

How Globalization Affects Our Life ?

- Challenge of TUT toward Fostering Global Engineers -

International University Exchange Program for Young Engineers 2010
 -- Role of Engineers in Globalization --
 September 27, 2010
 Toyohashi, Japan

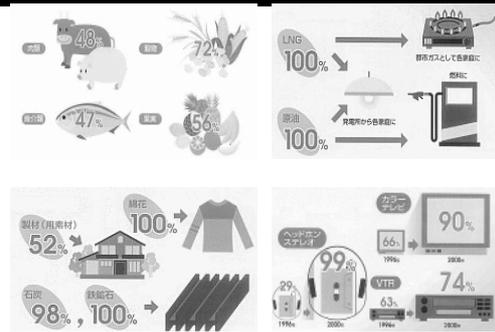
Kaname KITA
 International Cooperation Center
 for Engineering Education Development (ICCEED)
 Toyohashi University of Technology (TUT)

what is globalized? How it is globalized?

- *production, goods, commodities
- *money, fund, capital, investment
- *people, labor force
- *information

- beyond national boundary easily
- adaptation to global standard
- worldwide tough competition

↓
 High Mutual Dependency



When it is globalized? Why it is globalized?

(Political aspect)

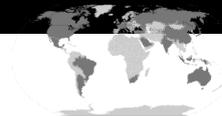
- Collapse of the Cold War paradigm ← Dismantling of the Berlin Wall
- Growth of developing countries . . . G6 → G8 → G20, BRICs

(Economic aspect)

- Market economy mechanism
- Mass production – Mass consumption
- Cost consciousness, Scale merit, Expansion of market

(Technological aspect)

- Rapid mass transit means
- Widely extended accessibility to Internet



*small firm in local town – 50 years ago

*nation-wide business deployment

*co-production system with Chinese factories - early 80's

*expanding production to Viet Nam, Cambodia

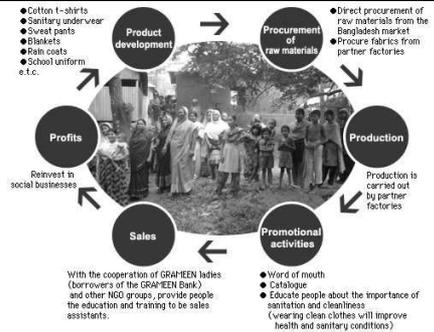


*world-wide retail expansion since 2001

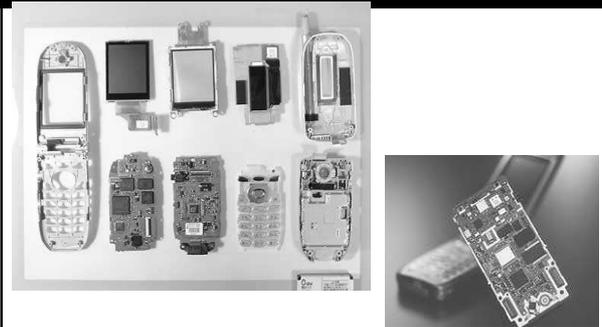
to UK, China, Hong Kong, Korea, USA, France, Singapore, Russia, Malaysia, Taiwan

*joint-ventured social-business with Grameen Bank in Bangladesh

*company official language : Japanese → English
world-wide recruitment



The advance of globalization brings positive effects, sparking economic development and providing people with new opportunities.



Globalization also has its negative side, though, including such effects as uneven wealth distribution and the cross-border issues of climate change, infectious diseases, terrorism, expanding economic crises etc...



These effects pose a threat to the stability and prosperity of countries - which depend on resources from around the world like Japan - and of course the rest of the international community.

Particularly such threat is dire for developing countries.



How engineers can make full use of their specialized knowledge and technologies to address the various globalization-related issues in collaboration with international colleagues?

Challenge of TUT toward Fostering Global Engineers



Locational Advantage

Two "No.1" in Japan

- 1) Biggest port for automobile imports
Industry accumulation with automobile manufacturers
- 2) Biggest amount of agricultural supply (1968-2004).

→ Centre of both Japanese industry and agriculture

- Found in 1976
- Provision of higher education for the graduates from colleges of technology (KOSEN)
- Compact power: 2000 students, 200 academic staff
- Educational systems focused on Graduate School Programs
- Continuity of Undergraduate and Master's Program
- Cooperation with Industries and Local Communities
- Active and broad international exchanges • • • ICCEED



- World's best 4 at ABU ROBOCON 2008-2009
- TUT students team won Japanese championship and got 4th place at ABU Asia-Pacific Robot Contest, held in Pune, India.
- They also won "2nd Runner Up Award" and "Panasonic Award."

