

# Introducing the Open Fibre Data Standard

Name  
bean@isoc.org

Event  
16<sup>th</sup> June 2025





<https://www.submarinecablemap.com/Telegeography>

- <https://www.submarinecablemap.com/>  
Telegeography



# Growth of Terrestrial Fibre



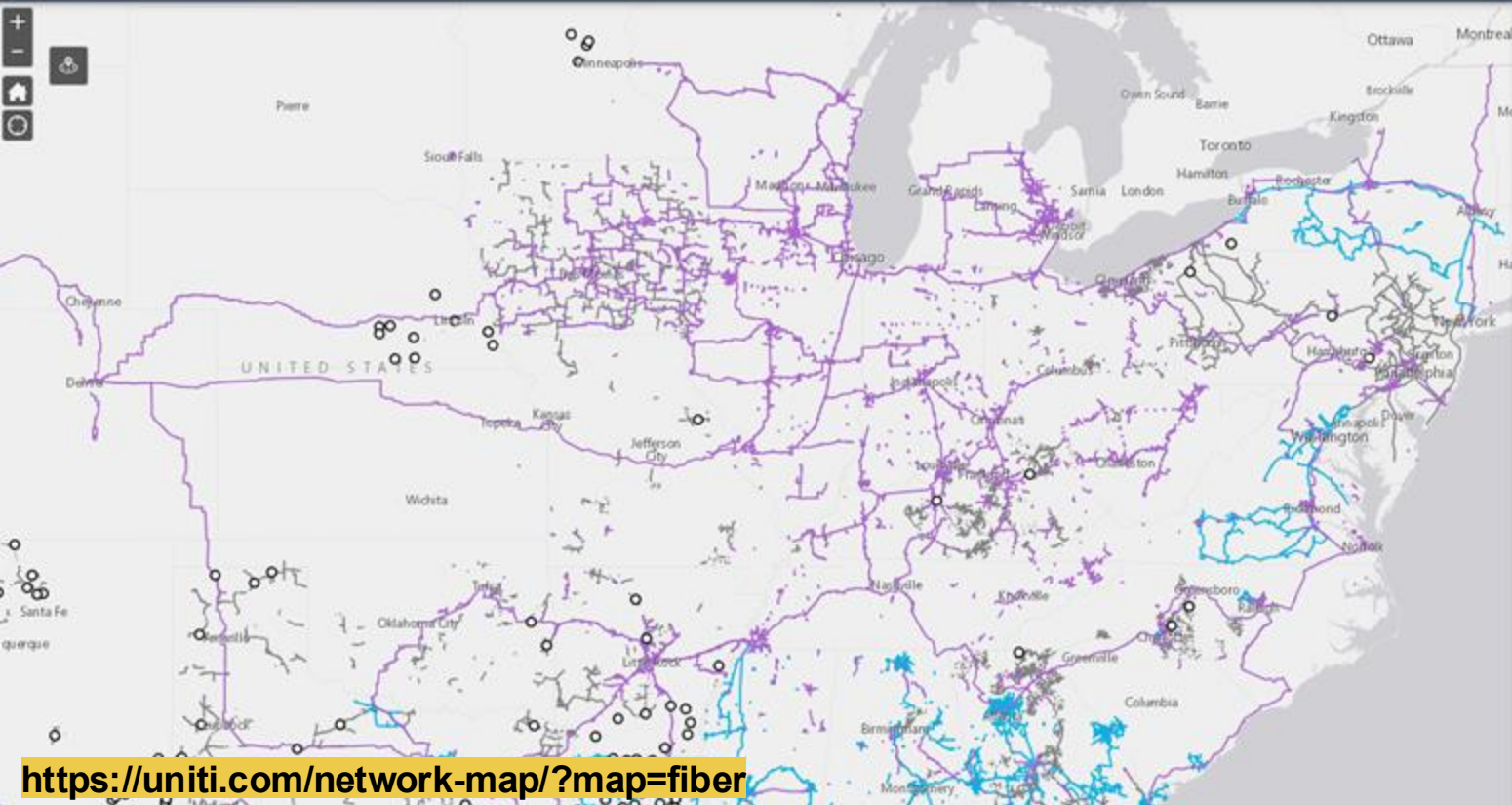


# United States: Uniti



[About Us](#) [Uniti Services](#) [Contact Us](#) [Network Map](#) [Careers](#) [OneView](#)

Uniti Network Map



Layer List

Layers

- ☒ Uniti Tower Sites
- ☒ Dark Fiber Available
- ☒ Dark Fiber Fully Leased
- ☒ Network Services



NETWORK MAP  
SEE OUR NETWORK

<https://uniti.com/network-map/?map=fiber>




# Canada: Connected Coast

News FAQ Galleries Contact Search [icon] [icon] [icon] [icon] [icon]

CONNECTED COAST About Maps Schedule First Nations Operations Connect My Home

Bringing high-speed Internet accessibility to rural & remote communities along coastal BC, Haida Gwaii & Vancouver Island.

Welcome to the Connected Coast Project



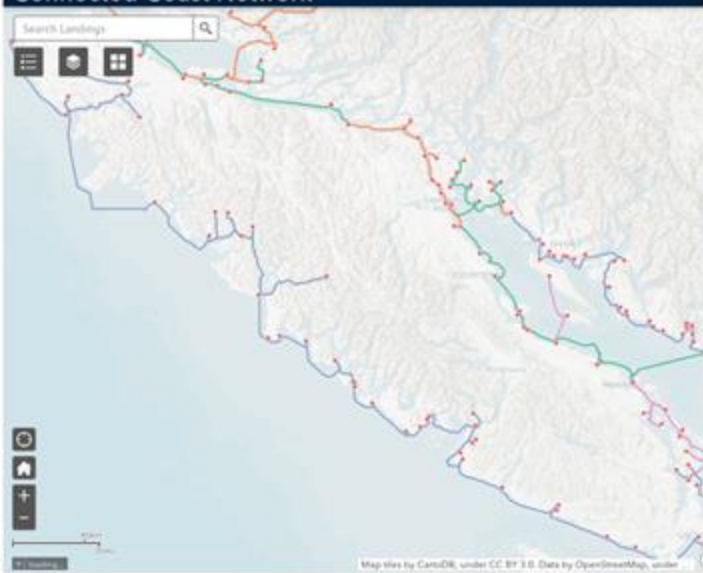
Watch on YouTube

The Connected Coast project will bring new or improved high-speed internet accessibility to 139 rural and remote coastal communities, including 48 Indigenous communities – representing 44 First Nations – along the BC coast from north of Prince Rupert, to Haida Gwaii, south to Vancouver, and around Vancouver Island.

<https://connectedcoast.ca/map/>

Connected Coast Network

Search Landings [input]



Map files by CartoDB, under CC BY 3.0. Data by OpenStreetMap, under CC BY-SA 3.0.

Build Status Map – PDF  
[View/Download PDF Here.](#)

Landing Sites Map – PDF  
[View/Download PDF Here.](#)

Cable Location Map – KMZ FILE

As-built cable location files in KMZ (Google Earth file format) & GPX (navigation file) are available. To receive a copy and future file updates, please fill out the form on our Operations page.

**Open Data**



# Canada: Coopérative de télécommunication d'Antoine-Labelle (CTAL)



The banner features a woman in a hoodie looking at a smartphone against a dark background. The CTAL logo is in the top left, and a yellow 'Menu' button is in the top right. The main text 'Une région connectée' is in large yellow font. Below it, smaller text states: 'Les résidents de la MRC d'Antoine-Labelle ont enfin accès à Internet par fibre optique'. The bottom of the banner is orange with the text 'Une fierté pour notre région' and the URL 'https://ctal.ca/'.

