Broadband and Telecoms - the role of digital infrastructure in helping deliver a sustainable, low carbon world

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www.point-topic.com

What do we do?

- **Global** –
  - Broadband Operators and Tariffs and Global Broadband statistics
    - Quarterly updates since 1998
    - Country overviews, detailed profiles of the major players, tariffs and subscribers in online databases
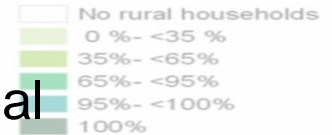   - Forecasts by technology by market
- **European** –
  - Broadband Coverage and Mobile Operators and Tariffs
    - Quarterly and annual updates since 2010
    - European Kilometre Grid forms the basis for European Commission data and Eurostat outputs.
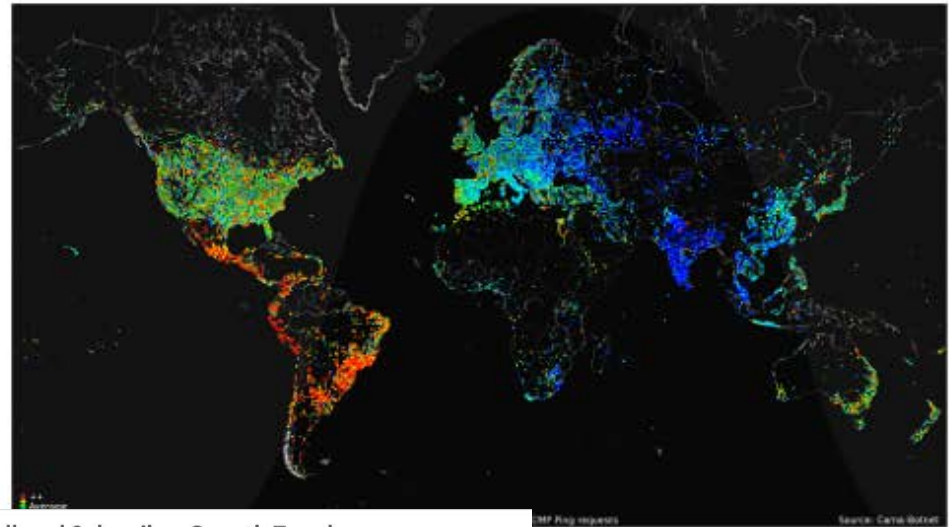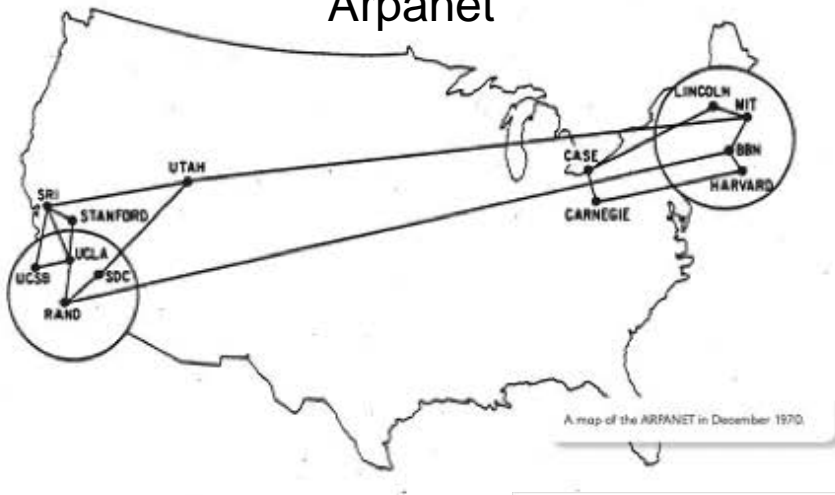- **UK** –
  - UK Plus and ThinkPoint.
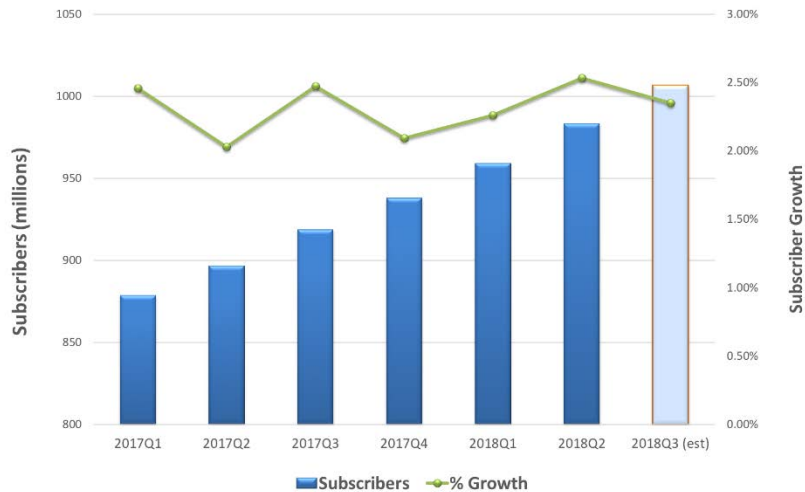   - Granular geography, detailed analysis, in depth reports and forecasts

