Economic and Social Commission for Asia and Pacific Expert Consultation on the Asia-Pacific Information Superhighway and Regional Connectivity
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THAILAND
Broadband Infrastructure and International Connectivity

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Contents

- Thailand ICT Indicators
- National Broadband Policy
- Government Policy on Broadband Implementation
- Broadband Development in Thailand
- Broadband Domestic Connection
- Broadband International Connection

Thailand Profile

- **Area: 513,115 sq.km**
- **GDP Growth: 2.7%**
- **GDP : 391 billion USD**
- **GDP per Capita : 3,350.78 USD**
- **Doing Business: #18 in the world**
- **Unemployment Rate: 0.8%**
- **Labor Force : 40.19 M**

[NSO, June 2013]

Thailand ICT Indicators

Internet Usage

- Internet Users ~ 26.14 M
- Internet Penetration (%) ~ 35.8%
  [TrueHits, July 2013]
- Broadband Subscribers~ 5.225 M
- Broadband Penetration (%) Per Population ~ 7.80%
- Broadband Penetration (%) Per Household ~ 26.04%
  [NBCT, Q2-2014]

Thailand ICT Indicators

Mobile Usage

- **Mobile Subscribers ~ 97.61 M**
- **Mobile Penetration ~ 145.69%**
  [NBCT, Q2-2014]
- **3G Mobile Subscribers ~ 55 M**
- **Non-voice/voice Revenue Ratio (%) ~ 62.84%**
  [NBCT, Q1-2014]

Thailand Broadband

	2011				2012				2013				2014
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q
Price/Kbps	0.14	0.15	0.15	0.14	0.14	0.14	0.13	0.16	0.16	0.09	0.09	0.09	0.09

	Boardband/Fixed Line (%)							
	2007	2008	2009	2010	2011	2012	2013	2014
Fixed line only	82.90%	70.78%	62.52%	51.11%	39.95%	28.86%	15.24%	7.83%
Fixed line with broadband	17.10%	28.03%	37.48%	48.89%	60.05%	71.14%	84.76%	92.17%

National Broadband Policy

- National broadband policy is a policy framework for the promotion of broadband services as public utilities.
- Economic development and social stability and provide public access to knowledge information and public services.
- The objective is to make better quality of life and economic of Thailand.

