POF opportunity for EU Telcos IEEE presentation

Nov, 2014

Work in progress

London | Madrid | Silicon Valley | Miami | Tel Aviv

Who are we?

J21Partners is a Consulting, Business Development, and Investment firm committed to helping high-growth technology companies in Telecom and Internet sector to develop their business in Europe and LATAM

- We focus on business development and market-entry consulting for disruptive products in target high-growth areas with leading technology partners:
  - Video Optimization
  - Networking
  - M2M
  - Cloud Security
  - Mobile Advertising and e-Commerce
  - Next Generation Fiber Equipment
- Our unique team of Senior Partners has a large experience working as Executives with the top largest telecom operators in Europe and Latam, Telefónica and Vodafone.
- Currently, J21 has Senior Partners and offices in key innovation hubs and cities in EMEA, USA and Latam: London, Madrid, Silicon Valley, Miami, and Tel Aviv.

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A. Context.

B. Opportunity for POF

C. Potential Market for POF

A. Context (I)

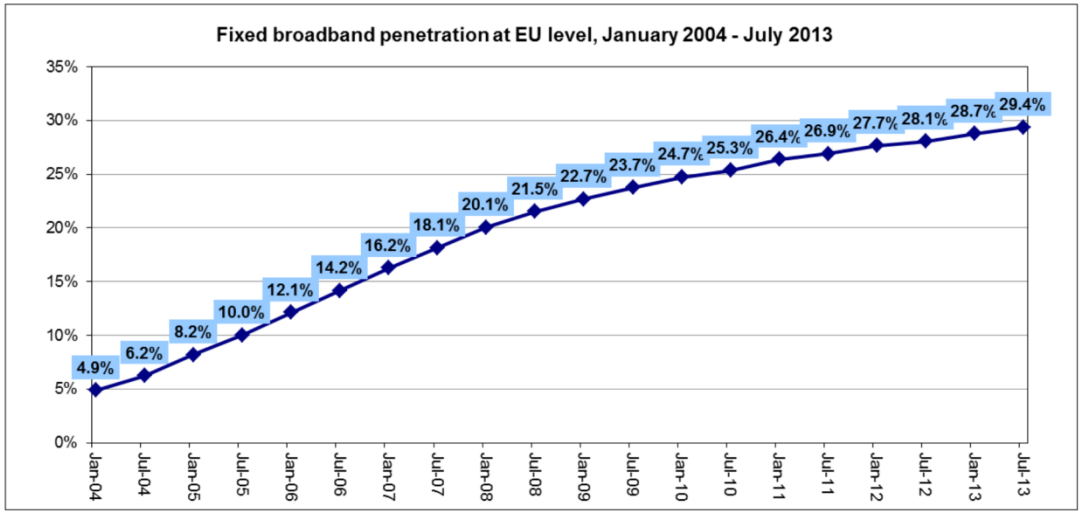
- What is happening in the Broadband Market in EU?

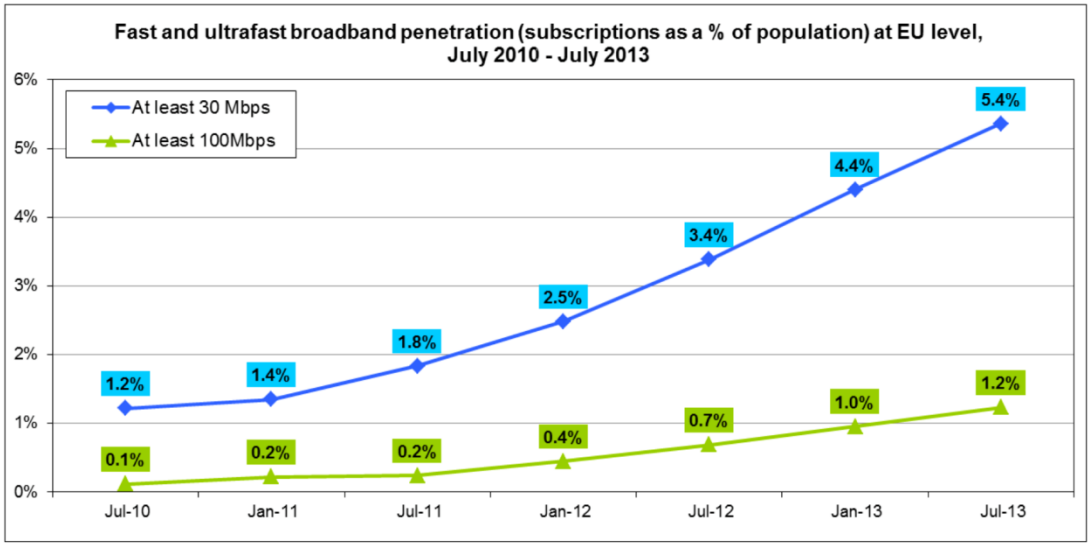
- High growth of broadband connections.