For meeting the demand in the globalized society, *TUT is challenging to provide advanced education program for fostering practical, creative & leading engineers* who will be capable to develop globally competing technology who will be able to play proactive role in the international community



- Reforming educational programs and structure
- Development of engineering education program with quality of international standard
- Advanced researches of cutting-edge technologies at world-class level responding and contributing to the international community and global issues

Key Points in Reforming TUT Educational Programs

- ✓ Solid knowledge bases for creative and leading engineers
 - Wide-range and high-level natural science education
 - General arts and social science education
- ✓ Advanced technology training for practical & leading engineers
 - Practical and interdisciplinary training of advanced technologies
 - Internship program in cooperation with major industries.
- ✓ Training for creative and leading engineers
 - Research in cutting-edge engineering
 - International training activities

Till JFY2009: 8 programs

At the time of founding TUT in 1978

1. Mechanical Engineering
2. Production System Engineering
3. Electrical & Electronic
4. Information and Computer Sciences
5. Materials Science
6. Architecture & Civil Engineering

Enhancements responding need of society

7. Knowledge-based Information Engineering 1988
8. Ecological Engineering 1993

From JFY2010: 5 programs

Cutting-edge technology to support key industry

- I. Mechanical Engineering
- II. Electrical & Electronic Information Engineering
- III. Computer Science & Engineering

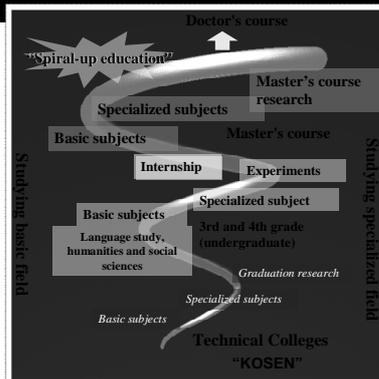
Leading technology to support the society of sustainable development

- VI. Environmental & Life Sciences
- V. Architecture & Civil Engineering

"Spiral-up education"
by alternately studying basic and specialized subjects including practical and interdisciplinary technology training, and internship program



"Base for practical, creative and leading engineer"

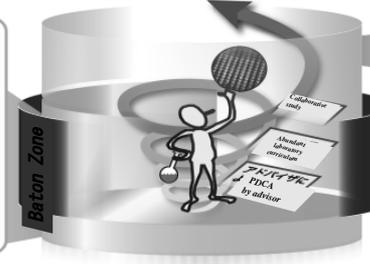


Special program for graduate students who are expected to be next generation leaders

次代を担うリーダーの育成

University

'Tailor-made' curriculum



Companies
Human resource/
research activities
Research
Collaboration/
projects
Internship
with companies

Tailor made /Baton zone Education Program

Development of Engineering Education Program with Quality of International Standard

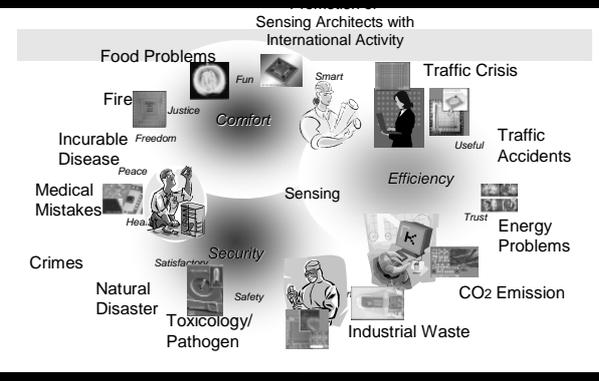
- Expansion of Education Programs and Courses (incl. Twinning Programs) conducted by English
- Increasing Admissions of International Students (As of May 1, 2010)
208 international students / 2,227 total students (Sum of undergraduate & graduate students. 21 Indonesian)
- Promotion of International Cooperation and Research Collaboration
54 Inter-University Exchange Agreements
- Build the Center of Engineering Education with Quality of International Standard connecting with Universities in Asia, EU and USA.



in the most cutting-edge engineering



Frontiers of Intelligent Sensing



Enjoy your lively discussion !

