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Limited)

Internet to Intelligence

Reinventing ISP for the AI Era

Today :

2026

Welcom

12th NPNOG Conference
(Nepal Network Operator Group)

44th SANOG Conference
(South Asia Network Operator
Group)

Proud to Mention:
Nepal Hosted First SANOG Conference on
2003
Kathmandu, Nepal

Today
:

2026

NPNOG is 10 Years Old

SANOG is 23 Years Old

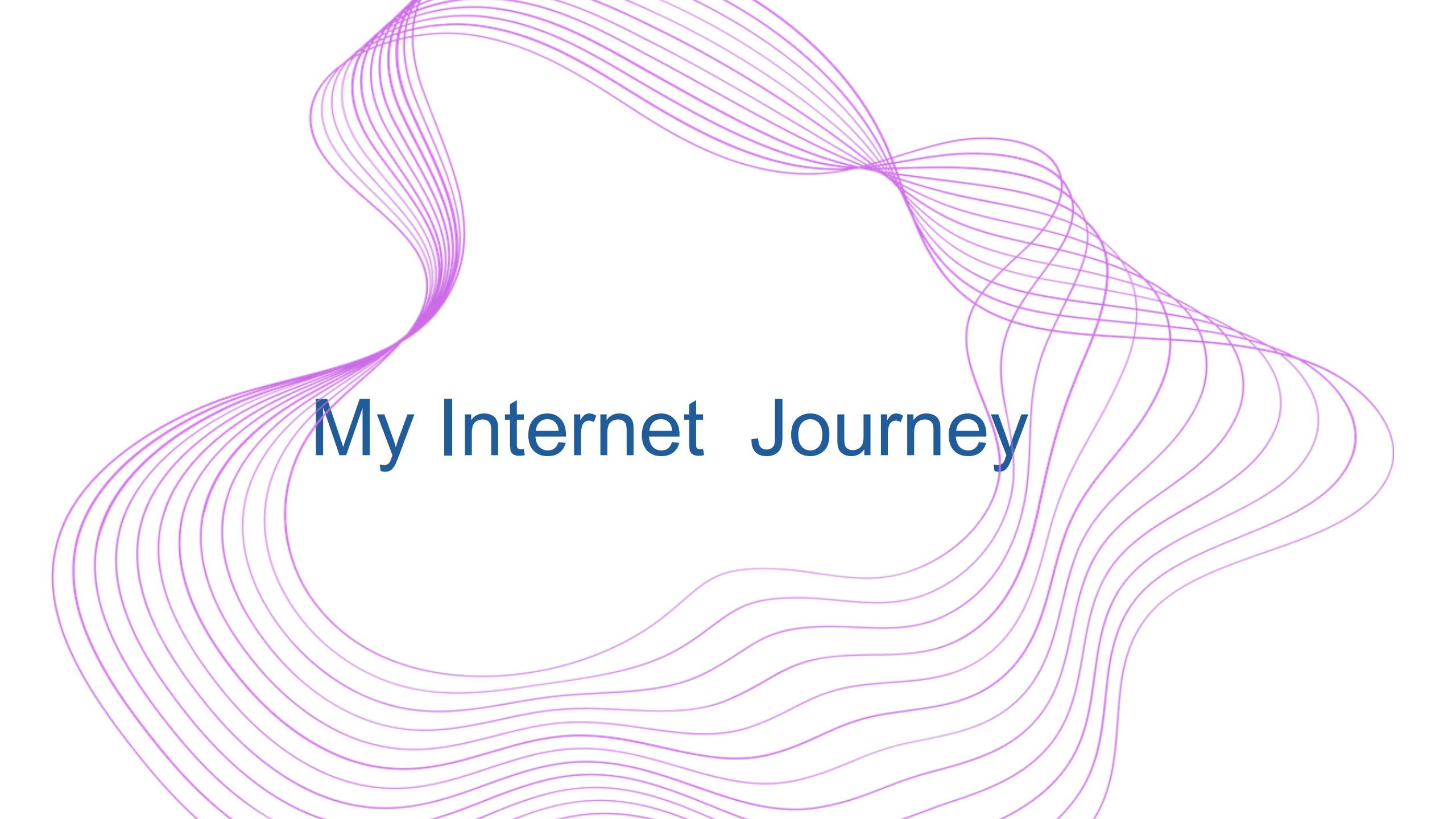
Congratulation

NPNOG on 10th

Birthday

and

SANOG 23rd

The background of the image is a solid light purple color. Overlaid on this background are numerous thin, dark purple lines that form a complex, wavy, and somewhat chaotic pattern. These lines flow across the frame, creating a sense of movement and depth. In the center of this pattern, the text "My Internet Journey" is displayed in a dark blue, sans-serif font.

