



FTTH Conference 2018

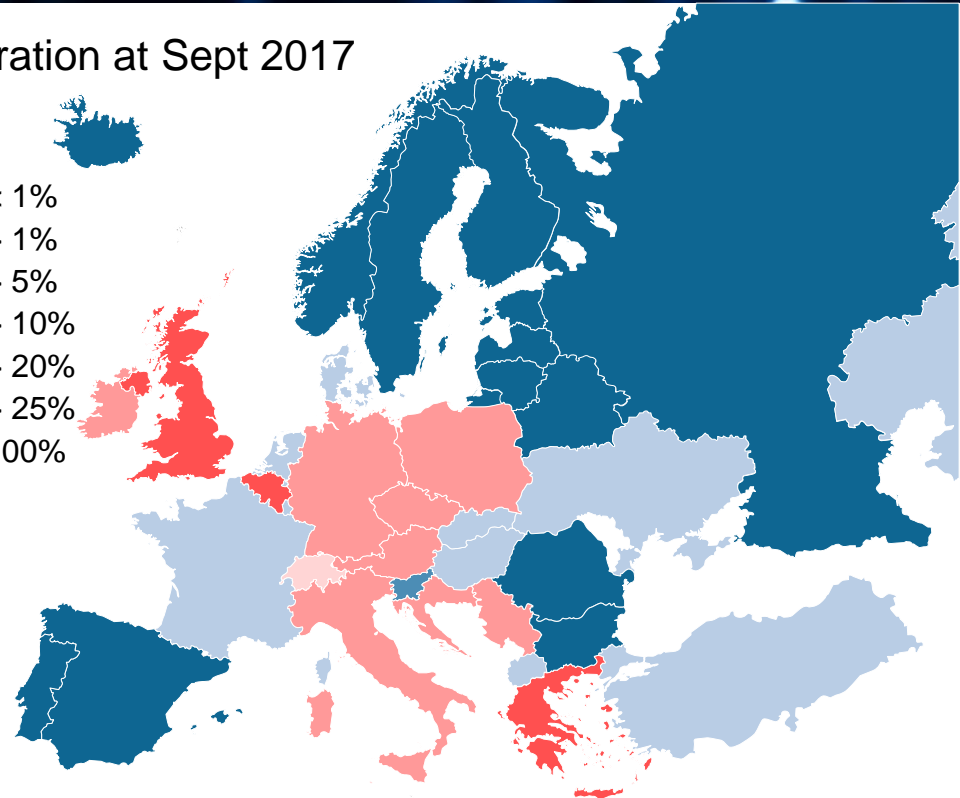
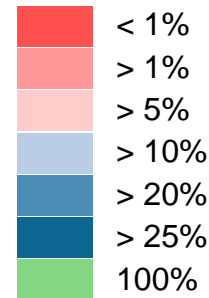
The Socio-Economic Benefits of FTTH

Dr. Iris Henseler-Unger
15th February 2018

Around 20 million FTTH/B subscribers in Europe

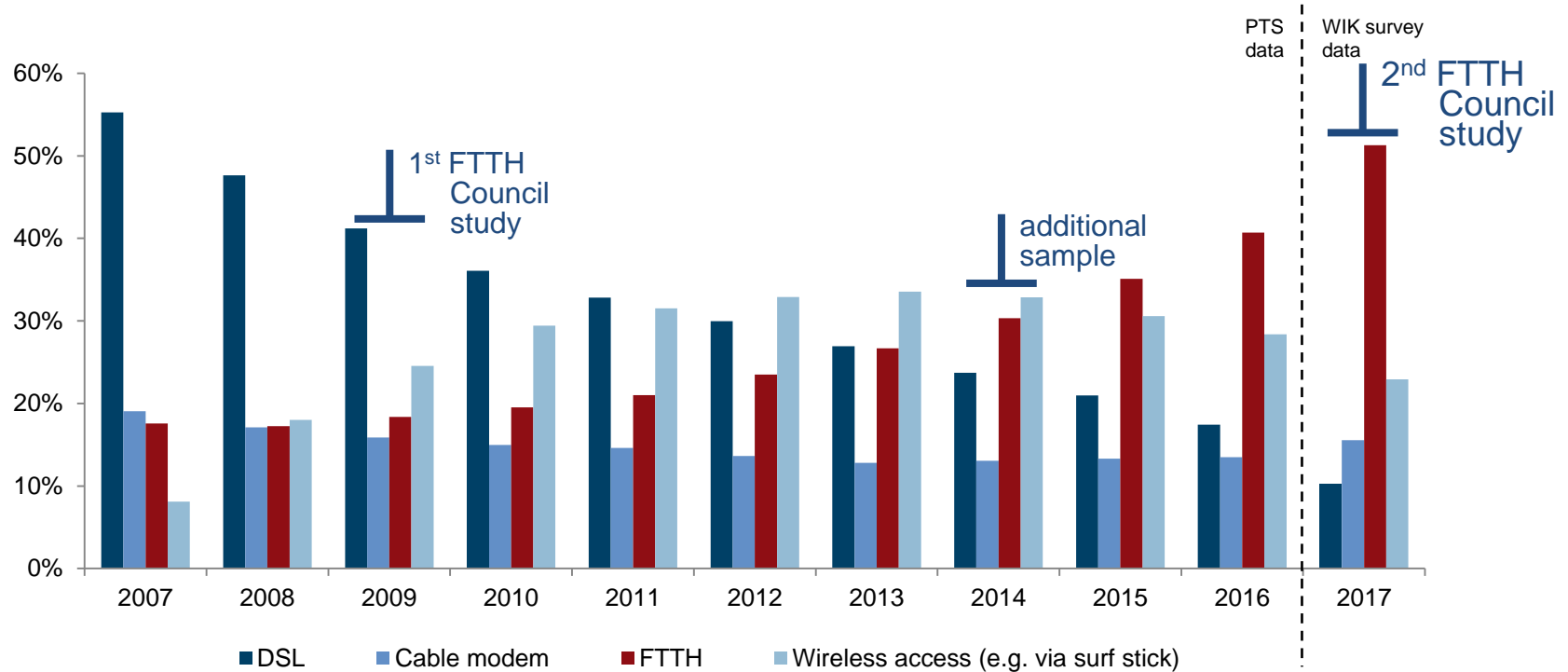
- The number of FTTH/B subscribers in the EU28 has grown more than fourfold since the last FTTH Council Europe study on socio-economic benefits of FTTH.
- Scandinavian and Baltic countries lead the way with regard to current penetration of FTTH/B.
- FTTH/B pioneers Sweden and the Netherlands were selected to trace the socio-economic effects of fibre in the present study.

