Kyushu University 2011
100th Anniversary

Ten-year Experience of Remote Medical Education in Asia - Possible expansion to Latin America -

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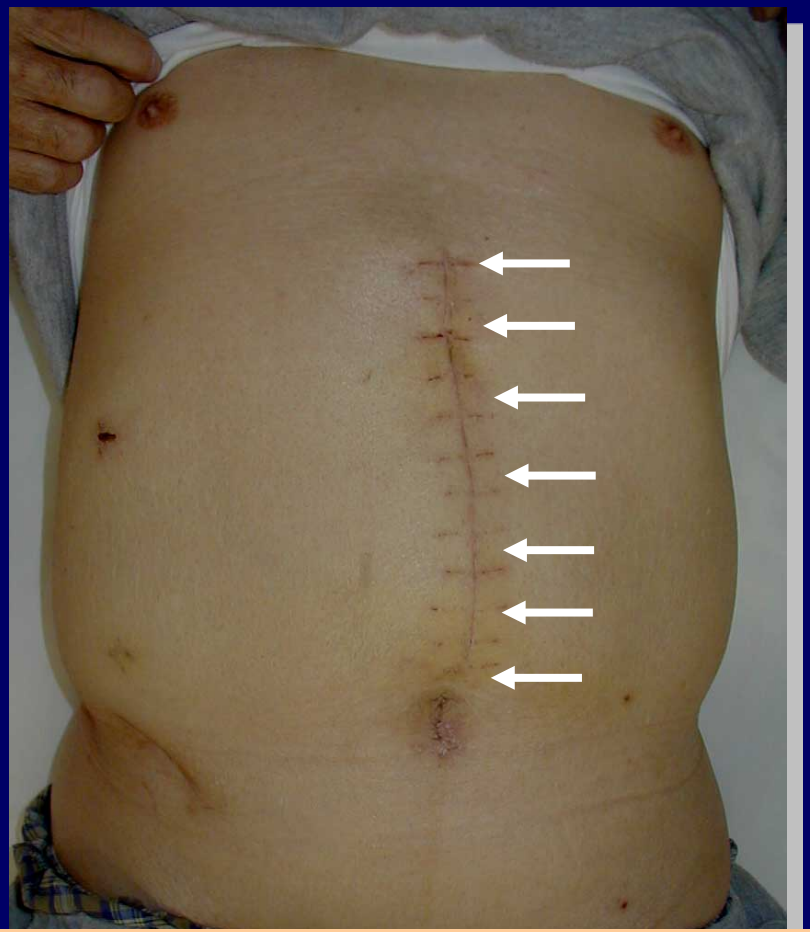
KYUSHU UNIVERSITY

Today’s menu

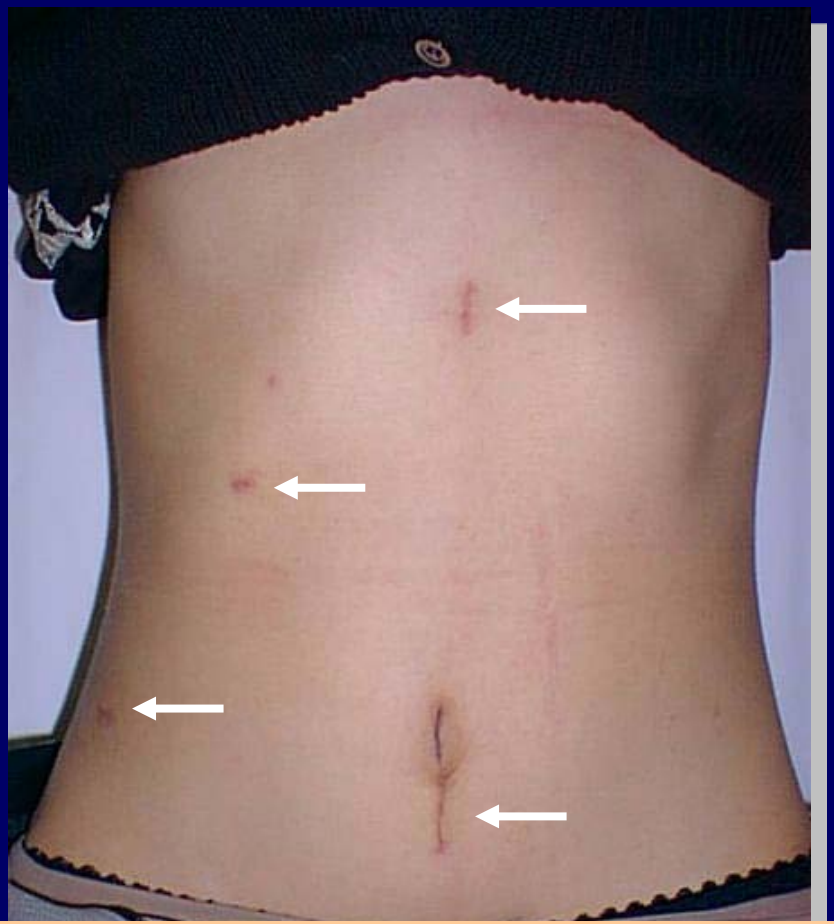
- **Background**
- **Activities**
- **Changes**
- **Latin America**

Key-hole operation: Big medical needs

Open



Endoscopic



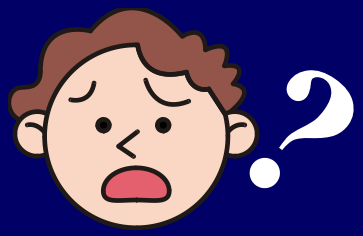
Many doctors want to learn the new surgeries.

