

Remote Medical Education in Asia-Pacific - Possible expansion to Mexico-

Shuji Shimizu, MD

Director,
Telemedicine Development Center of Asia,
Kyushu University Hospital,
Fukuoka, Japan



April 17, 2013 connected to CUDI, MX



KYUSHU UNIVERSITY



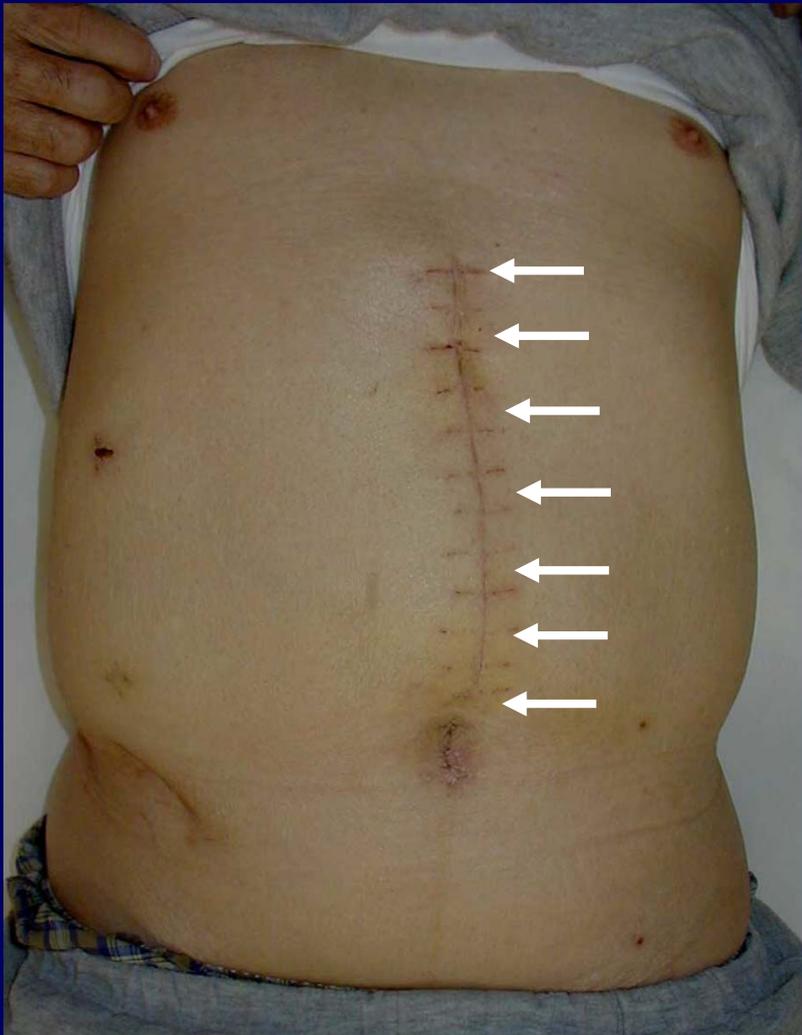
Today's menu

- **Background**
- **Activities**
 - Korea-Japan
 - Global expansion
- **Challenges**

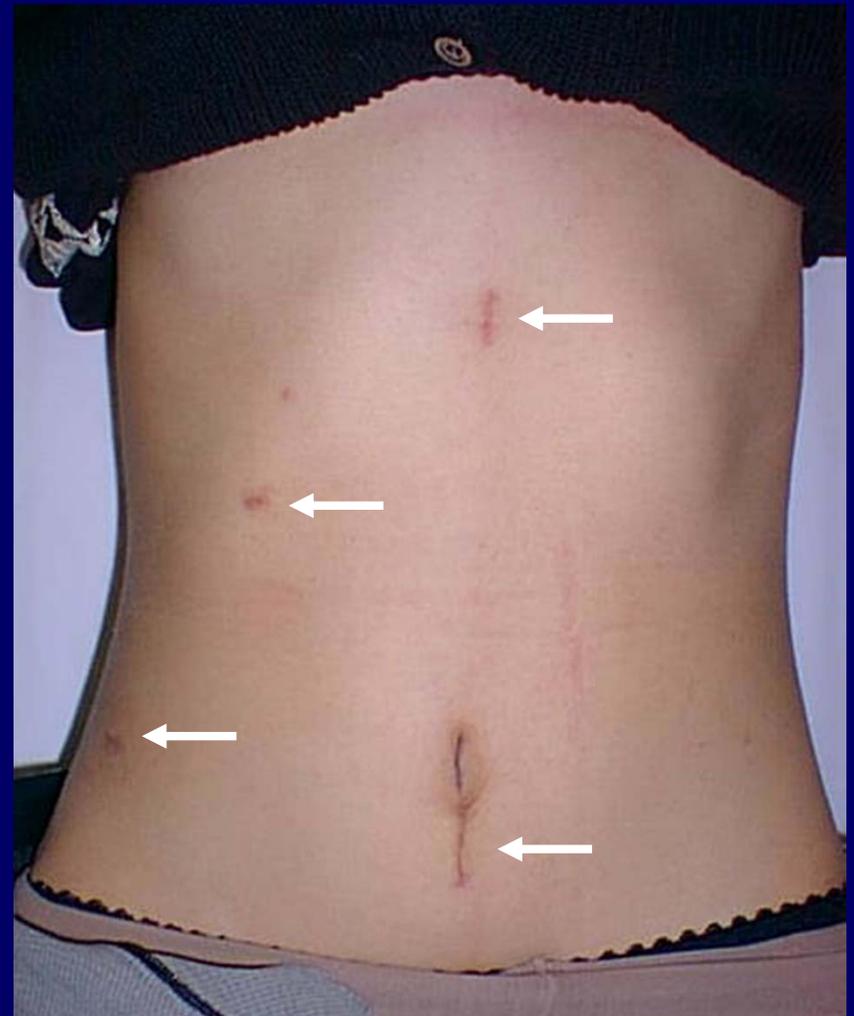


Surgical revolution: One example

Open



Endoscopic



HUGE demands in education!

