

TRACECA – TELECOMMUNICATION NETWORK FOR THE CAUCASIAN RAILWAYS

Final Recipient :

The Railways of Georgia, Azerbaijan and Armenia.

Justification and Objectives :

The use of optical cable in railway networks has become widespread in Western Europe, on the main lines in particular. The high performance of this new technology makes it indispensable for modern operation of railways, both from the logistic and safety points of view.

In the Caucasus, railway traffic has grown exponentially over the last few years. While container traffic by rail between the Black Sea and the Caspian Sea is increasing fast and while large volumes of refined petroleum products are exported by rail from the Caspian Sea area, safety and commercially attractive transit times cannot be guaranteed with the present inadequate communication and signalling systems of the Caucasian Railways.

Therefore, the Presidents of Georgia, the Azerbaijan Republic and the Republic of Armenia requested EU funding of an optical cable for communication between 133 stations and signalling of railway tracks within the framework of the DG1-TACIS programme 'TRACECA'.

The project is a west-east link between the Georgian seaport of Poti (Black Sea) and the Azeri seaport of Baku (Caspian Sea), branching off to the south in Tbilisi (Georgia) towards Yerevan (Republic of Armenia). The line would thus be a natural extension of the EUR 15 million computer connection between the Black Sea ports of Illychevsk (Ukraine) and Poti (Georgia). Moreover, a state of the art connection of the Republic of Armenia to both the Black Sea (Poti) and the Caspian Sea (Baku) would be realised, fostering regional co-operation.

The project budget is estimated at EUR 15 million for supply, installation and testing of the equipment, for training of Railways' staff and for technical supervision of the works. This excludes the works, which the Beneficiaries' Railways agree to finance.

The project would be supported by bilateral agreements between Georgia and the Azerbaijan Republic and between Georgia and the Republic of Armenia, in the broader context of a future Multi-Lateral Agreement on International Transport between the TRACECA countries.

At first, the optical cable would be exclusively used for railway operations. Later, as the line becomes fully operational, no less than 80% of its capacity could be used for general telecommunication purposes (civil telephone lines, television distribution, data exchange...), thus gradually breaking the present monopolies in the Caucasus' telecommunications sector.

Similar initiatives, though on a purely commercial basis, are taken in the region : 'Dokap', a computer connection based on microwave technology, the 'Black Sea Fibre Optic System' (BSFOCS) and the connection Frankfurt-Shanghai across the Caucasus and Central Asia. Satellite platforms are a suitable alternative to optical cable for international communications.

The EBRD would consider the project as co-financing by the European Commission, in the context of its technical assistance to the development of the transport and telecommunications sectors. Thus, the launch of two EBRD loans of USD 20 and 30 million to the Georgian and Azeri Railways respectively, for rehabilitation of their railway infrastructure, would be facilitated.

In order to prepare those loans, a EUR 1 million restructuring project for the Azeri and Georgian Railways was realised within the TRACECA programme.

The project was evaluated at both DG IA (TACIS) and DG XIII (Telecommunications). Both Directorates favour the project, as two initial obstacles have been overcome. First, it has become clear which authorities will manage the project, as the national Railways consent to collaborate with the Ministries of Post and Telecommunications. Second, the Beneficiary Governments committed themselves to initiating no parallel optical cable projects.

The European Commission requests that the optical cable also be used, in a second phase, for general commercial telecommunications purposes, thus breaking monopolies in the Caucasus.

Main Components :

The project consists of :

- the installation of an optical fibre communication cable with a total capacity of 24 fibres (maximum 12 fibres for Railways, and 12 fibres for possible future Telecom Operators) - the cable will be mainly buried;
- the installation of a digital transmission backbone using the SDH technology (at 155 Mbps – STMI) for connecting the principal stations, while the stations in between these nodes would be linked by a secondary optical distribution network using the PDH technique of the type ‘drop and insert’ PCM (at 2 Mbps with ADM8 and/or ADM2 transport medium according to the traffic capacity);
- the partial securisation of the transmission equipment (loop inside the same optical cable);
- the replacement of the administrative telephone switches with modern digital equipment;
- the replacement of the telephone handsets/fax machines that bring in revenue to the Railways and that require urgent renovation (with a maximum of 70% of the total in use actually) by modern equipment;
- the replacement of the secondary power supplies for the telecommunication equipment.

Project Budget :

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| Equipment : | EUR 14 800 000 (<i>supply contract – turnkey</i>) |
| Technical Supervision : | EUR 200 000 (<i>separate service contract</i>) |
| TOTAL | EUR 15 000 000 |

Note : the project budget is estimated at EUR 15 million for the supply, installation and testing of the equipment, for the training of staff and for the supervision of works; this excludes the works, which the Beneficiaries’ Railways agreed to finance.

Implementation Timetable : 24 months