Quantum Leap for Global Education: Giga's Next Frontier in Connectivity

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15 October 2024

GigaMaps

Search country, region,...

Worldwide 140 countries

Global School connectivity map

An open & live global map of schools and their connectivity

Take the tour

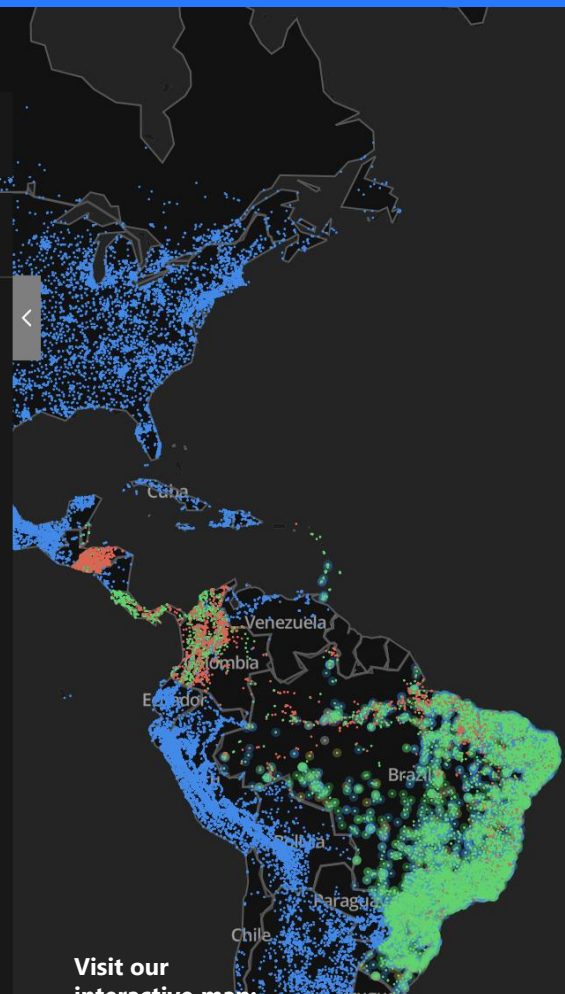**2.1M / 6M** schools location mapped
across 140 countries

410.4K schools connectivity status mapped
across 50 countries   410.4K

92.8K schools with real-time data mapped
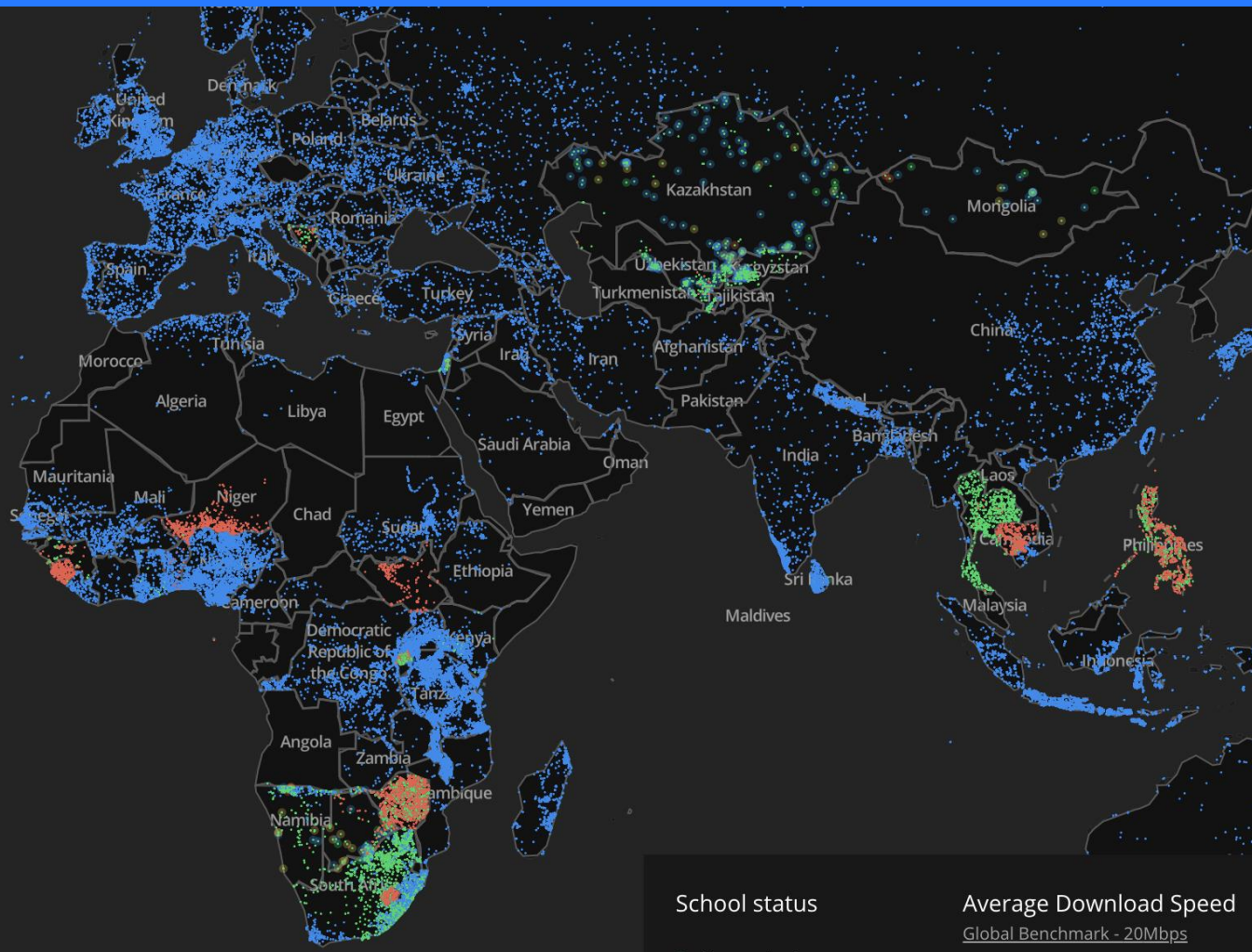across 29 countries   92.8K