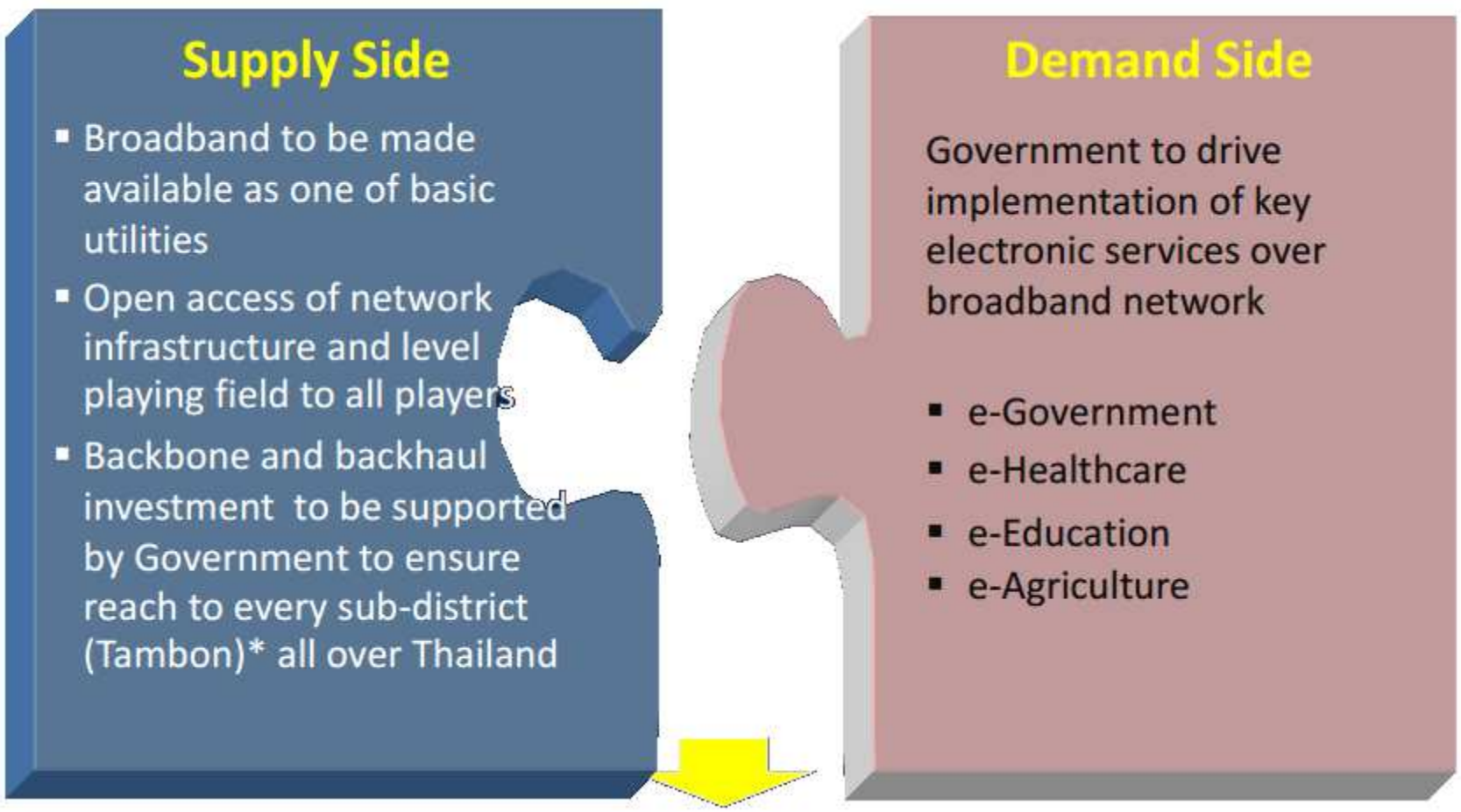
Objectives of National Broadband Policy

- Broadband network cover 80 percent of population in 2015, and 95 percent in 2020 with international standard and fair prices. area, Fiber Optic 100Mbps.
- People can get broadband services thoroughly and evenly.
- Businesses sector can access and use broadband.
  - Expand of creativity business.
  - Value of E-commerce as a percentage of GDP growth to 10% in 2558

Objectives of National Broadband Policy

- Lower energy consumption and resource use.
- Reduce the overall cost of providing broadband services.
- Content and Application development.
- People have access to valuable knowledge and the use of ICT to accelerate.
- Industrial production of ICT development globally.

Objectives of National Broadband Policy



Government Policy on Broadband Implementation

- The government supports the development of broadband service as public utility with universal, sufficient, at a reasonable cost, under conditions of free and fair competition.
- Every Thai person should be able to fully access and make use of broadband service, which will help to reduce inequality, narrow the digital divide, and enhance the quality of life of the people.

Government Policy on Broadband Implementation

- The government and private sector make use of improved broadband for national productivity and competitiveness.
- The government will not monopolize the market but will open up the opportunity for all with free and fair competition in service provision.

Government Policy on Broadband Implementation

- All matters related to national sovereignty, such as i satellite orbit positions, underwater cable landing points, or the connection points of trans boundary networks will be considered important for national security and the right or property for the state utilize for the highest benefit.
- Building capacity and opportunities for international cooperation and trade, Private sector enterprises will participate in investing in providing services.
- The government will support both fixed-line and wireless last-mile telecommunications businesses, ICT businesses, content producers, broadcasting businesses, television businesses and e-commerce businesses.

Action Plan

- Development of broadband infrastructure and services.
- Development broadband usage to take advantage of broadband.
- Ensuring the security of network access and security of society.
- Provide Management policy and coordination of policy usage.