Int'l Teleconf/Live demo 1990s

Internet

Poor image!

Satellite



Expensive!

Specific characteristics/conditions in telemedicine

- High resolution
- Moving images
- Varieties at each hospital

Technically challenging

* Common videoconference
  1. Sit in front of monitor
  2. Slides at most
  3. Uniform equipment

Our project started in 2002

Korea

Network revolution!

Big Internet (2G).

Hub in Kyushu U

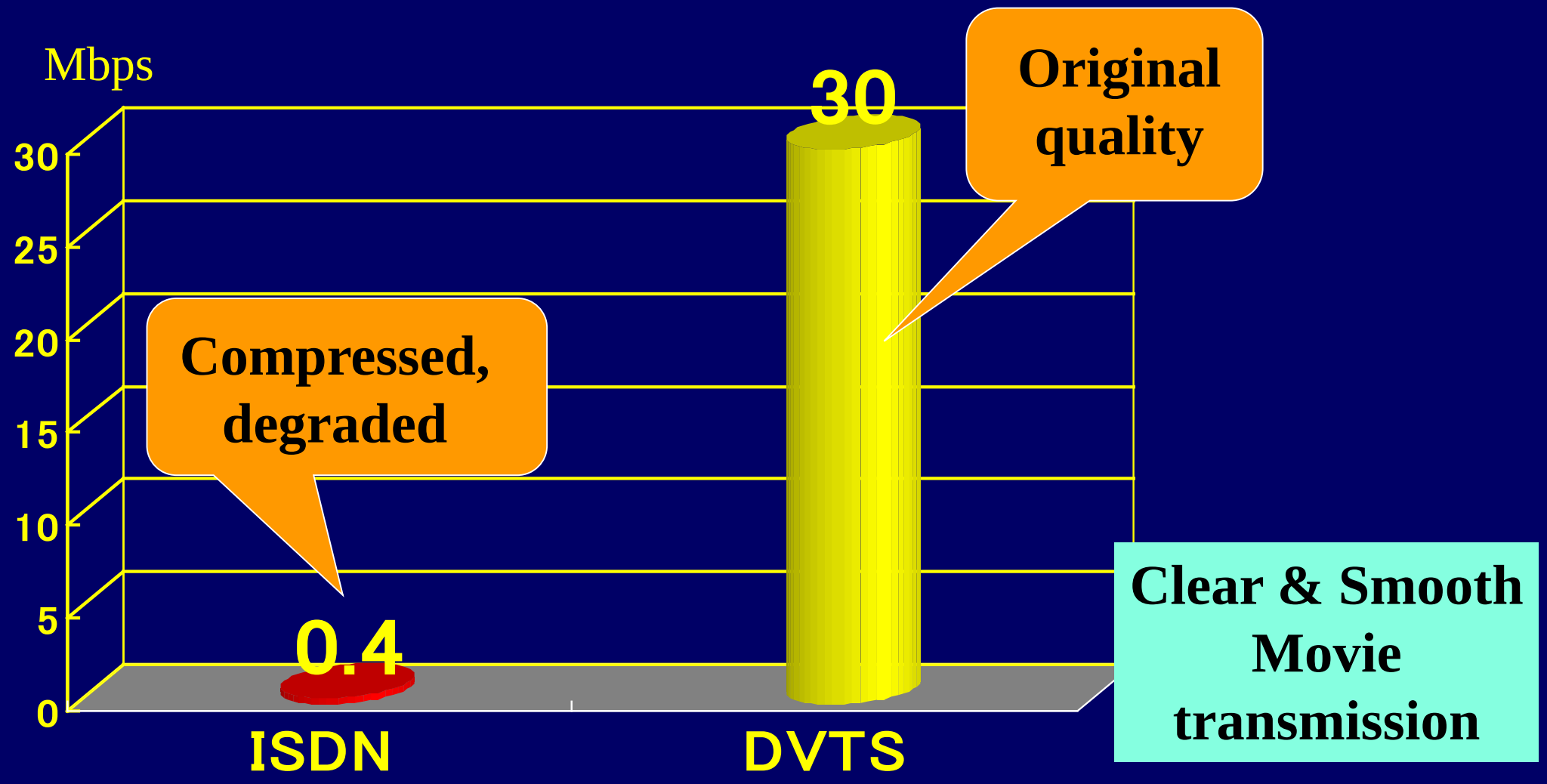
Japan

New technologies

2000s

- DVTS
  (Digital video transport system)
- Academic network
  (Research and education network)

