

# **ASEAN-NICT ICT Round Table 2015**

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**Session1: Future R&D Strategy Introduction**

## **Vietnam's ICT: Future R&D Strategy**

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# Vietnam's ICT Status

- Basic data:
  - Area: 331,000 km<sup>2</sup>; Population: 90 million.
  - GDP: USD170 billion; GDP Growth: 5.4%
- ICT Management:
  - National Steering Committee for ICT Applications led by the Prime Minister
  - Ministry of Information and Communication (MIC)
  - Ministry of S&T (MOST)
  - Ministry of Education and Training (MOET)

# Vietnam's ICT Status

- Some ICT Data
  - Internet infrastructure and usage: good in ASEAN, acceptable service quality
  - 17 ISPs, Main Providers: Viettel, VNPT, FPT, Netnam, SPT...
  - 1 million of DSN as of February 2015
  - Online/digital business: USD 3 billion in 2014
  - Internet, Wifi: widely used and cheap
  - e-Government in big cities

# Vietnam's ICT Policies

- ICT: A Key Sector for Economy-Social Development
- The Prime Minister: “IT is the foundation of a new development paradigm and the shortest path for Vietnam to accompany with developed countries and the times.”
- Vietnam – ASOCIO ICT Summit 2014 - a breakthrough in thinking and vision “ICT - the new paradigm in social-economic development and agriculture restructuring”
- Many decisions, statements, documents for ICT Human resource development, R&D, industry, and applications
- National Foundation for Science and Technology Development (NAFOSTED)

# Challenges

- HW Industry: weak!
- R&D: weak! Most Funds from the Government
- Legal Issues: Lack of ICT Legal Issues and related documents: e-business, e-gov, e-marketing, ... (Incl. those for Information and Network Security)
- ICT HRD: Quality and Quantity?
- Readiness for ASEAN Economy Community (AEC) and for ASEAN+Japan Community, etc.?
- Large scale ICT plans, but limited budgets!

# Prioritized ICT R&D Areas

1. IC design and manufacture
2. High-resolution Display/Terminal Design and Manufacture
3. Development of OS, DBMS, Firmware for Mobile Devices
4. Design and Development of Embedded Systems
5. High-level Information and Network Security
6. AI
7. Big Data and Computational Science
8. Distributed Computing and HPC
9. NGN, Long Term Evolution Advanced (LTE-A), International Mobile Telecommunications-Advanced (IMT-Advanced)
10. Visualization and Cloud Computing
11. Digital television: Digital Video Broadcasting - Satellite Second Generation (DVB-S2) and Digital Video Broadcasting - Terrestrial Second Generation (DVB-T2) and later generations
12. Interactive Television and Hybrid Broadcast Broadband Television (HbbTV)
13. Flexible Electronics (FE)
14. Bioinformatics

And a List of 34 prioritized ICT Product Groups needed R&D activities....

# Some Suggestions

- Cloud Computing, Big Data, Data Center, ... (CS, SE, IS, NW, IT, CE, EC, ...)
- Common ICT Infrastructure (APAN, ASEAN+x, etc.)
- Legal Issues among ASEAN+Japan; towards AEC?
- NGN; Information and Network Security
- e-\* (e-government, e-business, e-health, e-learning, ...)
- Digital TV: DVB-T2/S2, HbbTV
- Multilingual NLP
- Int'l Projects for Common Environment Monitoring
- Vietnam:
  - Hardware Industry? FE?
  - R&D Activities? (at Both Institutions and Industries?)
  - R&D Funding: Should be from Industry mainly!
  - HRD?
  - ICT in Agriculture and other fields?
  - R&D Collaboration with Japan, ASEAN and other G8 countries!