Action Plan

e-Government	• Connecting all 7,800 District centers (76 provinces) and all local communities
e-Healthcare	• Connecting 15,000 hospitals and healthcare centers
e-Education	• Connecting 30,000 schools and local libraries and community education centers
e-Agriculture	• Connecting 95% Thai citizen especially those remote poor farmers

Each Ministry with different visions & development stages
But common needs in basic connectivity and key solutions

Broadband Target

- Broadband coverage by 80% in 2015 and 95% in 2020
- Broadband services
  - E-Agriculture
  - E-Education
  - E-Government
  - E-Healthcare
  - E-Disaster Management
- Enhance businesses using e-Commerce via National Broadband Network

Fiber Optics

City: Full Competition among services providers

Rural Areas: Government Invest

Broadband Development
Ongoing Projects

1. Public Free Wi-Fi
2. Wi-Fi Network for Education (Tablet)
3. Smart Province

Public Free Wi-Fi

- Increase the use of Broadband technology across the country
- Reduce Digital Divide
- Improve “Quality of Life” by Broadband

Public Free Wi-Fi

- Rural Areas

- Tourist Attractions

- Public Service Transportation

Public Free Wi-Fi

- **75,000 Wi-Fi Point of Access Available**

- **150,000 Wi-Fi Point – On the way**

Wi-Fi Network for Education (Tablet)

- Improve Thai education with Broadband technology
- Provide High-speed Internet to Schools
- Support the One Table Per Child (OTPC)

Wi-Fi Network for Education (Tablet)

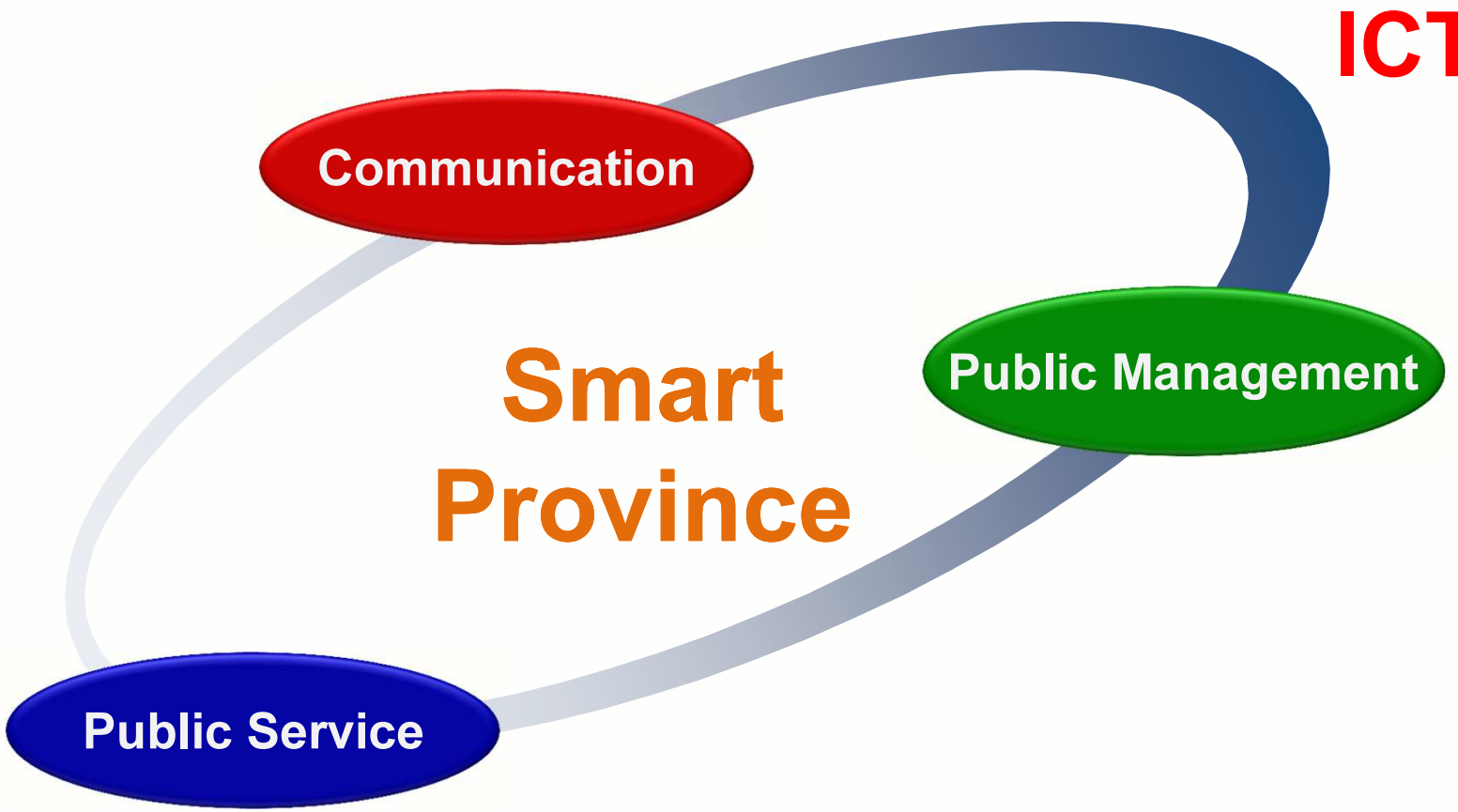
- 40,000 primary and secondary schools countrywide

