



**Dr. Talal Abu-Ghazaleh**

*Chairman of the Arab States Research and Education Network (ASREN)*

**“Saluting the European Commission”**

**Co-ordination & Harmonization of Advanced e-Infrastructures for  
Research and Education Data Sharing**

**CHAIN-REDS Conference**

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Your Excellencies  
Ladies and Gentlemen

- Special tribute and appreciation to the European Commission for their continuing support for the development of research and education in our region
- Special tribute and appreciation to the organizers of CHAIN-REDS for their kind invitation. This is a great opportunity to consolidate efforts towards globalized e-Infrastructures. Thanks to the continuing support of the EC programs, without their funding, our efforts will still be incomplete.
- It is my pleasure to speak today on this unique occasion with international experts, innovators, and researchers promoting the cooperation between regional e-Infrastructures as means to advance research, improve education, accelerate progress, provide hope, and enable better opportunities for our young learners, educators, and researchers. In the globalized world of today, the role of ICT has prevailed and digital connectivity has become a key growth element of education, knowledge, and innovation in the new millennium.

## **Background and Development**

- Our youth counts for more than half of the population, estimated at 200 million. This large young population places limits and creates new challenges. Unless effective policies are matched with accelerated reforms combined with up-scaling education and innovation, our countries are unlikely to capture the vital energy of the youth and meet their ambitions for more opportunities and inspiration.
- The use of ICTs and in particular, e-infrastructures and access to knowledge are innovative resources for universities that have become recognized as important tools for advancing research and improving education. Research collaboration, distance education, and e-Learning are increasingly dependent on connectivity, access to knowledge, and network participation. The incorporation of e-Infrastructure is not just to offer access, but rather also to promote research and provide effective inclusion of tools for the harmonization and interoperation of platforms integrating research, teaching and learning processes and resources.

- E-infrastructure in our region builds on the EUMEDCONNECT project initiative, which has been co-funded by the European Commission since 2004, to support the development of research and education (R&E) network in the Mediterranean area and promoting scientific collaboration. At the regional level, several efforts were made to realize this initiative as a regional network for R&E.
- In 2010, here in Brussels, I made the formal announcement of the Arab States Research and Education Network (ASREN) at the EU-MED event and its launch took place at the League of Arab States in the same year.
- In 2011, ASREN was officially registered as ASREN GmbH in Germany, a non-profit Arab States Research and Education Network with the initial shareholders of Abu-Ghazaleh Consulting GmbH, Jordan University Network, and Moroccan CNRST, and today its shareholders expanded to Egypt, Sudan, Tunisia, Somalia, and Iraq R&E networks.
- Since 2011, ASREN has been actively involved in a number of EC funded projects, mainly in the context of Coordination and Harmonization of Advanced e-Infrastructures (CHAIN and CHAIN-REDS). These projects have laid down the foundation for the interoperation of platforms for seamless access of resources, facilities, and repositories.
- With the financial support of Talal Abu-Ghazaleh Organization and patronage of the League of Arab States, ASREN has become the Pan-Arab network infrastructure with nodes emerging in London and Emirates. Our goal is to continue to expand and connect all Arab research and education (R&E) institutions in a unified network that provides scientists, academics, students, and researchers with state-of-the-art connectivity and networking services.
- The Point of Presence – POP node in London has been established in cooperation with ISOC and Cisco. We have contracted a setup of 155 megabit per second dedicated link, providing EU termination and peering at its PoP to Arab NREN links, facilitating access to world-class scientific resources, and supporting the development of advanced networks and services across the Arab region.
- Through the unified e-Infrastructure, ASREN has been providing its users with services, applications, and means for joint research collaboration. It allows for a wider access to educational content and efficient computing facilities. It leverages economies of scale in using available research, academic and technical resources.

