

For the attention of Ms. Mirosława Kwiatek

Lower Silesia Voivodeship Directorate
ul. Wybrzeże J. Słowackiego 12-14, 50-411
Wrocław, Poland

Luxembourg, 15 May 2013

JASPERS//2013-143/AA/NH/ac

**Subject: JASPERS Completion note for the project: 2011 035 PL KE TEL
Lower Silesia Broadband**

Dear Ms. Kwiatek,

We thank you for the good co-operation on the project Lower Silesia Broadband – 2011 035 PL KE TEL with our JASPERS team.

Please find enclosed the JASPERS Action Completion Note, summarising the activities of the JASPERS team, carried out for the achievement of the objectives of this assignment.

We have introduced a performance indicator schedule allowing JASPERS management to obtain feedback from beneficiaries on performance of JASPERS assignments, and build on those future improvements of JASPERS procedures. We send you attached the corresponding form (word file), on which we would highly value your feedback. JASPERS has filled in the left side of the table with a factual summary of JASPERS activities for this assignment. Please indicate the "evaluation" of the work done (range from Highly Satisfactory to Failure) in the central column, and add comments in the right hand column as you feel it necessary.

After completion, please send the word document back to Norbert Hahn (Hahn@eib.org) by email with a copy to Anca Cristescu (a.cristescu@eib.org) for further processing by JASPERS. Should you have further questions, please don't hesitate to call Norbert Hahn.

We thank you for your support and remain with best regards

A. Auria
Director of JASPERS

N. Hahn
Head of Operations Management Division



Date: 13/05/2013

JASPERS Action Completion Note (Long Version)

Note: this JASPERS Action Completion Note has been prepared on the date indicated above. In case the grant application is submitted significantly later than this date, the reader of this Note should be aware that some of the comments and opinions expressed may no longer be valid (Pursuant to Article 7 of the Working Arrangements for JASPERS' intervention, the JASPERS Action Completion Note must be attached to each grant application submitted to the European Commission by the National Authority).

Disclaimer: JASPERS assistance is provided in good faith and with reasonable care and due diligence (*diligentia quam in suis*), drawing on the experience and business practices of its partners, the EIB, the EBRD and KfW; however, the beneficiaries acknowledge that EIB in its role as JASPERS will not be responsible for any loss or damage resulting from any advice provided by JASPERS.

Country	<i>Poland</i>
Project	<i>Lower Silesia Broadband</i>
Beneficiary	<i>Lower Silesia Marshall Office</i>
Operational Programme	<i>Lower Silesia Regional Operational Programme Code: CCI 2007 PL161PO005</i>
Priority Axis	<i>Priority Axis II Development of Information Society in Lower Silesia region Action II.1 Infrastructure of Information Society</i>
JASPERS Project No.	<i>2011 035 PL KE TEL</i>
Date of submission to EC	<i>N/A</i>
Total project cost	<i>EUR 49,343,615</i>
Grant Funding Requested	<i>EUR 34,357,995; 85% of eligible expenditure</i>
Completion Note Prepared	<i>13/05/2013</i>

1. Project Description

1.1 Existing Situation

According to the European Digital Agenda Scoreboard, Poland at present lies at the lower range of most indicators related to internet services in the EU. At the end of 2011, less than 80% of the Polish population had access to fixed broadband (mainly basic broadband), compared to an EU-27 average of approx. 95%.¹ For mobile services (3G) the corresponding number was 62% (EU-27 average 90%)².

Although the uptake rate of fixed broadband lines in Poland has steadily increased with approximately 25% per year over the past 5-year period, it still remains 40% lower than EU-average. As is the case in most EU countries, the rural areas are particularly affected by the lack of broadband infrastructure. In Poland only 60% of such areas have access to fixed broadband, with an uptake rate which also is lower than in more populated areas.

End users in Poland also suffer from low connection speeds: in 2011, 26% of Internet access lines in Poland did not exceed speeds of 2Mbit/s, compared to an EU average of around 8%. This gap is however rapidly closing as higher bandwidth ratios are increasingly made available in areas where market conditions apply. With the current growth rate it can be expected that Poland should be close to EU average in the next years. Similarly, it can be assumed that the high prices for bandwidth (Mbps), well above EU average and the second highest in the OECD area, will decrease.

The target area of the present project concerns the Voivodeship of Lower Silesia (Dolnośląskie). Lower Silesia currently has a population of around 2.9 million inhabitants, which ranks the region at the 5th place out of 16 in terms of the number of population in Poland. With GDP per capita above national average and one of the highest shares in receiving foreign direct investment, Lower Silesia is one of the most developed regions in Poland³. Despite positive and dynamic growth, the region's GDP remains below the EU average (at 66% in 2010).⁴ Moreover, while unemployment in the region at the level of 13.5% is only slightly above the national average (13.4% in December 2012⁵), large differences exist within the Region: sub-regions of Jelenia Góra and Wałbrzych register unemployment rates considerably higher than region's average, while in case of sub-regions of Wrocław and Legnica unemployment rates are lower or close to the region's average⁶. Therefore there is a risk of steady population drain in those parts of the region with high unemployment rate as active members of the population are leaving to seek income elsewhere. At the same time, there is high opportunity to build on the economic strength of faster developing regions.

Following inventory of broadband infrastructure in the Lower Silesia region finalized in May 2012, it was concluded that almost all population (98.9%) have possibility to connect to basic⁷

¹ <http://ec.europa.eu/digital-agenda/en/news/report-broadband-lines-eu-1st-july-2012>

² http://ec.europa.eu/information_society/digital-agenda/scoreboard/graphs/index_en.htm

³ http://www.mrr.gov.pl/rozwoj_regionalny/Ewaluacja_i_analizy/Raporty_o_rozwoju/Raporty_krajowe/Documents/Polska_2011_Gos_podarka_Spoleczenstwo_Regiony.pdf

⁴ As above.

⁵ Unemployment rate in December 2012 by the national statistical office:

http://www.stat.gov.pl/cps/rde/xbr/gus/PW_miesie_inf_o_bezrob_rejestr_w_polsce_12m_2012.pdf

⁶ Unemployment rate in November 2012 in the region of Lower Silesia by the national statistical office

http://www.stat.gov.pl/gus/5840_1487_PLK_HTML.htm?action=show_archive

⁷ Basic broadband in this context is defined as bandwidth equal or higher than 2 Mbps, following the guidelines from the Commission regarding mapping of existing broadband infrastructure. Equally NGA is defined as infrastructure allowing access speeds higher than 30 Mbps.

broadband, however over 22% of population do not have access to competitive broadband infrastructure, and that only around 45% of population, of which the majority is concentrated in densely populated areas, can have access to the Next Generation Access services.

JASPERS Comments

Conclusions

The Lower Silesia Voivodeship is amongst one of the leading regions when it comes to the basic broadband Internet coverage. However, the quality of available infrastructure is insufficient: major part of population cannot access high speed services nor have access to competitive basic broadband services. As a result, at the end of 2011 fixed broadband access penetration in Lower Silesia reached 17.3%, which is still below the EU average of 27.7%⁸. It can be concluded that, as in other regions of Poland, lack of adequate broadband infrastructure, poor competition and consequently high prices are amongst the main reasons for the low uptake rate of broadband in Poland.

Studies conducted in Poland indicate that excessive cost is correlated with lack of interest in broadband, which further negatively impact computer and internet literacy. Surveys undertaken among the population in the south-west region of Poland (including Lower Silesia) reveal that households without internet connection more often than on average in the country indicate the lack of perceived need and excessive costs as the main reasons for not accessing broadband services. In turn, as stated in the Application Form, poor broadband uptake negatively affects the supply of services and digital content.

The incumbent operator in Poland, Orange Polska (in 2012 rebranded from Telekomunikacja Polska S.A. (TP)), has a dominant position as provider of wholesale and retail services in the telecommunication sector (it is noted in the Feasibility Study that in south-west region over 33% of broadband access is delivered via xDSL lines, compared to an average of 25% in the country). This has contributed to the lack of competition in the market, with relatively high prices and inadequate supply of services as a consequence. After having being repeatedly warned by the European Commission for abusing its position and not opening its network more efficiently to other wholesale operators, the incumbent operator was officially sanctioned and fined by the Commission in June 2011. If this has yet effectively resulted in that the company has increased unbundled access to its network is not known to JASPERS.

Data provided through public consultations in 2011 and 2012 and updated on regular basis by the National Regulator (UKE) would allow assuming that the mapping of the infrastructure in the areas of intervention is sufficiently accurate.

Significant outstanding issues

No significant issues

⁸ Statistics provided by the Polish authorities. Source: text of State Aid decision SA.33386 Broadband network in Lower Silesia

1.2 The Project

The scope of the project is the construction of a fibre based regional backbone and distribution broadband infrastructure. It will complement telecommunication infrastructure belonging to existing operators in the region and will provide open and non-discriminatory access to providers of wholesale and last-mile services. As such, the investment will contribute to lower the investment barrier for NGA services and help to introduce competition and better quality of services in the areas with basic broadband infrastructure. In addition, the project will also contribute to eliminating digital divide in the limited areas currently deprived of basic broadband services. The project directly contributes to reaching the objectives of the Digital Agenda for Europe⁹ mainly in terms of NGA access. It also aims at solving the crucial problem of the low usage of broadband internet access, especially in rural areas.

The infrastructure will consist of both passive and active components. At pre-design stage the main technical components will comprise a fibre optical network of a total length of around 1,564 km interlinked between 82 network distribution and 9 backbone nodes. For technical purpose of network interconnection, further 66 passive interconnection nodes are foreseen in the project scope.

In order to define the areas of intervention in the project have been analysed and mapped in black, grey and white areas¹⁰, following the recommendations given by the European Commission¹¹. In order to further separate the regions eligible for support, an additional split has been made between areas capable of providing access to NGA-related services (applying a minimum bandwidth of 30 Mbps), black NGA, grey NGA and white NGA.

