

# **Introduction of Hanoi University of Science and Technology (HUST) and VinaREN infrastructure applications in cooperation and international training at HUST**

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Hanoi University of Science and Technology (HUST)  
Vietnam Research and Education Network (VinaREN)





**HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
(Previous name: *HANOI UNIVERSITY OF TECHNOLOGY- HUT*)



# CONTENT

- General information
- Organization
- Schools, Institutes, Faculties and Research Centers
- International Cooperation
- Scientific Research
- Vietnam Research and Education Network (VinaREN)

- Established in 1956, the leading university in the field of science and technology
- HUST is situated in the southern section of Hanoi

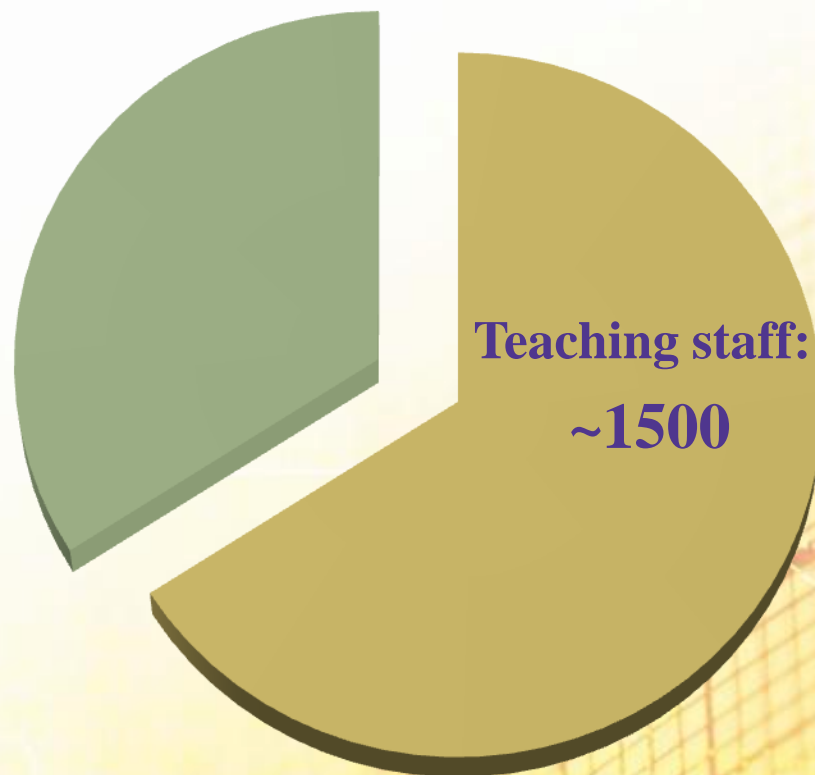


- At present, as a **key university**, HUST has ~2,200 employees including 1,500 Faculty members,
- 42,000 undergraduate students
- 4,000 graduate students.