## **New EC projects**

- New project approved by EC with ASREN a partner: “Middleware for collaborative Applications and Global virtual Communities” – MAGIC
  - 20 partners from the global research and education community
  - It aims at consolidating and completing the building blocks of middleware necessary for the establishment of a marketplace of services and real-time applications for international and inter-continental research groups, which facilitates mobility and the work of global science communities.
- Extension of EUMEDCONNECT3 to support network development across the Mediterranean countries
- In progress, ASREN to become a partner in the Africa Connect 2 project covering 3 clusters. Cluster 1 will be managed by UbuntuNet Alliance for East and South Africa; Clusters 2 (West Africa) and 3 (North Africa) planned to be managed by GEANT in close partnership with WACREN and ASREN respectively.

## **Success and challenges of open science in your region**

- Challenges arise from the lack of resources (both technical and financial), especially in the Mediterranean region, to modernize ICT infrastructure, provide up-to-date content, and increase access to repositories and computational facilities.
- Political instability, scattered geographical landscape, and lack of expertise will continue to be the main challenges.
- A population tidal wave of young people demanding real opportunities could trigger unrealistic expectations and demands, hopelessness and even greater unrest, which may need to be countered by greater investment and empowerment.
- Still, the regional infrastructure is disconnected and is not positioned to provide high quality research and education that is aligned with local and regional needs and that allows research and education institutions to flourish as engines of knowledge transfer and creation.

- Our success is linked to EC funding, which has tremendously contributed to installing facilities, scaling access, and building capacity over the past decade leading to sharing and openness of sciences and repositories.
- Without EC continued support, the situation could get far worse with resource limitations and overcrowd of educational institutions with increasing population growth.
- EC projects will continue to offer the opportunities and mechanisms for building state-of-the-art ICT infrastructure, drive open sciences, and empower institutions with the expertise required by the 21st century Internet economy.
- EC projects will also continue to enhance the global interoperable platforms building on the success of Eduroam, Science Gateway, Federation of Identity infrastructures, which have largely contributed to openness of science and sharing of resources.
- We trust our young scientists with continued endeavor and enthusiasm to overcome these challenges and limitations and embark towards building innovative platforms that address issues of relevance to the local and regional context.

### **Global scale and ASREN role**

- Cascading changes in the global economy (such as the emerging "Internet of Things") are relevant to EC Horizon 2020 and other EC funding instruments, monitoring external environments and adapting to support new approaches in the economy to empower open science and innovation through scalable and cost effective initiatives.
- The extension of EUMEDCONNET to the Mediterranean, supporting phase 2 of Africa Connect to Africa, and funding MAGIC to regional research and education networks will allow sharing of experiences with leading-edge learning institutions, competence-building networks, and innovation ventures at the global scale.
- Through these projects, ASREN will develop unexcelled insights that could address the challenges of open sciences towards transformative change; enable supporting e-Infrastructures and in-the-cloud services and networks; promote research, development and innovation; and encourage frugal innovation that meets the grassroots opportunities in the Arab regional economy.

- We plan to setup a research and education “Arab Connect” Cable Ring starting at AlBasra in Iraq passing through the Arab Gulf, to the Arab Sea in the Indian Ocean, to the Red Sea, to the Mediterranean Sea to Europe through ASREN PoP in London, with landing points in every Arab country, and peering with GEANT, Internet2, and other regional RENs at the global scale.
- As ASREN continues to build unique experience in developing and providing services to the research and education communities, it will remain the sole regional provider and integrator of e-Infrastructures and will extend and support partnership and collaboration networks with its peer global and regional infrastructures.