My Internet Journey

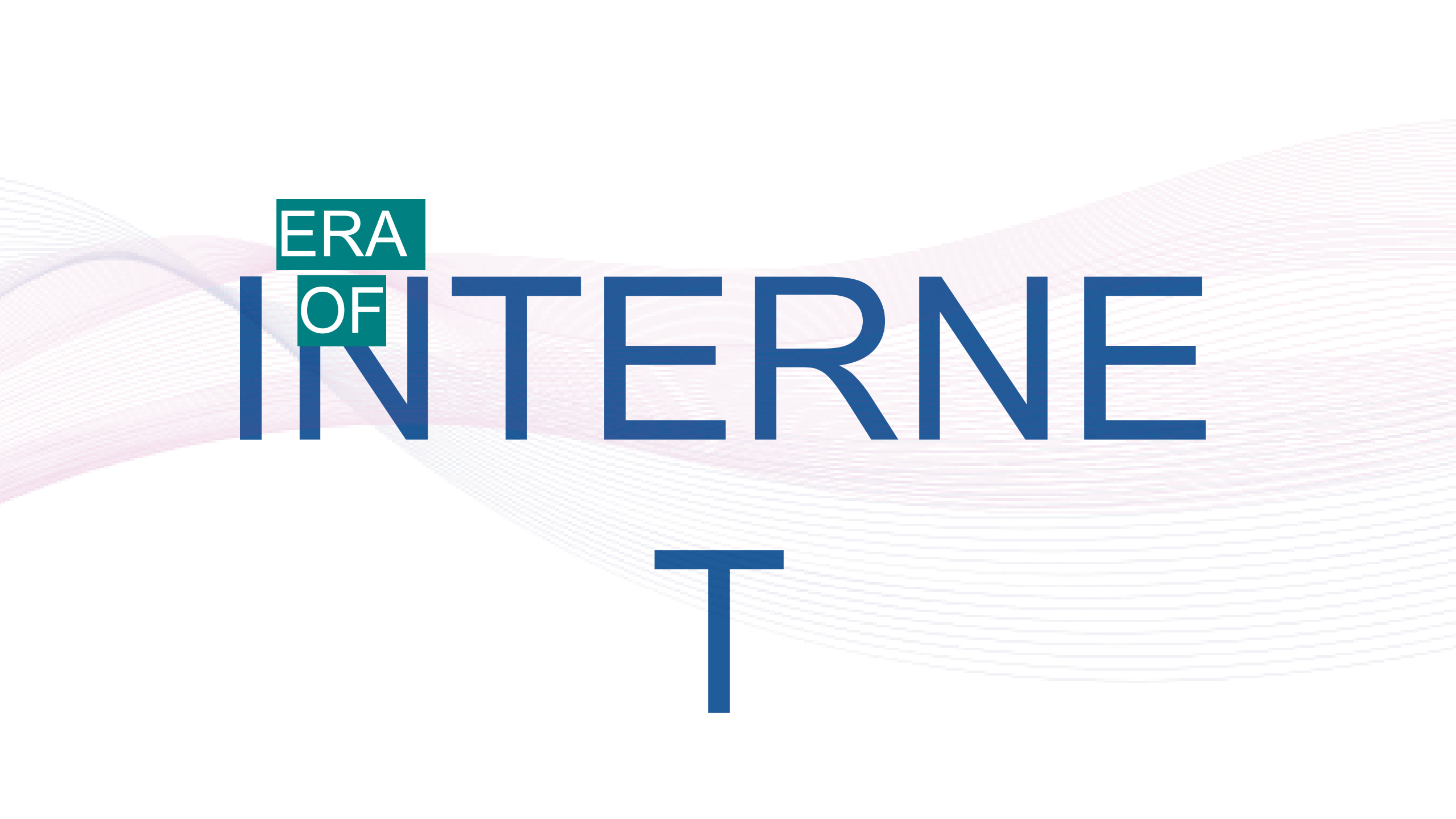


**Let's GO
BACK**

To the **ERA** that
Digital Revolution

The image features decorative purple wavy lines in the corners. In the top right, a series of lines curve from the edge towards the center. In the bottom left, a more complex set of lines forms a swirling pattern. The text '1990's' is centered in a bold, dark blue font.

