

**DRAFT THEMATIC GUIDANCE FICHE FOR DESK OFFICERS**  
**ENHANCING ACCESS TO AND USE AND QUALITY OF ICT**  
**HIGH-SPEED BROADBAND ROLL-OUT**  
**VERSION 2 - 13/03/2014**

**RELEVANT PROVISIONS IN THE LEGISLATION**

Regulation	Articles
<p style="text-align: center;"><a href="#"><u>Common Provisions Regulation</u></a></p> <p>No 1303/2013</p>	<p>Article 9 (2) - Thematic objective: enhancing access to, and use and quality of information and communication technologies;</p> <p><b>Related provisions:</b></p> <p>ANNEX I – Common Strategic Framework, section 4.8 (synergies with Connecting Europe Facility)</p> <p>ANNEX XI, Ex ante conditionality 2.2.</p>
<p style="text-align: center;"><a href="#"><u>European Regional Development Fund Regulation</u></a></p> <p>No 1301/2013</p>	<p>Article 5(2)(a) - Investment priority: extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy</p> <p><b>Related provisions:</b></p> <p>Article 3 - Scope of support from the ERDF</p>
<p style="text-align: center;"><a href="#"><u>European Social Fund Regulation</u></a></p> <p>No 1304/2013</p>	<p><b>Related provisions:</b> (strictly for synergies)</p> <p>Article 3 (1) d Enhancing institutional capacity and efficient public administration</p>
<p style="text-align: center;"><a href="#"><u>European Territorial Cooperation Regulation</u></a></p> <p>No 1299/2013</p>	<p><b>Related provisions:</b></p> <p>Recital 5 - Cross-border cooperation in the field of ICT</p>

<p><b><u>EAFRD Regulation</u></b> <b>No 1305/2013</b></p>	<p>Article 5 (6)(c) enhancing accessibility to information and communication technologies (ICT) in rural areas.</p> <p><b>Related provisions:</b></p> <p>Article 19(1)(a)ii – start-up aid for non-agricultural activities in rural areas;</p> <p>Article 19(1)(b) – investments in creation and development of non-agricultural activities;</p> <p>Article 20(c) – broadband infrastructure, including its creation, improvement and expansion, passive broadband infrastructure and provision of access to broadband and public e-government solutions;</p> <p>Article 35(1)(a) – co-operation approaches among different actors;</p> <p>Article 35(1)(b) – creation of clusters and networks</p> <p>Article 44 – LEADER co-operation activities</p>
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*This is a draft document based on the new ESIF Regulations published in OJ 347 of 20 December 2013 and on the most recent version of the relevant Commission's draft implementing and delegated acts. It may still require review to reflect the content of these draft legal acts once they are adopted.*

## 1. INTRODUCTION

This guidance presents the ERDF Investment Priority 2(a) "*extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy*" and the rationale behind the investment through the ERDF and the alternative of investment through the EAFRD. It provides suggestions for questions that could be raised by the negotiators.

## 2. STRATEGIC FRAMEWORK

### 2.1. *Next Generation Networks (NGN) as the basis to unleash the ICT potential for growth and job creation*

Support to enhancing access to, and use and quality of, ICT: Thematic objective (TO) 2 is part of thematic concentration requirements (80% of the ERDF allocation in more developed regions / 60% in transition regions / 50% in less developed regions).

It is estimated that just a 10 % increase in broadband take-up could result in an increase in GDP growth of between 0.9% and 1.5% increase in GDP growth<sup>1</sup>. ICT as a sector represents already 5% of the total GDP and 20% of overall productivity growth in Europe. Network infrastructures are a precondition to the development of ICT both as a sector and as a cross-sector dimension to increase the overall productivity of the economy.

High-speed internet connectivity is the condition for the emergence and take-up of the next generation of services and technologies in areas such as cloud computing, internet of things, research infrastructure, smart cities, smart grids, ambient assisted living, eHealth, energy monitoring, home security and high-definition audio-visual services, etc. In addition the simultaneous use of different applications by households or business will require substantial bandwidth.