The management of the infrastructure and the related network equipment will be centralized to a network management centre (NMC) located in Wrocław; and a back-up NMC located in Świdnica.

The owner of the network, being also the project Beneficiary will be the regional public authority of the Voivodeship (Lower Silesia Marshall Office). The Voivodeship will be responsible for designing and constructing the network. Operational aspects of the project will be mandated to one single private infrastructure operator (IO), which will be selected through an open tender procedure. The infrastructure operator will pay a rent to the Voivodeship for leasing the constructed broadband infrastructure and will have the right to retain part of revenues from managing and operating the network. Any surplus revenue will be returned to the Voivodeship through a pre-defined clawback mechanism.

As the result of the project, 99.4% of the population is expected to be within the reach of basic broadband infrastructure, which is an increase by 0.4% from the current 99%. Equally, the number of population having access to NGA services will increase from 44.8% to 63%, which is an increase by 18.2%. In addition, the share of population having access to competitive basic broadband services will increase by over 10%.

During implementation, no employment opportunities are declared to be created as a direct result of the project on the side of the Beneficiary. The Application Form informs that it is not possible to estimate the number of new jobs created during the operation stage, but it is expected that due to the impact on the region's economy the project will contribute to job creation in the region. As an

⁹ A Digital Agenda for Europe, COM(2010), Brussels, 26.8.2010 245 final/2.

¹⁰ White area: no broadband infrastructure exists or is unlikely to be developed in the next three years. Grey areas; only one broadband network operator is present (grey areas). Black area; At least two or more broadband network providers are present.

¹¹ [Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks](#)

example, considerable job effect of ICT project in Germany is provided. Financial model assumes that a total of 14 jobs will be required at the side of the Infrastructure Operator in the management, administration and technical departments.

The project has a total eligible cost of EUR 40,421,171. After the application of the co-financing rate of the priority axis (85%) a net community contribution of EUR 34,357,995 is generated.

The European Commission has assessed the measure "Broadband network in Lower Silesia" and decided not to raise objections (SA.33386 (2012/N)) as the state aid contained therein is compatible with Article 107(3) of the Treaty on the Functioning of the European Union (TFEU).

JASPERS Comments

Conclusions

Overall, the project, its rationale and objectives, can be considered to be sufficiently described in the application form.

The project complies with the objectives of priority axis II of the Lower Silesia Regional Operational Programme. JASPERS notes that after project completion, 0.6% of the regional population will remain in white areas, where no internet service is available to provide basic broadband connectivity exceeding 2 Mbps. Presumably this is due to the fact that it is not currently economically viable to extend the intervention at this stage to the most remote and mountainous areas. It can be also assumed that most cost-effective and technologically viable means of reaching remaining white areas will be considered during the next programming period.

We acknowledge the prudent approach related to the difficulties in estimating the number of jobs during the operation stage. Following own JASPERS assessment, for the project of this size, and applying the same method of estimation that have been used in similar type of Polish broadband projects¹² an approximate number between 150 - 500 jobs can be expected to be allocated at the construction phase.

Significant outstanding issues

None

¹² <http://www.itu.int/net/itunews/issues/2011/05/14.aspx>

2. JASPERS Input to the Project

Summary of JASPERS tasks from the Project Fiche

The purpose of JASPERS assignment was to support the beneficiary in the preparation of the project and the application for funding by providing timely methodological guidance, participating in technical discussions, and reviewing of project deliverables (notably Feasibility studies and grant application for funding).

As per the scope of the assignment, JASPERS would provide timely methodological guidance, would participate in technical discussions, and would review intermediate and final deliverables. In particular, the discussions between JASPERS and the Beneficiary and the review of deliverables were expected to focus on the following aspects: (i) technical feasibility (including option analysis); (ii) CBA; (iii) environmental assessment; (iv) institutional set-up for the implementation of the project and the operation of the resulting infrastructure. The support from JASPERS would also include a review of the final application for funding and its corresponding annexes in order to ensure its necessary quality and completeness.

Summary of actual JASPERS input to the Project

The actual JASPERS inputs were much more in depth covering the following aspects:

- Advice on the rationale and objectives of the Project as required by state aid regulations;
- Advice on the EU context of the project (Digital Agenda objectives);
- Advice on State Aid issues, including recommendation for pre-notification of state aid;
- Advice on option analysis and technical aspects;
- Advice on the estimation of current and future demand;
- Advice on the EIA issues;
- Advice on financial analysis;
- Assistance in the revision of economic cost benefit analysis;
- Advice on risk and sensitivity analysis;
- Review of working documents developed by the Beneficiary;
- Review of Feasibility Study and Application Form including advice on its content;
- Ad hoc advice on urgent issues;
- Assistance in communication with European Commission (DG Competition).

In addition, JASPERS has made available in September 2011 English version of the Feasibility Study translated to facilitate the revision of the documents.

Finally, JASPERS has developed guidance and model for the Cost-Benefit-Analysis which has been tested and applied in the project.

Most of JASPERS comments related to the final version of documents have been taken on-board. Some of the uncertainties or deviations from JASPERS recommendation are highlighted in this document with recommendation to introduce further modifications to ensure the necessary quality standards of the application for funding.

List of JASPERS experts involved (name, title, email address)

Task Manager	Joanna Knast-Braczkowska Economist, j.knast@eib.org
Team Member	Michael Schaller Engineer, m.schaller@eib.org

Other JASPERS experts involved:

Ausra Jurkeviciute
EIA Expert, a.jurkeviciute@eib.org

Documents reviewed

Project fiche was received and project added to JASPERS Action Plan in April 2011.

Date received	Subject
07.06.2011	Feasibility Study, Financial Model, and State Aid documentation
16.06.2011	Application form
12.04.2012	Application form
20.08.2012	Application form, Feasibility Study, Financial Model
12.11.2012	Application Form
29.01.2013	Application Form
21.03.2013	Application Form
18.04.2013	Application Form

Missions and Meetings

Date	Subject	Purpose
28.09.2010	Kick off meeting	Detailed discussion on the project scope and objectives, discussion on the assumptions to the FS, on the main issues and concerns; agreement on the next steps.
25.04.2012	State aid	Pre-notification meeting with DG Competition
14.06.2012	Working Meeting	Workshop with Broadband projects beneficiaries, including case study of project documentation from another region (Wielkopolska Broadband Network).
20.12.2012	Application Form	Teleconference, clarifications in relation to guidance note.
08.04.2013	Application Form	Teleconference, clarifications in relation to guidance note.

Notes issued

Date	Note	Purpose
28.06.2011	Working comments	Detailed comments to the state aid pre-notification

		documentation
15.09.2011	Working comments	Guidance on Feasibility Study, Financial model and Application form (translation of Feasibility Study and Application Form provided by JASPERS)
08.05.2012	Meeting report	Summary of issues discussed and agreed with DG Competition in relation to state aid notification
05.10.2012	Working comments	Guidance on Feasibility Study, Financial model and Application form
14.12.2012	Working comments	Guidance on Application form
01.03.2012	Working comments	Comments on Application form, draft Action Completion Note

In addition, an on-going phone and email communications were held between JASPERS, the beneficiary and its consultant; as well as a number of working comments and ad-hoc advices were given electronically, specifically with relation to EIA issues and CBA model.

Relation to any other earlier or ongoing JASPERS actions

Coordination with other projects in Poland was of importance for this project and it was covered during the following meetings of the Working Group on Broadband (JASPERS project number: 2010 173 PL KE TEL) and Workshop on Broadband Projects (JASPERS project number: 2010 087 PL KE R&D):

Date	Subject	Purpose
21.06.2011	Application form and EIA	Presentation of the guidelines for the completion of application form tailored for the broadband sector and an update on the State Aid notification status. Discussion on the environmental requirements.
18-19.05.2010	Workshop on broadband projects	The workshop was organized by JASPERS for the benefit of all Polish broadband projects. The objective was to share project best practise, using already approved broadband projects as baseline. Topics covered technological alternatives, ERDF funding applications and state aid. Speakers included staff representing different European broadband projects as well as staff from DG Comp, DG Infso (today DG Connect), DG Regio, EIB and MRD.

3. Key Issues

3.1 Project Objectives

The overall objective of the project is to bridge the digital divide of the region by developing a fibre optical backbone and distributions network offering competitive and high quality wholesale broadband services in those areas of the region which are currently not served with sufficient broadband infrastructure. Target areas are those areas which network operators have confirmed as being unprofitable for major investments in infrastructure or where no related investment plans exist for a coming period of three year. Last-mile infrastructure is not part of the project. End users will be offered access to the infrastructure through retail operators on the basis of non-discriminatory open access and technology neutrality.

The project is in line with the objectives of Priority Axis II Development of Information Society in Lower Silesia region of the Regional Operational Programme as well as other national policies and objectives. It further contributes to the objectives of the European Digital Agenda, allowing for an increased development in market-failure areas of knowledge-based economy, including new professional opportunities for skilled residents, distance working, and e-government. At such is also meets the National Strategy for the Development of the Information Society in Poland until 2013 as well as the National Reform Program until 2015.

Further, the project is listed on the Indicative Lists of Individual Key Projects for Operational Programme of Lower Silesia 2007-2013.

Specifically the objective of the project is to:

- enable open access to basic internet for over 12,000 of population or enable competition based on basic broadband for around 312,000 of population of the concerned region;
- enable open access to NGA services to over 526,000 of population of the concerned region.

This translated to an absolute increase of coverage of 0.4% for basic broadband internet (change from 99% to 99.4% of population within reach of basic broadband) and an absolute increase of coverage of 18.2% for NGA services (change from 44.8% to 63% of population within reach of NGA). In addition, over 10% of population will gain access to better quality and competitive offers of basic broadband access.

JASPERS Comments

Conclusions

Overall, the project objectives described in the application form provide necessary information on the project objectives and results. Beneficiary has made a considerable effort to improve this information in the most recent version of the application form. Despite some remaining presentational difficulties and occasional repetitive information, the project objectives are considered sufficiently described.