Explore countries

Visit our interactive map:

maps.giga.global

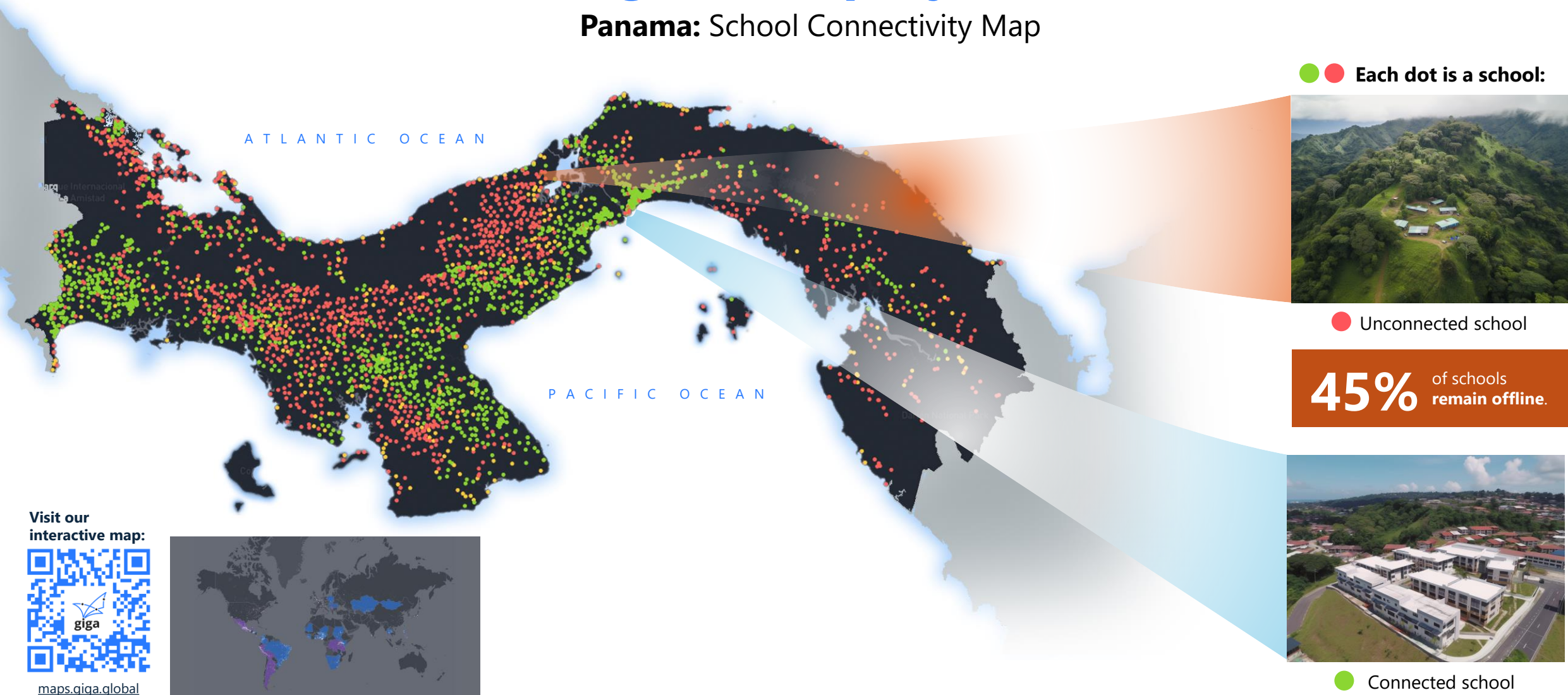School status
- Connected
- Not connected
- Unknown

Average Download Speed
Global Benchmark - 20Mbps
- Good
- Moderate
- Bad
- Unknown

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unicef for every child   ITU

What **digital inequity** looks like

Panama: School Connectivity Map

ATLANTIC OCEAN

PACIFIC OCEAN

**Visit our
interactive map:**

maps.giga.global

Each dot is a school:

🔴 Unconnected school

45% of schools
remain offline.

🟢 Connected school

Nearly half of the world's schools are **not connected to the Internet**

One out of three people
don't have access to the Internet

Giga's contribution to universal school connectivity
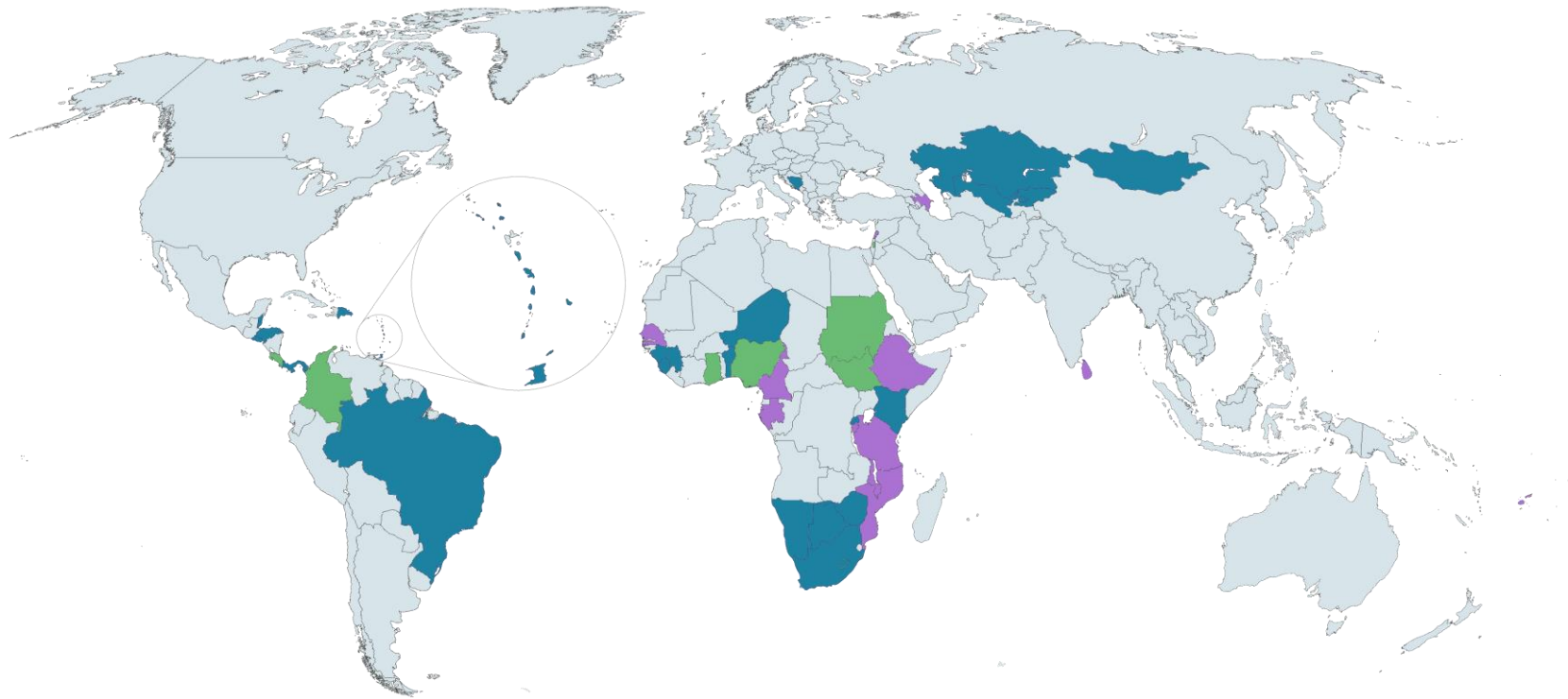
34 countries where Giga is active

Giga provides **customized** advanced support, open-source tools and connectivity solutions.

