Training Report in Telemedicine

27 July 2015 – 21 August 2015

Telemedicine Development of Asia (TEMDEC)

Kyushu University Hospital

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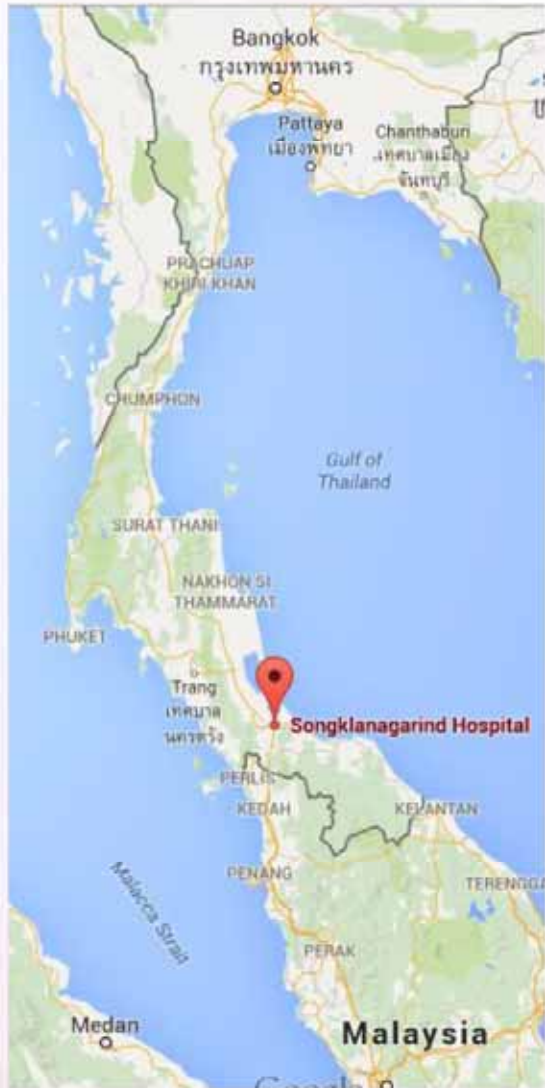Faculty of Medicine
Prince of Songkla University

NKC
Institute of
Gastroenterology
and Hepatology

Songklanagarind Hospital

Location

Mission

- Develop and produce high quality and ethical medical graduates and personnels

- Provide universal standard healthcare toward super tertiary level

- Produce high quality research and publication

- Organize academic conferences both national and international levels

Songklanagarind Hospital

Beds	855
OPD Cases	930,000 / year
IPD Cases	40,000 /year
Medical instructors	360
Physicians	630
Nurses	1,250
Supporting personnels	2,540