Penetration at Sept 2017



Source: IDATE DigiWorld 2017

Sweden – An FTTH success story



Source: Data for 2007 to 2016 was taken from the Swedish Post and Telecom Authority (2017); data for 2017 was collected via a representative consumer survey conducted for this study, N=803. To harmonise both data sets other Internet access technologies (e.g. satellite, dial-up, etc.) were not considered in the figure above.



Our Goal:

- Identify the socio-economic benefits of FTTH

Our Methodology:

- Representative survey of 1018 Swedish consumers
- Case Study in Sweden
- Case Study in the Netherlands

Agenda

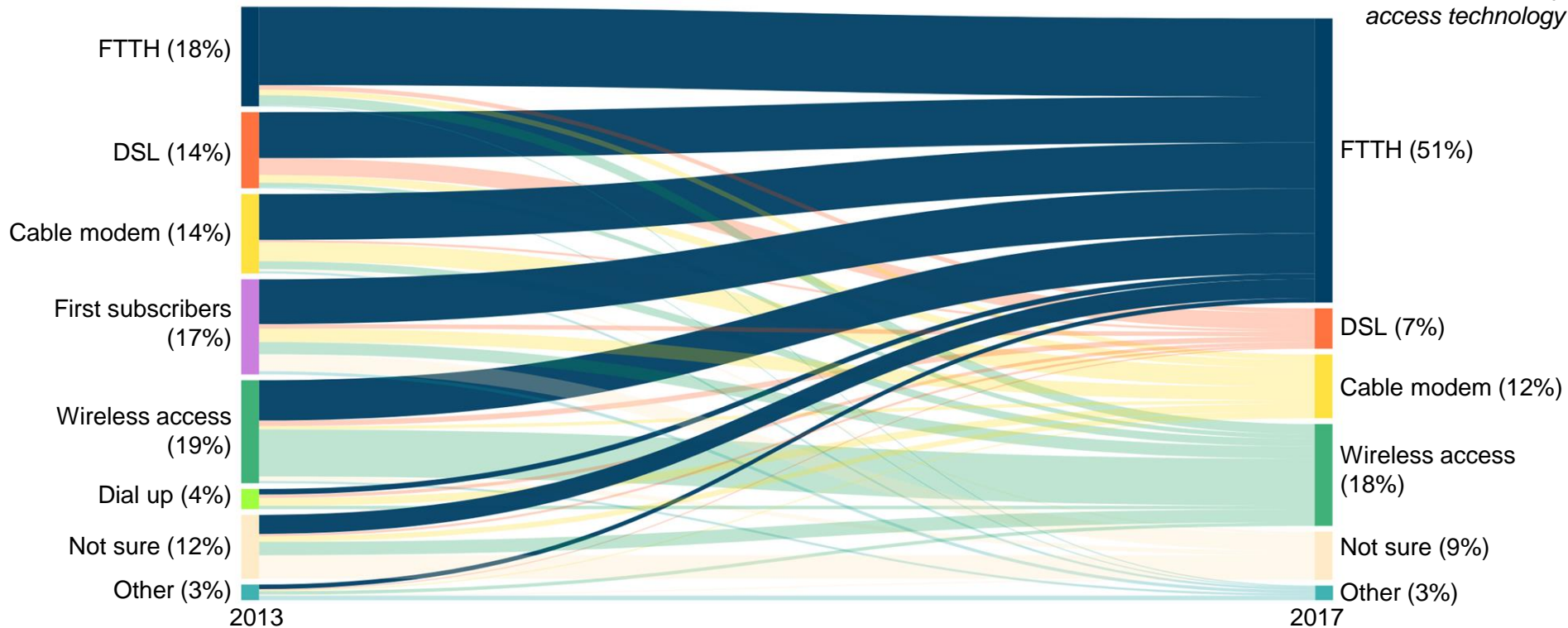
- Consumer Survey Results
- International Snapshots of FTTH's Impact
- An Outlook
- Summary

A young man with short dark hair is sitting on a wooden bench with a patterned cushion. He is wearing a dark t-shirt, olive green pants, and patterned sneakers. He is looking at a laptop screen and typing. The bench is positioned in front of a large window that looks out onto a green, leafy outdoor area. A blue semi-transparent overlay is on the right side of the image, containing the text 'Consumer Survey Results' in white.

