

**PIDS WEBINAR**

# **MAKING BROADBAND UNIVERSAL: A REVIEW OF PHILIPPINE POLICIES AND STRATEGIES**

Ramonette B. Serafica, Kris A. Francisco, and Queen Cel A. Oren

June 06, 2024



**Philippine Institute for Development Studies**  
*Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas*

# Outline



## Concepts and strategies

that have been employed to increase broadband adoption



## Current state

of broadband services in the Philippines



## Policies and initiatives

related to broadband development, at the national and community level

# Policy context

*“Leaving no one behind means leaving no one offline - General António Guterres (UN 2022)*

---

## 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



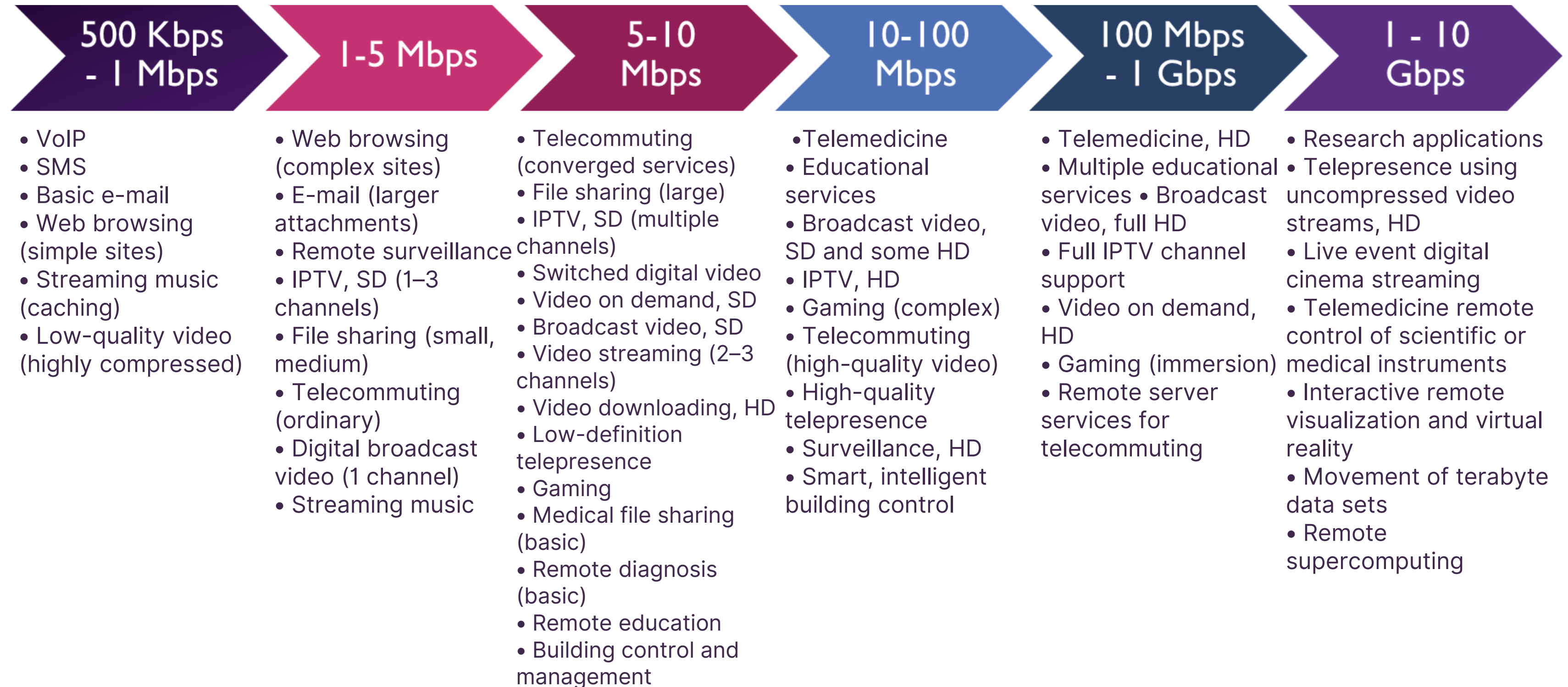
Target 9.C

Significantly increase access to information and communications technology and strive to provide **universal and affordable access to the Internet** in least developed countries by 2020



Chapter 10: “Promote Competition and Improve Regulatory Efficiency” in and through the internet and digital technologies  
Chapter 12 on “Expand and Upgrade Infrastructure”, which includes the **modernization and expansion of digital infrastructure.**

# What is broadband? High-speed access to the Internet (DICT 2017)



# Household Broadband Guide

	Light Use	Moderate Use	High Use
1 user on 1 device	3-8 Mbps	3-8 Mbps	12-25 Mbps
2 users or devices at a time	3-8 Mbps	12-25 Mbps	$\geq 12$ Mbps
3 users or devices at a time	12-25 Mbps	12-25 Mbps	$> 25$ Mbps
4 users or devices at a time	12-25 Mbps	$> 25$ Mbps	$> 25$ Mbps

Light Use = Basic functions: email, browsing, basic video, VoIP, Internet radio); Moderate Use = Basic functions plus one high-demand application: streaming HD video, multiparty video conferencing, online gaming, telecommuting); High Use = Basic functions plus more than one high-demand application running at the same time)

# What does universal service mean?

## Universal service goal

Essentially a public policy that aims to provide telecommunications to most of the population and to make the necessary funding available, either directly or indirectly (Noam 1994).

