

5G for ICT Enabled Latin America

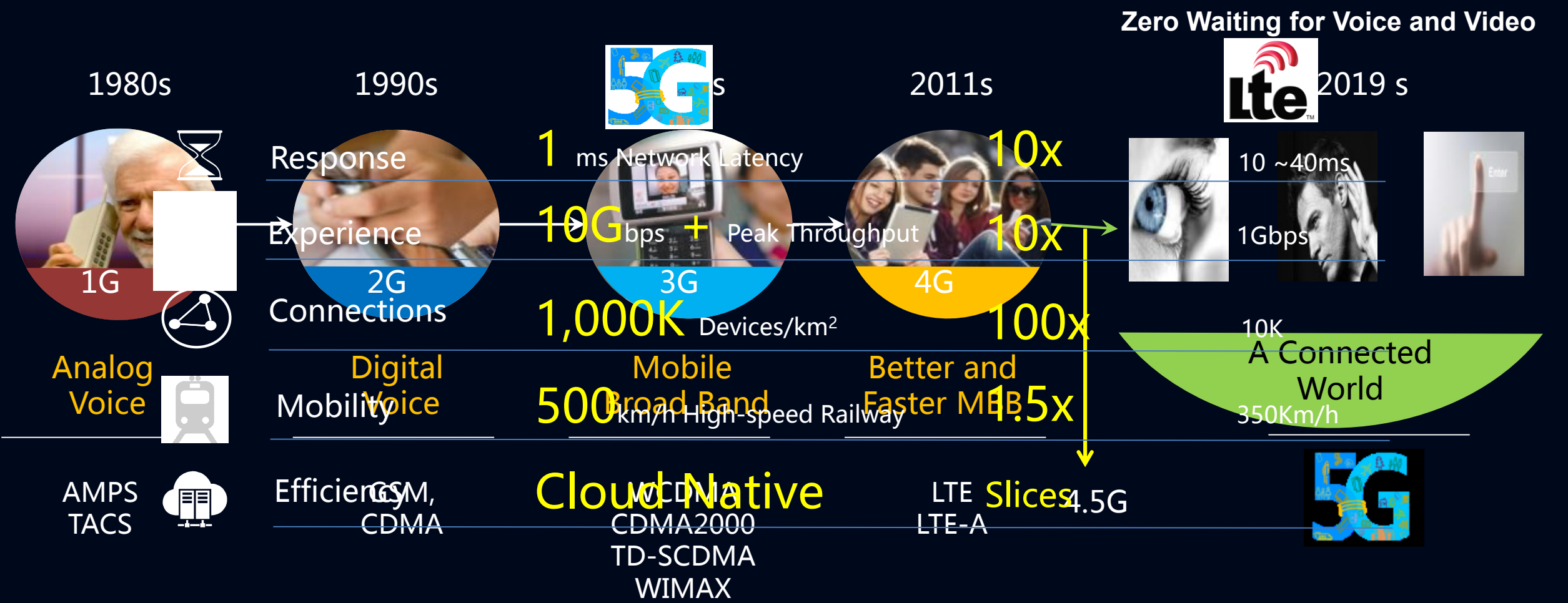
Dominican Republic
Aug 30th, 2019

Mahesh K Choudhary



5G for ICT Enabled Latin America

Road to Digital Society



Impact of Digitalization on Daily Life



~2010: Cash



~2015: Credit Card



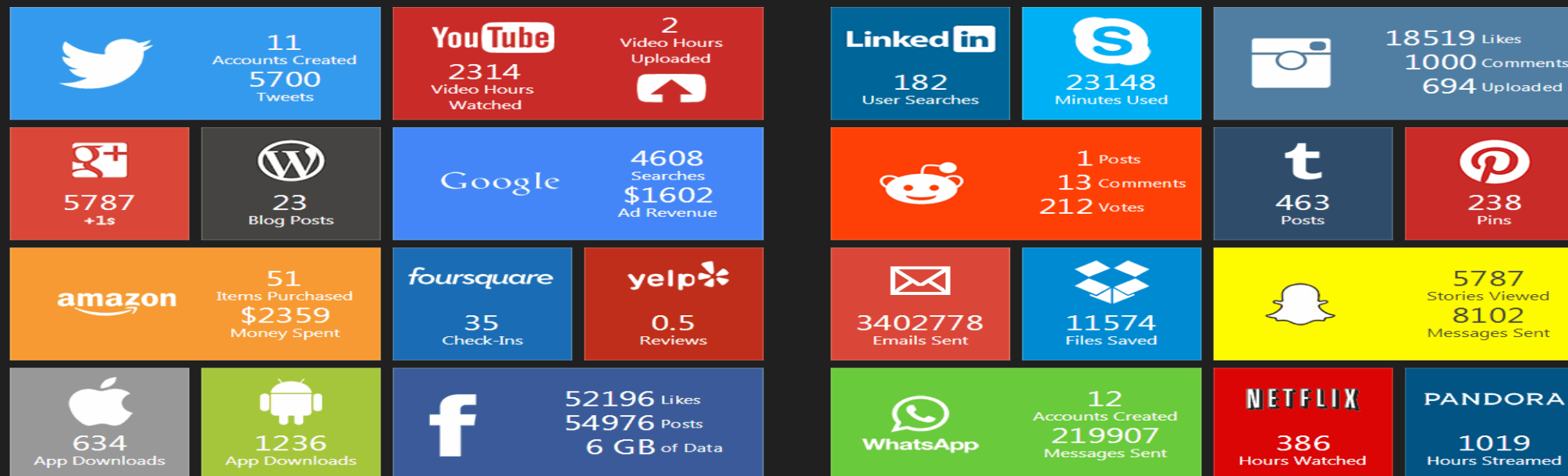
Now: Mobile Payment

Broadband is Fundamental for Social Economic Development



The Internet in Real-Time

How Quickly Data is Generated



Huge number of events
happen every 30 seconds...

By the way, in the 1 seconds you've been on this page,
approximately 22574 GB of data was transferred over the
internet.

*“Like water, roads, rail and electricity before it , **broadband is of fundamental importance to the social and economic development of all nations**”--ITU, Broadband Commission*

Broadband is Foundation of ICT Enabled Nation + Broadband + GDP + Jobs



Global 5G value chain output and employment in 2035		
China	United States	Japan
Gross output \$984B	Gross output \$719B	Gross output \$492B
