

A young woman with dark hair in a ponytail, wearing a light blue school uniform, is sitting at a desk in a classroom, focused on a computer screen. Other students are visible in the background, also working at computers. The room has teal walls and wooden desks.

COUNTRY ANALYSES AND PLANS

# El Salvador

## EL SALVADOR

\$34M of CapEx funding and \$15M of annual OpEx funding will enable El Salvador to connect 3,893 schools

This investment will bring 0.84 million students and teachers online and bring connectivity to 2.7 million community members who live locally, potentially enabling up to 1.4 billion USD in GDP (2.4%) growth.

Note: Economic impact calculation assumes that school connectivity is comparable to gaining access to a fixed line connection in a middle/lower income country in terms of reliability, bandwidth, use etc. Assumes middle income fixed broadband which is a conservative assumption when compared to low income mobile broadband  
Source: COATL; Analysis based on Giga mapping and modelling data, 2020



“Innovation is one of the fundamental pillars to move a country and its people forward, we are obliged to reduce the digital divide, improve services and join industry 4.0, we will work tirelessly to achieve it.”

VLADIMIR HANDAL

Secretary of Innovation, El Salvador



Source: @Vladimirhandal twitter

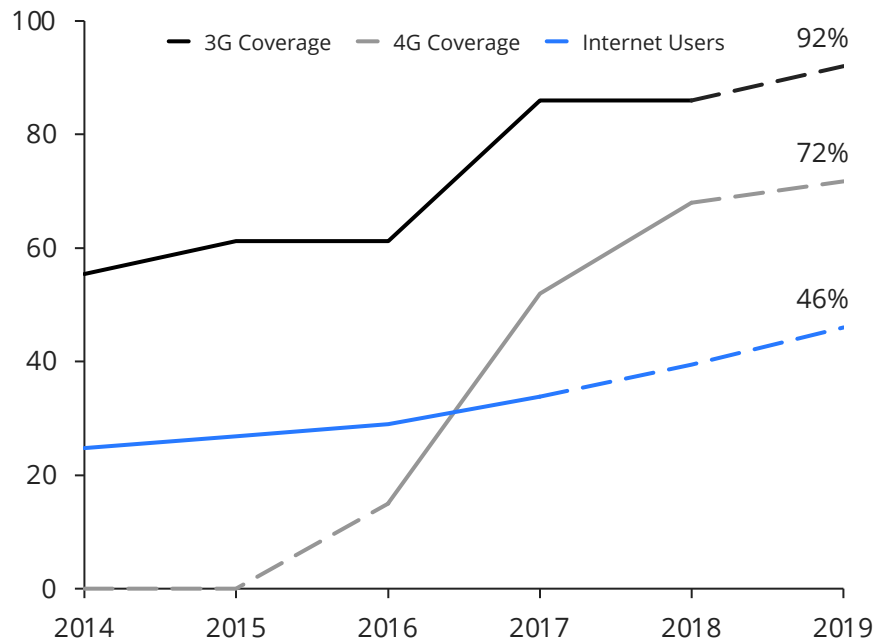
Original: “La innovación es uno de los pilares fundamentales para sacar adelante un país y su gente, estamos obligados a reducir la brecha digital, mejorar los servicios e incorporarnos a la industria 4.0, trabajaremos incansablemente por lograrlo.”

## EL SALVADOR

# El Salvador has significantly expanded mobile connectivity, and has policies in place to promote future broadband expansion

Both 3G and 4G coverage have expanded rapidly since 2015, leading to greater usage. Fixed broadband uptake remains low.

Broadband coverage and internet penetration, % of population (ITU, 2020)



El Salvador has been working to expand connectivity and integrate ICT in schools since 2009, and continues to make growing the digital economy a national priority through the 2020 Digital Agenda.