7 countries with school mapping support

Giga helps countries with school mapping and monitoring.

12 countries in early engagement

Giga provides general guidance to countries that have expressed interest in joining Giga.

Doubling our impact through two Giga offices

Giga Headquarters,
Geneva, Switzerland

Enhancing our connections with other UN agencies, Swiss tech companies, and private equity firms

Giga Technology Centre,
Barcelona, Spain

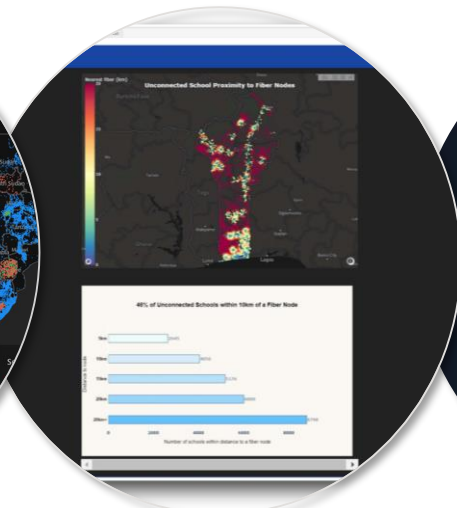Building the home of our Giga engineers and data scientists who will build our open-source tech products

End-to-end suite of **open-source tools** to make connectivity management measurable, accountable, and sustainable.
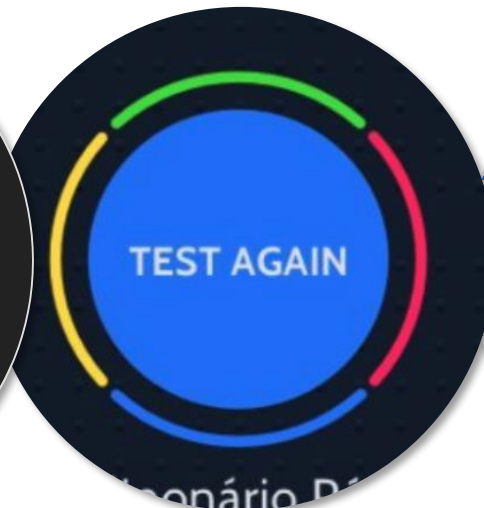

Advocate
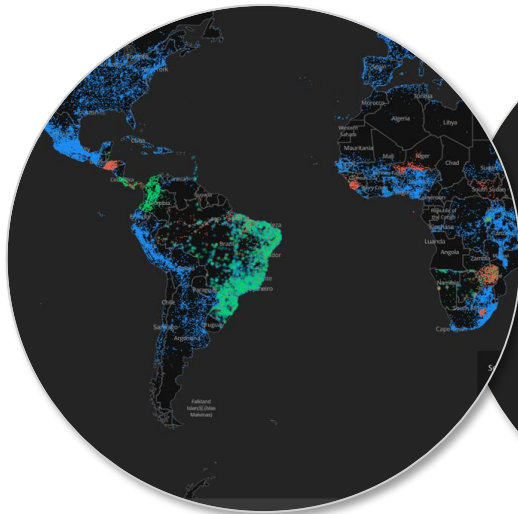
Giga Maps

Plan

School Price Calculator
Giga Score
Infrastructure Maps
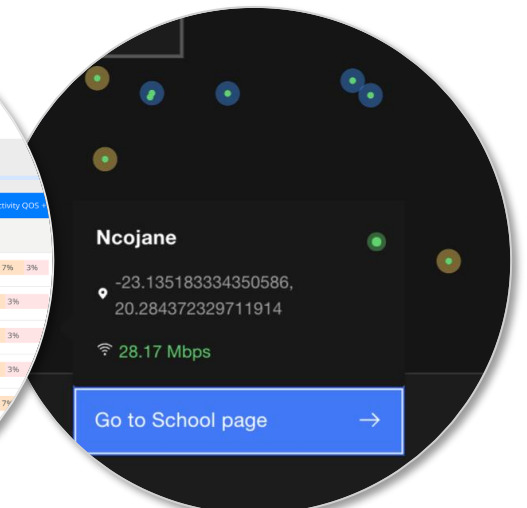ML School Mapping Models
ML School Mapping Validator

Procure

Procurement Toolkit

Manage

Giga Counts
Giga Meter
Giga Sync
Community Information Workers

Sustain

Connectivity Credits

The future?

AI models

Running **AI models** globally faster and more efficiently

Digital twins

Developing **digital twins** for the physical environment related to connectivity

Connectivity infrastructure

Optimizing deployment of **connectivity infrastructure**

Marketplace for connectivity

Simulating complex scenarios for creating a global **marketplace for connectivity**

Supports efforts in accelerating "meaningful connectivity", particularly in underserved communities

Join our growing community of experts
Visit giga.global for more info and reach out to me via X (@chrisfabian)

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Reserve slides

Three levels of potential partnership opportunities: funding is an important enabler for Giga to facilitate **engagement and impact at scale**

Partnership Level	Key Components	Engagement and Visibility (Preliminary)
1 **Strategic Global Partnership** $3M+ annually	• Dedicated financing for in-country school connectivity projects and/or support for connectivity initiatives such as Community Information Workers, solar-powered electricity, and regional procurement platforms, depending on specific needs • + from International Partner key components	• Site visits to connected schools and impact assessment with UNICEF experts • 2x UNICEF global activations annually • Key Partner in global events: e.g. UNGA, Davos • Fujitsu-specific Annual Report and support for sustainability *+ from previous level*
2 **International Partner** $1.5M - $3M annually	• Global Thought Leadership and Research • Global programme support (Giga's Counties) • Technology Support for Giga	• Digital communications across Giga and local UNICEF channels, including articles and blogs showcasing partnership • Case studies for SDG impact and knowledge-sharing sessions *+ from previous level*
3 **Partner** $500k – $1.5M annually	• Global programme support (Giga's Countries) • Technology Support for Giga products	• Press releases and digital communications across Giga channels and local UNICEF channels • Giga Annual Report