Consumer Survey Results

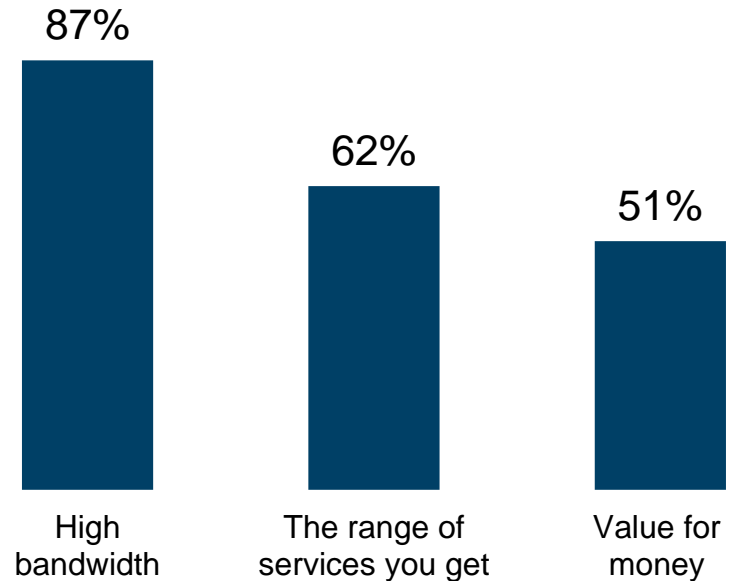
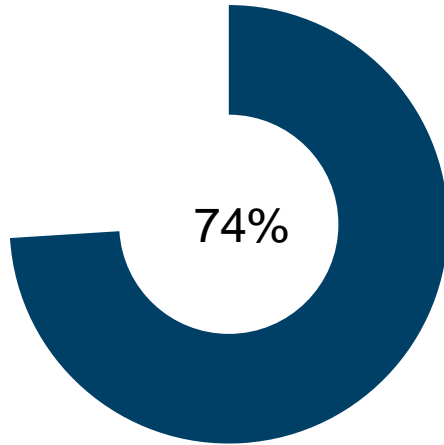
Swedes migrate to FTTH

Share of Internet connections by access technology



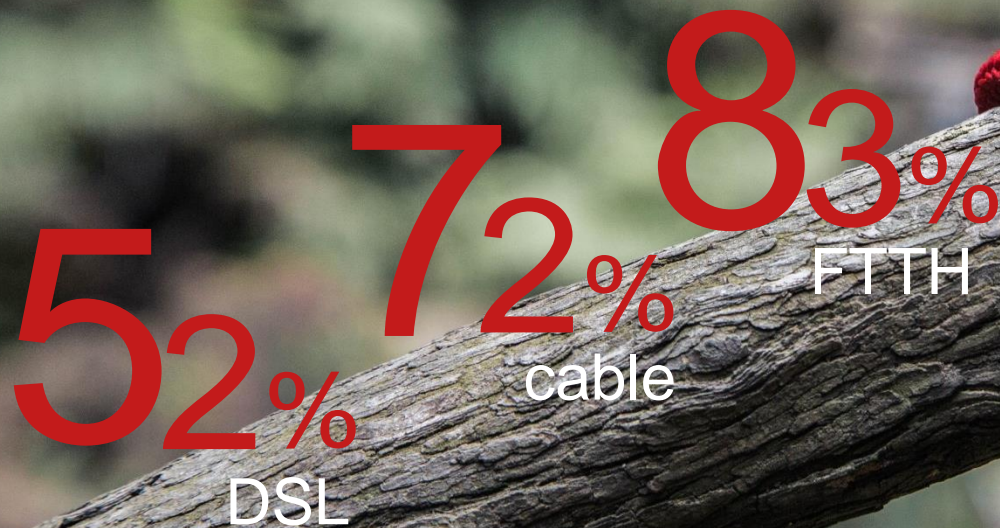
Fibre makes a difference

- More than 70% of those who made the switch to fibre noticed a difference to their previous Internet access technology.
- For the majority of FTTH users fibre is about higher speed and better value for money.*



* Percentage share of the maximum available points in a ranking exercise.
Source: Representative consumer survey (2017), N=347.