CTAL - Forfaits Internet haut...

ctal.ca

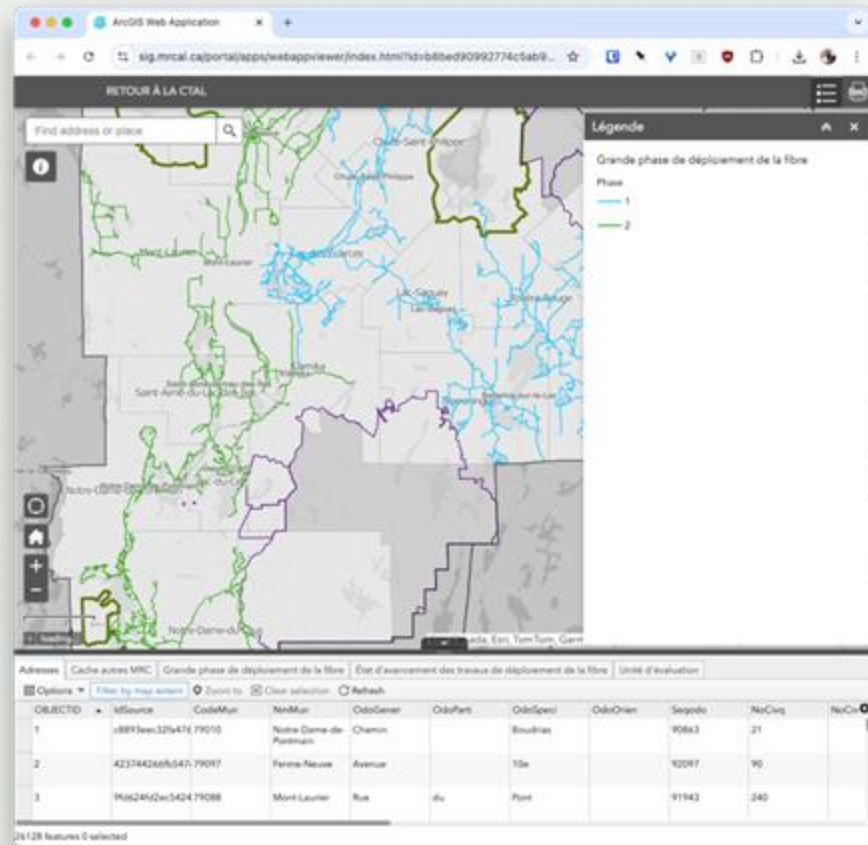
Menu

**Une région connectée**

Les résidents de la MRC d'Antoine-Labelle ont enfin accès à Internet par fibre optique

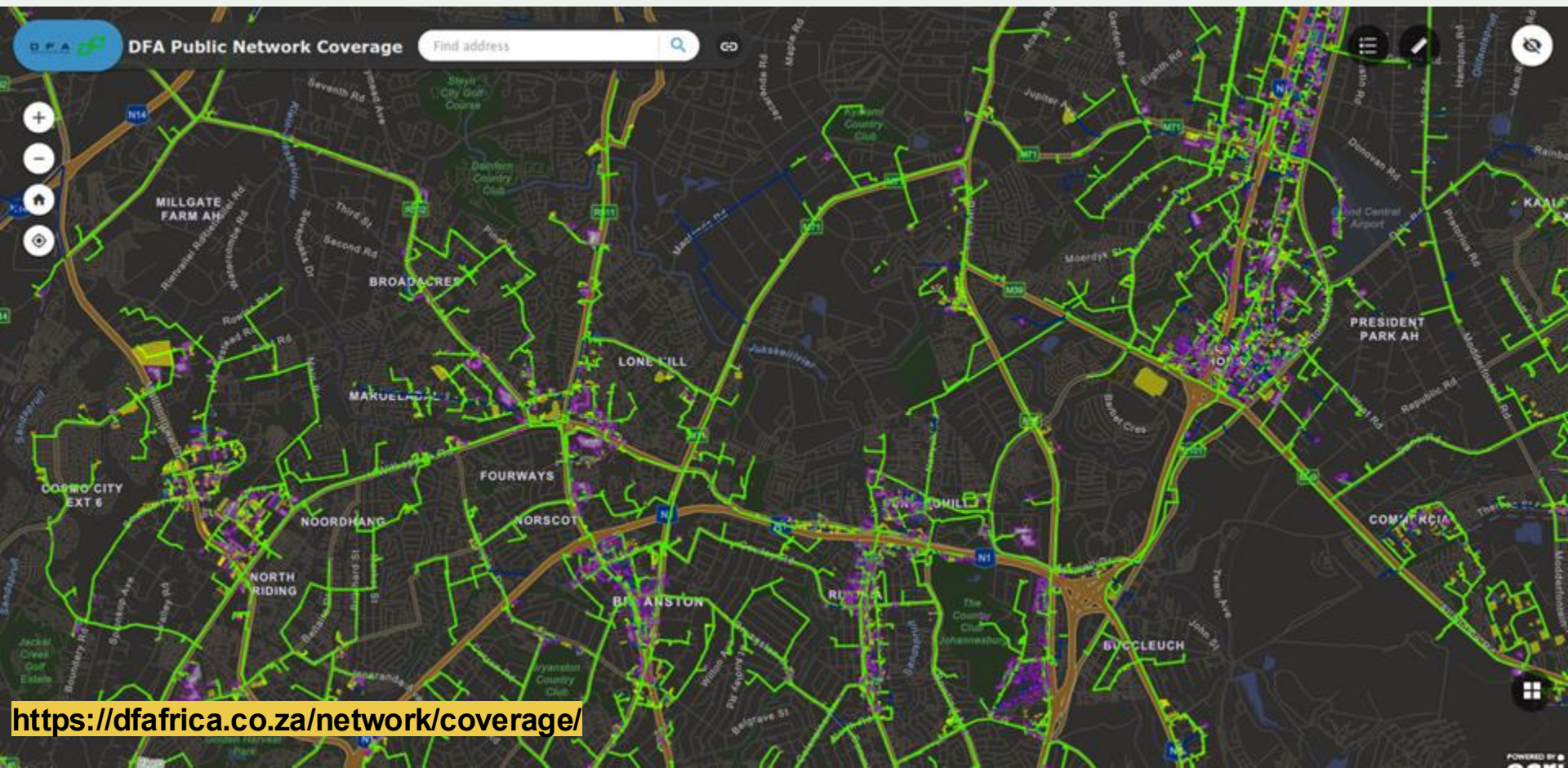
Une fierté pour notre région

<https://ctal.ca/>





# South Africa: Dark Fibre Africa



<https://dfafrica.co.za/network/coverage/>



# Ukraine: RETN

**RETN**

CUSTOMER PORTAL EN

Search

**Network**

- Long Haul Fibre
- Metro Fibre
- Leased
- Spectrum

**Buildings**

- Data Centers
- Business Centers
- RETN Offices
- Other

**Services**

- Capacity
- Internet
- Ethernet & VPN

**KPI**

Address  
Politekhnicna street, 6, Kyiv, Ukraine, 03056

Available services

- CAPACITY
- INTERNET
- ETHERNET & VPN

SEND A REQUEST

<https://retn.net/en/network/network-map>

GET IN TOUCH WITH RETN PDF Download network map

powered by FiberMap



# Ukraine: Dataline



[About company](#) [Network map](#) [Services](#) [News](#) [Contacts](#)



[Main](#) > [Map of Ukraine](#)

ДАТАЛАЙН - Карта магістральної мережі

This map was made with Google My Maps. [Create your own](#).