# Human sources of HUST

Total: ~2200



- Professor, Ass. Prof :~ 220
- PhD & Dr.Sc :~ 455
- MSc :~ 600

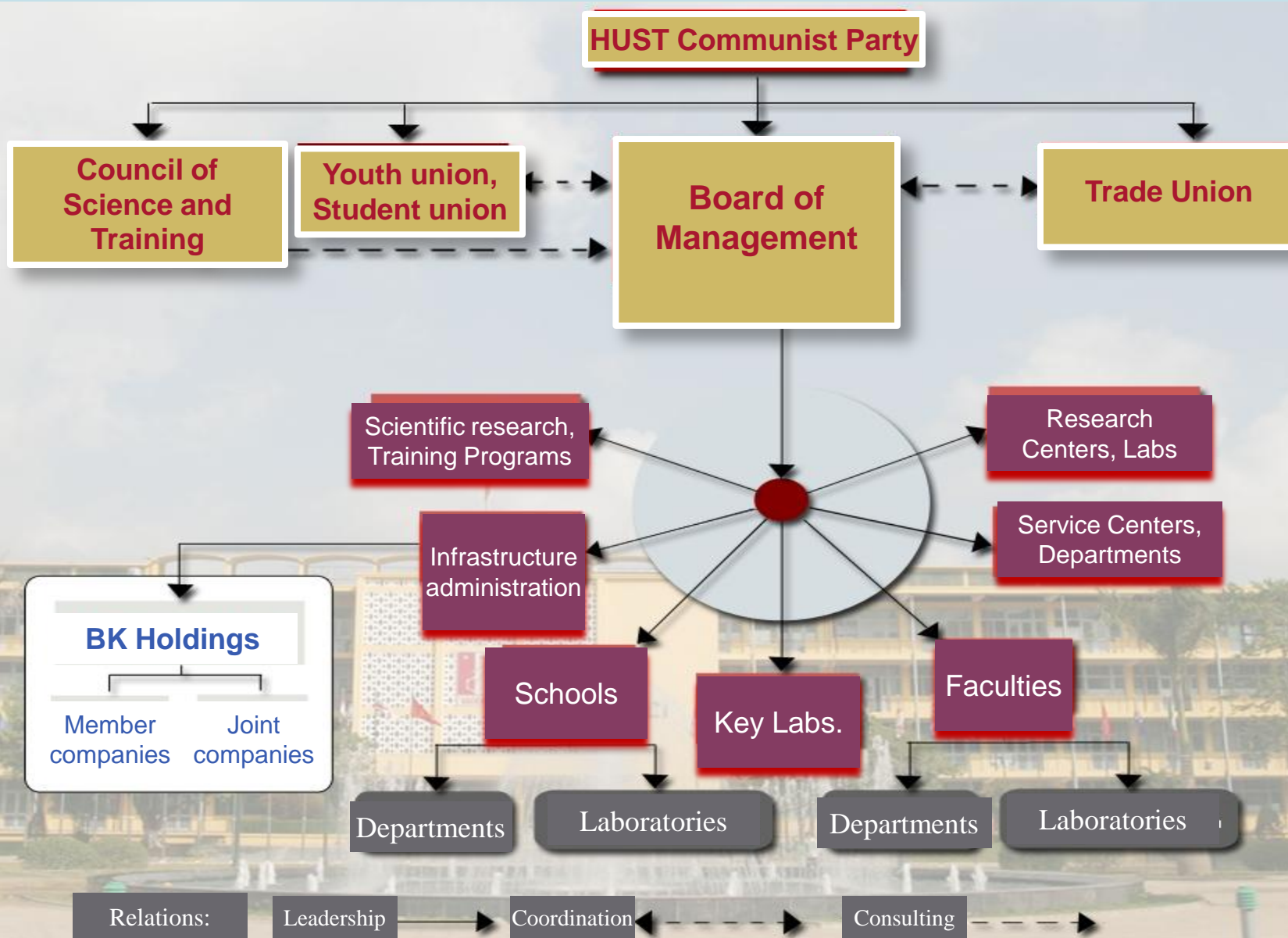


- HUST has trained
  - ✓ 120.000 engineers
  - ✓ 7.000 masters
  - ✓ 600 doctors
- HUST has carried out thousands of scientific research and technology transfer projects .





# ORGANIZATION



# SCHOOLS, INSTITUTES

## Schools

1. School of Engineering Physics
2. School of Mechanical Engineering
3. School of Information Technology and Communication
3. School of Biological and Food Technology
4. School of Environmental Science and Technology
5. School of Heat Engineering and Refrigeration



7. School of Nuclear Engineering and Environmental Physics
8. School of Transportation Engineering
9. Hanoi Advanced School of Science and Technology
10. Graduate Training School
11. School of International Education

## Institute

International Training Institute for Materials Science (ITIMS).



# FACULTIES

1. Faculty of Applied Mathematics-Informatics
2. Faculty of Chemical Engineering
3. Faculty of Electronics and Telecommunications
4. Faculty of Electricity
5. Faculty of Material Science and Technology
6. Faculty of Textile Engineering
7. Faculty of Economics and Management
8. Faculty of Engineering Education
9. Faculty of Continuous and Life-long Training
10. Faculty of Foreign Languages
11. Faculty of Political Sciences
12. Faculty of Militia Training
13. Faculty of Physical Education





# RESEARCH CENTERS

1. Biomedical Electronics Center
2. Center for R&D of High Technology
3. Computer Center
4. Center for Applied Research and Technological Innovation
5. Chromatography Center
6. Corrosion and Protection Research Center
7. High Performance Parallel Computing Center
8. Bach Khoa Internetwork Security Center

9. Center of Development and Application of Software for Industry
10. International Research Center for Computational Materials Science
11. Materials Science Center
12. Multimedia Information, Communication and Applications Center
13. Network-Information Center
14. Polymer Center
15. Precise Machinery Research Center
16. Renewable Energy Research Center