- Wi-Fi Access Points

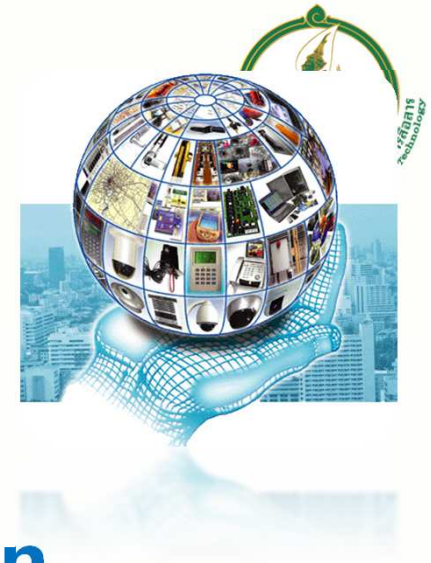
- Fiber / 3G / Satellite

Smart Province

- **The use of ICT to provide the following benefits**



Smart Province

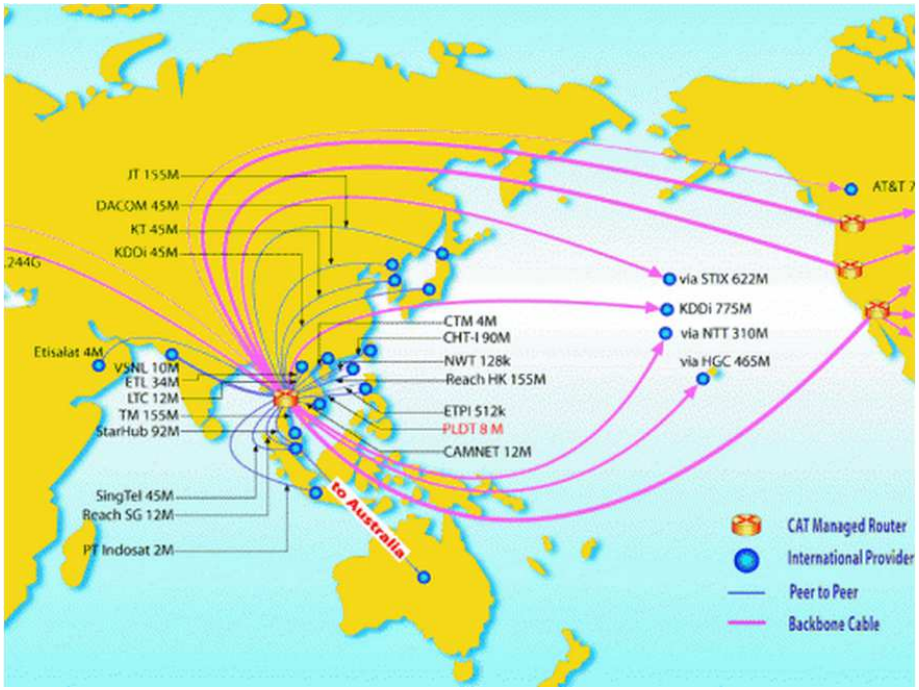


Nakhon Nayok
Smart Province

- **Development of Communication Network**
  - **Fiber Optic**
  - **Wi-Fi**

Government offices and Residence Areas

Thailand Internationnal Connection



International & Domestic Bandwidth

Month/Year	International Bandwidth (Mbit/s)	Domestic Bandwidth (Mbit/s)
08/2012	405,860	1,006,140
12/2009	104,595	619,317
12/2008	55,095	251,091
12/2007	22,073	157,010
12/2006	9,909	53,773
12/2005	6,808	28,721
12/2004	3,006	21,379