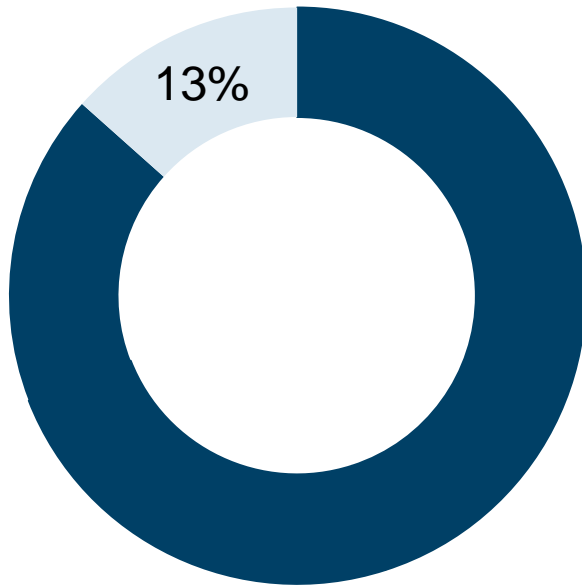
...in love with their FTTH connections



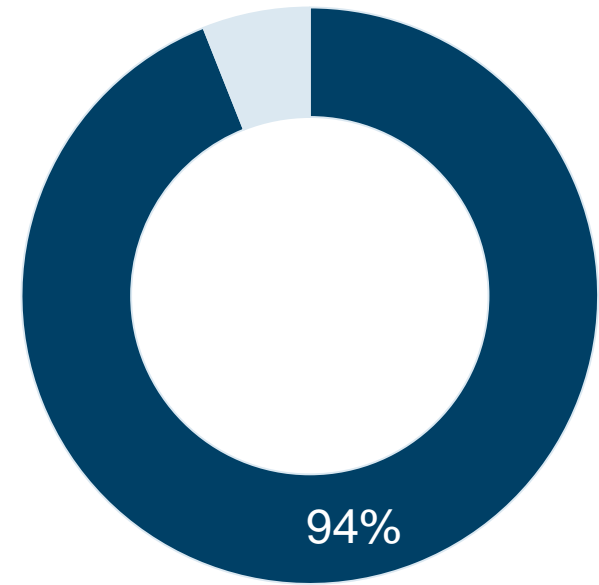
satisfied
customers

Consumers want fibre

- Only 13% of non-FTTH users claim that they have consciously decided against an FTTH subscription.



- 94% of non-FTTH users would consider subscribing to FTTH if it was made available in their area.



FTTH users do more online

On average
FTTH users are

11%

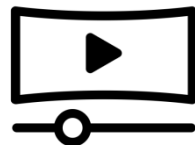
more active
online.



