

Contemporary and Historical FTTH Stimulus Packages – Key Findings

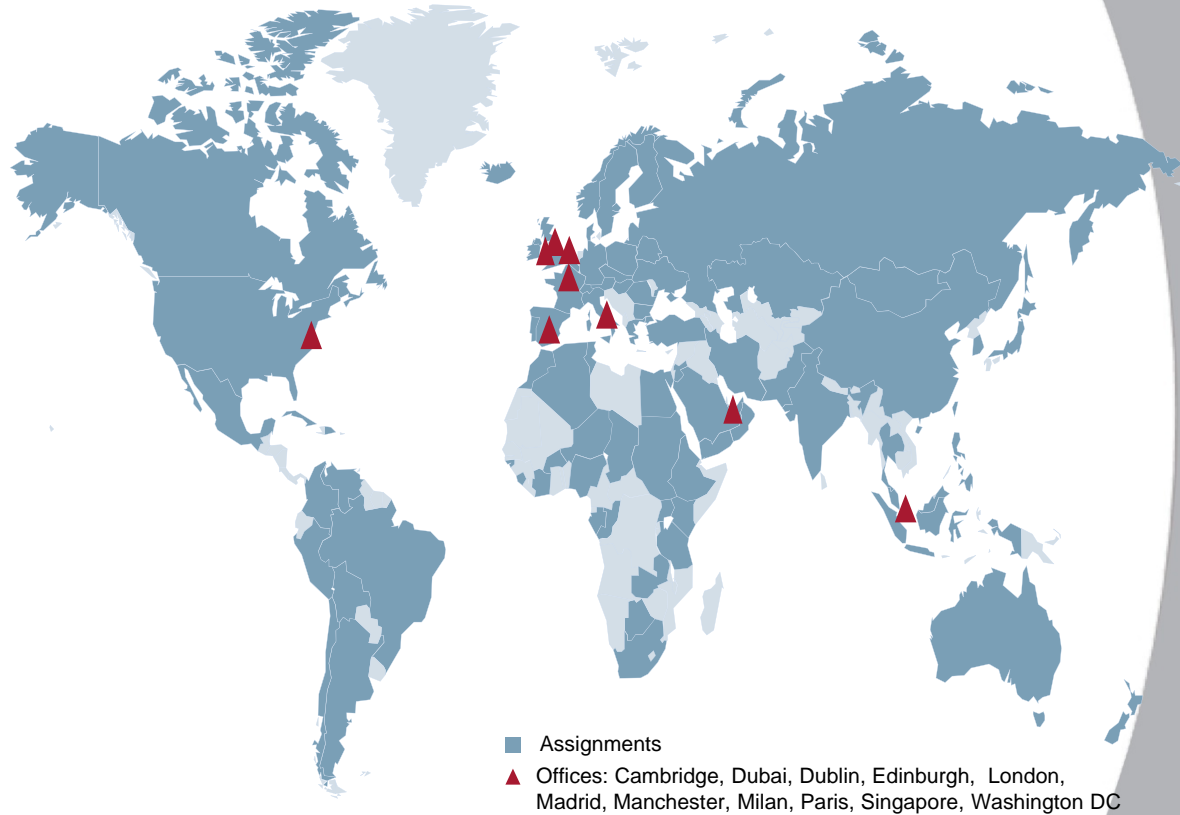
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Agenda

Introduction

Analysis of contemporary FTTH stimulus packages

Key historical case study findings

Conclusions

Analysys Mason examined public FTTH stimulus packages, their goals, and their impact for the FTTH Council Europe

- Governments have identified key social and economic benefits of FTTH
 - ♦ the costs involved in NGA deployment – especially in the context of the current economic downturn – mean the private sector may not deliver connectivity that meets government objectives...
 - ♦ ...at the same time, there is no clear 'map' for designing a government-led stimulus package to meet specific public objectives effectively
- We examined current trends and key drivers of stimulus packages through:
 - ♦ an overview of currently active FTTH/NGA stimulus packages
 - ♦ an in-depth analysis of how well historical stimulus packages were meeting their goals

