

**Telecom Italia's response
to public consultation on the
Draft BEREC report on Co-investment and SMP in NGA networks**

(12 March 2012)

Executive Summary

Co-investments projects can play a positive role in the deployment of NGA granting the possibility to share the investment risk among operators.

Competition among alternative networks (infrastructural competition) is the model that mostly guarantees effective competition in the market and avoids any possible collusive behaviour.; anyhow, co-investment is a tool which can be used in some limited areas (grey and white areas) and for some network elements (i.e. ducts or in-building fibre cabling).

The regulatory approach should be neutral as to the co-investment models and network technologies.

Multi-fibre networks do not grant a higher competition level than mono-fibre networks; on the contrary, the former may present many disadvantages in terms of installation costs.

The Joint Venture model can ensure the same level of competition as other co-investment models.

The access to the network should be granted also to parties not participating in the co-investment on the basis of not discriminatory and fair prices.

The sharing of the risk does not eliminate the investment risk; therefore, a risk premium is to be provided for also in co-investment agreements.

An *ex ante* evaluation of the co-investment agreement's conditions cannot be considered justified and represents a definitely intrusive regulation.

In a co-investment agreement clauses limiting the partners' independence should be carefully designed to avoid undue restriction of competition.

Co-investments projects may have beneficial impacts on the competition also in market 5: BEREC should analyse these impacts.

Co-investment agreements are generally made at local level and, therefore, they are likely to affect geographical market segmentation.

Introduction

Telecom Italia (TI) welcomes the opportunity to contribute to the Public Consultation on the BEREC's Report on Co-investment and SMP in NGA networks.

The European Commission, through The Digital Agenda (DA), has set ambitious targets for the development of ultra-broadband in Europe. As also stated by the EC, these targets can be achieved only by a combination of networks and technologies. The fixed New Generation Networks should play an important role in the achievement of DA targets; in Europe, anyway, the roll-out of NGAN lags behind. This delay is mainly due to the lack of certainty on the economic returns of the NGAN investments i.e. to the investment risk. It is therefore of the utmost importance to identify the appropriate tools to reduce the risk for each investor. The European Commission suggested two ways to decrease the investment risk: risk premium and risk sharing.

While risk premium is included in the capital cost used to set the regulated access price of the SMP operator, risk sharing is a means to share the risk among different operators.

TI agrees with the European Commission¹ in considering co-investments a tool to share both costs and risks² related to the investment needed for the development of new access networks among operators.

Therefore, TI believes that **co-investment models** could foster the NGA roll-out, together further needed legislative and regulatory interventions, since they are able to reduce start-up investments (by favouring the exploitation of economies of scale).

1. Market players and co-investment agreement structure

NGA networks may be deployed through various models:

- a) **Operators deploying their own networks:** this is the case of competition among alternative networks (infrastructure competition).
- b) **Co-investment:** this term defines what the NGA Recommendation describes, referring only to FTTH networks, as *"an arrangement between independent providers of electronic communications services with a view to deploying FTTH networks in a joint manner, in particular in less densely populated areas. Co-investment covers different legal arrangements, but typically co-investors will build network infrastructure and share physical access to that infrastructure"*. There are several ways in which operators can cooperate. These various forms of cooperation also depend on the different legislations in force on the ownership treatment:
 - i) **Joint Venture (JV)** – Two or more parties (either operators or other subjects operating outside the sector such as, for example, Reggerfiber in NL) join their efforts to roll-out a NGA network by establishing a new entity (NewCo) in which they have a financial participation (stock shares).
 - ii) **Public-Private Partnership (PPP)** – PPP is a particular model of Joint Venture in which a Public subject interested in granting coverage and openness of networks is participating. PPP may have a national, regional or even municipal dimension. A partnership may be established with private players and under various legal forms according to the division of responsibilities between both parties regarding financing, building, technical operations, sales and marketing areas.

¹ NGA CE Recommendation - Para 27: *Co-investment into NGA networks can reduce both the costs and the risk incurred by an investing undertaking, and can thus lead to more extensive deployment of FTTH.*

² NGA Recommendation states that long-term access pricing or volume discounts are considered as additional mechanisms serving to allocate the investment risk between investors and access seekers and to foster market penetration.