Employment 9.5M	Employment 3.4M	Employment 2.1M
	Global total, 2035	
Germany		South Korea
Gross output \$202B	Gross output \$3.5T	Gross output \$120B
Employment 1.2M	Employment 22M	Employment 963K
		Rest of the world
France	United Kingdom	
Gross output \$85B	Gross output \$76B	Gross output \$800B
Employment 396K	Employment 605K	Employment 3.6M

ITU Broadband Target 2020

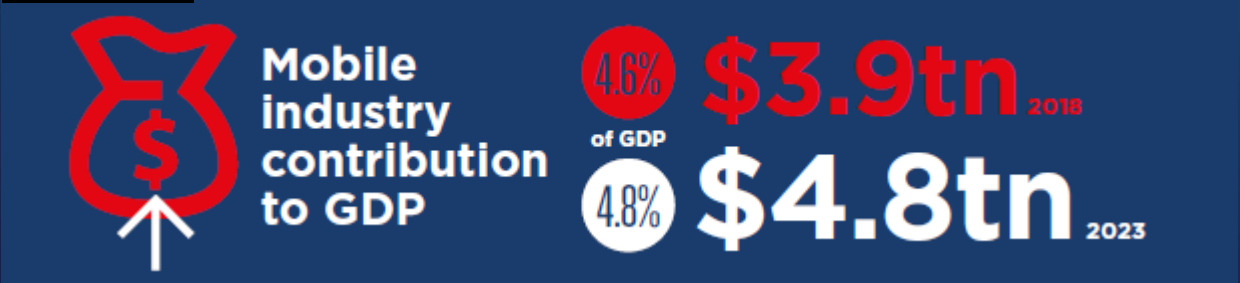


- 55% HH Internet Access
- 60% Internet Individuals
- 90% BB Coverage in Rural
- Tariff <5% of average monthly income

EU promotes 100Mbps by 2025



- Digital Single Market
- DAE 2020
- Fast BB @30M (100%)
- Ultra BB @50M (50%)
- DSM 2025
- Ultra BB @100M (100%)



The communications sector represents 2.6% of Latin America GDP



Lets Build a Better Society With ICT

5G Adoption as Next 10 Years ICT Transformation Strategy



- Korea: **5G Mast Strategy**

- ✓ Market Activate
- ✓ Standard Frontier
- ✓ Technology Leader
- ✓ Ecosystem Renovator