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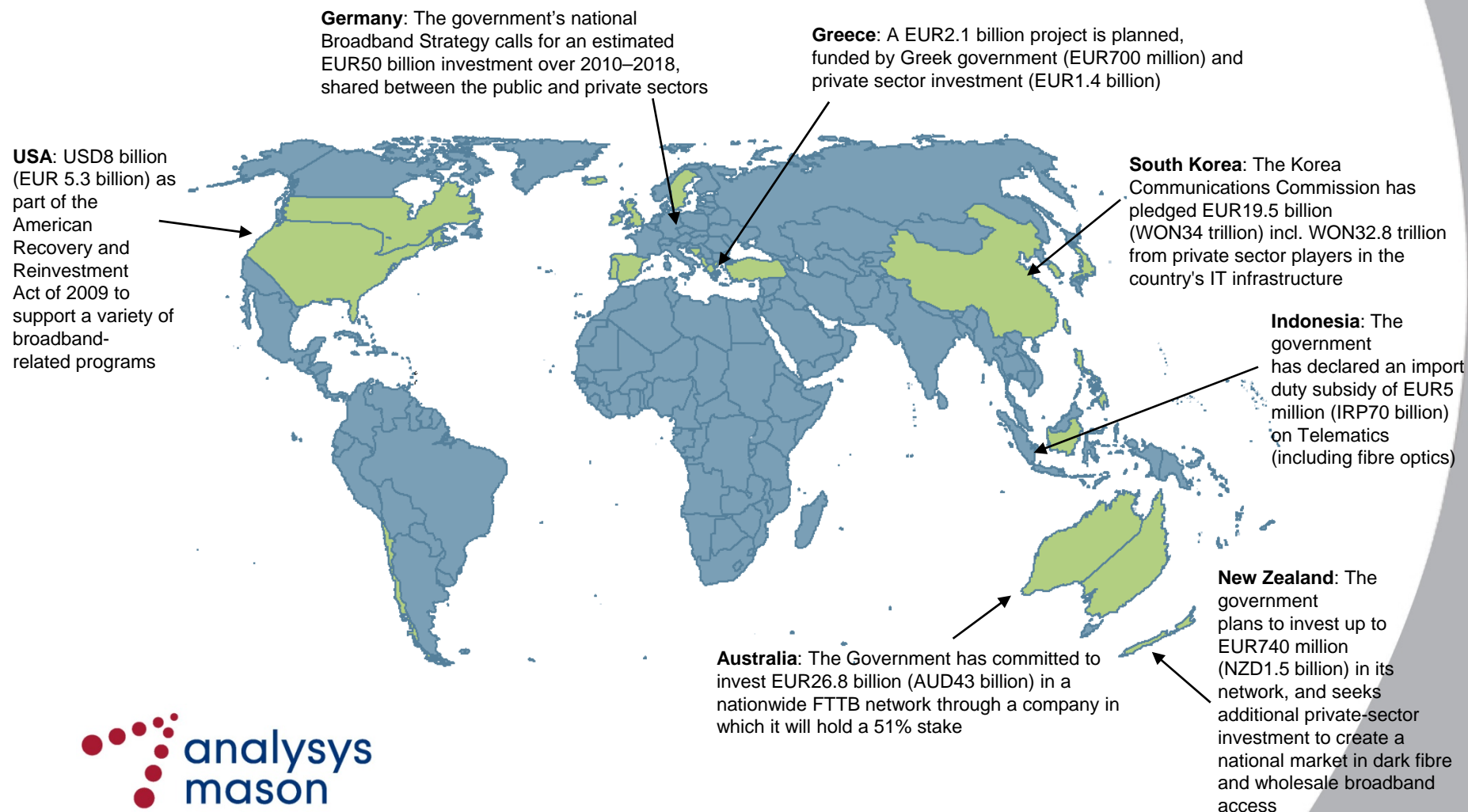
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Key historical case study findings

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We analysed 33 currently active FTTH stimulus packages globally, across 18 countries