- Many hospitals do not have all the specialists.
- Many young doctors do not have enough chances.

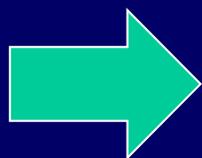
Remote education



- Save time & travel expenses
- Scalability: Easy repeat & Large audience

<Economical & Effective!>

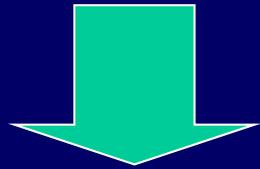
But, NOT popular in medical community yet



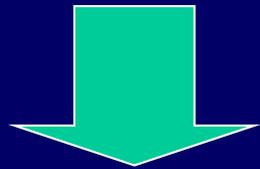
Why not?

Int'l Teleconf/Live demo

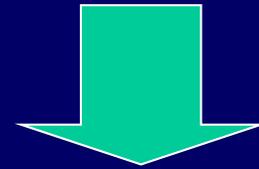
1990s



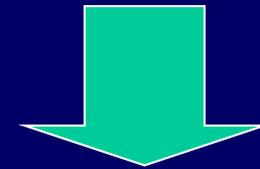
ISDN/Narrow



Poor image!



Satellite



Expensive!

Situations dramatically changed in 2002



Korea



We use BIG Internet!

Good Team

Japan



Big Broadband Network: Bandwidth **2G**

Key technologies

2000s

- DVTS

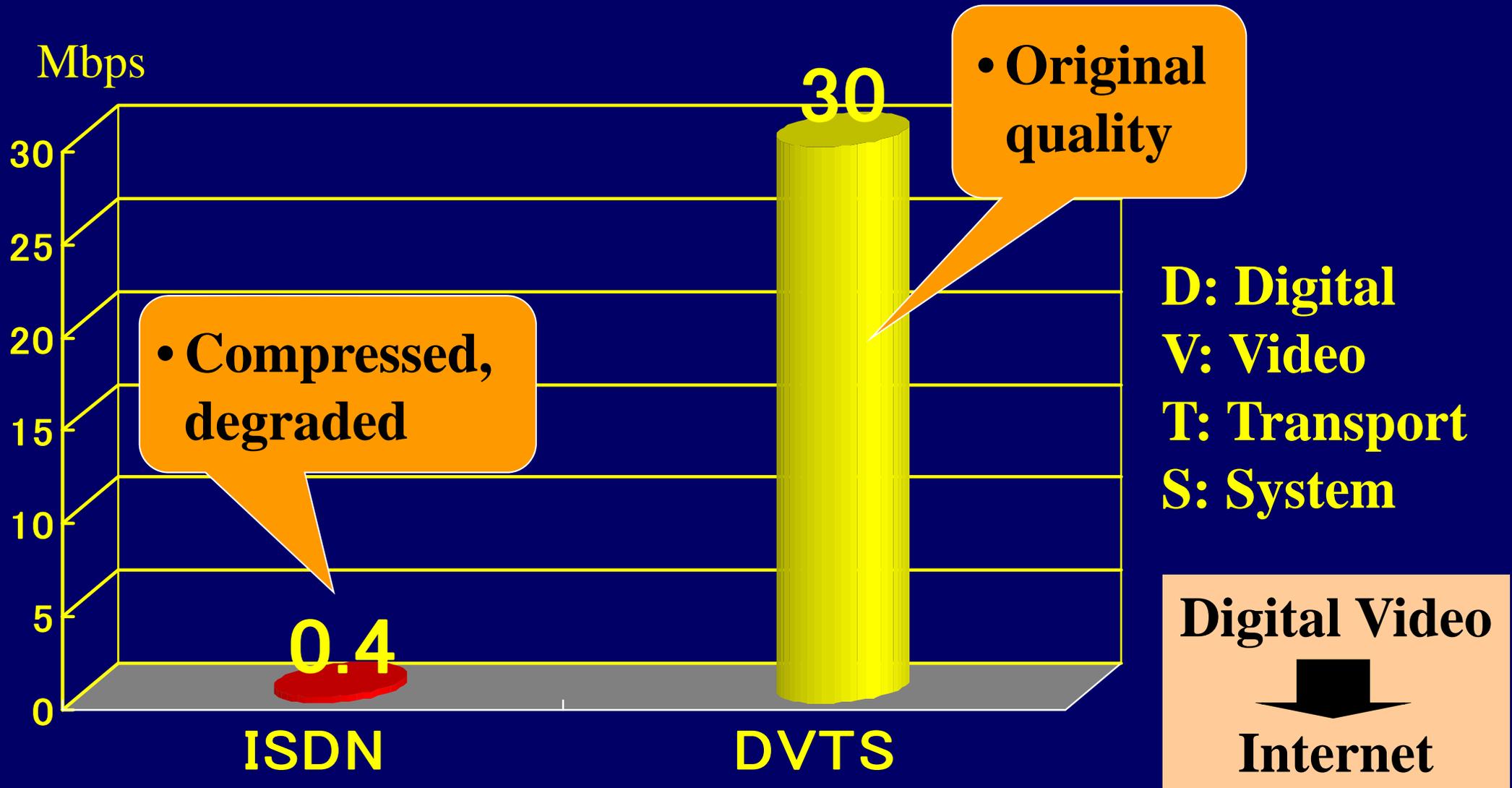
(Digital video transport system)

- Academic network

(Research and education network)

Science 1986, “Computer Networking for Scientists”

Point 1: Clear & Smooth streaming



DVTS: Cheap and Simple

Surgical instrument

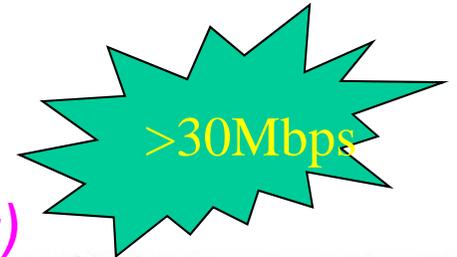


DVTS PC



IEEE1394

Internet



UTP(Ethernet)

- **DVTS: free but powerful software**
- **No special teleconferencing equipments**

BROADBAND network is essential!

