

Working with the European Bank for Reconstruction and Development

Information & Communication Technologies (ICT) Sector



September 2016

The European Bank for Reconstruction and Development (EBRD) at a glance



International Financial Institution	 Established in 1991 and owned by 65 countries and two inter-governmental institutions (EC and EIB) Operates in 36 countries from central Europe to central Asia and, since 2011, selected markets of the Southern and Eastern Mediterranean region (Morocco, Tunisia, Egypt and Jordan) with strong local presence
Solid financial position	 AAA / Aaa rating Capital base of EUR 30 billion Capacity to invest up to EUR 300 million in a single transaction The ability to bear risks allows to offer innovative solutions for complex investments
Development mandate	 Promotes projects that expand markets, and help build institutions that underpin the market economy Mobilises significant foreign direct investments Provides financing at reasonable terms reflecting project risk levels Ability to foster a policy dialogue
Largest investor in the region	 Since establishment invested nearly EUR 100 billion in more than 4,000 projects In 2015 alone, EBRD invested EUR 9.4 billion in 381 projects Private sector > 70% of EBRD finance



"Typical" investment profile

Typical Size	Minimum ticket is equivalent to EUR 1 million with a maximum size in excess of EUR 200 million
Term/ Holding period	 Debt instruments: typically from 4 to 10 years Equity Investments: typically from 4 to 7 years
Instruments	 Debt: public and private instruments, fixed and floating, syndicated loans, bonds Equity: Private Equity, IPO, Venture Capital Quasi Equity: convertible loans, subordinated loans, loans with warrants
Currency	 Local and major currencies (USD, EUR, CHF etc.)
Investments approach/Limits	 EBRD typically acts as a co-investor along other sponsors EBRD's stake typically does not exceed 35% of the total investments (equity and debt) or 50% in case of syndication with other international banks
Applications	Growth funding, consolidation, working capital, green/brown fields, JVs, privatization etc.

Exact financing terms are defined by existing market conditions

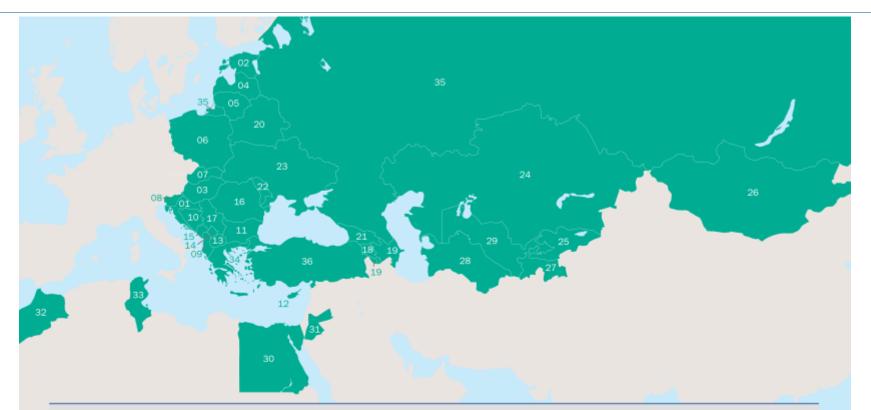
Co-operation with EBRD offers companies numerous advantages



Long-term investor	 EBRD aims to develop long-term relationships - typical investment horizon is up to 10 years with equity holding periods ranging usually 4 - 7 years The Bank relies on a buy-and hold approach, which decreases its dependence on the short term market fluctuations
Trusted business partner	 Engaged minority business partner and debt provider, who shares risks Close working relationships with shareholders and management Strong, internationally recognised financial partner with long-term perspective
Sector knowledge & local expertise	Deep knowledge and sector expertise proven by more than 170 executed projects in the ICT sector
Structured solutions	 Transactions are tailored to the needs of the clients and a variety of financial structures are considered Non-standard structures are welcome and a large range of transaction sizes
Other	 Catalyst to access additional equity or debt Guardian of high standards for corporate governance and compliance (highly valued by minority investors) Strong and long lasting connections with local and Federal Governments that allow the Bank to promote and defend interests of its portfolio companies

Where we operate





WHERE WE INVEST

Central Europe and

- the Baltic states 01 Croatia
- 02 Estonia
- 03 Hungary
- 04 Latvia
- 05 Lithuania
- 06 Poland
- 07 Slovak Republic
- 08 Slovenia

