globo.com | g1 | ge | gshow | videos SUBSCRIBE NOW EMAIL LOG IN

G1 FANTASTIC

Young man climbs on top of tree to improve internet signal and attend classes in Pará

This was the way that the young Artur Mesquita, 15 years old, found to follow the classes, which started to be online, due to the pandemic of Covid-19.

By Fantástico

03/21/2021 23h07 · Updated a month ago

https://translate.google.com/translate?sl=pt&tl=en&u=https://g1.globo.com/fantastico/noticia/2021/03/21/jovem-sobe-no-alto-de-arvore-para-melhorar-sinal-de-internet-e-assistir-aulas-no-para.ghtml

Lack of reliable ICT infrastructure is one of the reasons ½ of population is unconnected

Where is the Infrastructure?

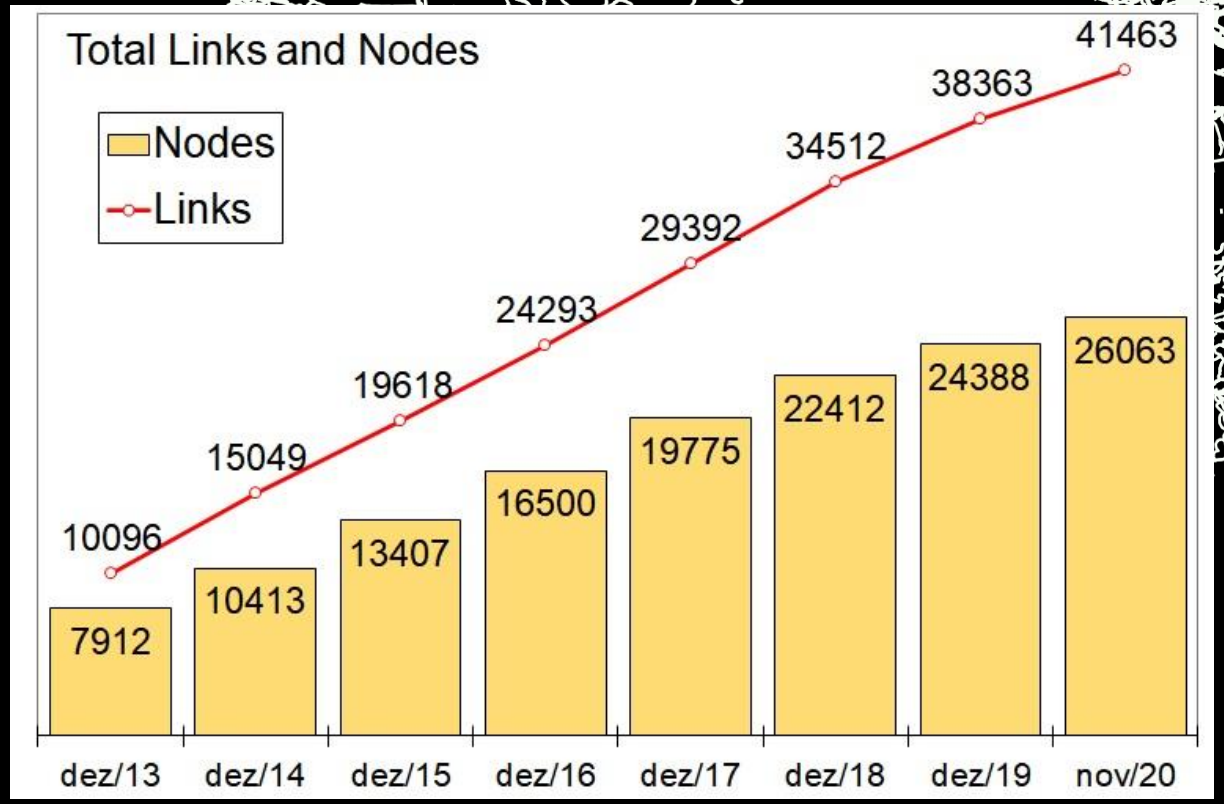
ITU Broadband Maps

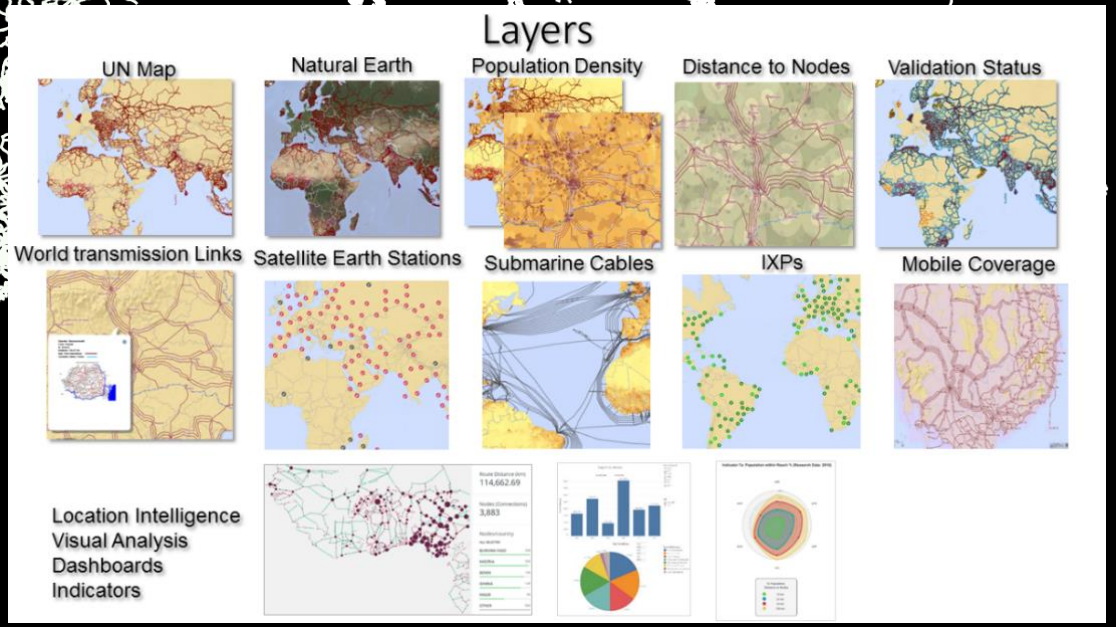
https://itu.int/go/maps

ITU Broadband Maps

16 mil km of global terrestrial networks

540+ operators

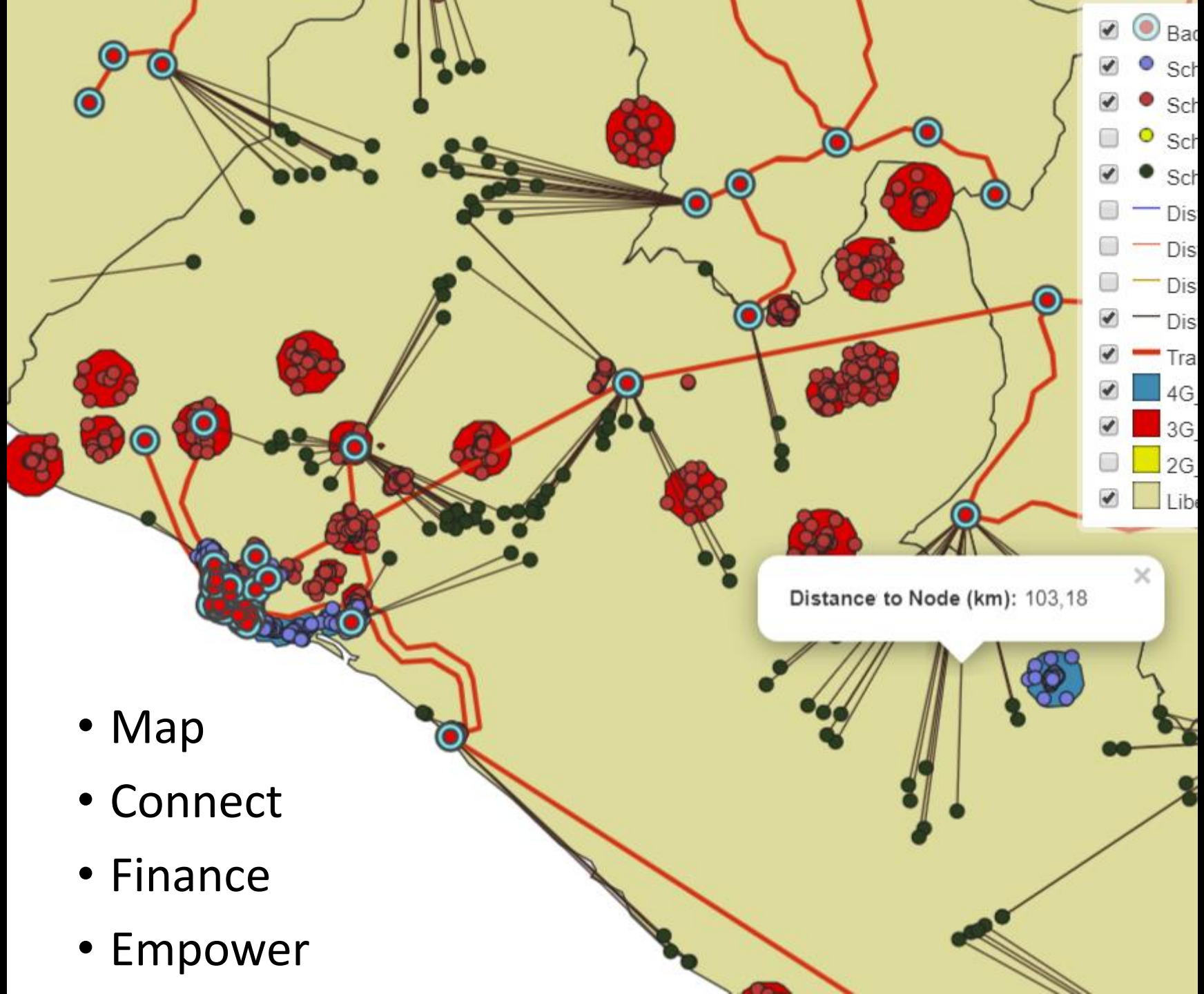




https://itu.int/go/maps

What is the BBmap contribution?

GIGA – Connect every school



- Map
- Connect
- Finance
- Empower

Data Availability Connecting schools – Increased Data Value (Country case)