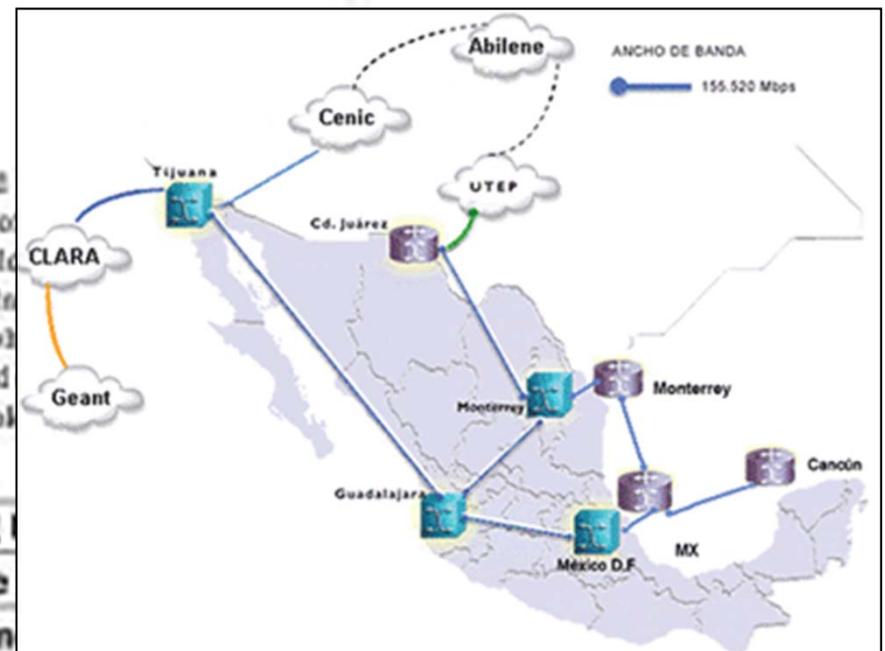
Point 2: Academic Network

Not the Internet You Know

An ambitious experiment could point the way
to tomorrow's academic network

Mexico: CUDI

Only for Research and Education



Today's menu

- Background
- Activities
 - Korea-Japan
 - Global expansion
- Challenges



The first live demonstration of surgery

Aug 1, 2003

OR

Surgical movie



- Needs! Laparosc. Surg.
- Security software used



Kyushu Univ., Japan

NCC, Korea

TV news reports

Aug 22, 2003



TNC in the evening news



RKB



KBC



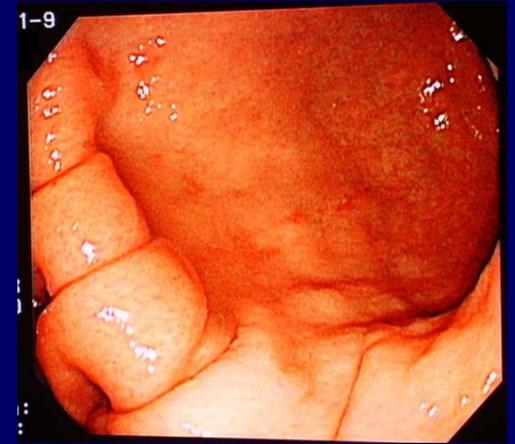
NHK



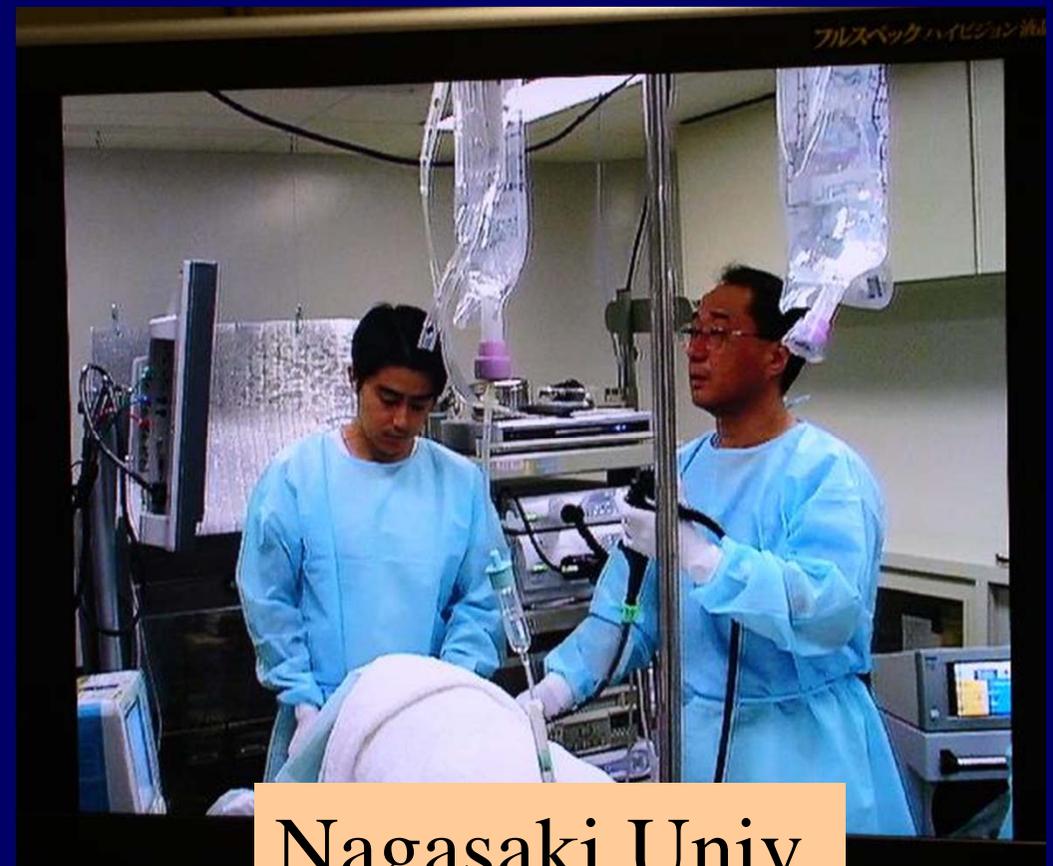
KBC

Casual setting to neighbors

New endoscopic procedures (ESD)



Kyushu Univ.



