MINISTRY OF INFORMATION AND COMMUNICATIONS OF VIETNAM
POSTS AND TELECOMMUNICATIONS INSTITUTE OF TECHNOLOGY

TECHNOLOGY COMMERCIALIZATION IN VIETNAM

Presented by
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AGENDA

1. Overview of PTIT
2. ICT Sector in Vietnam
3. Regulation, Activities on Technology Commercialization
4. Potential Fields for ICT Technology Commercialization

OVERVIEW OF PTIT

PTIT'S FACTS

- Founded in 1997, Member of Vietnam Posts and Telecommunications Group (VNPT).
- Since July 1st 2014, Member of Vietnam Ministry of Information and Communications (MIC).
- Since February 2016, Prime Minister made decision to let PTIT run as a pilot self-administrative university:
  - No government sponsorship
  - Run as Enterprise (organization, personnel, salary payment,…)
  - ICT University: Long-Term and Short-Term
  - R&D and ICT Service Market oriented Provider

PTIT MEMBERS

RIPT

ERIPT

CDIT

Research & Development

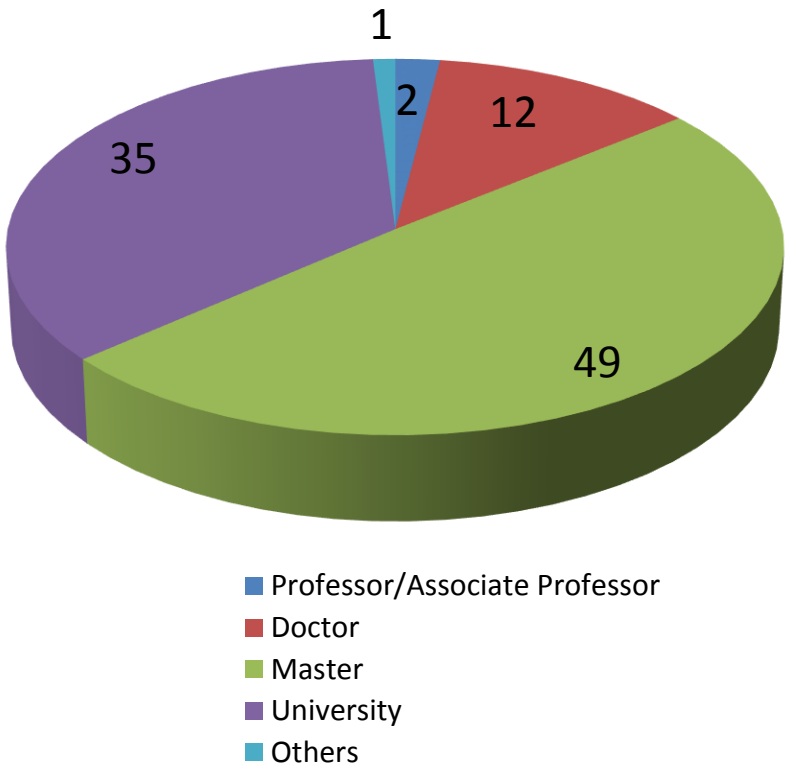
Education & Training

PTTC1 - Hanoi

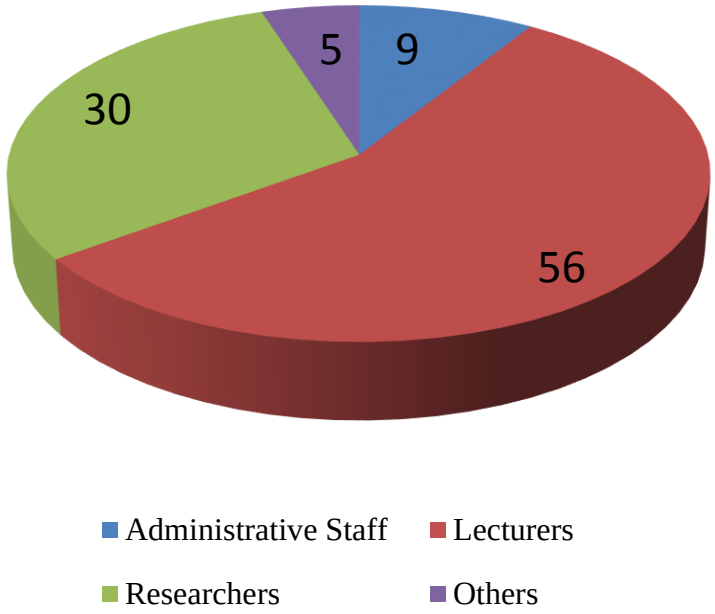
PTTC2 - HCMC

HCMC Campus

Manpower as degrees

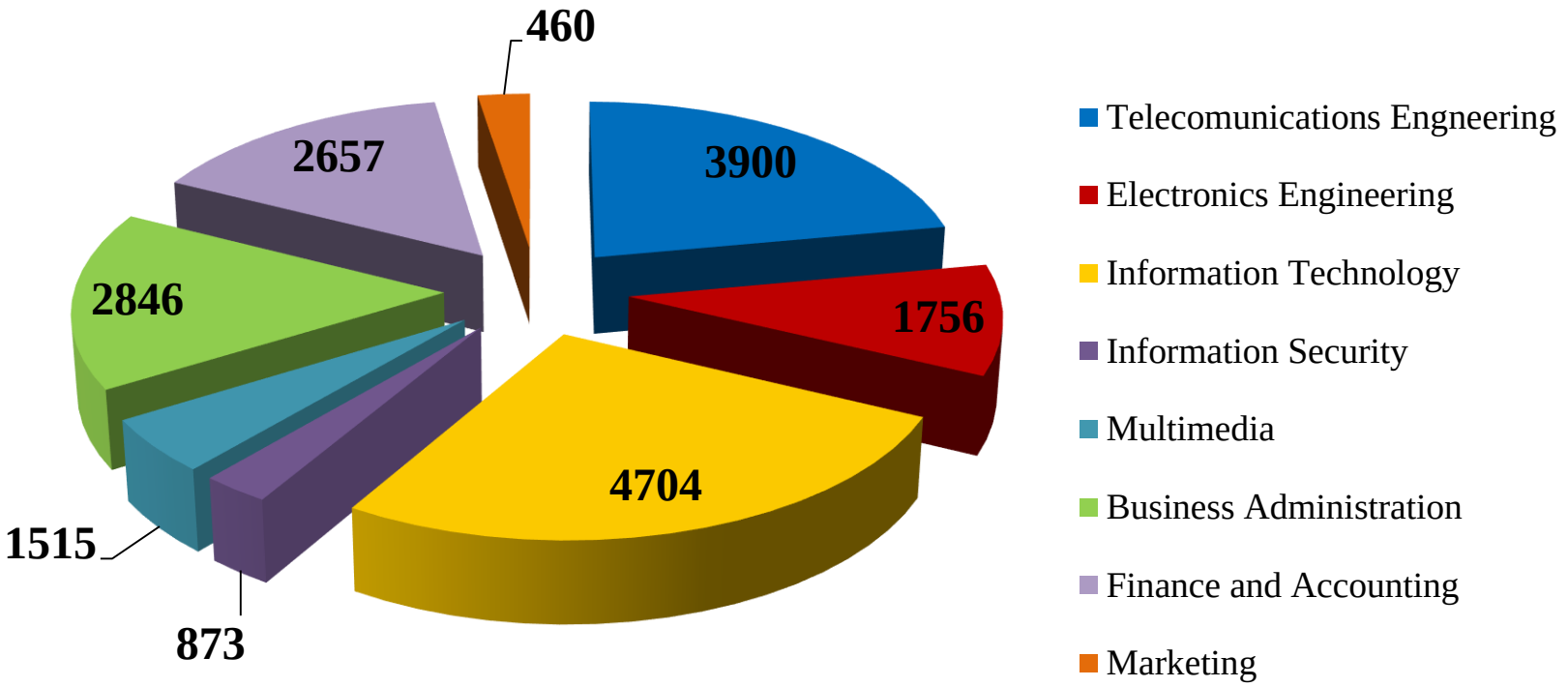


Manpower as occupation



HUMAN RESOURCES
Total: 767

UNIVERSITY EDUCATION SCALE



FLOW OF STUDENTS: 18.711

RESEARCH AND DEVELOPMENT

- Outsourcing
- Consulting
- Developing and customize
- Technology Transfer
- Training

IT

- Consulting
- Developing and customize
- Testing

Telecoms

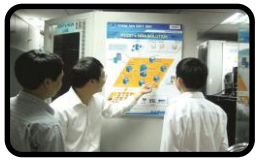
- Consulting
- Market Research and analysis

Economics

RESEARCH AND DEVELOPMENT'S OUTCOMES

Most of R&D projects are ordered and contracted by enterprises.

A big number of R&D results are applied into the network.