Ensuring access to this critical infrastructure is essential for the digital economy and for stimulating social and economic cohesion; at the same time that it creates a virtuous interaction between supply and demand of ICT that mutually reinforces each other. For these reasons the Digital Agenda for Europe foresees that:

- (i) by end 2013, basic broadband is available to all Europeans,
- (ii) all Europeans have access to much higher Internet speeds of above 30 Mbps by 2020,
- (iii) 50 % or more of European households subscribe to Internet connections above 100 Mbps by 2020.

Enhancing accessibility to, use and quality of ICT in rural areas has also been identified as one of the focus areas of the Union's priority for rural development on promoting social inclusion, poverty reduction and economic development in rural areas under the EAFRD. Similar to the ERDF, this is optional and no fixed allocations are foreseen.

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<sup>1</sup> Czernich et al. in 2009 quoted in "The socio-economic impact of bandwidth" Final Report

## 2.2. *Relation of broadband investments with other investment priorities*

As broadband projects often require civil engineering works, cost savings and synergies could be achieved through seeking **coordination with transport and energy infrastructure works** (proposals in this direction are included in a proposed regulation<sup>2</sup>) and related investment plans.

Synergies are also possible with research and innovation (Investment Priorities 1a and b) and ICT take-up (Investment Priorities 2 b and c) – see relevant guidance fiches.

## 3. REGULATORY SCOPE OF SUPPORT

### 3.1. *The ERDF*

#### 3.1.1. *Scope of support*

In line with the results orientation of the new legislative framework for Cohesion policy, the ERDF regulation distinguishes clearly between:

- the scope of support for the ERDF (the activities it may support) and
- the investment priorities for each thematic objective (objectives to which the ERDF shall contribute). These investment priorities should form the basis for the definition of specific objectives within programmes that take into account the needs and characteristics of the programme area.<sup>3</sup>

For an operation to be eligible for ERDF support it must contribute to a specific objective defined for an investment priority and fall within the scope of the fund's activities.

The primary area of support from the ERDF for enhancing access to ICT is provided for in the context of investments in infrastructure *providing basic services to citizens in the area of ICT* (Article 3.1 (c)).

The possibility to invest in broadband is also covered in Article 3(1)(b) (scope of the ERDF): *productive investment, irrespective of the size of the enterprise, which contributes to the investment priorities set out in Article 5.1 and 5.4, and, and where that investment involves cooperation between large enterprises and SMEs, in Article 5.2*. This enables cooperation of SMEs with large enterprises to extend broadband deployment and the roll-out of high speed networks.

Broadband investments can also be realised according to Article 3(1)(e) i.e. *investment in the development of endogenous potential through fixed investment in equipment and small-scale infrastructure, including small-scale cultural and sustainable tourism infrastructure, services to enterprises, support to research and innovation bodies and investment in technology and applied research in enterprises*.

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<sup>2</sup> See COM(2013) 147 final Proposal for a regulation on measures to reduce the cost of deploying high-speed electronic communications networks

Cfr. Recital 7 of the ERDF Regulation: (...) investment priorities should set out detailed objectives, which are not mutually exclusive, to which the ERDF is to contribute. Such investment priorities should form the basis for the definition of specific objectives within programmes that take into account the needs and characteristics of the programme area.

The ERDF can support investment in broadband deployment in all Member States and regions, but each Member State/region has to assess their concrete development needs and identify the types of investment including in rural areas, with ERDF resources or EAFRD under Article 3 (6) (c).

### 3.1.2. *Investment priority*

Article 5(2)(a) Investment Priority 2a includes "*extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy*".

### 3.2. *The EAFRD*

**Broadband infrastructure in rural areas** could be supported under Article 21(c) of the EAFRD Regulation (measure "Basic services and village renewal in rural areas"). It supports operations targeting the development of broadband infrastructure, including its creation, improvement and expansion, passive broadband infrastructure and provision of access to broadband solutions. Support could only be provided to rural areas as defined by Member States in accordance with Article 50 of the EAFRD Regulation. Such infrastructural support can also be provided under LEADER.

For an operation to be eligible for EAFRD support it must be part of a programmed measure under the rural development programme, which measure supports objectives under the relevant focus area. Investments in broadband infrastructure under Article 21(c) as described above are eligible for support where the relevant operations are implemented in accordance with plans for the development of municipalities and villages in rural areas and their basic services, where such plans exist and shall be consistent with any relevant local development strategy.