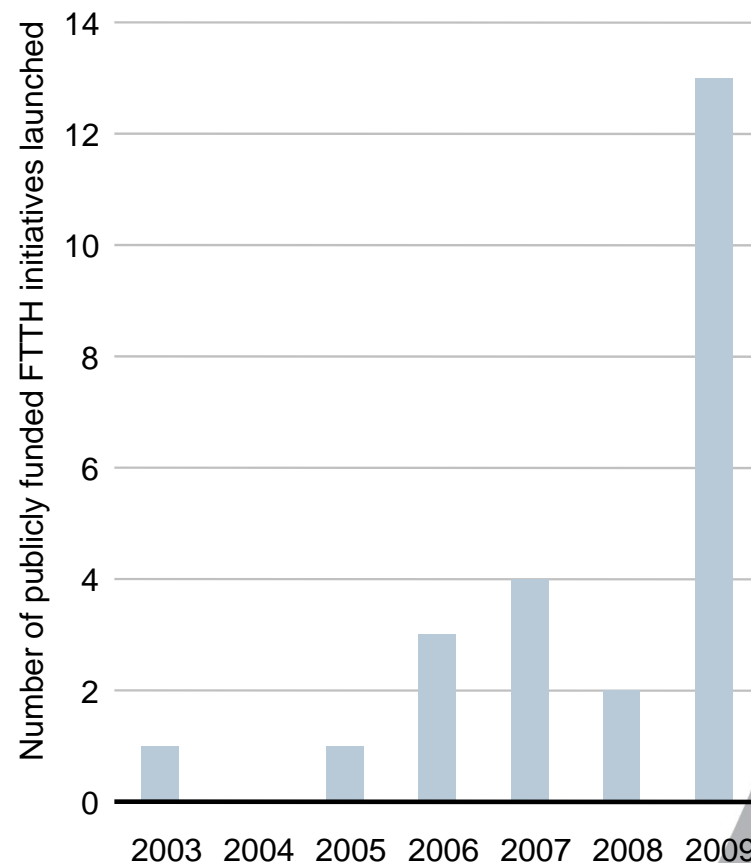
Figure 1: Map of contemporary national FTTH stimulus packages, highlighting selected examples



To combat the economic downturn, national governments are investing for the future

- 2009 saw a major increase in the number of countries launching broadband stimulus packages
- We identified new national-level broadband investment stimulus packages in 10 countries last year, compared with only 2 in 2008
 - ♦ **Australia:** EUR26.8 billion public investment to connect 90% of all Australian homes, schools and workplaces at up to 100Mbit/s
 - ♦ **Greece:** EUR700 million stimulus package announced in Feb 2009, to be supported by EUR1.4 billion private-sector investment

Figure 2: Number of contemporary stimulus package launches, 2003–2009



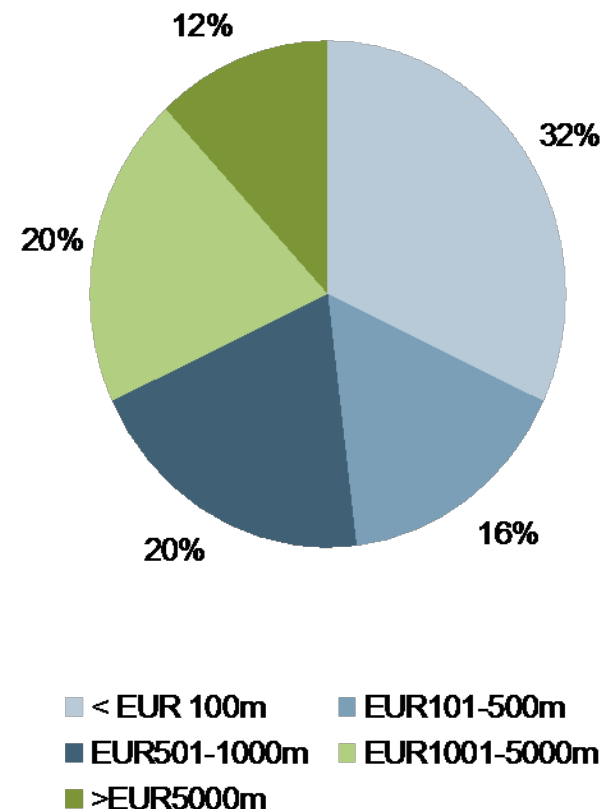
Designated broadband network investment is increasingly included as part of larger economic stimulus packages

- While access to private sector capital is restricted as a result of economic conditions, **governments are wrapping funding for NGA initiatives into general economic stimulus packages**
- However, **the designated broadband component** of the total economic stimulus package **varies considerably between countries**
 - ♦ **Australia:** allocating more for broadband stimulus package (EUR26.8 billion) than for investment in non-technology stimuli
 - ♦ **EC:** as part of a planned EUR5 billion European Union recovery plan for 2009 and 2010, EUR1 billion to "extend and upgrade high-speed Internet in rural communities"
 - ♦ **USA:** less than 1% of total planned USD787 billion economic stimulus has been allocated for broadband infrastructure (EUR5.3 billion)