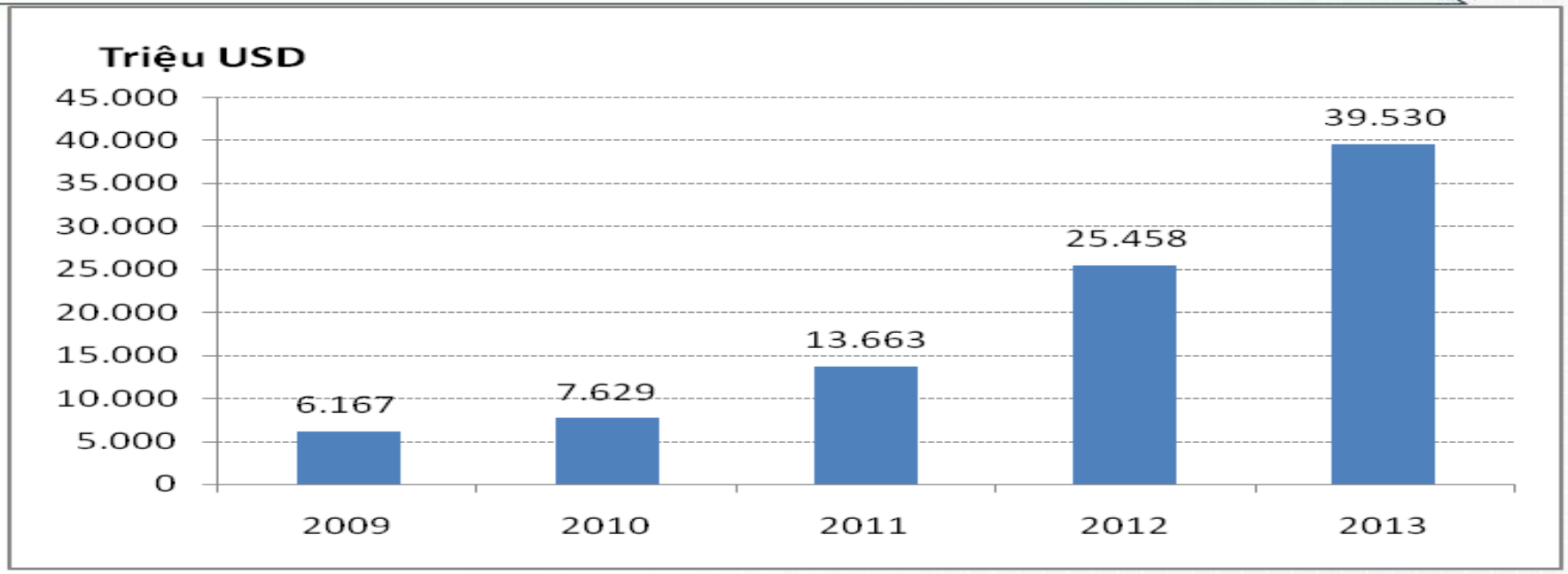


R&D results are applied into education materials.

Income from R&D activities make up for 20% of PTIT's turnover.

OVERVIEW OF ICT SECTOR IN VIETNAM

Overview of IT industry



IT industry revenue statistics

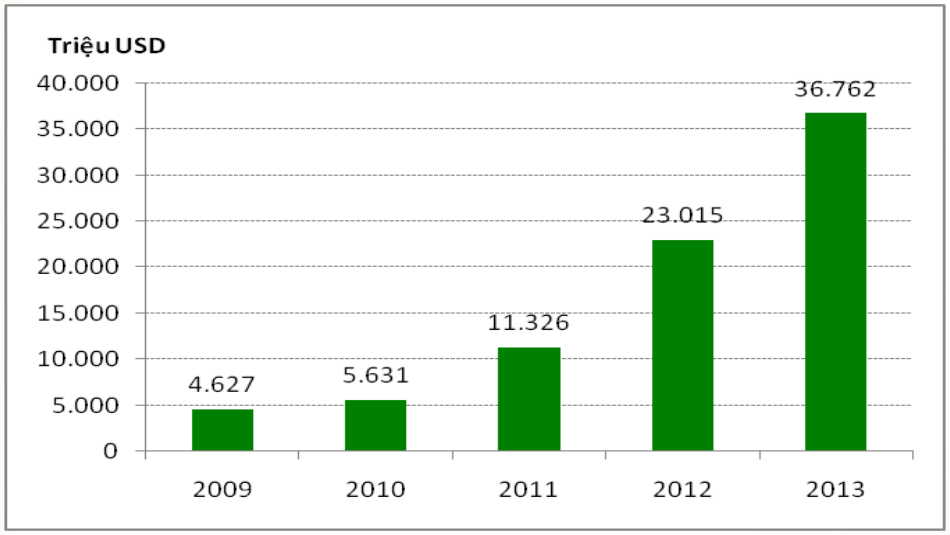
Source: MIC

- Total revenue of IT industry of Vietnam in 2013 was **$39.5 billion**, growth 55% by 2012

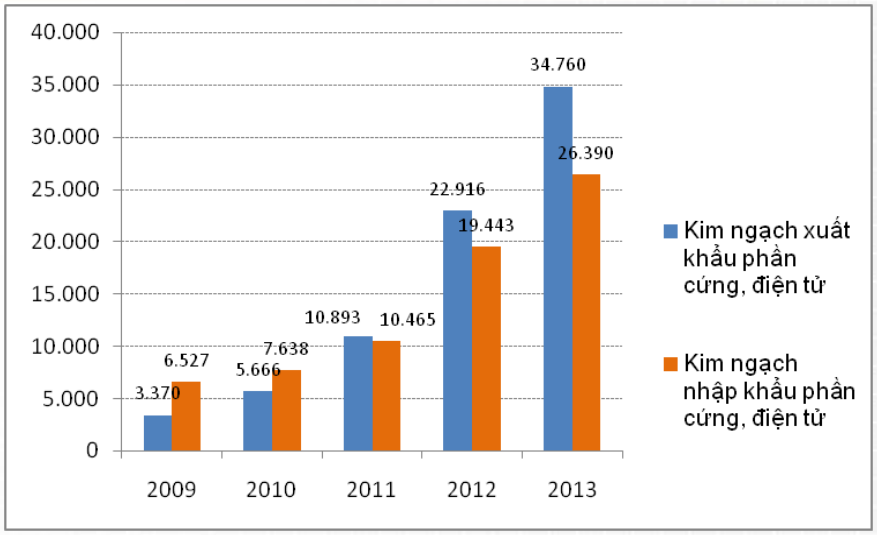
- Hardware occupied **93%** total revenue