Giga and PG / Education are fully lined up

A framework endorsed by Director, PG Ed. that Connectivity supports Education through:

1. **Enhanced Learning**
2. **Teacher Efficiency**
3. **Real-time Monitoring**
4. **Cost Efficiency**
5. **Inclusive Education**
6. **Lifelong Learning**

Giga has a joint position paper with Learning Passport as well as close integration (in country rollout planning and Financing proposals (i.e. EU)) with Helsinki Learning Hub

Since Nonkoopir primary school in Kenya was connected, the school's **performance scores** increased by **9.75%, attendance** by **> 10%**

Teachers **save hours per week**, performing admin tasks online vs. in person

Africa CDC + Health are asking to have a similar collaboration with the Giga team to support health centre connectivity

Revisiting the country approach

Establish *connectivity* in CPDs, enable Reps to ensure most vulnerable children are *connected,* allowing access to better education opportunities, health care options, and opportunities for future employment and dignity.

| Giga supports:	**Advocacy**	**Technical Assistance**	**Contracting / Procurement**
Country Office	Reps make the case for connectivity and access new parts of govt.	Planning tools have reduced prices for connectivity by up to 55%	Support for public procurement (price reductions of up to 43%)
Who (CO):	Rep, Edu, Soc. Pol, Comms	Edu, ICTD	Dep Rep, Supply, Ops, ICTD
Regional & HQ	Positioning of UNICEF for equity in connectivity (TES, EU, Davos, SoTF, Transform Africa).	Financing structures and instruments w/ DFI/sovereigns	Market shaping for connectivity
Who (HQ)	PG Edu, DGCA	RO/RDs, PPD, PFP, Legal, DFAM	SD, Legal

What **digital inequity** looks like

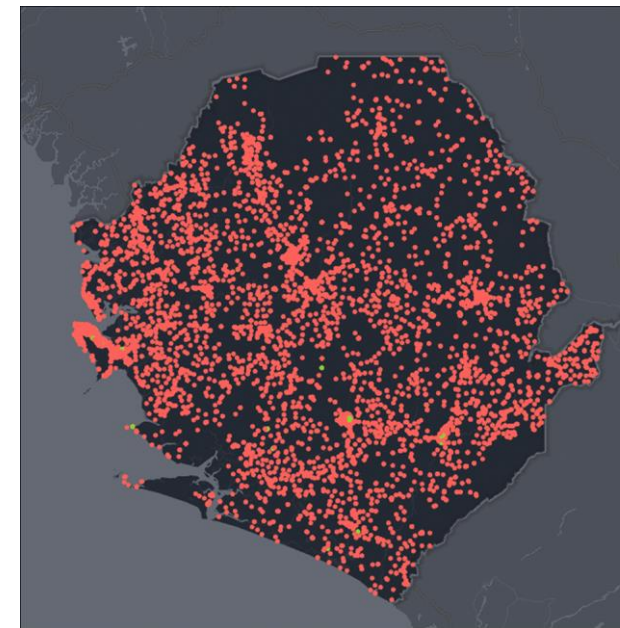The **global scale** of the digital divide

Thailand

2.3% of schools are **offline**.
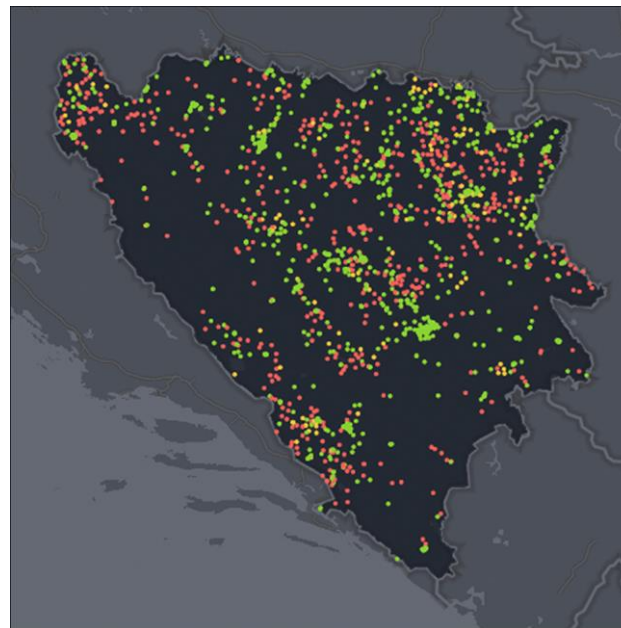
Bosnia and Herzegovina

30.2% of schools are **offline**.

Sierra Leone

98.39% of schools are **offline**.

2024: Going to Scale

- Funding secured for core tasks and team, with the support of PFP and PPD, in Barcelona and Geneva.

- This funding allows support of activities in 34 --> 49 by EoY UNICEF COs.

- And Supply Division to significantly reduce the price of the gigabyte.

Our **Goals in 2024**

Country Growth
Expand work to 10 more countries, 13,000 more schools, 10M additional young people

Capital / Financial Engineering
Mobilize more than $100M for school connectivity; identify innovative financing mechanisms and instruments to catalyze increased infrastructure investment

Improving Market Access
Reduce price for school gigabytes in key markets by 20-50%

Connectivity Learning Hub
Host delegations and trainings of regulators in Geneva

Barcelona: Tech Support
Increase uptake of Giga's open-source technology tools

The Barcelona **Tech Centre today**

The Centre is operational
Home to 13 team members, visa process for non-EU SSAs, FT/TAs pending Host Country Agreement (Q4 '24)

Providing Technical Assistance to Country Offices
Deploying tools in countries, with visiting government representatives working side-by-side

Positioned Giga at high level regional and international events including
Mobile World Congress

Activities in the **Barcelona Tech Centre** in **2024**

School connectivity and infra mapping

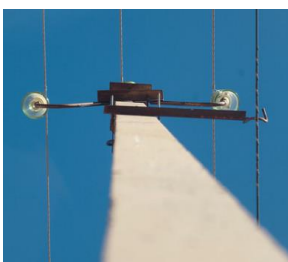Apply AI techniques and real-time monitoring solutions to scale our mapping to more countries and schools
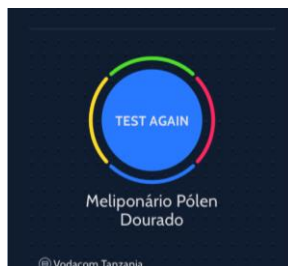
Community & tech brand

Engage with the tech ecosystem to position the Centre globally

Connectivity credits

Transformative marketplace where ISPs earn credits for connecting schools that then can be redeemed for government incentives

Government exchange programme

Host delegations and technologists from different countries (Sierra Leone, Botswana, Bosnia)

Innovation Accelerator

Setup an accelerator and host hackathons to source solutions for connectivity from programme countries (focus on Africa)

Tech Products

- **Launch of Giga Maps** (new version of Project Connect) the week of 6th of May, during Government Exchange Programme.