Point 1: Big broadband Internet



Point 2. Cheap and User-friendly

Video camera

PC

DVTS: free software

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Gastric cancer

Diagnosis and treatment

JP KR

China

Taiwan

India

Thailand

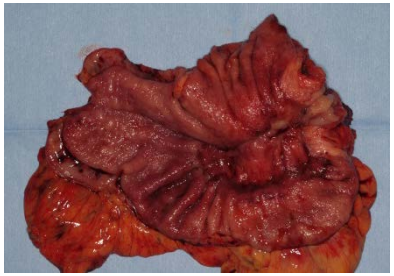
Vietnam

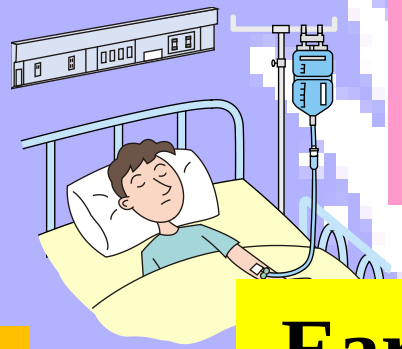
Malaysia

Singapore

Philippines

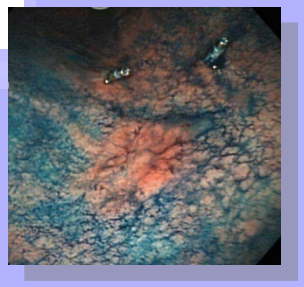
Latin America

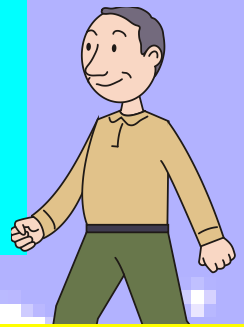




Advanced → **Ope** → Admission / Recurrence / Death

Early → **Endosc** → Recovery / Less cost / Back to work





Early detection is very important!

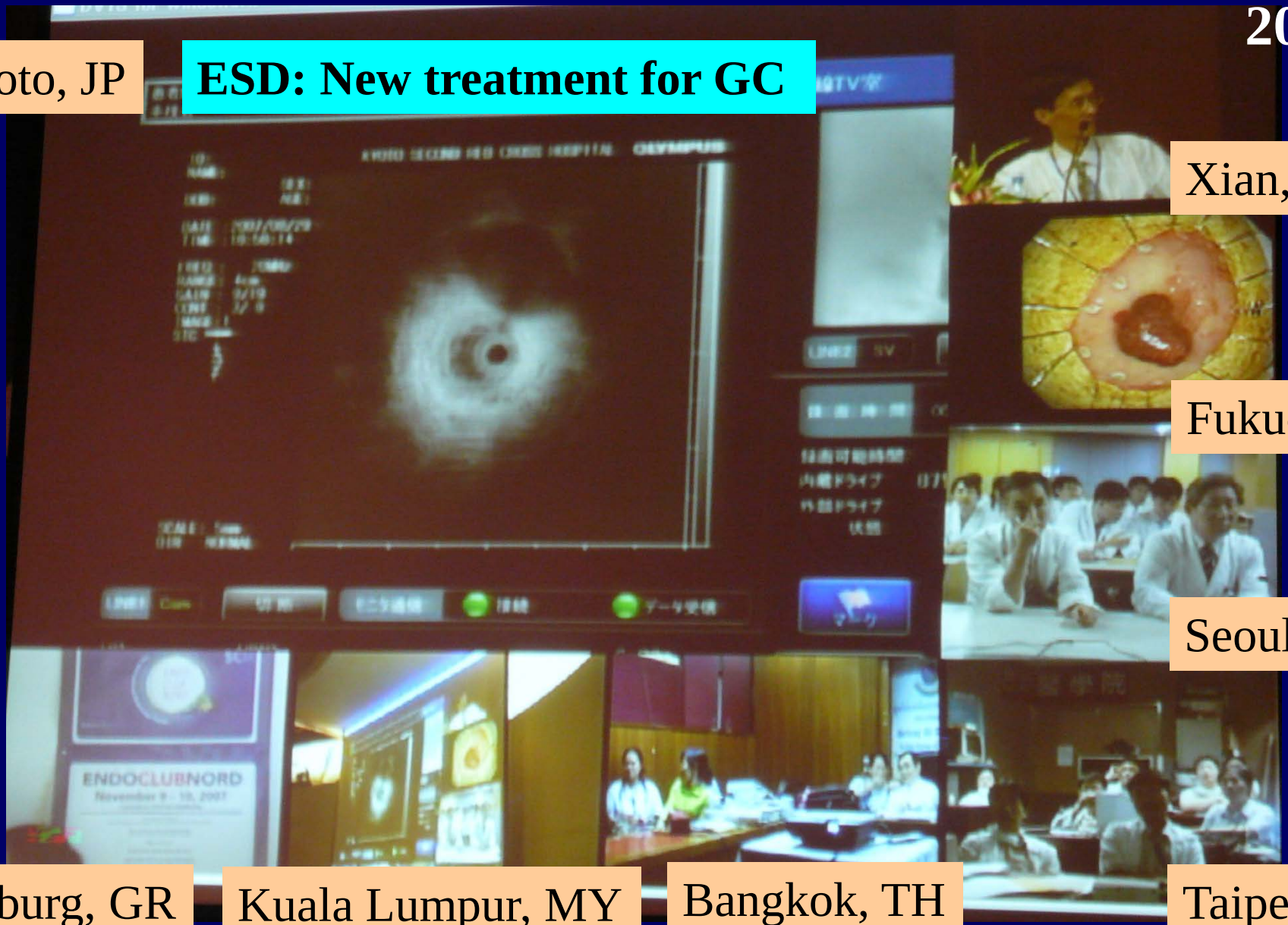
China-Japan Early Gastric Cancer Teleconference