Nagasaki Univ.

2006.8.21

Live Surgery from Korea to Japan



Seoul => Fukuoka International Convention Center

Routine Int'l Case Teleconference



Kyushu Univ., Japan



Seoul Univ., Korea

Today's menu

- Background
- Activities
 - Korea-Japan
 - Global expansion
- Challenges



International academic network (APAN)



**Non-profit
organization**

Endoscopic Congress - Korea GI Meeting -

JP-1



JP-2

Korea



2008. 3

New technical breakthrough

Continuous Medical Education in Asia

2009.6.26



Fukuoka, JP



Cho Ray Hospital
Ho Chi Minh, VN



Shanghai, CN



Cancer Institute
Tokyo, JP

Kyushu, Tokyo, Shanghai, Ho Chi Minh)
conference on 2009/6/26(AriakeCIH)

China-Japan Early Gastric Cancer Teleconference

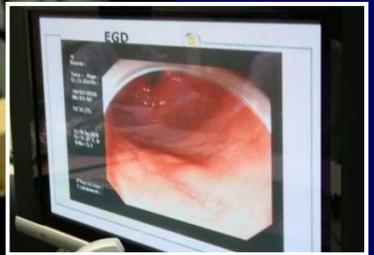
Regular meeting



Fukuoka/JP



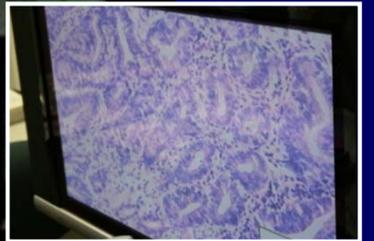
Tokyo/JP



Fudan U, Zhongshan Hosp/CN



PUMCH/CN



Video

2011.11.15