- **Pilot connectivity credits** in an African and a LATAM countries.

- **Scale the geographic coverage of Daily Check App** and **launch Giga ISPs.**

- **Infrastructure connectivity** solution modeller.

- **Deploy our key products** (Giga Maps, Giga Counts, infra maps, Giga Score) in additional countries.

Innovation Accelerator

- **The Innovation Accelerator** will identify and nurture innovative startups to facilitate the development of technologies that enhance connectivity.

- Finalize structure and timelines to source projects from Spain and all over the world and **bring together to Barcelona the first cohort** of the programme.

- **Organize demo days** and other key events at the Barcelona Tech Centre.

Engagements and Events

- With expanded comms & events team, **strengthen communication** around the Giga Barcelona Tech Centre.

- **Continue and expand engagement** with local and international stakeholders including private sector () and academia ().

- **Increase our presence in external events** including MWC, DES Malaga, Smart Cities
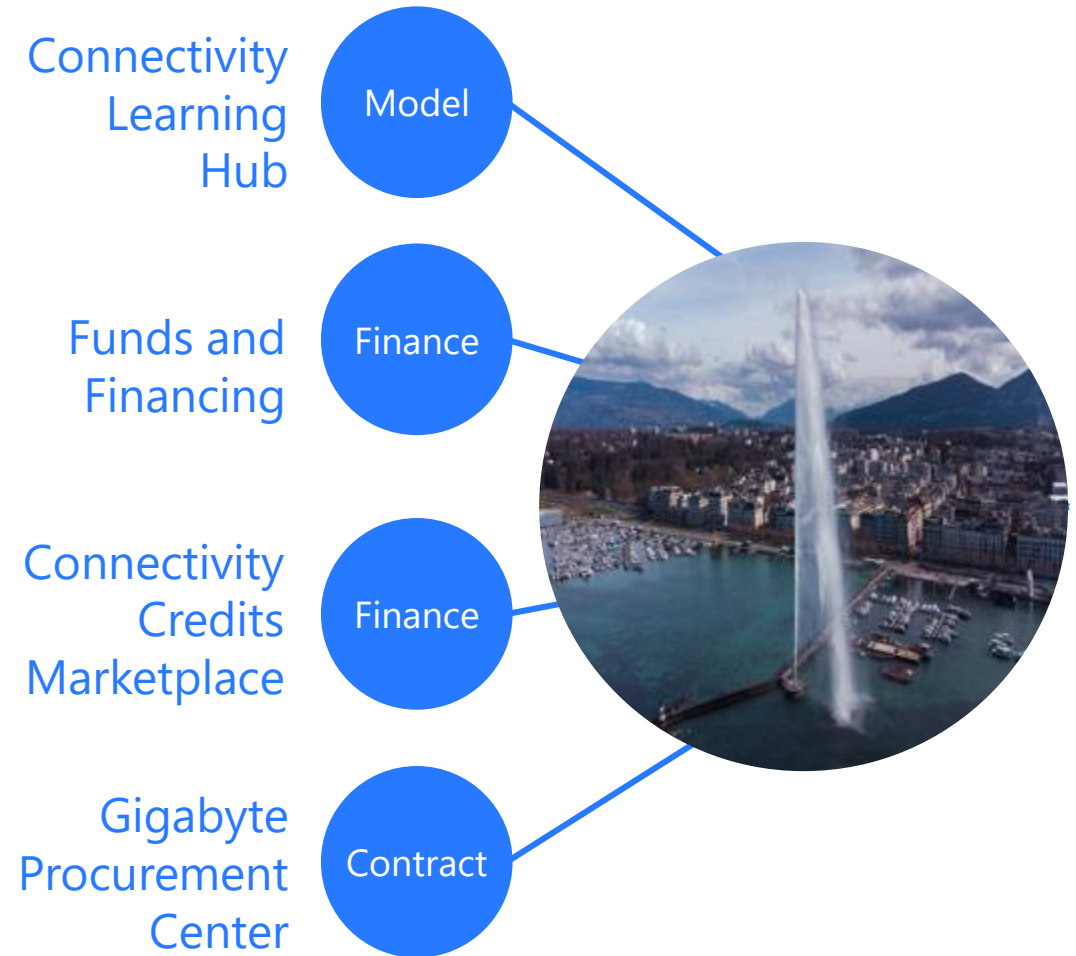
The Geneva Giga Office will focus on commodity price reduction

Capacity building of partners (ITU managed)

With PFP Innovative Finance, Legal, DFAM create options for financing vehicles with IFIs and Asset Managers

A "Carbon credits market" for connectivity.

Supply Division working to define global market-shaping strategy for Gigabytes as a commodity

Connectivity Learning Hub — Model

Funds and Financing — Finance

Connectivity Credits Marketplace — Finance

Gigabyte Procurement Center — Contract

Procurement: The Problem

$3 billion potential market opportunity for industry suppliers to connect (~500,000) schools in Africa

Governments are used to contracting from **mobile service providers**. They would get better prices if they were able to contract with fibre and satellites.

So why isn't "the market" solving "the problem"?:

1) **No visibility** from suppliers about public budgets for school connectivity

2) Public budgets for school connectivity are **fragmented into scattered projects**

3) Participation in multiple procurement processes with different rules and requirements creates **high transactions costs** and disincentivizes suppliers to bid

4) **Perception of risk** when dealing with governments & payment structure

Global Procurement Support : The Solution
(Executive Sponsorship: Directors Supply and Innovation)
Can reduce 50% costs of school connectivity for governments

