



MINISTRY OF SCIENCE AND TECHNOLOGY
VIETNAM INTERNET NETWORK INFORMATION CENTER

IPv6 deployment strategy in Vietnam

23rd April 2025

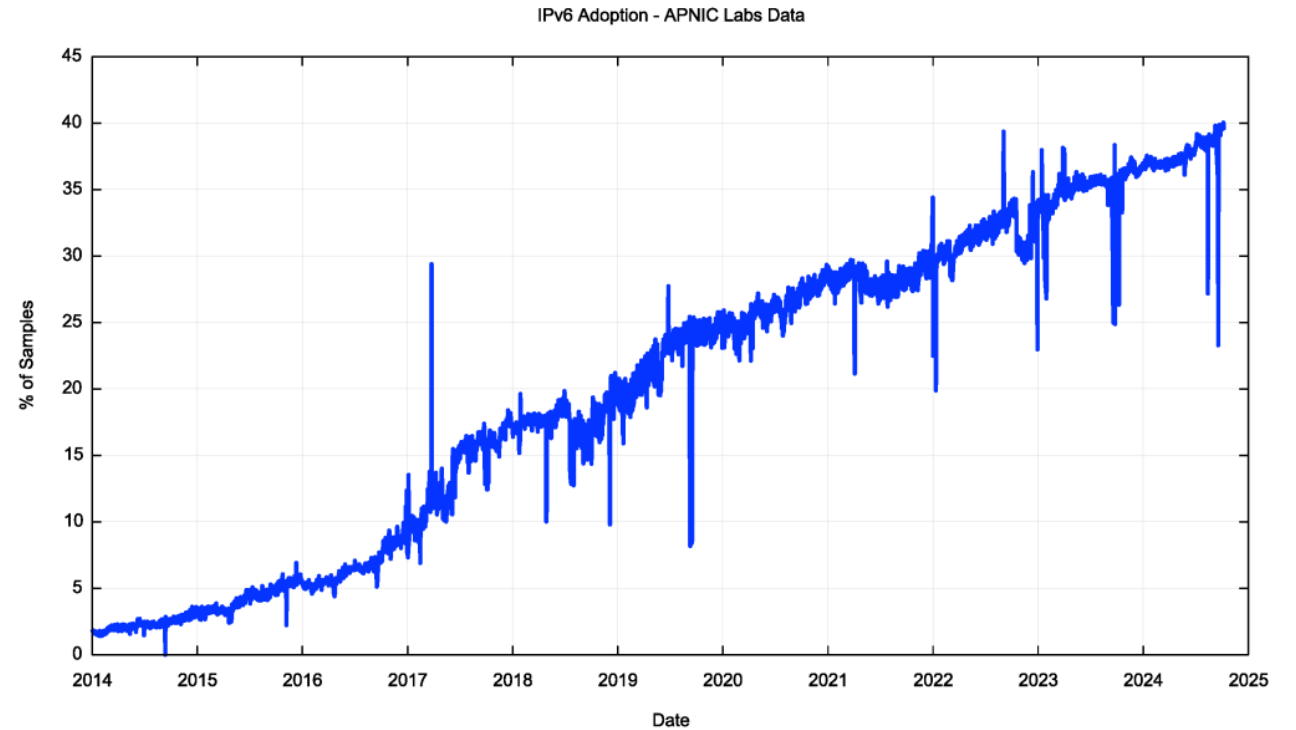
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IPv6 measurements in the world

No.	Economy	IPv6 Capable
1	India	77.88%
2	France	75.42%
3	Malaysia	71.58%
4	Belgium	69.41%
5	Germany	66.79%
6	Saudi Arabia	65.69%
7	Israel	62.99%
8	Uruguay	60.76%
9	Vietnam	60.05%
10	Taiwan	59.43%