## Universal Access definition

“the availability of reliable and affordable telecommunications service in both urban and rural of the country” (IRR of RA 7925, NTC Memo Circular 08-09-95, p. 1)



### Universal service

targets private use by every individual or household



### Universal access

targets ubiquitous access (e.g., shared access at a public place)



### Universal access and service

the generic term for UA and US

### The three hallmarks of UA and US:

- Availability
- Accessibility
- Affordability

# Achieving Universal access and service

Role of the government	Supply Factors (Network infrastructure and Connectivity)	Demand Factors (Content, online services, and apps)
<b>Enabler</b>	<ul style="list-style-type: none"> <li>Removing barriers to entry</li> <li>Preventing anti-competitive conduct of dominant ISPs or vertically integrated telecom companies</li> <li>Allowing innovative ownership models</li> <li>Mandating open access to broadband-supporting infrastructure (e.g., towers, points of interconnection, and international gateways)</li> </ul>	<ul style="list-style-type: none"> <li>Removing barriers to content creation</li> <li>Refraining from blocking access to content, including social networking sites, or restricting local content creation.</li> </ul>
<b>Facilitator</b>	<ul style="list-style-type: none"> <li>Fair and competitive spectrum-sharing arrangements</li> <li>Infrastructure sharing</li> <li>Streamlining licensing requirements and procedures</li> <li>Funding broadband infrastructure or services (full or partial subsidy)</li> </ul>	<ul style="list-style-type: none"> <li>Loaning or subsidizing computer hardware purchases by individuals or businesses</li> <li>Subsidizing local content creation</li> <li>Subsidizing online services</li> <li>Funding start-ups</li> <li>Increasing trust in online transactions and improving cybersecurity</li> </ul>
<b>Provider</b>	Government-owned and -operated ISPs	Government e-services

Source: Authors' compilation (Kelly and Rossotto 2012; Kelly et al. 2014; and Marcus et al. 2023)