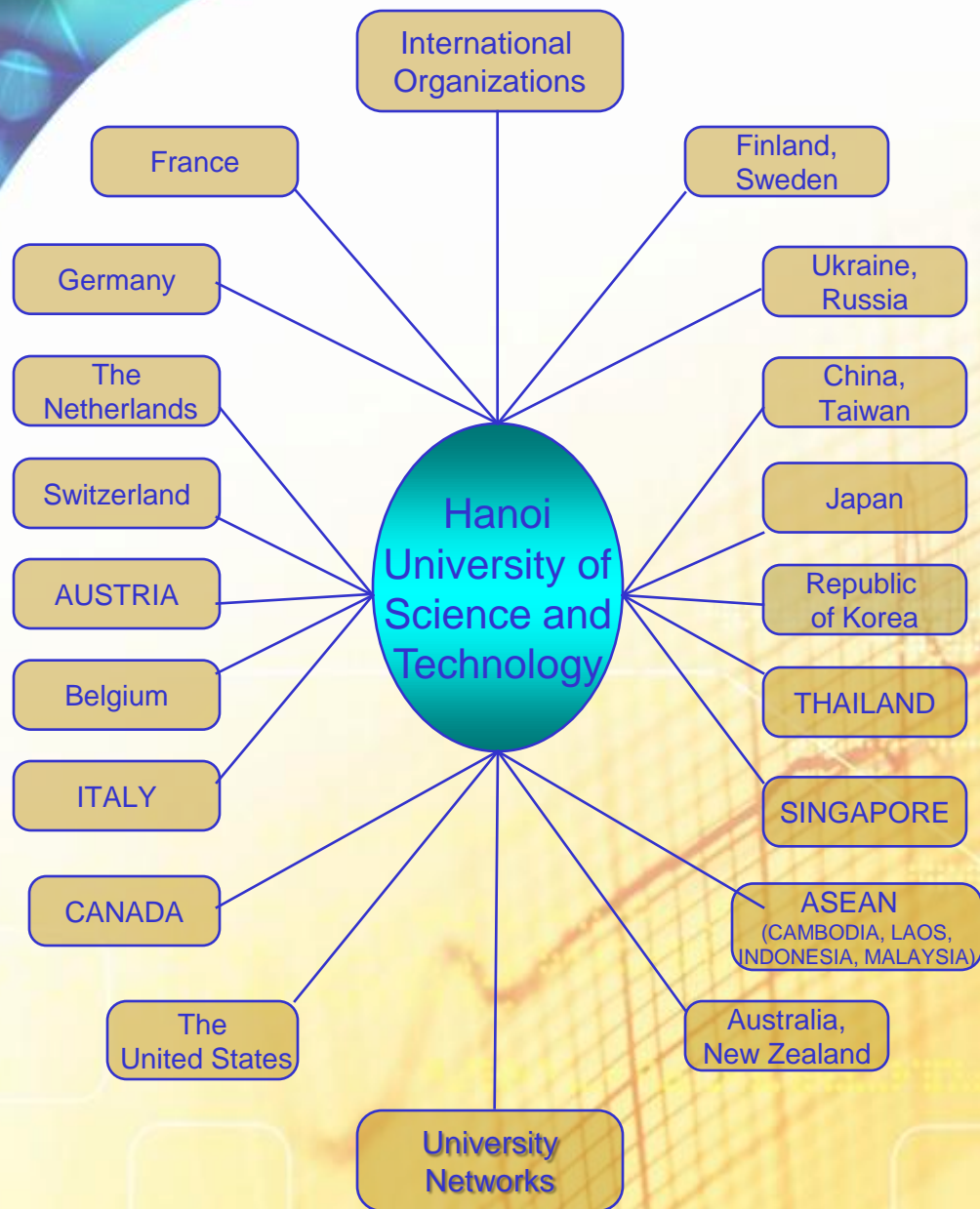
# THE KEY LABORATORIES



1. Automation Lab
2. Biological Lab
3. Combustion Engine Lab
4. Environmental Technology R&D
5. Mechatronic Lab
6. Petroleum Lab
7. Lab of Analyze and Measuring for Physics
8. Lab of Metals Material Science
9. Lab for Network Security
10. Lab for Polymer and Composite Materials



# HUST COOPERATION NETWORK



*President Nguyen Trong Giang at the Ceremony celebrating 10 years cooperation with VLIR, Belgium*

- Relation with more than 250 universities, institutes, companies from 35 countries all over the world.
- Annually: more than 1000 foreign guests (400 delegations) visit HUST and more than 500 HUST members visit and study abroad.
- HUST is Member of 9 University Networks: AUF, AUN/SEED-Net, ASEA-UNINET, ASEM-EH, GMSARN, GMSTECH, GMSVU, FAU and SEATUC



# HUST SCIENTIFIC RESEARCH

	2005	2006	2007	2008	2009
State-level projects	67	62	81	70	40
Ministerial-level projects	115	145	152	142	153
College-level projects	100	120	150	190	239
Total number of projects	285	327	383	402	432

## The fields with priority:

- Biotechnology
- Information Technology
- Electronics and Telecommunication
- Materials Science and Technology
- Automation - Mechatronics