Diagnosis of early gastric cancer

2011.11.15

Endoscopic Demonstration in Asia & Europe

2007.8



Kyoto, JP

ESD: New treatment for GC

Xian, CN

Fukuoka, JP

Seoul, KR

Hamburg, GR

Kuala Lumpur, MY

Bangkok, TH

Taipei, TW

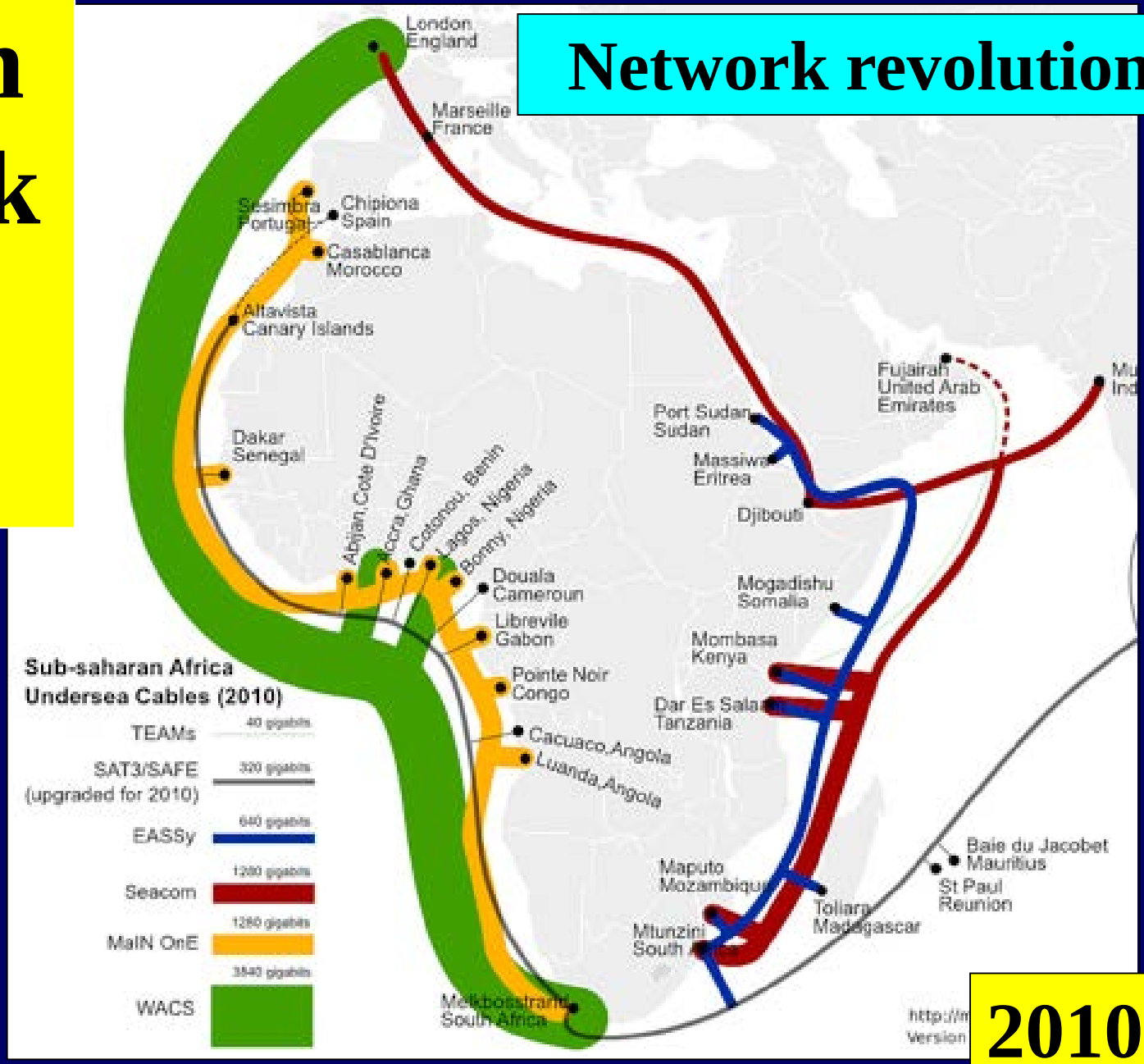
Infection: Bird Flu Teleconference

2007.1.24

- Dengue
- Ebola
- MERS
- Zika