- Which leads to greater capacity consumption.

- Which leads to greater speeds.

- This is also happening because of the "multiscreen explosion", ie increase of devices in the home.

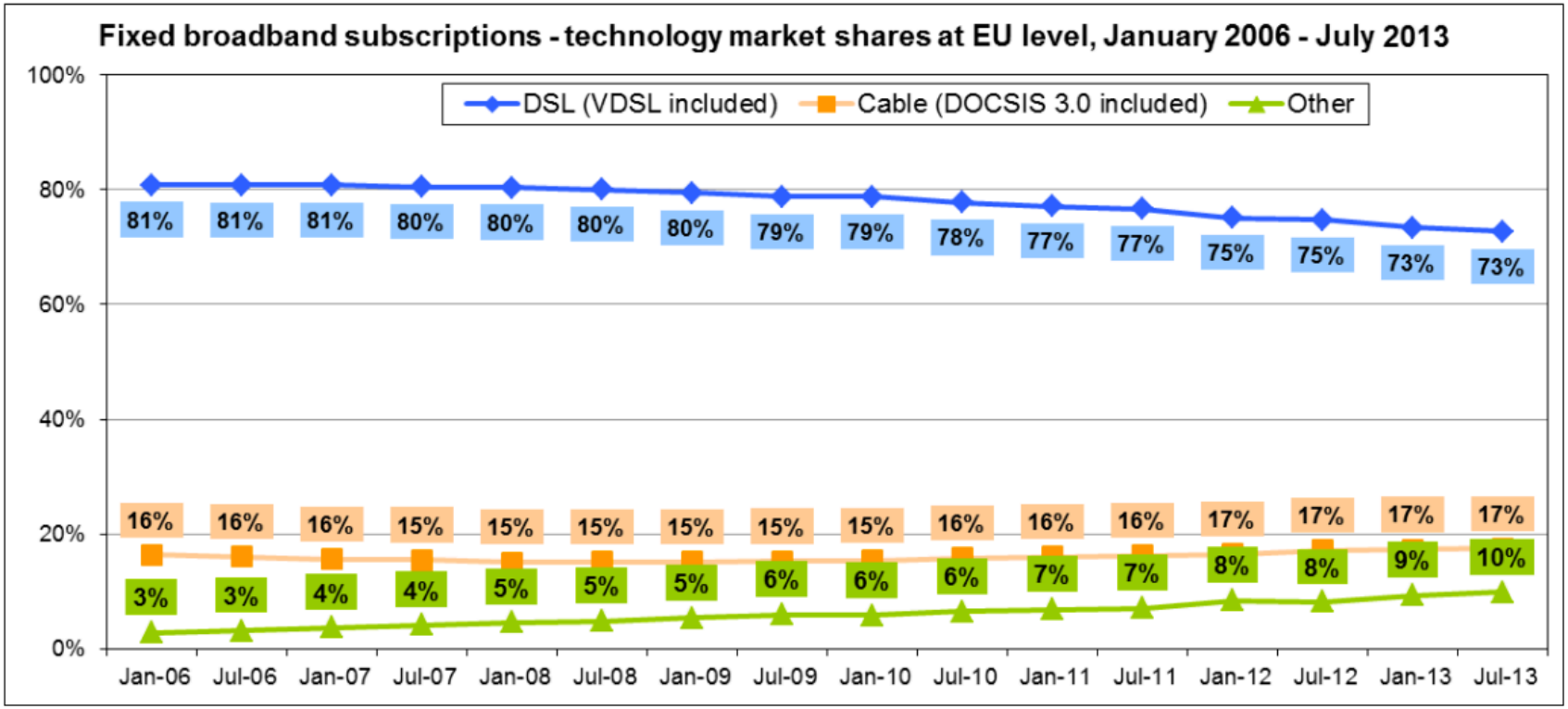




Data from "Broadband access in the EU: Situation at 1 July 2013", on Tue, 25 Mar 2014

A. Context (II)

- Operators are investing heavily in deploying networks:
  - Outside the home: 3G/4G.