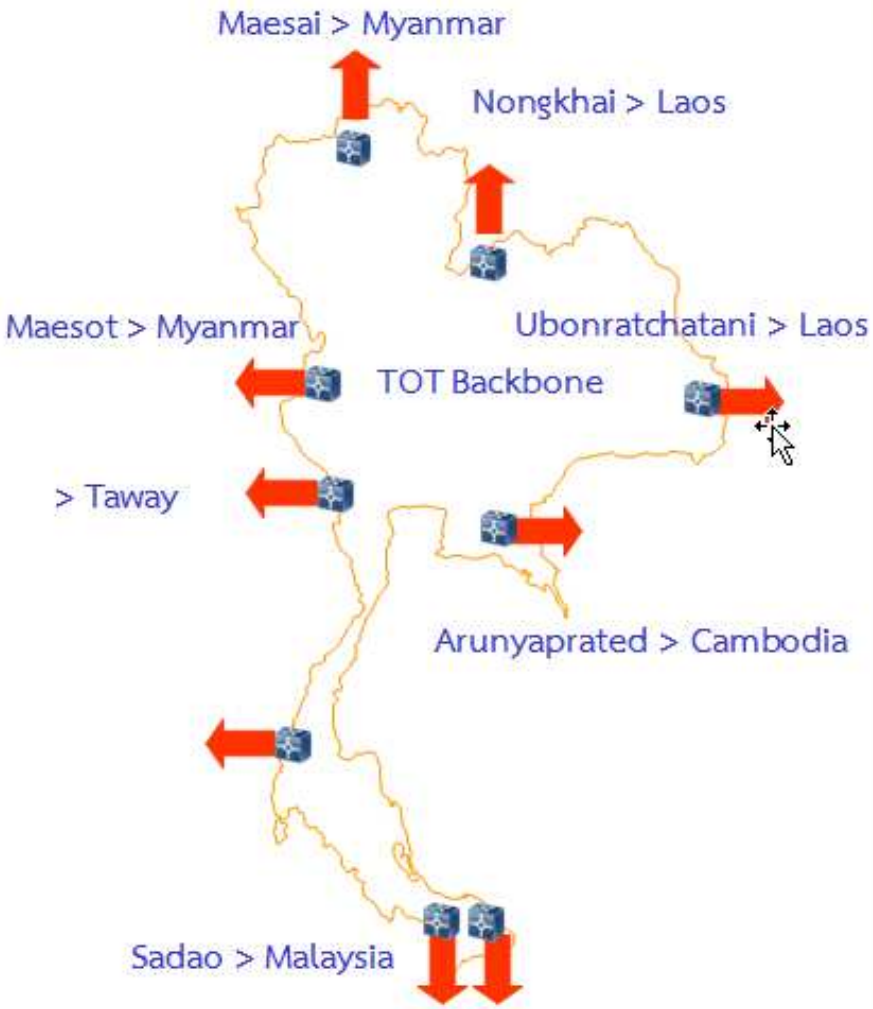
International Gateways

There are seven international Internet gateway operators in Thailand.