Expansion of Network to South Africa

Network revolution



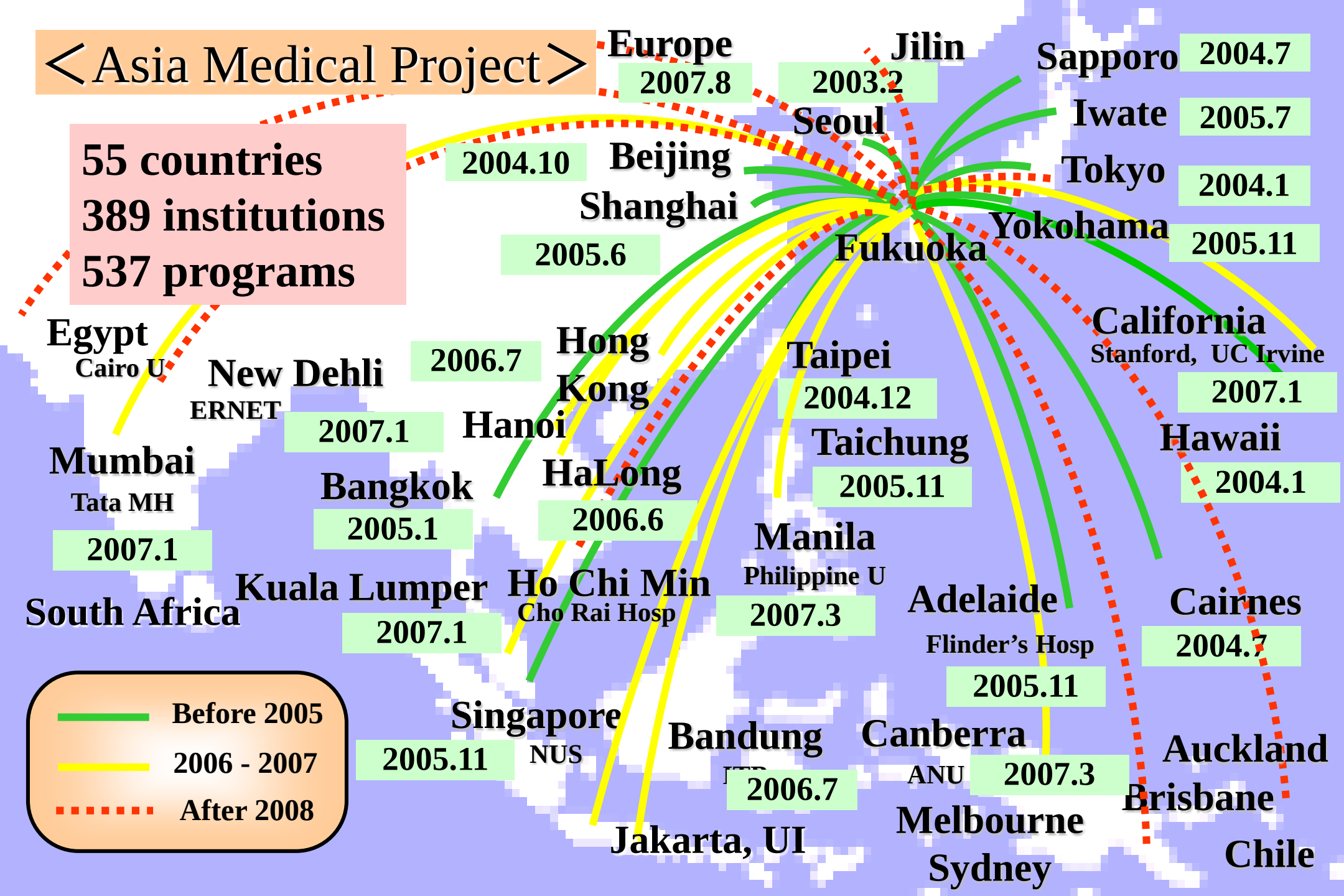
2010

First Live Surgery to South Africa

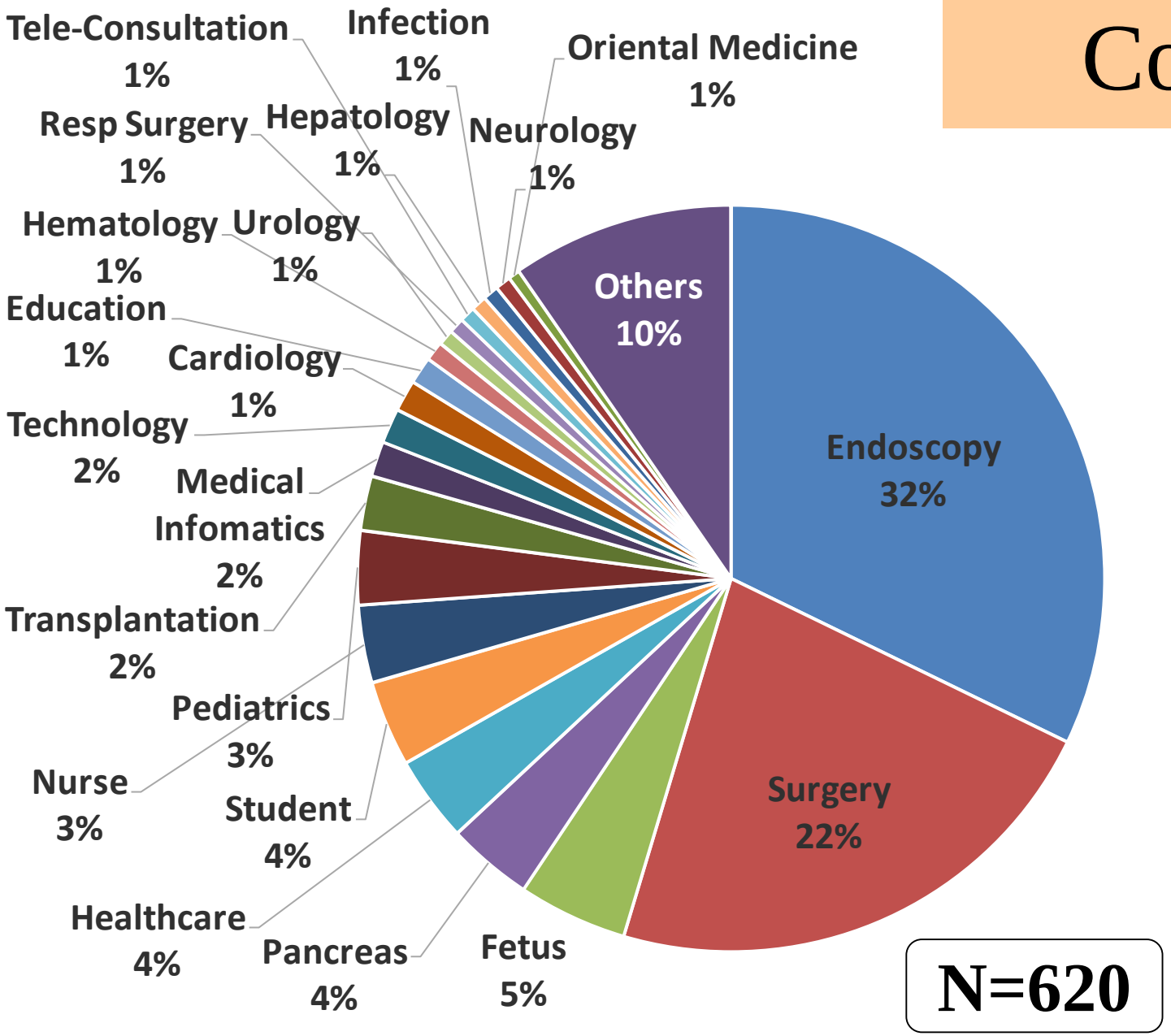
14,000km

＜Asia Medical Project＞

55 countries
389 institutions
537 programs



Contents



Others:

- Gynecology
- Neurosurgery
- Ophthalmology
- ENT
- Robotic surg
- Dental
- Pathology
- Orthopedics