Fiber Open Data

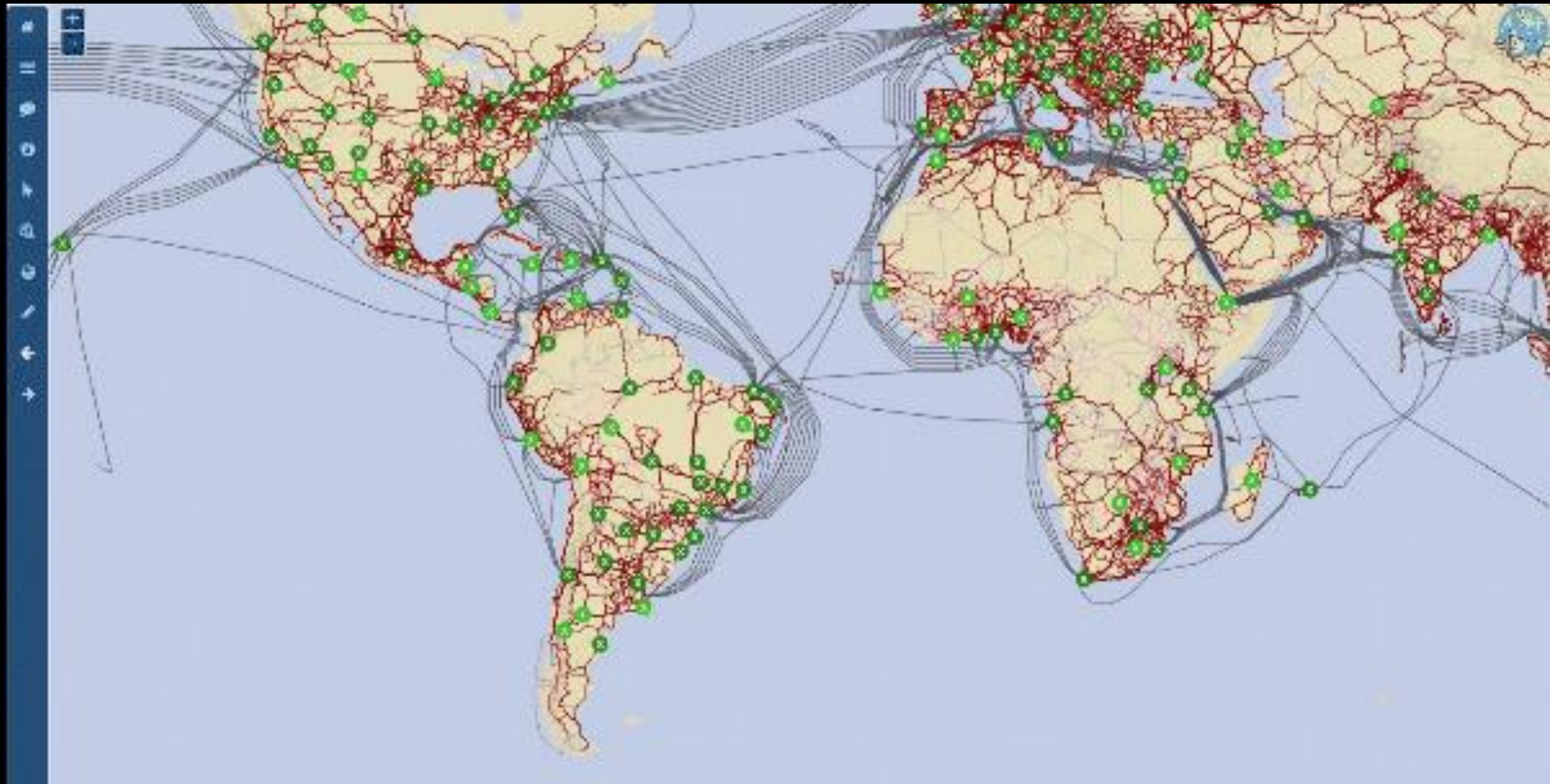
Awareness

Bigger impact

Improve data quality and availability

Innovative solutions by the community

ITU BBmaps



Thank you

https://itu.int/go/Maps

ITU BBmap

- quantify supply-side indicators for the reach of broadband networks. Identify those areas which are not currently served by high capacity terrestrial transmission backbones.

Purpose

Research

- Desk research, primary research in conjunction with ITU Regional Offices, and working with partner organizations.

- The map is validated by administrations, regulators and network operators, through the ITU Regional Offices and is recorded in the Validation Framework.

Validation

Results

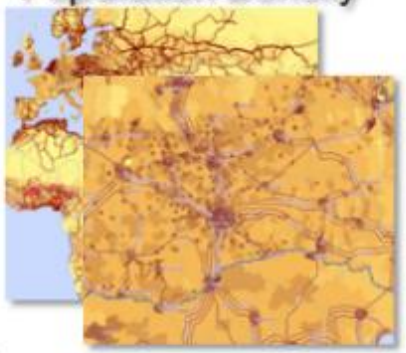
- seven Broadband Capacity Indicators calculated from the GIS data underlying the map.
- Support to connectivity initiatives