More extensions

Seattle/US



Virginia Mason Medical Center

Seattle, Washington USA

To US

2010.10.9

To India

Hyderabad/India



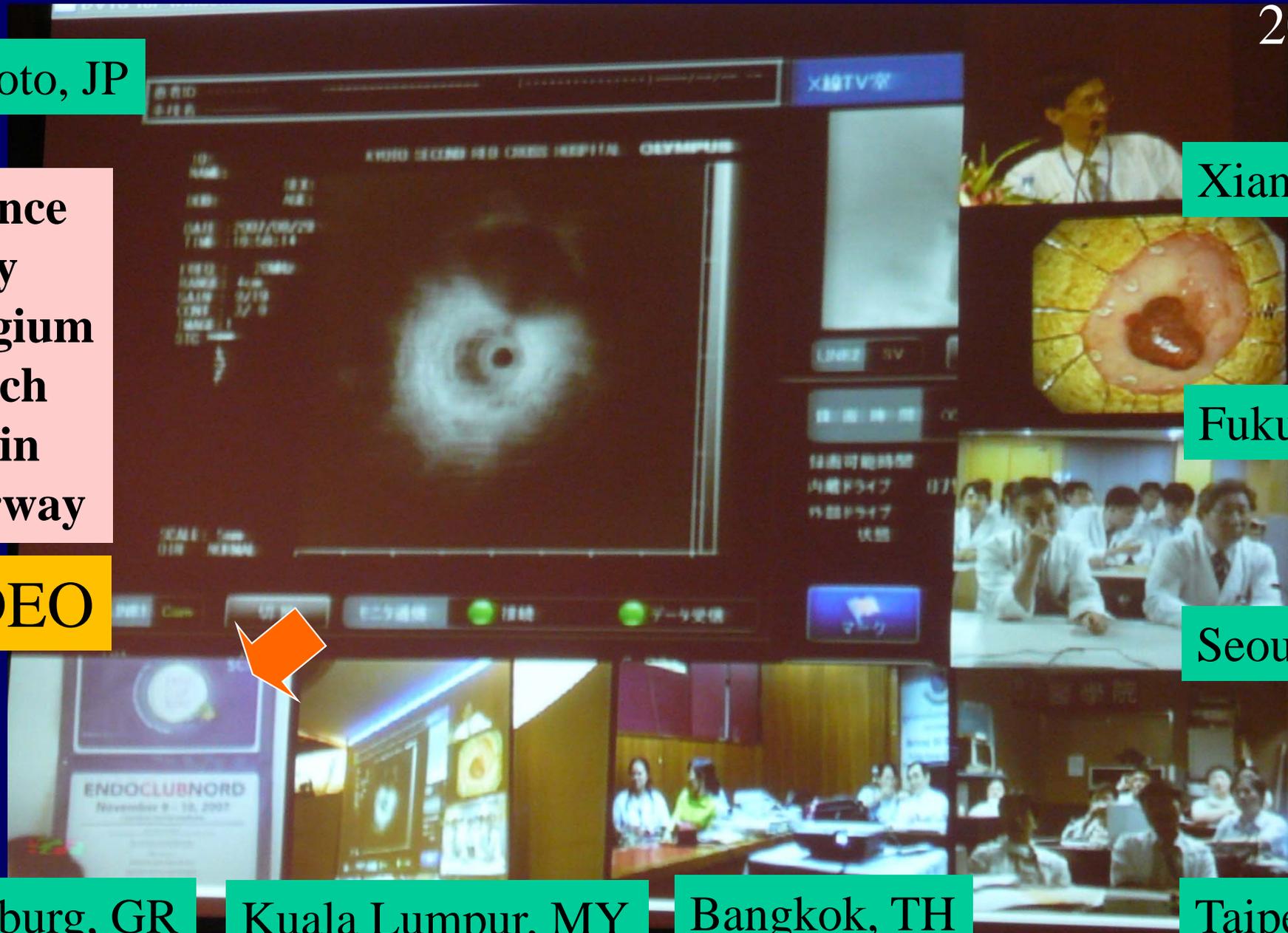
Endoscopic Demonstration with Europe

2007.8

Kyoto, JP

- France
- Italy
- Belgium
- Czech
- Spain
- Norway

VIDEO



Xian, CN

Fukuoka, JP

Seoul, KR

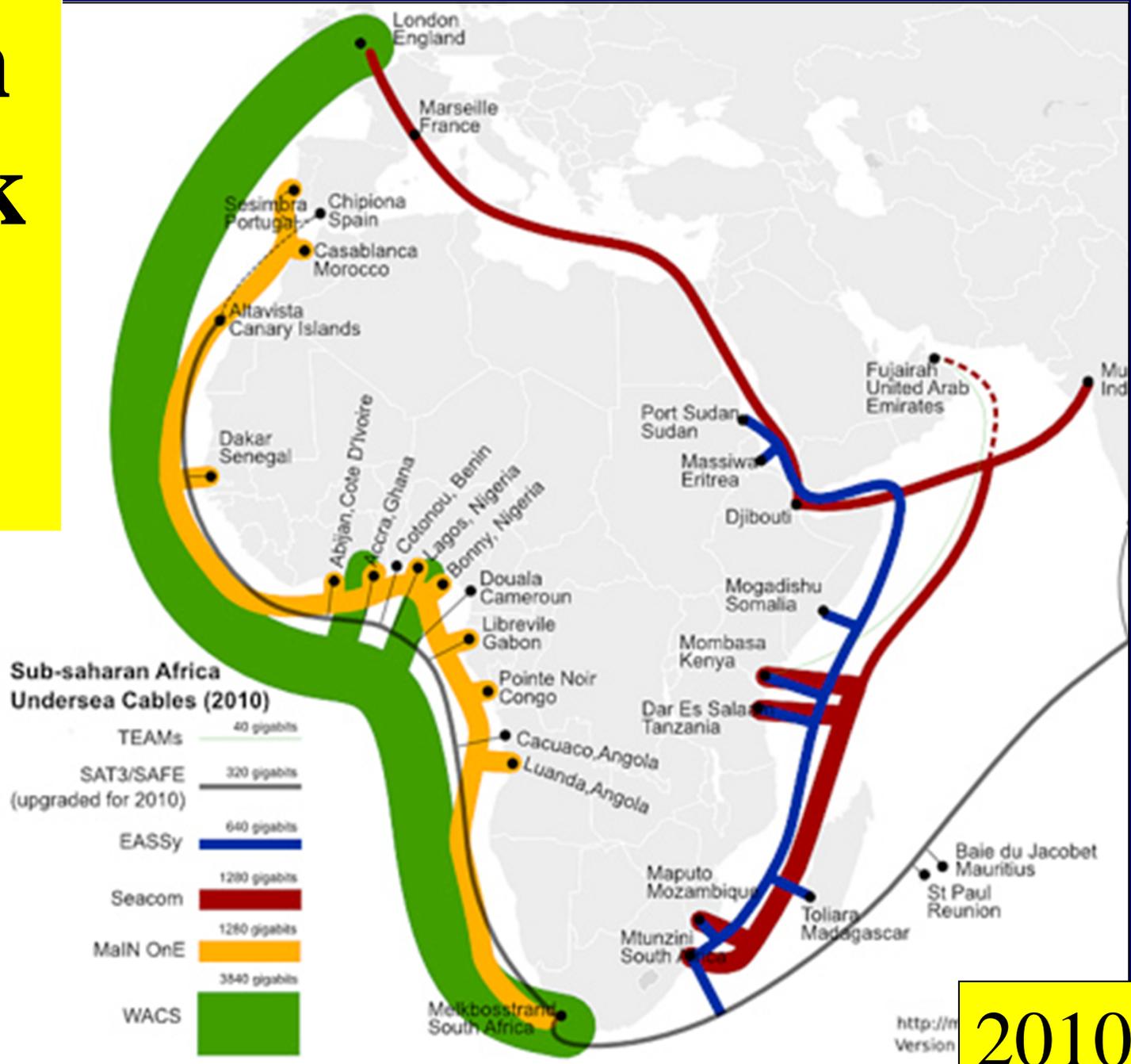
Hamburg, GR

Kuala Lumpur, MY

Bangkok, TH

Taipei, TW

Expansion of Network to South Africa



2010

First to Cape Town in South Africa

14,000km

Kyushu U, JP



U Cape Town, ZA



Cho Ray, VN

2011.9.21



2011.3



VIDEO

Latin America: Preliminary trials

Not so good...

2009.10.7



U San Paolo, BR

2009.7.1



CL



TX



BR



MX



Seattle

Network in Latin America



Red CLARA



HN Honduras
MX Mexico

Endoscopy teleconf. with Central/Latin America

2013.1.16

DVTS for WindowsXP - Video Window

Hawaii

APAN venue
Dr Yao
Dr Uedo



APAN35 (HNL)