Significant outstanding issues

None

3.2 Engineering Issues

3.2.1 Options analysis

The option analysis for the project is focused on the choice of the technical alternatives for the implementation of the backbone and distribution network as well as the business model.

A number of technical options are analyzed in the Feasibility study, broken down in network architecture and technologies for the backbone and the distribution network, separating between active and passive components. The different variants analyzed are all based on the benchmark target to ensure broadband network coverage for at least 87% of the regional population.

The technical option analysis in general goes into a high level of detail. The main options discussed in the Feasibility study are alternatives for;

- Hierarchical structure of the network
- Network dimensioning (topology), including modelling of optimum locations of backbone and distribution nodes.
- Transmission medium (single-mode vs. multimode optical fibre)
- Selection of network transmission protocol
- Variants of using DWDM multiplexers for the MPLS routers in the backbone layer
- Construction of optical cabling routes (e.g. underground, road micro cables, overhead lines), ducting and cable type options (for backbone and distribution network)
- Network architecture and network topology (ring, star, tree)

The choice of business model is made in the FS between different legal alternatives of a base model in which the management of the infrastructure is entrusted to the private partner. The base model (carriers' carrier model) is defined as the networks construction and ownership being attributed to the public entity, in this case, the Marshall Office. The operation and management of the network will, on the contrary, be entrusted to an infrastructure operator (IO). In the present base case scenario, the maintenance and replacement costs will be covered by the IO. The IO will provide open access to wholesale network services to other operators on non-discriminatory basis.

Ultimately, the carriers' carrier model with Infrastructure Operator chosen in an open and non-discriminatory procedure was notified to DG Comp and eventually received approval for compatibility with EU state aid regulation.

Finally three potential systems of linear infrastructures which would be used in the project were considered:

- Scenario A - railway infrastructure
- Scenario B – road infrastructure
- Scenario C – energy infrastructure

Variants were compared based on assessment of achieving the objectives of the project, cost of construction and operation, complexity, technical feasibility and environmental compliance.

Construction of the network along the railway infrastructure was assessed to be the most economically advantageous variant which fulfils all project objectives to the highest level and most efficiently.

JASPERS Comments

Conclusions

The option analysis is in general acceptable. At JASPERS recommendation some effort was made in order to improve relevant chapter in the FS in order to make the presentation more structured and the argumentations easier to follow.

The technical option analysis in the Feasibility study presents technical implementation and equipment alternatives mainly based on best industry practice. Preferred alternatives are indicated on capacity to deliver the optimum quality of service of the network with respect to cost effectiveness and targeted penetration rate. In some cases no clear recommendations of preferred technology are made, mainly because several solutions are possible and optimum choice can only be decided during the project design stage (for instance the use of underground or overhead cabling in different areas). JASPERS does not have any particular remarks on the choice of technologies, network architecture or pre-design of the network. It is noted that the options presented can be considered future-proof (with respect to current state of technology) and would allow expanding transmission rates and services, depending on future increase in demand. With the exception of the choice of railway network as the basis for infrastructure roll-out pre-design and choice of technology is coherent with other major projects in Poland. While it is noted that background calculations of cost-efficiency of the chosen variant are not provided, it is assumed that the most optimum model for Lower Silesia has been chosen given relatively dense railway infrastructure available in the region.

The Feasibility study and the application form recommends fibre optical cabling as the option for the broadband network in order to ensure the target range of services to offer and quality of service (QoS) is met. Nevertheless, when reasonably due to cost effectiveness, satellite technology is presented as an economically viable option in remote and sparsely populated areas. Potentially this would allow increasing the network coverage with an additional few per cent. It is not clear in the application documentation what areas of the region would potentially be candidates for an alternative satellite solution, but it is assumed that this will be analysed during the design stage of the network.

The choice of business model for the project is considered acceptable and is also in line with the choice of model in similar types of projects in Poland. The business model has furthermore also been confirmed by the State Aid notification decision.

Significant outstanding issues

None

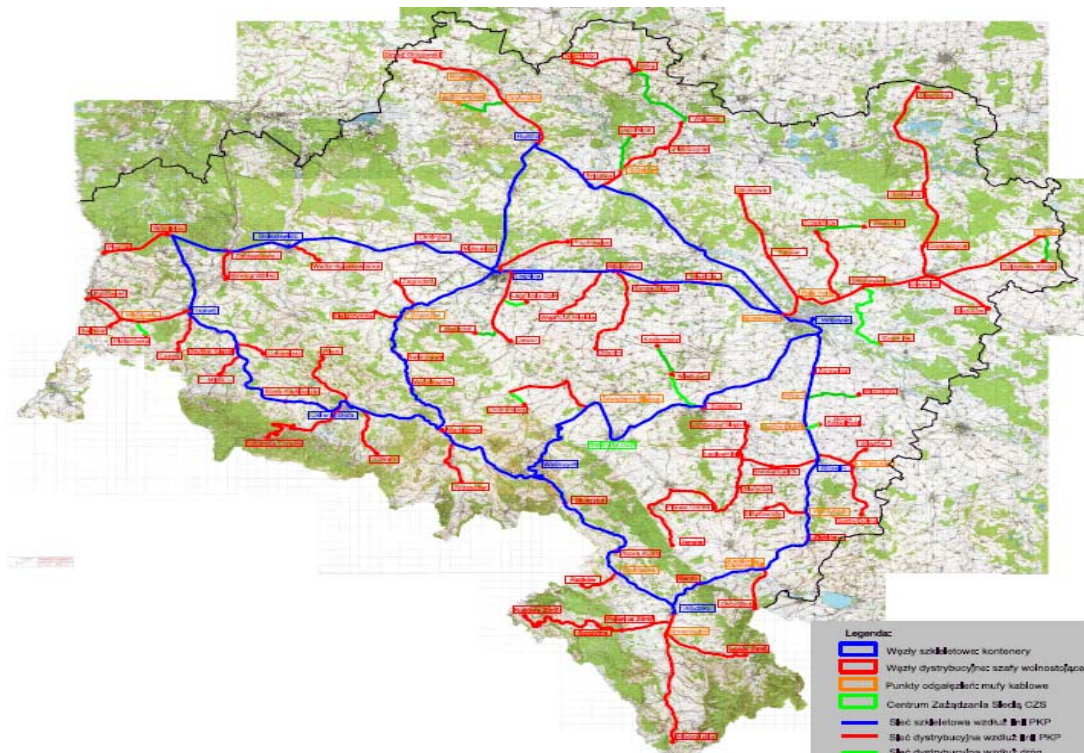
3.2.2 Engineering feasibility

Project Measures

Based on a detailed network inventory, the investment will take place in those areas classified as NGA white, 'traditional' white or 'traditional' grey problematic (single existing infrastructure, one retail service provider). The preliminary network design is presented in the attached map. The planned network will cover villages and communes across the territory of the Lower Silesia region, which has a total surface of close to 20,000 km².

The key technical components of the project include:

- 1,564 kilometres of fibre optical cable for the backbone and distribution network
- 9 backbone network nodes
- 82 distribution network nodes
- 66 passive interconnecting network nodes



Picture 1. Pre-design of the network, Lower Silesia region (backbone and distribution). Source: Feasibility Study

Management and monitoring of the network will be done through a separate and resilient network management centre (NMC) located in Wrocław, and a back-up NMC located in Świdnica.

A two-layer hierarchical structure (backbone and distribution) will be the baseline for the logical architecture of the network. The access layer (last mile to the end-users) is not subject for the intervention.

A single-mode optical fibre will be used as transmission medium, the higher cost compared to a multi-mode fibre is well mitigated the higher transmission rate and propagation distance provided. Multi-frequency (dense wavelength division multiplexing (DWDM)) will be used in the fibre for transmission of data in the backbone layer. For technical reasons and mainly due to cost-efficiency, DWDM is not foreseen for the distribution layer, unless future demand would show a lack of dark fibre or bandwidth.

The backbone network will have a ring topology with crossover connections, subdividing some rings in order to optimize network traffic management. Backbone connections will be made by using fibre optical cabling presumably laid in HDPE pipes, microducts or other suitable technology for new sections (to be decided during the design phase).

The distribution network will be constructed in a star topology.. As for the backbone network it is assumed that HDPE pipes, microducts or other suitable technology will be used to position the fibre optical cabling.

In order to ensure physical integrity and security, the aim is to implement backbone node as far as possible in existing facilities belonging to the public authorities. Backbone nodes will be characterized by adequate systems for power resilience (UPS or doubled power supply), intrusion detection, fire prevention and HVAC. The same logic would apply for network distribution nodes..

Classification of the investment in different categories and the criteria for conditional access to the network by wholesale providers is presented in table 1 as detailed in the project's state aid decision.

Table 1 Categories of intervention

	Number of locations / Number of locations with planned LSBN nodes	Existing distribution infrastructure (including dark fibre)	The basic, traditional retail broadband offer ¹³	NGA infrastructure or plans for the near future	Conditional Access to LSBN [Lower Silesia Broadband Network]
1	217 / 23	None	None	None	All operators can access LSBN, as there is no available infrastructure
2	1915 / 122	Only one	Only one	None	All operators can access LSBN - a grey „problematic” area of NGA ¹⁴
3	20 / 1	TP S.A.	TP S.A. + LLU ¹⁵	None	Only last mile infrastructure of NGA can access LSBN ¹⁶

¹³ For information about existing or planned wireless infrastructure we required that such technology guarantees at least 2Mbits access

¹⁴ This category includes areas where there is only one fiber access node, but the distribution infrastructure is not available to third parties. In addition, this area does not provide a broadband (NGA), and there are no plans to build other access nodes in the next 3 years.