Layers

UN Map

Natural Earth

Population Density



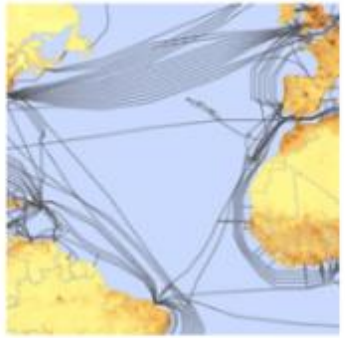
Distance to Nodes

Validation Status

World transmission Links

Satellite Earth Stations

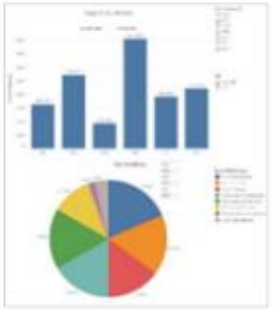
Submarine Cables

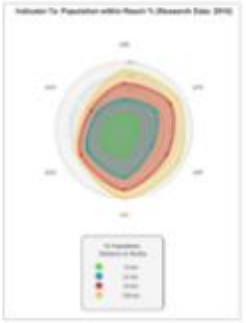


IXPs

Mobile Coverage

Location Intelligence
Visual Analysis
Dashboards
Indicators

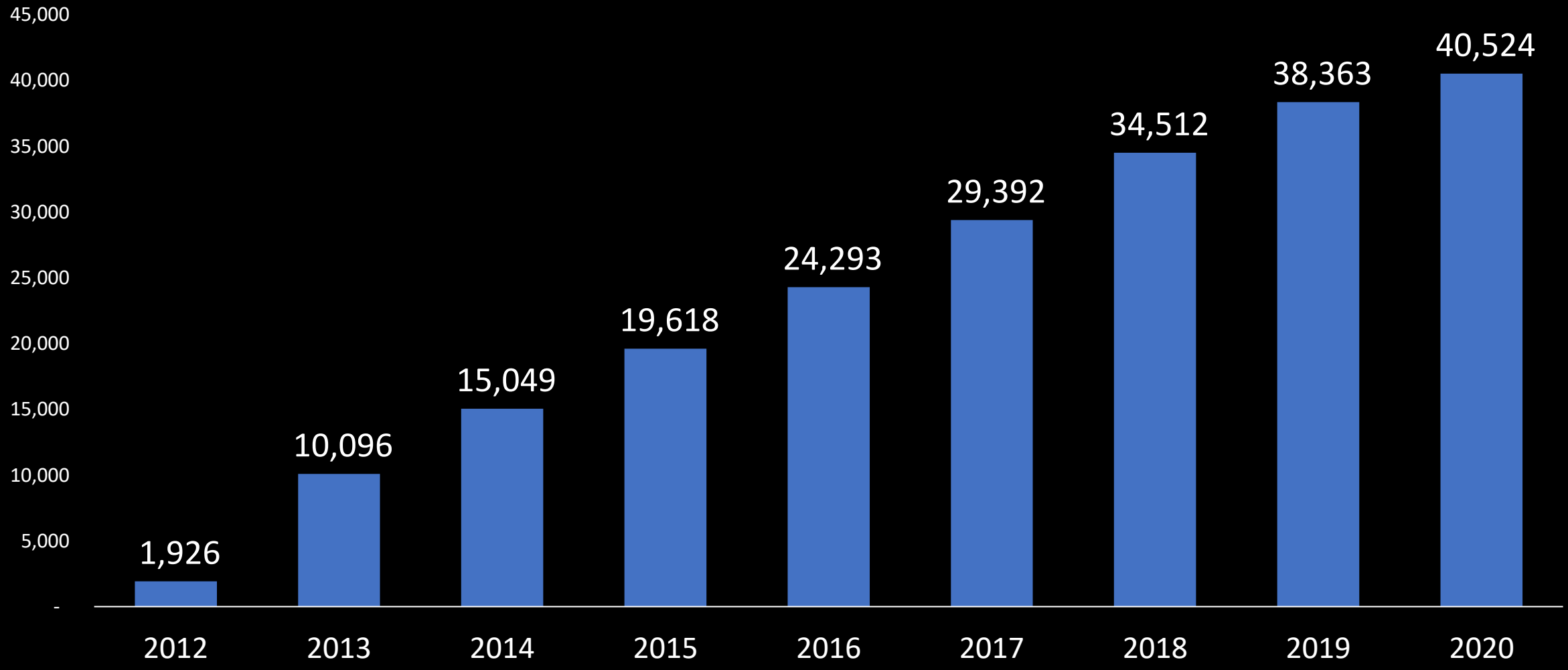




https://itu.int/go/Maps

Data Research

Transmission Links



https:/itu.int/go/Maps

Data Research

Terrestrial Backbones

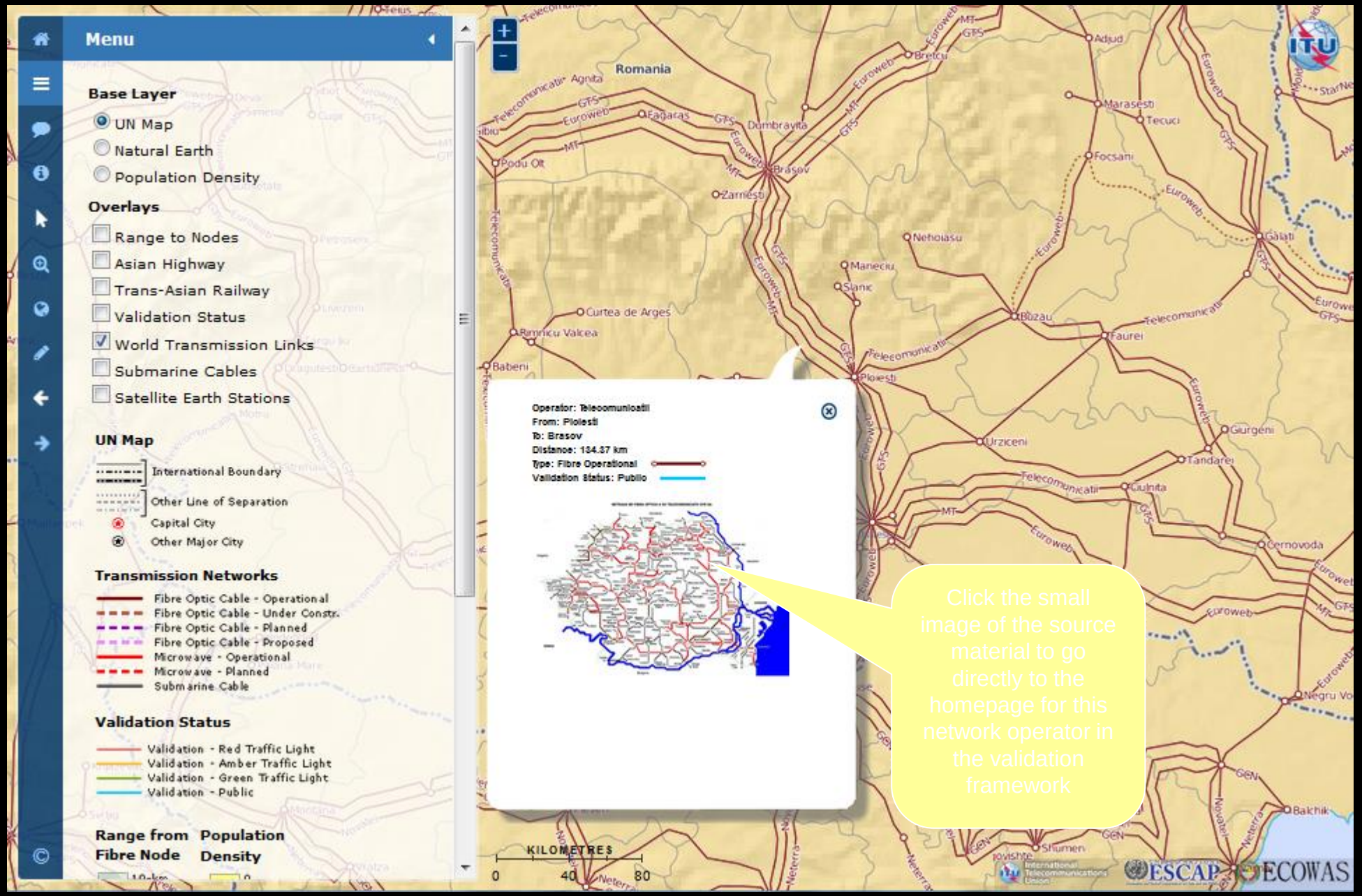
- Countries covered: 88
- Total of Km drawn: 3,885,787
- Number of Nodes: 23,807
- Number of Transmission lines: 40,524

https:/itu.int/go/Maps

Operators:

Region	Terrestrial
Africa	93
Arab States	40
Asia & Pacific	94
CIS	26
Europe	141
The Americas	108
Total	**512**

Data Validation Framework & Data source



Broadband Transmission Capacity Indicators

Indicator 1: **Transmission network length (Route kilometres)**

Indicator 2: **Node locations**

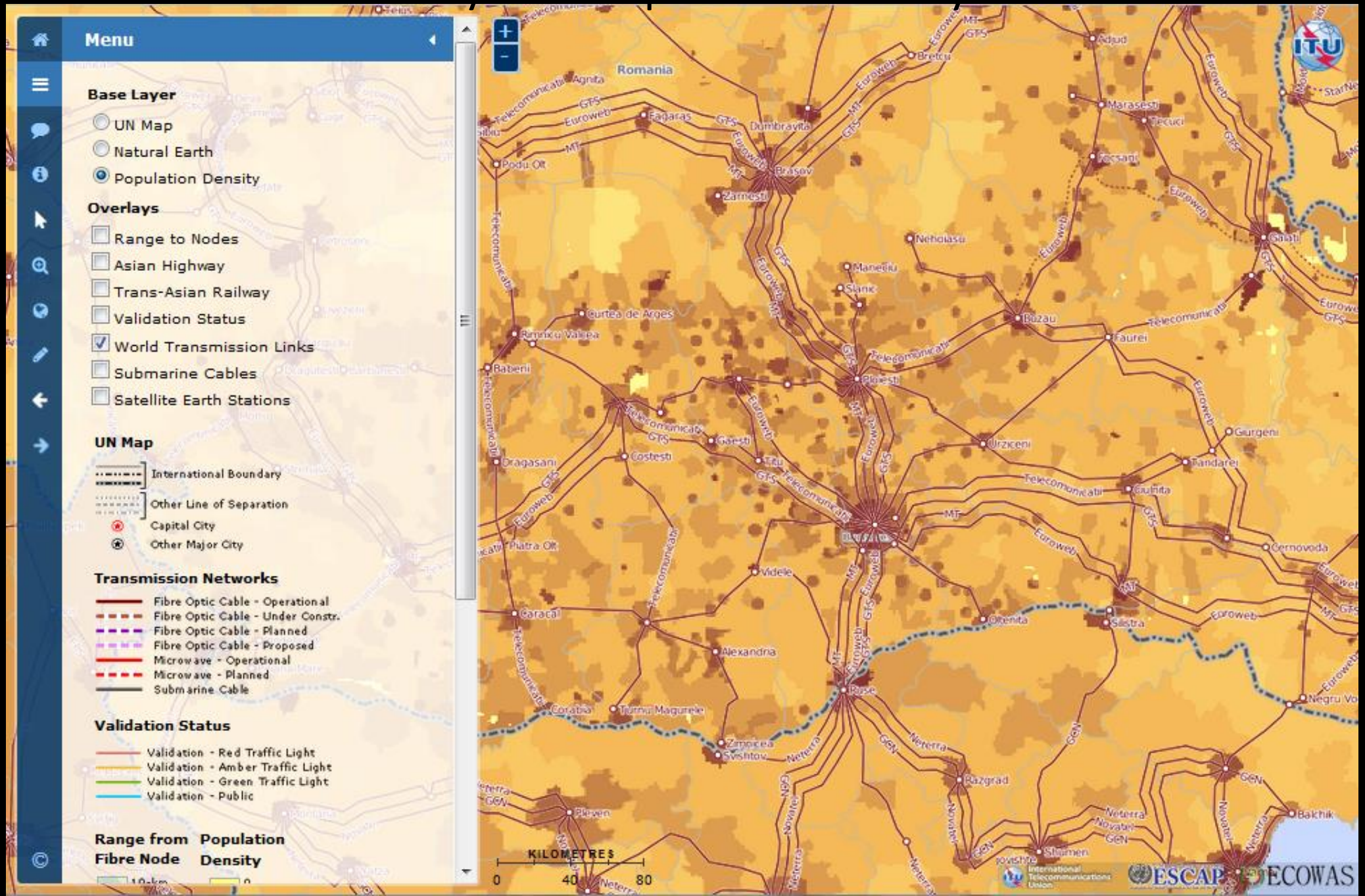
Indicator 3: **Equipment type of terrestrial transmission network**

