVENT.
- Planning meetings were conducted during the EUMEDCONNECT2/EUMEDGRID Support meetings in Algiers (July 2010) and Roma (November 2010)
- Launched in the League of Arab States in Cairo under the Patronage of HE Amre Moussa, December 2010. and Chaired by HE Talal Abu Ghazaleh with high level participation



Objectives



A year of achievements (2011)

- ASREN was present in many activities and events around the world addressing the research and education communities, specially the Arab World.
- ASREN was officially registered in Germany as a non profit GmbH with 3 shareholders (JUNet of Jordan, CNRST of Morocco and Talal Abu Ghazaleh Consulting GmbH)
- ASREN became official partner in the EUMEDCONNECT3 project which aims to provide connectivity between the Arab-Med countries and GEANT
- ASREN is partner with CHAIN project which aims to coordinate and harmonize the e-Infrastructures around.
- ASREN conducted several workshops in Lebanon & UAE

The e-AGE 2011



<http://eage2011.asrenorg.net>



- The **1st International Platform on Integrating Arab e-infrastructure in a Global Environment, e-AGE2011**, conducted in Amman December 2011 under the Royal Patronage.
- The conference was attended by high level representatives including Ministers and decision makers, academics, network professionals, researchers, scientists from 32 countries.
- The event included:
 - EUMED Event 4
 - Internet2 SIG Middle East Meeting
 - ASREN 1st Annual Meeting
- 11 Arab NRENs were present and 8 NRENs signed letters of accord to start joining ASREN

Another year of Challenges (2012)

- Increasing the number of partners
 - At least NRENs of Sudan, Somali, Tunisia and Palestine will be partners in 2012
- ASREN to provide assistance to the development of NRENs in the Arab World.
 - Lebanon, Jordan, Bahrain and Kuwait
- Together with DANTE to connect more Arab NRENs to GEANT
 - Palestine and Algeria are the only connected
- To cooperate with world wide organizations and regional communities
 - EC, World Bank, ISESCO, ISOC, MENOG, ITU, QF, SKF
- eAGE2012
 - December 2012, UAE

Upcoming Events

The 2nd International Platform on Integrating Arab
e-infrastructure in a Global Environment

e-AGE 2012

*Let's Collaborate to improve research by developing the
e-ifrastructures.*

UAE

12-13 December 2012

<http://eage2012.asrenorg.net>

More workshops to be conducted in:

Lebanon: July 2012 (tbc)

Kuwait: October 2012

Amman: September 2012

Abu Dhabi: September 2012

Tunisia: November 2012

Conclusions and Recommendations

- It is very necessary to develop a sustainable National Research and Education Networks (NRENs) in each country
- These networks must be connected to each other via the Pan Arab Regional Research and Education Networks (RRENs)
- The Arab ICT and Higher Education policies at both National level and at the Arab Countries level should include and support the research and education networking in the context of NRENs and RRENs
- ASREN is playing a major and prominent role in developing the research and education in the Arab Countries and hence, needs to be supported by the Arab League and by Arab Countries
- It is essential for the development of ASREN that the Arab NRENs to join ASREN to participate all together in the development
- It is very important for Arab NRENs to make use of the opportunity of EC funding for the connectivity under the EUMEDCONNECT Project



Thank You

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