- iii) **Long term cooperation agreement (IRU)** – IRU occurs when an operator building a network opens it to third parties participating to the expenses. In general, the operator gives full knowledge of the investment plan, of the areas to be covered and of the capacity it intends to deploy. In order for an IRU to be in place, other interested parties should join the project “*ab initio*”³. As a consequence, participating parties receive a long lasting (in general 20-30 years) and exclusive right of use on part of the resources which could also be in the form of Indefeasible Right of Use (IRU).
- iv) **Co-ownership** – Operators may also agree to share the investment needed to implement a passive infrastructure without starting up a new company. In this situation, operators have separate networks being, if possible, based on the same architecture.

TI would like to highlight preliminary that the evaluation of the most suitable investment/financing model depends on the specific context in terms of profitability and riskiness of the NGA project, on the possibility to raise financial resources, on the presence of co-investors, on the demand for broadband services, etc.

TI believes that, wherever viable, operators shall deploy alternative networks. This solution is the one that mostly guarantees effective competition in the market and avoids possible collusive behaviour.

Anyhow, co-investment models may be used in some limited areas, especially in grey areas, where the infrastructure competition is not viable. The co-investment models could be also used in the black areas but only for specific infrastructure elements (i.e. ducts only).

A possible approach could be:

Black areas: direct intervention of private operators and infrastructural competition.

Grey Areas: joint public-private models, preferably with private control or co-investment among private operators.

White areas: public company models (projects that fall under the "State aid").

In order to guarantee a lower impact on the market's competitive dynamics, the Regulator/Government should not define the most suitable investment models to adopt “*ex ante*”. Investment models should actually arise from private initiative and from the free negotiation among operators. In particular the incumbent should not be obliged to participate in a co-investment model (i.e. JV or IRU provider).

Telecom Italia believes that the regulatory approach towards the co-investment model should be neutral and should keep the field open to different solutions, in order to leave players the

³ If the agreement is made “*a posteriori*”, it cannot be considered as a form a co-investment, since the parties do not commit to invest.

freedom to reach agreements, according to their own business and technical plans, and also in order to encourage cooperation for every player.

TI believes that the Joint Venture and Public-Private Partnership are the most flexible co-investment models, best suited for the Italian situation.

The JV, generally speaking, implies an independent subject (NewCo) selling the access to its network to operators (both investors and not).

Several subjects can participate in the JV:

- telecom operators operating at retail/wholesale level;
- public investors such as public administrations;
- private investors other than operators, for example infrastructural funds.

The objectives of the participants may differ:

- Capex and industrial risk reduction for Telco operators;
- Joining in “economically sound” activities in line with the expectations related to IRR and PBT (15/20 years) for infrastructural funds;
- : Accelerating the NGAN rollout to raise GDP and welfare for public investors.

The scope of a partnership or of a joint venture should be the deployment of the horizontal and vertical passive infrastructure of an efficient NGAN architecture (Multi-GPON). In particular, TI believes that the partnership/JV model should be based on the following conditions:

- NGAN passive infrastructure based on a 3-GPON architecture;
- mono-fibre vertical segment according to the French in-building operator model;
- horizontal building block sold with IRU model (the sale price should depend on the players’ commitment time and scope) or dark fibre lease;
- terminal segment (vertical in-building cabling) leased with a monthly fee on a per customer basis;
- the NewCo could acquire the incumbent’s copper access network allowing the reduction of industrial risk since a possible slow down of fibre access penetration would be counterbalanced by copper network revenues. The value of the copper network transferred to the NewCo should be determined according to a DFC methodology.

The partnership/JV model has many advantages to the benefit of society, consumers and competition:

- reduction of investment costs for each participant (lower cash-out);
- possibility of NGA network roll-out in less profitable areas where operators would unlikely invest;

- lower capital expenditure due to the transfer of existing civil infrastructures from actors/investors to the JV.