## PDP 2023-2028 (Ch 12): Seamless and inclusive digital connectivity achieved

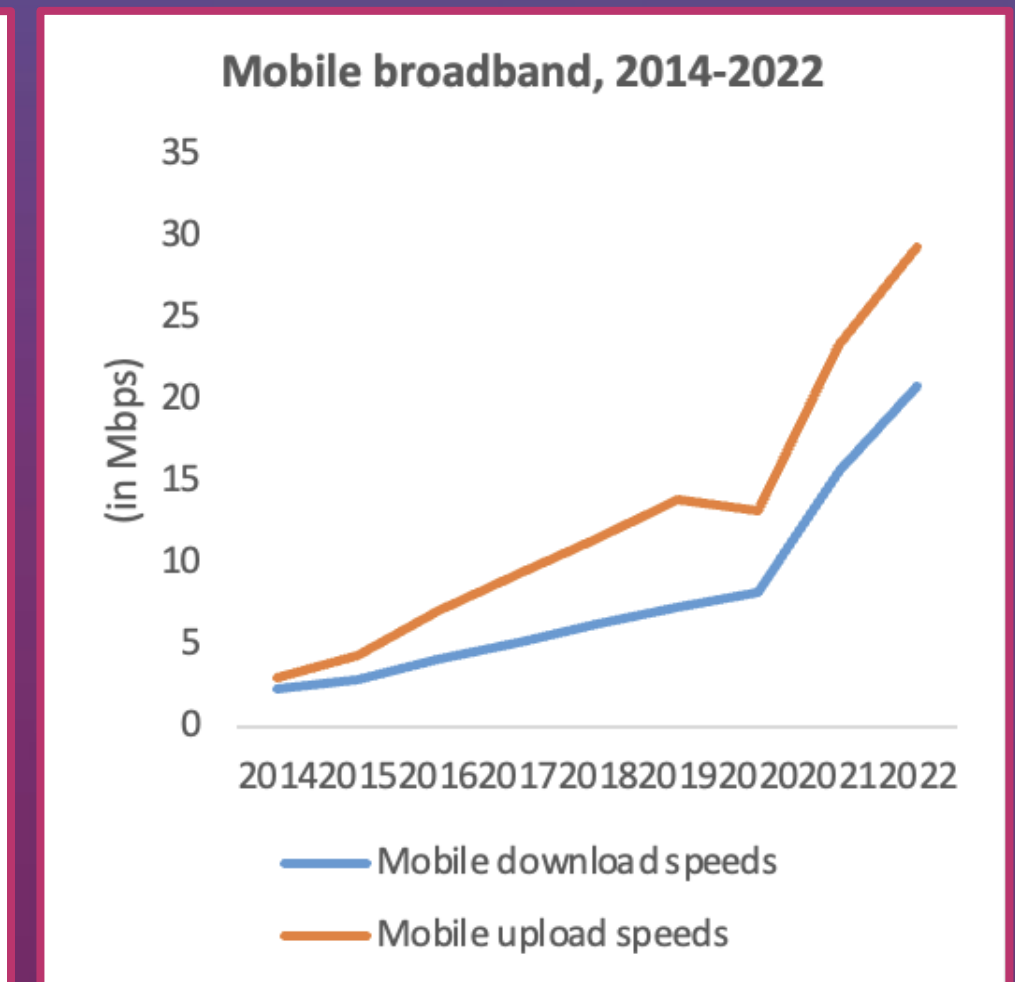
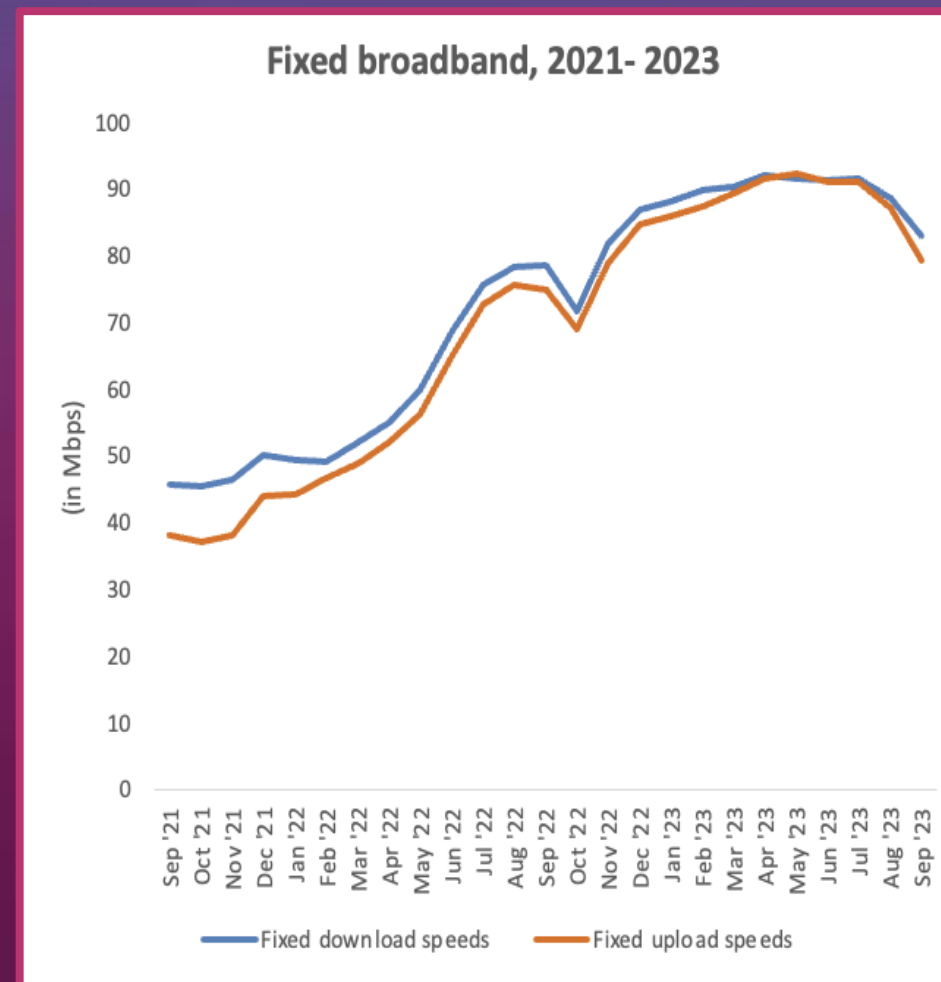
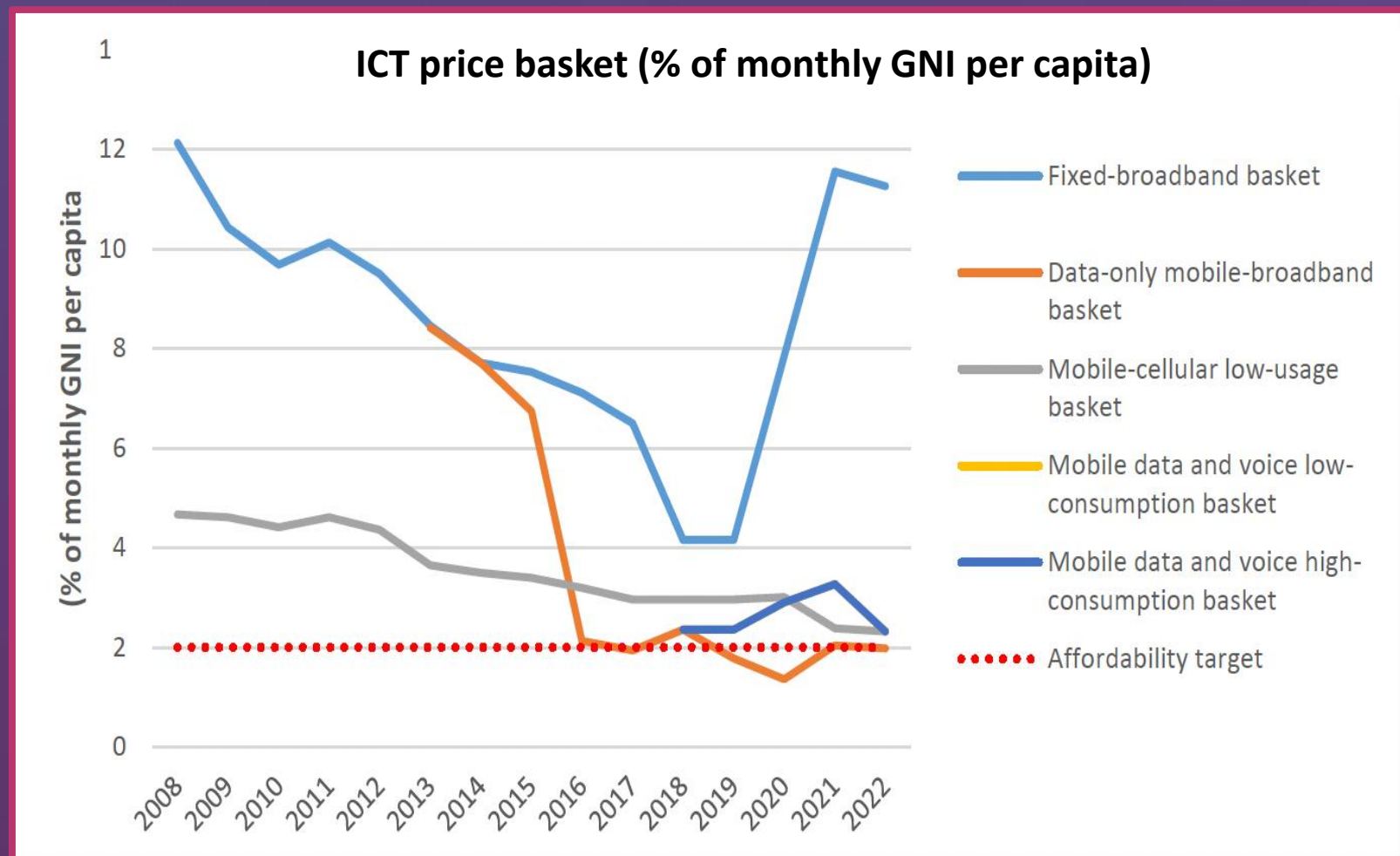
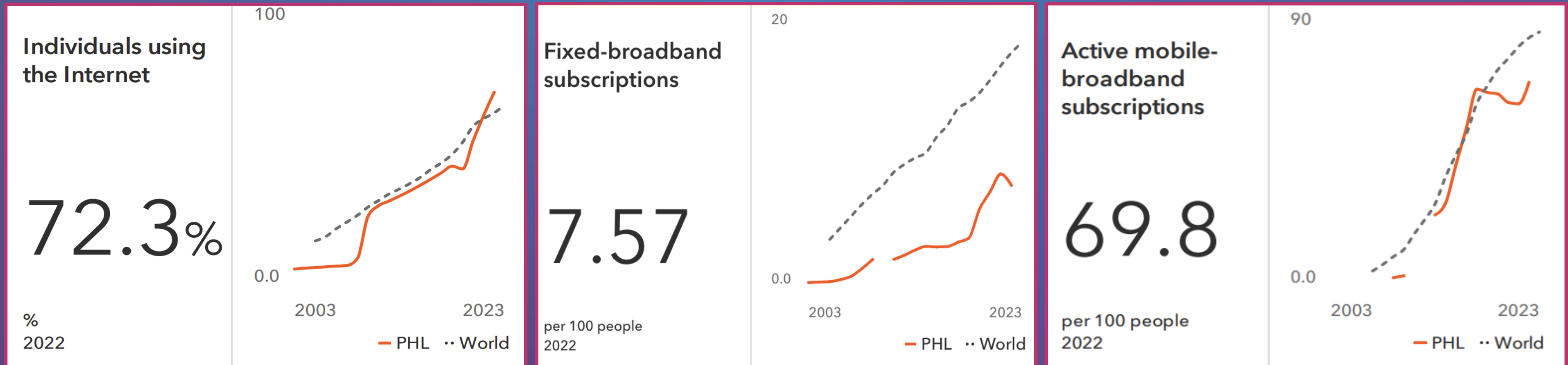
Indicator	Baseline value (Year)	End of plan target	Means of verification	Responsible agency
Households with internet access (% of total HH)*	17.7 (2019)	60	NICTHS	DICT
Individuals using the internet (%)*	46.88 (2019)	70	NICTHS	DICT
Affordability (% of GNI per capita)				
Mobile broadband	2.04 (2021)	< 2.00	ITU	DICT
Fixed broadband	11.56 (2021)	2.00	ITU	DICT
Download speed (median, in mbps)*				
Mobile broadband	36.76 (2022 Dec)	125.00	Ookla Speedtest Global Index	DICT/NTC
Fixed broadband	75.18 (2022 Dec)	300.00	Ookla Speedtest Global Index	DICT/NTC