NKC Institute of Gastroenterology and Hepatology

- Established in 2004

- To be an excellent center in gastrointestinal endoscopy in Thailand and South East Asia
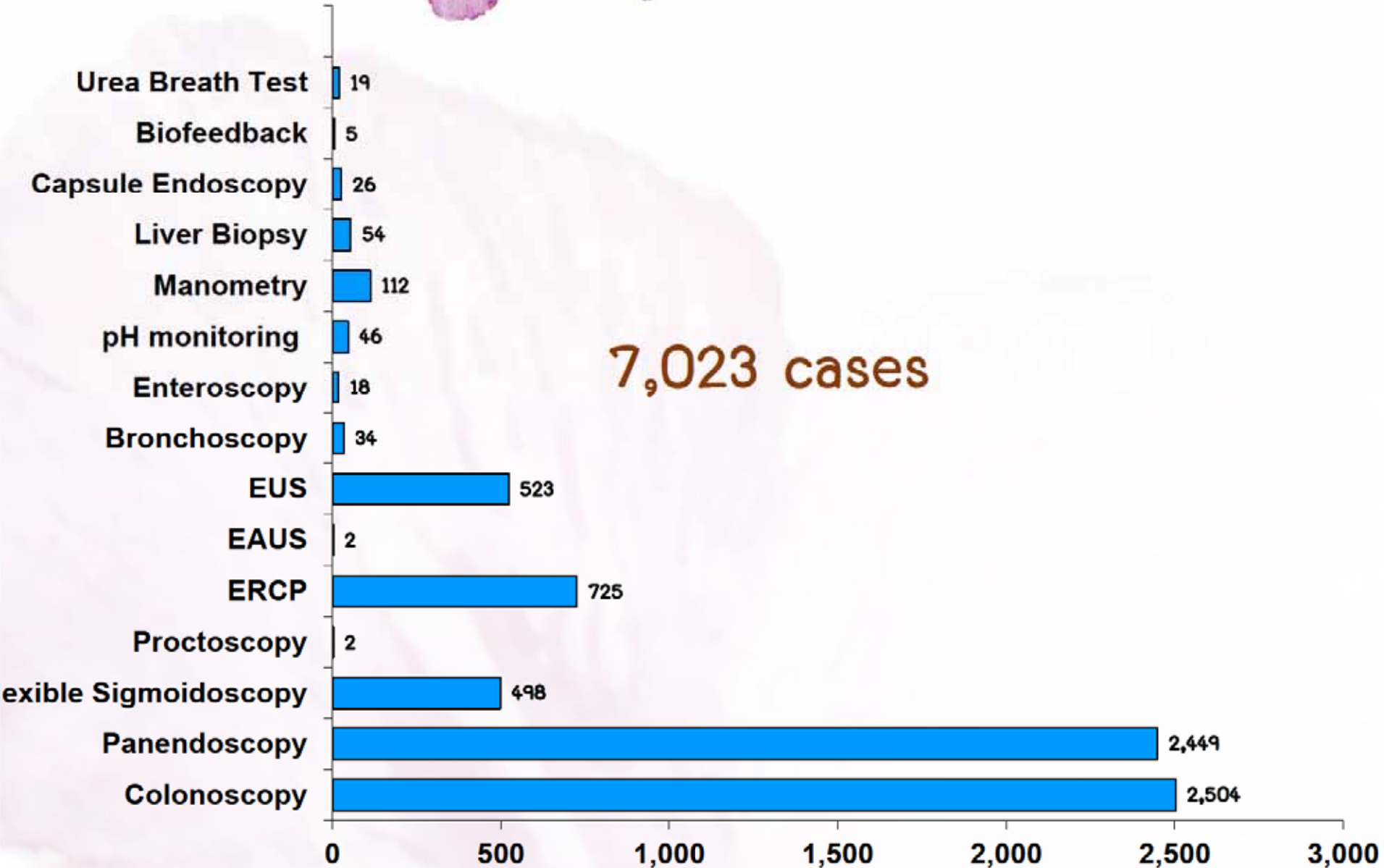
Mission

- Promote academic information in order to be an internationally recognized institute of gastroenterology and hepatology

- Provide highly qualified academic training for clinical fellow in gastroterology and hepatology

- Contribute academic knowledge and implement research projects in diagnostic and therapeutic gastroenterology and hepatology

- Enhance the quality of endoscopic services in order to be a tertiary care and referral center

Staff	Numbers
Doctor	7
Nurse	9
Supporting	22

Room	Numbers
Endoscopy	5
Fluoroscopy	1
Diagnostic	4

7,023 cases

Procedure	Cases
Urea Breath Test	19
Biofeedback	5
Capsule Endoscopy	26
Liver Biopsy	54
Manometry	112
pH monitoring	46
Enteroscopy	18
Bronchoscopy	34
EUS	523
EAUS	2
ERCP	725
Proctoscopy	2
Flexible Sigmoidoscopy	498
Panendoscopy	2,449
Colonoscopy	2,504