1990's



ERA OF INTERNE T

Introduced
WORLD OF:
Connectivity &
Network



Tha

Fueled

Modern Business

Communicati
on

Data Sharing

Search
Engine

Software

Online
Business

Online
Payments

Research

Streaming

Remote
Work

*Fast
Forward*





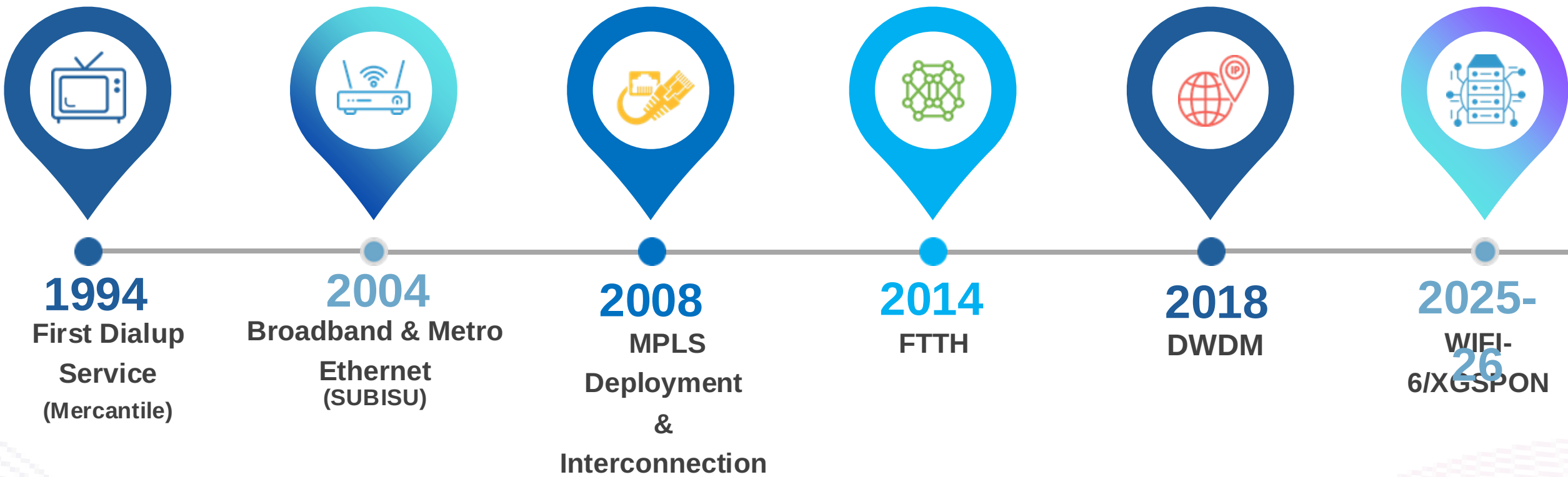
2000'

s

ERA OF ISP/NSP IN NEPA

Empowering Internet, Connectivity and Network

Nepal's Milestone



Nepal's Digital Snapshot — 2026

107

Licensed ISPs

25

Licensed NSPs

2

Telecom

Nepal's Digital Snapshot — 2026

32.4M

Mobile Connections

~16.6M

Internet Users
(56% penetration)