<https://dataline.ua/en/map-of-ukraine/>

03035, Kyiv, Solomenska sq. 2, of. 705

phone: +380 44 272-6800

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Website is created by Abusheh

Kivobud shorts



# Ukraine: DataGroup



Select your city: **Kyiv** Service centers

Eng



For Home

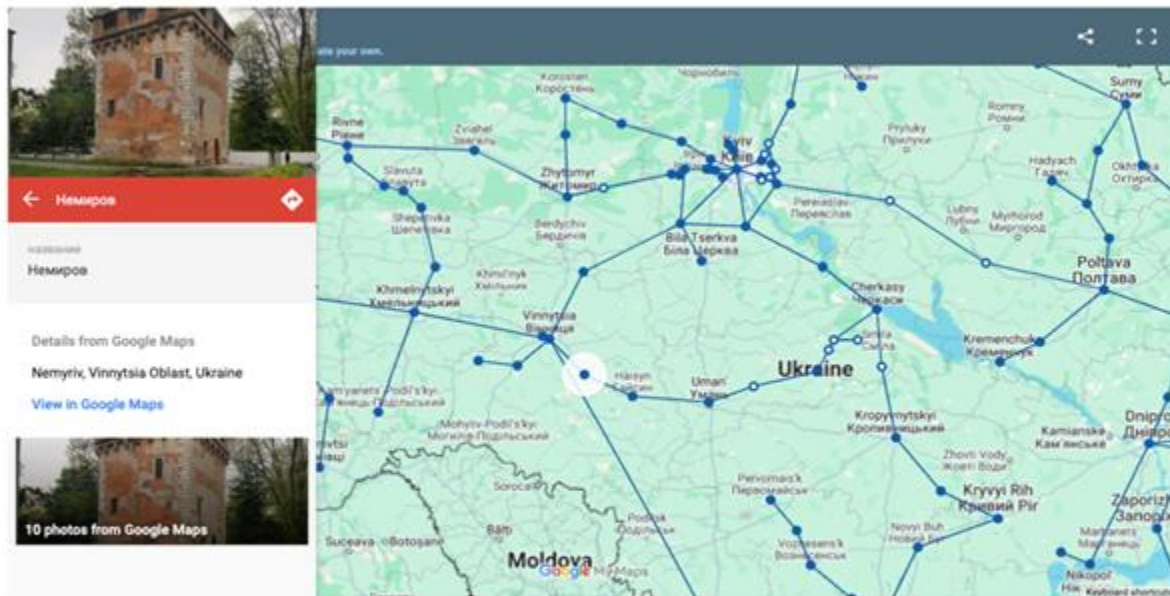
For Business

To Partners

About us

News

Contacts



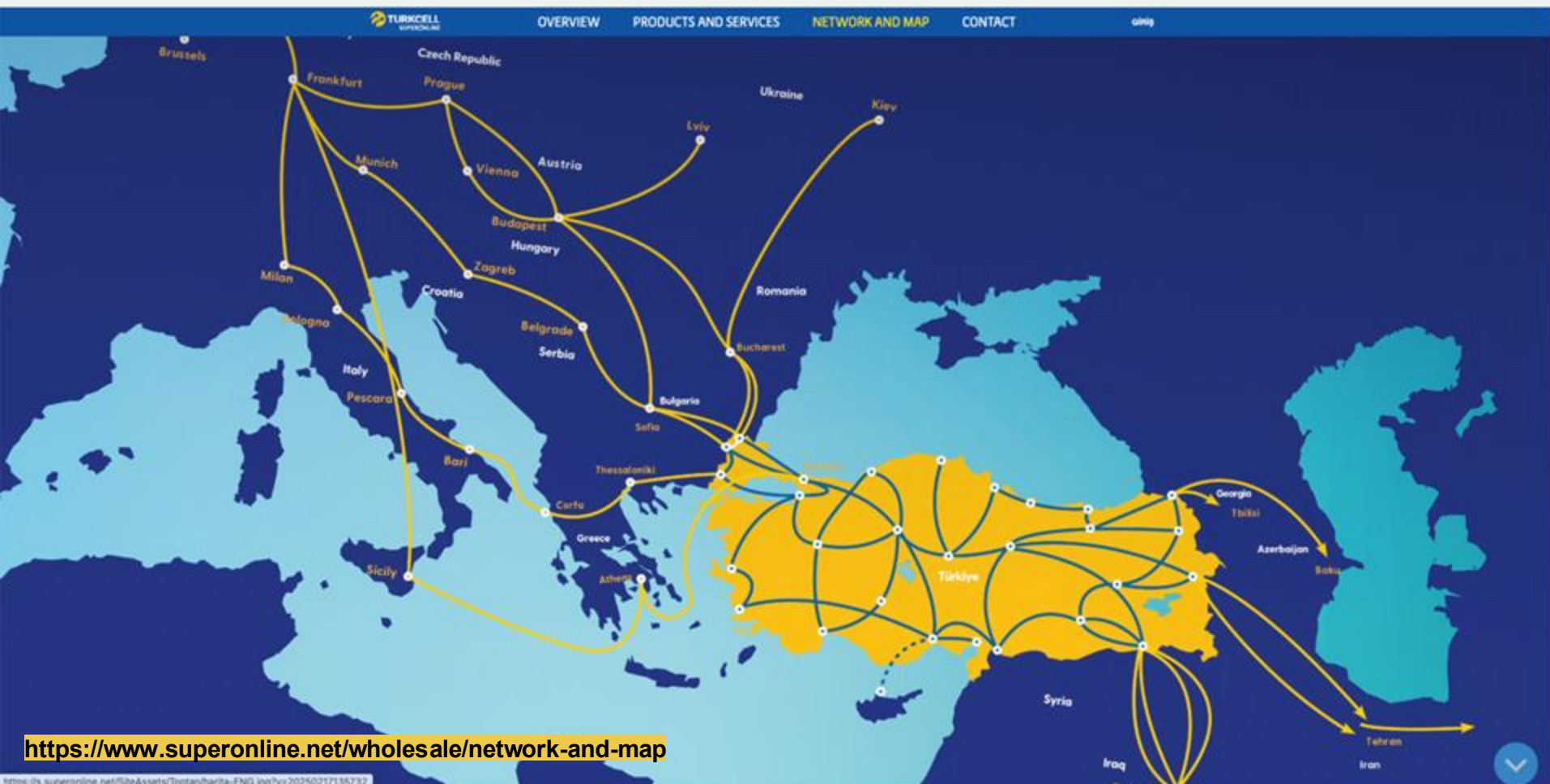
We grow and develop together with our customers more than 20 years of fruitful collaboration, we have studied the needs and wishes of all segments and become leaders in the market of telecommunication services in Ukraine. Today, we develop optimal solutions to improve the efficiency of business and comfort of our customers.