BEREC ranks JV agreements at high-medium level in terms of negative impact on the competitive conditions while ranking IRUs at low-medium level. This could depend on the fact that operators participating in a JV would behave as a single network operator. Telecom Italia highlights that the long term commitments and the IRUs also can reduce the independence of co-investors to the same extent as a JV agreement. The level of competition actually depends on the form and on the contents of the different settlements between parties and not on the co-investment model. Fibres leased under IRUs for 20-30 years in areas where no competitors would operate raise the same competitive concerns of a JV settlement. The impact on the competition should, therefore, be analysed on a case by case basis and not established *a priori*. The NRA must actually assess that the conditions of infrastructure lease and that the conditions under which the JV or IRUs operate (e.g. to sell passive infrastructure) are transparent and not discriminatory and that the agreement is not restrictive of competition.

TI deems JVs to work best with a limited number of participants; agreements among a large number of players are generally difficult to reach and could raise governance issues. TI therefore believes that the number of participants in a co-investment project is not one of the main elements to be considered while assessing SMP. Different elements should, on the contrary, be taken into account, such as the presence of alternative infrastructures, the network elements of the co-investment agreement, etc. For instance, if copper and fibre are considered as substitutes and the incumbent confers the copper access network to the JV, the latter could be notified as SMP operator with similar access obligations for both fibre and copper.

In its report, BEREC analysed whether the co-investments have negative impacts on the competition. BEREC, anyway, did not investigate how the SMP notification may be modified as a consequence of a co-investment agreement and how and if the operator losing the SMP status should fulfil its previously imposed regulatory obligations. In a JV agreement the incumbent operator can decide to transfer to the NewCo either a part (i.e. ducts) or the whole access legacy network (i.e. copper network). One should think that SMP could be transferred from the incumbent operator to the NewCo and the NewCo should fulfil the access obligations. Telecom Italia deems it is of the utmost importance to have clear guidelines on these matters to give regulatory certainty and predictability to investors.

2. Network roll-out by the co-investment partners

The roll-out of next generation access networks will be based on topology and architectures chosen by operators taking into account market demand, state of the art technology and the infrastructural resources available in every geographic context. This implies that NGAN architectures could change in each geographic area depending on the occurrence of one or more of the above conditions. For instance: the availability of infrastructural resources up to end-users could favour the FTTH architectures roll-out; the vectoring technologies on copper pairs, whose implementation is foreseen in the coming years and which are able to reach asymmetric line

speeds up to 100 Mbit/s downstream could lead the network operators to consider FTTCab as an optimal architecture to develop ultra-broadband services. Moreover, end-users might not be interested in (and ready to pay an additional premium for) 100 Mbit/s ultra-broadband services; should this be the case, deploying an ultra-broadband network performing lower speed rates at lower costs may be sufficient.

A network topology defined by means of regulatory provisions could lead to an increase in investments that, in the end, will impact on the costs of final services to end-users who will have to pay more for services which may not match their expectations. Moreover, in some market and/or geographic areas, a dictated architecture might not suit the level of available infrastructural resources or could not match the real market demand for ultra-broadband services.

The imposition of a specific architecture could preclude future innovative technologies, which could eventually be able to reach the same level of ultra-broadband speeds with lower costs. Such a situation may occur if a preference to the point-to-point architectures instead of a GPON in the case of FTTH was granted. Imposing a point-to-point architecture determines higher investments and incremental costs and hampers future developments in the GPON technology (10G PON, WDM, etc) to which all the industry and the international standardisation bodies are strongly committed.

NGA network architecture may evolve in time, adapting topology and technology to market demand and service penetration. For instance, a FTTCab solution could be used to connect a limited number of high-spending end-users and, when the market demand increases, this architecture will allow the evolution towards a FTTH network, based on GPON (in the next years a GPON Optical Line Termination supporting FTTH and FTTCab with a single equipment will be available).

For all these reasons, TI believes that the regulatory approach towards NGAN architectures and topology should be neutral with respect to the available technologic solutions.

This aspect is also important to promote co-investment for the roll-out of NGA networks. The imposition of a specific architecture and technical solution might discourage co-investors, as it could lead to higher costs and could not meet the technical plans of each co-investor.

The co-investment model should leave co-investors the freedom to agree on the technical and architecture solutions which they consider to be more suitable to their business requirement.