FTTH users do more online



Information
+ 7%



Entertainment
+ 15%

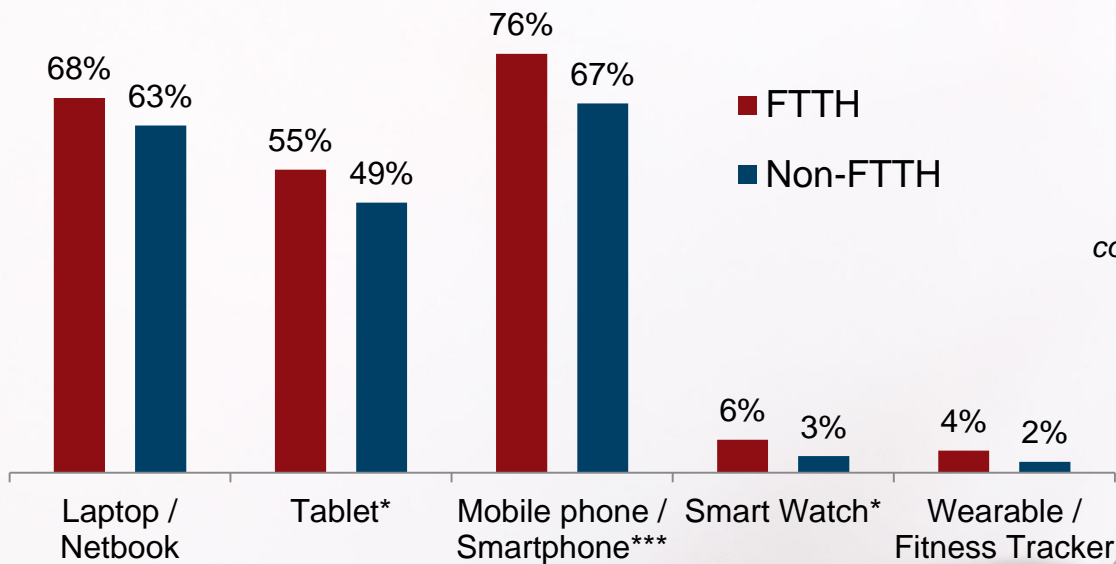


Social Interaction
+ 15%



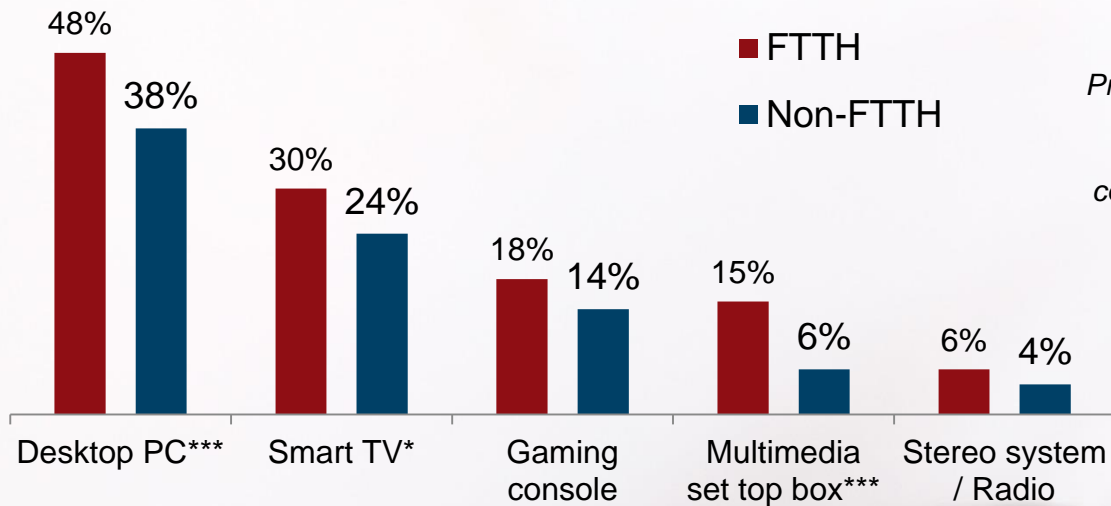
Local Services
+ 10%

FTTH users use more mobile devices than non-FTTH users



Proportions of users owning specific mobile devices connected to the Internet

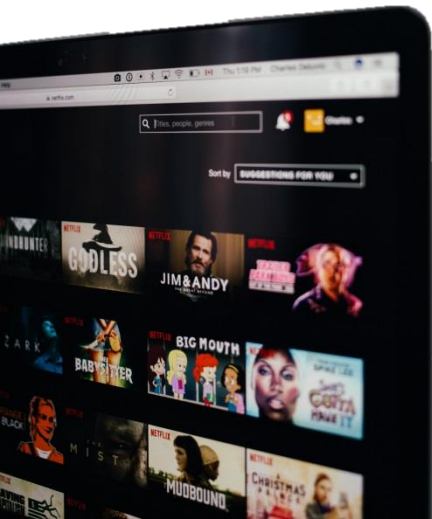
...the same goes for stationary devices



Proportions in % of users owning specific stationary devices connected to the Internet

Video streaming

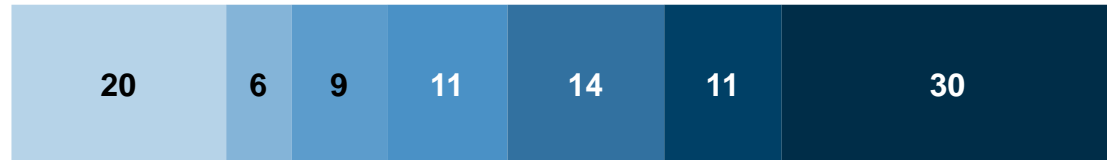
Percentage shares of OTT services used for video content consumption (in an average month)



Germany



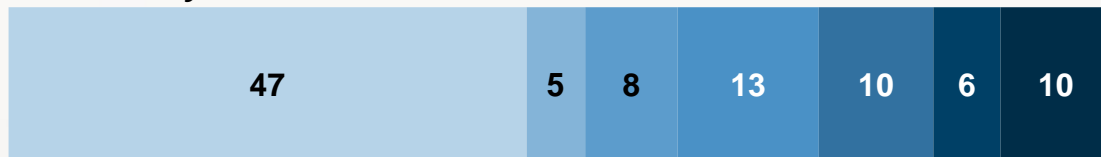
Sweden



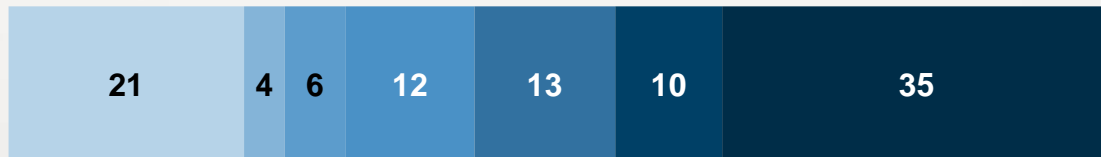
■ 0% ■ 1-20% ■ 21-40% ■ 41-60% ■ 61-80% ■ 81-99% ■ 100%

Music streaming

Germany



Sweden



■ 0% ■ 1-20% ■ 21-40% ■ 41-60% ■ 61-80% ■ 81-99% ■ 100%

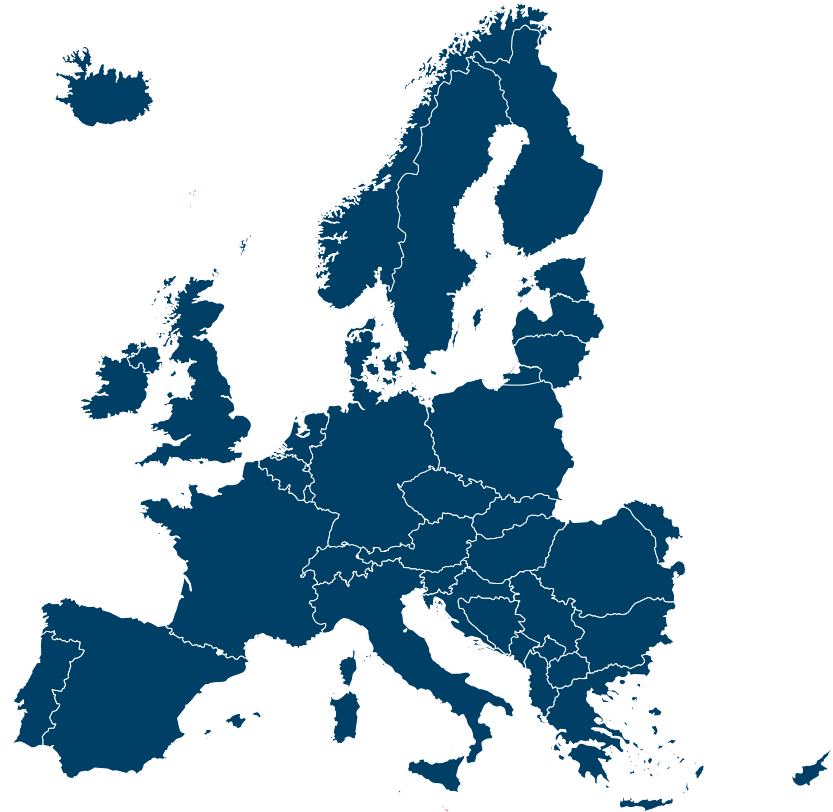
*Percentage shares of OTT services used for music content consumption
(in an average month)*