- Total labor force is 440.000 employees, increase 86.000 employees compare with 2012

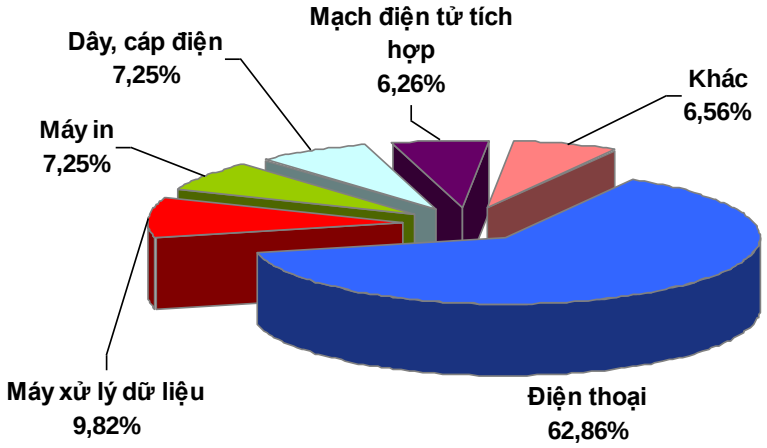
Hardware - Electronics Industry



Hardware - electronics industry revenue

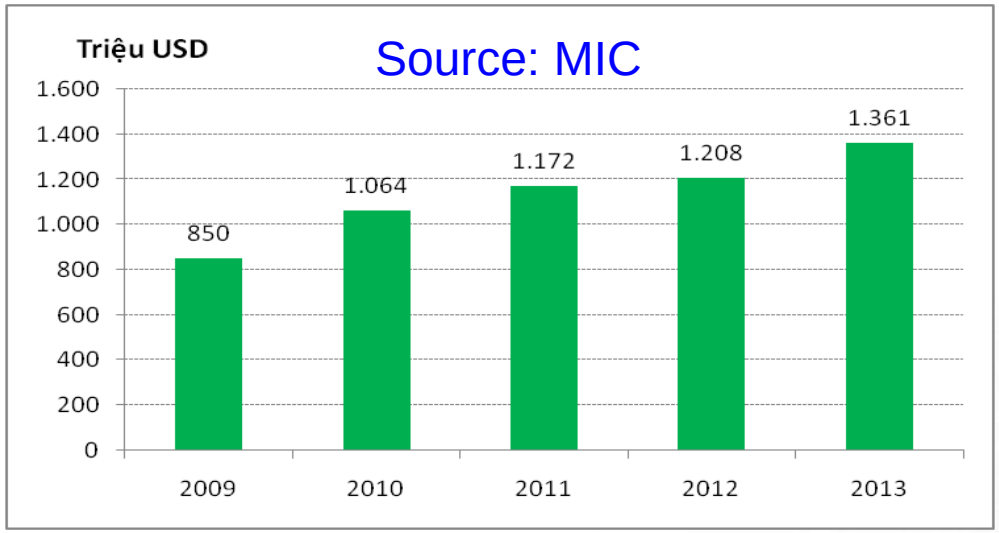


Hardware export and import



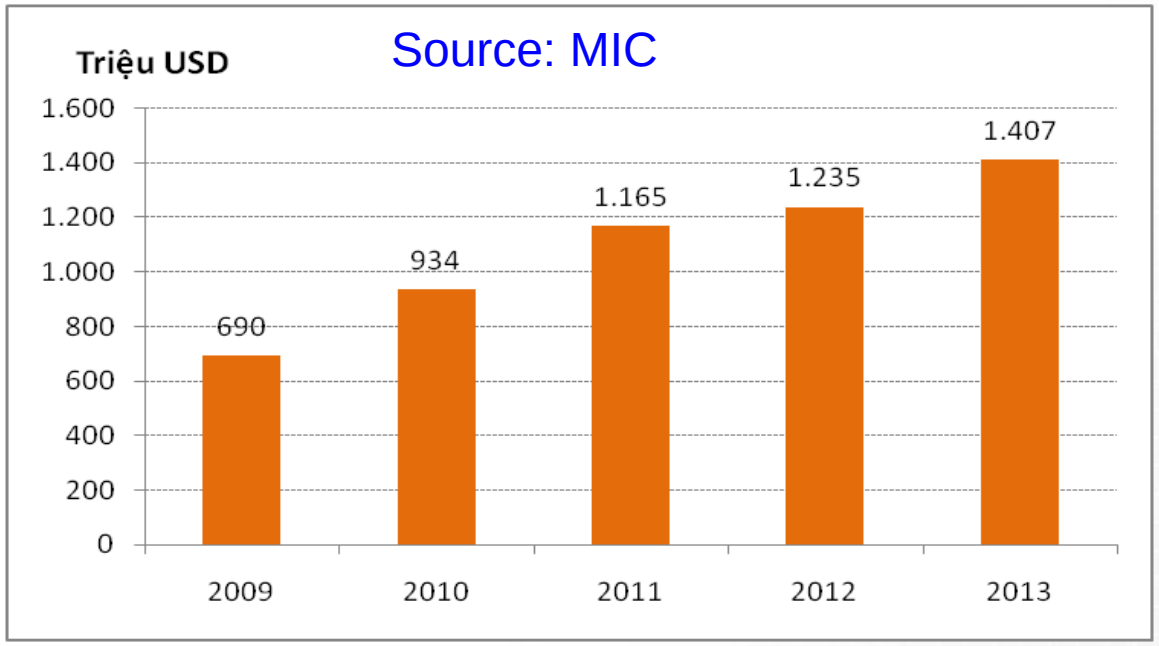
Source: MIC

Software industry



- In 2013, its revenue reached only $ **1,36 billion** and increase 12,7% compared with the previous years.
- Total labor force is around **89.000 employees** and revenue per employee reached **15.334 USD/employee/year** with average salary is **5.025 USD/ employee/year.**