Target global 1st commercial launch 5G

- Japan: **5G Oriented Wireless Policy for 2020**. Targeting 5G commercial in 2020 Tokyo Olympic Games



- EU: Released

"5G Action Plan" in 2016

- ✓ Common EU timetable
- ✓ 5G spectrum available
- ✓ Leveraging fixed and wireless
- ✓ Infrastructure Policies
- ✓ Preserving 5G Global Interoperability
- ✓ 5G innovation
- Target : at least one major city to be "5G-enabled" by 2018E and all urban areas and major terrestrial transport paths have uninterrupted 5G coverage by 2025



- China **5G National Strategy** with 6 Government Tasks:

- ✓ Standard specification
- ✓ R&D
- ✓ Industry applications
- ✓ Spectrum planning
- ✓ Policy support
- ✓ Infrastructure Policies
- ✓ International cooperation
- Target national wide 5G deployment in 2020

5G Will Bring a Digital World Ensuring a Digital Society



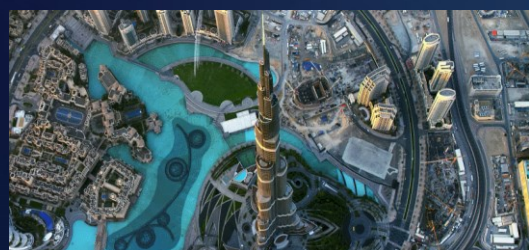
Remote Surgery



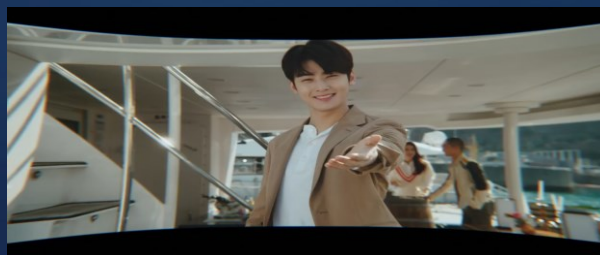
VR at School



4K



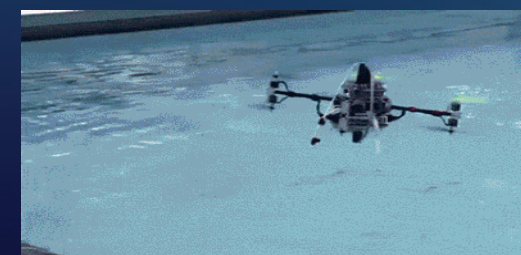
VR



360 Video



Drones



5G Redefining Live Broadcasting



5G B2B for Stadium Scenarios



Broadcast Truck

\$7.5M
/Truck

80

On-site staff

\$50K/Mbps/year
+ Time to Prepare
>1 day



Plug & Play



Close range shooting



5G Backpack

\$1500
/Unit

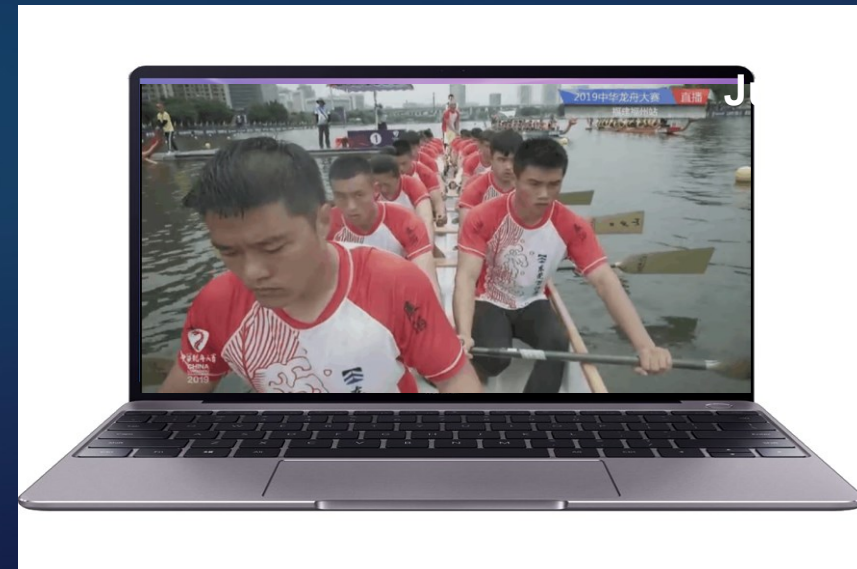
20

On-site Staff

5G uplink: Signal transmission from cameras 25-40 Mbps per camera
5G downlink: Signal transmission to screens