<https://www.datagroup.ua/en/c2c/karta-prisutnosti>

Write to us

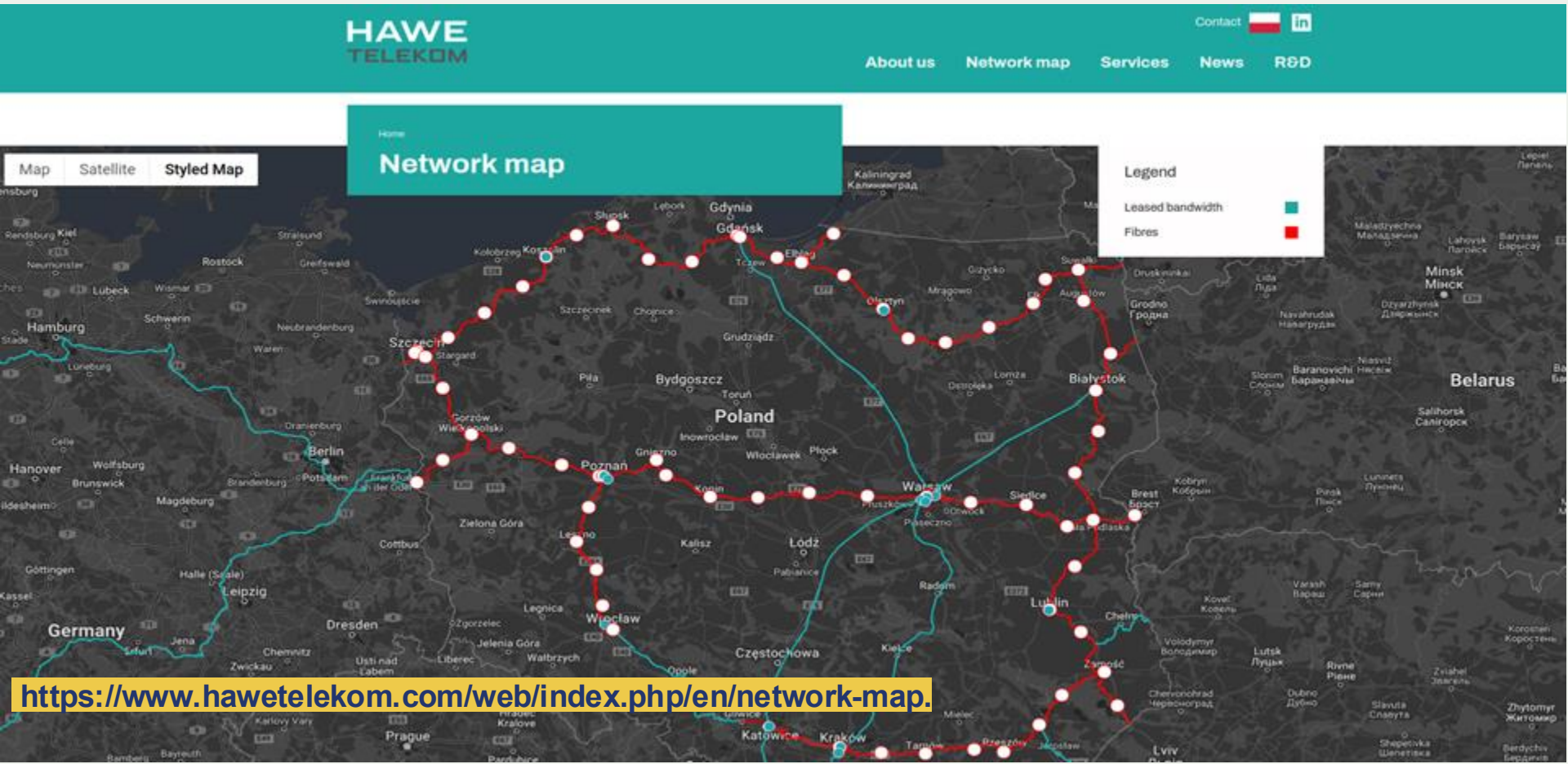


# Turkey: Turkcell



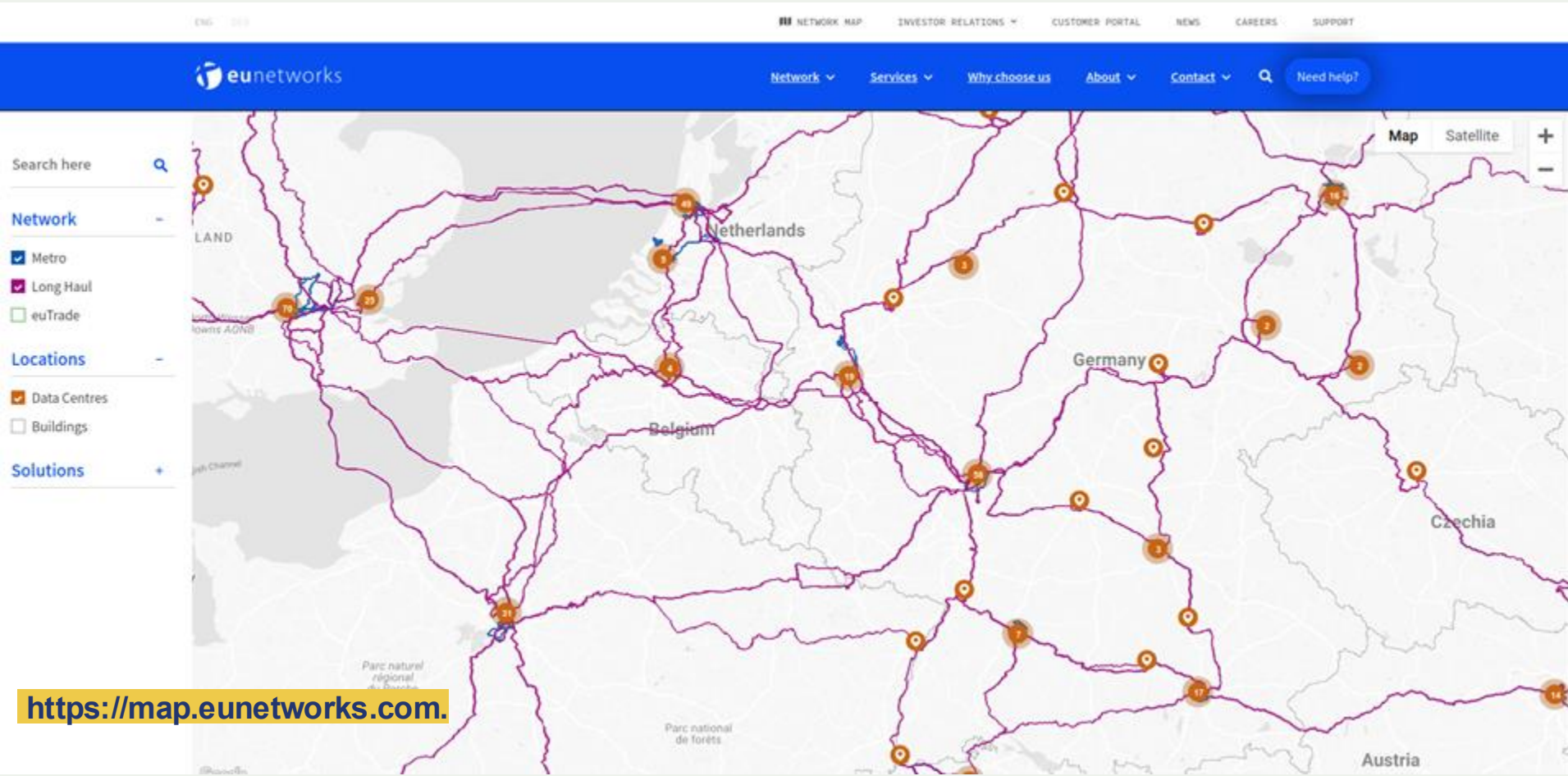


# Poland: Hawe Telekom





# Europe: EU Networks





# Brazil: Eletronet



<https://www.eletronet.com/rede/>



# Sweden: Easy Fibre



As a network operator, you now have access to a new fibre network covering the whole of Sweden, Norway, Denmark, Finland and the northern part of Germany, via:

- A single contact person**
- A single contract**
- A single service agreement**

You will have greater freedom, easier day-to-day operation and, perhaps most importantly, a better product to offer your customers!

Thanks to a unique collaboration between network owners Tele2 Wholesale, IT Norrbotten, Triangelbolaget, GlobalConnect, Eidsiva bredband and Cinia Group Oy, the network provides entire north to south and east to west coverage – city networks included therein.