*Top 10 economies in IPv6 adoption rate
(Source: April 2025, APNIC Lab)*



*The use of IPv6 for World
(Source: APNIC Lab)*

IPv6 measurements in Viet Nam

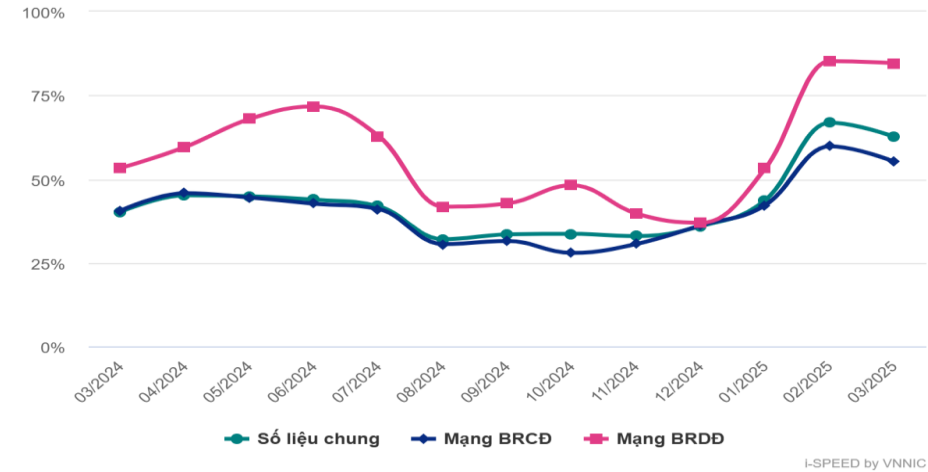
Use of IPv6 for Vietnam (VN)



The use of IPv6 for Viet Nam (APNIC Lab)

- By April 2025: 60%, 2nd place in ASEAN, 9th place in the world (source APNIC Lab)
- 82% IPv6 FTTH Subs and 83% IPv6 Mobile Subs
- VNIX, National DNS: 100% IPv6
- IPv6 For Gov: 95% Websites of Ministries, Provinces, cities enabled IPv6.

Tỉ lệ ứng dụng IPv6 trên cả nước



The use of IPv6 for Viet Nam (source: i-speed by vnnic)

The databases support to collect and measure the use of Ipv6 for Mobile network/ Fixed network/ Per big ISP, mobile operators/ every ward/district/ city in Viet Nam

- 62% IPv6 users (all)
- 85% Mobile IPv6 subs
- 55% FTTH IPv6 subs



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Vietnam IPv6 policies (1/2)

- 2008: Directive No. 03/2008/CT-BTTTT of the Minister on promoting the use of new generation IPv6 Internet addresses.
- 2011: Viet Nam National IPv6 Action Plan (2011 - 2019) (the Decision of Ministry of Information and Communications)
- 2020: The Decision No. 749/QD-TTg of The Prime Minister of Government dated June 3rd, 2020 on introducing Program for National Digital Transformation by 2025: *The entire of Viet Nam Internet transited to IPv6 by 2025*
- 2021: IPv6 For Gov Program (The Decision No. 38/QD-BTTTT dated 14th January 2021 of Ministry of Information and Communications)
 - *1st stage (2021-2022): 50% Government Websites enabled IPv6.*
 - *2nd stage (2023-2025): 100% Government Websites enabled IPv6/ Readiness to deploy IPv6-only*



IPv6 For Gov Program Launch

Vietnam IPv6 policies (2/2)

- 2022, 2023: The Directive No. 2/CT-TTg in 2022 and No. 3/CT-TTg in 2023 of The Prime Minister of Government: *Ministries, Branches, Provinces deploy IPv6; priority Portals and E-public services enabled IPv6.*
- 2024: The Decision No. 36/QD-TTg of the Prime Minister of Government on approving the information and communications infrastructure master plan for the period of 2021-2030, with a vision toward 2050:
 - *The entire of Viet Nam Internet transited to IPv6*
 - *Deploying IPv6 for IoT, mobile IoT, smart home IPv6*
- Resolution No.57 of The Politburo on breakthroughs in science, technology, innovation, and national digital transformation, regarded as a resolution that aims to unleash Vietnam's technological potential:
 - *IPv6 deployment is one of missions following up The Resolution No.57*

IPV6, IPV6 FOR GOV PLAN IN 2025



Internet Address

Decision No. 306/QD-BKHHCN dated March 28th, 2025 on approving the ‘The Plan of Vietnam IPv6 Transition and IPv6 For Gov in 2025’

Main targets:

- *70% IPv6 users*
- *IPv6 only deployment Pilot;*
- *Approving the strategy of IPv6, IPv6 only in Viet Nam during 2026 – 2030 (end of this year)*

Promotion activities

Planning/ Policies

- Releasing IPv6 plan yearly
- IPv6 was one of contents in Government policies (Resolution, Decree, Circular ..)

Consultation meetings

- Large ISPs, Mobile operators and ICPs (yearly)
- Government Agencies.