- Japan is the largest outsourcing market of Vietnam, contributing 35% of the total revenue and 40% of total profit to Vietnamese enterprises. FPT is the leading enterprise in outsourcing of Vietnam in Japan with its 2012 revenue of $81 million

Digital content industry



Digital content industry revenue

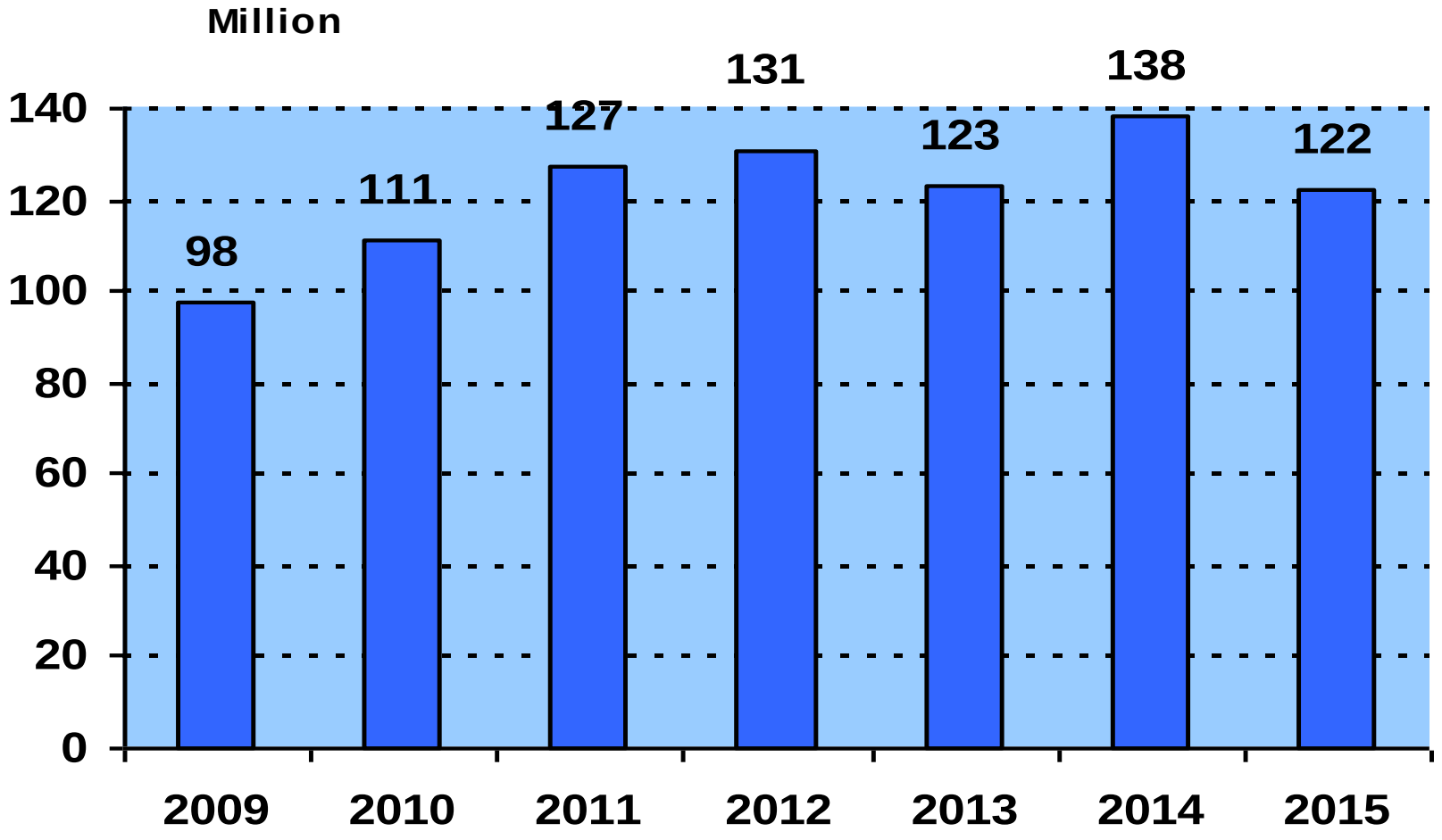
- This sector remained a steady growth.
- In 2013, the revenue of the digital content industry reached $ 1,4 billion with an increase of 13,86%.
- Leading enterprises: VNG, VTC Online và FPT Online.

Social Network and Games Online

- **Social Network**: According to WE ARE SOCIAL (England) published in 2014, Vietnam had **22% population** as users of **F**acebook.