Mono-fibre vs multi-fibre

The EU Recommendation on NGA network pointed out that multi-fibre cabling of the buildings ensures competition among many service providers, among which the end-user can choose the ultra-broadband services.

In fact, in a multi-fibre scenario switching from a service provider to another seems to be very simple: in principle an end-user can switch from a service provider to another by simply inserting the optical connector in the plug assigned to the service provider with whom, he subscribed the service.

TI would like to point out that the implementation of multi-fibre solutions in the termination segments (i.e. more than one fibre from the fibre distribution point up to an end-user) has disadvantages outweighing the achievable benefits.

TI believes that a multi-fibre solution in the termination segments implies higher incremental investments and inconveniences for the end-customers since:

- The deployment of additional fibre cables inside existing building infrastructures might not be feasible, due to the lack of space available to install extra cables. This implies the necessity of operating inside the building to allow the installation of multiple fibres.
- It is necessary to create bigger infrastructures to host multiple connectors and dropping devices in each floor, in order to bring more than one fibre to each end-user.
- Bigger optical sockets should be installed inside each end-user premise, as they need to host more than one optical connection.
- A big optical distribution box is needed to terminate multiple fibres access and consequently also more room inside the building is needed.

As a consequence of the above mentioned issues, the multi-fibre solution implies a significant reduction of the potential number of buildings that can be reasonably cabled with optical fibres. Moreover, TI believes that the presence of a large number of fibres and connectors could complicate the operations for fibre maintenance and assurance.

All these issues are particularly relevant in Italy where there are a many old/ancient buildings with little room available. Moreover, administrative restrictions limit the possibility to install equipment and infrastructures in many buildings.

Telecom Italia also believes that the benefits typically associated to a multi-fibres solution are not so relevant compared to a single fibre solution, which could be switched among service providers at each end-user's request. In fact, it is worth noting that:

- If the NGA network has been rolled out in an overlay manner (i.e. the end user is connected only on demand), works inside the building are needed to drop the fibre from the vertical cabling to the end user's floor when the line is activated for the first time. During this activity the single fibre can be switched among service providers already present in the building. In this case, therefore, multi-fibre solution has no additional benefits while, on the other hand, it could complicate such an activity being needed more infrastructural resources and fibres to be connected.
- The time needed to switch an end user not only depends on the time to physically move a fibre from a position to another. Switching an end user requires as well an input in the BSS and database systems of both recipient and donor service providers. Concerning voice services, the number portability process is also required. These operational processes must be carried on for both multi-fibres and single-fibre solutions, in order to ensure the portability of an end user among service providers. Telecom Italia estimates that the time needed for the physical switch of a single fibre at the distribution point does not significantly increase the overall time needed to switch the end users: the duration is

strongly influenced by the operational procedures for the customer portability. In both cases the switching of end users involves almost equivalent times and procedures.

In conclusion, Telecom Italia believes that a multi-fibres solution involves high extra investment, causes more inconveniences to the end-users and has not additional competitive benefits with respect to a solution based on a single fibre per end user.

Moreover, we would point out that a multi-fibres solution requires always a co-investment where all players show their interest on extra fibres “*ab initio*”, otherwise this solution could lead to additional investments and additional risks, due to uncertainty on the sharing of extra fibres among other operators. If none shows an “*ab initio*” interest towards a multi-fibre solution, a single fibre per end user is the only economically viable way, as it is the only solution that can grant an amount of investment corresponding to market demand.

Meanwhile, the single-fibre solution could be used with or without co-investment.

A case of co-investment with single-fibre occurs when two or more private undertakings create a new company (NewCo) deploying the cabling inside the buildings and managing the exchange of fibres among service providers connected at the distribution points.

3. Compensation mechanism: Risk premium, IRU, Long term Rentals

3.1 Risk premium

The risk premium is a general concept provided for by the NGAN Recommendation. There are several factors that can influence the risk (annex 1, para. 6) of NGA investments and the Recommendation provides for some forms of agreements between access seekers and Operators that can lower the risk for each operator and, thus, reduce rentals.