Avoid Expensive Accessories



5G backpack



Prep time: **Plug & Play**

Use **5G CPE** for live broadcasting needs



More Convenient and Efficient 5G Broadcasting

5G for Safer Mines

Challenge



- **High Risk**, Ground cavity, Complex roads
- **Low efficiency**, drive speed <20km/h
- **Hard to recruit employees**

Solution

Remote Excavator

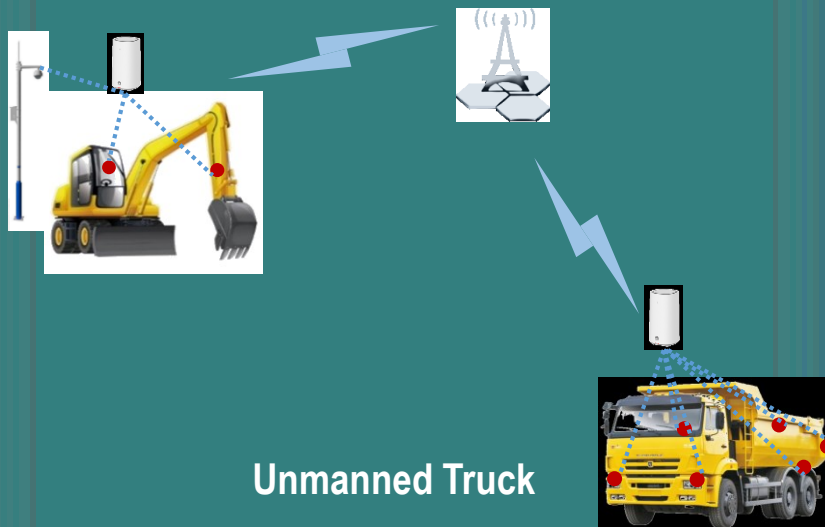
Camera : 3 channel 4K

Uplink Bandwidth : >40Mbps

Latency : 20ms



Control Center



Unmanned Truck

Front Camera: 4K

Lateral Camera : 2-6 channel 4K

Uplink Bandwidth : >40Mbps

Latency: 20ms

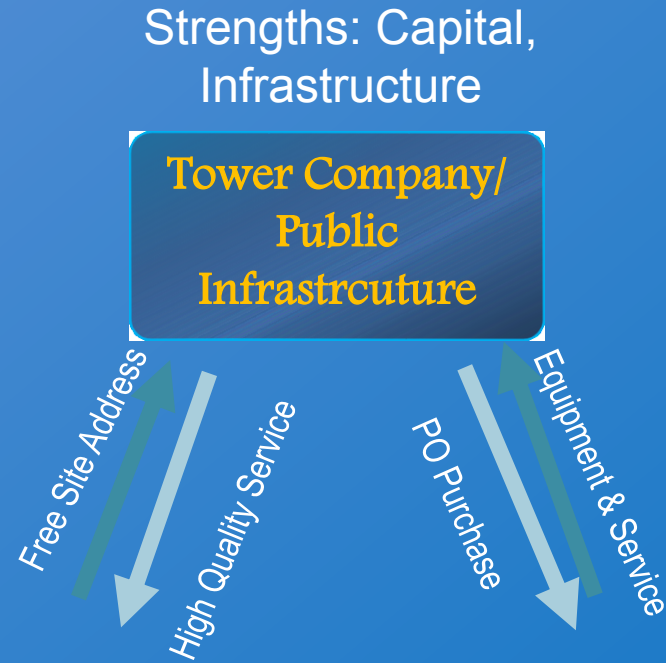