El Salvador hopes to achieve this target through the following broadband connectivity policies:

- **National Digital Agenda 2020-2030:** Seeks to create a digital economy that supports El Salvador to achieve greater economic growth and boost its standing in the Global Competitive Index (currently 103 of 141). The 4 axes include: Digital Government, Digital Identity, Modernization of the State, and Innovation, Education and Competitiveness. Under the education axes, El Salvador aims to invest in middle and last mile infrastructure to connect the entire country by 2024, expand digital literacy, and focus on equitable digital inclusion across all communities
- **FOMILENIO II 2015-2020:** a US\$365M investment compact in partnership with USAID's Millennium Challenge Corporation (MCC) to enhance logistical infrastructure, improve the investment climate and build human capital. Under the human capital pillar, funds have been used to invest in school infrastructure, education curriculum, and teacher training, including investment towards the One Girl, One Boy, One Computer strategy
- **One Girl, One Boy, One Computer:** Aimed to equip pupils with relevant skills needed in today's digital world through the distribution of devices in schools. To date 119,504 devices have been distributed, with devices in 98.7% schools and additional investment on digital content, teacher training, and electricity supply

EL SALVADOR

Fiber networks and 3G coverage



	Mobile	Fixed
Subscriptions per 100 inhabitants	55	8
5-year CAGR	+41%	+11%

The Goal: National Coverage and Connectivity

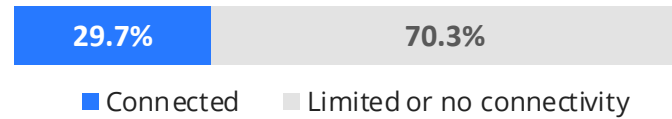
Investments in the National Backbone have resulted in most communities covered by 3G and 4G, however, uptake remains low (55 mobile subscribers out of 100, and 8 fixed subscribers). El Salvador’s plans aim to bridge this coverage gap, exploring opportunities to use TV White Space End Client Antennas + Wifi APs or Wifi Mesh Networks to achieve 100% coverage in the near term, and then increase connectivity and use.