Data from “Broadband access in the EU: Situation at 1 July 2013”, on Tue, 25 Mar 2014

A. Context (III)

- Ironically, the increase in nominal speed (beyond 20Mbps) is creating more dissatisfaction in some cases:
  - For Wifi connections (most common), there are typically problems with speed , particularly in EU thick-wall housing
  - For PLC (sometimes used as an alternative by Operators), there are many interferences
  - For Ethernet Cat 5/6/7 (which works the best), the problem is often times resistance by house owners to cabling
- Operators need to find an easy way to “match expectations” between what they sell and what the customer perceives.

A. Context (IV)

forums.cnet.com/7723-6122_102-618065/100-mbps-into-house-but-wifi-speed-only-5-10-mbps/

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CNET FORUMS

- My Tracked Discussions
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- Forum FAQs
- Forum Policies
- Forum Moderators

GENERAL HELP FORUMS

- Computer help

Computer help forum: 100 Mbps into house but wifi speed only 5-10 Mbps

by: jolida202 May 3, 2014 4:18 AM PDT

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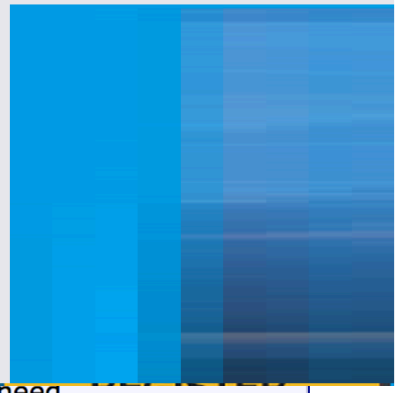
100 Mbps into house but wifi speed only 5-10 Mbps
by jolida202 - 5/3/14 4:18 AM

We just upgraded our home internet to the fastest fibre connection available, 100 Mbps, but even with a compatible router (Linksys EA4500) speedtest.net shows download speeds of only 5-10 Mbps, and that is sitting right next to the router. What can I do to speed up the wifi?

Using mid 2011 Macbook Air (no ethernet port). Desktop is iMac, but far away from router to hardwire it... and same wifi speed as laptop.

Answer This Ask for clarification



So after going through most of the devices I think the ASUS RT-N66U Dark Knight is exactly what I need.

So my only remaining questions are:

1. Are my assumptions correct and I will get almost my full bandwidth with the mentioned Router?
2. Which adapter should I get with that Router for my desktop PC? I was thinking about the TP-Link TL-WDN4800, what do you think?

Thanks a lot!!

Fabmaszter

A. Context (V)

- Telcos are typically finding several topologies for home networking in case of successful setup:

%cases(*)		Cat6/7	Wifi
20%	Router Wifi only	-	OK
20%	Router Wifi + STB/PC in the same room	OK	OK
10%	Router Wifi + STB/PC in the same room	X(1))	OK
25%	Router Wifi + STB/PC in other room/s	OK	OK
15%	Router Wifi + STB/PC in other room/s	OK	X(2)
10%	Router Wifi + STB/PC in other room/s	X(1)	OK

STB = Set Top Box

1: Not OK, because of esthetical reasons

2: Not OK, because Wifi has difficulties in penetrating walls.

(*) Source: estimation by JAL21, based on industry reports and interviews.

A. Context (Vb)

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35% POF Opportunity (aprox).

STB = Set Top Box

1: Not OK, because of esthetical reasons

2: Not OK, because Wifi has difficulties in penetrating walls.

(*) Source: estimation by JAL21, based on industry reports and interviews.

A. Context (VI)

- The Challenge for EU Operators is therefore to deploy Home Networking cost-efficiently, assuring customer satisfaction (ie, real speed), and in all cases (ie, topologies):
  - Telcos are finding a significant number of “on-the-spot rejections”, which have a very high cost to the Operators
  - In EU, there is a significant proportion of thick-wall cement housing, which makes it much more difficult for WiFi to penetrate.
  - Also there are lots of houses without telecom infrastructure which makes it difficult to have easy installations.