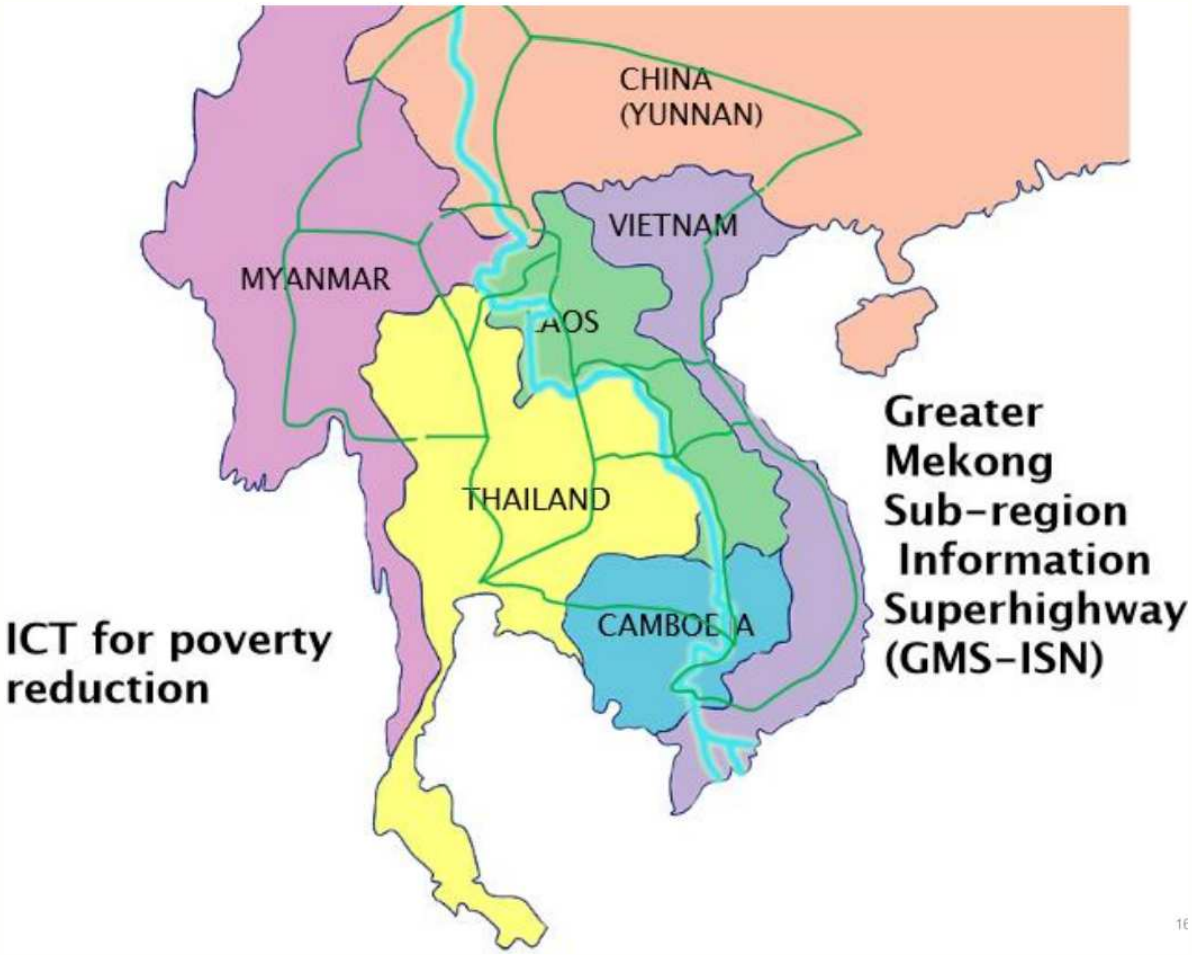
Code	Name	Operator
IIG-CAT	International Internet Gateway	CAT Telecom
IIG-TOT	International Internet Gateway	TOT
TIG-IIG	True International Internet Gateway	True Internet
TTGN-IIG	TT&T Thailand Global Network Gateway	TT&T
IIG-ADC	ADC International Internet Gateway	Advance Datanetwork Comm
CSL-IIG	CS Loxinfo International Gateway	CS Loxinfo
SBN-IIG	International Internet Gateway	Super Broadband Network

Thailand International Connection Point

- To be Information Hub for Indochina
- Connect National Gateway For Asean Economic Community (AEC) Member
  - ❑ China
  - ❑ Myanmar
  - ❑ Laos -> Vietnam
  - ❑ Cambodia
  - ❑ Malaysia