¹⁵ LLU - local loop unbundling allows telecommunications operators to use connections of other operators from the main telephone exchange to the customer premises

¹⁶ To LSBN basic infrastructure of the "last mile" can be connected if the application shows that despite the existence of an operator access (LLU) market mechanisms still fail (market failure) [access providers do not have access to certain elements of the TP

4	0 / 0	More the one	Only one	None	Only last mile infrastructure of NGA can access LSBN
5	0 / 0	More the one	TP S.A. + LLU	None	Only last mile infrastructure of NGA can access LSBN
6	189 / 3	More the one	More the one	None	Only last mile infrastructure of NGA can access LSBN
7	267 / 8	One or more	One or more	There is	Nodes located in such area can be used only as technical nodes ¹⁷ , except where they meet the following two conditions: a) the nearest existing or planned (in the next 3 years) optical distribution node available for use in the last mile NGA network is not less than about 4 km from the planned location of the node, b) given the lack of NGA services (and no real plans for the next 3 years). In this case, the LSBN can be connected to the last mile NGA infrastructure.

Source: Application Form

JASPERS Comments

Conclusions

The current estimations for network design and construction cost, as confirmed by the project promoter, is based on the actual cost resulting from the tender completed. Technological options are declared to be based on best industry- and in-house expertise. JASPERS does not have any particular comments on the choice of technology. Presented alternatives are coherent with other major broadband projects in Poland and do not, as described in the project documentation, raise any particular concerns about the engineering feasibility of the project or that the projected targets for population coverage cannot technically be met.

The project documentation confirms that the majority of distribution nodes will be located in areas where both basic and NGA services can be offered. NGA only nodes will be located in 12

distribution infrastructure (eg dark fibers) and / or regulated TP wholesale prices (for leased lines or terminating distribution) are too high (difficult geographical conditions or long distances). As a result, the existing alternative retail services may not be sufficient for the needs of the end users [e.g. based on the existing infrastructure, alternative operators are not able to offer the services 'triple play' and / or retail prices are higher than in other competitive areas (such as Wroclaw)] ..

¹⁷ In category 7 isolated white NGA areas within larger cities have been selected, where there is (or is planned) at least one optical fiber distribution node, which can be used within the "last mile" NGA network. As a result, public intervention is possible only in those parts of the village where NGA services are not currently provided or are planned in the near future (next 3 years), and at the same time nearest existing or planned (in the next 3 years) fiber distribution node, which can be used within the "last mile" NGA network is no closer than about 4km from the planned location of the LSBN node. Without public intervention, these areas would not have access to NGA, although they are in larger cities, where there is at least one optical fiber distribution node for the "last mile" NGA network use..

localities (out of total of 157 localities) where basic infrastructure is available in line with the state aid decision. It has to be recognized, however, that exact number of nodes will be decided during the design stage of the network.

The construction cost per km fibre (excluding active components) resulting from tender completed would roughly be around 19,600 EUR. Based on the correspondence received from the Beneficiary, this is actual costs resulting from the design-build tender.¹⁸ This is in line with JASPERS' experience with estimations of cost per kilometre of fibre from similar types of project in Poland, equally targeting mainly less populated areas, subject to digital divide. The cost calculations show that implementation cost differ considerably between construction in urban and rural areas and tends to decrease with total number of kilometre fibre projected. It has to be also noted that estimations of total project costs are approximate and can vary, depending on final technical design and future tender for active components. This equally applies to the operational cost, which will be known more in detail after the conclusions of the negotiations with the infrastructure operator.

When basic comparison is made to the project financed with ERDF funds (Lithuanian Rain (JASPERS support); Est-Win project in Estonia; French (Ardèche numerique)), the total cost per km of fibre network of projects in Poland is closer to the higher investment costs estimated for the French project than lower costs in the Baltic countries. However, given that approximately 80% of the costs of deploying fixed infrastructure are civil engineering costs, major variations over countries should be expected due to technology chosen, construction method (underground or overhead), labour costs, density of population, existing infrastructure and legal framework facilitating broadband investment.

As far as possible duplication of infrastructure will be avoided. For this reason the contractor will, when financially more advantageous, either purchase or lease existing infrastructure through IRU (indefensible rights of use). Further details are provided in the text of the state aid decision (point 43), notably underlying that "The Lower Silesian authorities encourage use of the entire existing infrastructure (e.g. roads, ducts, etc.) in order to limit the aid necessary for the measure as well as to avoid duplication of infrastructures. The contractor in charge of rolling out the passive infrastructure could assess the cost of building the whole DSS to the required standard or opt for an alternative solution, including long-term lease for 20 years on IRU principles. In the case of IRU, the agreement would be concluded between the infrastructure provider and the Voivodship authorities, but the lease fee would be paid by the contractor out of the overall remuneration for the deployment of the network. Most of the backbone network will be built on land made available by Polish Railways. This will dispense with administrative complications associated with the need to obtain a large number of approvals to build ducts along the road rights of way"

Final length of the network that will be constructed or acquired through purchase of leasing agreements will consequently only be known in detail during design stage.

The classification of the intervention areas of the project (table 1), was addressed during a workshop organized by JASPERS in which criteria for network access outlined in the state aid decision for the Xarxa Oberta project in Catalonia, Spain (N 407/2009) were presented and discussed.

¹⁸ Information in the Attachment addressing JASPERS guidance note and comment 16 'Given the fact that tender for network construction has been completed, values provided in the financial model and in the application form should be the actual investment costs of the winning tender. Please confirm that this is the case in the application form.' ('Załącznik nr 2 - Odpowiedzi na uwagi Jaspers. Wrocław, 08.11.2012': 'Uwaga uwzględniona w zakresie podania kosztów jednostkowych w tabeli. Podkreślamy, że wartość projektu podana w Załączniku jest aktualna i uwzględnia wynik postępowania przetargowego.' Translation: *Annex no. 2 – Responses to JASPERS, Wrocław, 08.11.2012. Comment taken onboard in relations to the unit prices in table. We underline that the project cost is up to date and takes into account the result of the tender.*)

The planned option for the NMC is to have main NMC in region's capital Wroclaw and secondary center for resilience in Swidnica. Capital expenditure for necessary software and hardware for the NMCs would be part of the project capital expenditure; indicatively associated cost would be around 570,000 EUR for adaptation works and 90,000 EUR for software for each of the NMC. It is estimated that 14 staff will be required to monitor and manage the network on the side of IO. It is however not clear if this would concern existing staff of the IO or if additional staff will be recruited as a result of the project. It is assumed that the final configuration and staffing of the NMC will be determined during the negotiation process with the infrastructure operator.

Significant outstanding issues

None

3.2.3 Project cost estimates

Project Measures

Project costs

The current costs for network design and construction cost, as confirmed by the project promoter, is based on the actual cost resulting from the tender completed. The cost estimations for remaining costs, studies, equipment and promotion, have been done during the pre-design phase based on estimations made by the consultant contracted to do the Feasibility study and the CBA.

The project has a total eligible investment cost of EUR 40,421,171. After the application of the co-financing rate of the priority axis (85%) a net community contribution of EUR 34,357,995 is generated.

VAT in the project equal to EUR 8,796,874 is declared as recoverable and is a non-eligible cost of the project. It will be covered by the Marshall Office. In addition, a total of over 125,000 EUR declared as ineligible costs is further specified in the Feasibility Study as cost related to notary fees; part of costs incurred in 2010 including fees to the NRA and fees for services; payments for rights of way (in case of roads) and costs for nodes-related land lease.

The remaining amount (EUR 6,188,745) will be financed from the national sources: Section B.4.1 and section D of the application further clarifies that part of this amount (EUR 1,260,834) will be financed from the budget of local authorities and have been confirmed in agreements signed.

	EURO	TOTAL PROJECT COST (A)	NON-ELIGIBLE COST (B)	ELIGIBLE COST (C)=(A)-(B)
1	Planning/design fees	2 844 688	124 422	2 720 266
2	Land purchase		-	
3	Building and construction	33 822 703	-	33 822 703
4	Plant and machinery	2 609 024	-	2 609 024
5	Contingencies	-	-	-

6	Price adjustment (if applicable)	-	-	-
7	Technical assistance	-	-	-
8	Publicity	122 800	1 148	121 652
9	Supervision during construction implementation	1 147 526	-	1 147 526
10	Sub-TOTAL	40 546 741	125 570	40 421 171
11	(VAT)	8 796 874	8 796 874	-
12	TOTAL	49 343 615	8 922 444	40 421 171

JASPERS Comments

Conclusions

The presented scope of works together with detailed estimation of costs suggests that the total amounts of funds appear to be estimated with diligence and notably, large part of construction costs, have been confirmed in the tender concluded.

The Feasibility study and the Excel document which is attached to the application provide detailed breakdown of cost, as well as information on the basis for estimation for costs of individual project components.

JASPERS notes that although the project is considered as non-major, its total cost (49,343,516 EUR) is very close to the 50 M EUR threshold for major projects. JASPERS understands that part of the project cost has been already confirmed in the tender. Due to the complexity of the undertaking there is also possibility of cost overruns during the implementation phase: the scope of works may be further revisited, as well as the remaining tenders may be signed at a higher cost than assumed. This can be further aggregated by the potential simultaneous implementation of several Polish broadband projects, which could lead to price increases due to limited supply of equipment and availability of qualified engineering and construction companies.

Bearing in mind the very small margin to the 50 M EUR threshold, there is a distinct risk that cost overruns would potentially lead to the project later becoming 'major', requiring the European Commission's formal decision before the funds can be confirmed. This risk requires particular attention: to avoid risk of time delays due to re-assessment of the project in the future, when the project is already in an advanced stage of implementation, JASPERS has proposed to the Beneficiary to consider allocating additional expenditure as 'contingencies' and send the project for Commission's formal approval already now.

