

# Optical networks development in Eastern Europe and Southern Caucasus regions



## The digital divide

Expansion of academic optical networks is one of the key aspects of building a research and education infrastructure in the European countries, and one of the essential elements of the integrated growth of the European Research Area. Currently the disparity in the development of advanced research networks is especially visible in Eastern Europe and Southern Caucasus. It is essential to eliminate the differences in the technological level of National Research and Education Networks (NRENs). Access to the European research network GÉANT2 is essential in overcoming the "digital divide" in research cooperation between the more and less developed European countries.

## Porta Optica Study

The Porta Optica Study is a fifteen-month project started in February 2006 aiming to prepare the development of high-speed, fibre-based research and education networks in Eastern Europe, the Baltic States and Southern Caucasus region. The project involves organizations from fourteen countries: Armenia (ARENA,

ASNET-AM), Austria (CEENET), Azerbaijan (AzNET, AzRENA), Belarus (NCIRT), Czech Republic (CESNET), Estonia (EENet), Georgia (GRENA), Greece (GRNET), Latvia (IMCS-UL), Lithuania (LITNET), Moldova (RENAM), Poland (PSNC, Project Coordinator), Slovakia (SANET) and Ukraine (URAN). During the project duration, possibilities of development of research and education networks and the related economic considerations have been investigated. Proposals based on the Porta Optica Study results proposals are now being prepared for the Black Sea region and for other project target countries. A properly developed research network infrastructure will enable creating services for various scientific projects. The national and international network infrastructure expansion will have a significant impact on user engagement in the new research activities. A high-speed communication network will provide advanced services and significantly contribute to the building of the Information Society in Eastern and Southeastern regions of Europe. The possibility of introducing e-culture or e-government projects by means of modern

communication technologies significantly contributes to the growth of economy and leads to overall improvement of the country prosperity.

## The next steps

The analysis of the current situation of research networks in target countries clearly shows that in order to ensure successful deployment of high-speed infrastructure, NRENs should be implemented using dark fibres (wherever possible). Moreover, national regulations should allow NRENs to purchase and use dark fibres freely. Continuous government financial support is necessary for the growth of NRENs, thus contributing to the development of advanced services for science and education. This is especially important for Armenia, Azerbaijan, Georgia, Latvia and Ukraine. Simultaneously, additional financing from other sources will allow faster development of the network, thus enabling equal participation in world-wide research. Finally, market competition in the telecommunications sector should be considered as one of the key aspects of successful NREN development. It seriously affects pricing and allows easy acquiring of necessary infrastructure.

[www.porta-optica.org](http://www.porta-optica.org)

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