Importantly, rural development programmes may provide for specific derogations from the small-scale infrastructure rule for investments in broadband (i.e. large scale broadband infrastructure could be supported by the EAFRD). In that case, clear criteria ensuring complementarity with support under other Union instruments shall be provided. The EAFRD support for broadband could be complementary to the support provided under the ERDF, but it is also possible that a broadband infrastructure in a whole rural area is supported entirely by the EAFRD. Where possible, the aim should be to support NGN or networks with as advanced as possible technical characteristics.

The EAFRD can support broadband networks in rural areas of any broadband connectivity that is deemed appropriate by the Managing Authority (or any other relevant national/regional authorities). **No restrictions on minimum connectivity/speed exist** in the EAFRD legislation. However, the aim of the Managing Authorities should be to develop a network that is in **synergy with the networks in the neighbouring urban areas**, so that rural areas do not experience a broadband gap. From this point of view, development of networks with as **advanced as possible technical characteristics**, should be the major aim while of course respecting cost-benefit considerations. Coordination and complementarity between ERDF and EAFRD priorities need therefore to be sought in the Partnership Agreements and at programme level and as much as possible in line with the relevant NGN plans which should also cover broadband in rural areas.

### 3.3. *Connecting Europe Facility*

According to the Common Strategic Framework, Member States and the Commission shall ensure that ERDF and Cohesion Fund interventions are planned in close cooperation with the support provided from the Connecting Europe Facility (CEF), so as to ensure complementarity, avoid duplication of efforts and ensure the optimal linkage of different types of infrastructure at local, regional and national levels, and across the Union.

The infrastructure related part of the digital CEF budget was in fact drastically reduced by the European Council and will be implemented exclusively via financial instruments (see thematic guidance fiche on financial instruments).

## 4. KEY MEASURES LINKED TO INVESTMENT PRIORITIES

### 4.1. *The main priority: the deployment of Next Generation Network*

Next Generation Network (NGN) includes the entire electronic communication Network (Backbone/Backhaul<sup>4</sup> plus Access networks), while *Next Generation Access* (NGA) Network makes reference only to the Access segment. **Access** means in this context the making available of facilities and/or services for the purpose of electronic communications services to households, enterprises and other ICT users. Under Investment Priority 2a both elements can be funded.

NGA networks are understood to have at least the following characteristics:

- deliver services reliably at a very high speed per subscriber through optical (or equivalent technology) backhaul sufficiently close to user premises to guarantee the actual delivery of the very high speed;
- support a variety of advanced digital services including converged all-IP services; and
- have substantially higher upload speeds (compared to basic broadband networks).

**Next Generation Access Networks are the main priority for ERDF funding under Investment Priority 2a** because this part of the network **closest to the user** is normally the **most costly part of the upgrade of a fixed electronic communications network**. For this reason, even when the upgrade of the backbone/backhaul network is undertaken by operators, investment in the last meters to the potential user is often lagging behind. Operators will first upgrade access networks in high density areas, especially those with medium and high-revenue populations.

These investments may include the **active and passive components of networks** (wireless or wired next generation networks, data centres, high computing facilities, sensors, etc.).

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<sup>4</sup> Backbone: The portion of the telecoms network that links towns and cities across the country (also known as the core network); Backhaul The portion of the telecoms network that connects the central office (local exchange) to the core/backbone network. Also used to refer to any portion of the network that connects into the centre of the network. See REGIO Guide to broadband investment (2011) [http://ec.europa.eu/regional\\_policy/sources/docgener/presenta/broadband2011/broadband2011\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/presenta/broadband2011/broadband2011_en.pdf)

In terms of the technology used, NGA networks often use fibre-based access networks of telecom operators (FTTx) or advanced upgraded cable networks of television providers. Other technologies may emerge during the financial period and may be funded.

Although ERDF investments have to be in principle technology neutral, please note: **Upgraded copper cables from fixed telephone networks are not considered “future proof” in the sense of NGN throughput capacities**, as they are reaching their technical limits and will stay below 30 Mbs. The mere up-grade of copper cables does not require major investments and should in general be privately financed.