**We call it Easy Fibre.**

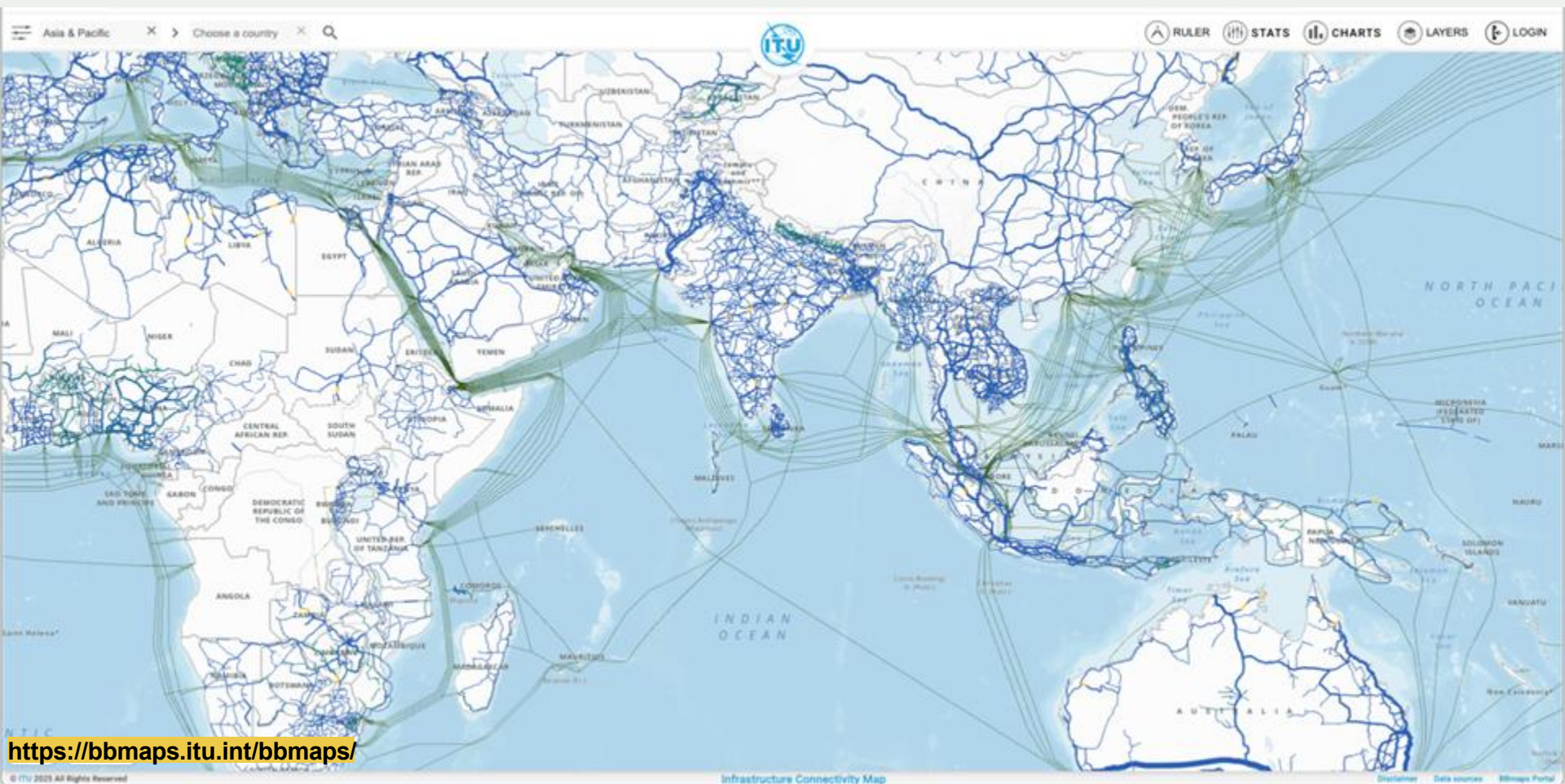


<http://easyfibre.se/dark-fibre-map/>

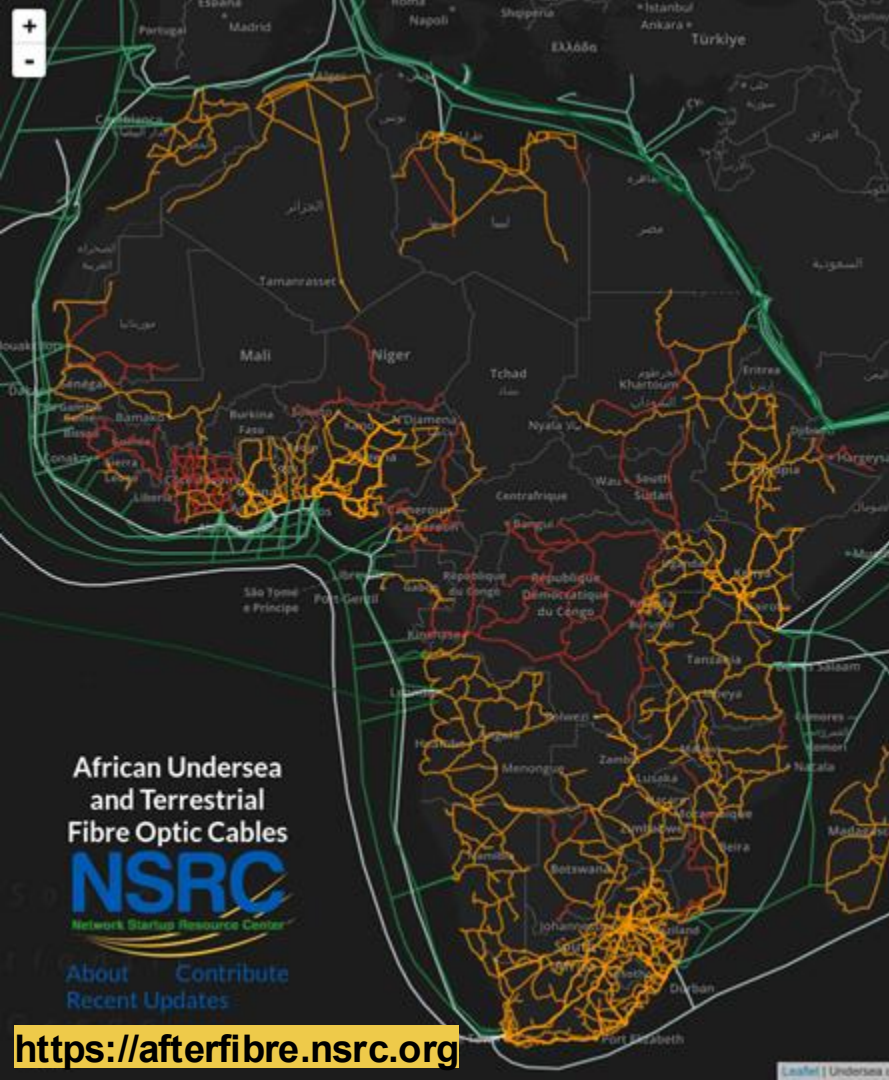




# ITU Infrastructure Connectivity Map







# Lessons from mapping fibre in Africa

- ◆ Map compiled via official maps (from some operators), shareholder reports, World Bank studies, and other 'informal' sources over 10 years
- ◆ Probably about 70% complete and many networks require updating

*"The Arrival of Fast Internet and Employment in Africa"*  
2019, Hjort and Poulsen



<https://www.aeaweb.org/articles?id=10.1257/aer.20161385>

African Undersea  
and Terrestrial  
Fibre Optic Cables  
**NSRC**  
Network Status Resource Center

About Contribute  
Recent Updates

<https://afterfibre.nsrc.org>



# Multistakeholder Initiative

The World Bank, the International Telecommunications Union (ITU), Mozilla Corporation, the Internet Society (ISOC), Liquid Intelligent Technologies, CSquared, and Digital Council Africa are partnering to promote the collaborative development of open data standards for describing telecommunications infrastructure.





**The Open Fibre Data Standard (OFDS)** is a standard for publishing data on terrestrial fibre optic broadband infrastructure.