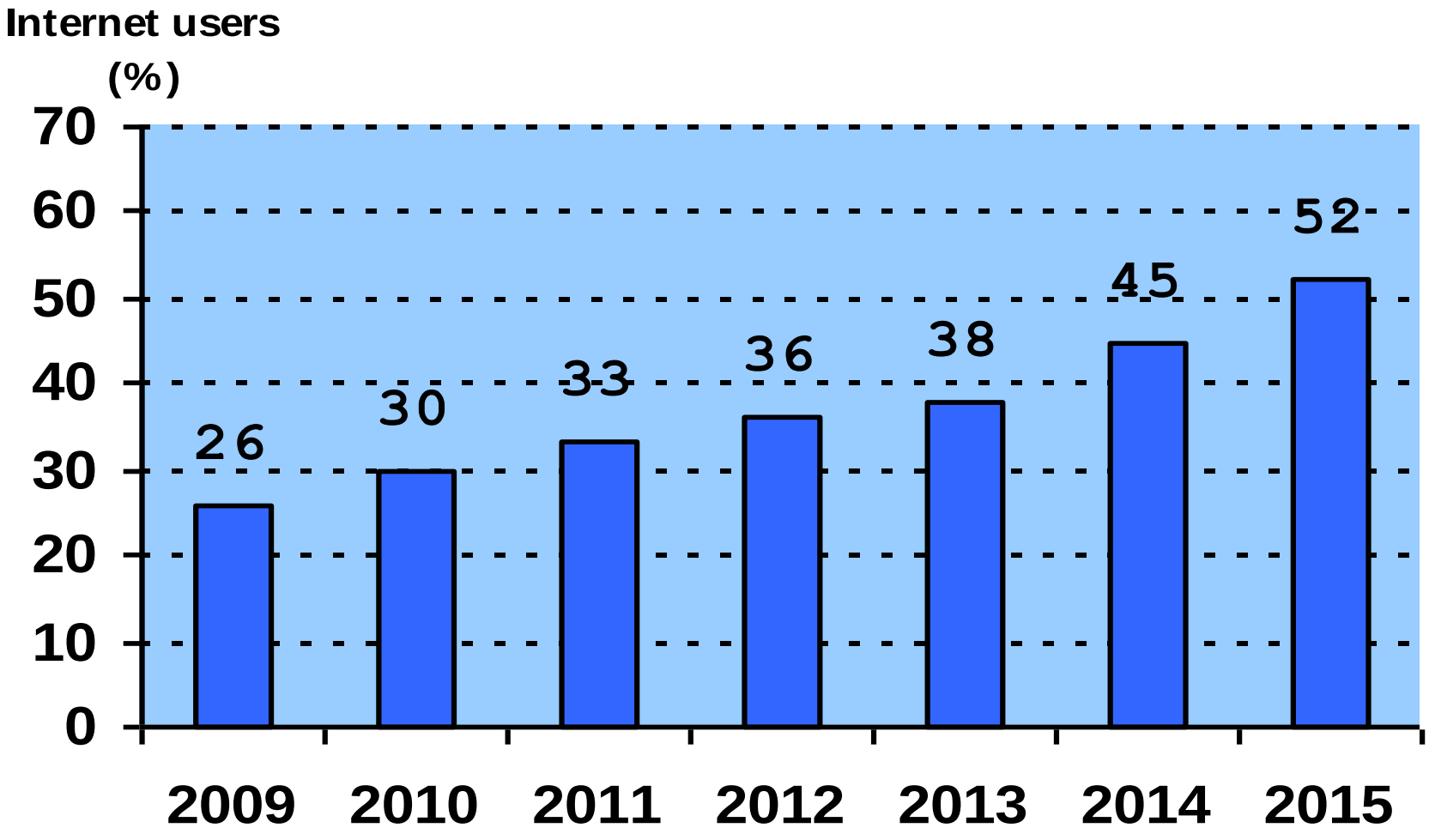
- **Games online**: in 2013, Vietnam had **30** enterprises which provided games online. According to Asiasoft (Singapore), Vietnam had the highest revenue in game online among ASEAN countries, reach 253 million USD in 2013, while Thailand was the second with revenue 158,1 million USD.