Brazil

UERJ
Dr Fatima



UERJ

Mexico

UNAM
Dr Tanimoto



NIMSNSZ

Chile

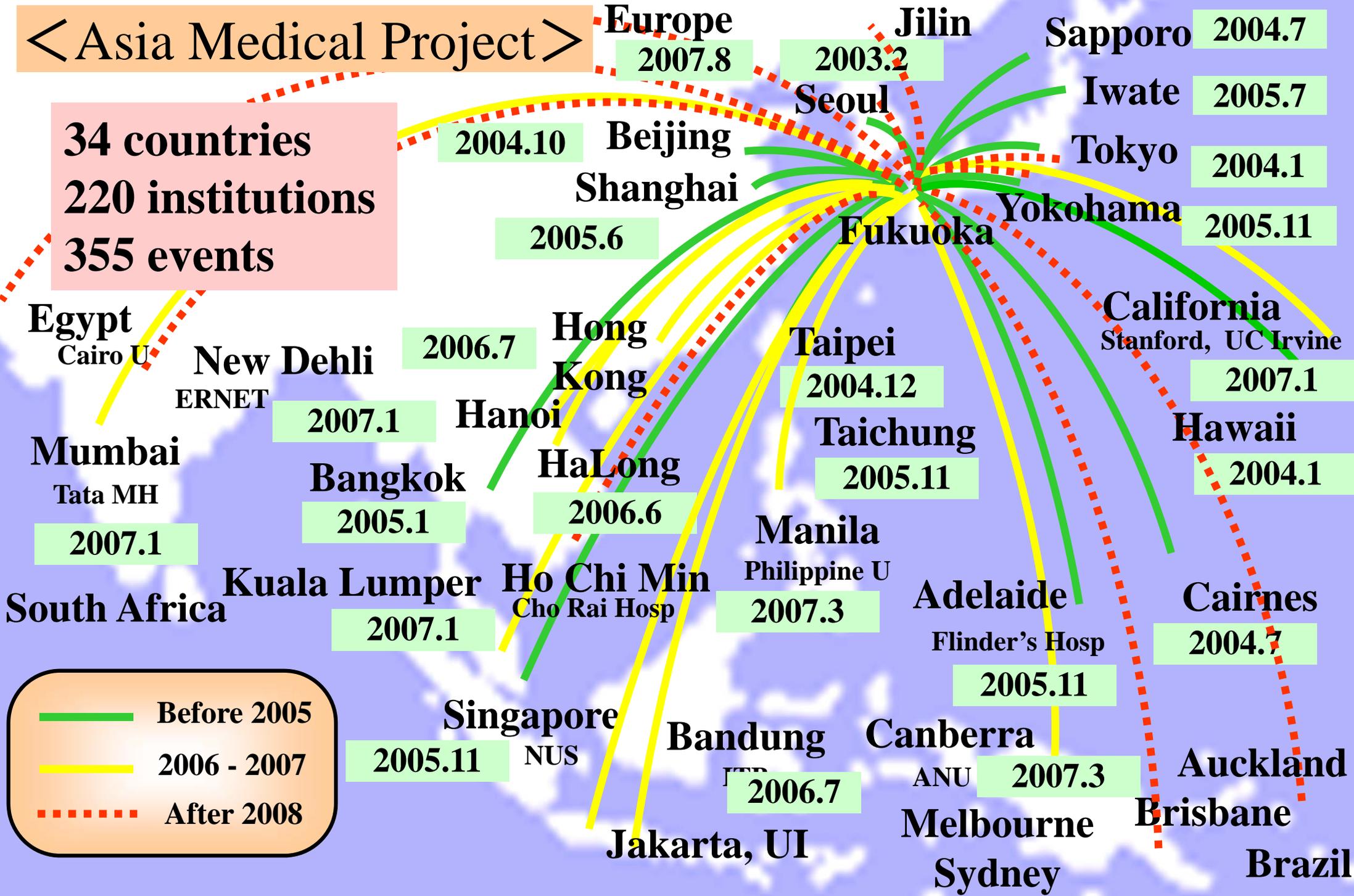
REUNA
Dr Ignacio



REUNA

< Asia Medical Project >

34 countries
220 institutions
355 events



— Before 2005
— 2006 - 2007
⋯ After 2008

Today's menu

- **Background**
- **Activities**
 - Korea-Japan
 - Global expansion
- **Challenges**



New Technologies

2010s

1. Smaller bandwidth for better quality

- better compression system

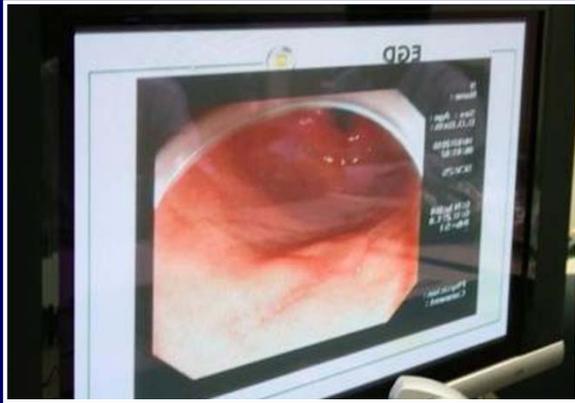
2. Mobile technology

- anytime, anywhere

Generalization!