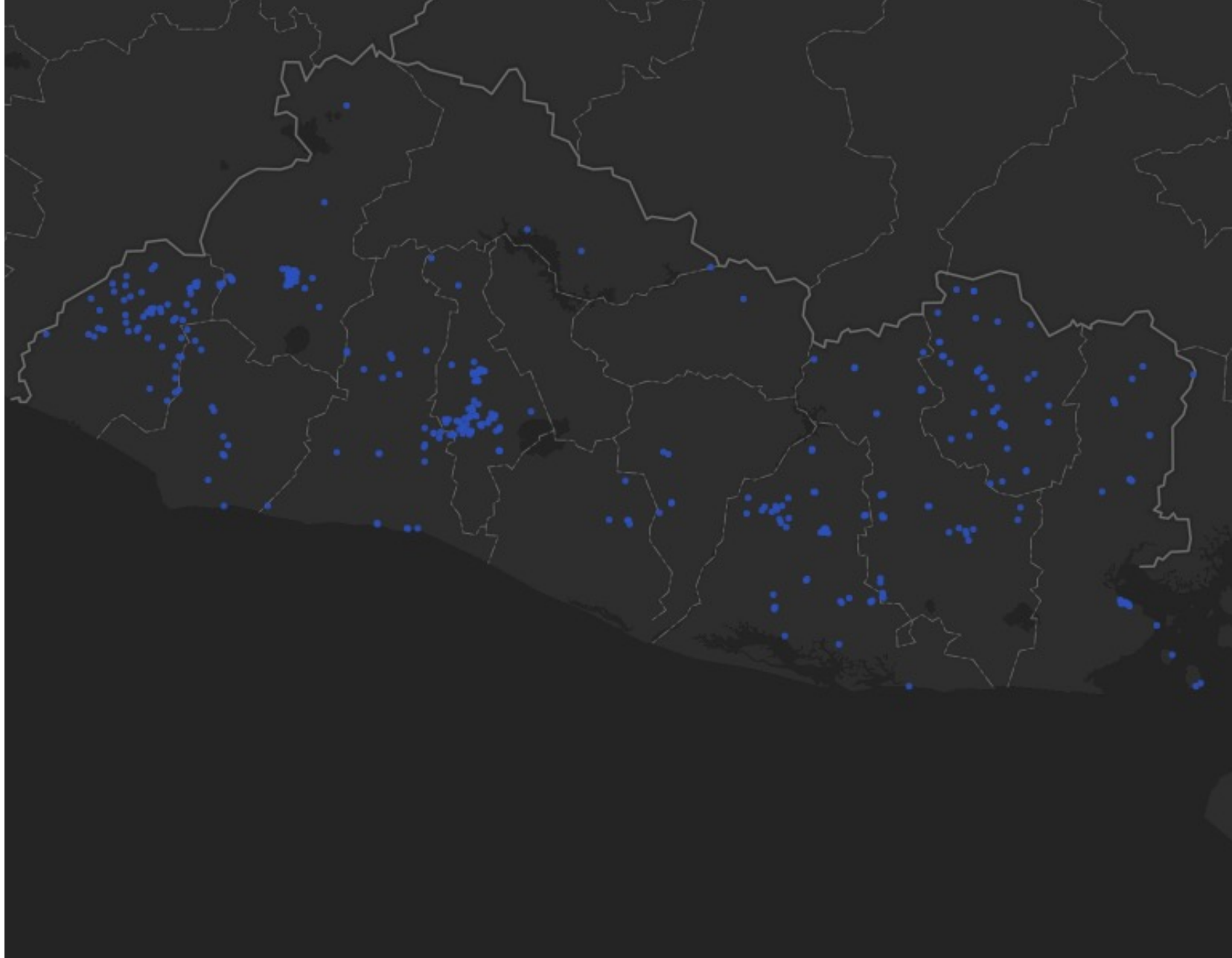
## EL SALVADOR

# School Coverage and Connectivity

Total schools: 5,540

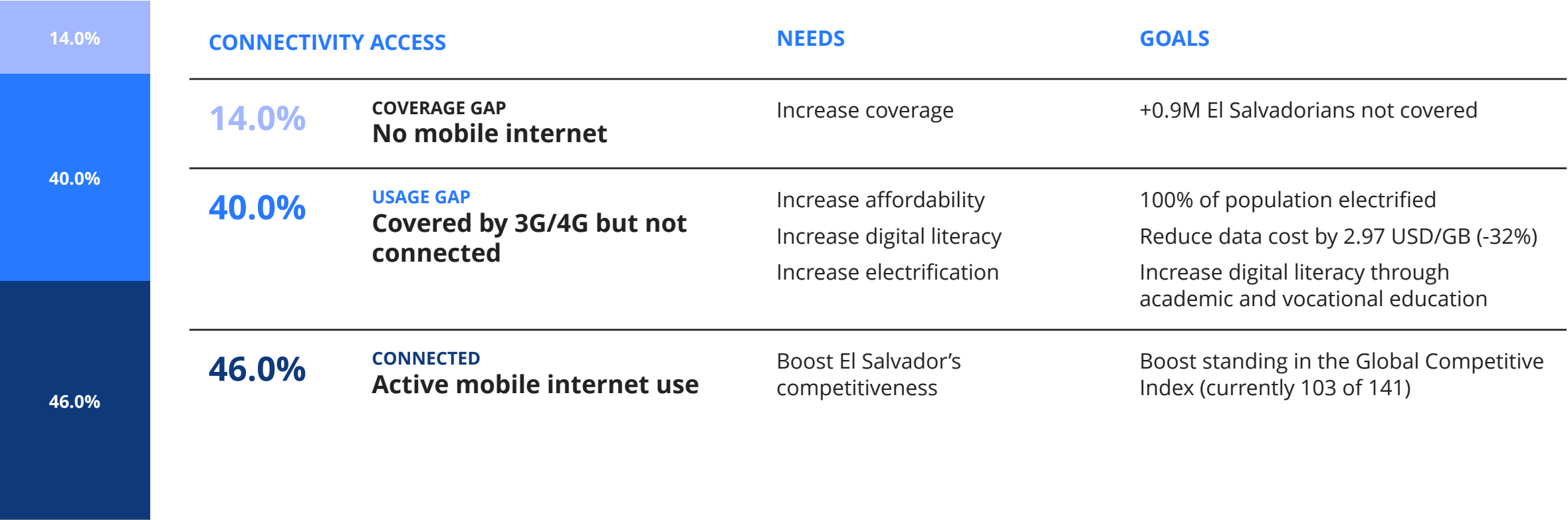


29.7% of schools are connected (1,647), however they have coverage below 10 Mbps, with the remaining schools unconnected. Full school location connectivity is currently being mapped.