South-eastern Europe

- 09 Albania
- 10 Bosnia and Herzegovina 11 Bulgaria
- 12 Cyprus
- 13 FYR Macedonia
- 14 Kosovo
- 15 Montenegro
- 16 Romania
- 17 Serbia

Eastern Europe and

- the Caucasus 18 Armenia
- 19 Azerbaijan 20 Belarus 21 Georgia
- 22 Moldova 23 Ukraine

Central Asia

- 24 Kazakhstan 25 Kyrgyz Republic 26 Mongolia 27 Tajikistan 28 Turkmenistan 29 Uzbekistan
 - - 31 Jordan 32 Morocco 33 Tunisia

Southern and

- eastern Mediterranean 30 Egypt
- 34 Greece
- 35 Russia
- 36 Turkey

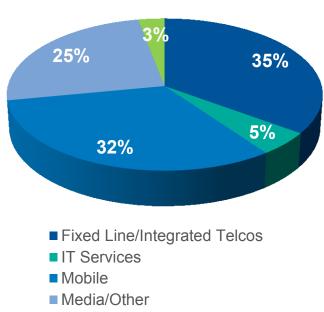
Information and Communication Technologies Team Portfolio



➤ Cumulative financing to date: €4.1 billion

ICT Portfolio volume by

- ➤ Current portfolio: €0.91 billion
- > Over 175 deals ranging from a few million to over 180 million EURO in 36 countries



VCIP

Selected Subsectors

- ➢ Mobile & fixed line
- > Cable TV
- > Towers
- Satellites
- > Fibre
- ➢ Wireless broadband
- Data centers
- > MVNO
- > Pay-Tv
- > Mobile payments

➢ IT services

- Digital Switch Over
- Software developers
- Systems integrators
- Call centers
- Cinema chains
- Outdoor advertising
- ► FTA-TV
- Internet
- > Cleantech
- Semiconductors

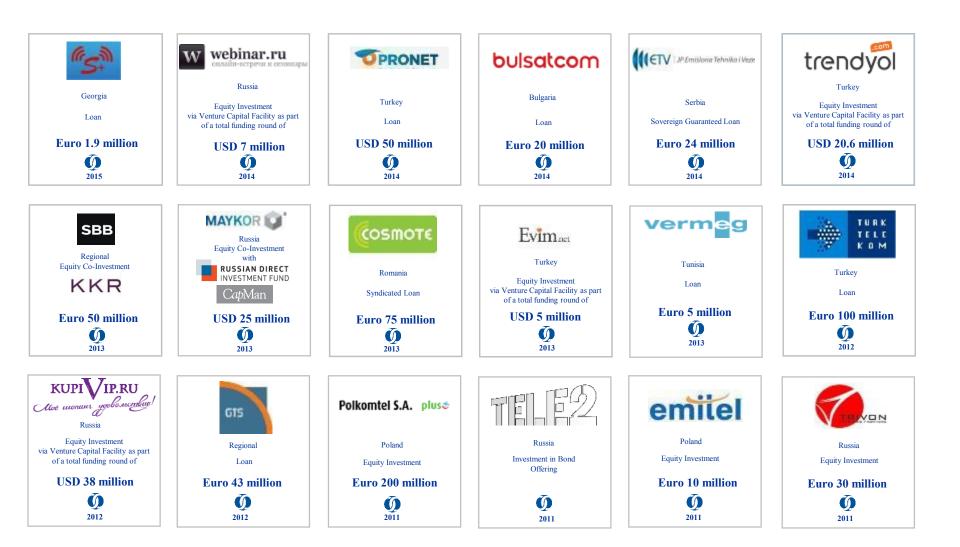
Selected ICT projects (1/2)





Selected ICT projects (2/2)







Designed to help accelerate Broadband roll-out in its countries of operation:

- > Approach based on adapting successful experience from within European Union;
- ➢ Joined up technical assistance and commercial financing;
- Technical assistance for policy/strategy development, implementation planning and execution;
- Financing to support private operators to extend and accelerate investment into commercially viable areas;
- Technical assistance to help optimise regulation to the extent necessary to minimise barriers to private investment (e.g. infrastructure sharing, spectrum refarming, rights-of-way);
- Potential for financing to help government supported efforts to accelerate broadband deployment beyond urban centres.