No rural households
0 %- <35 %
35%- <65%
65%- <95%
95%- <100%
100%

The Growth of the internet: stats and maps

Arpanet

Carna Botnet

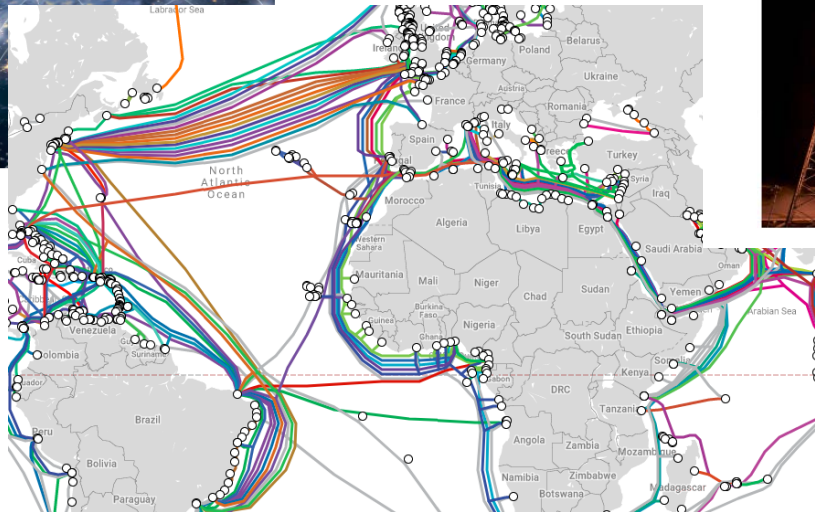Global Fixed Broadband Subscriber Growth Trends

3

It's everywhere!

Tuesday briefing: Amazon is seeking permission for its own satellite broadband constellation

Satellite subsidiary Kuiper Systems wants to launch a massive low-Earth orbit communications network, Facebook's biggest anti-misinformation project may be the effort to fix its own public image

By **WIRED**

Tuesday 9 July 2019

Elon Musk has high ambitions for low-orbit internet satellites

share   Save 2

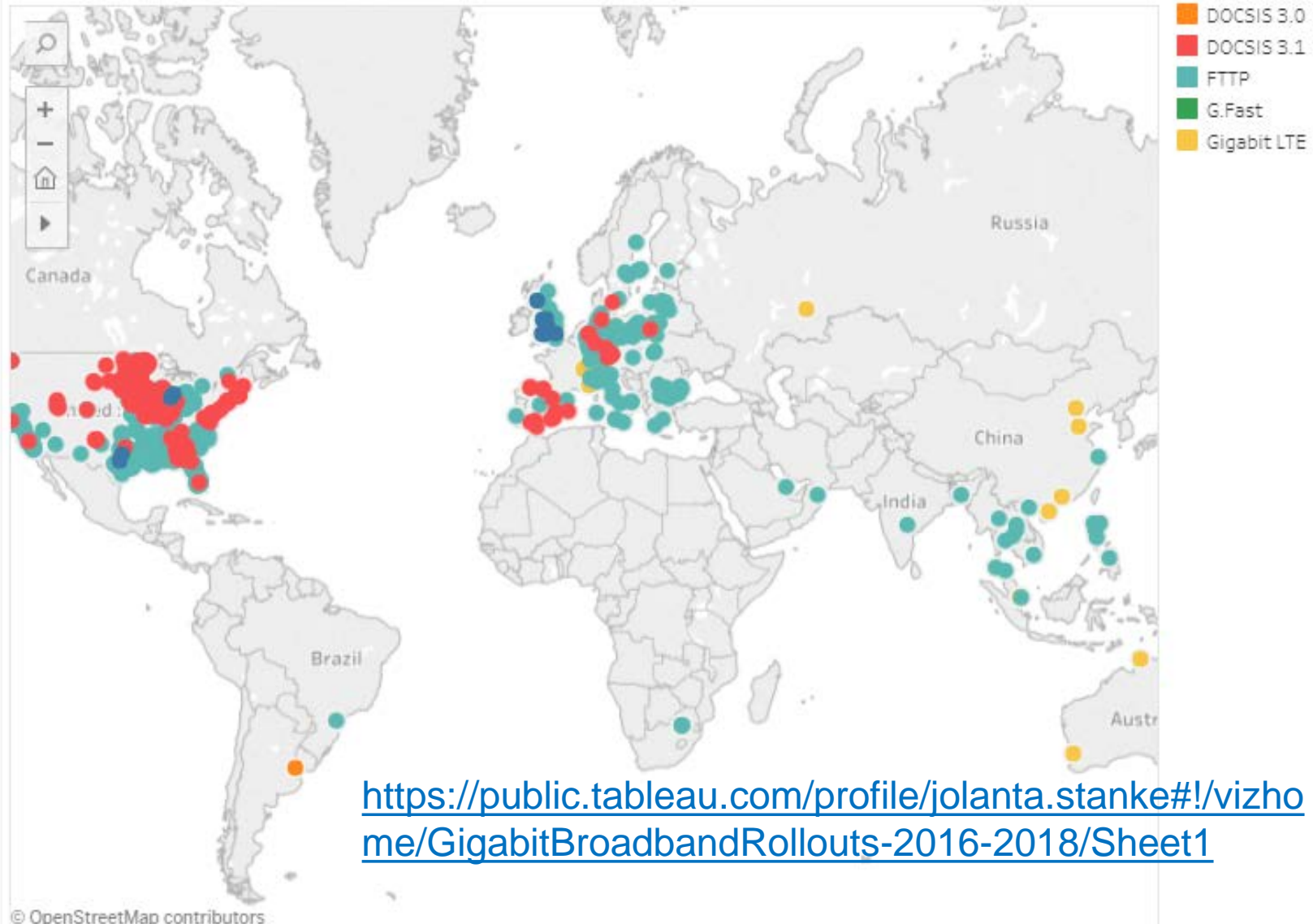SpaceX has the unique advantage that it provides the cheapest launch rockets in the world CREDIT:

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The Latest Gigabit Broadband Rollouts (2017-2018)

Technology
- 🟦 5G
- 🟧 DOCSIS 3.0
- 🟥 DOCSIS 3.1
- 🟩 FTTP
- 🟩 G.Fast
- 🟨 Gigabit LTE

Canada

Russia

China
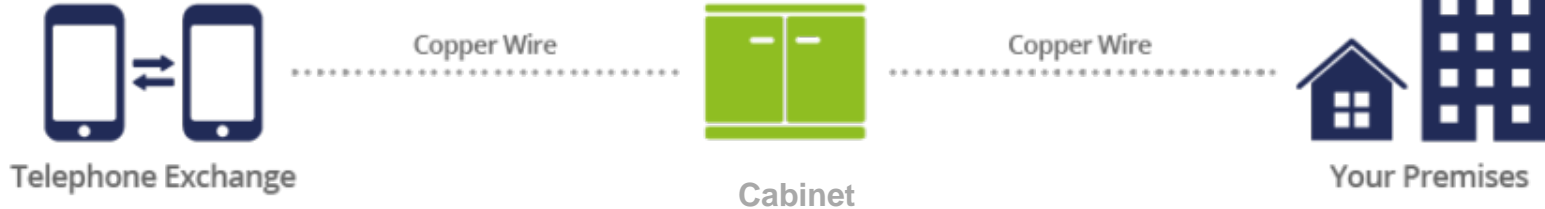
India

Brazil

Austr

© OpenStreetMap contributors

https://public.tableau.com/profile/jolanta.stanke#!/vizho
me/GigabitBroadbandRollouts-2016-2018/Sheet1

Types of internet connections

ADSL/ DSL

Telephone Exchange · · · · · Copper Wire · · · · · Cabinet · · · · · Copper Wire · · · · · Your Premises

FTTC/EoFTTC GEA/ EFM

Telephone Exchange — 'SuperFast' Fibre Optic Cable — Cabinet · · · · · Copper Wire · · · · · Your Premises

FTTP/ Leased Line

Telephone Exchange — 'SuperFast' Fibre Optic Cable — Cabinet — 'SuperFast' Fibre Optic Cable — Your Premises

Smart cities (and other labels)

- https://smartcitiescouncil.com/

- Datacentres consume plenty of power – datacentres underwater and under ice
  - Improving but still a large impact
  - More efficiency – work from home, well planned deliveries

- The future is 5G – but that needs fibre.
  - Approx.10% of the UKs infrastructure required for full fibre and 5G is in place.

Save $22tn!

Challenges – local and global

- Massive impacts on town planning
  - Wayleaves have been a major issue
  - Starting with the MDUs but it won't stop there
  - How to work with the operators?
  - Who repairs and replaces in 10 or 15 years?

- Systems integration
  - Re-engineer your processes
  - Update all your databases
  - Be aware of privacy and GDPR

Ten take-aways

1. Planning is core to the impact of broadband
2. Every roof, pole and surface is a possible money earner
3. Wayleaves (seem to be) a good mechanism for engaging (and controlling) operators
4. Try not to believe the hype – at least not the timescales
5. Stand on the shoulders of giants – lots of the work has been done
6. Bandwidth is bandwidth – be technology agnostic (but really it is fibre) since edge conditions exist
7. Meet ultimate grand objectives with smaller, compartmentalised steps
8. Single point of contact – where possible
9. Uber Eats/Deliveroo – and other network enabled services
10. Support local business – broadband can revitalise as well as cannibalise

Follow-up and links

- https://www.researchgate.net/publication/327228818_Energy_savings_from_Smart_Cities_A_critical_analysis
  - https://www.smartcitiesworld.net/smart-cities-news/smart-cities-news/which-cities-make-the-climate-change-a-list-4171

- http://www.broadbanduk.org/
- https://www.ispa.org.uk/

- http://labs.thinkbroadband.com/local/index.php?tab=3

- https://www.submarinecablemap.com/
- http://census2012.sourceforge.net/paper.html

- https://www.cityoflondon.gov.uk/business/commercial-property/telecommunications-and-utilities-infrastructure/Pages/wayleaves.aspx

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