~3.46M

Fixed Broadband
Subscribers

15%

IPT Traffic

85%

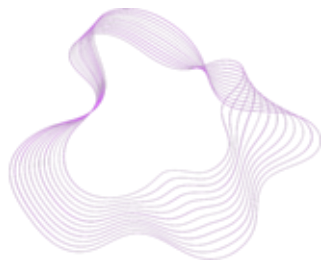
CDN Traffic

*Fast
Forward*



Something that
Sparked Digital

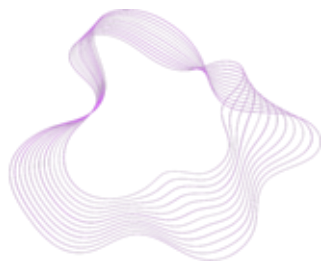
RAGAN
N

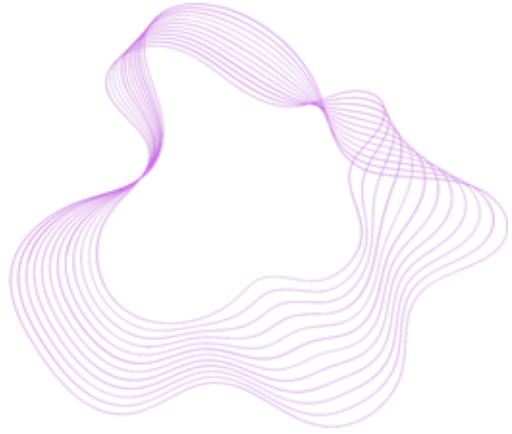


ERA
OF

A

(Artificial Intelligence)



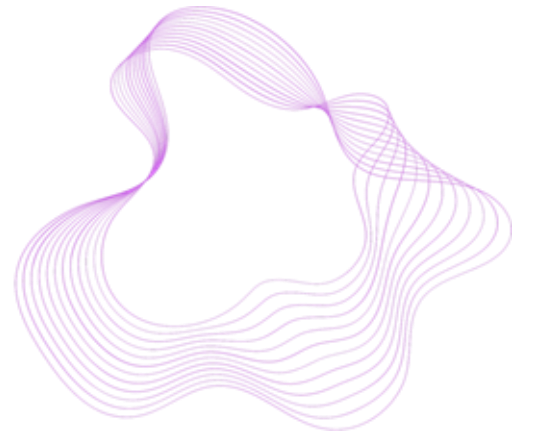


Introduced WORLD OF:

LLM &

(Large Language Model & Retrieval-Augmented
Generation)