Telecom Italia agrees with BEREC that co-investment is an important tool which allows different players to pro quota share the risk of the enterprise participation. As a matter of fact, co-investment does not reduce the total risk level. Risk premium as provided by the Recommendation must, therefore, be calculated on the whole co-investment capital.

Also long term contracts or volume discounts are forms of risk-sharing and in these cases too, the premium should be taken in due consideration.

The EU regulation gives a generic definition of “long term access pricing”: we find it useful to differentiate between the co-investment with IRU model and the long term rental issue.

3.2 Co-investment with IRU

In general, IRU is a long term (20-30 years) commitment allowing investors to share the risk of the investment. This solution has been adopted (e.g. in France) among co-investors to share the line deployment.

Telecom Italia deems co-investment with IRU to be a possible “investment model” to implement in order to deploy fibre (build civil infrastructure) characterized by arrangements among several operators aimed at sharing both investments and related risks. The co-investors participate “*ab*

initio” in the project funding and in its deployment, acquiring long term rights over the infrastructure through IRU.

Due to their nature and duration, IRU represents an irreversible investment with sunk cost (Capex), while a rental agreement represents a current operational expenditure that could always be terminated (Opex).

3.3 Long term rentals

A co-investment with IRU is different from a long-term rental agreement since it gives different right of use on the relevant resources and it does not represent a cooperative model but an “*ex post*” acquisition of already installed networks. As a matter of fact, the IRU model does not involve an “*ex ante*” participation to planning, financing and deployment of the NGA network. However, co-investment models do not exclude the possibility of selling fibre accesses to other operators (which have not shared the initial investment for NGA roll-out) through long-term rental agreements. It is worth noting that these long term rental agreement could also be reached through an IRU, but they cannot be considered as co-investments since there is not an “*ab initio*” participation or commitment.

4. Non-discrimination between co-investment scheme partners

BEREC states that while analysing the market in a co-investment scenario, the NRA should examine the terms and conditions of the co-investment agreement to ensure that access to infrastructures is granted to the parties in a non-discriminatory way. BEREC predicts that the leading operator could take advantage from the asymmetry of technical information (coverage, access to the concentration point, etc.) to hamper one or more of the co-investors.

Telecom Italia believes that there is no risk of discrimination in a co-investment agreement since the conditions are freely negotiated among the parties and each operator entering into the agreement can decide not to participate in the investment if it finds the conditions not to be satisfactory.

TI believes that an *ex ante* control of the agreement conditions is unjustified and represents a definitely intrusive regulation. Moreover, such an assessment would be time consuming requiring a difficult control over private decisions.

The NRA should intervene only in case of litigation or disagreement and upon request made by one of the parties in the agreement.

5. Access conditions to third parties

In co-investment, co-investors give access to their retail branches and possibly to third parties. The access conditions can depend on several elements such as the presence of SMP, the co-investment model, the co-investor willingness, etc. TI wants to express his view on the access conditions of both JV/PPP and IRU models.

5.1 Joint Venture/Public Private Partnership: the creation of a new NewCo.

As stated above, JV is a financial participation into a new company (NewCo) whose tasks are to roll-out a fibre network and to sell access network elements basically included in market 4 (passive layer) although the provision of services of market 5 can be part of the offer.

This paragraph discusses the case of a JV selling services of market 4. The new entity will be the owner of the access network infrastructure and the degrees of freedom that the participants in the JV can enjoy in terms of pricing and access conditions depend on the NewCo status. If the JV is subject to SMP notification the access infrastructure should be open both to investing and non-investing operators at regulated conditions safeguarding the non-discrimination, the relevance and the cost justification principles rather than the strict cost orientation.

The ex ante regulation of the passive layer (market 4) is to be preferred in order to foster infrastructure-based competition in areas where the duplication of the network is not economically viable (grey areas). In black areas, the contractual conditions must be freely agreed among parties and subject to an ex post control.

5.2 Co-investment by long term cooperation agreement (IRU)

When long term cooperation agreements are concerned, different players can co-participate in the deployment of the access network with different stakes. The dynamics of the agreement see an operator starting the roll-out and others joining the project from the beginning.