Annual ERCP and EUS Live Demonstration and hands-on workshop

NKC Configuration

Matrix Switcher

Scaler

HDMI

Quad Unit

S-Video

Audio Mixer

TEMDEC Facilities

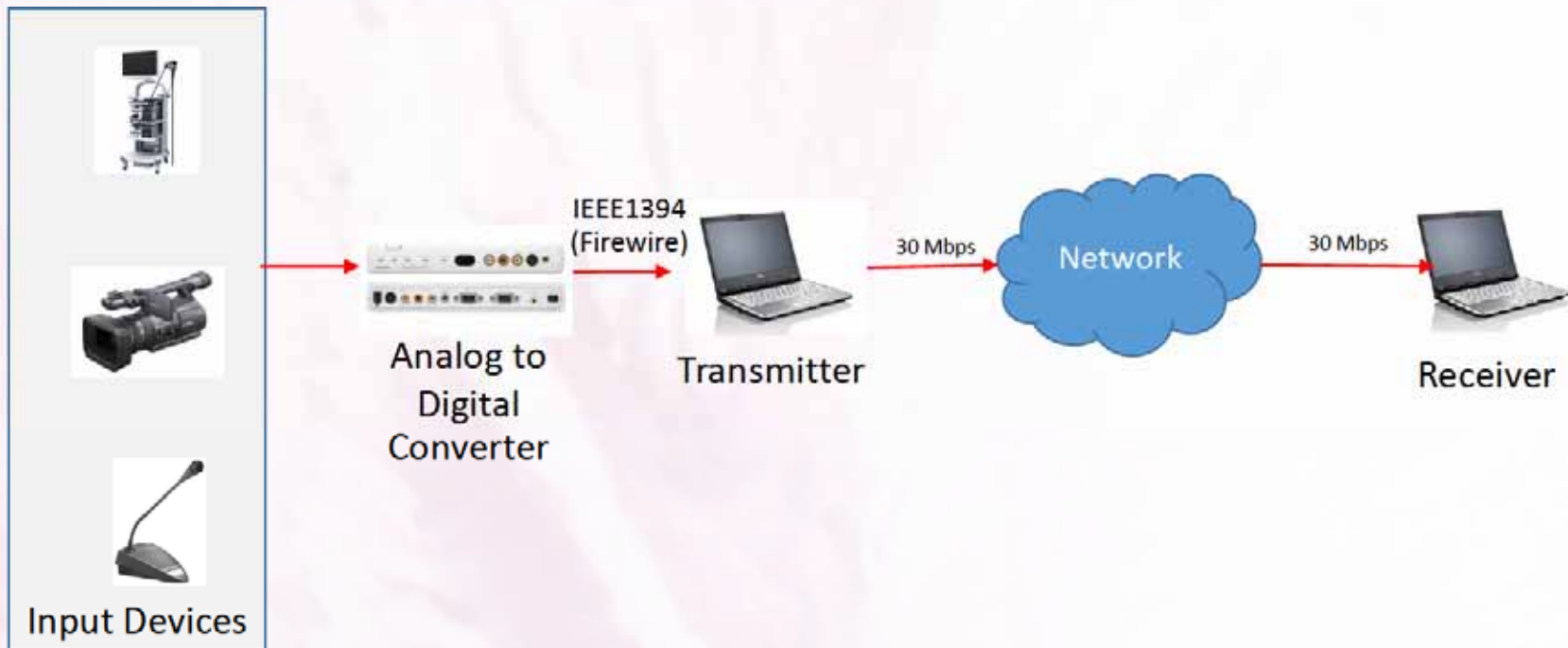Conference Room

DVTS

H.323 MCU & Codec

Vidyo System

DVTS (Digital Video Transport System)

- Using Software for decoding and encoding

- No compression

- Good video quality

- High Bandwidth with Stable network

IEEE1394
(Firewire)

30 Mbps

Network

30 Mbps

Input Devices

Analog to Digital Converter

Transmitter

Receiver

H.323

- Good Video quality

- Low bandwidth (2 Mbps)

- Public IP

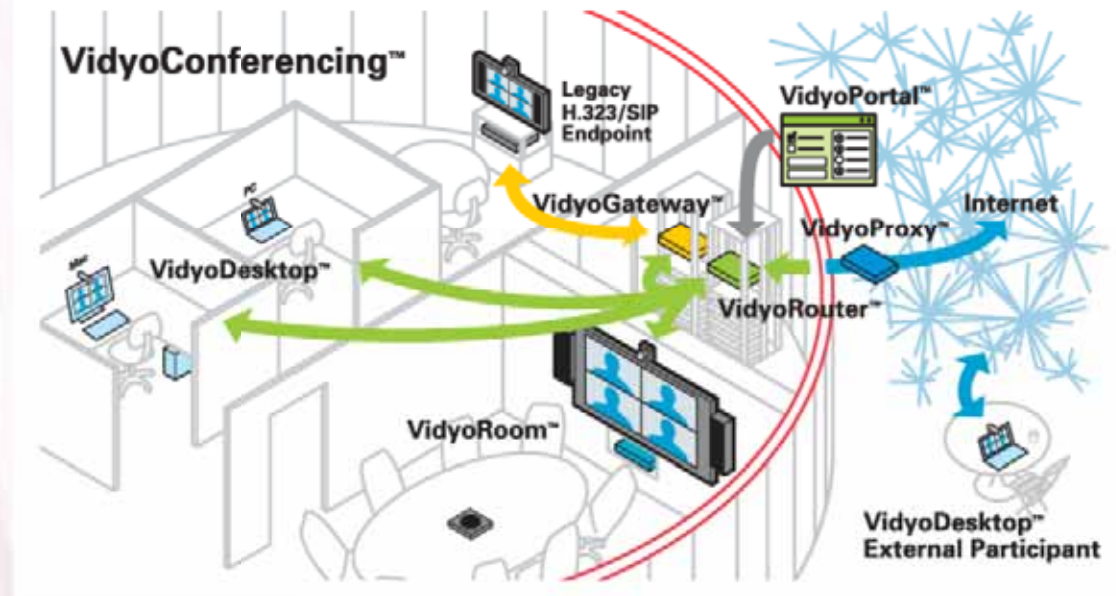- Various brands (Polycom, Sony, etc.)