Training

- IPv6 training courses per year
- From basic to advanced/ Onsite and online (dual stack to IPv6 only)



MST/VNNIC

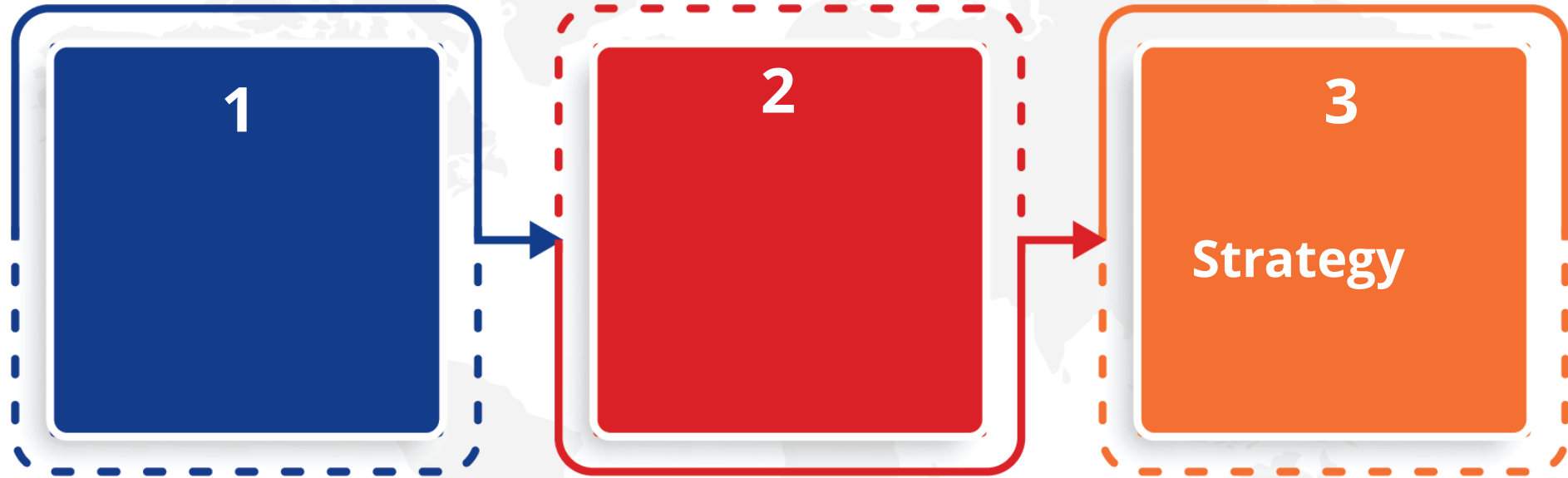
- Leading
- Supporting

Communications/ official letter

- Online News, Internet Report.
- Conferences:
 - IPv6 Forum
 - VNNIC Internet Conferences
 - IP member meeting
 - VNIX-NOG
 - ...
- Official letters from VNNIC/ Ministry



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Internet Deployment-> Industrial Internet, IoT, IIoT