Significant outstanding issues

None

3.3 Financial and Economic Analysis

3.3.1 Demand analysis

Project measures

The Feasibility study, as reflected in the application form, aims at estimating the demand based on a) analysis of demographic characteristics of the region benchmarked with market trends in comparable areas of Poland and EU where broadband infrastructure is available, and b) demand based on predicted revenues of a wholesale operator (thus also indirectly taking into account retail prices). Specifically this is done by using following instruments:

- Forecasts of demographic trends based on studies issued by Central Statistical Office, taking into account the urban/rural division
- Comparison of the current broadband take-up in the region versus the EU and average situation in Poland based on reports and studies by Office of Electronic Communication and the European Commission
- Analysis of the existing market trends in the broadband and NGA services provision based on a number of reports issued by: FTTH Business Council, Cisco.
- Current access to the broadband infrastructure in the region based on a detailed three-staged mapping of black, grey and white areas from the perspective of “traditional” and NGA access. To this end, the following consultations were taken into consideration:
 - Public consultations with operators (March – May 2010)
 - Public consultations with 85 operators (April – May 2011) – 12 written responses received
 - Public consultations (May 2012)
 - National inventory (published in July 2012)
- Benchmark of wholesale prices – comparison with incumbents regulated price offers, based on market analysis and national regulator’s studies.

The demand analysis takes into account different users’ profiles (differentiated by age groups) and is conducted separately for households in urban areas and households in rural areas. Differentiated penetration rates reflect differences in income levels and, as presented, reflect users’ affordability for the future services proposed. Demand from each group of users reflects the total number of users in the given group and estimation of penetration rates.

The current market situation is analysed, identifying a series of market failure in the region; lack of infrastructure of insufficient quality, poor business case to connect users in less densely populated areas and high prices for services, which would contribute to the relatively limited interest in broadband services in the target areas of the region, as expressed in public surveys.

Uptake rates are equally also benchmarked and estimated for SOHO (‘Small Office Home Office’), SMEs and for large enterprises and institutions based on proportional average number of enterprises for the given size of population.

The demand, derived from estimated future revenues of the wholesale operator, is based on the following group of wholesale services offered by the Infrastructure operator to the retail market (last mile operators);

1. Data transmission services
2. Lease of teletechnical ducting;
3. Lease of dark optical fibres(distribution and backbone network)
4. Collocation

For data transmission services, the demand is analyzed based on required bandwidth for the following categories of services:

- 1) IP VPN - services for corporate and institutional customers only
- 2) Internet access
- 3) Voice service (VoIP),
- 4) Multimedia services: Web TV, video on demand; IPTV (SD and HD)
- 5) Control and Monitoring (e.g. Machine-to-Machine (M2M))
- 6) Other Value Added Services

For infrastructure rental and collocation services, the demand is based on the percentage share of the infrastructure built in the project compared to the available infrastructure in the region – taking into consideration the ducts/fibre or nodes and making assumption on the expected market.

The results of the above analysis are then taken into consideration to estimate revenues of the Infrastructure Operator from services: estimated number of units sold per category of service is multiplied by estimated unit price per category of service.

JASPERS Comments

Conclusions

It is generally accepted that predicting future demand for broadband infrastructure and services poses significant difficulties due to the fast pace of technological, behavioural, regulatory and business models changes.

This complexity is partly reflected in the comprehensive model that has been developed to assess the demand of the project. It has to be stressed that the model has been based on a number of assumptions as to the future development of the demand patterns.

In addition, as outlined in the state aid decision, market interest was further verified with last mile operators: 'the Polish authorities also reported that the majority of operators of access networks were of the opinion that the construction of a new network, having its nodes at the level of municipalities and individual villages will help them to develop their activities by contributing to an increase in the profitability of investments'.

Based on the description of the model provided, the principles summarised appear to be acceptable.

However, there are a number of difficulties related to the project's demand analysis that should be noted:

- Due to complexity of factors affecting market demand for broadband technologies, future uptake can considerably differ from the actual assumptions.
- With respect to the complexity of the model itself, it is difficult to verify if the assumptions presented in the FS are in line with the actual analysis conducted in the model.
- Project documentation lacks background information of prices applied. Furthermore, due to composite nature of prices for wholesale services, only an approximate comparison between the prices applied in the model and regulated/market tariffs can be made.
- It needs to be also stressed that demand analysis was conducted in years 2010 and 2011 and its results reviewed in 2012, without however modifying the baseline data and assumptions.

- The analysis of the sale of transmission services is conducted from the perspective of end users who will ultimately depend on the successful provision of services from last mile operators, further impacting the approximation of results.

Therefore, it has to be stressed that the current demand analysis, presented in the application and the Feasibility Study, should be viewed as a first step only, indicatively supporting the rationale of the project by showing evidence that there ultimately effectively exist an end user demand and wholesale demand for the project. This is further supported by surveys among network operators, confirming the willingness to use a network that would provide non-discriminatory and open access. It can also be assumed that the resulting increase in competition would lead to lower end-user prices and an increase in services provided, which would also defend the assumed increase in uptake ratio. The next step is nevertheless market verification of these assumptions, which will be part of the tender selection of the Infrastructure Operator.

Finally, in the current model, the bulk of risk related to the future demand is shared with the private partner. As the design of the network will be performed separately from the selection of the Infrastructure Operator, in JASPERS opinion, it is advisable to perform last mile operators' surveys to monitor demand at the stage of network design in order to further verify the demand assumptions.

In conclusion, despite the uncertainties surrounding the exercise and some deficiencies in the presentation, the demand analysis (forecast services and quantification of demand) can overall be considered as acceptable.

Outstanding issues

None

3.3.2 Economic CBA

Project Measures

With some deviations as described below, the economic analysis is elaborated on the basis of the Guide to Cost-Benefit Analysis of Investment projects (European Commission) and the Guidance on methodology for carrying out Cost-Benefit analysis (European Commission). The analysis is undertaken over a 20 year reference period, using a 5.5% social discount rate. Economic evaluation shows the project to realise the following returns:

Economic internal rate of return: 32.2%
Economic net present value: EUR 135,953,473
Benefit – Cost ratio: 3.22

Socio-economic analysis is conducted not only from the perspective of the owner and operator of the network, but takes into consideration wider perspective of the end users of the network in the region. In the first step, however, financial cash flows, transferred into economic prices, are taken into account:

- Fiscal corrections are applied to social taxes (financial analysis is conducted net of indirect taxes (e.g. VAT)).

- No shadow accounting prices are applied, with explanation provided that the project will be developed and operated in the open economy, with no restrictions on the availability of resources and materials.

The economic benefits of the project were consequently estimated in three different categories: (i) wholesale revenues, as a proxy of the willingness-to-pay of the operator(s), (ii) additional benefits for society, referred to as “externalities”, which were derived from savings due to online communications; (iii) consumer surplus resulting from more competitive services.

Also, a number of non-quantified benefits are also described in relation to:

- Activism of local societal groups
- Changes in labour market
- Increase in quality of education
- More efficient local governments
- Access to e-health services
- Competition in telecommunications market resulting in higher quality services and lower prices

Only costs presented in the financial analysis are quantified. The following non-quantified economic costs are described:

- Crimes related to the use of Internet
- Negative social effects related to the use of Internet

JASPERS Comments

Conclusions

It should be noted in general terms that the valuation of socio-economic benefits of broadband at a project level is challenging and open to certain discussion.

In order to provide additional guidance to Beneficiaries in calculating socio-economic benefits of broadband projects, JASPERS has developed a CBA model which was tested using the Lower Silesia Broadband network project as a pilot. The results are provided as an annex to the Action Completion Note. As opposed to the original model developed by the Beneficiary, the alternative JASPERS model puts more emphasis on determining the levels of economic benefits (household consumer surplus, business employee benefits and e-government and e-health savings) and excludes the financial revenues from economic analysis in order to eliminate the risk of double counting of benefits.

As a comparison, the alternative economic evaluation, based on the JASPER guide, shows the project to instead realise the following returns:

Economic internal rate of return: 8.9%
 Economic net present value: EUR 13,039,039
 Benefit – Cost ratio: 1.24

Consequently, there are two alternative CBA analyses available for the project. In principle the method used by the Beneficiary, as reflected in the Application Form, is largely based on the same assumptions used in other Polish broadband projects in JASPERS portfolio, some of which have already been approved for funding by the European Commission. It is based on the assumption that benefits quantified solely on the basis of revenues of the wholesale operator would underestimate the effect of new services which are expected to be developed due to the effect of scale introduced by the project (wider uptake of new services, lowering prices due to increased competition).

It could be argued that wholesale prices to the operator already reflect the willingness-to-pay of the final users, which in turn reflect the externalities added to the economic analysis, thus resulting in double-counting. However, this is not seen as a significant risk for the following reasons:

- The wholesale price is a conservative estimate of the willingness-to-pay, as it is measured in a static way (as price actually paid) and not in the form of consumer surplus.
- Also, additional difficulties occur for NGA services: 1) better quality broadband connectivity has positive impact in areas other than ICT by inducing new services – an effect that is difficult to measure; 2) in case of innovative services, at first the market may not understand the product sufficiently to value it.

it should be noted that the level of ERR is considerably higher in case of Lower Silesia project (at 32%) as compared to ERR in other projects in Poland assessed by JASPERS (with ERR at the level of 12 – 22%). This is however mitigated somewhat by balancing with the comparative JASPERS calculation, resulting in an ERR of 8.9%, and is therefore not seen as a significant issue in this context.

The project documentation lacks detailed argumentation of the basis for quantification of the amount of consumer surplus and the rationale for applying consumer surplus at such level to the whole population of the Lower Silesia region. JASPERS notes that the overall benefits for the end-users are considerably higher in case of Lower Silesia than in other projects in JASPERS portfolio where the sum of all additional benefits over the price paid has been estimated at the range of 10 – 20 EUR a month. If a simulation is made for the Lower Silesia project, the value of additional benefits would exceed these levels. JASPERS calculations indicate it would be at the level of 35 EUR in the first years of analysis, 30 EUR in 2020, lowering to 11 EUR in the last years.

While it is recognized that users in the region – both businesses and households - currently have an imperfect view as to what kind of benefits can be derived from broadband & NGA Internet and future studies may bring more accurate and higher estimations of consumer surplus and business benefits from ICT, it is JASPERS recommendation to follow a more prudent approach in economic benefits valuation and, instead, take into account the more conservative model developed in cooperation with JASPERS in the evaluation of the project. Even with this more prudent approach the project shows positive economic rate of return.