Note: \* - with national and regional targets

Source: Results Matrices of Ch 12 (NEDA)



# Current state of broadband access in the Philippines



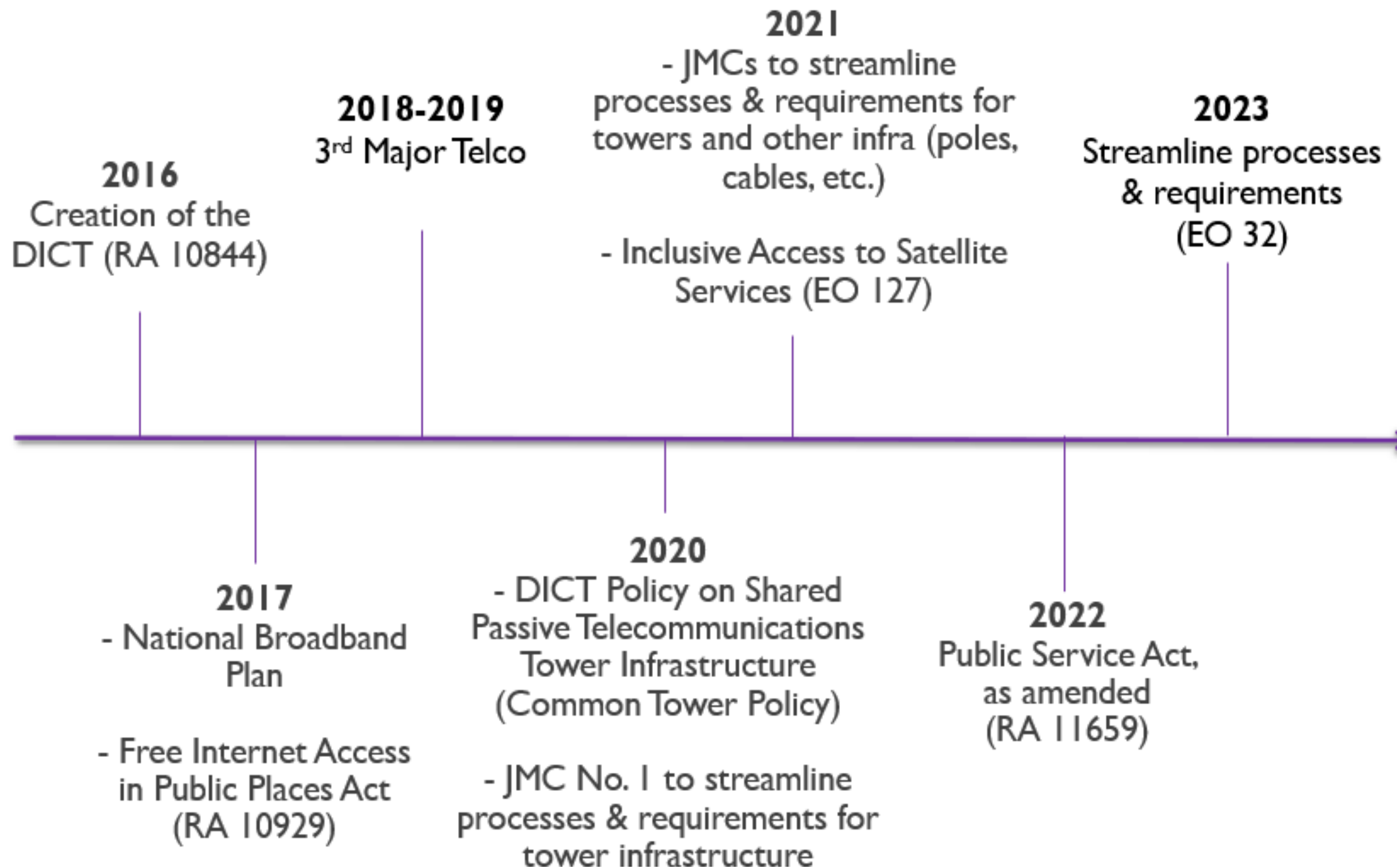
# Past initiatives on UAS

- National Telephone Program (NTP)
- Regional Telecommunications Development Project (RTDP)
- Municipal Telephone Project (MTP)/Telepono sa Barangay
- Service Area Scheme (introduction of competition but with service obligations)
- National Broadband Network project in 2007 (cancelled)

Source: Albert et al. (2021)

# Recent initiatives

Key policies and strategies



Source: Authors' compilation

## Further policy reforms planned

### PDP 2023-2028

- National Broadband Act
- Open Access in Data Transmission Act
- National Telecommunications Commission (NTC) Modernization Act
- Introduce amendments to the National Building Code
- Amend or repeal:
  - Public Telecommunications Policy Act of 1995 (RA 7925)
  - Radio Control Law of the Philippines (RA 3846)
- Rural Wired Connectivity Development Act (Senate Bill 2131) submitted in the 18th Congress of the Philippines

The graphic features a dark blue background with white lines representing a circuit board and a telecommunications tower. The tower is positioned at the bottom center, with lines radiating upwards and connecting to various points on a circuit board that fills the lower half of the image. Three large, overlapping white circles are centered around the tower, creating a sense of signal or coverage. The text 'National Broadband Plan' is written in a white, sans-serif font, with 'National' on the top line, 'Broadband' on the second line, and 'Plan' on the third line, all aligned to the left.