Large scale, flexible connectivity

Distributed vs centralized

High speed/Low latency

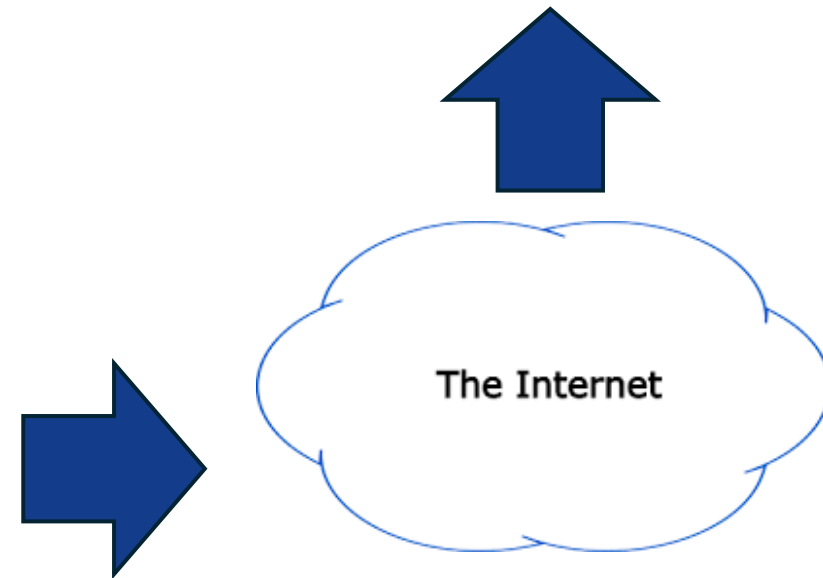
Real-time/near real-time

Data optimization and automation

Security, transparency

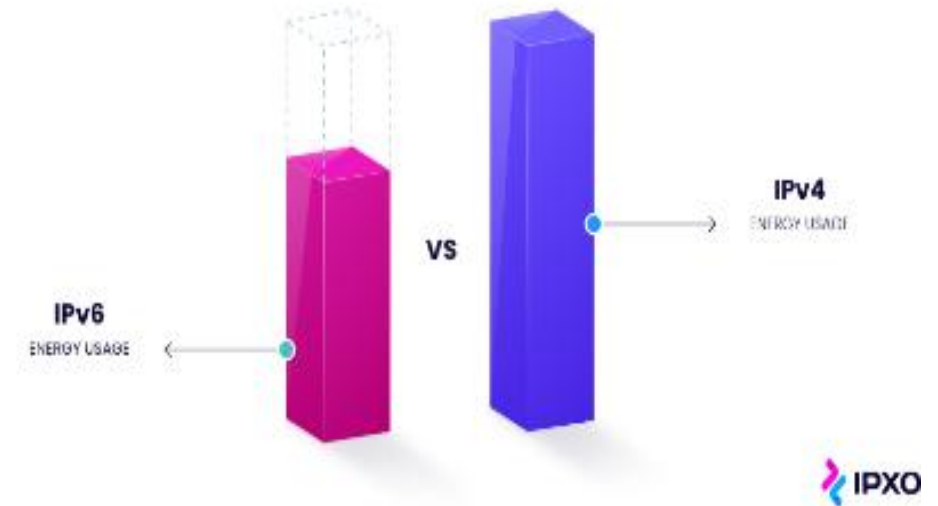
Innovation and cross-industry applications

The Internet of Things (IoT)
Industrial IoT (IIoT)



IPv6 – Internet Development

- **IPv6 deployment– important role for future digital infrastructure (Source: Global IPv6 Report).**
- Bigger:
 - 01 IP – 1 things (IoT)
 - IPv4: 4.3 billion; IPv6: 340 undecillion (340×10^{36}) IP.
- Faster
 - IPv6 End to end (IPv4 NAT)
 - Facebook 10-15%; Apple App 40% (IPv6 is faster than IPv4)
- Safer:
 - IPSEC with IPv6 (end to end encryption)
- More saving
 - IPv6: Lower fee.
 - IPv4: 40\$/01 IP (transfer)
 - Operating costs
 - Saving energy



Saving 30% energy (source: IPXO)

Internet IPv6: not only transition

- **Internet IPv4 -> IPv6:**
 - IPv4 only -> dual stack IPv4, IPv6 -> IPv6 only.
 - New networks/cities: IPv4 only -> IPv6 only.
- **Innovation, creating new value and services:**
 - IPv6 only for IoT, IIoT, Industrial Internet

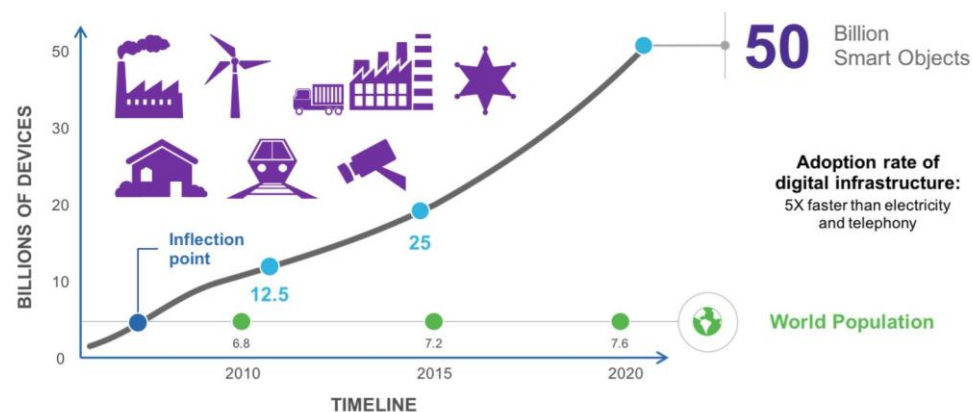


IPv6 only - IoT, IIoT Development

Global IPv6 market size:

- IoT, IIoT need IPv6.
- Value: 2024 (51 billion USD)
- Forecast in 2030: **IPv6 innovations could reach 10.8 trillion USD**