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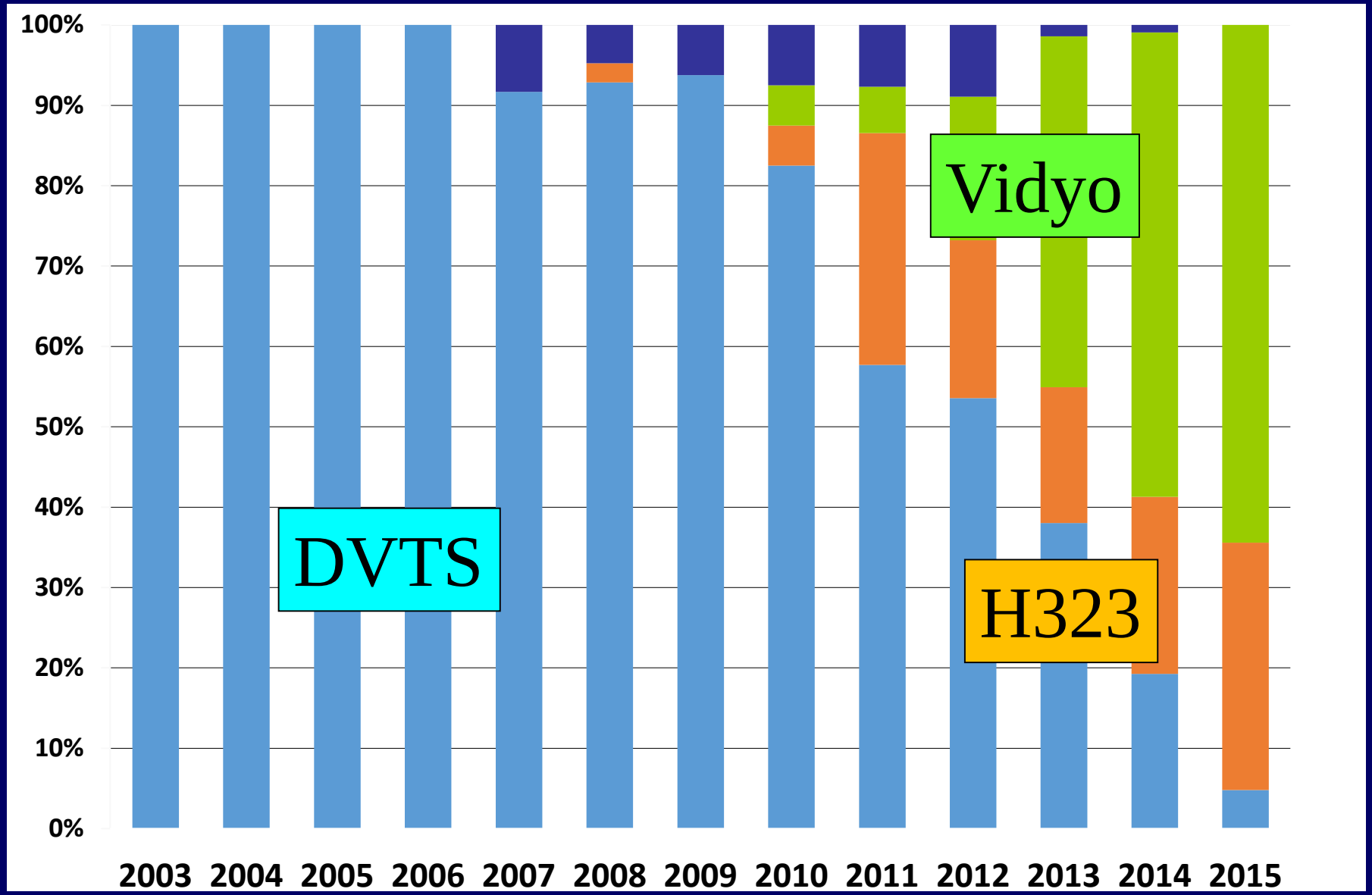
Choice of new technologies 2010s

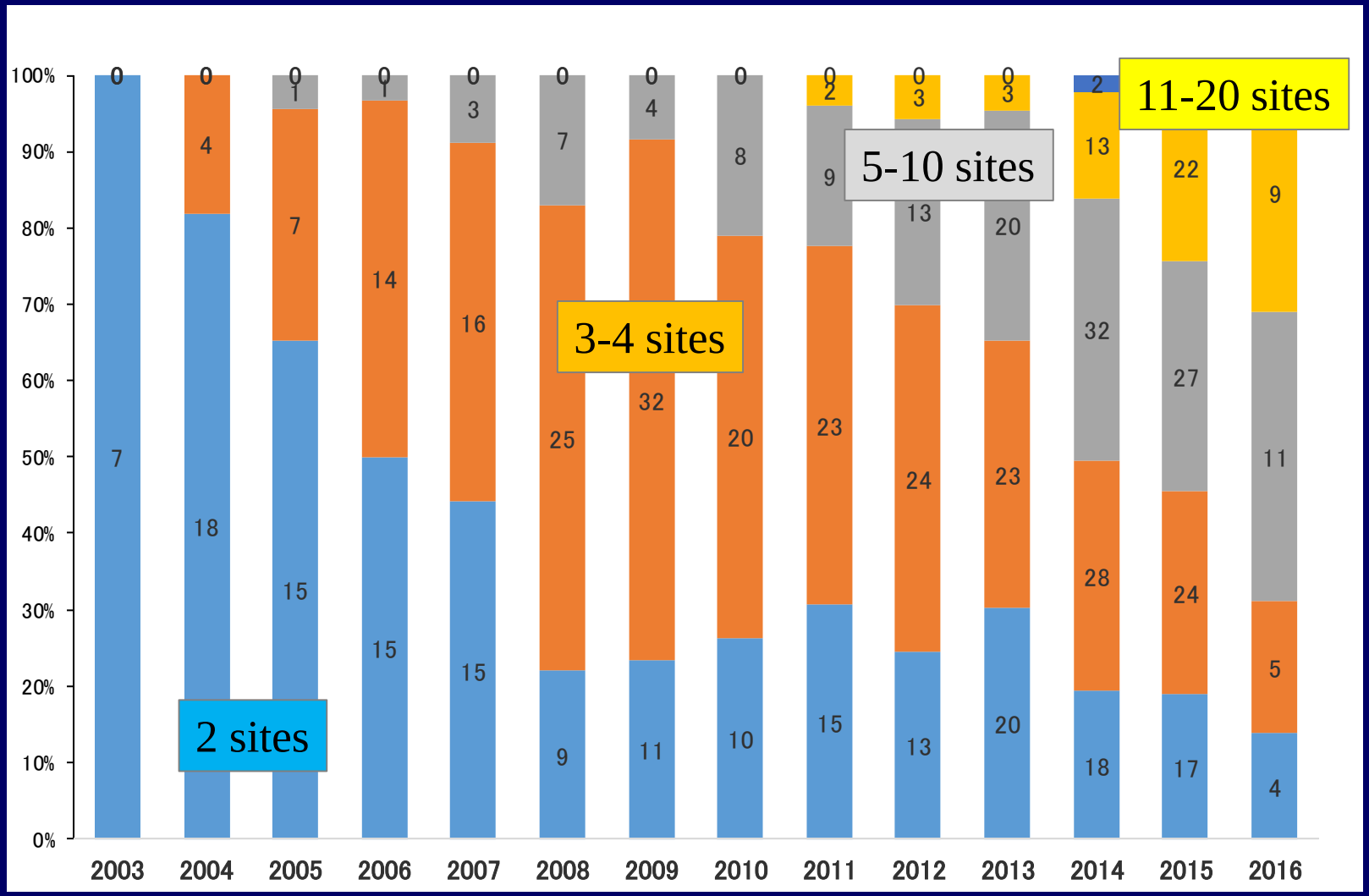
	DVTS	HD-H323	Vidyo
Image quality	u-SD	c-HD	c-HD
Equipment	PC	VC system	Server, PC
Network	Big	Small	Small
Global IP	Yes	Yes	No
Mobile	No	Yes	Easy
Bottom line	Network	Hardware	Sending image