Grater Mekong Sub-region Information Superhighway



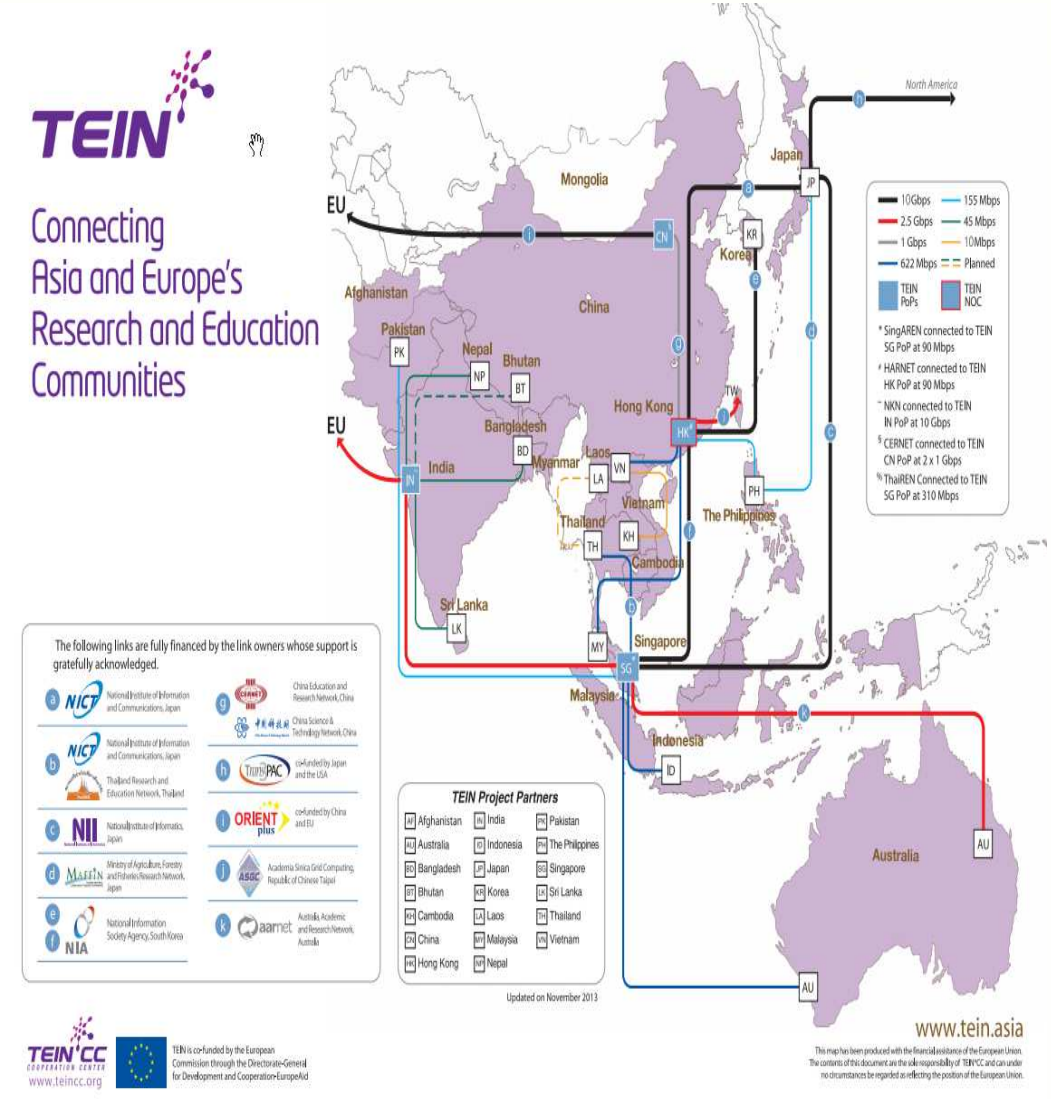
GMS-ISN

- Phase I : Planning of GMS ISN and reach the common understanding and agreement
- Phase II : Constructing the GMS-ISN First step and planned the ready-for-service date to be on or before 2008
- Phase III : Constructing the GMS ISN second step and planned the ready-for-service date to be on or before 2010
- Phase IV : Developing all kind of service and application based on the constructed network facilities developed in Phase II and III