# National Broadband Plan

## The National Broadband Plan (2017)

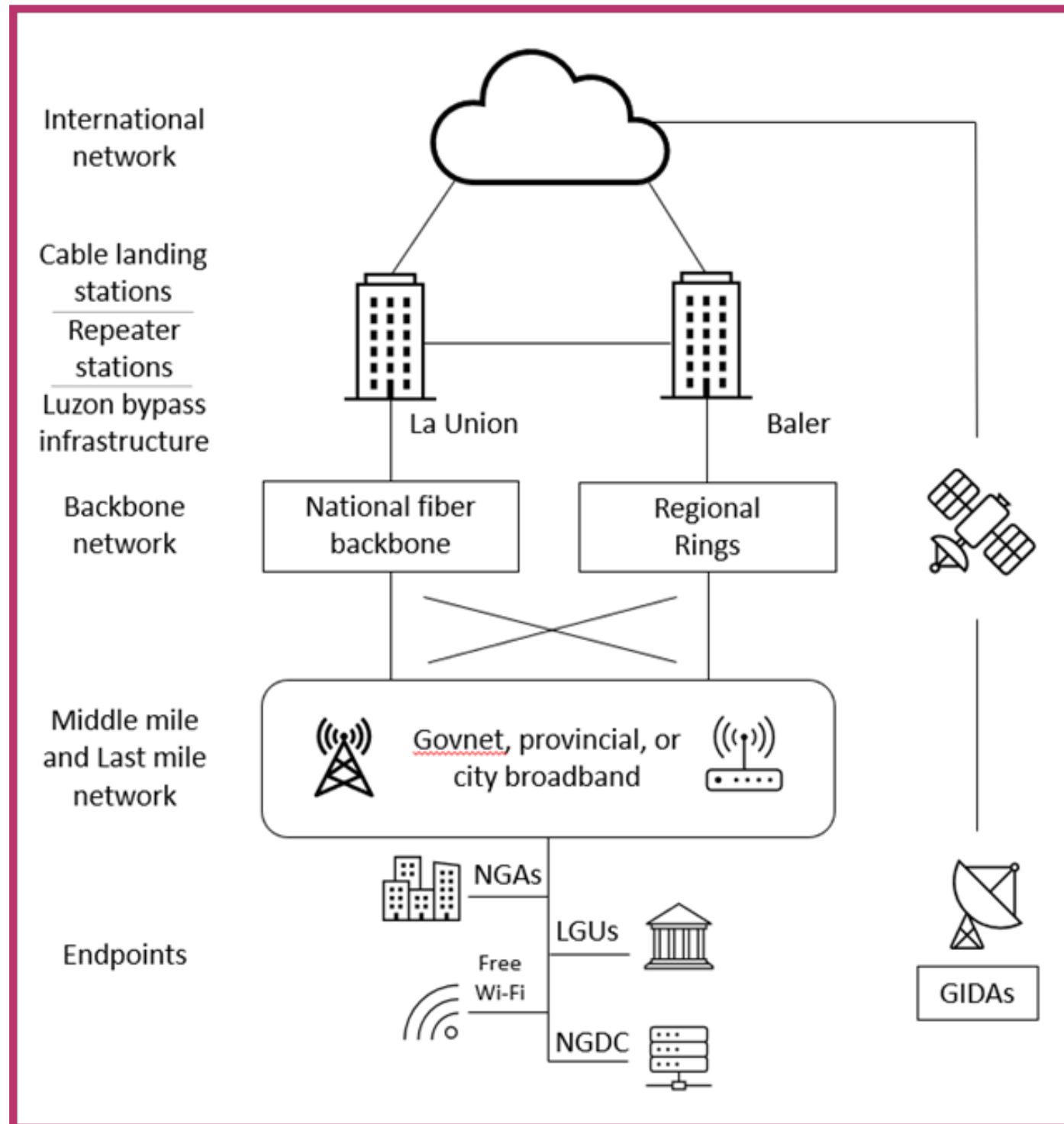
### Vision

To have “a resilient, comfortable, and vibrant life for all, enabled by pervasive, inclusive, affordable, and trusted broadband internet access.” (DICT 2017, p. 28).

### Three (3) main strategies:

- Policy and regulatory reforms
- Government investment in broadband infostructure
- Support to stimulate broadband demand

# Philippine Integrated Infostructure



- Component 1 is the **national fiber backbone** that connects the three island groups.
- Component 2 is the system of **cable landing stations** connected via the Luzon Bypass Infrastructure.
- Component 3 is on **tower buildup** to cater the country's geographically isolated sites and identified missionary areas.
- Component 4 shall expand **DICT's fiber optic** to interconnect government agencies.
- Component 5 involves the use of **Satellite Overlay**.

Note: GovNet = Government Network Program; NGAs = National Government Agencies; LGUs = local government units; NGDC = National Government Data Centers; GIDAs = geographically isolated and disadvantaged areas

Source: DICT (2023a)

# Infrastructure sharing

- **Common Tower Policy** (2020)
- Resolution no. 18, series of 2010 | ERC guidelines on the submission, evaluation, and approval of **lease of properties** by distribution utilities (DUs); MC 2018-055 | the **annual pole rental rate** was set at four hundred and twenty pesos (P420.00) per cable position, per pole
- **Issues raised:**
  - High pole rental rate
  - Joint pole agreements with unlicensed telecommunications companies
- **Comprehensive guidelines needed** covering:
  - (1) systems interconnection and integration model standards;
  - (2) fee structure for interconnection;
  - (3) dispute resolution;
  - (4) repository of available infrastructure; and
  - (5) infostructure sharing regime.
- **Encourage cooperation and collaboration**



# Community and institutional access



Satellite technologies  
for GIDAs



# Free Wi-Fi for All Program

- Created in 2015 and institutionalized in the Free Internet Access in Public Places Act (RA 10929) in 2017
- Coverage: Wi-Fi hotspots in public places  
Speed: At least 2 Mbps per user  
Funding: The Free Public Internet Access Fund (FPIAF) from Spectrum Users Fees
- Implementation issues (CPBRD (2018-2023)):
  - Termination of service contracts with providers
  - Project completion was delayed or bid out near the end of the year
  - Delay/suspension due to lack of permits and issuances, lack of terminal points, armed conflicts, lack of joint pole agreement, among others
  - Partnership of DICT and UNDP
  - Lack of planning, network monitoring system, and impact assessment
- As of May 2024: 12,421 live sites
- Goal: 104,493 sites by 2025 (CPBRD 2023)