¥1mn 5%↓ 10%↑

Labor savings /

Quality



Win –Win Collaboration will Enable Fast Track 5G



Policy Spectrum

**Carrier/
Regulators**

ICT Consultancy

Network Vendor

Strengths: Policies , network,
brand

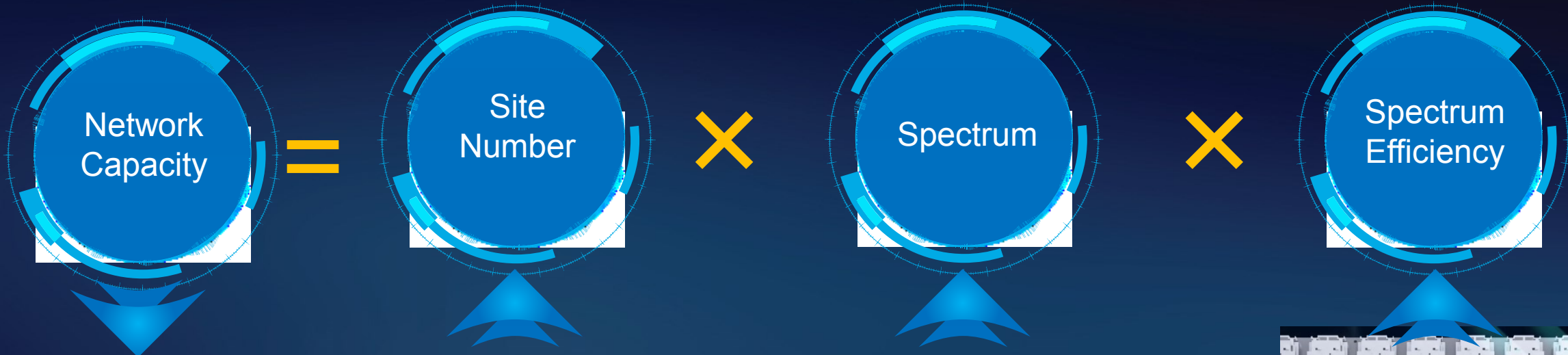
Strengths: network consulting
Spectrum Consulting

Unconnected In Latin America

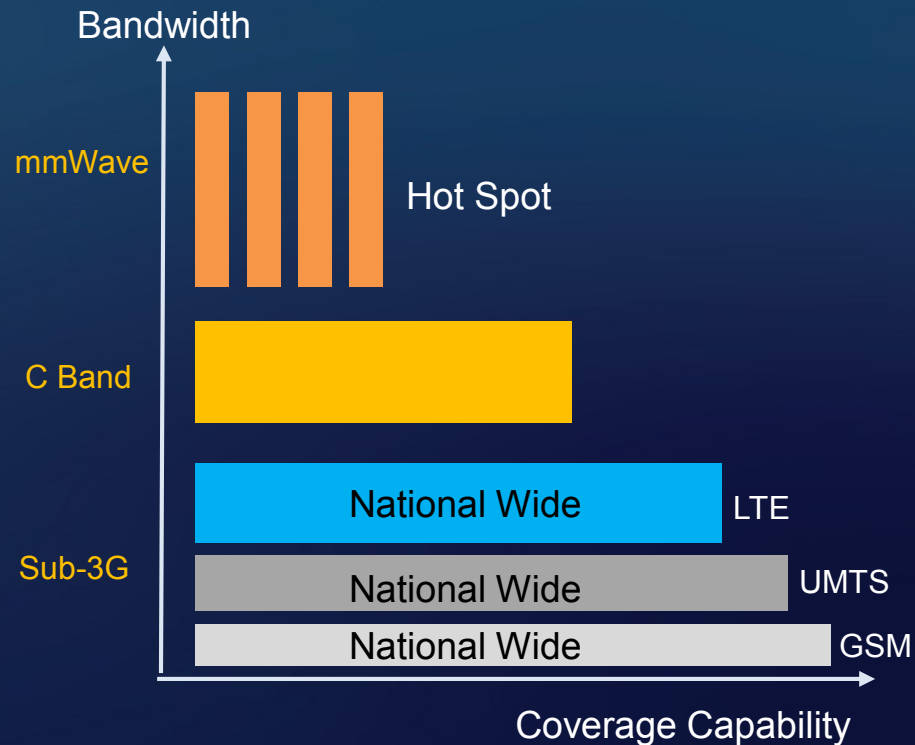


200M+ population &
50M + households
to be connected

Decoding the Capacity Demands



Experience Enhancement



Transforming Traditional Site to Everything as a Site



No space for New Tech Evolution



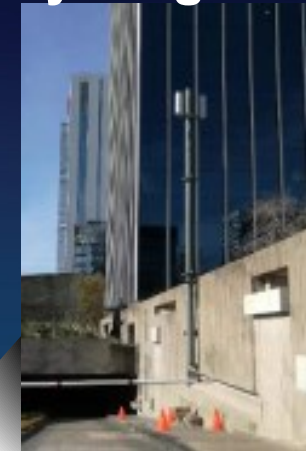
How to Evolve to 5G ?