GMS ISN


China
Myanmar
Dali
Kunming
Ruili
Meiktila
Lashio
Mandalay
Meiktila
Nay Pyi Taw
Yangon
Mawlamyine
Keng Tung
DaLuo
Jinghong
Ho-kou
Lao cai
Nanning
Pingxiang
Hanoi
MengLa
Natery
Muang Xay
Mac Sai
Mae Chan
Chiang Rai
Louang Prabang
Laos
Pakxan
Vinh
VientCane
Udon Thani
Dong Ha
Mae Sot
Tak
Khonkhaen
Da Nang
Thailand
Pakse
Saisophon
Siem Reap
Cambodia
Bangkok
Kampong Cham
Viet Nam
Phnom Penh
Ho Chi Minh City
existing optical fiber cables
new-built optical cables during phase 1
new-built optical cables during phase 2

Trans-Eurasia Information Network (TEIN)



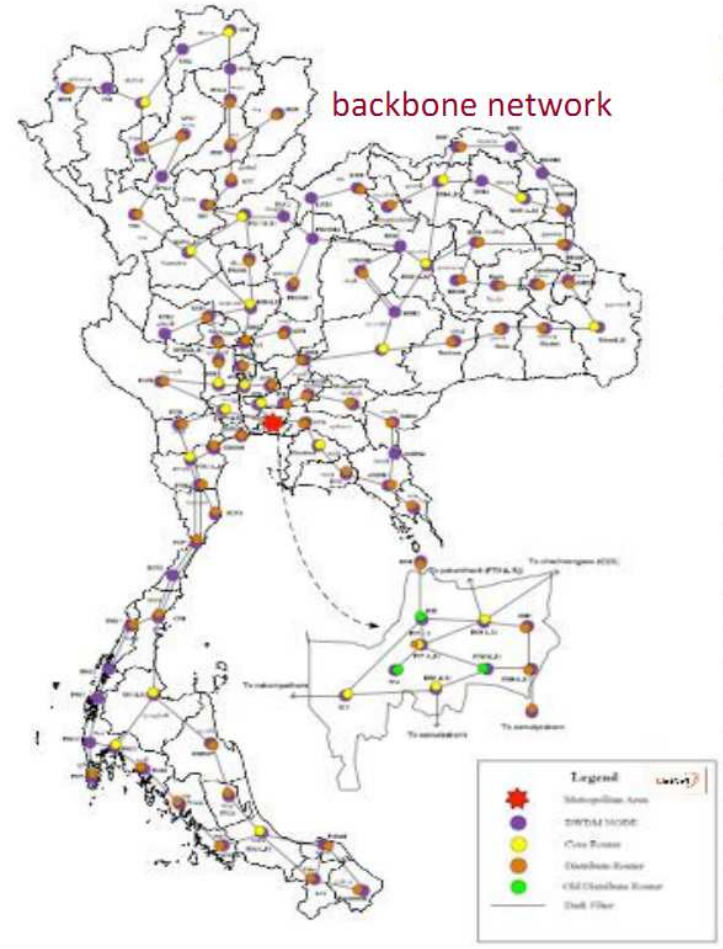
Connect Nartional Research and Education Network (NRENs)

- **CERNET**
- **MMREN**
- **LERNET**
- **ThaiREN**
- **CamREN**
- **VINAREN**

ThaiREN

- **ThaiREN** represents research and education networks consisting of ThaiSarn and UniNet for international research and education collaboration.
  - **ThaiSarn** connects government institutes for research activities and project collaborations.
  - **Uninet** currently connect most higher education universities as well as cover more than 9,000 basic education schools and vocational institution in Thailand

ThaiREN Network Status



- Optical Network Backbone with DWDM @ N x 10Gbps
- Fiber to the University @ 1 - 2 Gbps
- Fiber to the school @ 10 – 100 Mbps
- Public libraries @ 10 – 100 Mbps

Members	# of Members
Universities/Institutes	194
Vocational Education	415
Educational Service Area	185
Basic Education	9,749
Public Library	151
Research and others	51
Total	10,745

THANK YOU

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