# Open Data Services

We worked with the Open Data Services (ODS) who were contracted by the World Bank to provide technical support in the development of the standard. ODS are international experts in data standards

- International **Aid Transparency** Initiative (IATI)  
<https://iatistandard.org/en/iati-standard/>
- Open **Contracting** Data Standard  
<https://standard.open-contracting.org/>
- **Beneficial Ownership** Data Standard  
<https://standard.openownership.org/>

<https://opendataservices.coop/>





# Benefits to Governments and Regulators

- More effective network investments by accurately targeting the unserved.
- Improved coordination across infrastructure sectors e.g. road, electricity, rail, oil & gas.
- Reduction of physical network interruption and destruction.
- Opportunity for national and regional benchmarking



<https://www.bbc.com/news/science-environment-65174512>





# Benefits to Governments and Regulators

- Understanding the true extent of national fibre infrastructure
- Benefits to cyber security. Redundancy is key to network resilience.

*Resilience has less to do with failsafe networks than networks that are safe when they fail.*



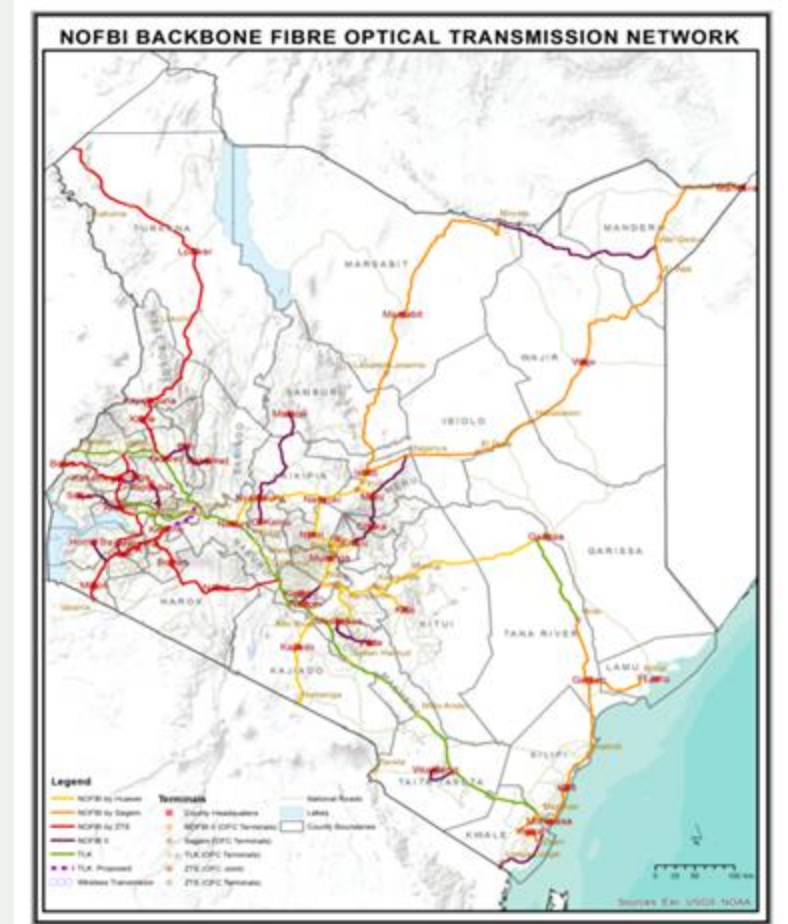
Map of fibre networks from Sao Paulo to Rio de Janeiro





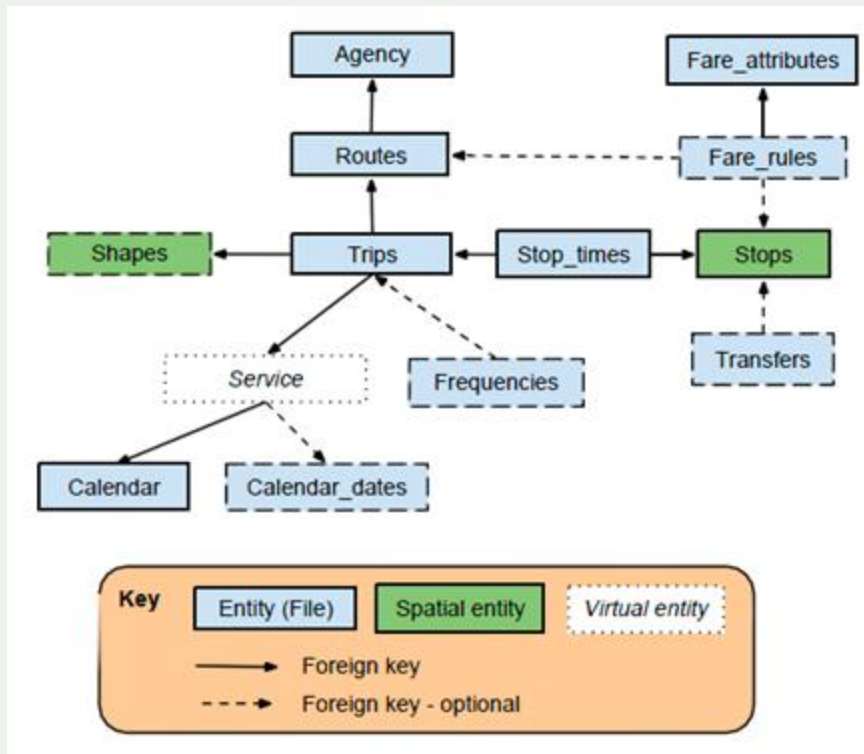
# Benefits to Operators

- Opportunities for small ISPs, rural operators in particular.
- More strategic information for investors
- Levelling the playing field in terms of information sharing and building trust
- Better evidence of the socio-economic impact of their networks
- Better network analysis tools