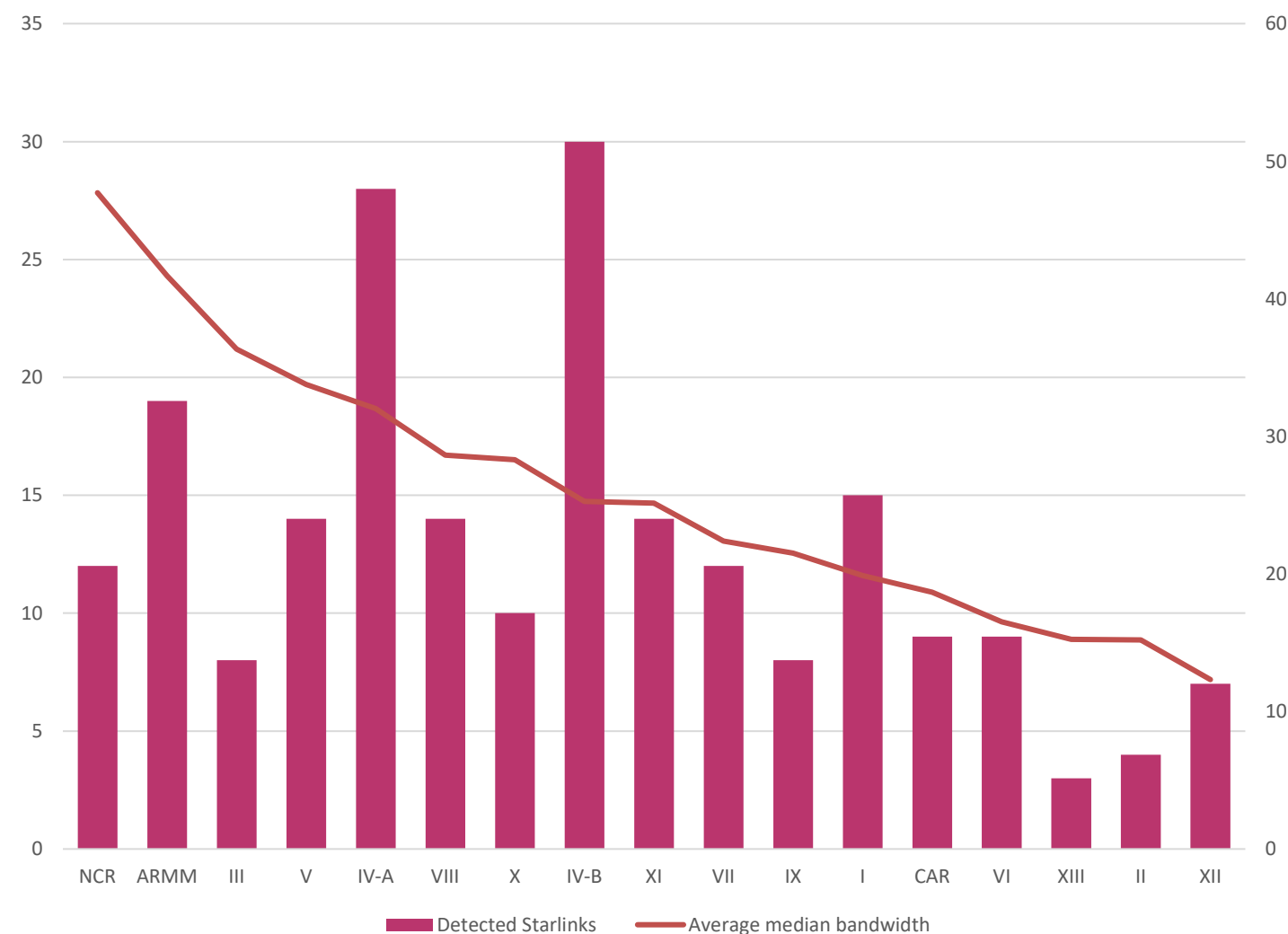


Region	August 2018	July 2019	June 2020	July 2021	June 2022	May 2023
NCR	468	696	896	1520	831	854
CAR	11	19	39	142	118	97
I	113	165	208	415	268	144
II	25	28	135	229	121	191
III	91	208	318	1026	241	232
IV-A	142	192	308	1,136	265	290
IV-B	18	83	96	500	155	404
V	57	179	325	837	487	392
VI	88	307	536	1,083	406	153
VII	165	314	357	549	314	222
VIII	90	156	220	334	123	34
IX	62	92	165	592	371	246
X	37	86	176	585	210	203
XI	17	49	138	448	249	141
XII	4	16	46	128	18	27
XIII	86	102	193	400	215	125
BARMM	8	16	38	387	126	41
<b>Total</b>	<b>1482</b>	<b>2708</b>	<b>4194</b>	<b>10311</b>	<b>4518</b>	<b>3796</b>



# Leveraging satellite technology for GIDAs

Bass – Bandwidth and Signal Statistics: Number of detected Starlink satellites and Median Bandwidth (Kbps) in the Philippines by region, July 2023



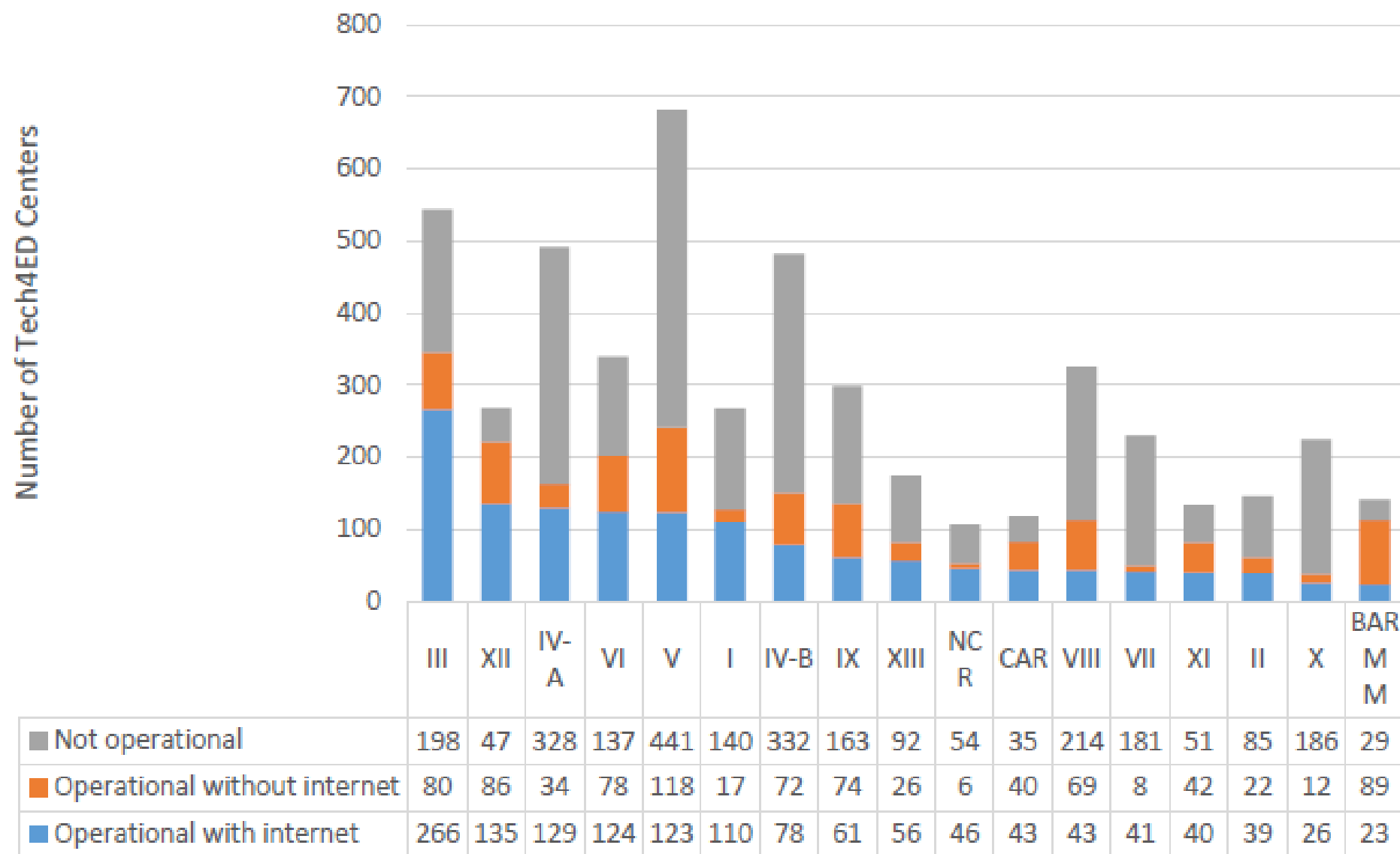
Source: Mr. Wilson Chua (Founder, Bass – Bandwidth and Signal Statistics) in response to Author’s data request on July 19, 2023