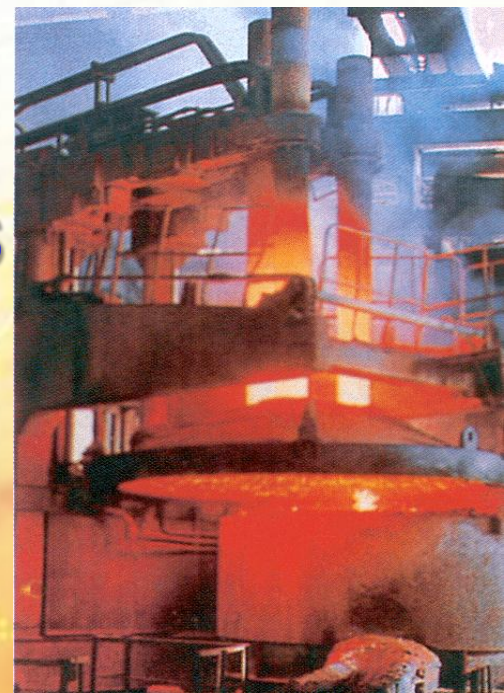


# INDUSTRY RELATIONSHIPS

HUST

Domestic corporations

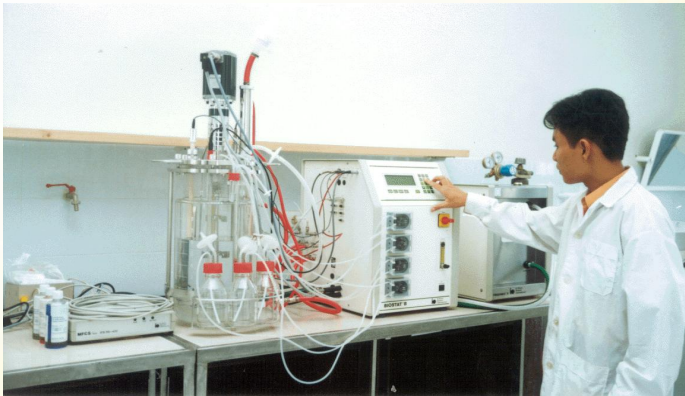
Foreign corporations





# DEVELOPMENT OBJECTIVES

- HUST should be a highly-appreciated training institution with the international academic standards



- The leading center for scientific research and technology transfer of the country