RAG



INTERNET
ERA
1990

Introduced
World Of
Connectivity & Network

*Connected
Devices*

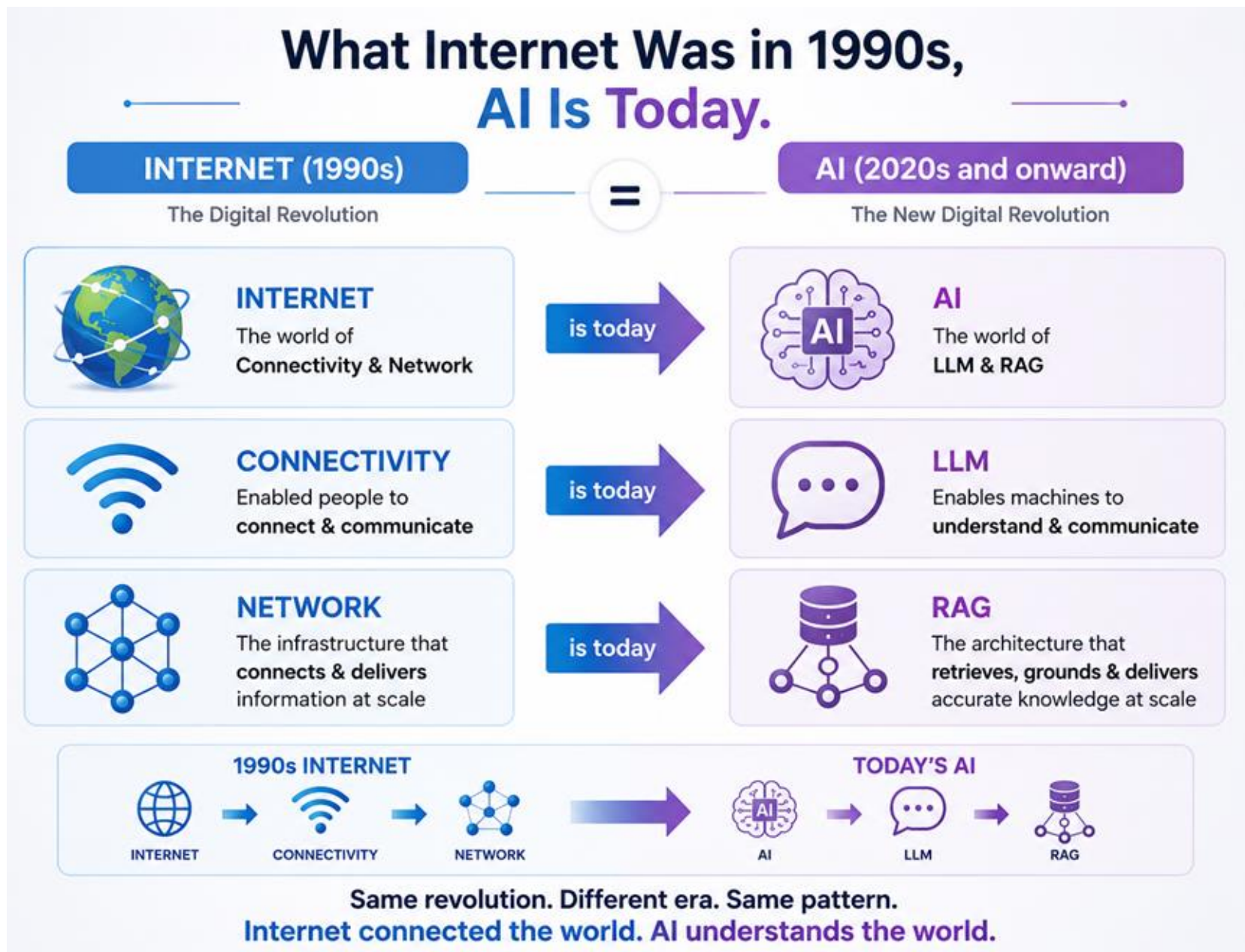
AI
ERA
2020

Introduced
World Of
LLM &
RAG

*Connecting
Intelligence*

My Interpretation

Same Revolution
Different ERA
Same Pattern



Today, I am not here to discuss on **What**

is?

It's A Different World

But What I believe is,

What **AI** today is on the foundation built
by

INTERNET

**CONNECTIVIT
Y**

NETWORK

***So, Where should the Industry
Go ?***

The House that was built on the foundation of

INTERNET

**CONNECTIVIT
Y**

NETWORK

has become Powerful and Intelligent in the **Name**



So, What should we
do?

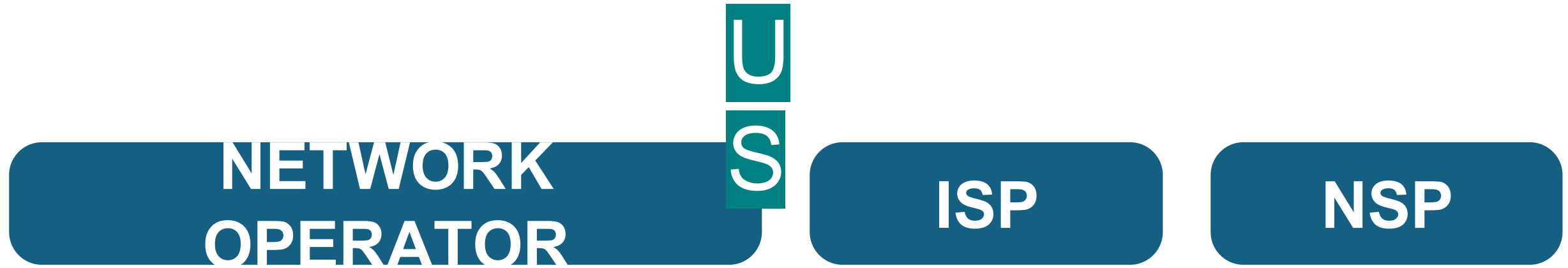
Do we need to Compete
?

My Answer is BIG.

NO

THE **JOB** IS STILL **NOT**
DONE

AI still needs



Why ?

House is Built



How about the Roof
?

Confused
?

I Said **ROOF**

Yes, you heard it correctly

**The Digital
Infrastructure**

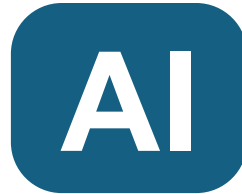
This is where we should focus:

Creating

Digital Infrastructure

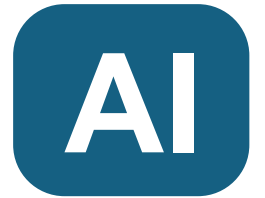
FOR

Next Generation Technology



For the last 30 years we built **Networks** **Humans**

The next 30 years we will build **Digital**
Infrastructure for



The new Stack of **Digital Infrastructure**

1

Data Centers

2

Cloud Hub

3

Cybersecurity

4

**High Speed
Carrier**

5

SD-WAN

6

IoT

7

Edge Computing

8

AI Infrastructure

9

CDN

10

Digital Identity

Internet Business in Nepal

Vertical

- Retail & Enterprise business
- Customer expectations keep rising
- Bandwidth demand doubles every few years

Challenges

- ARPU is almost Flat
- Declining Margins
- High Capex: fiber, upgradation of N/w, cybersecurity etc.
- High ROI

NEW TECH INVESTMENT

- WiFi 6
- Native IPv6 adoption
- SD WAN
- AI-driven networking
- Automation
- Security
- Data Center

But This can be achieved only
through

Collaboration Over Competition

1

Infra Sharing

2

Security

3

Data Center

4

IXPs

5

**Native IPv6
Adaptation**

6

Training

7

Research

8

Open Peering

Is this **ENOUGH**
?