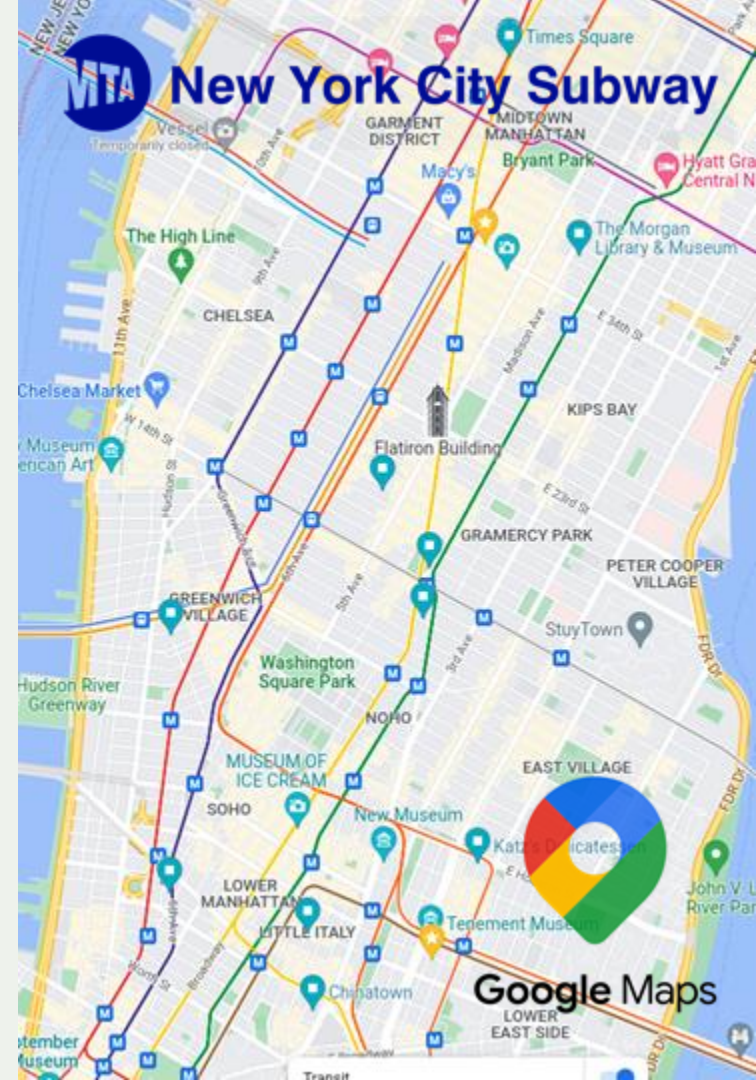




# Open Data Standard Example



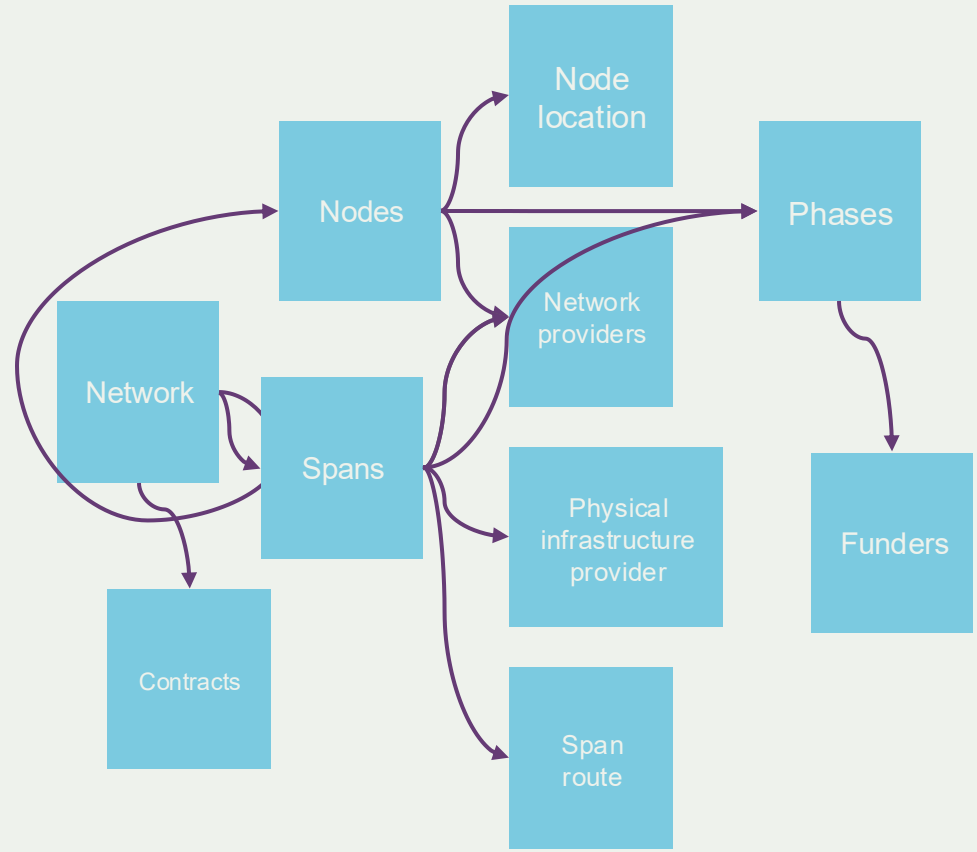
General Transit Feed Specification





# Open Fibre Data Standard

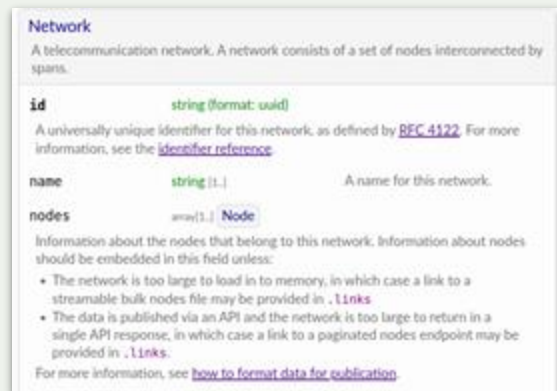
- ◆ Describes what data to publish about fibre networks
- ◆ Provides a vocabulary and structure for fibre network data
- ◆ Offers guidance and software tools for publishers and users





# Components

Schema and codelists	Documentation	Open source tools
Define the structure and format of OFDS data, the meaning of each field, and the rules that must be followed to publish OFDS data.	A primer, guidance and reference documentation covering how to publish and use OFDS data.	Software tools for converting, validating and exploring OFDS data. CoVE (Convert, Validate, Explore)



**Network**  
A telecommunication network. A network consists of a set of nodes interconnected by spans.

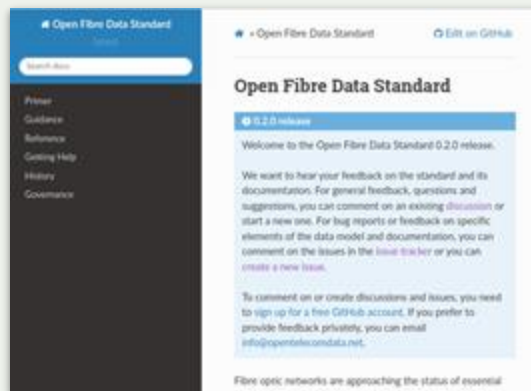
**id** `string (format: uuid)`  
A universally unique identifier for this network, as defined by [RFC 4122](#). For more information, see the [identifier reference](#).

**name** `string [1..]` A name for this network.

**nodes** `array [1..] Node`  
Information about the nodes that belong to this network. Information about nodes should be embedded in this field unless:

- The network is too large to load in to memory, in which case a link to a streamable bulk nodes file may be provided in `.links`.
- The data is published via an API and the network is too large to return in a single API response, in which case a link to a paginated nodes endpoint may be provided in `.links`.

For more information, see [how to format data for publication](#).



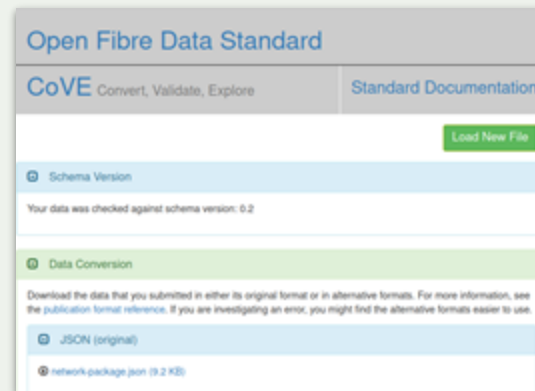
**Open Fibre Data Standard**  
0.2.0 release

Welcome to the Open Fibre Data Standard 0.2.0 release.

We want to hear your feedback on the standard and its documentation. For general feedback, questions and suggestions, you can comment on an existing [discussion](#) or start a new one. For bug reports or feedback on specific elements of the data model and documentation, you can comment on the issues in the [issue tracker](#) or you can [create a new issue](#).

To comment on or create discussions and issues, you need to sign up for a free [GitHub](#) account. If you prefer to provide feedback privately, you can email [info@openfibrestandard.net](mailto:info@openfibrestandard.net).

Fibre optic networks are approaching the status of essential



**Open Fibre Data Standard**  
CoVE Convert, Validate, Explore | Standard Documentation

[Load New File](#)

**Schema Version**  
Your data was checked against schema version: 0.2

**Data Conversion**  
Download the data that you submitted in either its original format or in alternative formats. For more information, see the [publication format reference](#). If you are investigating an error, you might find the alternative formats easier to use.