14% of El Salvadorians lack coverage and 40% face affordability, electrification and other challenges

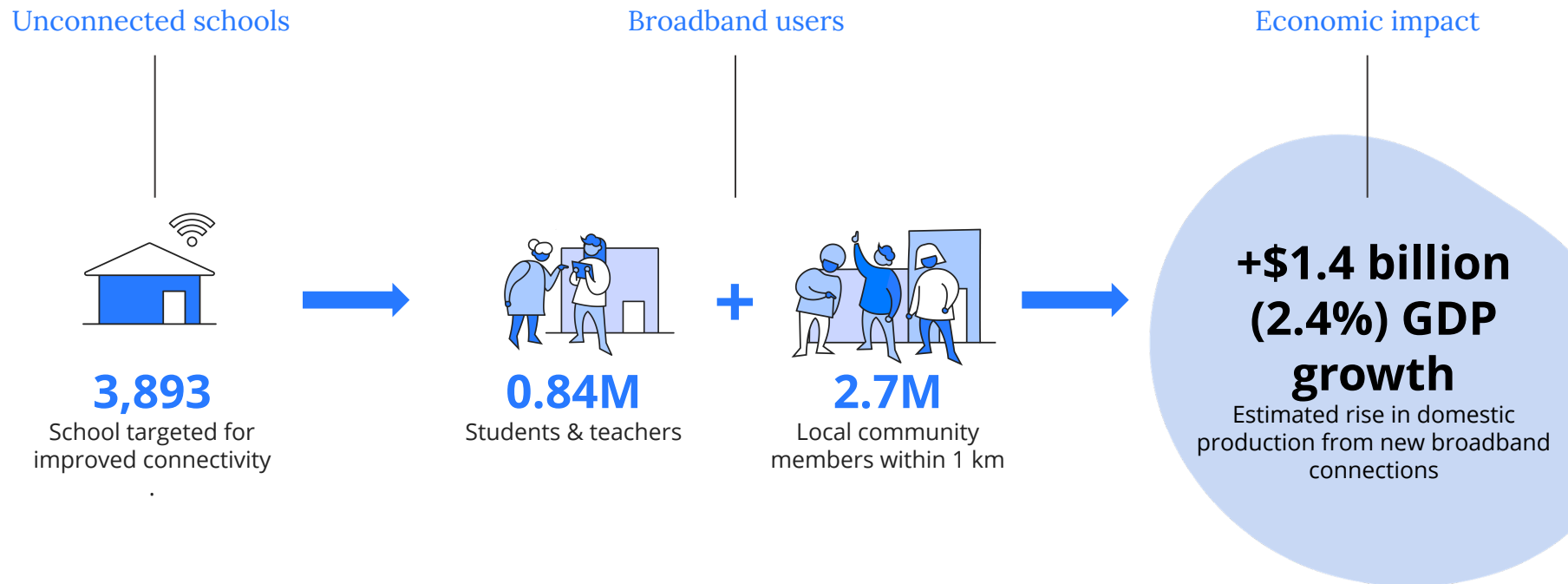
THE MOBILE INTERNET COVERAGE AND USAGE GAP



Notes: Prices based on ITU Data-only mobile broadband basket 1.5GB, pro-rated down to 1GB for comparison against the Broadband Commissions 2% target  
Sources: Dalberg analysis, ITU (2020) World Telecommunication/ICT Indicators Database; National Digital Agenda 2020-2030, One Girl, One Boy, One Computer (2019) policy report, FOMELENIO II website

# Targeted financing for connecting 3,893 schools can create GDP growth of over \$1.4 billion

Universal expansion to all schools provides a gateway to community connectivity



Note: Economic impact calculation assumes that school connectivity is comparable to gaining access to a fixed line connection in a middle/lower income country in terms of reliability, bandwidth, use etc. Assumes middle income fixed broadband which is a conservative assumption when compared to low income mobile broadband.  
Source: Dalberg Analysis; ITU (2020) World Telecommunication/ICT Indicators Database; UNESCO UIS.Stat, 2018; World Bank (2020) World Development Indicators (WDI); ITU (2018) The Economic Contribution of Broadband



# School connectivity will require an estimated \$34M of upfront capital expenditure and up to \$15M of ongoing annual funding

Giga will help to mobilize investment and financing to bridge initial infrastructure gaps and provide mechanisms to supply longer-term financing to boost geographic reach and affordability through smart subsidies

(Schools to be connected: 3,983)

UPFRONT LAST-MILE  
INFRASTRUCTURE CAPITAL



Based on an initial technology assessment:  
49% Fiber, 40% WISP, and 11% 4G

**\$34M**

Estimated total investment  
needed to reach 3,893  
schools\*

\*This does not factor in potential volume discounts or other sources of funding

ONGOING ANNUAL FUNDING  
FOR REGULAR SERVICE FEES



Estimates based on an all-in service,  
maintenance and technical support fee:

**\$15M**

Potential service fees for  
3,893 schools (Giga estimate)\*

\*This does not factor in potential volume discounts or other sources of funding

Notes: These high level estimates can be further refined as the workflow progresses and more mapping and specific cost data is established  
A) Pre-feasibility preliminary estimates based on Giga’s ACTUAL model school bandwidth requirements and annual service fee estimates in Kenya, adjusting for country costs based on ‘Fixed-broadband Internet 5GB’ values and ‘Data-only mobile broadband 1.5 GB’ reported by each country in ITU’s World Telecommunication/ICT Indicators database (2020)  
Source: COATL; Analysis based on Giga Mapping/Modelling Data, 2020.