- $$$

TEMDEC ➡ NKC

- Polycom RMX 1500 → Tanberg Edge 95MXP

- Connection Speed : 1,920 kbps

- Transmit Live Endoscopy from NKC

- Video Quality : SD (Analog signal)

Vidyo

- No public IP required

- Can use anywhere with internet broadband connection

- Low Bandwidth

- Record/Streaming

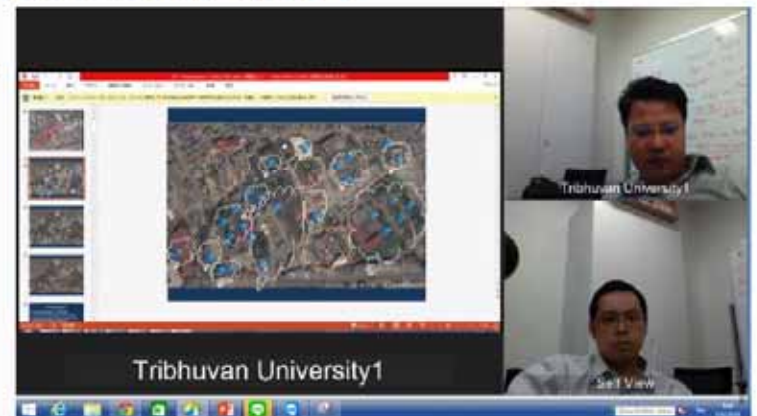- Easily share content

- Need Vidyo account

VidyoDesktop (Software)

Pros

- Free

- Windows/MAC Supported

Cons

- Not suitable for <u>sending</u> video/ Live Demonstration
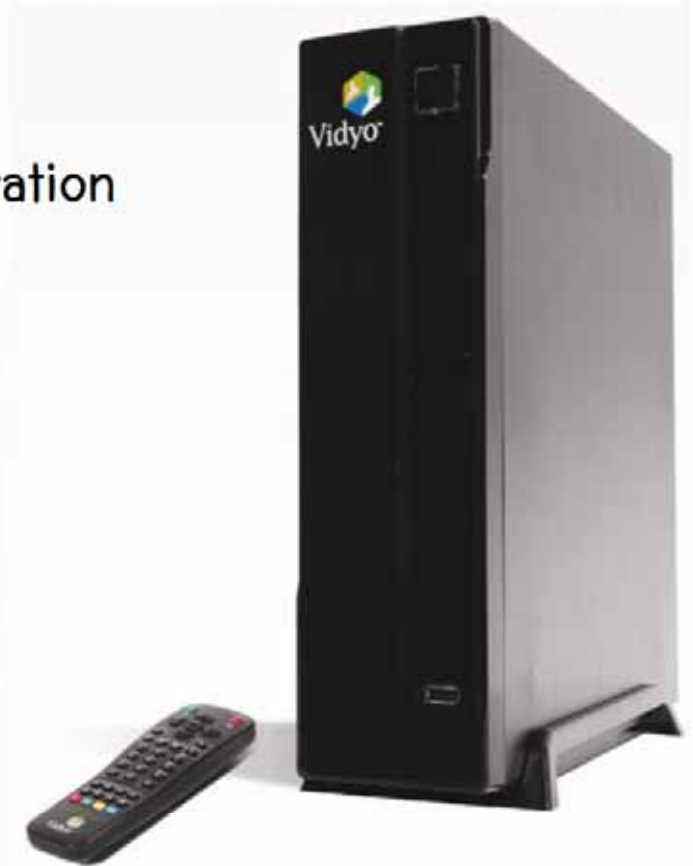
- Converter needed for external input

VidyoRoom (Hardware)