**“Basic” broadband deployment vs. the roll-out of high-speed networks:** Slow broadband access is better than no broadband access, and not all ERDF broadband projects must necessarily be of a "next-generation" type – i.e. delivering speeds above 30 Mbps. But such investments are **not a priority for the ERDF**, as the Commission wishes to send a strong signal that Next Generation Networks are to be encouraged as the way forward to reach the Digital Agenda objectives, ensuring that broadband projects are “future-proof” (allow for future potential needs). State aid issues need to be carefully considered for such investments (see below).

Investments in access may involve the connection of equipment, by fixed or non-fixed means (in particular the **local loop**<sup>5</sup> and facilities and services necessary to provide services over the local loop); physical infrastructure including buildings, ducts and masts; relevant software systems including operational support systems.

**Investments in electronic communication networks will primarily come from commercial investors**, but the ambitious broadband objectives of the Digital Agenda for Europe will not be reached without some support of public funds. It is therefore important that public funds are used to complement and not to substitute investment by market players.

#### 4.2. State Aid rules

Where State aid is involved, managing authorities should engage early in pre-notification talks with the EU Competition authorities, with a view to secure state aid clearance and speed up implementation in accordance with EC state aid rules, notably the identification of black, grey and white areas<sup>6</sup> of existing infrastructure, and forthcoming investment in NGN for the next three years. Where possible, it is recommended the use of national state aid scheme covering more than one project or a regional State Aid scheme.

**The broadband state aid guidelines** define the conditions in which aid for broadband can be given. Project promoters seek state aid approval at very early stages, and often Member States will notify broadband schemes which then are applicable in all regions.<sup>7</sup>

**EU state aid rule** establish that the upgrade from basic to high speed broadband should be justified in terms of a "step change" with respect to the pre-existing basic broadband availability. A **‘step change’** can be demonstrated if, as the result of the public intervention,

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<sup>5</sup> physical circuit connecting the network termination point to a distribution frame or equivalent facility in the fixed public electronic communications network

<sup>6</sup> **White areas** are those where no broadband infrastructure exists or is unlikely to be developed in the near term. **Grey areas** are those where only one broadband network operator is present. Areas where at least two or more broadband network providers are present are called **“black areas”**.

<sup>7</sup> See guidelines and jurisprudence: [http://ec.europa.eu/competition/state\\_aid/legislation/specific\\_rules.html](http://ec.europa.eu/competition/state_aid/legislation/specific_rules.html)

(i) the beneficiary makes significant new investments in the broadband network and (ii) the subsidised infrastructure brings significant new capabilities to the market in terms of broadband services availability, capacity, speeds and competition. The step change shall be compared to that of existing as well as concretely planned network roll-outs in the next three years. By definition, the first network of its type in so called white areas is always a step change. Hence the first basic broadband network in a white basic broadband area and the first NGA network in a white NGA area constitute a step change.

An **upgrade from a basic to an high-speed broadband network** and also certain upgrades of a Next Generation Network (bringing the fibre connectivity nearer to the end-user) may therefore constitute a "step change" when it meets the above two conditions.

On the contrary, a small, gradual upgrade of existing infrastructures, for instance from 12 Mbps to 24 Mbps is unlikely to bring additional service capabilities. Similarly, marginal investments (e.g. related merely to the upgrade of the active components of the network) would most likely not be considered eligible for State Aid. In addition, although certain technologies (such as vectoring) could substantially increase the capabilities of the existing copper networks, they may not always require significant investments.

As a result, the upgrade or roll-out of **network infrastructure providing speeds under 30 Mbps require careful scrutiny to verify if it complies with State Aid rules and can qualify for support under the ERDF.**

In conclusion, support to projects rolling out networks providing broadband connectivity below 30 Mbps could be considered in certain cases, notably:

- in areas where there is **no broadband service** or broadband service has a **very limited capacity/speed** (where even a project not reaching 30 Mbps will constitute a substantial improvement);
- when the **investment involved is significant** and will therefore be unlikely to be carried out by the market; and
- when the additional investment **to reach at least 30 Mbps or higher speeds would not be economically justifiable** taking into account its cost, the foreseeable demand and the population concerned.