Potential clients among:

- Existing private operators building out own networks, ideally consistent with national broadband plan;
- New entrants, network or service providers, ideally consistent with (and attracted by) national broadband plan;
- Government sponsored broadband incentive schemes (e.g. second national infrastructure networks), which feature as part of a coherent national broadband plan.
- The manner and extent of such financial support would be determined according to the role envisaged for EBRD by the stakeholders involved
- ➢ As with all financing by EBRD, it would be subject to approval by the Bank's management and Board of Directors as being consistent with EBRD mandate.



Grant-supported technical assistance support to help with:

- Policy development, based around Digital Agenda for Europe 2020 targets (though, perhaps with longer time horizons in some countries);
- Demand study;
- Supply analysis;
- Network modelling and design;
- Implementation planning;
- Network costing;
- Cost and revenue, business and investment modelling
- Overall economic cost and benefit analysis
- Legal, regulatory & investor perception review
- Legal and regulatory adjustment to accommodate (e.g. infrastructure sharing, rights-of-way)
- Implementation programme (e.g. subsidy auctions)

EBRD & Broadband, Türk Telekom (2012/2016)



EBRD has supported Turkey's fixed and mobile broadband expansion by a number of loans to Türk Telekom, the largest fixed line and third largest mobile operator in the country.

- Broadband penetration in Turkey is one of the lowest in the region and investments by telecom operators are an essential driver for the growth of the sector.
- The regulatory fibre holiday introduced in 2011 for an initial period of 5 years (due to expire in 2016) provided a further incentive for investments in high speed fibre network.
- By expanding the core network to remote regions of the country, the project also contributed to the growth of smaller regional ISPs.

Fixed Broadband

- ▶ In 2012, EBRD extended a EUR 100 million long term loan to Türk Telekom to finance the regional fixed broadband network expansion in the remote provinces of Turkey.
- ➢ From 2012 to 2015 fixed broadband subscribers have grown by a CAGR of 6.5% increasing penetration to 12% from 10.5% in 2012.
- ➤ Turk Telekom's fibre network increased to 12.8m homes passed from 3.8m at the end of 2011 reaching almost 60% of households in the country. At the same time, the share of fibre subscribers in the fixed broadband users increased from 5% in 2011 to 18% by June 2016.

EBRD & Broadband, Türk Telekom (2012/2016)



Mobile Broadband

- ➢ In 2016, EBRD extended USD150 million financing for the expansion of broadband infrastructure in Turkey through the roll-out of the 4.5G network and investment in international data connectivity.
- Mobile broadband in Turkey is especially important given the low fixed penetration in the country.
- Mobile broadband has seen a boom with the main growth accounted for 3G enabled mobile broadband access which represents 95% of total mobile internet connections.
- As part of the financing EBRD also supported investment in high capacity, high quality access to international data traffic via a submarine fibre optic cable connecting Turkey to Western Europe and South East Asia.



EBRD has supported regional fixed and mobile broadband expansion by a number of transactions with Hellenic Telecommunications Organisation (OTE), a full-service telecommunications group and one of the largest providers of fixed-line and mobile telecommunications in Greece, Romania and Albania.

Fixed Broadband

- EBRD successfully syndicated a EUR 339 million unsecured A/B loan for OTE to finance the development of broadband infrastructure in rural areas.
- Through a partnership with the Greek Information Society for implementation, the company will enable the development of broadband infrastructure in rural areas which have not previously had access to fixed-broadband services.
- White settlements amount to ca. 2,230 areas, comprising 323,000 inhabitants and 150,000 homes. After the implementation of the investment programme it is forecasted that 95% of the population of these white areas will gain access to broadband services with speeds up to 50 mbps.

Mobile Broadband

EBRD successfully syndicated a EUR 225 million unsecured A/B loan for Telecom Romania Mobile to 7 commercial banks to finance the 4G license.

EBRD & Broadband, United Group (2014)



EBRD finance:

- The Bank has invested EUR 50 million equity in United Group alongside KKR, a leading global investment firm and management. United Group is a regional quad play services provider with operations in Slovenia, Serbia, BiH, Montenegro, Croatia and FYR Macedonia.
- ➢ The transaction represented the largest private equity investment in the Former Yugoslavia region and was thus important for mobilising private sector investment in the region.
- Since KKR became the largest shareholder, United Group has been investing in network expansion and pursuing acquisitions in the countries it operates with the aim of consolidating the market and ultimately improving access and quality of pay-TV and broadband services to customers.
- United Group is the largest alternative Pay TV platform in the region of former Yugoslavia, providing television, internet, fixed and mobile telephony services through its cable, DTH and OTT platforms.
- Operating in six countries in the region, United Group has 3 million Revenue Generating Units and covers an area with 20 million people (including the diaspora).



