

Andorra Telecom

FTTH CASE STUDY

Small country, FTTH world leader

Andorra's commitment to universal ultra-fast broadband for all citizens has paid impressive dividends over a short period.

The Principality of Andorra and its deployment of FTTH demonstrate what can be achieved in short order with a strong vision and the right level of commitment. The mountainous country has a population of only 75,000, but without enjoying any of the economies of scale of a larger economy it has become a fibre access example for the rest of Europe.

General Information

Infrastructure owner:

Andorra Telecom, a full service (including fixed, mobile, TV and Internet) network operator.

Location:

The network covers the Principality of Andorra.

Network status: Operational

When the country's incumbent telco Andorra Telecom, its only provider of communications services, decided in 2006 to improve the services available to citizens, it soon arrived at FTTH as the best way to meet its ambitious targets.

"We wanted to improve the services available to people, and our revenues at the same time," says Jaume Salvat, CEO of Andorra Telecom. "We're a broadcaster too, so that meant premium TV services over the same network. ADSL was not sufficient for that purpose, so we decided instead to invest in future-proof infrastructure. We wanted a long term approach, to minimise impact and allow better and more innovative services, while

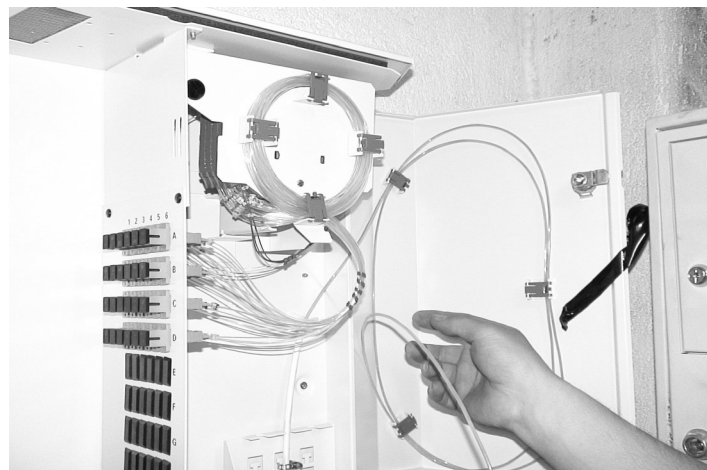


lowering operational expenses."

What followed was a commitment to provide Internet access over optical fibre as a universal service, to all final users, in any populated spot, in any geographical situation in Andorran territory, at a reasonable basic price and with 100 Mbps symmetric speed of access.

"Fibre comes at a higher initial Capex, but comes with big advantages that made it the only option," explains Salvat. "We recognised that it would enable us to move from being a traditional telecoms operator to a much more service-focused one."

In 2007, the company carried out two small pilots, to test the processes involved as much as the actual technology: "Deployment began early in 2008, and was completed in May of 2010," he recalls. "It was a 100% horizontal deployment, although there are still some large residential buildings to be connected."



Subscriber penetration rates, in May 2012, were running at 37.69% of all Andorra's 52,000 households, rising to 52.97% when only measuring households inhabited full time, as opposed to second homes. (see box below for full figures).

Deployment

Size of network:

High speed broadband is universally available to all Andorra's 75,000 population.

Penetration:

Total number of households in Andorra: 52,000.

Households passed: 100%

Total number of inhabited households: 37,000 (rest are holiday homes).

Penetration of inhabited households: 52,97%.

Penetration of total households (holiday/inhabited): 37,69%.

Households connected at full 100Mbps speed: 18,050 (the remainder are connected, free of charge, at a lower speed pending an upgrade).

Technology/architecture: FTTH

Deployment method: Ducts.

Tough challenges

"We have faced the toughest challenges possible on this deployment," claims Salvat. "The only advantage has been the small size of the country. Otherwise we have enjoyed none of the economies of scale of a larger deployment, and terrain that is very mountainous. Around 50% of people are in the two biggest cities, and the rest in small towns. It's complex."

Business Case

Investment:

No public subsidy for the deployment, everything paid for by Andorra Telecom

Number of years to ROI: 7

Business model:

Increasing penetration of the FTTH network by providing products adapted to every segment of the market. New services on FTTH network only. Consolidation of backbone technologies and service platforms.

Meeting these challenges, he says, was more than just a technical matter: "The company has also had to go through major evolution," he explains. "We are no longer just focused on delivering basic connectivity. We have changed how we do business, and are based more around services now. That's been the challenge – not the technology but getting the company ready, and adapting mindsets of people who had in many cases been working for us for a long time."



He explains that Andorra Telecom's unusual regulatory position has also influenced the project: "What we want to provide is an attractive service at a good price to 100% of households," he says. "In a country of our size, that won't be achieved through competition. At Andorra Telecom, we build, operate and provide services. We're a mobile operator too, ready to move to 4G."

He says that his priority now is concentrating on developing services for the new broadband network, for example in the area of Internet TV: "We provide



IPTV, and can allow consumers to take calls on their TV if they like," he enthuses. "The call pops up on screen and you can choose whether or not to answer. There are other interactive services, like white and yellow pages and weather information. We're going to be developing more and more bundles for customers."

Andorra Telecom, he says, wants to get rid of all of its legacy copper network as soon as possible, as it is an added expense to run two networks side by side.

End-user Services

Services:

60% of subscribers take a triple play bundle, costing 69 Euros, and 40% take a double play bundle, costing 49 Euros.

Fortunately, in most cases, consumer response to FTTH has been very strong, helping to make this ambition realistic: "We can show clearly that fibre is better – even if a lot of people only have a holiday home here and don't want anything more than a telephone," says Salvat. "People have generally been very enthusiastic, realising that 100Mbps symmetric offers clear advantages. Once you offer a certain level of service, it becomes like a commodity and people start to expect more, so we have to keep on developing new services at a lower price. We have some very demanding customers."

He says that in addition to consumer satisfaction, it is becoming strategically advantageous for companies to locate in Andorra: "I see a lot of jobs being created in the future," he believes. "We have made an up-front investment that is going to pay back commercially and in terms of people's quality of life. There is no doubt we made the right decision."

Written in March 2011, updated in August 2012

Photos provided by Andorra Telecom

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