#### *4.3. The roll-out of a mobile and / or wireless network*

The granting authority is entitled to select the most suitable technological solution or mix of technology solutions to achieve the objectives of the project always respecting the principle of technology neutrality. The use of **mobile and/or wireless solutions are thus not excluded** from ERDF support, but the topography, population / user density etc. may mean that even 4<sup>th</sup> generation mobile networks or new technologies will not be sufficient to deliver high-speed broadband.

Given the rapid evolution of advanced wireless technologies (new technologies such as LTE-Advanced and the intensifying market deployment of others such as LTE or Wi-Fi), certain fixed wireless access solutions (e.g. based on possibly tailored mobile broadband technology) could be considered already as meeting the conditions of NGAs.<sup>8</sup>

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<sup>8</sup> certain advanced wireless access networks capable of delivering reliable high speeds per subscriber - Study of the socio-economic impact of Broadband includes a summary of the technologies that will be capable of delivering speeds of at least 30 Mbit/s and to the mass market by 2020

However, since the wireless medium is ‘shared’ (the speed per user depends on the number of connected users in the area covered) and is inherently subject to fluctuating environmental conditions, at the current stage of market development **mobile communication networks do NOT qualify as next generation networks.**

ERDF could support the deployment of **certain wireless solutions in underserved or poorly served areas** (e.g. a 4G –fourth generation- network) when mobile network has the best bid in a technology neutral tender. In other areas, especially urban areas, one has to look if a market failure really exists and if the additional benefits of rolling out a 4G network will not likely result in the "step change" justifying the use of public funds.

The EAFRD could also support the deployment of certain wireless solutions in underserved or poorly served rural areas when mobile network has the best bid in a technology neutral tender.

#### *4.4. The use of satellite systems to increase broadband coverage*

At the current stage of technical development, satellite systems do not commercially provide broadband connectivity of 30 Mbps or more. However, in some cases this type of projects may be necessary to provide some broadband connectivity in underserved areas typically white basic broadband areas and could qualify for ERDF support if they win a technology neutral tender.

#### *4.5. ERDF and EAFRD support a broadband project if a similar network already exists or has been planned in the targeted region*

Investments in electronic communication networks shall primarily come from commercial investors, so it is important that public funds are carefully used in this sector to complement and not to substitute investments of market players.

In the light of the current Broadband Guidelines, there is a need to verify that **market failure** exists in the area targeted by a project and that private investors have no concrete plans to roll-out their own infrastructure in the near future.

ERDF (and EAFRD for rural areas) funding should **prioritize projects in ‘white areas’** in which there are no networks of the same kind as the ones planned (basic or next generation) and where they are unlikely to be developed in the near future.<sup>9</sup> These projects are more likely to be compatible with EU State Aid rules.

Funding of projects in ‘**grey areas**’ (in which only one network of the type planned exists and another similar network is unlikely to be developed in the near future) will require a more detailed analysis and a thorough state aid compatibility assessment will be necessary. However the mere existence of one network operator does not necessarily imply that no market failure or cohesion problem exists. If that operator has market power (monopoly) it may provide citizens with a suboptimal combination of service quality and prices. Certain categories of users may not be adequately served or, in the absence of regulated wholesale access tariffs, retail prices may be higher than those charged for the same services offered in more competitive but otherwise comparable areas or regions of the country. If, in addition,

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<sup>9</sup> As NGA network coverage is generally speaking not as advanced as basic BB coverage, it would be acceptable to identify previous 'white spots' for basic Broadband coverage as potential/probable 'white spots' for NGA. This should be explored in the NGN plans. .

there are only limited prospects that alternative operators enter the market, the funding of an alternative infrastructure could be an appropriate measure and be envisaged.

In '**black areas**' where there are or there will be in the near future (3 years) at least two broadband networks of the same type from different operators and broadband services are provided under competitive conditions, there is very little scope for State intervention.

Nevertheless when two next generation networks exist, public intervention could exceptionally be allowed under the strict conditions of the Broadband Guidelines. In those cases an early notification of the measure is even more recommended.