Number of mobile phone subscribers



Source: VNTA-MIC

Percentage of Internet users



Source: VNTA-MIC

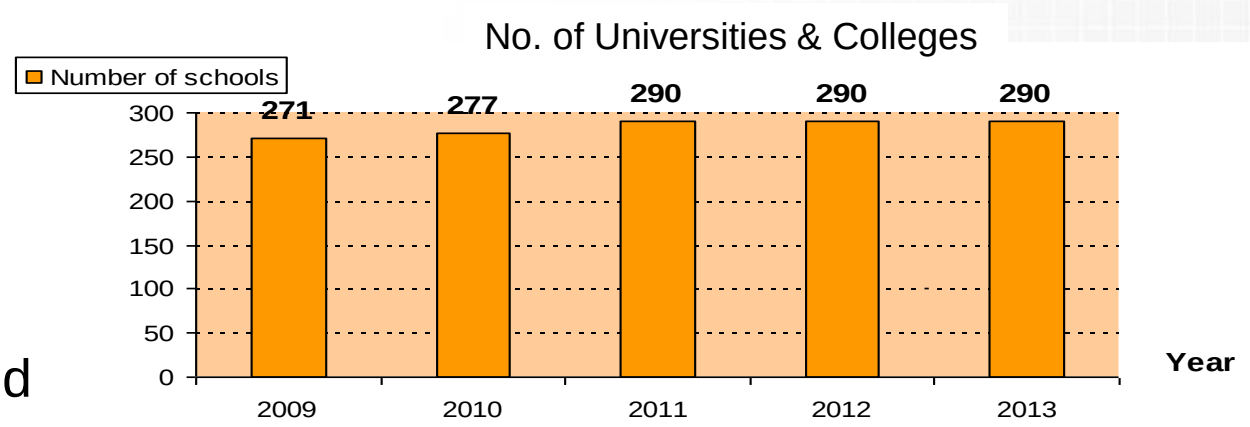
IT Application in Government

- 100% of state agencies have websites/portals
- 86,72% computers in Ministries and 89,7% computers in provicial governments are connected to Internet.
- Gov't has provided nearly 102 thousand public services at level 1 and 2; 2,3 thousand public services at level 3 (an increase by 802), and 11 public services at level 4.
- Deploy the digital signature application and focused on a number of specialized databases.

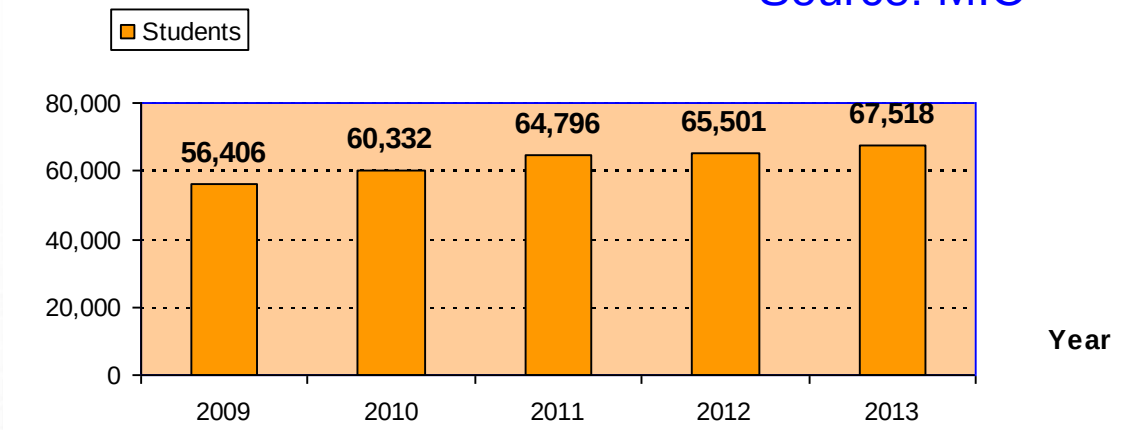
Source: MIC

IT Human Resource training

- Training system improve quickly in quantity and quality
- 290 universities and colleges have training IT specialist.
- 42.896 students graduated, 176.614 studying in university, 55.001 students enrolled



Source: MIC



Government Vision toward ICT

- Key infrastructure: Vietnamese government define IT as one of 10 crucial infrastructure system to be prioritized to invest in order to transform Vietnam into a basically industrialized and modernized country.
- Become an advanced ICT country: Prime Minister approved the National Strategy to transform Vietnam into an advanced ICT country (Decision 1755/QĐ-TTg dated 22/9/2010).
- E-Government: Prime Minister approved the National Decision 1605/QĐ-TTg (27/8/2010): National program to apply IT in government operations, 2011-2015 period
- IT Security HR: Prime Minister approved the Decision 99/QĐ-TTg (14/01/2014): National Project to educate IT Security to 2020
- …

Advanced ICT Country: National Strategy

- General targets by 2020 in Decision 1755/QĐ-TTg :
  - Ambitious target of education of 1 millions IT employees by 2020
  - Internationally-recognized ICT human resources. By 2020, 80% of ICT graduate students are able to joint in international ICT labor markets.
  - IT industry, especially Software and Digital Content Industry becoming a key driver of the economy, achieve the highest growth rate among techno-economic sectors, becoming a key driver of the economy;
  - Annual ICT revenue growth rate doubles the GDP growth rate. In 2020, ICT share in GDP reaches 8-10%;
  - Nation-wide broadband infrastructure;
  - ICT usage in all aspects of life, contributing to the sustainable development, enhancing the transparency of the government agencies.

Incentive policies for ICT enterprises

Software Development:

- 10% tax rate in 15 years, zero tax for 4 years, discount 50% in the next 9 years since having taxable income.
- Preferential personal income tax for people working in software industry.
- 0% of Value Added tax (VAT) for software products and services; 0% import tax for materials directly used in the software production; 0% export tax for software products.
- Software parks have good Internet access with preferential fees for enterprises operation inside
- IT clusters have the preferential cost of using and renting land as well as the using land tax.

Support for IT firms:

- Support 25,000 USD/firm to build CMMI or ISO 27001

Tax on ICT:

- Abolishing import/export tax for IT, electronics products and decreasing import/export tax rate for spare components within ASEAN.

