

# Financing Amsterdam's Huge FTTH Build

An interview with Herman Wagter, Managing Director of Amsterdam's CityNet

By Gordon Cook ■ *The COOK Report on Internet*

**H**uge Fiber-to-the-Home build-outs just getting under way in Europe have captured the imagination of American network owners and operators, as well as of municipal officials.

First, there's the size. Amsterdam is first off the mark, with plans to pass 400,000 homes. Vienna is planning to pass 900,000. Paris, with 20 percent of France's entire population, is also in line (details are in our March issue).

Even more interesting is how Amsterdam managed to attract seven corporate partners that include pension funds and real estate interests – financial sources that have been hard to tap in the United States. In the US, municipal network builders worry about “giving up control of the network” to private industry. The RBOCs and cable MSOs do not want to deviate from a historic approach of owning their own networks. Result: Little or no cooperation.

The Europeans simply treat the fiber as a utility, a common good. They embrace the idea of open-access networks that anyone can pay to use. Amsterdam's approach survived a challenge in the European Union's courts a few months ago – a challenge by incumbent cable operators – and now seems likely to spread throughout the EU.

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Gordon Cook, founder of *The COOK Report*, interviewed one of the driving forces behind Amsterdam's buildout, Herman Wagter.

**Cook:** How did you become involved in Amsterdam CityNet?

**Wagter:** My background is not Internet or telecom but in managing international business. I have traveled a lot in Asia and the US for the past 20 years, doing engineering and contracting, and staffing for a number of years with Randstad, the multinational temporary employment agency. Having had enough to do with big companies, I got asked to run a foundation, the goal of which was to do market research designed to find out what people would do with abundant bandwidth.

This was part of a two-pronged approach in Amsterdam. One was to

learn how you set up a public/private partnership to be able to build fiber to the home. The second, done in parallel, was to find out what people would do with the unlimited capacity brought by the fiber. We started out by asking on the street. Literally.

In Amsterdam we will bring fiber not only to all of the buildings but to all of the individual apartments. In terms of getting fiber to where we want it to go, you will see that 60 percent of the total cost is labor. A lot of the cost is associated with digging up streets, getting permission to do so, and so on.

**Cook:** Getting the fiber into existing buildings and especially all the way into existing apartments will be very expensive, won't it?

**Wagter:** Well there is investment and something else too. Consider the

direct and indirect cost of opening up some of the streets. When we do this, we find out that in some streets there is hardly any room to place yet another cable. Will all the aggravation that comes along, with all the cost, there is tremendous pressure not to open up the streets any more than is absolutely necessary.

In some areas in Amsterdam where the streets are especially vital to the local economy, they may be opened only once every ten years. If you miss the window you must wait a decade. It's your problem. Consequently, there is a coordination committee that by law coordinates all digging activities from everyone in the government and the private sector to be combined. The resulting schedule is rigorously enforced. Also if you are going into a building, you don't want to do that more than once. Getting inside is expensive in terms of labor and coordination costs.

Now as soon as you terminate some fiber you will have some active equipment doing optical-to-electrical conversion. When you go from fiber to copper or coax inside the building, it is converted to electrical signals. This means that if later on you want to modify something or, if you would like to change technology or, if you would like to switch individual operators on a line-by-line basis in order to have competition, you end up with a lot of practical problems and costs to be able to do so. Much more so than if you just go all the way with fiber.

If you integrate this transfer from optical to electrical in the network layers, you will see that in terms of systems suddenly it gets complicated, and you find out that you will have to move the interfaces to the IP level. That would mean in practice a monopoly on wholesale IP, which is foreclosing competition below that level.

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One of the things that we say is that it is depreciation time that counts in the long run. Low operating expense, OPEX, means you want low maintenance costs, few truck rolls. Last but not least we aim for a maximum of competition because that will sustain the attractiveness to users in the long run.

If you have a strand of fiber to each apartment, then the result is much like a telephone wire as a direct connection to the local switch identity. It allows unbundling and competition on a line-by-line basis without duplicating the expensive physical layer. It means that on each customer-end line you could have a different operator. We are saying that we believe totally in competition. This means that in the switch house [central office] or interconnection point [local point of presence] we provide for different racks for different operators, because on a line-by-line basis customers could sign up for different combinations of different offerings.