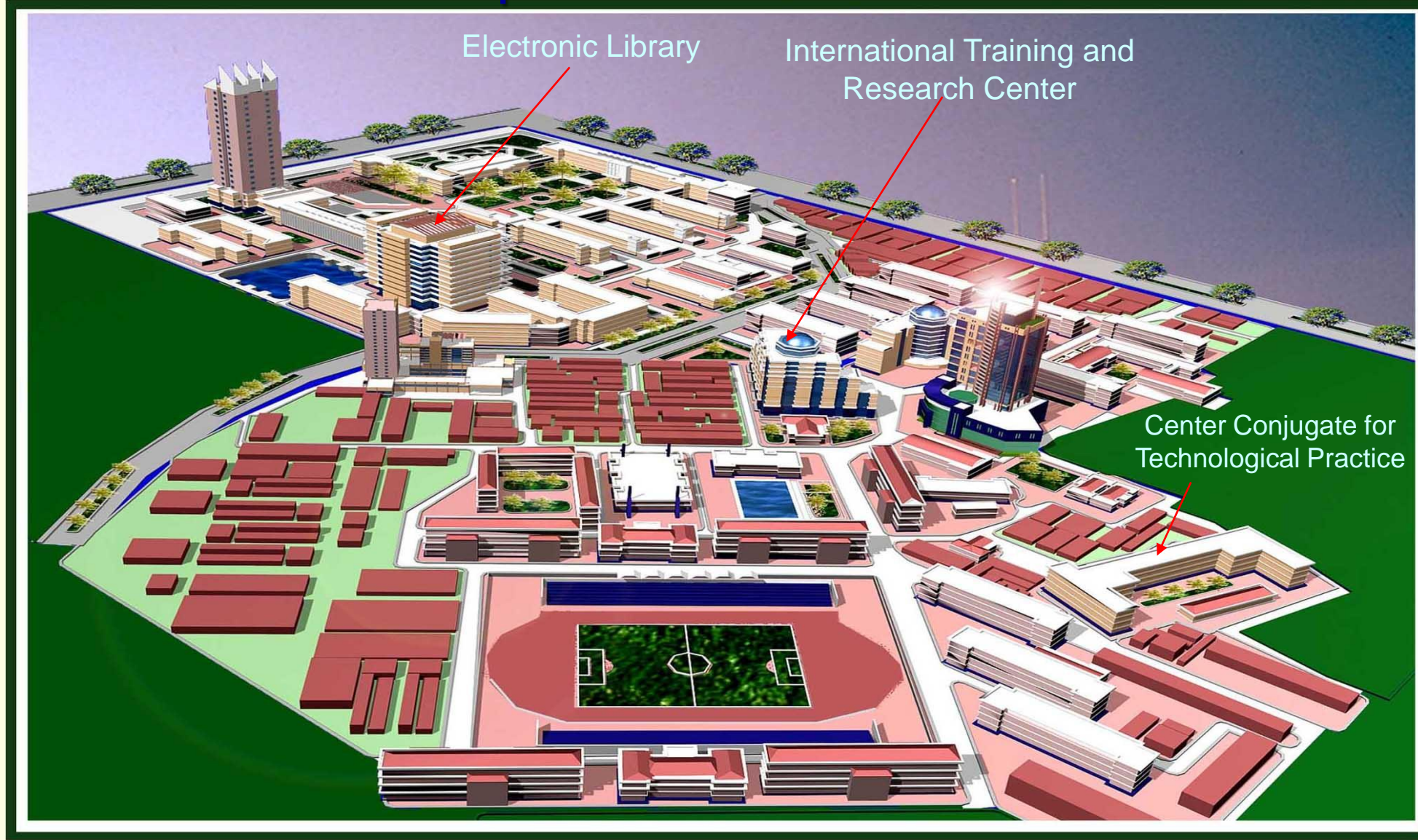


- Attractive address for industrial and financial investors



# HUST's DEVELOPMENT PLAN TO 2020

## HUST's first campus



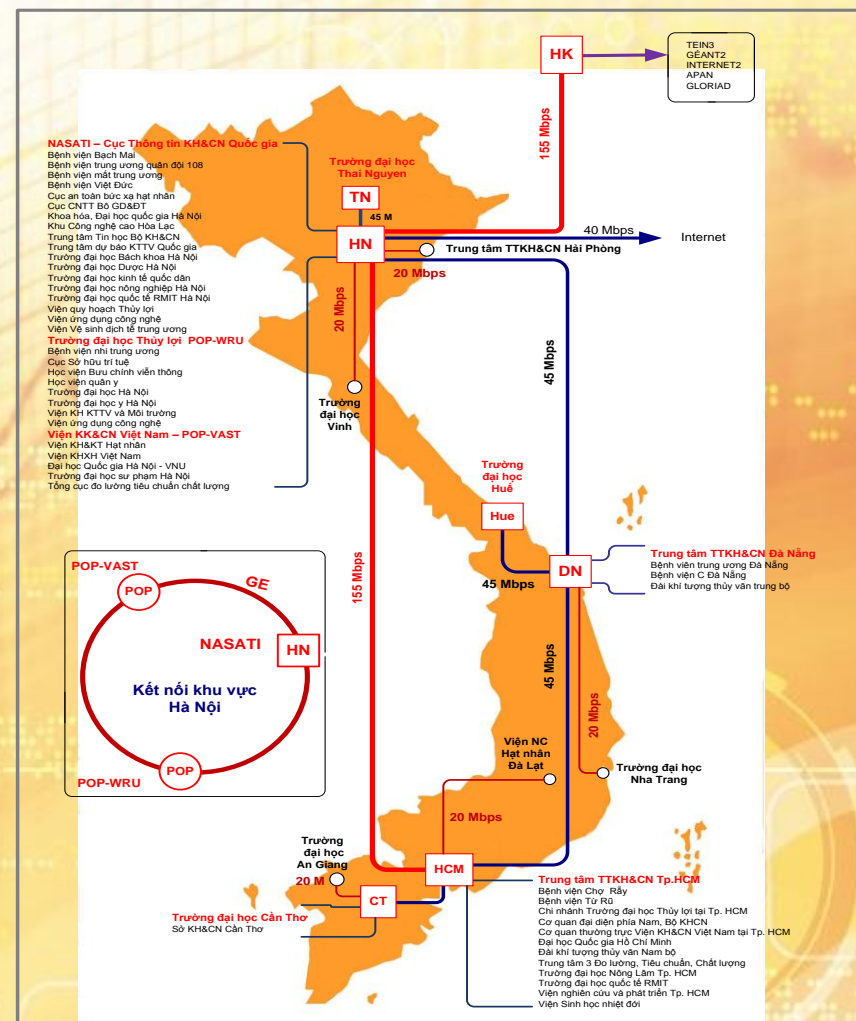


# VIETNAM RESEARCH AND EDUCATION NETWORK (VinaREN)

## National connections

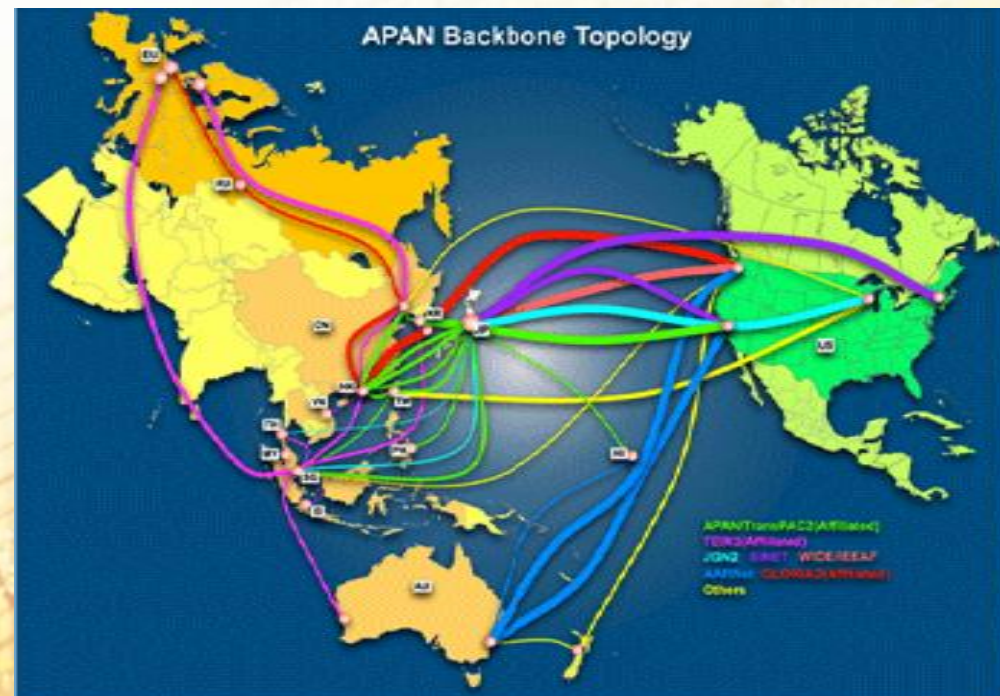
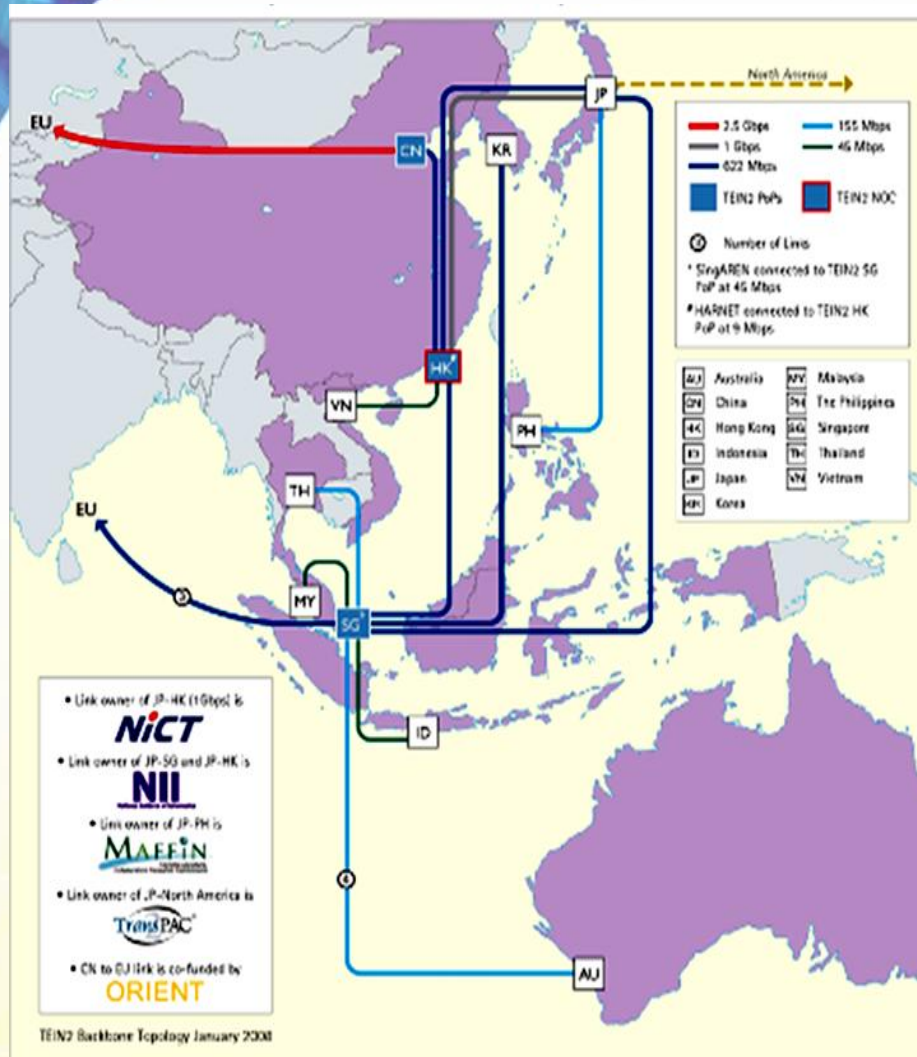
- VinaREN result implementation Trans-Eurasia Information Network, Phase II (TEIN2) in Vietnam
- National backbone network is formed from the connection of six NOCs located in Hanoi City, Da Nang City, Ho Chi Minh City, Hue City, Can Tho City, Thai Nguyen City .
- 57 Members (leading Universities and Institutes in whole country) are connected to the NOCs or VinaREN through the connection point (Point Of Present - POP) with direct fiber optic, standard Fast Ethernet/Gigabit Ethernet or leased Line.
- In Hanoi, two POPs are connected to VNNOC by ring topology with Giga Ethernet.
- All members network are connected to the NOC by Fast Ethernet with 100Mbps bandwidth. This speed can be raised by Giga when necessary.

MẠNG NGHIÊN CỨU VÀ ĐÀO TẠO VIỆT NAM - VINAREN  
Kết nối quốc gia và quốc tế 8/2010





# International Connection



- 155 Mbps connects to NOC-TEIN in Hong Kong.
- 40 Mbps connects to Internet for access to electronic information sources in the country and the world through the union of Vietnam libraries.
- In the future, VinaREN will connect to GLORIAD network as well as other international networks.