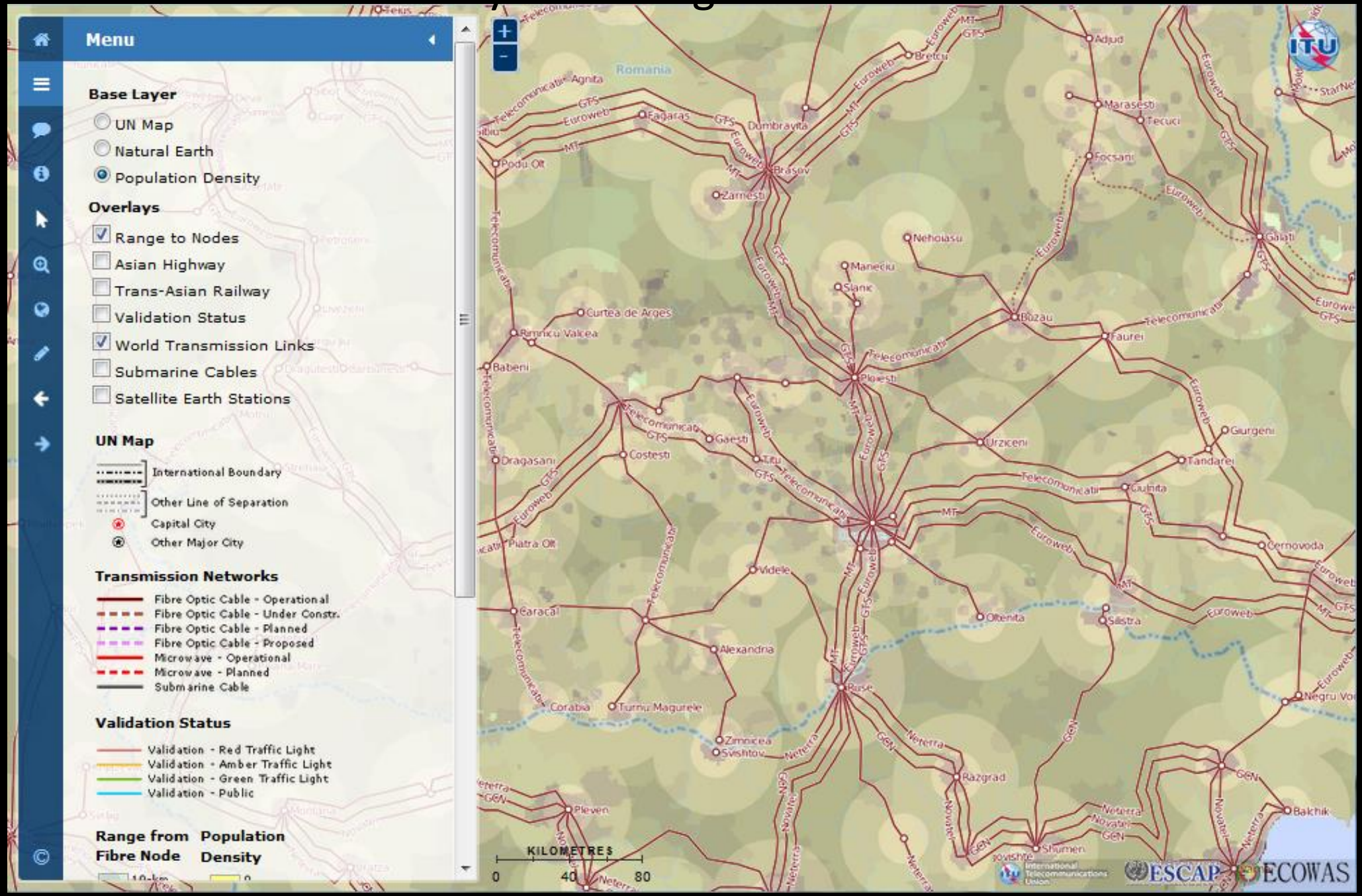
Indicator 4: **Network capacity (bit rate)**

Indicator 5: **Number of optical fibres within the cable**

Indicator 6: **Operational status of the transmission network**

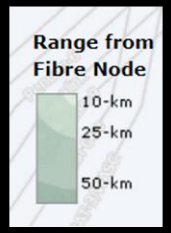
Indicator 7: **population within reach of transmission networks**

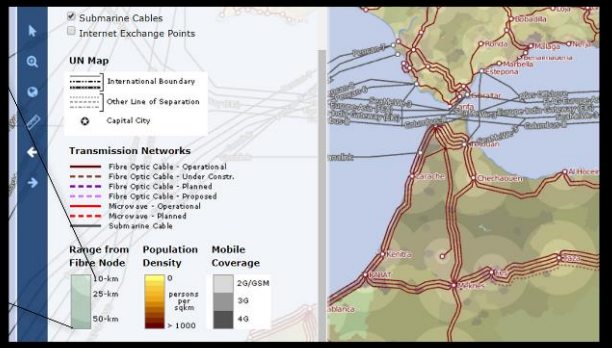

Menu
Base Layer
UN Map
Natural Earth
Population Density
Overlays
Range to Nodes
Asian Highway
Trans-Asian Railway
Validation Status
World Transmission Links
Submarine Cables
Satellite Earth Stations
UN Map
International Boundary
Other Line of Separation
Capital City
Other Major City
Transmission Networks
Fibre Optic Cable - Operational
Fibre Optic Cable - Under Constr.
Fibre Optic Cable - Planned
Fibre Optic Cable - Proposed
Microwave - Operational
Microwave - Planned
Submarine Cable
Validation Status
Validation - Red Traffic Light
Validation - Amber Traffic Light
Validation - Green Traffic Light
Validation - Public
Range from Fibre Node
Population Density
Romania
KILOMETRES
0
40
80
ESCAP
ECOWAS


Menu
Base Layer
UN Map
Natural Earth
Population Density
Overlays
Range to Nodes
Asian Highway
Trans-Asian Railway
Validation Status
World Transmission Links
Submarine Cables
Satellite Earth Stations
UN Map
International Boundary
Other Line of Separation
Capital City
Other Major City
Transmission Networks
Fibre Optic Cable - Operational
Fibre Optic Cable - Under Constr.
Fibre Optic Cable - Planned
Fibre Optic Cable - Proposed
Microwave - Operational
Microwave - Planned
Submarine Cable
Validation Status
Validation - Red Traffic Light
Validation - Amber Traffic Light
Validation - Green Traffic Light
Validation - Public
Range from Fibre Node
Population Density
Romania
Brasov
Ploiesti
Buzau
Galati
Ruse
Pleven
Razgrad
Shumen
Balchik
Oltenita
Silistra
Cernovoda
Tandarei
Giurgeni
Urziceni
Faurei
Focsani
Marasesti
Tecuci
Adjud
Bretcu
Dumbravita
Fagaras
Zarnesti
Podu Olt
Curtea de Arges
Rimnicu Valcea
Babeni
Dragasani
Costesti
Gaesti
Titu
Piatra Olt
Caracal
Videle
Alexandria
Turnu Magurele
Corabia
Zimnicea
Svishtov
Negru Vo
Neterra
Novatel
Euroweb
Telecomunicatii
GTS
MT
GEN
KILOMETRES
0
40
80
ESCAP
ECOWAS