B. Opportunity

- POF can provide a solution for Operators to deploy Home Networking:

  1. Cost-effectively: reducing the number of rejections

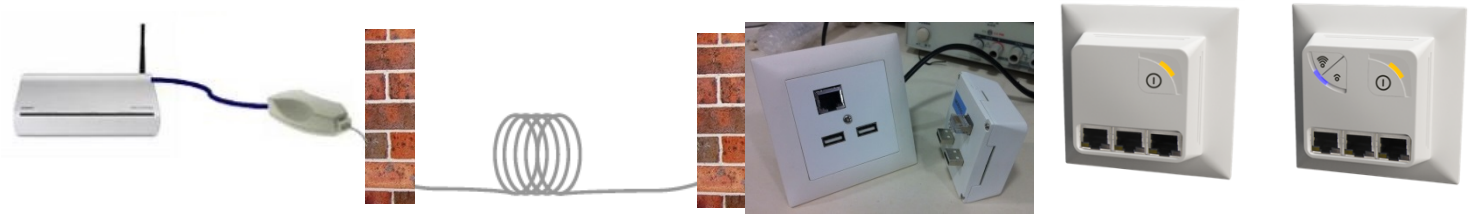
  2. Assuring satisfaction: real speed

  3. In all cases, complementing the installations where other technologies are not possible.

B. Opportunity. Possible scenarios (I)

A.- external dongle.

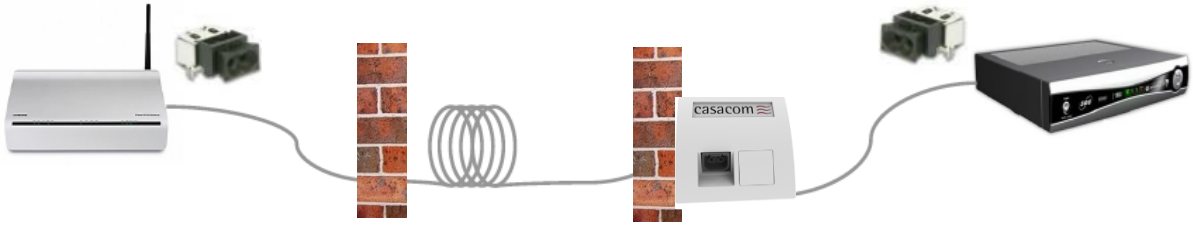
B.- External dongle and modular rosette.



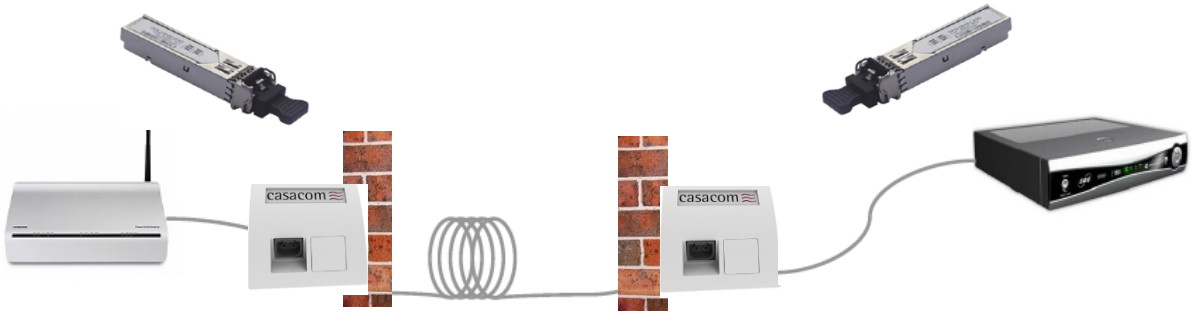
C.- Router with POF y modular rosette.

B. Opportunity. Possible scenarios (II)

D.- Router and STB with POF port + POF passive rosette.