# VinaREN Services

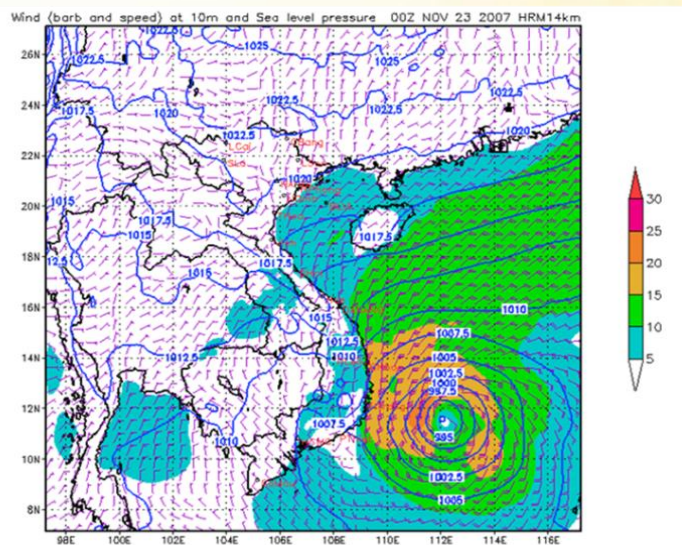
## Network Services:

Network Management  
Network Security  
IPv 6 and Multicast  
Routing between networks



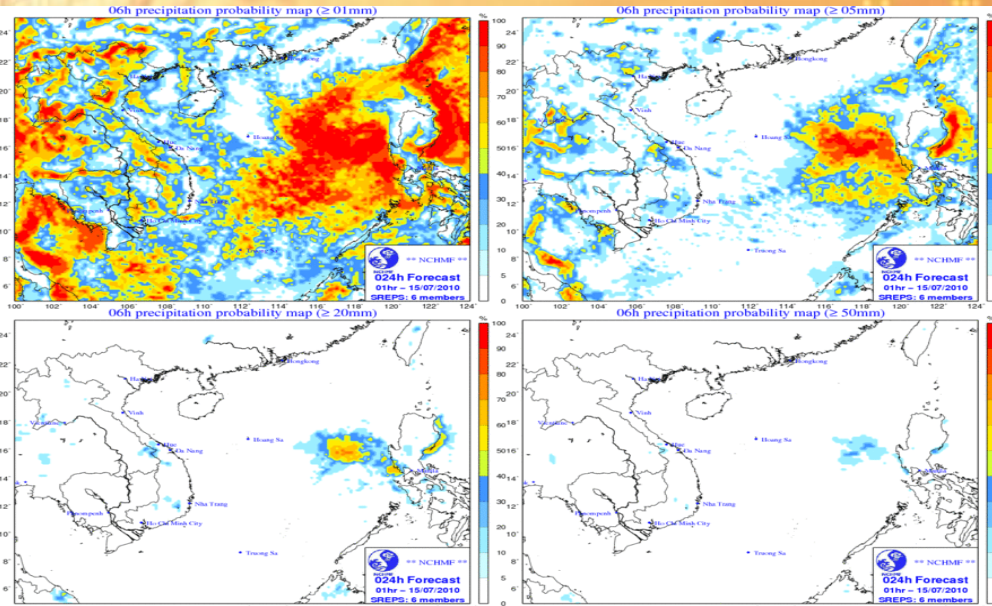
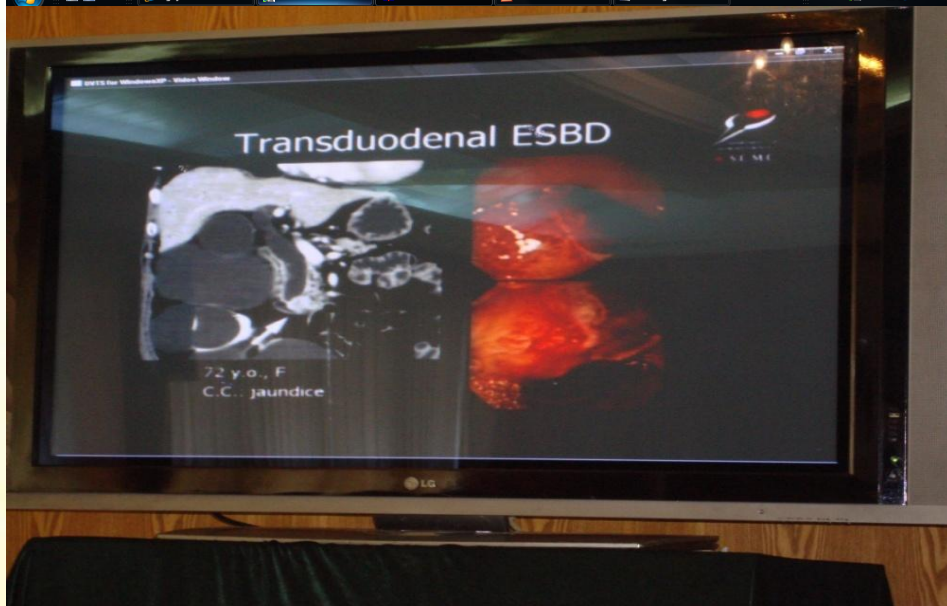
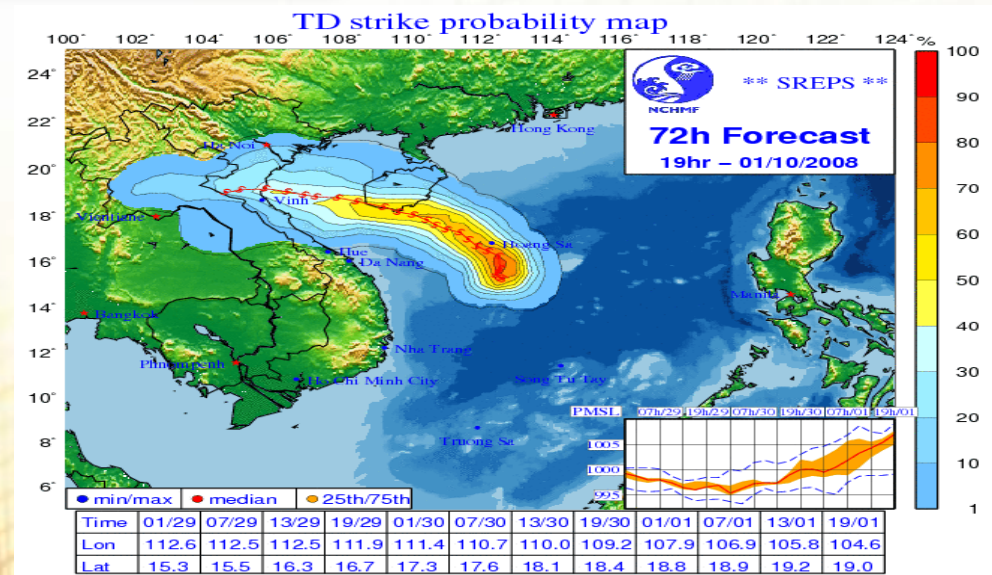
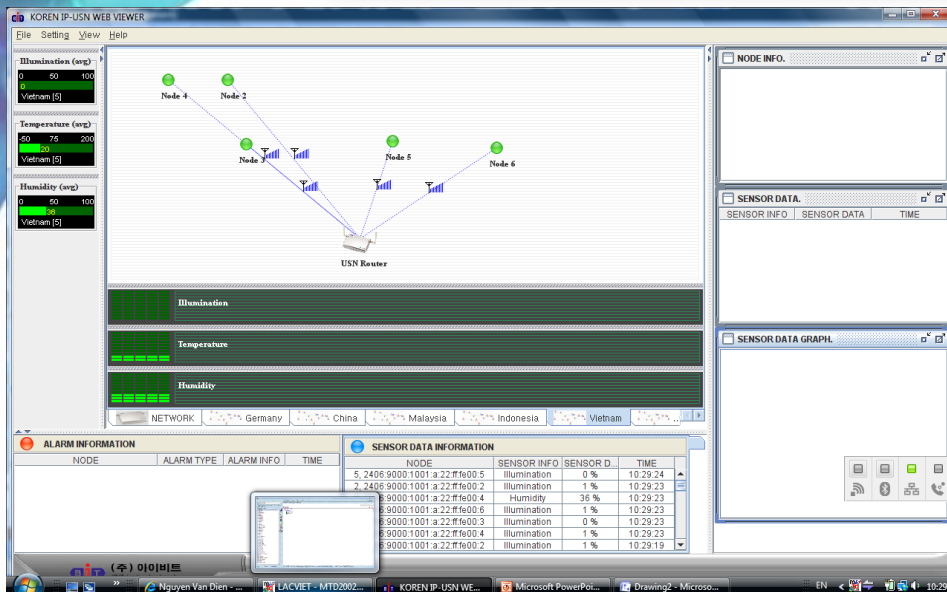
## Technical Support for Research and Education:

E-learning;  
Video Conferencing, DVTS  
Telemedicine;  
E-science;  
E-culture;  
E-agriculture;  
Disaster management, Climate change, forecast  
Network research;  
Access to the online database on the Internet.



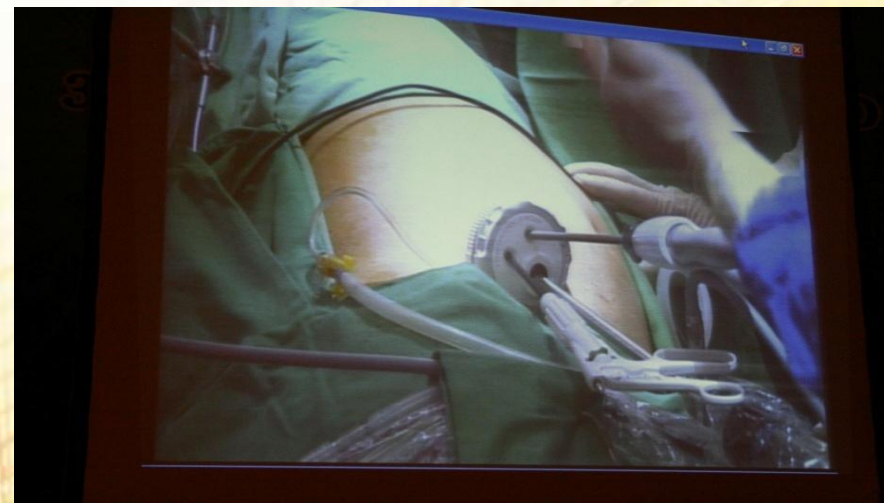


# Some pictures of activities





# Some pictures of activities





# Some pictures of activities





**Thank you For your attention**



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