#### 4.6. *Models of investment*

The adoption of new emerging broadband technologies to provide a seamless converged wire-line and wireless network highlights the importance of planning investments and measures to **stimulate private investment**. ERDF investments should be based on sustainable investment models that enhance competition and provide access to open, affordable, quality and future proof infrastructure and services.

There are currently 5 main investment models<sup>10</sup>:

- **The bottom-up, or local community, model** involves a group of end users organising themselves into a jointly owned and democratically controlled group
- **Private design, build and operate** (private DBO) model involves the Managing Authority issuing funding (often in the form of a grant) to a private sector organisation<sup>11</sup>
- **Public outsourcing model** (where a single contract is awarded for all aspects of the construction and operation of the network) **The Design–build–finance–operate (DBFO) model** use the grant as award criterion of the tender, then automatically adjusting its intensity, by putting competitive pressure on the profit rate of the bidders. These latter may be asked to self-finance the non-funding gap component (i.e. allegedly paid by the access fees charged to the operators)
- **Joint venture model** with split ownership of the network between the public and private sector.

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<sup>10</sup> Guide to Broadband investment (09/2011) – updated expected end 2012.

[http://ec.europa.eu/regional\\_policy/sources/docgener/presenta/broadband2011/broadband2011\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/presenta/broadband2011/broadband2011_en.pdf)

<sup>11</sup> The justification for EU funds (and public funds) intervention stems from the existence of market failure, identified by the competent public authorities against its own relevant strategy and objective (territorial coverage, quality of service, affordability). It requires in turn the intervention of public authorities to address the market failure. In this respect, the above model of "private" DBO, where the managing authority is granting directly EU funding to private operator, allegedly following a call for projects, may be questionable. This public funding should be granted under conditions and obligations, aiming at overcoming the market failure, for which the managing authority does not have the capacity and legitimacy. Most likely, the competent public promoter should contract the private organisation, including for organising the conditions ruling the EU grant. This public promoter should then become the formal beneficiary of the grant, channelled, in turn, to private operators.

- **Public design, build and operate model** (public DBO) involves the public sector owning and operating a network without any private sector assistance

Broadband is a competitive, rapidly evolving and technically complex market. In 2007-2013 some broadband infrastructures financed with ERDF Funds could not be viably operated by the Management Authorities or third parties designated by them. This resulted in a **risk of "liquidation" of assets**. This situation was sometimes accelerated by the decision of other operators to deploy its network at least in the most profitable parts of the area served by the ERDF funded project.

The mapping of existing and planned investments which is part of the Next Generation Network Plan requested as part of the ex-ante conditionality for investment priority 2a, can contribute to minimize this risk to some extent. However, third operators are not legally bound not to invest in an area in the future even if at the time of the consultation they had no concrete plans. The consultation protects their future investments against the potential distortion of public intervention but not vice versa. It is therefore essential that the Next Generation Network Plan contains also a perspective on "sustainable investment models that enhance competition and provide access to open, affordable, quality and future proof infrastructure and services".

The EU "**Guide to Broadband investment**"<sup>12</sup> published in September 2011 advises public authorities managing EU funds on the strengths and weaknesses of different models of investment in high speed internet infrastructures. It provides advice to Managing Authorities and project promoters on the issues that should be considered when planning a public sector investment in broadband infrastructure based on a detailed review of several broadband investment projects (mostly ERDF co-funded) and includes messages on success factors and lessons learned. In addition, the selection of the most appropriate financing instrument shall take into account the revenue generating potential of the operation and its levels of risks in order to make the most effective use of public funds.

The planning authorities should consider factors affecting viability of investment including the geographical features of the territory, and population density, and issues concerning technology and architecture affecting competition and affordability and elements affecting demand such as levels of income, education, ICT training, employment status, ageing, and the development aims of the area.

Whenever the granting authorities decide to select a third-party operator to deploy and operate the subsidised infrastructure, the selection process shall be conducted in line with spirit and the principles of the EU Public Procurement Directives.