#### **CityNet's Many Local Strengths**

**Cook:** Do customers understand it?

**Wagter:** One of the most important things ... we found out is that the industry has an enormous technical misunderstanding focused on the use of the word "Internet." People tend

to use the word Internet when they talk about interconnecting because they have been taught by industry that this wonderful thing they use is called that.

We found that people liked this thing called Internet because of certain characteristics. They like its ability of two-way communication, with multiple others, to a large selection of services, of the ability to shift time and place. But these are characteristics that they want to see in all digital media. If they talk about Internet they don't talk about more email. They talk about these characteristics for more media.

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I have one example that we experienced while we were doing tests in the streets. This was for me an eye opener. Have you ever heard of something called the "Eye-catcher?" This is a high-end videophone developed in the Netherlands.

They would say: "Wow! I want this." Our question was: "Why do you want this?" They would say

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things like: “Well I’m 65 and the first reason I want it is that I don’t go out on the street after 7:30 in the evening, too dangerous.” Still they would love to keep in touch with friends and family.

Secondly they say they found the television boring and added they would much rather communicate with their friends – either next door or two streets away. “Can I play bridge?” “Can I call the doctor?” And so on.

We had two devices connected in different rooms so that real two-way remote communication could be faithfully simulated. We didn’t tell the users it was IP-based. We didn’t tell them it was Internet. We asked them what they wanted... not whether it was more Internet, or more bandwidth. We asked them what are your main worries? What do you spend most of your time on? Things came up like security, home care, maintaining independence so they would not have to go into a nursing home.

**Cook:** What about triple play?

**Wagner:** We don’t talk about triple play. We don’t because I think it is baloney! The people don’t want it. Yes, they want these three services, but the bundle is being pushed on them. People want choice above all, while the industry keeps pushing from the point of view of the last mile revenue-generating unit. “I have to tie this customer to my line for the rest of his or her life.”

The first issue in investment life cycles is infrastructure. This is the fi-

ber. Then we have the second necessary investment lifecycle – obtaining the electronics necessary for wholesale bandwidth management. Electronics is driven in a three, or four, or five-year cycle. The third here is in services delivered by the network and here the life cycles of change are about every 90 days.

There is no management that can do all of this effectively, at the same time and with a single hand. Therefore limit yourself to one of these levels and let others run the [other service] aspects in which they are specialized. From that we began to really think in terms, all the time, of the three layers and said: “How will people buy into this”? Packages are not good. You must let them mix and match.

If you limit yourself to just the fiber infrastructure, you don’t have to spend money to develop services. Of course, you will have to find people who are accomplished at doing this. But now your only burden is explaining to operators why it should become attractive to interconnect with you.

### Financing by Real Estate and Pension Interests

**Cook:** How does the financing work?

**Wagner:** We understood that we had to create the three-layered structure as well as the project group to do this. The first step would be to finance it with a lot of equity because this was so new that loans would be more difficult to get. In our approach at equity investment we have to aim at people who understand infrastructure and

have the same mindset, not because they are equity partners but because they have a stake in the well-being of Amsterdam as a community.

What we found out was that we should target money with roots. Money with vested interests in the ecosystem of Amsterdam and organizations that have therefore a long-term view. They understand infrastructure and the effect that good infrastructure has on the city of Amsterdam over the long haul. One of these groups is the group of housing corporations.

Others who have a natural long-term understanding of this are people who are in real estate. There is another class at whom we are aiming for our second [buildout] phase. This class is pension funds. These funds are interested in having inflation-corrected funds in their portfolios. The investments [in the Amsterdam fiber network] should be reasonably inflation-proof and should be capable of being counted on to return a reasonable rate of return over a long period of time.

First these three groups had to get used to the idea, because we were seen as talking about telecom. We had to get them to understand that this was not about telecom but rather about infrastructure. Why? Because we would not deal with services nor with equipment to light the fiber. We are putting stuff in the ground and relying on it for 25 years or more.

This fiber ... has directly to do with the attractiveness of real estate. We pointed out those industrial parks that are a long way from the telephone switching exchange [and have poor DSL connectivity as a result] were also the very places where the commercial properties were declining in value. We pointed out that there was a relationship between the quality of the local telecommunications infrastructure and the rents their buildings would bring.