International Snapshots of FTTH's Impact

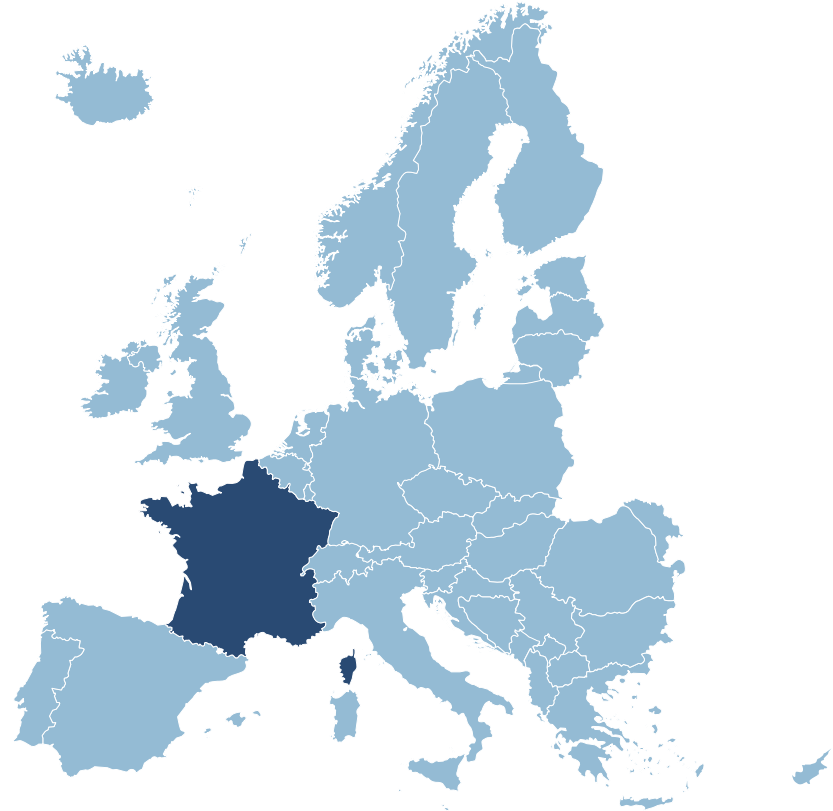
88% less
greenhouse gas
emissions per gigabit
with FTTH/B
infrastructure
compared to other
access
technologies.



France

4.8% more
start-ups

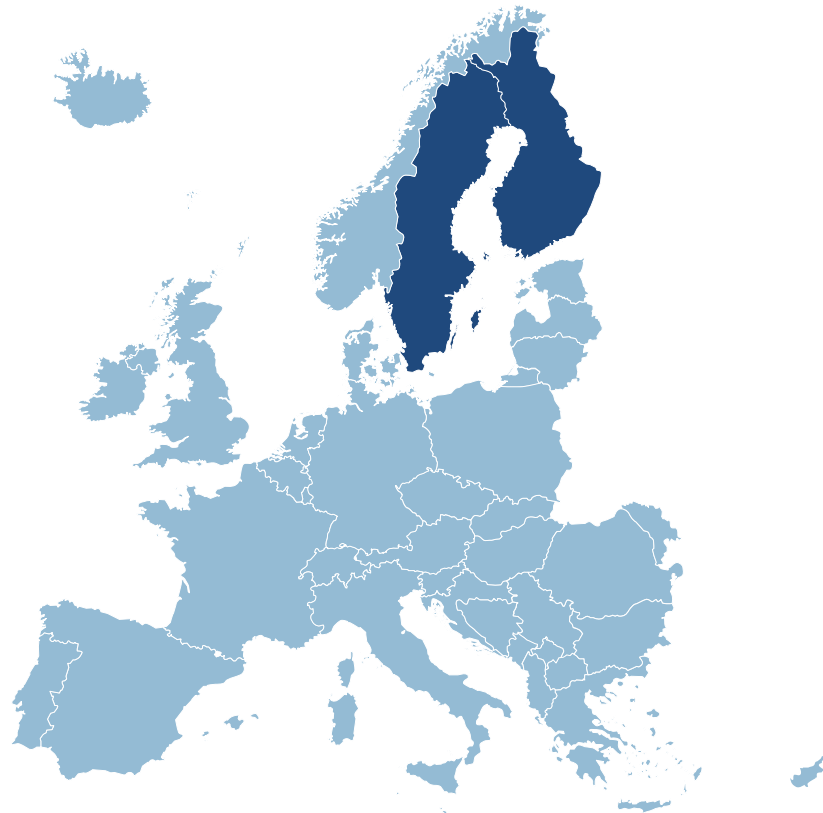
in French municipalities
with ultrafast broadband
compared to the ones
with slower access.



Sweden and Finland

€75 to €425

per capita can be saved
annually in small
municipalities
depending on
the take-up rate
of digital home services
enabled by FTTH
broadband.