EBRD technical assistance proposed:

- Help the Communications Regulatory Authority of Bosnia and Herzegovina ('RAK') adopt and implement a modern tariffing regulation, in the form of cost-orientation, accounting separation and cost modelling.
- ➤ The adoption of modern tariffing regulation which will enable a competitive environment for the provision of network and services by mandating transparency and non-discrimination amongst market participants.
- This would open network access by existing network operator to new competitors by reducing excessive charging for access which amounts to refusal of access.

EBRD & Broadband, Other Examples



Broadband investment forms part of EBRD's Knowledge Economy Initiative, which aims to foster growth through innovation. The four pillars of the KE Initiative are (1) innovation policy (2) information infrastructure (3) technological upgrading and (4) financing for small innovative tech companies.

Under information infrastructure pillar, EBRD makes debt and/or equity investments which directly or indirectly support broadband development:

- 1. Telecom operators Turk Telekom (Turkey), Cosmote (Romania), OTE (Greece), Telekom Slovenia (Kosovo).
- 2. Alternative fixed broadband providers e.g. Atlant Telecom (Belarus), Bulsatcom (Bulgaria), Orion (Serbia), Neotel (FYR Macedonia).
- 3. CaTV operators providing broadband as part of triple play offering e.g. United Group (West Balkans), DCS (Romania), Sun Communications (Moldova), Volia (Ukraine).
- 4. Wireless fixed broadband providers e.g. Enforta (Russia).
- 5. Data Centres e.g. GTS (CEE), ITG (Russia), Kriz DC (Croatia).



DSO helps the development of wireless broadband through the "digital dividend" – freeing up capacity through the efficient use of spectrum.

EBRD has played a two-fold role in the DSO process to date:



Technical assistance support to design, administer and implement the process





On the financing/investment side:

- Financing for state multiplexer transmission company(ies) (e.g. Serbia);
- Financing of successful bidder where there is an open tender for multiplexers to be made available for private investment (e.g. Georgia);
- ➤ The manner and extent of any such financial support would be determined according to the role envisaged for EBRD by the stakeholders involved;
- ➤ As with all financing by EBRD, it is subject to approval by the Bank's management and Board of Directors as being consistent with EBRD mandate.



On the technical assistance side EBRD can help with:

- Option evaluation and policy development;
- Preparation of the technical specifications defining the main design parameters for digital terrestrial broadcasting networks;
- Design of a competitive tender process for the selection of suitable digital multiplex platform provider(s);
- > Adjustment of the legal and regulatory framework to accommodate DSO;
- Administration of a competitive tender to select additional digital multiplex platform provider(s), including assistance in the promotion of the contest to a national and international audience of potential bidders;
- Monitoring of the network planning stages of the winning operator(s) to ensure compliance with the implementation requirements of their networks;
- Communications and consumer relations aspects;
- Set-top box procurement, testing and distribution.





- EUR 16m financing to finalise Multiplexers 2 and 3 helped Serbia to complete DSO by internationally agreed deadline;
- EBRD support allowed for the commercialisation of the new over-the-air television transmission market;
- Access to EBRD financing and technical assistance helped speed up a quasistalled process;
- Technical assistance financed consultants Grant Thornton for financial duediligence;
- Technical assistance supported procurement preparation;
- EBRD involvement helped facilitate regular working group meetings;
- Financing helped enhance the market for new services: improved quality of SD picture/sound, HD broadcasting, possibility for a larger number of overthe-air channels, translation/captions services, programme guides

EBRD & DSO Georgia (2013–15)



EBRD technical assistance and financing helped Georgia to implement DSO:

EBRD technical assistance supported:

- Ministry for Economy and Sustainable Development (MESD) in examining options and define policy (hybrid public and private operations – 1 State multiplexer, 3 private multiplexers);
- MESD, Georgia National Communications Commission (GNCC) and Ministry of Justice in amending law and drawing up regulations;
- ➢ GNCC in defining specifications and tender process for 3 private multiplexers;
- ➢ GNCC in administering tender process;
- GNCC in monitoring implementation by winning private operator;
- MESD's Digital Switchover Agency in testing and procuring set top boxes, and developing and administering communications campaign;

EBRD finance:

> Funded the winning bidder in the tender for private multiplexer operator

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