



FTTH Council Europe

Fibre to the home projects are being rolled out around the world, though until now Europe has been lagging. Hartwig Tauber, president of the FTTH Council Europe, says that Europe's incumbent operators at last preparing to make large investment in deep fibre build-outs

FTTH taking flight — at last

In a marketplace full of acronyms, perhaps nothing has the power to generate more frowns, more tightly drawn lips, and more worry lines, than "FTTH".

Discussions about fibre to the home generate strong emotions. Just last February, 1,200 delegates from all over the developed world gathered in Barcelona to discuss the merits and demerits of a local loop technology whose upside is unquestionably up-tiddly-up-up, but whose fortunes, at least in Europe, have traditionally been down-tiddly-down-down.

Looking back at FTTH's pioneering days, this first decade of the century initially unfolded a quite confusing vista of FTTH fortunes worldwide.

Rather in the manner of those Magnificent Men in their Flying Machines, FTTH's luck was up, down, flying around, looping the (local) loop and, in Japan and Korea at least, defying the ground.

But over the last three years, a very positive trend has emerged. Wherever it has achieved lift-off, FTTH's success is gaining altitude. Those brave FTTH pioneers have begun to demonstrate, on a national and local scale, that fibre local loop access can be built cost-effectively; has broad market appeal to businesses, consumers and citizens; is a fundamental tool for inward business investment in Europe's regions and, crucially, is capable of generating significant incremental ARPU for service providers through its near limitless service possibilities.

In response to this, and mainly in the last six months, Europe's biggest service providers have started to respond.

FTTH and the world

Japan and the Far East have set the pace in FTTH networks. The initial recipe seems to be as unique as the regional cuisine: long term industrial strategy, bonded with will power, spiced by a consumer psychology that is especially attuned to an online alter-existence, and served to a population that lives, largely, check-by-jowl in multi-tenant units.

The region has over 10 million FTTH connections: Japan has 7.1 million alone. The vital statistic in Japan though is the consumers' swing from ADSL-based services to FTTH.

Launched with not much more to differentiate it than bandwidth, it was soon clear that new FTTH subscriptions were going to overhaul new ADSL subscriptions. This milestone was achieved in the first quarter of 2005, two and a half years after launch.

This is, by the way, not a uniquely Japanese phenomenon: Swedish experience shows that an FTTH service competing with a similarly priced ADSL service quickly displaces the older technology.

As of March 2007, the FTTH services market in

Japan is larger than ADSL in terms of connections and revenues. OECD figures show that, on average, the upload and download speeds on consumer services is a symmetrical 50 megabits a second: the Japanese consumer seems to be generating as much traffic as he is receiving.

Elsewhere, China is investing in FTTH in green-field developments within its expanding cities. There are FTTH roll-outs planned for Pakistan — the first in Southern Asia.

Verizon's investment

Since 2005, the US incumbent local exchange carriers have been investing in deep fibre deployments, and Verizon has a \$23 billion investment in its FTTH network.

Overall in the US there are a million FTTH subscribers, from six million homes passed; ten times the number of connections registered in 2005. In the US the recipe stems from a need for the ILECs — migrating from an ADSL-based offering — to counter the significant competitive pressure from cable operators, who still account for 60% of all broadband connections.

The deregulation of the local loop provided greater certainty on return on investment and dropped the flag on ILEC investment in next generation broadband services. This formula has not repeated itself in Europe.

In Europe to date there are three million homes passed and 800,000 FTTH connections. At face value this seems like a decent third place showing. However FTTH deployment in Europe presents a very fragmented picture, with hotbeds of activity especially in the Nordic area, Italy, France and the Netherlands, contrasting with sluggish development in the other large economies. Incumbent operators were notably reluctant to invest.

Most of the innovation has come from regional and municipal networks, bolstered by public sector investment.

Drivers for change

There are clear signs now that Europe's giant incumbents are taking FTTH seriously. France Telecom has announced a significant FTTH roll-out. Telefónica is beginning a large FTTN deployment, incorporating strategic FTTH elements, and is hinting at a broader FTTH strategy for the future. Others are beginning to stir.

Which environmental conditions have shifted to make this change of heart possible? There are several worthy contenders.

Increasing competition: Genuine competitive pressure is being generated by alternative, regional and



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municipal network operators. As these networks have become more ambitious, so the level of discomfort felt by incumbent operators has risen.

The legal-financial models for building municipal networks vary, but common architectural approaches are emerging. An open, passive infrastructure is the usual foundation. Often a wholesale operator, with a mandate to supply to one and all, is installed to light the fibre and manage the transport layers of the network. Consequently these networks lower the barriers to entry for innovative retail service providers. Significant investments in Amsterdam, Vienna, Paris and elsewhere are the just the highlights in a large-scale wave of municipal and regional investment right across Europe.