## EL SALVADOR

# Giga has already engaged significantly with the Government of El Salvador

**Key Stakeholders:** Ministry of ICT, Ministry of Education and Secretary of Innovation (within Office of the President), Superintendent of Electricity and ITC (SIGET), COATL, ETECSA



### **Giga engagement to date**

- High level buy-in from Min of ICT, Education, SEGET and COATL
- Completion of an upfront assessment to align on opportunities and constraints



### **Giga actions to date**

- Developed a proposed way forward on connecting 1,000 schools (with a focus on FOMILENIO investment communities) using a variety of connectivity technologies to achieve quick wins that extend connectivity during COVID-19, and test potential solutions for broader implementation
- Sought out financing opportunities to support Giga efforts



## EL SALVADOR

In partnership with the GoES, Giga has identified the following activities to support the cost-effective connection of **3,893 schools**

**Use Project Connect mapping** to update the location and connectivity data of GoES and refine business cases that size the investment opportunity

**Refine school connectivity strategy** based on benchmarks and set targets for connectivity

**Provide technical assistance** to address spectrum allocation, infrastructure sharing and mobile sector taxation to boost competitiveness and improve affordability

**Provide technical assistance** to address child online protection, intellectual property and data protection laws to protect consumers

**Mobilize funding** to connect schools outside of FOMILENIO II project scope that currently lack connectivity

**Explore mechanisms to provide funding** to the GoES PPP model, with COATL to possibly receive investments from development banks & other private funders

**Provide support** to develop local, regionally relevant digital public goods and identify gaps where global DPGs can be combined with local solutions, adapted and scaled

**Support business model development** and explore financing options to scale open data/content solutions, including local hosting

# Rapid Regulatory Scan

## Policies

<b>Sector strategies:<sup>1</sup></b>	
Digital transformation/broadband strategy	Yes
Planned e-government roll out	Yes
Digital education in strategy	Yes
<b>Child online protection:<sup>2</sup></b>	
National strategy/policy?	Partial
Responsible agency?	Yes
Non-discriminatory inclusive use policy?	Partial
<b>Data sharing:<sup>2</sup></b>	
Data protection policy?	Partial
Privacy and data protection laws	Partial

## ICT Regulatory Tracker<sup>3</sup>

<b>Sector strategies:</b>	
Generation of ICT Regulation	G3
Overall	73/100
C1: Regulatory Authority	19/20
C2: Regulatory Mandate	15/22
C3: Regulatory Regime	14/30
C4: Competition Framework	26/28

## Regulation

<b>Regulatory structure<sup>1</sup></b>	
Public/private sector consultation	No
Regulatory autonomy from the government	Yes
Clear planning and licensing process? <sup>8</sup>	Yes
Procurement or competition agency?	Yes

## Competition

<b>Regulatory structure<sup>1</sup></b>	
SMP in national anti-trust/competition law	Yes
Spectrum technology neutrality in place	Yes
No foreign investment restrictions?	Yes
Infrastructure sharing? <sup>8</sup>	No
Wireless Operators Market HHI <sup>4</sup>	2596
Fixed Broadband Operator Market HHI <sup>4</sup>	3686

## Taxation

<b>Services</b>	
VAT <sup>5</sup>	13%
Sector specific tax on internet services <sup>5</sup>	5%
ITA Participant <sup>6</sup>	Yes
ICT Equipment import duties <sup>7</sup>	0-7.5%
Ongoing regulatory/license fees <sup>1</sup>	Tbc

## Universal Access

<b>Services<sup>8</sup></b>	
Is school broadband a universal service?	No
Operational Universal Service Fund (USF)?	No
Total amount allocated/dispensed so far	No
Contributions as % of revenue/flat fee	No
Other public financing mechanisms?	Tbc
Fully utilized currently?	No
Fully active in the last 5 years?	No

■ Strength  
■ Neutral  
■ Limitation