

Joint high-speed networks and connect to global resources for research and education

Why Research and Education Networks?

Research and Education networks are dedicated and high-speed communications networks that connect research and education institutions across the world. The purpose of these networks is to support researchers with computing resources, services, tools, and applications and link them with their peers at the national, regional and global level.

National Research and Education Networks (NRENs) connect institutions at the national level, allowing them to peer, exchange data, access resources and connect with regional and national institutions via specialized and dedicated networks.

Regional Research and Education Networks (RRENs) connect NRENs at the regional level and peer with similar regional networks at the global level. This will help to extend collaboration and cooperation across the region and the world, allowing better sharing of resources.

The Arab States Research and Education Network (ASREN)

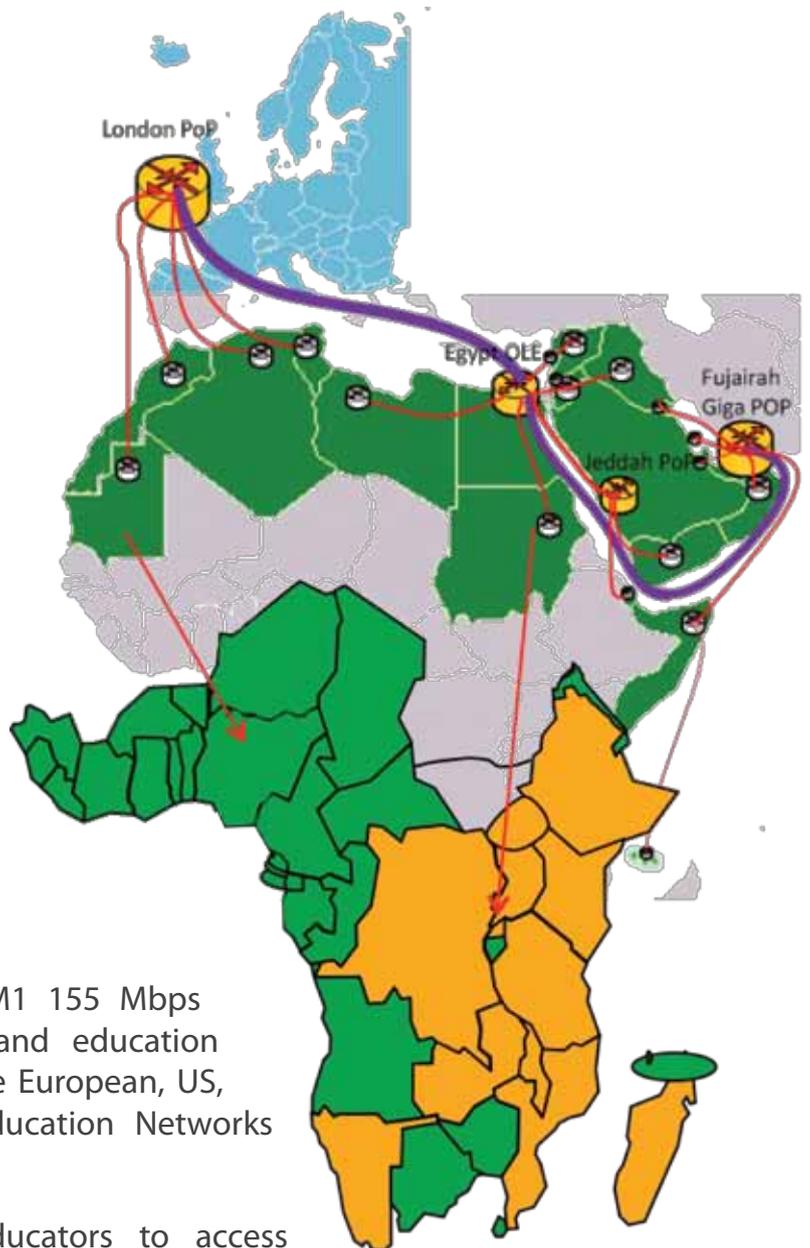
Represents the association of Arab NRENs that aim to implement, manage and extend sustainable pan-Arab e-Infrastructures dedicated for research and education. The goal is to connect Arab institutions between themselves and to the globe through high-speed data-communications networks. Such networks will enable sharing of and access to a variety of research services and applications in addition to utilization of highly sophisticated and technologically advanced computing resources available only at very few institutions in the world.

The ASREN network sets out to connect NRENs across the Arab region through a high quality network with several points of presence (PoP) in a number of Arab cities. Selection of PoPs depends on the availability and routing of regional optical fibers. In the initial phase, two Arabia Global Exchange (AGE) Points have been established:

- 1- AGE-OP in London
- 2- AGE-OX in Fujaira

ASREN is a partner in the EUMEDCONNECT program, which has connected the Arab Mediterranean countries Algeria, Egypt, Jordan, Morocco, Palestine, Syria and Tunisia since

2004. Following the events of the Arab Spring, the focus in the current phase is to re-establish connections in the framework of EUMEDCONNECT3 and AFRICACONNECT2 programmes with EC Co-funding. The opportunity is open to other Arab Countries to join at their own cost. With its direct links to GÉANT, the pan-European research and education network, the ASREN network provides access to over 50 million users at more than 10,000 research and education establishments across Europe. Via GÉANT's connections to networks in other world regions, ASREN is a gateway for Mediterranean researchers to be truly global players.



What is AGE-OP?

AGE-OP is a dedicated link with STM1 155 Mbps capacity to connect Arab research and education institutions and research centers to the European, US, and World regional Research and Education Networks (RENs) via the ASREN PoP in London.

The link allows researchers and educators to access tremendous globally available research and education resources, including digital repositories, computing infrastructure, applications and services. Research communities have seamless and federated access away from the highly congested Internet.

Why connect to AGE-OP?

The network is expected to provide a variety of services and activities to research and education communities in the Arab world, including:

- Peering through physical fiber cross connects, circuit switching, or packet based VPN services, with equal and open access to all R/NRENs, carriers and content providers in London PoP.
- Providing unified connectivity to all research and education communities with standard communication facilities and capabilities, leading to better sharing of resources, information, data, knowledge and expertise.
- Consolidating services for research and education reaching out to regional RENs as well as to big data providers.

- Aggregating and facilitating access to content, common repositories, and library resources with federated access to scientific resources, applications, and services.
Providing common caching, filtering, and protection services to all connected institutions.

Benefits

Through ASREN, NRENs will get direct access at the appropriate capacity to the pan- European Academic and Research Network GÉANT via its PoP in London, and so to the research and education networks in the US, Canada, Latin America, Asia, and Africa. The ASREN network will provide institutions with high-speed, high-quality connectivity to access the following:

- Internet. Institutions can have direct access to the worldwide Internet sites and resources around the world, keeping in mind that this PoP is connected to the largest and fastest exchanges in Europe.
- Regional research and education networks in the world including GÉANT, Internet2, RedCLARA, CANARIE, TEIN, AfricaConnect, and others.
- Euro-Med Grid Infrastructure network, providing high-performance scientific computing infrastructure that can be used through ASREN.
- CHAIN Science Gateway services, providing several services, tools, applications and data integrated via a portal dedicated scientific communities and research groups
- High-performance computing services at the Cyprus Institute under the project: Linking Scientific Computing in Europe and the Eastern Mediterranean (LinkSCEEM2) which can provide these services to the scientists in Jordan and the region.
- Federation of Identities to allow economies of scale and single sign-on services to digital repositories and highly sophisticated services and applications.

