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## Public-private roles in broadband infrastructure deployment: An introduction

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On June 25, 2009, in a speech to the European Competitive Telecommunications Association, European Commissioner Viviane Reding stated that: *Policy makers quite understandably and quite rightly see the benefits arising from a speedy deployment of optical fibre and Next Generation Access (NGA) networks. Deployment of these infrastructures – in particular with financial support from the public purse – could act to create jobs or a short-term fiscal stimulus* (Reding, 2009). Reding's address supports the position that governments internationally are adopting, viz., broadband networks are essential in returning national economies to robust growth. This argument justifies active intervention in telecommunications sector activity by government, and embraces the allocation of public funding to deploy networks.

This paradigm is integral in the ongoing implementation of the European Union (EU) economic recovery plan endorsed by the European Council (the Commission). In December 2008 the Commission proposed to target €1 billion to extend and upgrade high-speed Internet networks in “*areas that are poorly served*”. The plan is supported by the Competitiveness Council’s endorsement of the target of 100% EU broadband coverage by 2013. Supporting a similar interventionist agenda, on 6 December 2008, the US President-elect Barack Obama announced a national plan to invest in broadband accessibility, as part of a strategy to revitalise the economy. The US plan is intended to extend national high-speed Internet nationally via an US\$ 8 billion network construction fund. Interestingly, many nations had already adopted similar interventions, especially in Asia. Indeed, such policy is not conceptually new, with generalised access to telecommunication services being a common objective of national governments. What is novel is the depth of proposed intervention. Following market liberalisation, an accepted principle was that intervention should only correct the ‘failures’ in almost universal networks. The universal service tool is therefore a *corrective* notion, making it difficult to introduce an alternative *driving* concept. In short, only a few years earlier, the contribution of any public funds to deploy new networks was generally not foreseen as appropriate, at least in developed countries.

Importantly, the current public interventions involve private initiatives, including public-private partnerships. This interest led to organising the “Public/private interplay in next generation communications” conference held in Seville on 10–12 December, 2008. This special issue compiles selected contributions from that congress. The use of the term ‘roles’ in the title indicates an intention not to focus exclusively on the “new methods of collaboration”, but adopt a broader perspective on the public-private relationship in the deployment of broadband networks. That is, while accepting that the market is primarily responsible for network deployment, an initial step is to analyse the circumstances that call for public intervention. For this task, Gökçe Kurucu and İsmail Sağlam explore the relationship between access prices and investment incentives for an incumbent operator. They emphasise the effects of demand structure on investment incentives and the policy implications that follow.

A concern related to Kurucu and Sağlam’s analysis is whether private investment is enough. If not, and should policy-makers, as stated by Reding, *quite understandably and quite rightly see the benefits arising from a speedy deployment* of broadband networks, the door for public action would be open. Accordingly, it appears interesting to study options available to achieve network universal service, in particular, whether to include broadband access. Erik Bohlin and Orada Teppayayon deal with the evolution of the debate in the EU, and address whether, since the principle of a safety net above 80% is far from being activated for broadband networks, the extension of universal service *is still in the future (...)* *But this is no reason why support should be abandoned, although perhaps not in the domain of a USO [universal service obligation] at present. Instead, support for broadband for Europe could come under other policies, such as using the EC structural funds, demand stimulation and public-private partnerships.*

In a strict sense, such partnerships refer to contractual agreement among government agencies and private sector entities, in which the private sector designs, builds and manages the capital asset and bears risk (OECD, 2008). However, within the telecommunications sphere, and particularly in the scenario configured by the deployment of Next Generation Networks (NGNs), the possibilities are more numerous. Carol McDonough confirms this (*there are virtually an infinite variety of public/ private*

*partnerships, emanating from factors such as a nation's history, culture, and market structure, and the historic regulation of segments of the telecommunications industry)* and provides a theoretical framework for understanding its application. McDonough's work defines parameters for alternative initiatives, e.g., ownership vs. control, the role of government regulators, foreign participation, laws and legal precedents, the maturity of the existing network, and risk perception.

Furthermore, Matthias Ehrler, Ernst-Olav Ruhle, Igor Brusić and Wolfgang Reichl discuss market conditions under partnerships that are required for the deployment of optical fibre networks. In particular, they analyse the business case for fibre networks and explore the possibility of establishing public-private partnerships. Lastly, they consider criteria required for the success of partnerships. They conclude that *success highly depends on the regulatory, financial, legal and governmental environment as well as the willingness of both the public and the private sector to cooperate in a way where everyone can benefit.*

Additionally, Jorge Infante, Ramón Sagarra, Carlos Macián and Miquel Oliver contribute a case study concerning the deployment and sharing of municipally-owned passive infrastructure at the Barcelona 22@ business quarter. Infrastructure comprises ducts, technical rooms and dark fibre deployment for internal municipal services as well as rental to alternative operators under open cost-oriented arrangements. They conclude that the 22@ case shows the feasibility of the model in business-intensive city areas, and state that similar models are appropriate *in new deployments as a consequence of urban remodelling and/or urban expansion, exhibiting a potential for high ICT usage.* However, Infante, Sagarra, Macián and Oliver do not address issues regarding the residential FTTX market.

What is universally accepted is that access and adoption are inextricably interwoven: adoption is impossible without access, but access is economically difficult to provide without rapid and widespread adoption (Hollifield and Donnermeyer, 2003). Encouraging or aggregating demand is a policy that should be examined. Moreover, adequate infrastructure is a *sine qua non* condition for usage but communications technology is not an end in itself, but a means of supplying quality content in the Information Society. That is, waving the 'icon' of the Internet does not, per se, mobilise customers (Ricci, 2000). Accordingly, José A. Valverde describes the development of social computing (2.0-type services and applications) in healthcare which provides a demand trigger as well as a justification for public action, viz., that modern telecommunications networks are a merit good because they are 'necessary' for access to other public goods such as healthcare (see Gómez-Barroso and Pérez-Martínez, 2005). As Valverde argues, *the easiness of use, ubiquity, immediateness, simple language, low cost and the participative non-interested attitude of the players, make of Social Computing one of the key tools for the long waited opportunity to maintain a constant, fluent, inclusive and evolutionary dialogue with society; hence the possibilities for a public/private interplay and the so much sought empowerment of the citizen.* This contribution closes this special issue that provides elements for reflection and analysis as to what promises to be a long-term concern for many real-world scenarios, and hence for the scientific community of the telecommunications industry.

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