- PhilSA’s program or INCENTIVISE, inviting satellite internet providers to test deploy their products and services in remote and rural areas (2021)
- In 2023, PhilSA installed Starlink (low Earth orbit satellite) in Dingalan, Aurora and Jomalig, Quezon, and Basco, Batanes
- Broadband ng Masa Program providing internet connectivity in GIDA using satellite technology (2022)
- Astranis to provide dedicated satellite internet services via MicroGEO satellites in 2024



# Tech4Ed-DTC project

Tech4ED centers by region, 2022



Source: Department of Information and Communications Technology's Tech4ED/DTC Project (Interviewed by authors on September 29, 2023)

- Managed by the DICT's ICT Literacy and Competency Development Bureau (ILCDB)
- Provides connectivity, ICT equipment, learning resources, and e-government services to underserved communities
- In partnership with ITU, the program upgraded into the Tech4ED-Digital Transformation Center (Tech4ED-DTC) Project
- The DTCs will focus more fully on providing training and digital literacy besides providing physical facilities that the Tech4ED centers mainly provide.
- Sustainability issues:
  - availability of partner organizations/institutions
  - COVID-19 pandemic
  - discontinuity of funding and support from partner organizations
  - natural calamities

# Initiatives to boost demand for broadband

## E-government

- Digitalization of services: eGov PH App, eLGU, eGovCloud, eTravel, eGovPay, and eReport
- Digital Government Masterplan 2023-2028

## Education

- DepEd's Computerization Program (DCP)
- DepEd Digital Education 2028 (DepEd Digi-Ed)
- Resilient Education Information Infrastructure for the New Normal (REIINN23) project in 2022

## Health

- The National E-health Program
- PhilHealth's e-claim system
- Telemedicine
- Bill: National e-health System and Services Act

## Emergency response

- Robust and Rapidly Deployable GSM Based Stations and Backhaul for Emergency Response (ROGER)
- Community cellular networks (CCNs) and mobile phone services in rural areas
- Open RAN solutions

## Community: Cyber for Peace - Technology for Development

- Access to basic services like electricity (e.g., solar panels)
- Repairing and maintaining ICT equipment and appliances
- Providing training on digital literacy and cybersecurity

# Conclusion and recommendations

- Monitoring and evaluation of programs
  - ❑ Create annual reports
  - ❑ Conduct regular data collection and monitoring
- Design and implementation of programs
  - ❑ Revisit the design
  - ❑ Address implementation issues
  - ❑ Develop alternative mechanisms
- Monitoring industry performance
  - ❑ Ensure quality of service
  - ❑ Collaborate with private industries for broadband mapping

# Conclusion and recommendations

- Interventions to increase demand
  - ❑ Improve affordability of internet and devices
  - ❑ Make available comprehensive data to assess internet adoption and non-adoption
  - ❑ Aim towards meaningful connectivity
  - ❑ Conduct community-level digital readiness surveys
  - ❑ Include utilization of digital technologies in MSME surveys
  - ❑ Incorporate gender dimensions into surveys
- Cross-sectoral solutions



Philippine Institute for Development Studies  
*Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas*

Service through  
policy research

# Thank you!

---

WEBSITE: [www.pids.gov.ph](http://www.pids.gov.ph)

FACEBOOK: [facebook.com/PIDS.PH](https://facebook.com/PIDS.PH)

TWITTER: [twitter.com/PIDS\\_PH](https://twitter.com/PIDS_PH)

EMAIL: [rserafica@pids.gov.ph](mailto:rserafica@pids.gov.ph); [kfrancisco@pids.gov.ph](mailto:kfrancisco@pids.gov.ph); [qoren@pids.gov.ph](mailto:qoren@pids.gov.ph)