(source: <https://www.rolandberger.com/en/Insights/Publications/Global-IPv6-and-IPv6-Development-Measurement-and-Analysis-on-Social-and.html>)



Source: <https://ngiot.eu/eu-iot-expert-group-latif-ladid/>

IPv6 Deployment - Viet Nam Modern Digital Infrastructure

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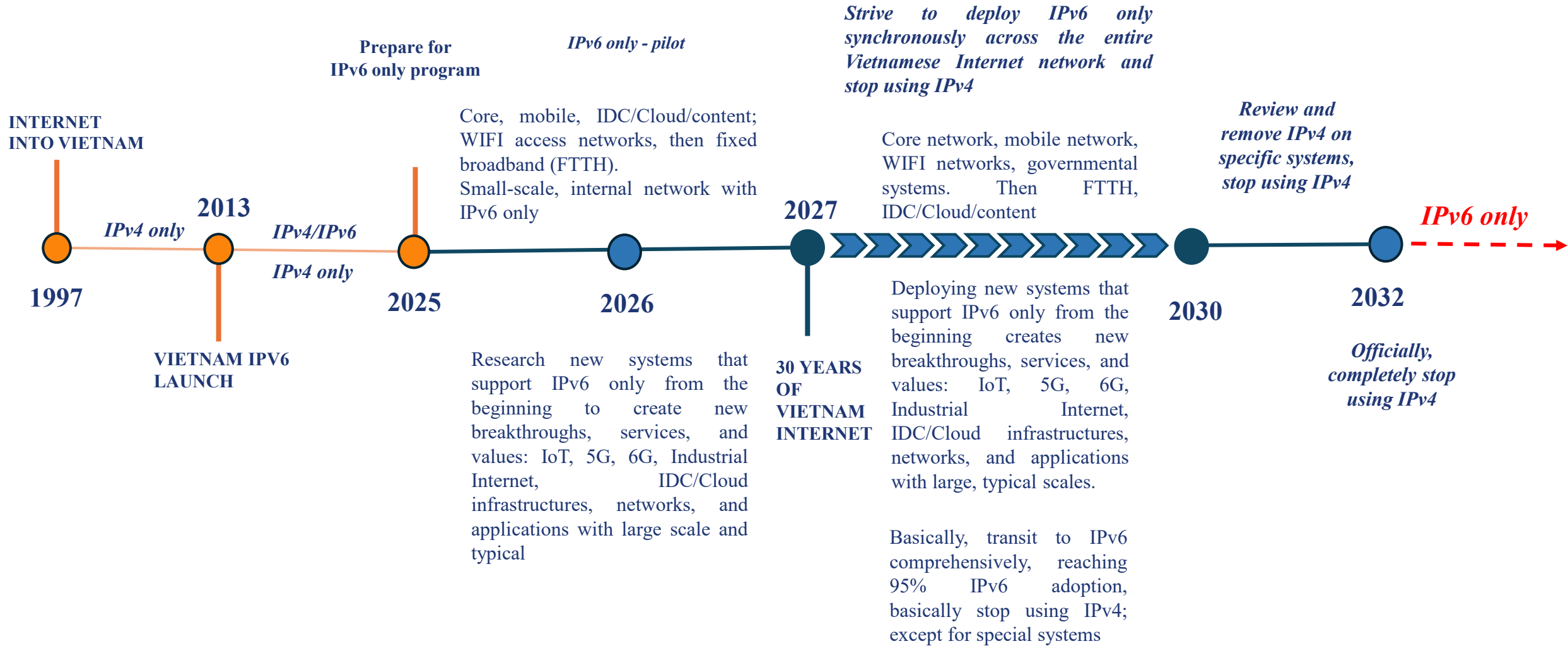
HOW TO DO:

- **Go early and keep promotion**
 - 2012: World IPv6 Launch;
 - 2013: Launch of IPv6 Viet Nam
- **State orientation (program) -> model, pilot -> handbook, guide, training -> replication -> companion, support**
- **Human resources:** trained 5,643 officials of state agencies & enterprises on IPv6.

2025 – 2032:

- 5G commercialization in 2024, 2025
- IPv6 only: boom in 2027-2028
- IoT strongly realized.
- Stop offering services over IPv4: 2032
- 2025-2030: Accelerate IPv6 deployment, IPv6 only

IPv6 deployment Roadmap in Viet Nam





Thank you !

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