CREATIVE INDUSTRY | Strengthening Student Skills and Competencies

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President of Thai Electronic & Computer Employers’ Association
Co-chairman of The World Association for Cooperative Education
Industry 4.0 | The new digital industry technology

- Autonomous Robots
- Simulations
- Big Data
- Augmented Reality
- Additive Manufacturing
- Cloud Computing
- Internet of Things
- Cybersecurity
- Horizontal & Vertical System Integration
21st-Century Skills

Foundational Literacies
How students apply core skills to everyday tasks

1. Literacy
2. Numeracy
3. Scientific literacy
4. ICT literacy
5. Financial literacy
6. Cultural and civic literacy

Competencies
How students approach complex challenges

7. Critical thinking/problem-solving
8. Creativity
9. Communication
10. Collaboration

Character Qualities
How students approach their changing environment

11. Curiosity
12. Initiative
13. Persistence/ grit
14. Adaptability
15. Leadership
16. Social and cultural awareness

Lifelong Learning

Note: ICT stands for information and communications technology.

Source: World Economic Forum website
Industry 4.0

Creativity Personalities

- Observing
- Questioning
- Experimenting

- Associating
- Networking
  - Resources
  - Idea
Associating & Networking
Who are hiring?
What kind of businesses?
What type of people?
Cooperative Education
Cooperative Education

Government  Education  Citizens  Community  Business
Since year 2008
Inter Co-op joined in year 2012

CWIE: Cooperative & Work-Integrated Education

107 Universities
(38 overseas, 69 local universities)

645 Projects

984 Participants
(175 Non-Thai, 809 Thai students)

Oversea Universities
Since 2012
<table>
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<tr>
<th>Country</th>
<th>Completed</th>
<th>On-Going</th>
<th>Awaiting</th>
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Quick Fix

- Basic Science (Fundamental Science & Technology Knowledge) was brought in and applied in research project to deeply understand the processes and problems.
- Research Assistants (BS, MS and Ph.D. Students) to join with researchers for doing researches.
National Science and Technology Development Agency

1. National Electronics and Computer Technology Center
2. Thai Microelectronics Center
3. National Metal and Materials Technology Center
4. Nano Technology Center
5. Design & Engineering Consulting Service Center
6. Hard Disk Drive Institutes

Remark: 1-6 Institutes are under NSTDA

1. The Thailand Research Fund
2. National Science Technology and Innovation Policy Office