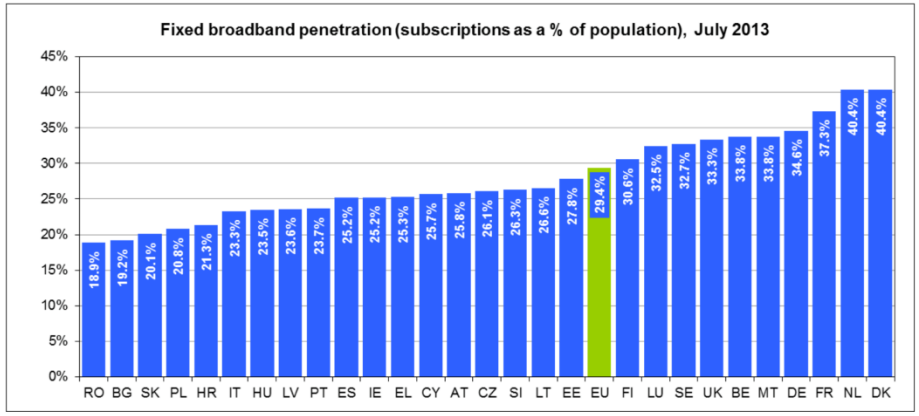


E.- Router and/or STB with SFP + POF passive rosette.

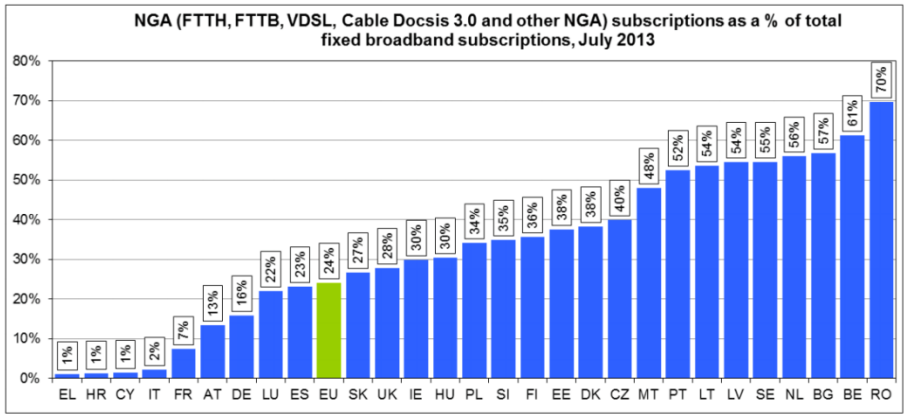


C. Potential Market (I)

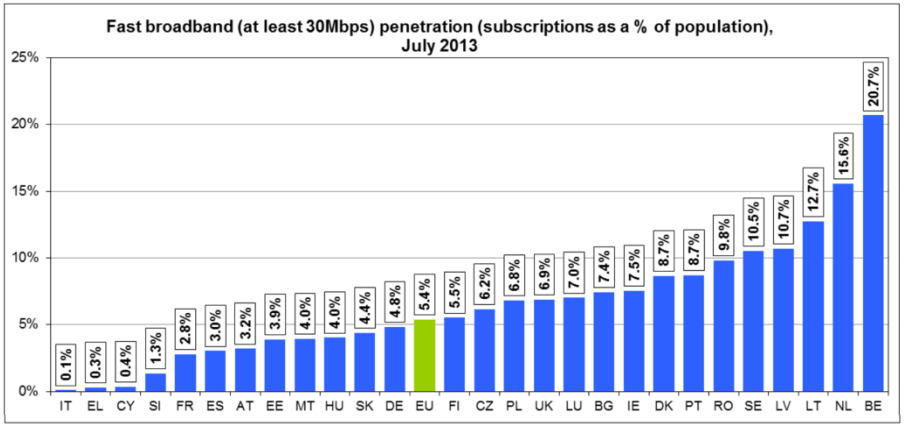
EU has near 30% BB population penetration



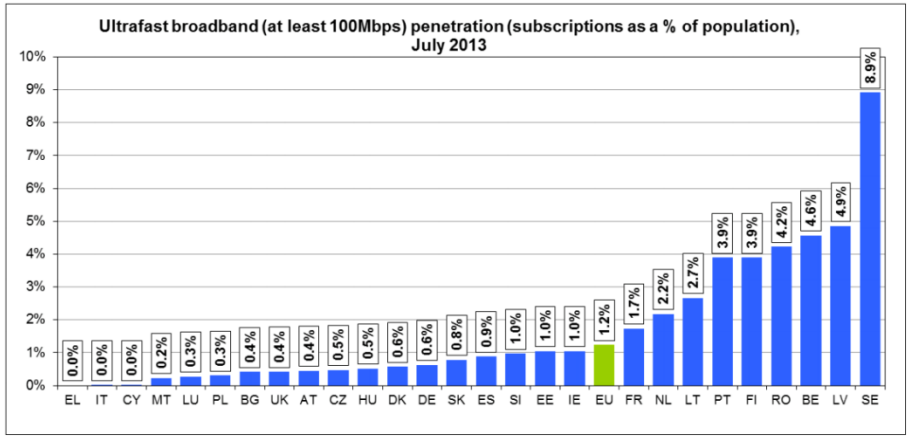
This 30% corresponds to 24% of NGA connections (includes low speed con.)