Still.

NO

So, What's Next
?

We Should

Reinventin

g

ISP

for

AI

Er

a

How ?

Internet, Connectivity & Network Laid Foundation to Artificial Intelligence (AI)

Now

ISP

Should incorporate Intelligence
To become more

SMARTER

R



Make your **Support** **INTELLIGENT**

AI Assistant Call
Center

Multilingual
Support

Auto
Follow-up

AI Diagnostics

Automatic Trouble
Ticket

Automatic Device
Health Check

Customer
Satisfaction
Behavioral Analysis

Churn
Prediction



Make your **NOC** INTELLIGENT

AI
Fault Prediction

Auto Root-Cause
Analysis

Automatic Ticket
Classification

Capacity
Prediction

Demand
Forecasting

Predictive
Maintenance

Traffic Analomy
Detection

Fiber Cut Prediction



Make your **Engineering** **INTELLIGENT**

Capacity
Planning

Traffic
Engineering

Intelligent
Routing Optimization

Configuration
Validation

Network
Documentation

Automatic Change
Review

Configuration
Generation

Predictive Risk
Analysis



Make your **Business** **INTELLIGENT**

AI
Lead Scoring

Opportunity
Prediction

Sales
Forecasting

Demand
Forecasting

AI Sales
Assistant

Customer Lifetime
Value Prediction

Cross-sell and Up-sell
Recommendation

Usage Pattern
Analysis



Make your **Customer** **INTELLIGENT**

Smart Package
Recommendation

Plan Comparison

Self and Auto
Support

Coverage
Availability Check

Smart Home
Monitoring

Knowledge
Assistant

Usage
Analytics

AI
Troubleshooting

Unparallel OPP **SEE** NITIES to **ISP/NSP** Ahead

*The Wave has Just
Started*

Capacity Requirement

will be

100

G

400

G

and

800

G

1.6T

Ultra Low Latency

*(Strengthen Your
Backbone)*

Edge

Computing

Inference must move closer

**Regional & Local Data Centers will
Benefit**

Hyper

Scalers

AWS, Azure, Google, Oracle, Alibaba,

META

Requires

Local

Presence

Dedicated

Connectivity

Cloud

Exchange

Peerin

g

AI *Need*

More

Network and

Resource

Human

*Which will Create unprecedented **Opportunities***

Thousands of

GPUs

Hundreds of

Gbps

Petabytes of

Data

What's in here for

Nepal

ENDLESS

OPPORTUNITIES

*We have to **L**eanfrog with our
Strength*

**Young Tech
Population**

**Growing
Digital
Economy**

**High Mobile
Adaptation**

**Rapid Fiber
Deployment**

**Clean
Energy &
Hydropower**

**Strategic
Location –
Between
India & China**

**Growing
Software
Industry**

**Digital
Payment
Ecosystem**

Nepal *has Opportunities to become Hub*

**Regional
Cloud Hub**

**Regional
Data Hub**

**AI inference
Hub**

**Disaster
Recovery
Hub**

**Digital
Service Hub**

**Cross
Border
Transit Hub**

**Managed
Service Hub**

**Content
Delivery Hub**

Roadmap For

Nepal

AI Ready
Infrastructure

High-Capacity
Networks

Cross Border
Connectivity

More
IXPs

Local AI Inference

Research
Collaboration

University
Partnership

Open
Peering

WHAT WE'RE ASKING FOR

Government &

Policy, Spectrum and Incentives
Regulators

Vendors & International

Investment and Technology partnership
Partners

Technical Communities

Consultation, Collaboration, Trainings,
Expertise

The Key Takeaway

1 Internet

30 Years Ago...

People connected to Internet

Today...

Internet connects People

Tomorrow...