1. Market assessment & industry engagement
Identify market shortcomings and incentivize suppliers to enter the market

2. Standardization of services
Commoditize connectivity services using a *Target Service Profile* & ensure services are affordable, appropriate and with the required quality for schools & learners.
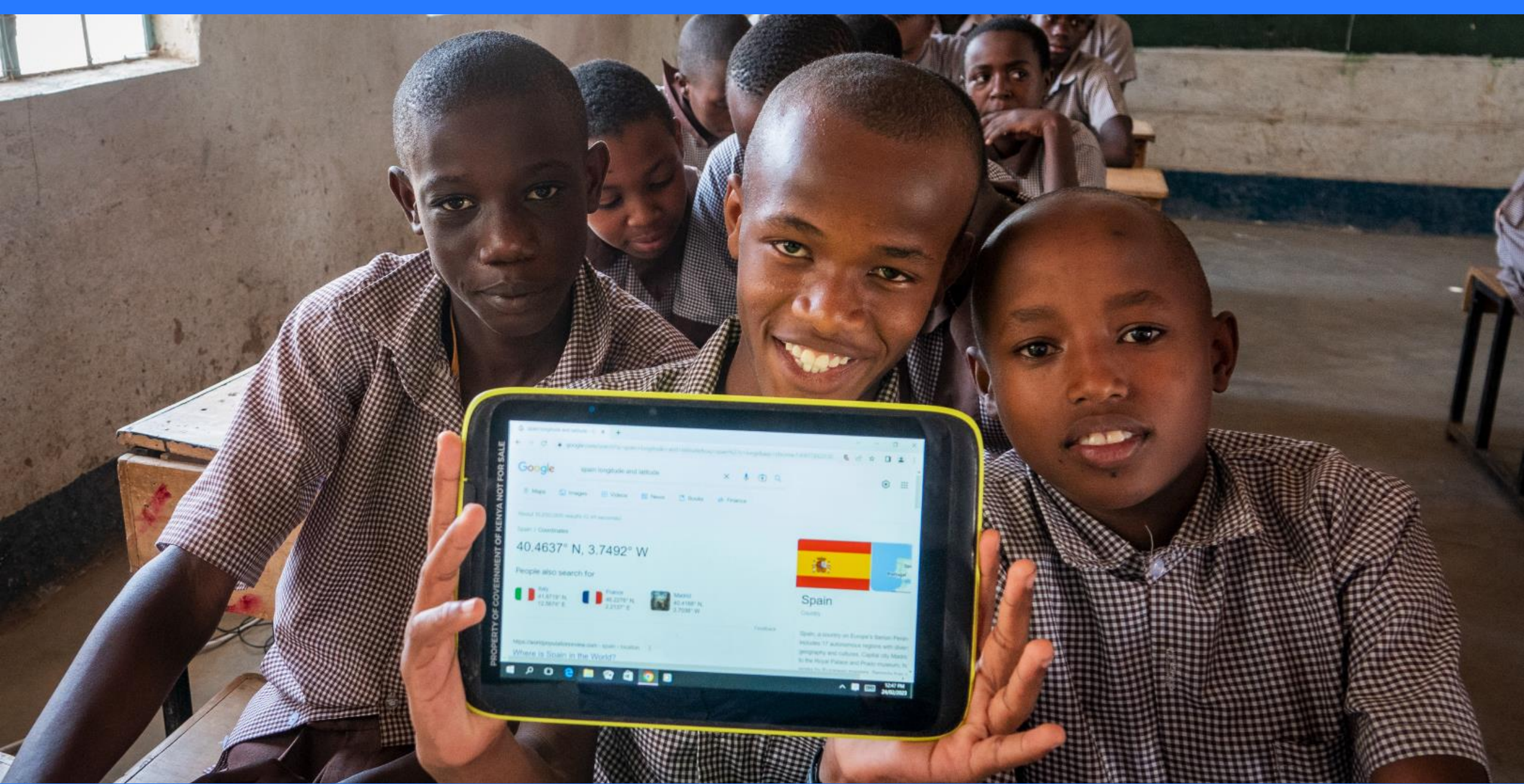*Eventually: UNICEF LTAs and MOUs.*

3. Pooled procurement
Aggregate governments' demand and leverage economies of scale.
Eventually: procurement services.

Giga's Engagement with IFC / WB

National scale connectivity projects run in the hundreds of millions of dollars and take several years to deploy.

- **The big funders are IFIs and DFIs**: now asking for Giga's (UNICEF's) support in impact monitoring and pooled procurement

  - WB and IFC are setting up a vehicle to invest in last mile connectivity (a 3Bn$ allocation will be announced end of June for East Africa.)
  - WB and IFC will be merging their digital infrastructure teams.
  - Giga is in discussion with these teams to deploy money (through SD/Procurement Services and also through in-country Technical Assistance) in several countries.
  - Details being worked out June/July 2024.
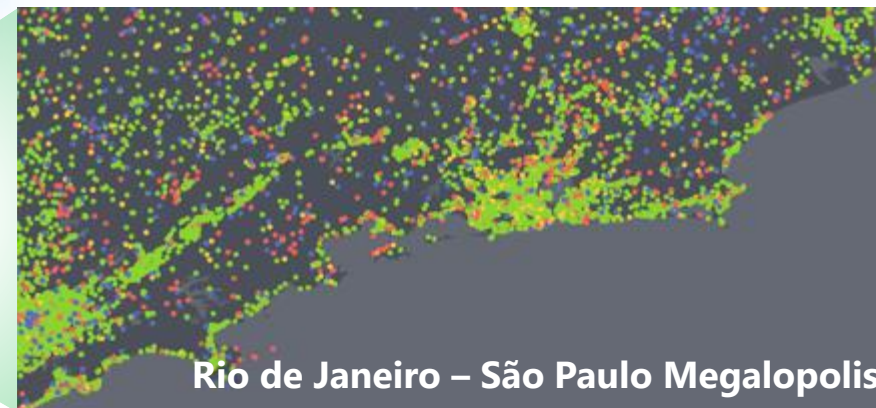 - Support: PFP/Innovative Finance, PPD DC and Brussels, COs