*One-way **streaming** is another handy option.

System: dramatic change in use



Increasing demands for multi-connection



More and more hospitals want to join.

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Our first trials with Latin America

U San Paolo, BR

Not so good…

2009

TX

BR

MX

Seattle

CL

Visiting Latin American hospitals


Alemana Hosp/CL


USP/BR


INNSZ/MX


Univ. of La Plata/AR

Successful Endosc. teleconf. with Latin America

Hawaii

Brazil

Mexico

Chile

Using DVTS and its MCU

2013.1

Telemedicine by countries

	2009	2010	2011	2012	2013	2014	2015	2016	Total
▪Mexico	1	0	0	0	5	14	9	7	36
▪Brazil	2	0	0	1	3	3	10	1	20
▪Chile	–	1	0	0	3	5	3	1	13
▪Colombia	–	–	–	–	3	10	8	2	23
▪Costa Rica	–	–	–	–	1	3	3	0	7
▪Dominican Republic	–	–	–	–	–	1	1	0	2
▪Bolivia	–	–	–	–	–	–	3	1	4
Total	3	1	0	1	15	36	37	12	105

Teleconference with Latin America 2015.3

The First Live Demonstration of Endoscopy from Japan to Mexico

Mexico

Video

2014.11

XII International Course in Bolivia

2015.4

WORLD GASTROENTEROLOGY ORGANISATION · WGO ·

Instituto de Gastroenterología Boliviano-Japonés

I.G.B.J.

La Paz WGO Training Center

Sociedad Boliviana de Gastroenterología

La Paz, BO

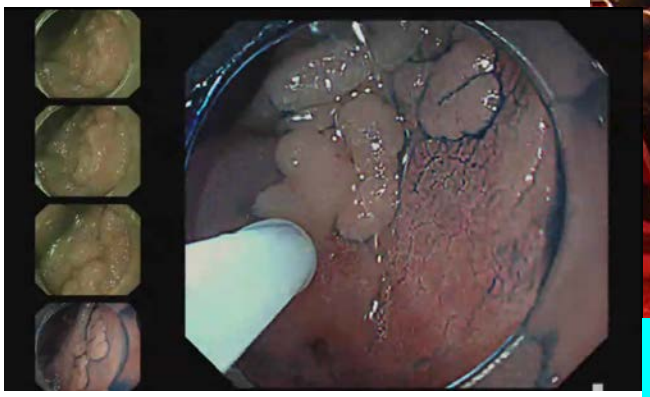
TEMDEC, JP

The 7th International Course of Gastroenterology

Kobe, JP

Kyoto, JP

2015.6.27



Dr Elias/Police Hosp/Bogota

Colombia

Engineers make it possible, and

Medical staff make it meaningful.

Engineers

Medical Staff

“No engineers, No telemedicine”

Conclusions

1. Networks are improving in Latin America, and medical teleconferences/live demonstrations have been organized in some countries.
2. These telemedicine projects shown here mainly in Asia and Latin America, can be applicable and expandable worldwide with variety of remote medical education programs over global research and education network.