Internet connects AI, Machines, Robots

2 ISP/NSP Business

Earlier

Sell bandwidth

Now

Sell digital experience

Future

Sell digital intelligence

3 Traffic Pattern

Previously

Google & Yahoo

Now

TikTok, Meta, Youtube, Netflix, Gaming,

Soon

AI Inference, Video AI, Voice AI, AI-to-AI communication, Machine generated traffic, Agentic workflows.

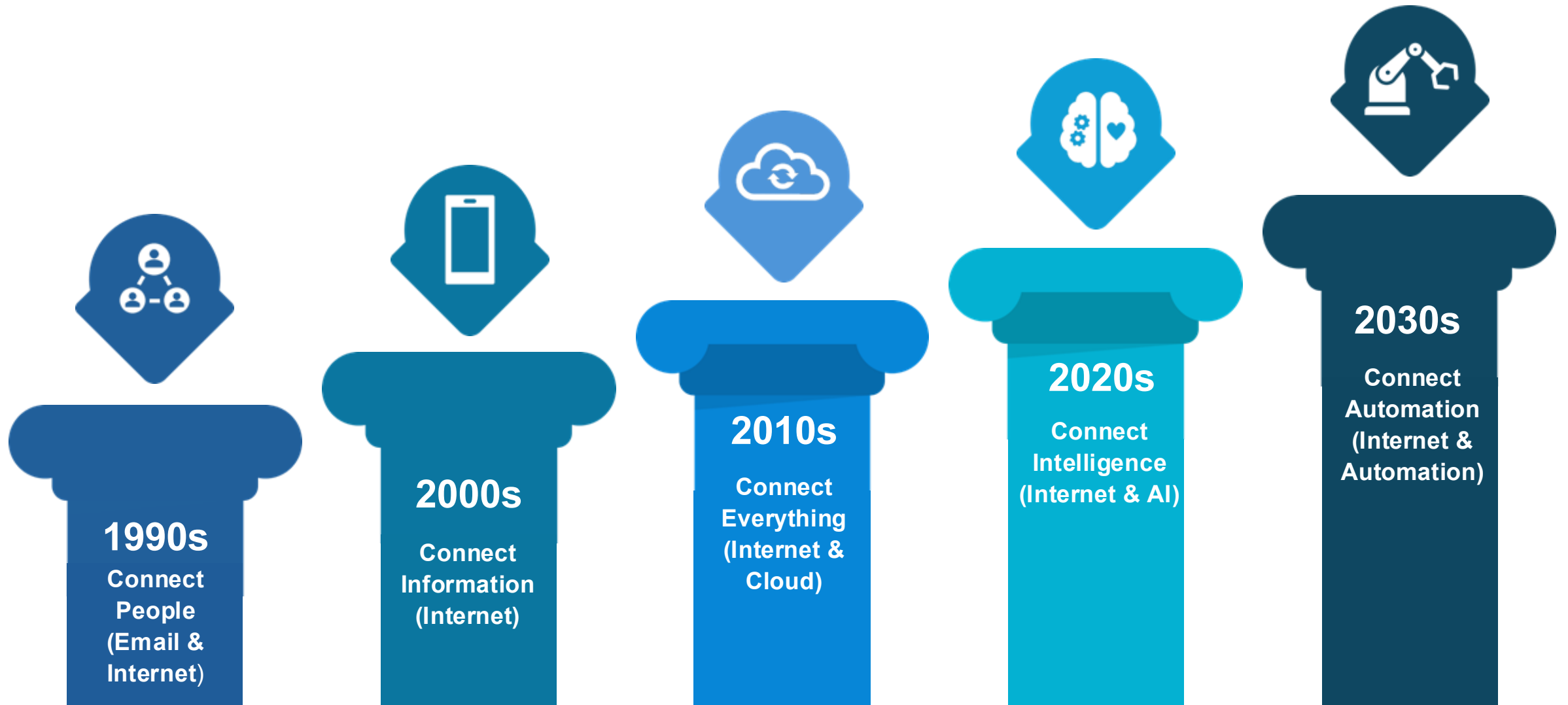
**Network is
Becoming
AI Infrastructure**

**NOT
JUST**
Bandwidth, Latency,
Jitter, Packet Loss

NOW
GPU proximity, Inference latency,
Cloud access, API performance

INTERNET TO INTELLIGENCE

From People to Automation



Internet to Intelligence

Reinventing ISP/NSP for the AI Era

Thank
You