What **digital inequity** looks like

Amazon River Basin

🔴 Unconnected school

Rio de Janeiro – São Paulo Megalopolis
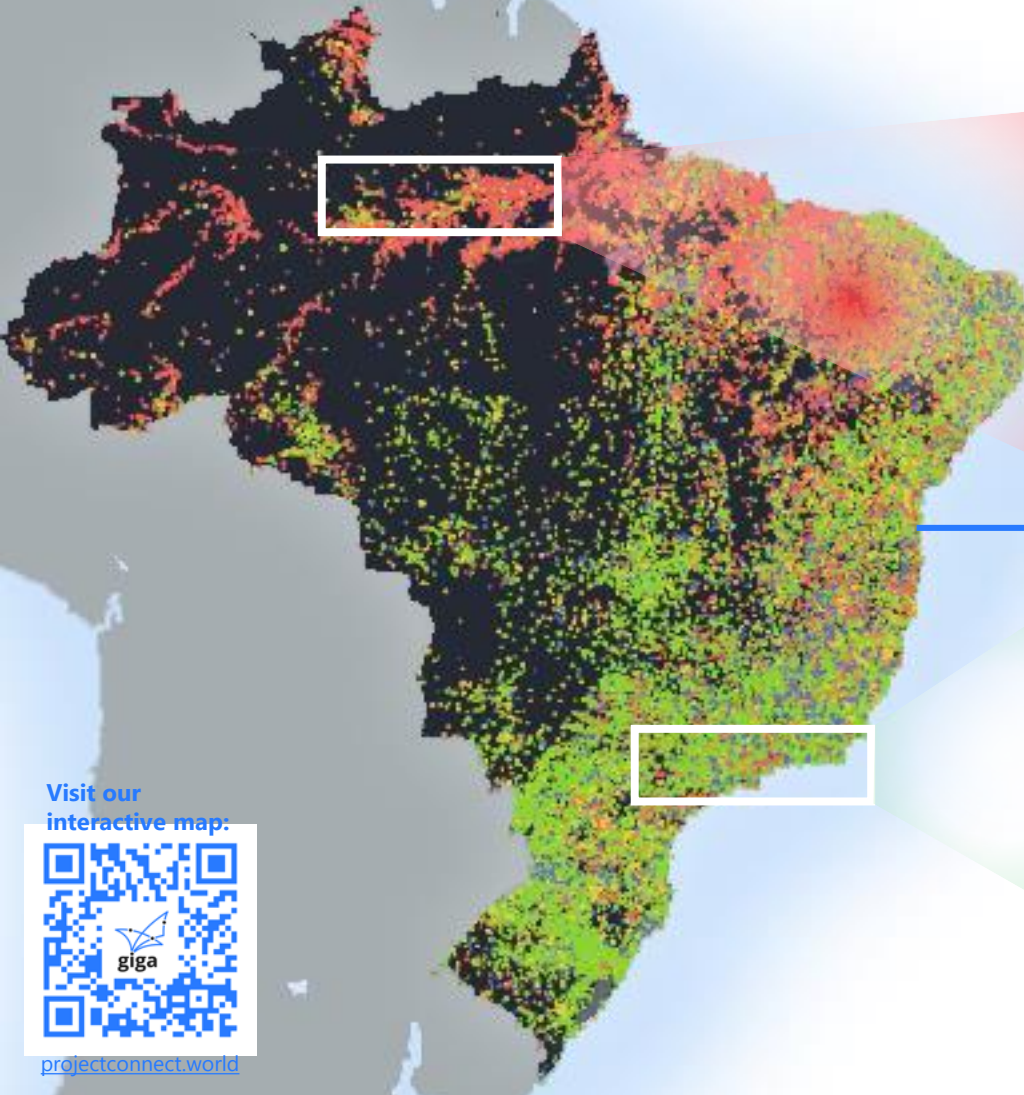
🟢 Connected school

Dots represent schools. Data updates every 4 hours in Brazil.

Visit our interactive map:

projectconnect.world

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Kyrgyzstan, 2022

In **Kyrgyzstan**,
Giga helped the Government
save as much as 43% on
Internet costs
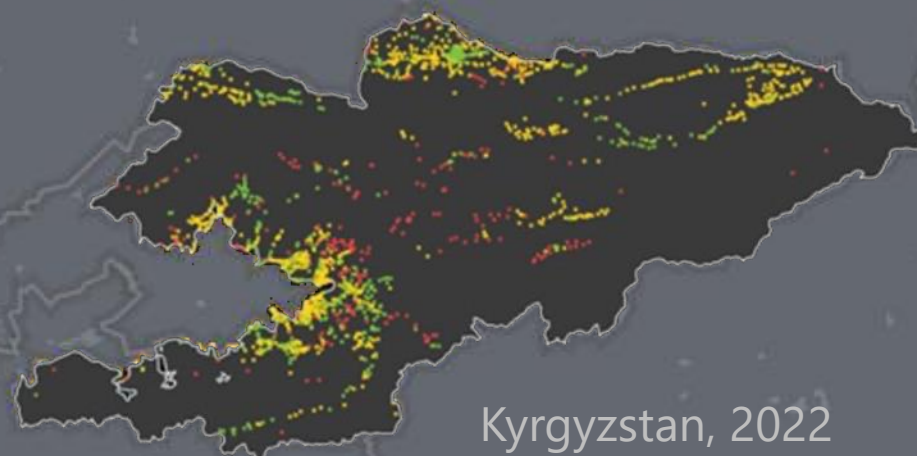
- Good connectivity
- Moderate connectivity
- No Connectivity