### **What do we expect from EU and why?**

- In our experience as partners of EC funded projects, the highest and longest-lasting impact is obtained by using a co-creation approach that gives a strong sense of commitment to ownership and transformation to sharing and openness in science and technology through developing e-Infrastructures.
- EU support and engagement will continue to bring in some trans-system tactics that foster collaboration networks at the global scale. These collaborations will create a base for transformative change that support peer-to-peer learning and collaboration research and education networks; facilitate new approaches to innovation; expand the reach of learning; enhance seamless access to computing resources; and push the boundaries of existing practices in collaborations.
- We plan to launch a report on EC funding supporting the Pan-Arab e-Infrastructure networks, with a study on linking these networks to:
  - Knowledge Creation for Development (KCD)
  - Digital Research for Arab Development (DRAD)
  - Research for Arab Development (RAD)
  - ICT and commercial research needed for knowledge creation

## **Role of Talal Abu-Ghazaleh Organization**

- In the same context, Talal Abu-Ghazaleh Organization (TAG-Org) has been leading several initiatives to bring together a mix of stakeholders in the pursuit of development projects that cultivate cross-border partnerships and educate next-generation leaders with new values and ideas. Talal Abu-Ghazaleh University (TAGIUNI), Talal Abu-Ghazaleh Knowledge Center, Talal Abu-Ghazaleh Creation and its leading role in establishing the Arab States Research and Education Network and the Arab Organization for Quality Assurance, as well as the Association of e-Universities.
- TAG-Org builds on its successes in the region since 1972 as a pan-Arab professional service group of firms specializing in the fields of accounting, management consulting, Intellectual Property, information technology, training, education, legal services, recruitment, translation, and valuation.
- TAGIUNI has been established as an academic alliance in 2011 to embrace the revolution of online education, with the strong belief that world-class education is a human right and should be available to anyone around the globe. TAGIUNI achieved this by partnering, rather than competing, with internationally acclaimed universities to bring their knowledge over the cyberspace to those who cannot afford it otherwise. It has formed several partnership agreements with world leading universities.
- How to make elite education (not just education) a human right? How to make it accessible to every human on the globe? How to provide it at affordable costs? How to overcome visa and dislocation handicaps? How to harness ICT capabilities for the delivery of education? How to move from teaching to learning in a knowledge environment? How to make the world-class universities worldwide virtual campuses? How to help with budgeting problems of universities? How to democratize world class education? How to educate for global employability? How to educate for global citizenship? How to face the knowledge “Tsunami” hitting universities and school (Stanford)? How to survive the predicted “death of universities” as we know them today (Freidman)?

For answers, please visit [TAGIUNI.com](http://TAGIUNI.com)

- We will continue to assist in enabling continuous dialogue and coordinated action among partners to empower e-Infrastructure use in research, education and academic activities, in order to advance research, improve teaching and learning,

promote excellence, and enhance accessibility and quality of research, education and learning.

- In December 2015, ASREN is organizing its fifth International Platform on Integrating Arab e-Infrastructures in a Global Environment in Morocco.
- This platform is continuing to be the main launching pad for R&E connectivity and cooperation. It brings together stakeholders and leaders of ASREN, EUMEDCONNECT, GEANT, INTERNET 2, and regional networks as well as the region's foremost innovators, scientists, and businesses.
- Participants will continue to discuss and debate new models of innovation, integration of R&E networks, policies for sustainable development in education, means of knowledge sharing and dissemination, capacity building programs, and region-wide e- infrastructure deployment to tackle today's crises in climate change, global economy, food and water scarcity, alternative energy, and threatening environmental issues.
- The platform has been laying the foundation for a dream of many of today's leaders towards a global e-infrastructure for R&E based on real life broad inclusiveness beyond any political protocols.

### **In closing,**

- I thank the organizers of this conference, an opportunity for all towards building globalized e-infrastructures, a prosperous future for our scientists.
- I thank you for giving me the opportunity to talk to you on the potential of “e-Infrastructure” as new means for advancing research and improving education and be able to build high-speed networks for our young scientists.
- It is our commitment at TAG-Org to work closely with our regional partners in Europe and elsewhere towards a Pan-Arab ICT-Enhanced infrastructure for all.
- The future generations throughout the Arab world will recognize with gratitude the contributions of the European Commissions to education, research, innovation, and creativity.

Thank you