The devil and the deep blue sea: Incumbent operators' revenues and margins from traditional telephony and 'vanilla' broadband can only be further eroded, and the operational savings inherent in next-generation core networks can only partially offset this.

While most shareholders are wary of risk, none are prepared to oversee this ongoing decline in competitiveness. Operators need to find ways of increasing ARPU. They can look at the likes of Free, Fastweb, Sky/Easynet etc and see the power of tripleplay in action.

Bandwidth restrictions on ADSL services, particularly in respect of high definition video, are forcing them to look at xDSL and FTTH investments, and often both, in series or in parallel.

Grand corporate social responsibility: Access to information is as vital a requirement of commerce and civic society as access to electricity and water. Economic development is the fundamental driver for regional and municipal broadband investments.

On a national level, it is the incumbent operators who have the scale to deliver economic "Darwinian fitness" through the provision of an internationally competitive, next-generation broadband infrastructure. While the forces for change here act indirectly they are, just like Green issues, increasingly potent.

Regulatory framework: This is the one major driver that has yet to fall into place in Europe. The role of the regulatory regime is to balance the need to maintain competition against the need to remove investment uncertainties.

At present, the effect of the regulatory regime is at best ambiguous. The outcome of the current review is seen as vital.

Ready for take-off: France 2007

To show what can happen when competition, commercial ambition and national interest combine, it is instructive to look at developments in France during 2006.

On December 15 2006, France Telecom became the first of Europe's giant telcos to announce a large-scale FTTH deployment.

France Telecom has long operated in a competitive broadband market, facing challenges from a host of regional networks as well as fully-commercial operators of which Free/Iliad stands out.

By the end of 2006 there were 12 million DSL broadband subscribers in France (plus 700,000 from cable) with almost four million of those delivered via LLU. Many of those competitors had announced or even implemented FTTH networks of their own.

For instance Free had earlier announced intentions

to pass four million French homes with its FTTH network by 2012, with a symmetrical 50 megabits service offering at €9.99 per month.

In addition, the City of Pau has 36000 homes passed and 3,000 FTTH subscribers. Neuf Cegetel has acquired the main service provider on the Pau network, and announced its own accelerated FTTH plans.

Before its acquisition by Free, the CitéFibre municipal network in Paris had passed 10,000 homes and counted 500 subscribers.

The considered response by France Telecom was an ambitious FTTH network of its own, bigger and better than its competition, but one that would nevertheless be founded principally on sound commercial opportunity.

A report by respected consultancy Idate to the French Government, completed in April 2006, offers the best insight into the likely France Telecom business case. In 2011, with a predicted 5.3 million homes passed and 1.8 million subscribers connected, Idate calculates that the cost per homes passed will be €260, and the cost per homes connected €1,018.

These figures compare very favourably with those predicted by Free/Iliad for its —largely urban— FTTH build-out of €250 per home passed, and €1,000 per home connected. In total, the network will pass 10.2 million homes by 2015 for a predicted total investment of between €1.04 and €1.3 billion. On that basis it should be EBIT positive by 2012, based on an ARPU of €50 per month.

Taxing into position

So where else might the same sets of drivers converge to produce a change in favour of large-scale FTTH deployment? If the rumours are true then Spain might be a good contender, albeit for a more evolutionary approach than France.

There are several, burgeoning municipal and metro FTTH projects. Incumbent Telefonica has already committed to a deep-fibre deployment in support of VDSL and FTTH services. It feels like there is some synchronicity at work.

Italy has a vibrant, alternative FTTH pioneer in Fastweb, and Telecom Italia has made increasingly positive noises about fibre to the building and the home.

The Netherlands, with competitive pressure from cable and a plethora of municipal networks — with Amsterdam as the beacon — looks very promising: KPN is already deploying FTTH for green-field developments, and stated in 2006 that it sees its FTTH plans accelerating.

Scandinavia as a whole, and Denmark in particular, looks like very fertile ground with commercial and municipal open access passive networks making huge inroads. Clearly, a positive nudge from an evolving regulatory framework wouldn't go amiss anywhere.

Gaining momentum

After years of being often the bridesmaid but never the bride, FTTH is gaining momentum in Europe. Following on from the innovation of the regional networks and nimble alternative commercial operators, and spurred by developments elsewhere in the world, there are strong signs that Europe's incumbent operators at last preparing to make large investment in deep fibre build-outs with FTTH as an immediate, or at least ultimate, goal. ■