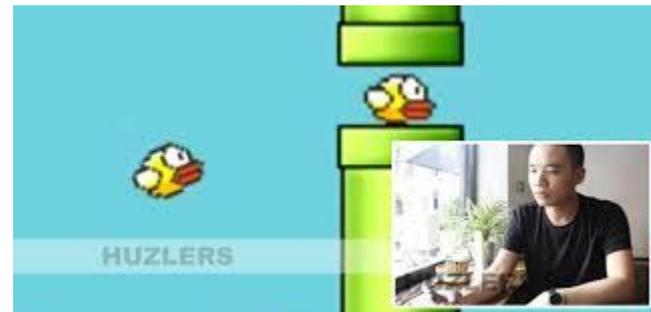
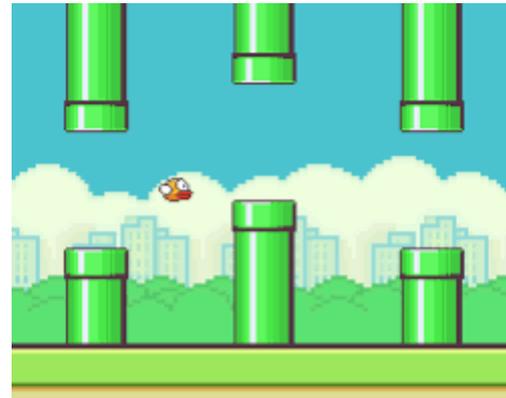
# ICT Phenomenon

- Phenomenon “SmartHome” by BKAV?  
10-15% of House Construction Budget



# ICT Phenomenon

- Flappy Bird by Nguyen Ha Dong?  
Income USD 50,000 per day by Advs. 50M downloads, 47K Comments...



# ICT Phenomenon

- Robot Topsy Dancer: Favorite Toys to Children on X'mas in US and Europe



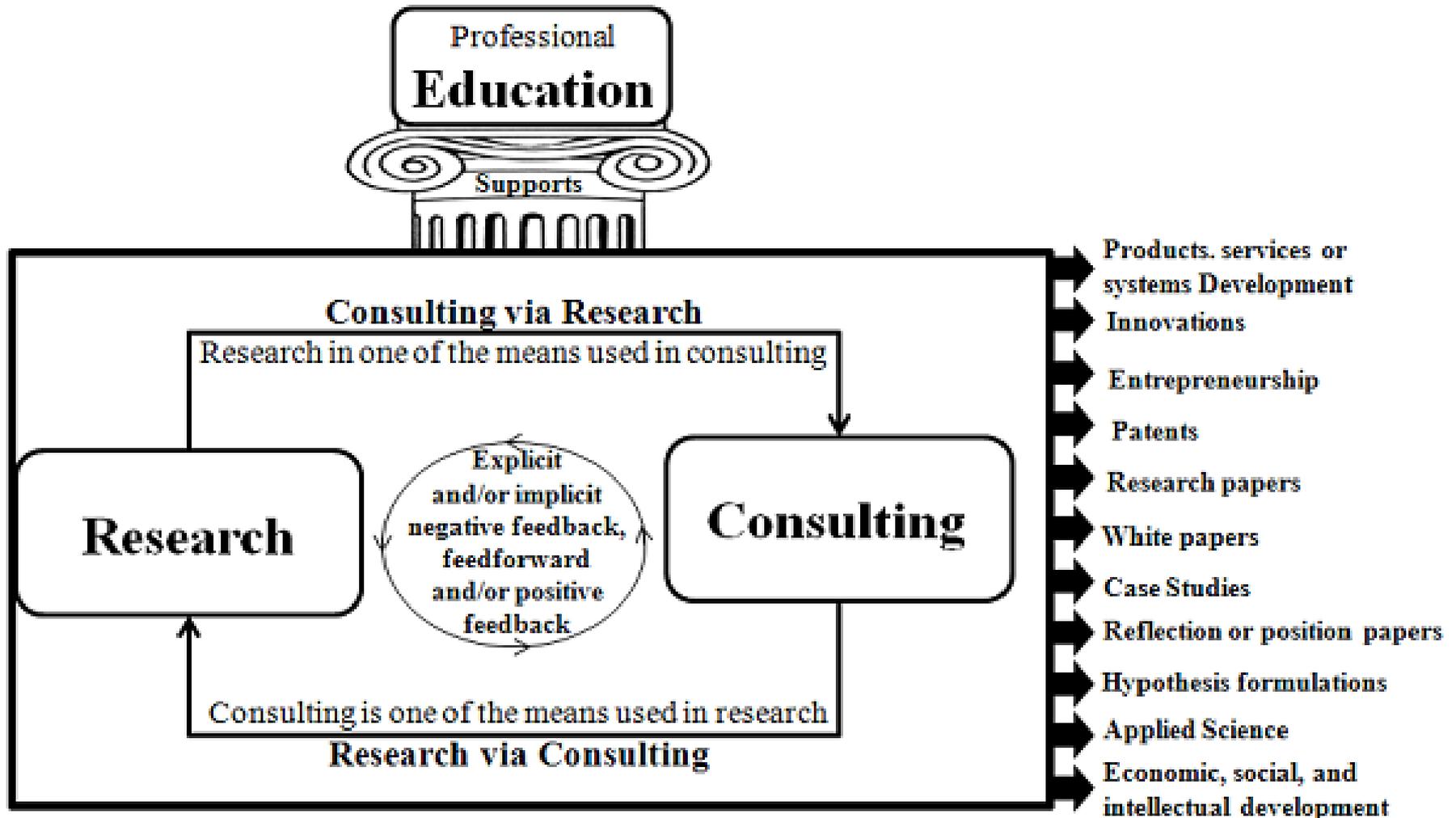
**Keys to the Successes?**  
**→ Know How!**