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<sup>12</sup> [http://ec.europa.eu/regional\\_policy/sources/docgener/presenta/broadband2011/broadband2011\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/presenta/broadband2011/broadband2011_en.pdf) (an up-date will be published in autumn0)

## 5. LESSONS FROM THE PAST AND RESULT ORIENTATION

The ESIF policy for 2014-2020 involves a major shift from resource-orientation to result-orientation. Result Indicators together with a clear intervention logic and good quality reporting on outputs will allow the Commission to measure progress of the policy. The performance framework will allow us to monitor and incentivise efficient implementation of the policy as planned.

The choice of support measure and their combination will depend on the specific objective for the investment priority. In line with the intervention logic, objectives and intended results should be defined first, before deciding on actions and the financial allocation. Against this background:

The Programming documents should contain a clear set of objectives in terms of coverage and penetration of basic broadband and Next Generation Networks as identified in the NGN plans. Definitions that could be useful for setting such **indicators** could be:

- *Broadband coverage* is the percentage of households living in areas served by broadband networks (i.e. having access to a commercial offer in their territory).
- *Broadband penetration* refers to the number of broadband subscriptions per 100 people (i.e. actual take-up of commercial offers in the territory).

### Results

Examples of result indicators<sup>13</sup> (Preferably one specific objective should be reflected in one or maximum two result indicators):

- % of enterprises with a broadband access
- % of households with an internet connection
- indicators listed in the Digital Agenda Scoreboard<sup>14</sup> if fitting the intervention logic

### Outputs

- Definition of output indicators measuring deliverables expected to contribute to the intended change. Output indicators reflect the activity of the programme and should capture what the resources are spent on. Common & Programme Specific indicators can be used. Baselines should be set at the level of zero, while quantified cumulative targets should be identified. It is rooted in the intervention logic - how should this amount of resources spent on these outputs contribute to change in result indicator? – to be assessed in the ex-ante evaluation.
- Targets set should be plausible and reporting of achievements should be reliable. When setting targets it is essential to make sure that targets are realistic. How to judge this? Use your common sense. For example, take into account available information on past

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<sup>13</sup> Result indicators should be linked with the needs identified in the Member State or region and specific programme objectives, which of course is not the case of the theoretical examples given in this list.

<sup>14</sup> <http://scoreboard.lod2.eu/index.php?page=indicators>

performance; compare the target set to the number of population in a given region and the amount of the foreseen financial input or targets set for comparable interventions in other programmes.

*Examples of output indicators:*

- Additional households with broadband access of at least 30 Mbps (as a direct consequence of ERDF support) - Common output indicator
- Number of enterprises with broadband access of at least 30 Mbps (as a direct consequence of ERDF support)
- One of the indicators listed in the Digital Agenda Scoreboard (see Annex I) if fitting the intervention logic