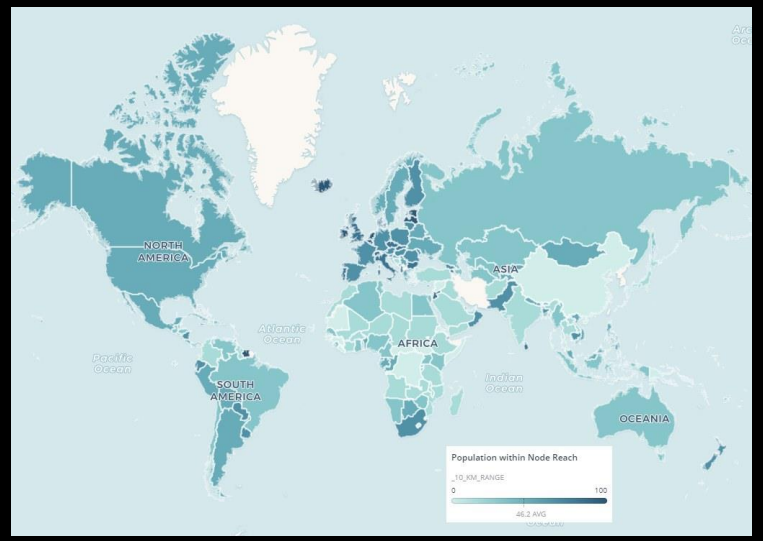
Data Analysis

Distance to Internet high-speed pathways (Access Points)



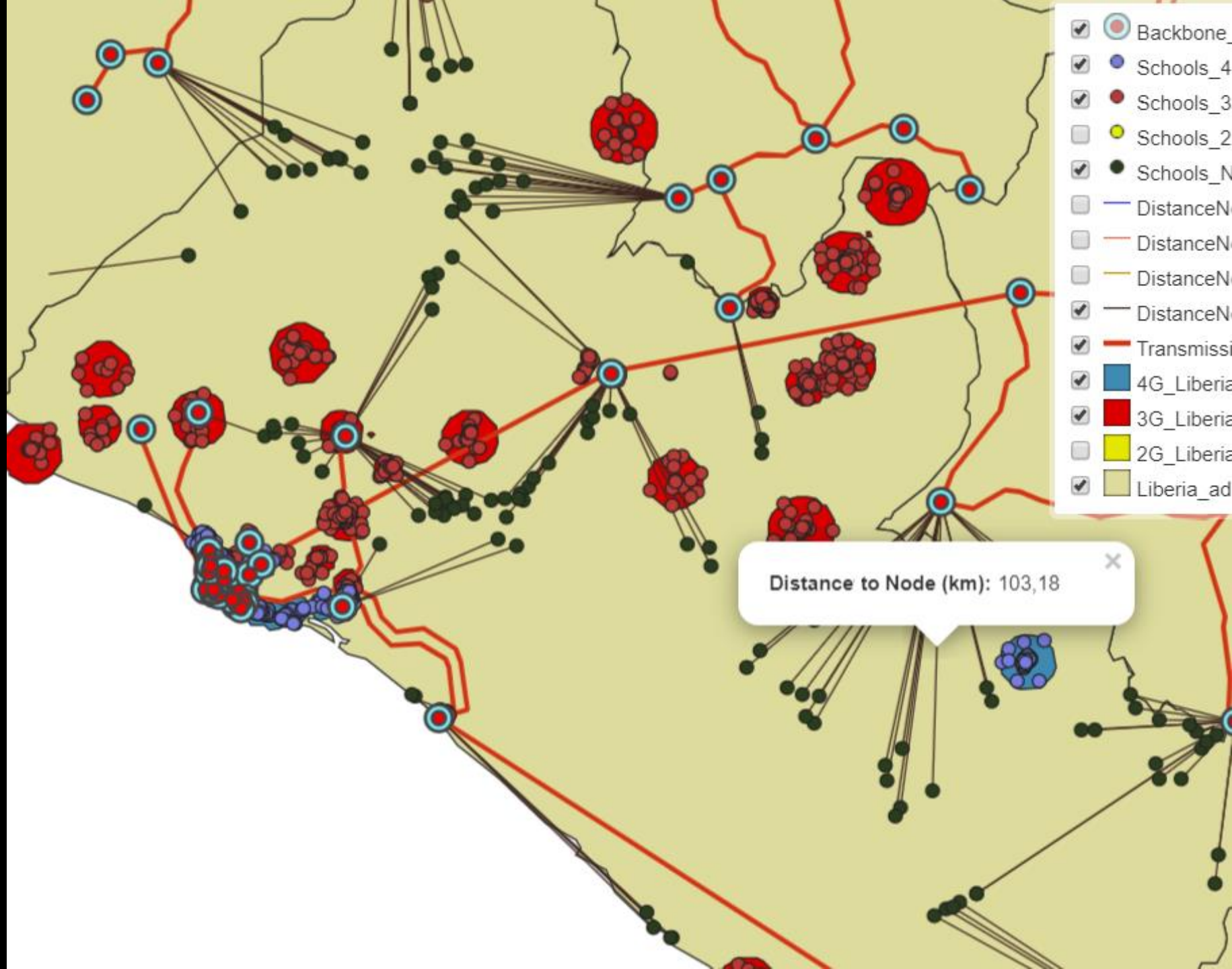


- **Distance to Internet high-speed pathways (Access Points)**
  - Broadband indicators can help with the questions raised, for instance the “Broadband indicator population within 10 Km reach”. This indicator informs about the percentage of people that are within physical reach of an access point (nodes)
  - The population living within reach of transmission networks is calculated from network nodes because nodes are access points to the network. This is a useful indicator of the catchment area of a core transmission network or networks, and how many people it potentially serves.