Outstanding issues

None

3.3.3 Financial analysis

Project Measures

The Beneficiary adopted an incremental approach to financial analysis – option with the project is compared to the base variant, which assumes no realization of the investment. The Project financial analysis includes the calculation of the revenues and costs during the construction and operational phase, the calculation of the financial performance indicators and financial sustainability.

The financial analysis has been developed for the period 2011-2030 (reference period of 20 years, including construction and operations). Major investment costs are forecast for 2013-2014.

Analysis is done in line with the CBA guidelines: at current prices, net of VAT, discounting is done using 8% nominal discount rate as specified by the Polish guidelines.

A 100% co-financing rate applied to an eligible cost of EUR 40,421,171 and further application of the co-financing rate of the priority axis of 85%, gives a community contribution of EUR 34,357,995.

Revenues and costs calculations

Revenues are derived from the demand estimation as outlined in the section 3.3.1 above. As a consequence revenues are forecast based on wholesale services of the Infrastructure Operator (transmission services, lease of ducts, fibre and collocation).

As per state aid decision, the NRA (UKE) will be consulted on the methodology for calculating the revenues in the project during the operational phase “the wholesale access prices will be based on average (regulated) wholesale prices for comparable services in more competitive areas, or, in the absence of such published prices, on prices specified or approved by the NRA.”.

The Residual value was calculated based on accounting depreciation formula. Individual capital expenditure items are depreciated by the following depreciation rates:

- structures and buildings – 2.5%;
- buildings and structures for nodes localized in containers – 5% fibre-optic network – 5%;
- equipment and software – 12,5%.

Investment costs are described in section 3.2.3 of this document.

Changes in operating and replacement costs are presented separately for the Marshall office and for the Operator, as well as in a consolidated analysis.

According to the assumptions made in the FS, the Voivodeship Government will incur the costs connected with insurance of assets and real estate tax.

Operating costs assumed to be assigned to the IO include: electricity, material and energy consumption, charge for the right of way, maintenance costs, and third party services (audit, administrative & personnel).

Replacement costs of active components of a total value of PLN 18 M (net of VAT, equal to approximately. EUR 4,5 M) or PLN 2 M (or EUR 490,000) annually starting from the 9th year of operation (2018) are assigned to the IO. This constitutes 12.5% annually from 2022 of the initial investments spent on the active components. No replacement costs are foreseen for the passive network.

Financial performance indicators

The following financial returns are foreseen in the project (consolidated performance indicators):

	Without assistance FRR(C))	Community (FNPV(C);	With assistance FRR(K))	Community (FNPV(K);
Financial internal rate of return (FRR)	-9.6%		0.7%	

Net present value (FNPV)	-31,821,908 EUR	-4,124,029 EUR
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In addition, financial simulations have been performed separately for the Marshall Office and for the Infrastructure Operator as outlined below.

Financial return to the operator

State aid decision provides for the monitoring of the contract with the operator. Monitoring is declared to be performed during the whole term of the contract and based on the details to be concluded with the selected operator. IO will pay a rent to the Marshall Office equal to the % of revenues declared in the tendering process. It is estimated in the project financial analysis at 5%. In addition, a claw back mechanism based on EBITDA is foreseen to avoid overcompensation to the private partner and introduce measures which will incentivise reduction of costs¹⁹.

Financial return to the Marshall Office

According to the assumptions in the financial model continuous financing of the project's operating costs is required from the budget of the Marshall Office.

According to the assumptions presented in the application form, cash flow of the Marshall Office is equal to 0 implying that no financing of the operating costs will be necessary from the budget of the Marshall Office.

Financial Sustainability

The financial sustainability analysis is undertaken with current prices separately for the Project, Operator and the Marshall Office.

The sustainability analysis outlined in the attached financial model shows that cumulated net cash flows are positive only with recourse to additional financing, which is foreseen from the budget of the Marshall Office.

In turn, the sustainability analysis outlined in the application form suggests that cumulated net cash flows are positive for the project and the private partner and equal to 0 for the Marshall Office.

JASPERS Comments

Conclusions

The Project is considered to be subject to the rules on State Aid in the meaning of Article 107 of the Treaty on the Functioning of the European Union (former Article 87 of the EC Treaty) so pursuant to the Article 55(6) of the Regulation 1083/2006, funding gap regulations do not apply to this project and the funding gap is not calculated. In this context, even though there was an initial funding gap calculation that has been maintained as additional information on the proportional level of co-financing but not as the basis for calculation of the level of state aid, this has not been fully verified by JASPERS, also because not all the relevant spreadsheet have been made available.

¹⁹ From state aid decision: 'The Polish authorities envisaging the following mechanism: if at the end of the accounting year, the EBITDA of the infrastructure operator exceeds the reference EBITDA (based on average EBITDAs for the companies from the telecommunications listed on the Warsaw Stock Exchange), part of the EBITDA in excess of the threshold difference must be clawed back – the surplus will be divided between the Lower Silesian authorities and the infrastructure operator proportionately to the level of state aid'.

A consolidated financial analysis of the owner and the operator of the infrastructure, as well as separate analyses of financial profitability for both stakeholders have been undertaken in line with relevant methodologies.

In terms of prices for wholesale revenues, the tariffs applied in the project are declared to be based on the regulated tariffs or benchmarked prices.

Given aggregate categories of revenues and following the requirements outlined in the State Aid decision²⁰, further consultations with the national regulator on the rules of setting price mechanism are required to be undertaken at the stage of preparation of the tender documentation for a selection of the Infrastructure Operator.

JASPERS strongly recommends coordinating with all broadband projects in Poland and developing detailed methodology for price setting and monitoring in close consultation with the regulator to create a system that will allow to efficiently control the IO by the Marshall Offices with support of the regulator.

Importance of close coordination with the national regulator is further exacerbated by limited resources foreseen at the side of the Marshall Office to monitor the contract.

Furthermore, as the financial results of the Marshall Office and the Operator strongly depend on the contractual obligations related to the duration of the contract and the % of revenues to be paid by the private partner, JASPERS strongly recommends ensuring that the Beneficiary is supported with the necessary expertise from the NRA or Ministry of Digitalisation in the process of the selection of the private partner.

Significant outstanding issues

In JASPERS opinion, further clarification is required in relation to the project internal cash flows and sustainability during the operation stage. As outlined in this section of ACN there is important inconsistency between the assumptions and results presented in the financial model and the application form with regards to the level of contribution from Marshall Office to cover operating costs.

Currently, under the assumptions in the financial model, financial burden is placed on the Marshall Office, allowing for positive cash flows to the private partner and requiring additional public funding to make it viable during the operational phase to cover part of the operating costs of the Marshall Office.

However, the application form and additional clarifications received from the Beneficiary assume that any deficit in covering the costs connected with insurance of assets and real estate tax would be covered by the IO, subject to such agreement. No further details of financial simulations or feedback from private partners are, however, provided.

While it is noted that public co-financing of the project during the operation stage can indeed be considered to be a worst case scenario, since competitive offers from Infrastructure Operator should minimise the contribution from the Marshall Office budget²¹, such analysis should

²⁰ '(54). Furthermore, the NRA has been already consulted on the rules for calculating the fees of the infrastructure operator. Detailed consultations will be held again at the stage when documentation is prepared for tenders, which will lead to the selection of the infrastructure operator.'

²¹ To this end, state aid decision, underlines the following conditions for the award criteria: 'In the tender procedure leading to selection of the infrastructure operator, the prospective contract will be concluded

nevertheless be presented in the financial model supported by market analysis or consultations with potential infrastructure operators.

At this stage, it is not clear if the Marshall Office is available to cover any deficit in operations or if the private partner will cover all operating costs (through payment of rent or other contractual obligations). It is therefore not possible to confirm that the project is assessed as financially sustainable assuming that the EU grant and regional budget's funding are made available for financing of the investment costs.

It is recommended to: i) ensure consistency in confirming project's sustainability between the financial model and the application form; ii) if relevant, confirm Marshall's office availability to finance part of project's operations not covered by rent from the private partner; iii) provide information on the consultations with potential private partners or ultimately revise the financial model with details on the agreement signed with the private partner.

3.4 EIA

EIA Procedure

The project does not belong to either Annex I or Annex II of the EIA Directive 2011/92/EU (codified), but may be subject to a screening or an assessment under the Habitats Directive 92/43/EEC. Under Polish EIA regulations the project is to be subject to screening as per Natura protection law. The responsible environmental authorities have been consulted and reviewed the project for the need of the assessment under the Habitats Directive before issuing location permits.

Consultations with RDOS in Wroclaw took place in 2010, as a result the RDOS issued a letter (dated 09.08.2010) with the conclusion that the project is not subject to EIA procedure as per Group 1 and Group 2 of the projects with significant or potentially significant impacts on the environment. The letter contains justification also as regards the Natura 2000 impacts. Due to the slightly changed scope of the project the Beneficiary requested the confirmation of the above statement in 2012. The RDOS in Wroclaw issued a Declaration for the project dated 21.05.2012 (brief statement with justification) and a letter of 23.05.2012 (with more elaborated answer) regarding the lack of likelihood of significant negative impacts on the protection objectives of concerned Natura 2000 sites.

Construction permit/ Development consent

All location permits have been issued for the project (94), but no construction permits have been received yet since this is a Design & Build project. A separate contract for the operation of the network will be concluded with a selected Infrastructure Operator.

Environmental Impact and Mitigation

The project is not going to have significant negative impact on the environment. Some minor, local, non-significant impacts may occur during the construction phase, but due to small scale, targeted construction, the noise emitted by the construction machinery shall not be a nuisance,

with the applicant presenting the most economically advantageous offer. In this respect, as confirmed by the Polish authorities the main award criteria will include: the amount of public aid applied (weight at least 65 %), level of private partner's capital expenditures (weight 0-15%), other economic and quality criteria¹⁶ (weight 0-20%). The award criteria will be defined in detail before the final bids are requested, in conformity with the principles of the public procurement legislation.'

air pollution impacts will be of local and temporary scale with temporary land take which will return to the original status after project completion.