There is no 'typical' size of contemporary national-level stimulus packages

- The **largest national FTTH stimulus packages** are currently in **Germany** (est. EUR50 billion), **Australia** (EUR26.8 billion) and **South Korea** (EUR19.8 billion)
 - ♦ **smaller stimulus packages** include those in **Wales** (EUR39 million for the Fibre Speed project) and **Slovenia** (EUR40 million to fund FTTH in rural areas)
 - ♦ in many cases, governments are looking for private-sector investment participation

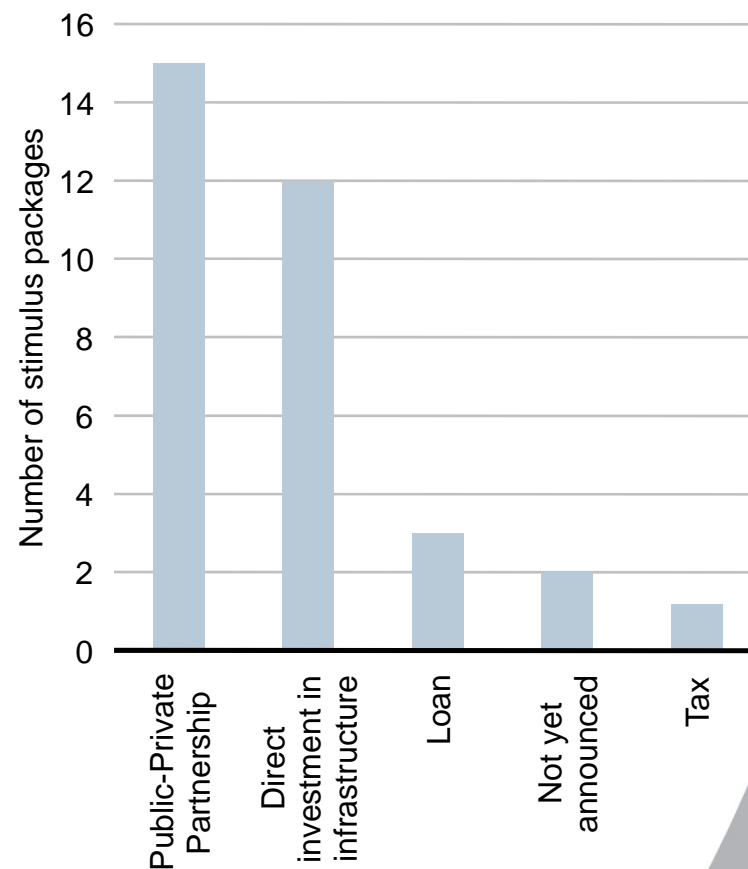
Figure 3: Size of contemporary national and EU-level stimulus packages



Nearly half of the packages analysed involve some form of public–private partnership

- At the same time that public stimulus packages for FTTH roll-out are growing, **governments are increasingly turning to partnership with the private sector** in order to supplement public investment or provide a commercial vehicle
- Direct government investment in fibre network infrastructure (such as that in Taiwan and Wales), is also a common approach

Figure 4: Form of contemporary stimulus packages (includes national and municipal)



Goals for current FTTH stimulus packages focus on speed, coverage and growth...

- The most commonly cited goals for **national** FTTH stimulus packages are related to high-speed broadband coverage, speed and/or take-up
 - ♦ for example, New Zealand (75% coverage by 2015) and Singapore (100% coverage)
- **Municipal** FTTH project goals are more often linked to local/regional economic development, but also often specify coverage and speed targets
- 'Softer' goals, such as general economic development and social capital (closing the digital divide, etc.) are also often cited as drivers
 - ♦ in general, there is still a lack of clear quantitative evidence for the impact of broadband coverage on these areas
 - ♦ reflecting this, such goals are generally not tied to numerically measurable targets

...but expected RoI, and conditions for provision of funding, are often unclear

- It is still **rare for national and municipal governments to specify a required RoI level** for FTTH network roll-out
- Conditions for receipt of funding are often not well-specified
- This may change as governments increasingly look to draw in private partners for FTTH investment, particularly at the municipal level
 - ♦ RoI may be simpler to measure for municipal FTTH networks, because of their smaller scale
 - ♦ municipal networks are often built out by municipally owned utility companies, which are run as commercial entities – in such cases, specific RoI targets are potentially more appropriate (and more achievable) than they are for national-level stimulus packages