IT Parks Development

REGULATION ON TECHNOLOGY COMMERCIALIZATION IN VIETNAM

Law on Technology Commercialization

- National Assembly approved in 2006 the Law on Technology Commercialization
- Technology transfer is encouraged in high-tech, advanced technology to meet one of the following requirements:
  - Creating new products is highly competitive;
  - Creation of the industry, new services;
  - Save energy and raw materials;
  - Use of new energy, renewable energy;
  - Protect human health;
  - Prevention of natural disasters and epidemics;
  - Clean, environmental and friendly production;
  - Traditional production.

  ➔ ICT is highly encouraged to transfer technology

Law on Technology Commercialization

- The technology transfer is done through the following forms:
  - Contracts independent technology transfer;
  - The technology transfer projects or contracts in the following:

    a) investment projects;

    b) franchise contracts;

    c) contract for the transfer of industrial property rights;

    d) The contract purchase machinery and equipment together with technology transfer;
  - Other forms of technology transfer as stipulated by law.

Law on Technology Commercialization

- The national technological renewal program:

- Raise the national technological capacity and transfer technology efficiency
- Serve the national key economic programs;
- Support medium- and small-sized enterprises in the transfer, renewal or perfection of technologies;
- Promote technology transfer in service of agricultural, forestry and fishery development.

Law on Technology Commercialization

- The National Technology Innovation Fund (NATIF)

- Affiliated with the Ministry of Science and Technology (MOST)
- Budget: 50 million USD
- 50% from State budget for science and technology activities
- Supporting forms:

  + Providing preferential loans;

  + Supporting loan interests;

  + Granting guarantee for capital borrowing;

  + Providing capital supports.

Law on Technology Commercialization

- Startup Vietnam Foundation (VSF):

- Vietnam's Ministry of Science and Technology recently launched the project on Technology commercialization based on Silicon Valley model

- Purpose: create favorable conditions for start-up businesses with a capacity to attract venture capital for technology

- Example of Vietnamese startups: Flappy Bird success

POTENTIAL FIELDS FOR TECHNOLOGY COMMERCIALIZATION IN VIETNAM

Potential Fields

- Telecommunication: total revenue in 2015 around $ 17 billions with 3 big carriers, namely Viettel, VNPT-Vinaphone, Mobifone.
  - 4G, 5G Network Optimization
  - Content-Based Network
  - Massive MIMO
  - Cognitive Radio Networks
  - Green Communications
  - SOA, SDN…
  - …

Potential Fields

- Information Technology:

  ~ 1300 Software Companies

  ~ 400 Hardware and Electronics Companies

  ~ 600 Content Provider Companies

  Potential R&D Area:

  - Big Data
  - Internet of Things
  - Cloud Computing
  - Security
  - …

E-Government and Related Sectors

- Top priority of Vietnamese government: 6 National Databases for Citizenship, Land, Population, Enterprises, Finance and Insurance.
- E-Banking and Core Banking System
- E-Commerce Booming: revenue of 4.07 Billions USD in 2014, increase 37% annually
- ITS (Automatic Fee, Traffic Optimization, Smart Control,…)
- E-Health
- Smart Home
- Smart City
- Smart Farm
- …

What are next steps ?

- PTIT and KAIST GCC should work together to implement a survey for technology demands in Vietnam. Target at:
  - Telecommunication Carrier: Viettel, VNPT-Vinaphone, Mobifone
  - Leading IT Companies: FPT, CMC, BKAV,…
  - Banking sector: Vietcombank, VIP Bank,…
  - E-Government: central and provincial levels
  - Smart Transportation Agencies and Companies
- Survey can help to identify the exact Korean technologies and exact Vietnamese recipients to be bridged (IDC, Gartners,… usually make quarterly report).
- PTIT hosts workshop, conference, trade fair,… for Korean technologies toward invited Vietnamese partners and companies
- Korean Side: should find the flow of ODA (Official Development Assistance) from Korea to Vietnam to promote the Korean Projects of Technology Commercialization in ICT into Vietnam.

Korean ODA for Vietnam

- Korea is the second largest ODA country for Vietnam
- 2008-2011: $ 950 mill USD for 28 projects in the sectors of Transportation; Water Supply; Green Energy; Information Technology; Health; Human Resource.
- 2012-2015: $ 1.2 bill USD for projects of Transportation; Water Supply; Green Energy; Information Technology; Health; Human Resource; Agriculture and Rural Development.
- Feb 2016: Korea annouced $ 200 mill USD for Projects in Science and Technology for Uzbekistan, Nepal, Ethiopia, Columbia, Peru and Vietnam
- ASEAN-Korea Fund: currently $ 17 mill USD and increasing

Conclusion

- PTIT is the only University under MIC: < 800 employees; > 18,000 students; 3 Institutes for R&D
- PTIT becomes partners with some big companies, such as Samsung, Intel, VNPT, FPT,…
- ICT Sector is growing very fast in Vietnam
- Government aims to promote high-tech incubators, start-up companies in ICT,…
- Telecommunication, Banking, E-Government, ITS,… may become potential sectors for technology commercialization

Thank you for attention

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