5.4% are connections at least at 30Mbps



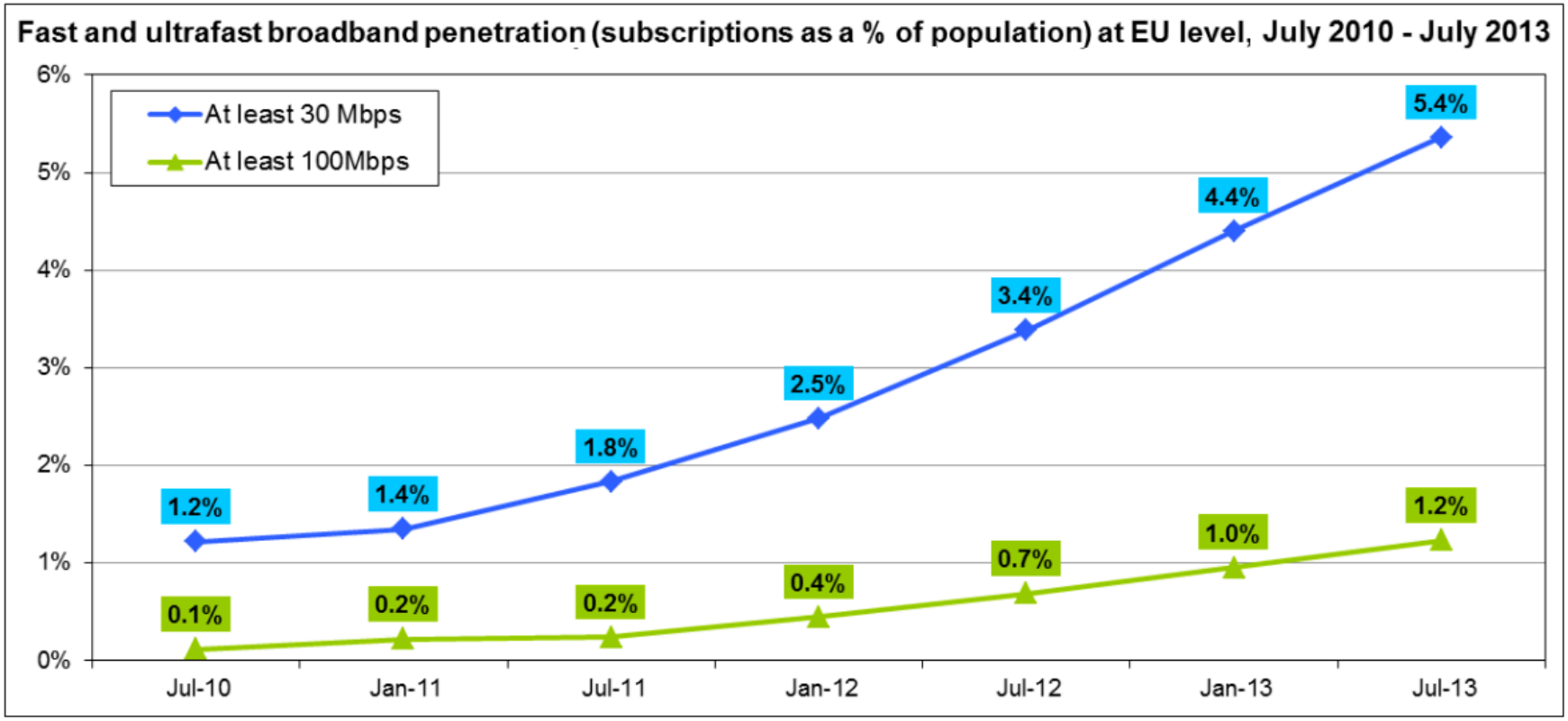
And only 1,2% are 100Mbps or more.