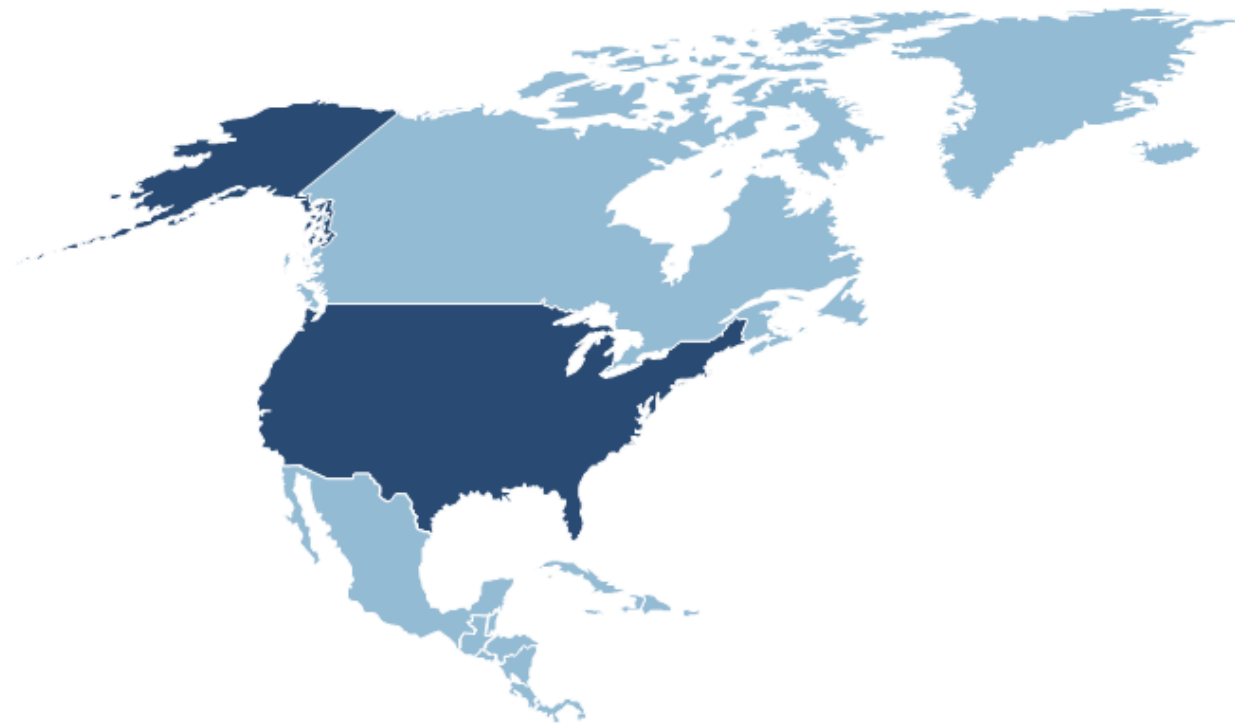
USA

12.8 days

homeoffice per month for FTTH users compared to an average of 10.8 days for DSL & cable users.

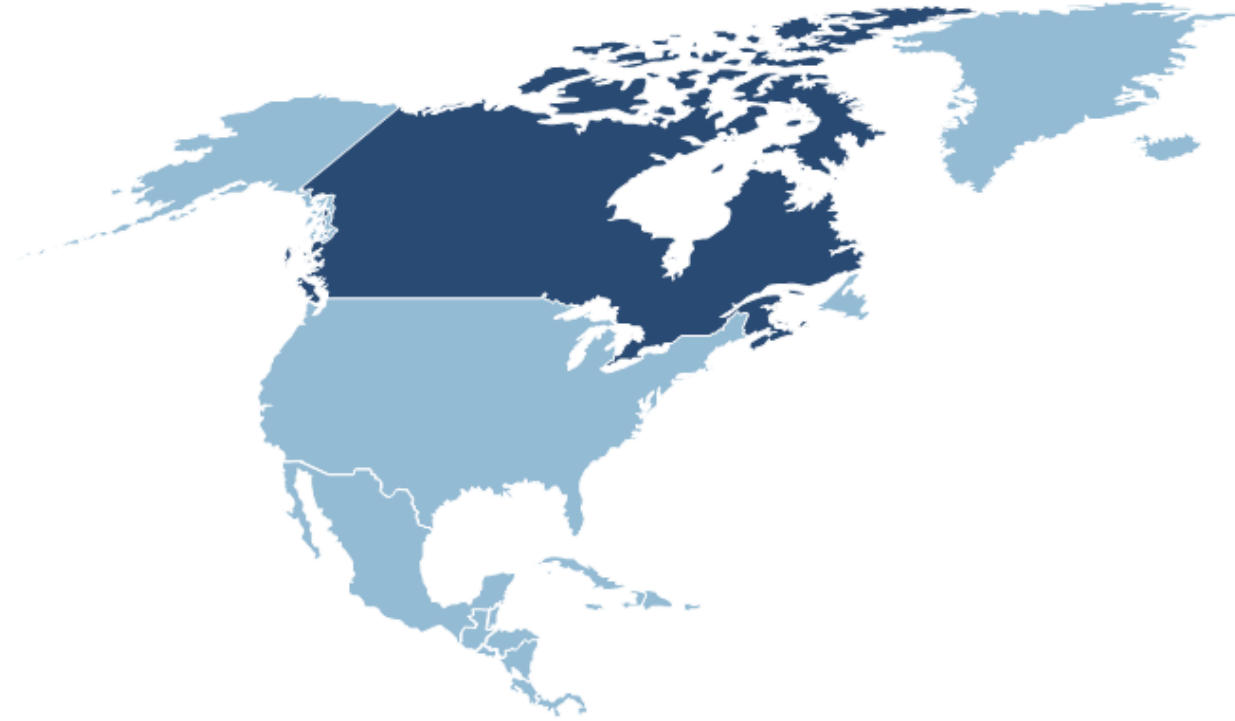
1.1 %

higher GDP per capita in communities with Gigabit broadband access than in the ones with a slower one.