Innovative solution enables everything as a site



Lamp pole mount



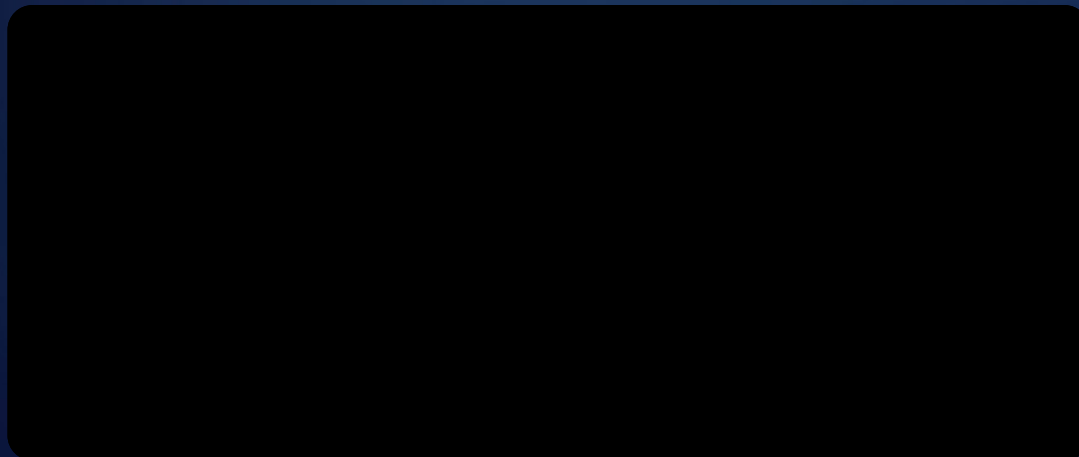
Garage site



Supermarket site

Site alliance for Using Public Resources

Modernize Existing Sites



Batch site acquisition

1 negotiation for N poles



1-2 Months

Fast deployment

No civil work. Power access 6 months to 1 week For many Elec-pole



~Chile



~Argentina

But There Exists a Digital Divide



Use of 5G Oriented Technologies to Eliminate Digital Divide



Claro FITELECOMUNICACIONES

Vizcarra: Gobierno invertirá US\$ 1,500 millones para conectar el país a Internet

Al 2021 para cubrir más de 1,500 capitales de distritos



Servicios de internet e intranet para:

201 establecimientos de salud, 21 comisarías y 255 colegios

Más de 185 mil personas beneficiadas



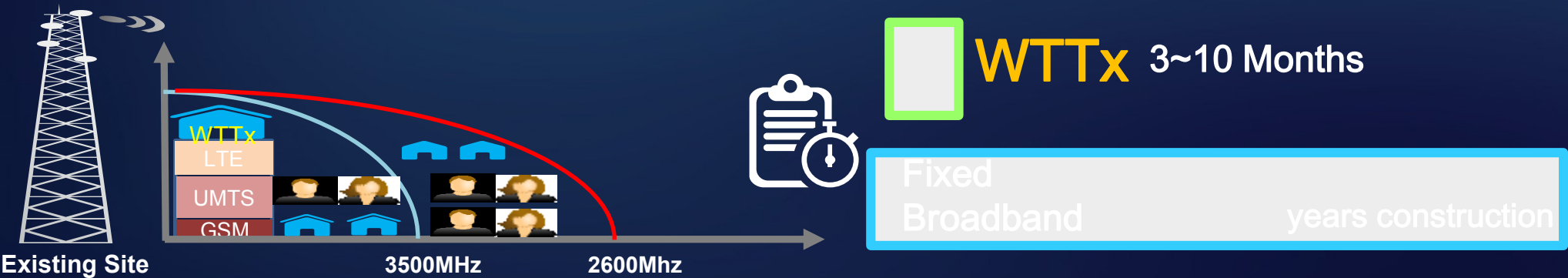
FITEL y CLARO firmaron contrato de financiamiento para proyecto que llevará Internet de alta velocidad a 291 localidades de la Región Lima



Rural



Dense Suburb



Vision and Mission

Bring digital to every person, home and organization
for a fully connected, intelligent world

Thank you.



Scan the QR code above to add me on LinkedIn



王 亮
Wang Liang