GIGA – Connect every school

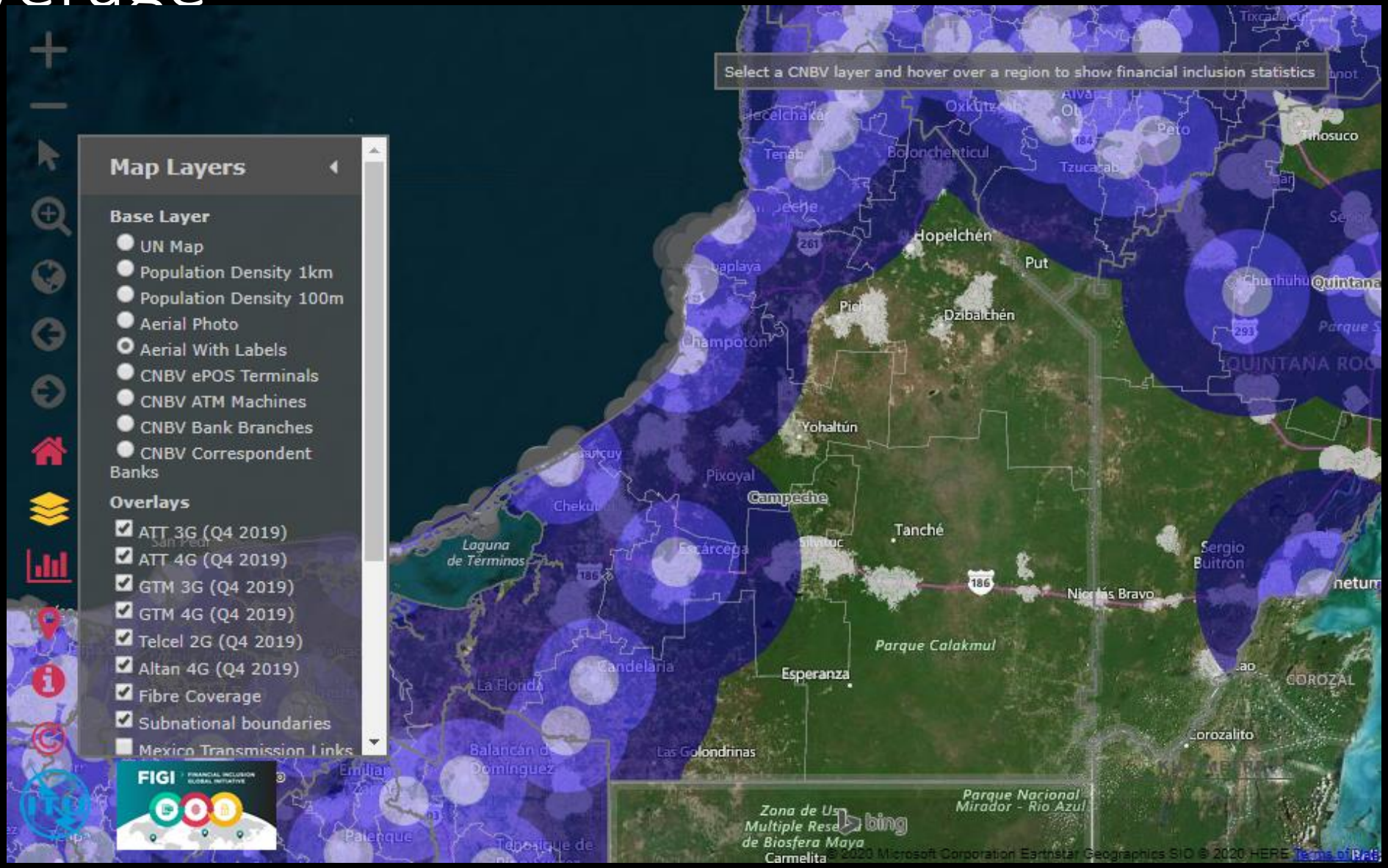
- Map
- Connect
- Finance
- Empower



Connecting schools - Increased Data Value (Country case study)

- **Case: school connectivity bid (UNDP)**
  - GIS backbone data as a source of reference to check the level of connectivity of existing and potential candidate sites for free Public Wi-Fi.
  - Ensure that free Wi-Fi sites are in areas that are underserved by service providers.
  - The backbone fiber data was used to determine if there are other significant sources of connectivity options in the sites identified.
- **Lessons**
  - Making existing data available
  - Focused actions -> increased data quality / update
  - Supplement with additional sources to build a robust view of existing infrastructure
  - Consider local terrestrial middle mile providers

FIGI -Comparison of fibre and mobile coverage



Financial Connectivity Index

- A way to visualise further possible barriers to entry for uptake of FinServ
- Weighted Sum method combines multiple layers:
  - Crime rate per municipality
  - ePOS Terminals
  - ATM Machines
  - Bank Branches
  - Correspondent Banks
- Weighting (adjustable) set to 20%
- To be made available as Web Map Services (WMS) layer, for inclusion into Desktop GIS

Next developments

- Quick Network estimation – ITU Regional Initiative model
- Connectivity estimation – Quality of Service
- New graphical interface
- Support to global, reginal and national Infrastructure development initiatives
- Data collection
  - Terrestrial Transmission -Collaboration with National GIS offices
  - New Layers – Satellite Coverage (BR-GIMS)
  - Improving data collection in Central America: Guatemala, Honduras, and El Salvador
- ITU Assistances
  - Mapping systems
  - Data Structure harmonization

Resources

- Collaboration
  - GIGA
  - ESCAP
  - FIGI – Financial Inclusion - Mexico
  - Investment Opportunities in Europe
- Data Analysis
  - Indicators
  - Hub Analysis
- More Information
  - Video
  - Prezi presentation
  - https://itu.int/go/Maps