Canada

2.9%
expected
increase in
employment
from full FTTP
roll out.

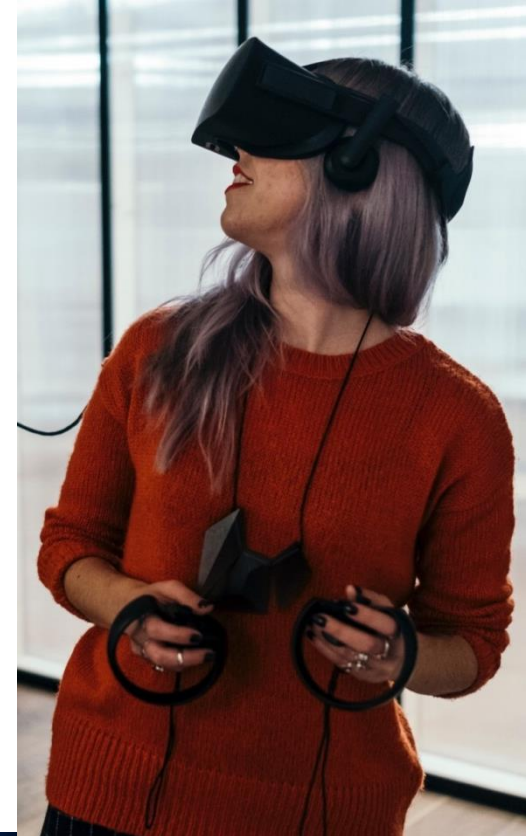




An Outlook

Immersive media

- Today's virtual and augmented reality systems require 100 to 200 Mbit/s for a one-way immersive experience. Future applications, however, will likely require fully symmetric access of more than 1 Gbit/s.
- A fully immersive experience will engage all senses. Therefore, latency of less than 1 ms is required.
- Virtual and augmented reality will provide new opportunities in multiple sectors other than entertainment:
 - Virtual and augmented reality enables students to learn together in situ no matter where they are located. It also enhances cognitive and social skills.
 - Virtual reality enables remote diagnostics, therapy and surgery, from which individuals living in rural areas can benefit the most.



A person wearing a red and blue plaid shirt is gesturing with their hands in a meeting. In the background, another person is visible, and a laptop is open on a table. A teal overlay is present in the upper right corner.

Summary

Summary (1 of 2)

Study objective

- This study investigates the socio-economic benefits of FTTH in Sweden and the Netherlands using a representative consumer survey and case studies.

Survey results

- Consumers have been migrating to FTTH in Sweden since 2007, while the shares of subscriptions that rely on other technologies such as DSL and cable have decreased over the same period.
- In Sweden over half of the contracts signed since 2014 have involved broadband connection speeds of more than 100 Mbit/s. In 2017 more than 40% of all Internet subscribers enjoyed high-speed broadband access of more than 100 Mbit/s.
- The proportion of households in Sweden with Internet speeds of more than 100 Mbit/s has grown in rural areas in particular. The share rose from just 6% in 2014 to 47% in 2017.
- Approximately 67% of all broadband connections that provide speeds of more than 100 Mbit/s in Sweden are based on FTTH. In rural areas this share rises to 82%.
- For FTTH subscribers high bandwidth is the primary reason for purchasing an FTTH connection.

Summary (2 of 2)

- On average Swedish FTTH broadband subscribers perform 11% more activities online than subscribers with other Internet access technologies, especially activities regarding entertainment or connecting with other people.
- Swedes with high-speed Internet access use music and video streaming services significantly more frequently than Germans. 30% and 35% of Swedes watch videos and listen to music solely over the Internet. Only 10% and 21% of Germans are similarly drawn to online video and music streaming.
- FTTH users are consistently more likely to own connected devices than non-FTTH users thus indicating a more progressive Internet usage pattern for FTTH users.
- 82% of FTTH customers say that they like their service very much or that it is above average. This is a substantially higher level of satisfaction than that recorded for any other Internet access technology in Sweden.
- Almost all non-FTTH subscribers (94%) would subscribe to FTTH if it was made available in their area.

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More insights:

Wernick, C, F Queder, S Strube Martins, & C Gries. 2017. Ansätze zur Glasfaser-Erschließung unterversorgter Gebiete. Bad Honnef: WIK-Consult.

Wernick, C, S Strube Martins, C Bender, & C Gries. 2016. Markt- und Nutzungsanalyse von hochbitratigen TK-Diensten für Unternehmen der gewerblichen Wirtschaft in Deutschland. Bad Honnef: WIK.

Wernick, C, & C Bender. 2016. The Role of Municipalities for Broadband Deployment in Rural Areas: An Economic Perspective. Bad Honnef: WIK.