Pros

- Good for sending Video/ Live demonstration

- Easy to use

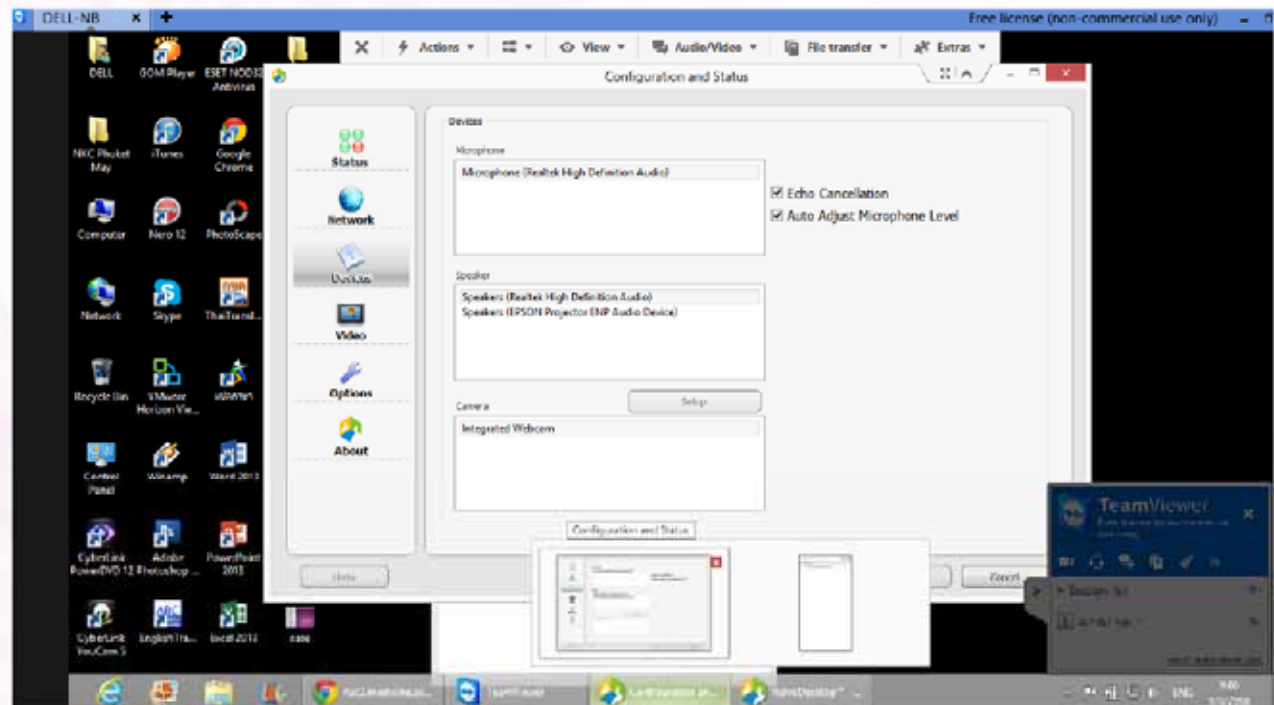- Can connect to external I/O devices

Cons

- $$$

Troubleshooting

- Skype (for background communication)

- TeamViewer

  - Software problems

  - Settings

What to be concerned??

- System
  - H.323
  - Vidyo

- Connection Test
  - At least 3 tests
    - Initial system/network test
    - Test in Meeting room
    - Before meeting started
  - Video Quality
  - Audio Quality

Connection Test

- Video Quality
    - Camera
    - Presentation
        - Slide Presentation
        - Video

- Audio Quality
    - Noise
    - Echo
    - Audio Level

- Co-operation and communication

    (Doctors, Engineers, Site ←→ Site)

40TH ASIA PACIFIC ADVANCED NETWORK MEETING
KUALA LUMPUR, MALAYSIA
10-14 AUGUST 2015
Research Management & Innovation Complex
University of Malaya

"TECH RUMBLE IN THE JUNGLE"

APAN

UPM   UNIVERSITY OF MALAYA   MYREN

Organised by

Medical working group sessions:

- Healthcare

- Fetus

- Recurrent pyogenic cholangitis

- HPB Surgery

- POEM

- Endoscopy

- Technology

- MIS

- Live Endoscopy

40th APAN Meeting preparation

- Connection test from many countries

- Many problems occur during testing

    - Audio – echo, microphone issues

    - Network – can not login to VidyoPortal

    - Devices

- TEMDEC organizes and supports for 40th APAN

    - Testing

    - Many engineers and staffs join the meeting in KL

Great Places

Fukuoka Tower

RoboSquare

Daimaru Department Store

Great food

Hakata Torimon

Tofu ice cream

Curry & Rice

Ichiran ramen

Nice people

Visiting Kagoshima University Hospital

Sakurajima

Conclusion

- Learn how to prepare for the Teleconference Meeting

- Knowledge/limitation of each teleconference system

- Successfully connect to/from TEMDEC using

  - Vidyo

  - H.323

- Friendship among engineers and TEMDEC Staffs

- Discover Japanese culture and lifestyle

Thank you