Strategic Environmental Assessment

The Regional Operational Programme for Dolnośląskie for 2007 – 2013 was prepared in 2008 with SEA and is referenced in the FA. This document provides sufficient evidence of the compliance with the SEA Directive.

NATURA 2000 sites

The project undergone screening as likelihood of significant negative impacts on the Natura 2000 sites is concerned. The Beneficiary prepared KIP (environmental information aimed at screening) and provided it to the appropriate authority (RDOS). The RDOS in Wroclaw issued the Natura 2000 Declaration with the conclusion of no likelihood of significant negative impacts, which is attached to the documentation. The Declaration is dated of 04.10.2010 for the total network of 1,661.60km.

The Beneficiary received a renewed Natura 2000 Declaration due to a change of the scope of the project (dated 21.05.2012 with a map). This Declaration provides a justified statement of the project not likely to have significant negative impacts on the Natura 2000 network. Exhaustive and detailed information was provided to the appropriate authority consisting of the KIP (Information card), clarification and explanation related to the project impacts and the changed scope of the project in the letter of the Beneficiary dated of 09.05.2012. The above set of documents shall be viewed as a package backing up the Natura 2000 Declaration.

JASPERS Comments

Conclusions

The environmental decision-making procedure for the project is at an early stage due to a *Design & Build* project set up. Before the issuance of development consent the decision making authorities will have to establish if certain project elements need to be screened for the likelihood of significant negative impacts on the Natura 2000 network, as required by the national Natura protection and EIA regulations (Group 3 projects in Poland). This is also confirmed in the FA (Section D.2.2 and Section F.2).

The Natura 2000 Declaration was issued by the RDOS in Wroclaw, which is a responsible authority for the protection of the Natura 2000 network in its region. Having in mind that the appropriate authority can only issue Natura 2000 Declaration if it is convinced by information provided by the Beneficiary (KIP) and any other additional information it may possess for the purpose of decision-making, JASPERS considers that the Natura 2000 Declaration with supplementary documentation is a sufficient evidence of environmental decision-making as required by the Habitats Directive at the time of the project submission. Therefore the Declaration shall be considered as equivalent to a negative screening according to the Article 6.3 of the Habitats Directive, provided no changes will take place from the point of decision-making.

The project will have some short term, small scale, but also local negative environmental impacts due to noise, air emissions and land take only during the project construction phase. After the project completion there will be no direct or significant project impacts on the environment. The mitigation measures proposed and described in the FS and supplementary documentation are appropriate. It is estimated that 0.5% of the project costs will be spent to mitigate those non-major environmental effects. According to JASPERS the project seems to be prepared and complete for further decision-making as far as environmental procedure is concerned.

Significant outstanding issues

None

5 Financing Plan

Project Measures

The cost breakdown is presented in Part H.1. of the application form.

Part H.2. presents the EU grant calculation, which indicates a total of EUR 34,357,995 as 85% of the total eligible non-discounted costs of the Project.

Commitment to finance 15% of eligible costs and VAT has been confirmed in section D.2.3 and sections H.2.2., particularly from regional budget (Lower Silesia budget) and from local administrations.

JASPERS Comments

Conclusions

The financing plan has been calculated in accordance with Working Document 4 and with the national guidelines governing eligibility of costs for Cohesion Fund support.

The commitment of covering the 15% of the eligible costs and VAT from public sources (Marshall Office and local authorities (*gmina*)) will enable project implementation.

In line with JASPERS comment outlined in section 3.3.3, JASPERS also recommends that attention should be given to the sustainability of the project's operation especially at the start-up of the project. Based on the analysis attached to the application form, it will depend on the ability of the region to subsidise the project in case the payments from the private partner will not cover the entirety of the operating costs. Application form lacks confirmation that public financing of operating costs will be assured. Furthermore, as outlined in Sections 3.2.3 and 3.3.3 of this note, the amount of the Marshall's office subsidy can be determined only during the operation phase and should be regularly monitored and included in the forward budget planning.

Outstanding issues

None

3.6 Institutional arrangements

The project beneficiary is the Lower Silesia Voivodeship that applies for funds in the framework of the Operational Programme Development of Lower Silesia.

During the construction stage the Voivodeship will be supported by Contract Engineer selected through a separate tender. The Beneficiary has launched and completed a public procurement procedure for the design and construction of the broadband infrastructure and will remain the owner of the assets.

The Infrastructure Operator will have an obligation to provide wholesale access to last mile telecommunications operators during the whole term of the contract with the Voivodeship, which is foreseen to be no shorter than 7 years. By offering wholesale access to electronic operators wishing to connect to it, the Polish authorities aim to encourage and maximise private investment in last mile infrastructures by electronic communication operators so as to accelerate the supply of NGA services to end users and bridge the digital divide in areas deprived of basic broadband services.

The Voivodeship has tasked the Implementation of Information Technology Division, which is part of Infrastructure Department of the Voivodeship, to coordinate project implementation and monitor its operation. Project management team will be composed of the employees of the said Division as well as employees of other Divisions appointed by the Marshall Office. This staff will monitor the execution of the contract with the IO, coordinating financial activities and technical aspects with the IO. Trainings to build necessary technical competences are foreseen in the project costs (equal to 0.5 M PLN or 0.13 M EUR). As a consequence of allocating the responsibility for the current staff of the Marshall Office, the project does not foresee to employ additional staff.

For the operation stage, the Voivodeship will select – in a separate public private partnership procedure – a private partner (the Infrastructure Operator (IO)), to whom it will lease and entrusts the operation of infrastructure. The IO will pay the Voivodeship the fee for the lease of the broadband infrastructure and will keep the right to retain revenues from the management and operation of the network.

As per state aid decision, the infrastructure will be also available for use to public administration, in line with the public procurement regulations. The objective is to contribute to the development of e-services (including in particular e-government, e-education, e-health).

To avoid market distortions, in line with the state aid decision, IO will not have the right to provide retail services in order to avoid any concern of possible undue advantage created by the management of the network in a given Voivodeship.

Finally, the following role of UKE, the national regulatory authority, is foreseen by the state aid decision and references to it are made in the application Form and the Feasibility Study. As stated in the State Aid decision, 'The compliance of the selected bidder with the contract obligations will be monitored on a regular basis by the provincial authorities and by the National Regulatory Authority (NRA). The monitoring will be performed during the lifetime of the contract with the infrastructure operator'. Furthermore, 'during the term of validity of the contract, the fees charged by the IO (Infrastructure Operator) will be approved, monitored and verified by UKE, which will be able to resolve potential disputes between the province authorities and the infrastructure operator with regard to the level of the fees and eventually may determine the conditions of access to the DSS network.

JASPERS Comments

Conclusions

The success of broadband projects with considerable public involvement depends also on institutional framework and use of the private partners' expertise.

Based on the recommendations in the Feasibility study the Beneficiary will implement an operator's operator model for the implementation and operation of the project as described in

section 3.2.

Given the complexity of the project and lack of sufficient experience in this kind of investment, the Beneficiary will be supported in this role by a Contract Engineer. The budget allowances for construction supervision are considered adequate and should be sufficient to ensure sound project implementation.

During the implementation stage, the Beneficiary has built a dedicated project team within existing structure of the Marshall Office to manage the investment and selection of the IO. The competence of this team will be adapted to contract management and project monitoring at the start of the operational phase.

One of the means to strengthen the monitoring framework is development of detailed provisions in the contract with Infrastructure Operator. We would strongly recommend to ensure that, as part of the implementation phase of the project, the contract with Infrastructure Operator is adequately prepared to contain detailed information how the relationship between the Voivodeship and IO will be managed and is developed with support of the national regulator and expertise from the Ministry of Administration and Digitalisation (MAiC).

The role of NRA is described in detail in the State Aid decision and other than recommendation to ensure close cooperation with NRA and the newly created Ministry (MAiC), JASPERS does not have additional comments.

Significant outstanding issues

None

3.7 Procurement and Timetable

Project Measures

The implementation schedule of the project is detailed in section D.1 of the application form.

The Project's procurement plan foresees the following contracts:

Tenders completed

Duration of tenders	Start	End
Contract Engineer	31/10/2012	25/03/2013
Design and Build	20/10/2010	28/02/2012

Tenders ongoing or planned

Duration of tenders	Start	End
Infrastructure Operator	11/07/2013	11/12/2013

Delivery and installation of active components	11/07/2013	11/12/2013
Contractor of educational activities	06/05/2013	01/08/2013

The application form confirms that the tenders are to be carried out on the basis of the national/EU regulations for Public Procurement. Unrestricted tenders for Contract Engineer and Contractor (Design and Build) were published in the Official Journal. Private partner will be selected following the legal provisions for private-public partnership.

The Project's envisages the following timeline for the duration of contracts related to the construction of the network.

Duration of works	Start	End
Passive network construction	28/02/2012	31/12/2014

JASPERS Comments

Conclusions

The procurement plan has been screened, without detailed checking of tendering procedures to be applied. The proposed steps of the procurement plan are considered reasonable: the scope of works justifies proposed divisions.

It has to be noted that award criteria for the contract with IO are outlined in the text of the state aid decision.

As this is one of the most advanced projects in Poland, the risk that simultaneous procurement and implementation of similar goods and services for a number of regional projects might lead to a delivery bottlenecks and consequent implementation delays is lower for this project.

Under "n+2" rule all disbursement for projects supported under the current 2007-2013 programming period must be finalised by the end of 2015. The current timetable foresees all of the works to be finalized by Q4-2014, thus allowing a total implementation delay of around 12 months. The fact that the tenders for passive network constructions have already been concluded, should in principle allow for timely implementation. However, this assumes that no substantial legal or technical issues occur that would delay the project in the implementation stage and at the stage of private partner selection. Smooth and efficient cooperation between all bodies involved in the project approval and implementation phase will be crucial in order to ensure a successful implementation under the current programming period of the ERDF.

