

# Germany 'needs to build fiber faster to cope with impact of connected TV'

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- Germany, Europe's biggest and richest country, is lagging behind many other Western European nations in its deployment of fiber-based networks.
- Industry organization FTTH Council Europe this week warned that Germany urgently needed to upgrade its infrastructure to cope with the new generation of connected TV sets.
- The deployment of DOCSIS 3.0 modems by German cable operators appears to have acted as a catalyst for incumbent Deutsche Telekom to commit to an ambitious fiber deployment.

This week's IFA consumer-electronics show in Berlin was notable both for its history (it was the 50th edition of what is now one of the sector's most important trade fairs) and for what it promised for the future, with 3DTV and Internet-connected television sets very much at the heart of industry expectations.

But such products will require considerably more bandwidth than is available over most European broadband networks today. Even though headline download speeds are rising, upload speeds are still comparatively slow, which will handicap consumers who want to share high-definition or 3D video or use other high-capacity interactive services.

There is no small irony in the fact that IFA is held in Germany, a country which, for all its advanced industrial production, is very much a laggard in terms both of broadband deployment and of advanced fiber-based networks.

Industry organization FTTH Council Europe this week sounded the alarm over Germany's capacity to cope with the new generation of TV-related services delivered over the Internet. It pointed out that only 0.4% of German homes received broadband through a direct fiber connection – defined as fiber-to-the-home (FTTH) or fiber-to-the-building (FTTB) – compared with more than 10% in Norway and Sweden. At the end of June, according to the FTTH Council Europe, there were just 140,000 FTTH/FTTB homes in Germany, mostly on networks deployed by municipal authorities and utilities.

Hartwig Tauber, director general of the FTTH Council Europe, highlighted some of the latest connected-television gadgetry on display at IFA, such as television sets with built-in cameras for video-conferencing over Voice-over-IP networks. He said that, when deployed on the full screen, the quality was poor – not because of any limitations in the television sets themselves but because of the lack of bandwidth for two-way video communication.

He said that faster broadband over fiber would be needed for people to use many of the new devices and services on display at IFA 2010 or flagged as products for the near future – such as Panasonic's pledge to deliver 3DTV over the Internet and the concept of 3DTV home-shopping where consumers can walk around a virtual store.

## **DOCSIS 3.0 catalyst**

German cable operators, led by Kabel Deutschland, are upgrading their networks to use the EuroDOCSIS 3.0 standard, offering downstream speeds of up to 100Mbps. The FTTH Council Europe does not count most EuroDOCSIS 3.0 homes as "fiber" (unless, as is the case with parts of the Numericable network in France, fiber is actually deployed into the building), and Tauber was skeptical about whether the actual download speeds offered by cable broadband are always close to the "up to" level promised and critical of the "bottleneck" caused by slower upload speeds.

But Tauber acknowledged that cable's deployment of EuroDOCSIS 3.0 appeared to have acted as a catalyst for Deutsche Telekom, which has moved on from its original plan of upgrading its ADSL networks to VDSL and has unveiled plans to build fiber networks to pass four million homes in the 50 largest cities by the end of 2012.

"Kabel Deutschland is an interesting one, especially with DOCSIS 3.0. It might be a trigger to fiber in Germany," said Tauber. "Deutsche Telekom needs to upgrade its product and it has recognized that VDSL offered only a short-term, interim solution and that it needs to do the real thing." He described the operator's deployment plan as "very ambitious, but they could reach it."

But while the FTTH Council welcomed Deutsche Telekom's fiber plans, it does not believe that they go far enough and that the focus on cities will create problems for rural areas and small-to-medium-sized towns.

Chris Holden, the organization's president, said: "Our studies show the positive socio-economic impact of FTTH, and that rural areas benefit most from high-speed fiber connections. It is important that the majority of households in Germany can be connected to FTTH, not just those in urban areas. Intelligent actions from policy makers will be necessary to make sure this happens."

Mobile-telephone operators have started to deploy Long-Term Evolution (LTE) mobile broadband in some rural parts of Germany, but the council considers this to be an inadequate substitute for fiber in terms of speed, latency and reliability. Tauber said that, until now, rural areas had been forced to make do with so-called "DSL Lite" (offering download speeds of no more than 512kbps) and that that there was "a big risk" that rural communities would end up with LTE and not fiber. This would amount, he said, to being told: "Be happy, you have something better than DSL Lite."

#### FTTH progress

According to the latest data from the FTTH Council Europe, there were 138,600 FTTH and FTTB homes in Germany at the end of June, out of 560,000 homes passed – a penetration rate of just under 25% (see fig.). A year earlier, there were 66,000 FTTH/B homes out of 418,000 homes passed, a penetration of 15.8%. Tauber said that operators had focused their attention in the first part of 2010 on increasing subscribers but were placing greater emphasis on expanding the network reach in the second half of the year.

#### Germany, deployment of fiber networks, 1H09-1H10 (000s)

Provider	Subscribers			Year-on-year change
	1H09	2H09	1H10	
<b>FTTH/FTTB</b>				
HanseNet	5	6	6	1
M-Net	9	10	13	4
NetCologne	23	30	70	47
Schwerte	1	3	5	4
Wilhelm Tel	25	33	37	12
Others	3	5	8	5
<b>Total FTTH/B</b>	<b>66</b>	<b>87</b>	<b>139</b>	<b>73</b>
<b>FTTN</b>				
Deutsche Telekom	600	700	800	200
<b>Total FTTH/B/N</b>	<b>666</b>	<b>787</b>	<b>939</b>	<b>273</b>
<i>Source: FTTH Council Europe</i>				

The biggest provider was NetCologne with 70,000 subscribers, followed by Wilhelm Tel in the city of Norderstedt and parts of Hamburg with 37,000 and M-Net in Munich with 13,000. All three networks are owned by municipalities or local utility companies. According to the FTTH Council Europe, there were also 800,000 fiber-to-the-node (FTTN) customers of Deutsche Telekom (those that take a VDSL or VDSL2 service) at the end of June, representing a year-on-year increase of 200,000.

### **Informa viewpoint**

The FTTH Council Europe has a tight definition of what counts as fiber and does not count fiber-to-the-curb (FTTC) or fiber-to-the-last-amplifier (FTTLA) networks, thus excluding the vast majority of the EuroDOCSIS 3.0 deployments of Europe's cable operators.

But while the EuroDOCSIS 3.0 network now being built by Kabel Deutschland might not satisfy the council's strict criteria, it certainly appears to be acting as a catalyst for fiber growth in a market where broadband penetration still has a long way to go.

Kabel Deutschland now offers its 60Mbps and 100Mbps services in Hamburg, Munich and expects to offer it to another 11 cities by March 2011 and to 80% of its upgraded network (more than 10 million homes) by March 2012. With Deutsche Telekom planning to offer FTTH to 50 cities by the end of 2012, Germany looks like it is about to take a significant leap forward – although there is the significant risk that rural areas and small towns will be left behind.

HD video-conferencing via connected television sets, 3DTV home-shopping and other gadgetry unveiled with manufacturer hype at IFA may or may not prove to be key applications in the future. But if these are not the applications, others will be. It seems increasingly clear that the advent of the connected television set, which brings the power of the Internet into the heart of the living room, is going to require faster broadband networks with fast upstream as well as download speeds.