- [JSON \(original\)](#)
- [network package \(json\) \(9.2 KB\)](#)

<https://open-fibre-data-standard.readthedocs.io/en/latest/reference/schema.html>

<https://open-fibre-data-standard.readthedocs.io/en/latest/>

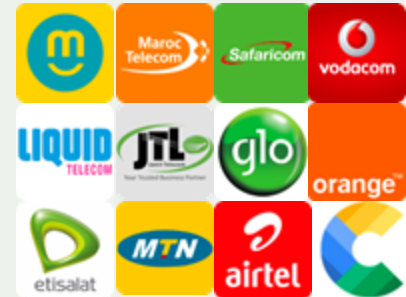
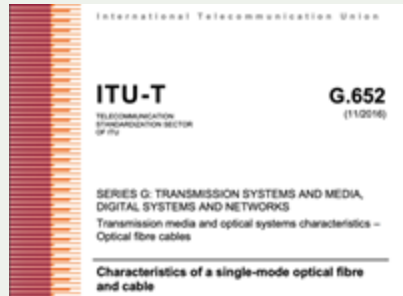
<https://ofds.cove.opendataservices.coop/>





# Categories of Data

Location data	Technical data	Administrative data
The route of fibre cables, the coordinates of PoPs, towers and IXPs.	Capacity, ITU fibre standards, power availability.	The organisations that own and operate infrastructure, the status of infrastructure, dark fibre availability.



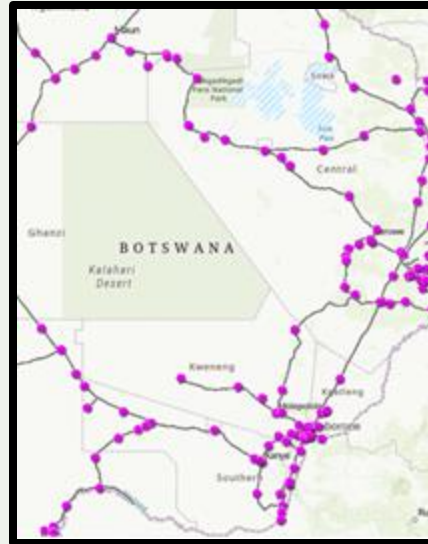


# Reach

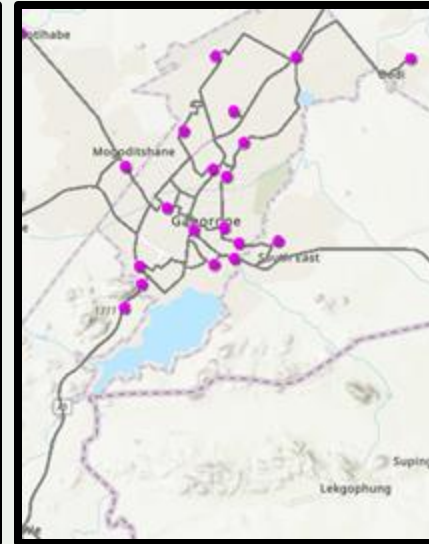
The initial focus of OFDS lies in describing **national and middle mile** networks but will ultimately encompass **last mile** networks.



Undersea



National



Middle mile

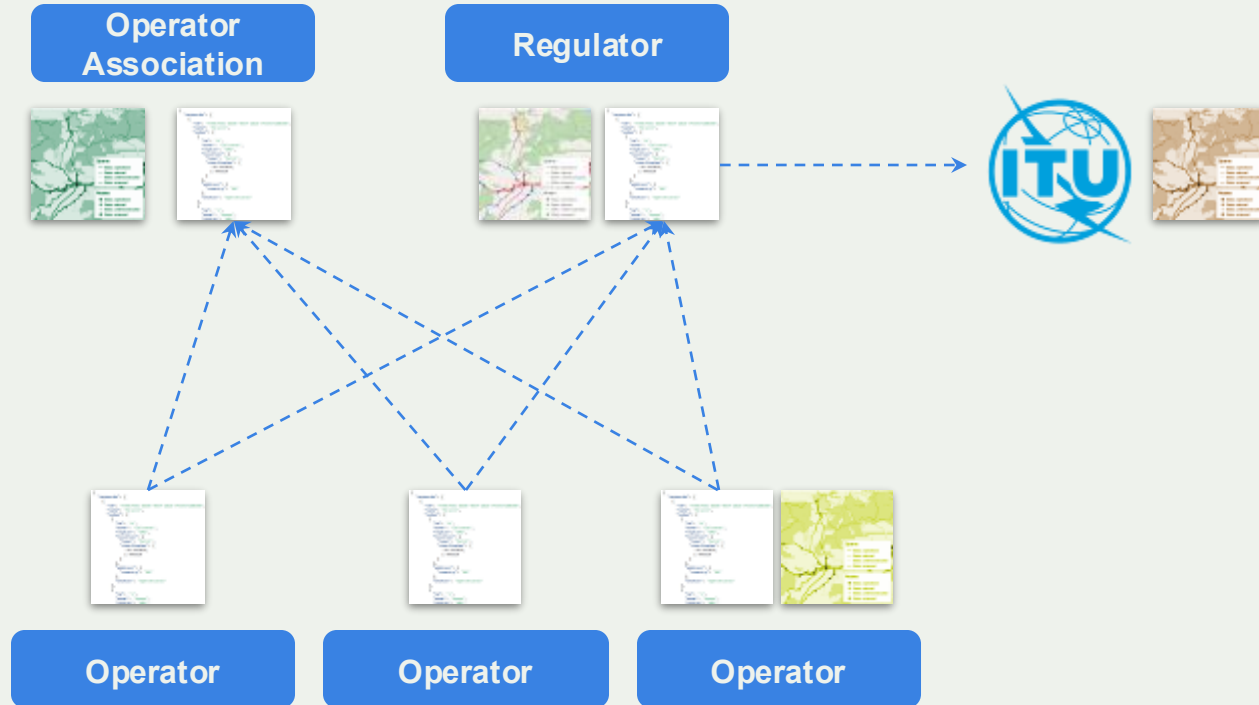


Last mile





# Data sharing possibilities



Different organisations may combine Open Fibre Data with various data sources to serve their individual missions.





# Workshops

- ◆ Working with partners to promote the development of a global initiative to support the standard
- ◆ Next steps are to develop transparent, democratic governance mechanisms for OFDS and fundraise for its support globally.

Join us!



## National Workshops

	Kenya	Ghana
Regulator	 <b>COMMUNICATIONS AUTHORITY OF KENYA</b>	 <b>NATIONAL COMMUNICATIONS AUTHORITY</b> <i>Communications for Development</i>
Operator Association	 <b>tespok</b>	 <b>GHANA CHAMBER OF TELECOMMUNICATIONS</b> <i>M-Powering People • SIMpacting Lives</i>

## Regional Workshops





# Further Reading

## Articles

World Bank - [Making it Possible for the World to Log On](#)

Internet Society - [A Standard to Increase Availability, Accessibility of Terrestrial Fiber Infrastructure Data](#)

Internet Society - [Mapping Terrestrial Fibre Optic Networks is Essential for Measuring Internet Resilience](#)

Open Data Services Cooperative - [Open Fibre Data Standard: opening up fibre optic broadband infrastructure](#)

Mozilla - [Open Fibre Data Standard: Understanding the True Extent of the Internet](#)

The State of Open Data - [Telecommunications and the State of Open Data](#)

## Canonical sources

Documentation

<https://open-fibre-data-standard.readthedocs.io/en/latest/reference/schema.html>

Repository for the standard

<https://github.com/Open-Telecoms-Data/open-fibre-data-standard>





## Get involved!

Please get in touch if you are interested in:

- Learning more about OFDS
- Hosting an OFDS workshop
- Participating in standard development and governance

Speaker name  
lname@isoc.org

**Thank you!**