**Annex: Links and relevant sources of policy know-how in this field**

Title + description + link	All MS	Regional level	Accession countries
<b>Reference documents</b>			
<p><b>The Digital Agenda for Europe:</b>  <a href="http://ec.europa.eu/digital-agenda/digital-agenda-europe">http://ec.europa.eu/digital-agenda/digital-agenda-europe</a></p> <p><b>The Digital Agenda for Europe - Driving European growth digitally (Mid-term Review):</b>  <a href="http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=1381">http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=1381</a></p> <p><b>Broadband state aid guidelines:</b>  <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:025:0001:0026:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:025:0001:0026:EN:PDF</a></p>	X	X	X
<b>Data material &amp; analysis</b>			
<p><b>Digital Agenda scoreboard</b>  <a href="http://ec.europa.eu/information_society/digital-agenda/scoreboard/countries/index_en.htm">http://ec.europa.eu/information_society/digital-agenda/scoreboard/countries/index_en.htm</a>  <a href="https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/scoreboard_broadband_markets.pdf">https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/scoreboard_broadband_markets.pdf</a>  <a href="https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/COCOM%20Broadband%20July%202012%20final_0.pdf">https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/COCOM%20Broadband%20July%202012%20final_0.pdf</a>  <a href="http://ec.europa.eu/digital-agenda/pillar-4-fast-and-ultra-fast-internet-access">http://ec.europa.eu/digital-agenda/pillar-4-fast-and-ultra-fast-internet-access</a></p> <p><b>Broadband coverage in Europe in 2011:</b>  <a href="https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/BCE%202011%20Research%20Report%20Final%20-%20Format%20No%20Image%2020121001.pdf">https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/BCE%202011%20Research%20Report%20Final%20-%20Format%20No%20Image%2020121001.pdf</a></p> <p><b>Broadband Internet Access Cost Report (BIAC):</b>  <a href="https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/BIAC-2012-Final%20report.pdf">https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/BIAC-2012-Final%20report.pdf</a></p> <p><b>Study on the socio-economic impact of bandwidth</b>  <a href="http://ec.europa.eu/digital-agenda/en/news/study-socio-economic-impact-bandwidth-smart-20100033">http://ec.europa.eu/digital-agenda/en/news/study-socio-economic-impact-bandwidth-smart-20100033</a></p> <p><b>Broadband Delivering next generation access through Public-Private Partnerships (European PPP Expertise Centre (EPEC) is a joint initiative involving the EIB, the Commission, Member States and certain other states):</b>  <a href="http://www.eib.org/epec/resources/epec_broadband_en.pdf">http://www.eib.org/epec/resources/epec_broadband_en.pdf</a></p> <p><b>Communication from the Commission to the Council and the EP on Better access for rural areas to modern ICT [COM(2009) 103 final of 3.3.2009) and Commission Staff working document [SEC(2009) 254 of 3.3.2009]</b>  <a href="http://ec.europa.eu/agriculture/rurdev/employment/ict/com2009_103_en.pdf">http://ec.europa.eu/agriculture/rurdev/employment/ict/com2009_103_en.pdf</a>  <a href="http://ec.europa.eu/agriculture/rurdev/employment/ict/sec2009_254_en.pdf">http://ec.europa.eu/agriculture/rurdev/employment/ict/sec2009_254_en.pdf</a></p>	X	X	X
<b>Guidance &amp; good practices</b>			

<p><b>Broadband guide, including good practices / project examples:</b>  <a href="http://s3platform.jrc.ec.europa.eu/guides">http://s3platform.jrc.ec.europa.eu/guides</a> (up-date foreseen for autumn 2013)</p> <p><b>Toolbox on the DAE component of RIS3 and digital policy frameworks (to be finalised by October 2013):</b>  <a href="http://s3platform.jrc.ec.europa.eu/digital-agenda">http://s3platform.jrc.ec.europa.eu/digital-agenda</a></p>	x	x	x
<p><b>JASPERS:</b></p> <p><b>Guideline for Major Projects Application Form in Broadband</b>  <a href="http://www.jaspersnetwork.org/jaspersnetwork/display/for/Guideline+for+Major+Projects+Application+Form+in+Broadband">http://www.jaspersnetwork.org/jaspersnetwork/display/for/Guideline+for+Major+Projects+Application+Form+in+Broadband</a></p> <p><b>State Aid in Broadband infrastructure projects</b>  <a href="http://www.jaspersnetwork.org/jaspersnetwork/display/for/State+Aid+in+Broadband+infrastructure+projects">http://www.jaspersnetwork.org/jaspersnetwork/display/for/State+Aid+in+Broadband+infrastructure+projects</a></p> <p><b>Study on Availability of Access to Computer Networks in Rural Areas</b>  <a href="http://ec.europa.eu/agriculture/analysis/external/networks/index_en.htm">http://ec.europa.eu/agriculture/analysis/external/networks/index_en.htm</a></p>			
<p><b>Project Examples replicable e- practices</b></p>			
<p><b>Broadband Communication Network of Kujawsko-Pomorskie region</b></p> <ul style="list-style-type: none"> <li>• <a href="http://www.epractice.eu/en/cases/kpsi2">http://www.epractice.eu/en/cases/kpsi2</a></li> <li>• <a href="http://www.kpsi.pl/index.php/en.html">http://www.kpsi.pl/index.php/en.html</a></li> </ul> <p><b>Trentino: a 100% fiber optic alpine territory</b></p> <ul style="list-style-type: none"> <li>• <a href="http://www.trentinonetwork.it/">http://www.trentinonetwork.it/</a></li> </ul>			