It took them a while but they began to understand and they said: Okay it is time to look at the business case and make sure we are not just talking theory but real money. They said “Fine. We will make a decision as soon as we have validated the business case with, first of all, a quote from someone as to what they will charge you for building the network and secondly that you have identified the second level – a wholesale electronic operator so that we know he is ready, willing and able to invest and make it happen. If you are unable to do this, we do not fly.”

### **Banks Have a Conflicted Role**

**Cook:** What other financial issues are involved?

**Wagner:** Are you familiar with the International Financial Reporting Standard (IFRS)? This is an accounting standard for how balance sheets and profit/loss statements should be reported internationally. It was driven by the US, after the Enron Scandal. This seems very innocuous unless you see something that is called “impairments.” You have to test the value of your assets every year to see if they are the same as they were the year before. If the value is less, then the loss of values becomes a direct hit on your profit and loss statement.

The investments that banks have made in incumbents and cable companies become impaired if they finance fiber-to-the-home. If a bank has a billion dollar loan to a telco, there is a book value for this loan. If for some reason a fiber-to-the-home project were seen as a threat to the telco or cable company then the value of the loan becomes lowered. There is an intrinsic value of the loan to the bank – namely what would be the profit to the bank when the loan runs its complete course. But the amount of interest (the yield curve)

will change for that loan. And you have to take an impairment to the value of the loan because fiber-to-the-home is coming.

So if one department of the bank wants to loan out fiber-to-the-home and the other department of the bank has a loan to a telco or cable company, it says: “Wait a minute – don’t do that; it will cost me a bundle.”

**Cook:** Are there many banks of any size that don’t have portfolios of loans to telco or cable companies?

**Wagner:** Not many. But yes if you would like money from a bank, finding one without significant telco or MSO loans would help. But the second part of the problem is the push-back that the banks’ credit committees will get by people who would say: “Hey why do you want to do something as risky as this? There are other opportunities out there.”

### **The Influence on Amsterdam Economics**

The creative class theory [espoused by Carnegie Mellon University social scientist Richard Florida] is well known. There is a less known 2004 paper by Edward Glaeser and Albert Saiz at the National Bureau of Economic Research, *Rise of the Skilled City* ([www.nber.org/digest/jun04/w10191.html](http://www.nber.org/digest/jun04/w10191.html)). This is a quantitative economic study on the ability as a city to withstand economic shocks. It shows that a highly skilled workforce can adapt much better to changing economies by creating new businesses: service-related or other. And it is shown that this factor makes all the difference. Cities with well-educated workforces are more stable and successful economically.

For example: Amsterdam’s eastern harbor area, which has been converted from derelict warehouses to a fantastic new area to live, now contains more

information communications technology (ICT) and Internet jobs than there ever have been jobs of all kinds in the harbor of Amsterdam in years past. These jobs are mostly small service companies and individuals. But we have seen that this in turn has attracted bigger companies to choose Amsterdam such as Cisco. This positive feedback is very important.

Finally the population is growing older in the Netherlands. Fifty per cent of those over 65 years old in Amsterdam are single. The economic costs of elderly people coming to the point where they are not able to live in their own homes is very large:

- You have to build new facilities with extra service and the operational costs are much higher in these facilities.
- You have to modify the mix of types of housing to adapt to that, which is also costly.
- People hate to leave their own home to move to common facilities.

We see CityNet as having the new infrastructure that is able to facilitate all these positive economic benefits. **BBP**

### **About the Author**

*Gordon Cook is sole proprietor of the COOK Report on Internet Protocol: Technology, Economics and Policy. The COOK Report, currently in its 15<sup>th</sup> year of publication, is the oldest ongoing independent Internet newsletter. Back issues from 1992 through 2004 may be downloaded from [cookreport.com](http://cookreport.com). Summaries of current issues are available starting at [cookreport.com/15.07.shtml](http://cookreport.com/15.07.shtml). Paid subscribers may request entry to his private community-of-interest mail list. His blog, COOK’s Cooperative Edge, is available at [gordoncook.net/up](http://gordoncook.net/up). A much longer and more detail version of this interview was published on August 31 in COOK Report, pages 8-19.*