Global endoscopic conference with Vidyo



2012.8.28



VIDEO

IN



IN



SG



KR



GE



TW



LK

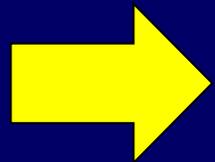


HK



KR

CUDI announced network expansion to hospitals in MX



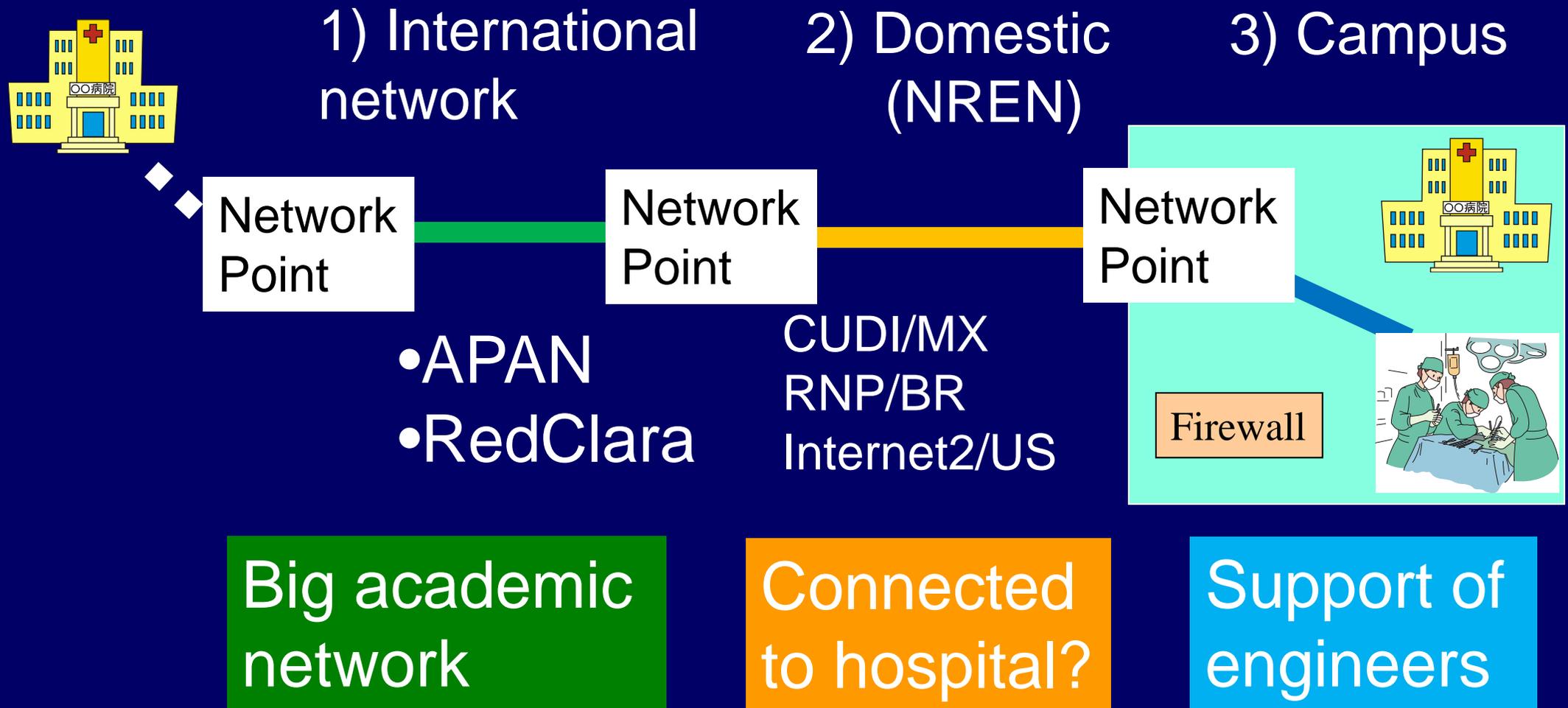
Good timing to join the project!

You need...