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Naryn Region, Kyrgyzstan

Using artificial intelligence, Giga has **identified and mapped more than 29,000 schools** in Colombia, Kenya, Rwanda, Sierra Leone, Niger, Honduras, Ghana, Kazakhstan, and Uzbekistan.
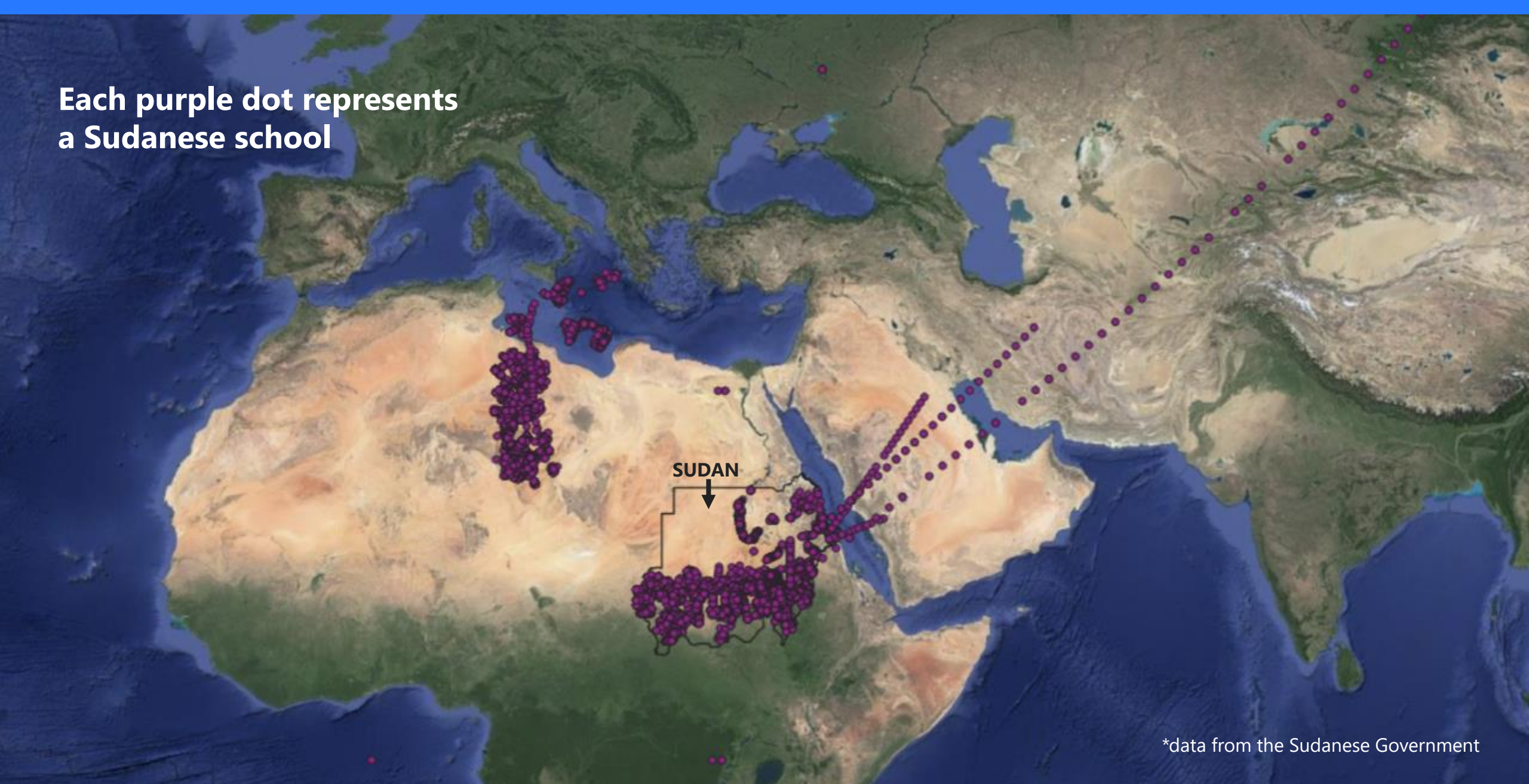
With this new technology, we can **map schools faster**.

In Colombia, our mapping **revealed up to 6,000 schools** that were not on the national register.

Colombia

🔴 School locations available to the government

🟢 Newly mapped schools identified by AI

Each purple dot represents a Sudanese school

SUDAN

*data from the Sudanese Government
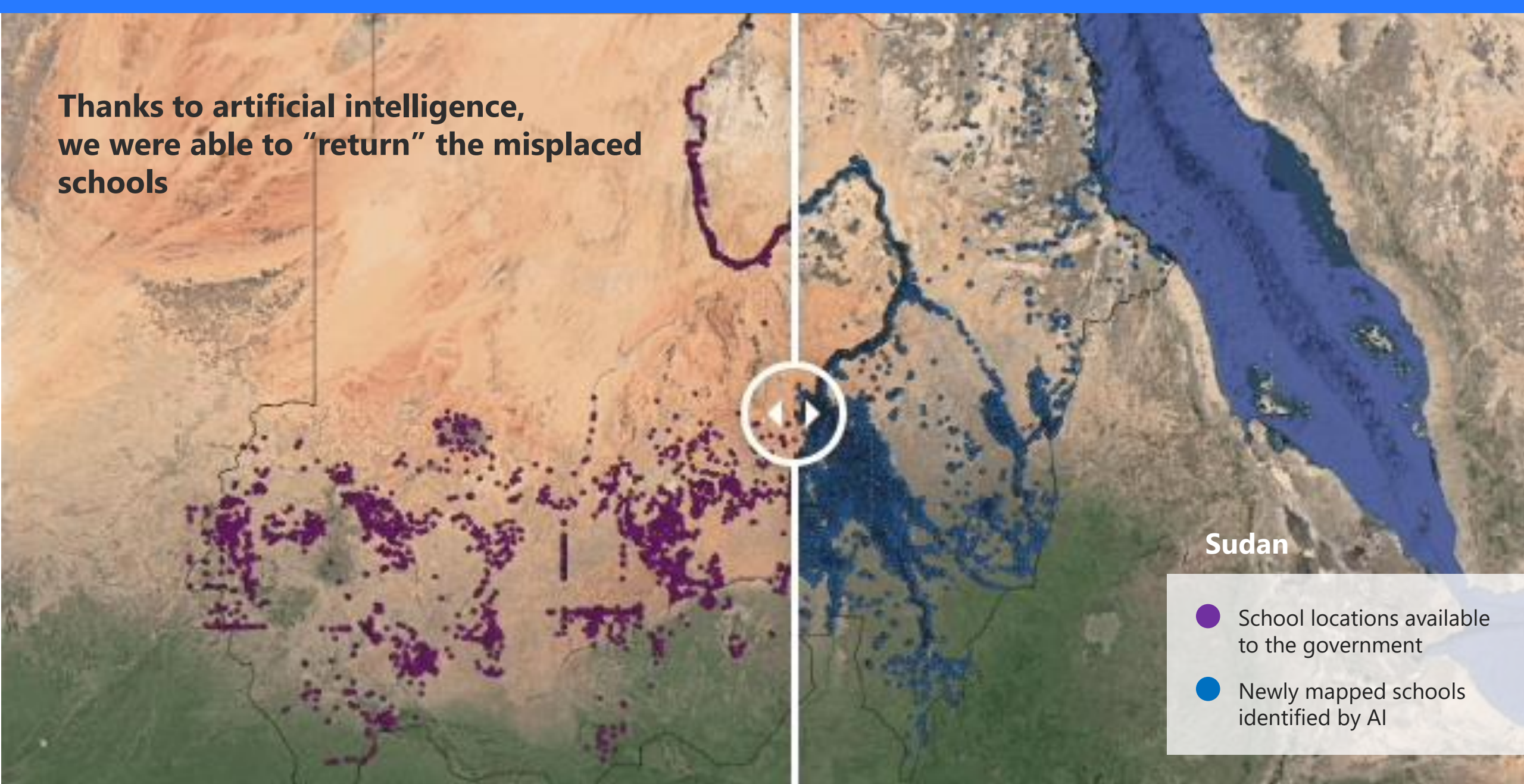
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Mapping anomalies caused by wrong locational information

Schools "floating" in the middle of the sea

SUDAN

Schools "drifting" across continents

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Thanks to artificial intelligence, we were able to "return" the misplaced schools

Sudan

● School locations available to the government

● Newly mapped schools identified by AI

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Schools are beyond dots on a map. They are centers of learning and hope.

It's a place where dreams are built and futures are made.