**Thank you!**

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# R&C



Source: [http://www.iis2015.org/wmsci/website/About\\_rc.asp?vc=1](http://www.iis2015.org/wmsci/website/About_rc.asp?vc=1)

# Research and Consulting (R&C)

- Some academic areas necessarily require consulting activities or other related practicing experience, especially if that research leads to development. For example, what would be the "lab" (as an instrument of development) for a professor of information systems development methodologies if not information systems development in the real world?
- In some other academic fields, consulting activities might enrich, support and enhance research as it might be the case of some engineering fields, law, medicine, managements science, operation research, etc.
- Still, in other academic fields consulting is perceived as a distracting activity from what is considered to be a scholarly research. In some fields or disciplines this might be true, but even in these cases, scholarly research would eventually generate, via other scholars or researchers, applied research which would support real life problem solving and, consequently, decision and policy making processes which form part of the consulting activities.
- It is well known that research activities in many academic departments go on because of grant monies received to development. Consequently, in such cases, to cybernetically relate research and consulting might produce the desired development

# List of 34 ICT Product Groups

1. OS for PC, Mobile devices; DBMS & Services
2. SW for High-level Security
3. SW for Digital Certification
4. SW for Recognition (texts, speeches, pictures, motions, ...)
5. SW for Controlling the terminals and devices; Soft phones and codes
6. SW for RIFD applications
7. SW for Bio-Medical Information Processing
8. SW for Specific Measurement and Control
9. SW for smart transportation control
10. Services for designing and optimizing networks and telecommunication systems
11. Services for integrating Cloud Computing
12. Services for integrating IPv6, Mobile Internet and new generation web

# List of 34 ICT Product Groups

13. DSP Devices
14. Devices for mass data storage
15. Smart cards and devices
16. RFID and devices
17. Devices for Recognition (texts, speeches, pictures, motions, ...)
18. Devices for High-level Security
19. IBMS
20. Smart Control Systems for glass-houses
21. Smart Control Systems for Transportation
22. Devices and SW for NGN, LTE-A, IMT-A
23. New Generation Webcams; Digital Audio Systems
24. New Generation Mobile Terminal Devices

# List of 34 ICT Product Groups

25. Devices for Digital TV
26. Indoor/Outdoor Wireless Access Devices
27. Parallel Computers, HPCS
28. High-resolution Displays/Terminals
29. Components for new generation power electronics
30. IC and LSI
31. Sensors and Smart Execution Mechanism
32. Bio-Chips, Bio-Sensors
33. Devices and Products of FE
34. MEMS and NEMS