- **Engineers**
 - who make it possible
- **Doctors**
 - who make it meaningful

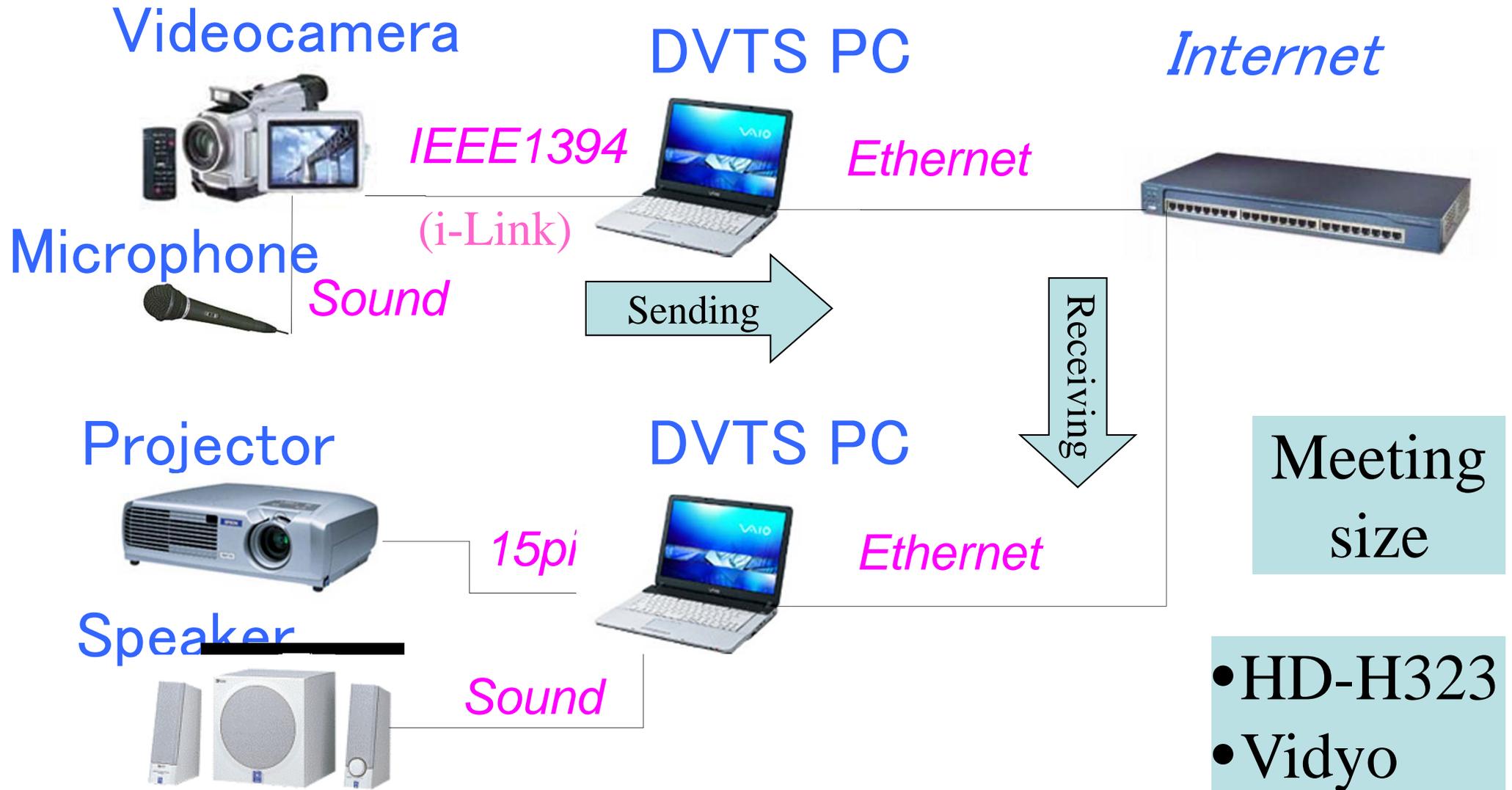


Engineers 1. Network to the very end



Big enough and stable network at all steps

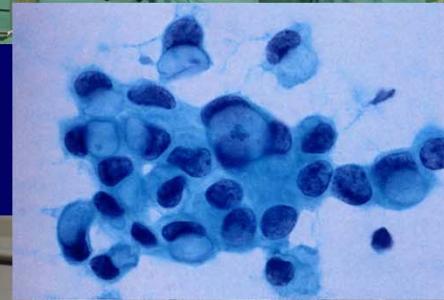
Engineers 2. Setup the systems



Doctors: Needs & variety contents

- Surgery/Endoscopy
- Cardiac intervention
- Healthcare
- Fetus
- Bird flu, SARS, HIV
- Basic Science
- Nursing
- Medical students, etc.

A lot more ...



Int'l Endoscopic Nurse Teleconference

Thailand



U Malaya



Kyushu U



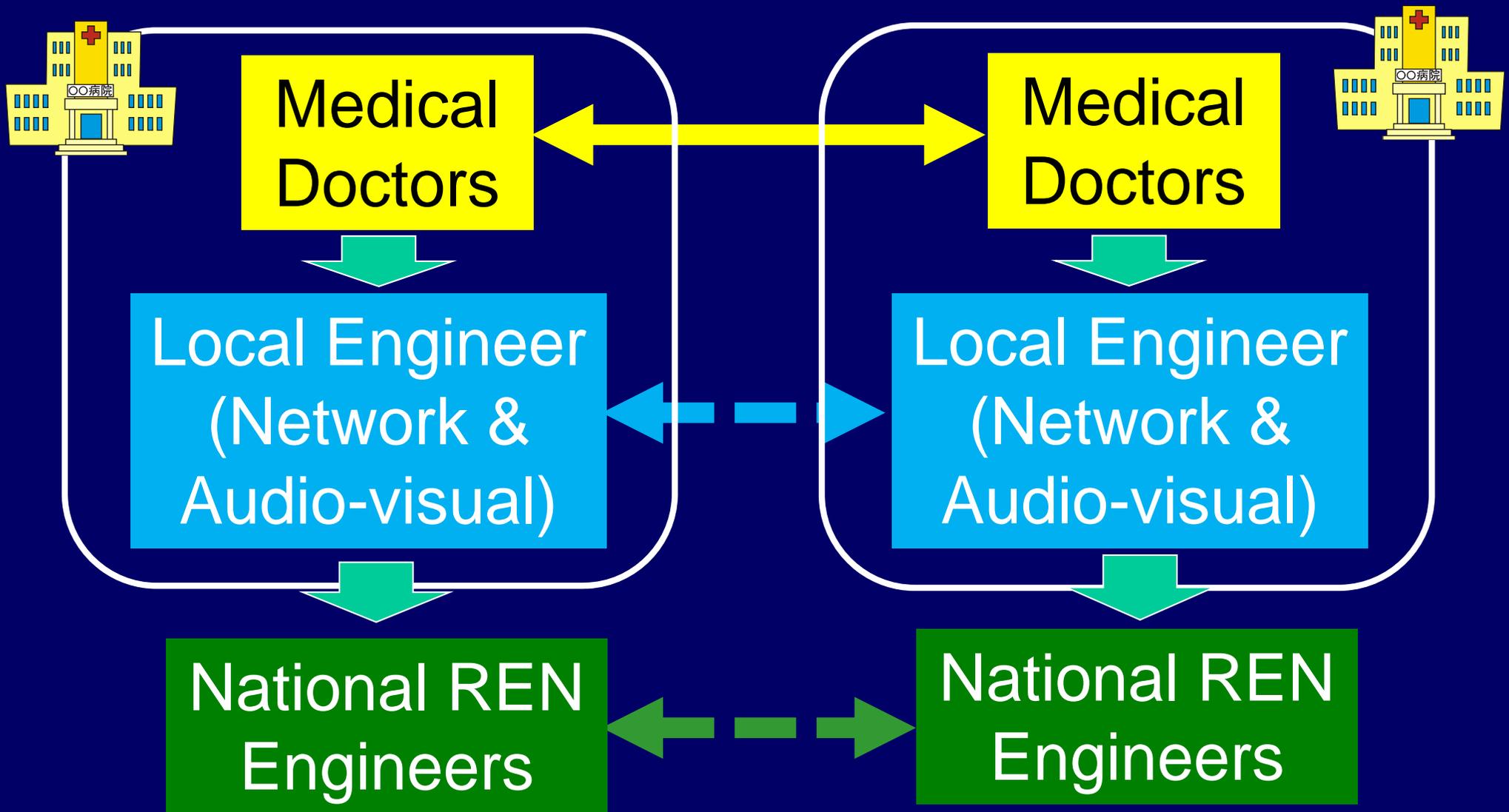
Singapore



Brisbane



Team building



The success depends on how good team you can make.



Conclusions



1. To preserve good image quality for moving images is essential in telemedicine.
2. R&E network has made the clear and smooth medical streaming possible with low cost.
3. Best timing to establish continuous medical education programs in MX.

Let us work together!