Agenda

Introduction

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Key historical case study findings

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We analysed five historical FTTH initiatives, to understand their objectives and how well these were met

Project	Scope
Red ASTURCÓN (Spain) – Asturias region multi-town roll-out	<i>Regional: EUR43 million package</i>
Wilhelm.tel (Germany) – Norderstadt – utility-owned city roll-out	<i>Local: EUR67 million package</i>
LUS Fiber (USA) – Lafayette, Louisiana – utility-owned firm roll-out	<i>Local: EUR74.25 million package</i>
OnsNet (Netherlands) – Nuenen – co-operative-owned town roll-out	<i>Local: EUR6.4 million subsidy package</i>
e-Japan (Japan) – Multi-year national policy and investment initiative in Japan	<i>National: EUR11.3 billion total annual budget for investment</i>

The most common drivers of stimulus packages fell into three main categories

Social drivers (such as *OnsNet in the Netherlands*)

- Governments often consider a range of social drivers for next-generation broadband roll-out, such as enabling connectivity for underserved populations

Economic drivers (such as *e-Japan*)









































- Among these, addressing market failure is a key issue for governments looking to even the playing field, with the aim being to narrow the digital divide and support economic development

Semi-commercial public-sector expansion (such as *LUS Fiber in the USA*)

- In many countries, semi-commercial public-sector-led broadband initiatives are being promoted to drive new revenue streams, for instance, for the local utility company
 - this more-commercially driven approach can also allows networks to be deployed and services to be sold in a more cost-effective manner

Most of our case studies achieved reasonable success in meeting goals, regardless of the project's approach or scale

Figure 5: Analytical comparison of case studies

	<i>ASTURCÓN</i>	<i>Wilhelm.tel</i>	<i>LUS Fiber</i>	<i>OnsNet</i>	<i>e-Japan</i>
<i>Coverage goals</i>					
<i>Project timing and budget</i>					
<i>Increased competition/lower prices and more services</i>					
<i>Uptake by population</i>					
<i>Social impact e.g. school, health, government services</i>					
<i>Economic impact</i>					
<i>Digital divide</i>					
Total					

Stimulus packages are most effectively targeting coverage, availability and competition

- **Most stimulus packages are tied to specified FTTH coverage goals – the case study packages have generally been successful in meeting these**
 - ♦ this was true regardless of the size or form of the stimulus package
- **Promoting service competition and lowering high-speed broadband prices – and increasing available speeds – was also a goal for most packages, and was generally successfully and demonstrably achieved**
 - ♦ Red ASTURCÓN's wholesale network approach was notably effective in opening up competition
- **Goals related to driving service take-up were less uniformly achieved**
 - ♦ the most effective such example was OnsNet

The packages were less obviously successful in achieving goals related to attracting investment and driving growth

- **This is partly due to the number of factors influencing business location decisions, and economic growth**
 - ♦ the downturn has meant many businesses lack funds to move without a strong incentive – an FTTH stimulus package alone may not be sufficient
- **Clear economic growth resulting from FTTH stimulus packages was rare, but evidence of impact on the digital divide was more compelling**
 - ♦ two very different projects – e-Japan and Red ASTURCÓN – successfully addressed digital divide issues through direct network investment

Social impact objectives were also successfully met in several cases

- **Social impact objectives were also common in most case studies, and were often reported to be achieved (notably by LUS Fiber and OnsNet)**
 - ♦ stronger quantitative measures of the effectiveness of packages in achieving social goals would be useful tools, as would specific targets in this area

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Key Takeaways for Structuring Future Stimulus Packages

- **No clear link between success in achieving objectives, and the size or structure of the stimulus package**
- **A key impact can be in fostering new business models – packages should be flexibly designed to encourage innovation**
 - Private-sector partners outside the usual service provider/utility universe (for example, Google) should also be kept in mind
 - Consider how the stimulus can be linked to encouraging service development and takeup, rather than focusing exclusively on the network infrastructure
- **Offer private investors greater protection or assurance of ongoing revenue, and make requirements for obtaining funding clear**
- **Introduce stronger quantitative targets and metrics to measure effectiveness**, to demonstrate value to government and private stakeholders

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