This model of co-operation agreement (using BEREC terminology) is based on the implementation of both the IRU model and the simple rental of the access resources based on long term agreement with an “a priori” commitment.

Also in such a case only a light regulation (non-discrimination, reference offer) in the black areas with ex post controls should be imposed. In other areas, the regulation should be based on the principles of non-discrimination, relevance and cost justification for ex post control.

6. Exclusivity agreements

Telecom Italia deems exclusivity clauses not be the best solution to reduction costs of a co-investment agreement on the path towards the promotion of the NGN deployment.

TI shares BEREC’s view that the horizontal exclusivity agreements where parties are prohibited to give access to jointly deployed infrastructures should be considered as restricting competition independently on any evaluation of SMP since they imply:

- a) a limitation on access;
- b) a restriction of partners’ independence;
- c) a discriminatory behavior.

Furthermore, TI deems that clauses potentially limiting the partners' independence (such as, for instance, the prohibition for the partners to deploy alternative networks) should be carefully designed and possibly avoided.

Moreover Telecom Italia agrees with BEREC that such clauses "may or may not be cleared by the NCAs" in light of their actual impacts on the competitive situation. Consequently when exclusivity clauses are included in co-investment agreements, a more in-depth and time consuming market analysis is needed. As a matter of fact, the need to perform a market analysis increases the uncertainty for operators which, on the contrary, value a more predictable regulatory environment.

7. Competitive effects of the co-investment in the markets

The NGAN Recommendation states that *arrangements for co-investment in FTTH based on multiple fibre lines may in certain conditions lead to a situation of effective competition*⁴.

Telecom Italia shares Commission's view but believes that also different network technologies such as FTTC or FTTB may bring the same benefits to competition.

Moreover, in chapter 2 of the document in consultation, it is shown how mono-fibre networks can ensure the same competitive conditions as the multi-fibre networks reducing technical installation problems. Therefore, we do not share either the CE position or the BEREC position expressed in point 5 of table 4 where it is stated that "multi-fibre may be more favourable to competition".

BEREC analyses the competitive effects of co-investment in market 4. In the NGA Recommendation⁵, the European Commission identifies the positive effects of co-investment in this market. The same Recommendation identifies positive effects of co-investment in market 5⁶. Telecom Italia believes that BEREC did not put enough emphasis in analysing the impact of co-investment in market 5. In particular, TI deems that co-investment agreements can have beneficial effects for competition in market 5 as well: when more operators have the chance to get access to the layer 1 infrastructure, competition in higher layers of the network will increase.

⁴ NGA CE Recommendation Recital (28) - "Arrangements for co-investment in FTTH based on multiple fibre lines may in certain conditions lead to a situation of effective competition in the geographic areas covered by the co-investment".

⁵ NGA CE Recommendation Para (28) – "Where the conditions of competition in the area covered by the joint deployment of FTTH networks based on multiple fibre lines by several co-investors are substantially different, i.e. such as to justify the definition of a separate geographic market, NRAs should examine, in the course of their market analysis, whether, in the light of the level of infrastructure competition resulting from the co-investment, a finding of SMP is warranted with regard to that market."

⁶ NGA CE Recommendation Para (38) – "In examining whether SMP is present NRAs should, in the case of co-investment, be guided by the principles set out in paragraph 28."

As acknowledged by the EU Commission itself⁷, co-investments may lead to a situation of effective competition that might justify the establishment of a separate geographic market or geographic differentiation of remedies and the consequent softening of obligations of the SMP operator in these areas. NRAs should, therefore, be allowed to modify remedies related to market 4 as well as to market 5, without awaiting for the next round of market analyses, if the area concerned by the NGA development in co-investment has generated a sufficient level of infrastructure competition.

⁷ NGA CE Recommendation Para (28) – “Where the conditions of competition in the area covered by the joint deployment of FTTH networks based on multiple fibre lines by several co-investors are substantially different, i.e. such as to justify the definition of a separate geographic market, NRAs should examine, in the course of their market analysis, whether, in the light of the level of infrastructure competition resulting from the co-investment, a finding of SMP is warranted with regard to that market.”