Significant outstanding issues

None.

3.8 State aid

Project Measures

The Project "Broadband network in Lower Silesia" was subject to individual notification on the compatibility of Aid. Following the European Commission's assessment of the measure, the decision (SA.33386) was issued on December 12th 2012 stating that the measure is compatible with the internal market, pursuant to Article 107(3)(c) of the Treaty on the Functioning of the European Union (TFEU).

JASPERS Comments

Conclusions

JASPERS provided support to state aid notification through:

- Support in preparation of and participation in working meetings with the Beneficiary and DG COMP;
- Reviewing and commenting on the notification documents;
- Organization of a number of workshops, including a specific session on State Aid which outlined the approach approved in the State Aid decision for Xarxa Oberta broadband network N 407/2009, which has a number of similarities with the Polish Projects.

State aid decision confirms that funds for the deployment of a backbone network for wholesale provision of services on the private market constitute State aid within the meaning of Article 107 (1) TFEU and meet the compatibility criteria set out in the Broadband Guidelines.

It has to be noted that as the project is subject to state aid decision, the Article 55(6) should apply and that there is no obligation to calculate the Funding Gap, but state aid ceiling has to be respected. For broadband projects, this would include the application of claw-back mechanism to the Infrastructure Operator to avoid overcompensation (in line with state aid guidelines for broadband). The mechanism has been notified and approved in the notification process.

State aid decision equally confirms the individual total project budget PLN 215,000,000 (approx. EUR 51,800,000), specifies the approximate value of ERDF funds at 149,700,000 (approx.. 35,000,000) as well as recognizes that the remainder of funds will come from the budget of the Lower Silesia Voivodeship.

It should be noted that according to the recently published State aid Broadband Guidelines (published in the Official Journal of the European Union on 26 January 2013 (C25, p.1)), the Member States are invited to assess if there is requirement to bring the existing aid schemes in line with the provisions of the newly published guidelines. While it is unlikely that the state aid decision issued in December 2012 would require any modification, JASPERS nevertheless recommends to consult the Polish competition authority to ensure that no additional action is required to bring the approved state aid decision in line with the provisions of the updated State aid Broadband Guidelines.

Significant outstanding issues

None

3.9 Other issues

Project Measures

N/A

4. Sensitivity and Risks

Project Measures

4.1 Sensitivity analysis

Sensitivity analysis is done by observing the changes in financial and economic parameters (NPV and IRR) when varying following variables:

- demand
- investment cost,
- operation and maintenance cost,
- ERDF contribution
- unit price of services,

Application form provides information on the impact of the % change in variables on the financial indicators FNPV(C), FNPV(K) and ENPV.

Switching values of analysed variables are subsequently calculated to assess when financial and economic indicators would be equal to 0 and the results presented in the application form.

4.2 Risk analysis

Qualitative risk analysis, including assessment of probability of risk, its impact on the project and foreseen mitigating measures has been conducted for the project.

Critical risk factors (high probability and high impact) have been identified mainly with regards to:

- Timeline of procurement
- Underestimation of operating costs

In addition, high risk factors (a combination of high and medium probability/impact) can be grouped into the following categories:

- Underestimation of total project costs
- Lack of interest to perform the tasks of Infrastructure Operator

Following the application of foreseen mitigation measures described in detail in the Feasibility Study for all risks and summarized in the application Form, all risks are considered low/medium and manageable.

JASPERS Comments

Conclusions

Sensitivity Analysis

In the analyses developed by the Beneficiary, the sensitivity of key variables has been tested by varying selected variables at 5, 10 and 20%. As background calculation was not provided and to further analyse the CBA model developed for the project, JASPERS conducted supplementary sensitivity analysis based on the model developed with the Beneficiary.

According to JASPERS calculations, all variables tested (investment costs, operating costs and revenues) are critical for FNPV(K) and benefits are critical for ENPV. Given conservative assumptions applied for the economic analysis, it can be concluded that limited conditions exists for the economic benefits to decrease by 19.9% before the ENPV turns zero. It is noted that the financial return on national capital is most sensitive to the level of capital expenditure.

Risk Analysis

Probabilistic risk analysis, as suggested in the Major Project Application was not performed.

In JASPERS opinion the qualitative risk analysis presented in the Feasibility Study is considered satisfactory. It can be confirmed that minimum requirements of risk analysis have been complied with. In accordance with the National guidelines for investment projects preparations (MRR/H/14(2)01/2009), the risk analysis can be executed as a qualitative exercise in case not enough information to perform quantitative risk analysis is available (one would need knowledge with regard to types of probability distributions of various risk factors and its parameters of these distributions, such as average, standard deviation etc). The Beneficiary has conducted qualitative analysis assessing the probability of materialising of discussed risks as low, medium or high.

The Beneficiary seems aware of the risks and has committed to take several actions which aim at reducing the risks for the Project at preparation and implementation stage. The application form specifically confirms that risk monitoring is a continuous process and risks are regularly updated.

In JASPERS opinion, the risk management plan should put special emphasis on potential time delays and financial sustainability of both investment and operations.

Financial sustainability of operations is conditional on ensuring that the network scope is aligned with demand. To this end, it would be advisable to perform last mile operators' surveys to monitor demand at the stage of network design in order to verify the demand assumptions and to consult the network design with network operators interested in performing the function of Infrastructure Operator, equally to minimise the risk of not selecting the Infrastructure Operator.

In JASPERS opinion, the process of risk monitoring should be explicitly extended to the operation phase. There are a number of factors which are beyond the Beneficiary control, like changes in regulated tariffs, in technology which will have significant impact on project operation conditions. The EU grant should result in lower connection cost for the end users and increase the attractiveness of the service to end users and the majority of risk is assumed to be covered by the private partner better equipped to manage the risk.

Significant outstanding issues

None

5. Recommendations

The project objectives are aligned with the strategy of the Operational Programme Lower Silesia and in particular with the goals of Priority Axis II Development of Information Society in Lower Silesia region. The investment will significantly contribute to the objectives of the National Strategy for the Development of the Information Society in Poland until 2013 as well as the National Reform Program until 2015 and more generally to the smart growth dimension of the Europe 2020 strategy, the objectives of the Digital Agenda.

The following are the recommendations to the project preparation phase, which summarise JASPERS comments in previous sections of this completion note:

- In order to keep within the current timeframe of the programming period, the Beneficiary should take all steps necessary to ensure that the implementation and procurement scheduled is not subject to any adverse delays.
- In order to further increase the efficiency of the preparatory phase, JASPERS would strongly encourage to coordinate procurement activities between other regions in Poland in order to ensure knowledge sharing, and pooling of resources, when necessary.
- It is strongly recommended to clarify the level of operating costs co-financing on the side of the Marshall Office. It is recommended to: i) ensure consistency in confirming project's sustainability between the financial model and the application form; ii) if relevant, confirm Marshall's office availability to finance part of project's operations not covered by rent from the private partner; iii) provide information on the consultations with potential private partners or ultimately revise the financial model with details on the agreement signed with the private partner.
- JASPERS has invited the Beneficiary to further reconsider the management structure against the envisaged tasks in the project monitoring. To this end, we would strongly recommend to ensure that the contract with Infrastructure Operator equally contains detailed information how the relationship between the Voivodeship and IO will be managed and is developed with support of the national regulator and expertise from the Ministry of Administration and Digitalisation (MAiC).
- It is equally recommended that the contract contains detailed methodology for price setting and monitoring and is developed in close consultation with the regulator to create a system that will allow to efficiently control the IO by the Marshall Offices with support of the regulator.
- Financial sustainability of operations is conditional on ensuring that the network scope is aligned with demand. To this end, it would be advisable to perform last mile operators' surveys to monitor demand at the stage of network design in order to verify the demand assumptions and to consult the network design with network operators interested in performing the function of Infrastructure Operator, equally to minimise the risk of not selecting the Infrastructure Operator.
- In line with the number of detailed recommendations made in this application form, it is JASPERS recommendation to further improve the application form by: (i) including more conservative results of the economic analysis conducted in cooperation with JASPERS; (ii) ; (ii) ensure that the application form is in line with the template outlined in the Commission Regulation No 832/2010 of 17 September 2010; (iii) ensure project compliance with revised state aid guidelines; (iv) ensure appropriate risk control

mechanism at the implementation and operation stages, and (v) verify consistency of information and introduce additional clarifications in line with the recommendations made.


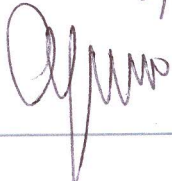
6. Additional JASPERS considerations (if any)

It should be noted that financial model was submitted to JASPERS in August 2012. Due to project verification conducted in parallel by the national authorities, the Beneficiary has taken decision not to update the model further (e.g. not to take into account the actual cost of the Main Engineer services). It is JASPERS understanding that the total project costs will depend on the final tender to select infrastructure operator combined with purchase of active components. In case the total project costs exceeds the value of 50 M EUR, the Beneficiary is aware of the obligation to submit the project to the European Commission for approval. We recommend that in the project documentation submitted to the European Commission all values provided in the cost benefit analysis, financing plan and in the application form should reflect the actual investment costs of the winning tenders. We recommend already now to consult the national authorities on the procedure that would apply to introduce modifications to the CBA model.

As outlined in this opinion, there are a number of recommendations made to improve the quality of the application form. JASPERS underlines its availability to review the application form once it is revised and updated before submission to the European Commission.

7. JASPERS section of grant application

The description of JASPERS' contribution to the project is correct. The majority of JASPERS' comments are reflected in the relevant project documentation.

Joanna Knast-Braczkowska Task Manager	Signature & date: 13 10 51 2013 
Antonio Almagro Head of Knowledge Economy and Energy Division	Signature & date: 15/5/2013 

Annex I. Cost Benefit Analysis model developed in cooperation with the Beneficiary.