Note: 29,4 % BB penetration corresponds to 76% of household penetration.

C. Potential Market (II)

High speed connections are increasing quickly and faster



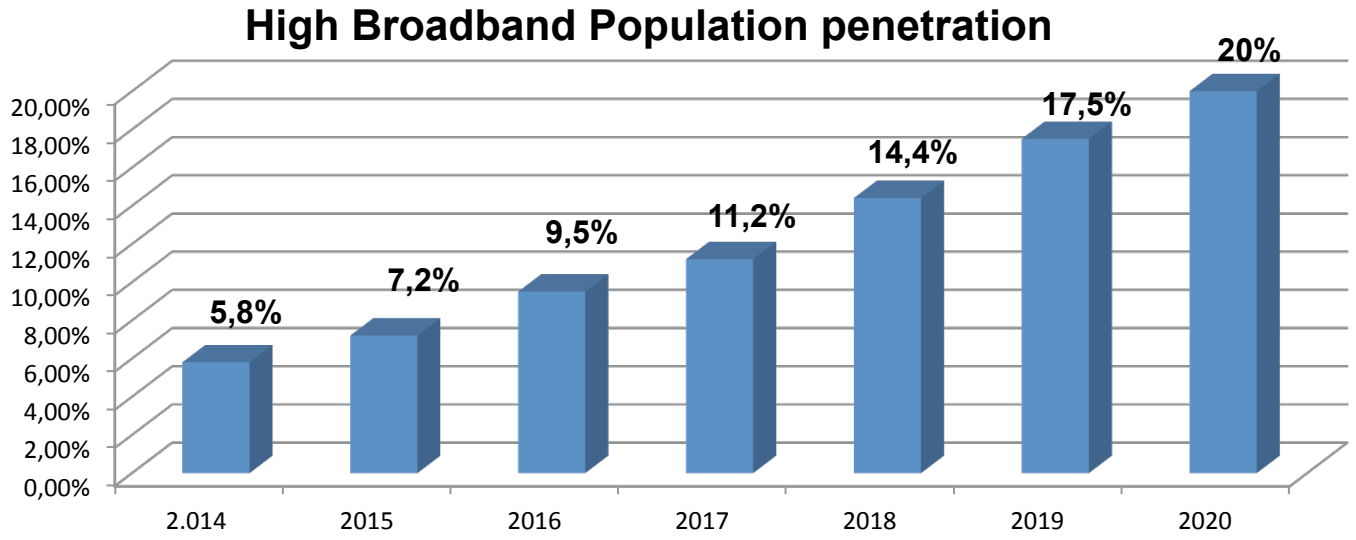
C. Potential Market (III)

And this is going to be much more in the next years:

- The Digital Agenda for Europe set two objectives related to fast and ultrafast broadband:
  - Fast broadband (at least 30Mbps) should be available to all households by 2020 (Mandatory),
  - 50% of homes should subscribe to ultra-fast broadband (at least 100Mbps) by 2020 (Desired).
- Additionally, main operators in EU are currently testing POF at technology and commercial levels.

C. Potential Market (IV)

POF opportunity in EU 2015 – 2020 is more than 15 mill. Households wich represent approx. 60 million of POF connections.



Total Population EU	507.416.607	508.273.750	509.130.893	509.988.036	510.845.178	511.702.321	512.559.464
Total households EU	219.203.974	219.574.260	219.944.546	220.314.831	220.685.117	221.055.403	221.425.689
Population HBB EU	29.430.163	36.595.710	48.367.435	57.118.660	73.561.706	89.547.906	102.511.893
Households HBB EU	12.713.831	15.809.347	20.894.732	24.675.261	31.778.657	38.684.695	44.285.138
POF Opportunity Households	4.449.841	5.533.271	7.313.156	8.636.341	11.122.530	13.539.643	15.499.798
POF Opportunity connections	17.799.364	22.133.084	29.252.624	34.545.364	44.490.120	54.158.572	61.999.192

Conclusions

- The opportunity is real: there is potential demand for the BB Household market.
- Operators need to find an easy way to “match expectations” between what they sell and what the customer perceives.
- We expect POF to have a important role for EU BB Operators in the next few years, both due to Digital Agenda incentives by EU and technical and commercial demand by Operators.