

<English ver.>

# Overview of the digital field and IT talent development in Japan

**長谷川 亘**

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**Prime Vice Chairman,  
Information Technology Federation of Japan (Itrenmei)**

**CEO / Professor : The Kyoto College of Graduate Studies for Informatics**

**Chairman: Kyoto Information service Industry association**

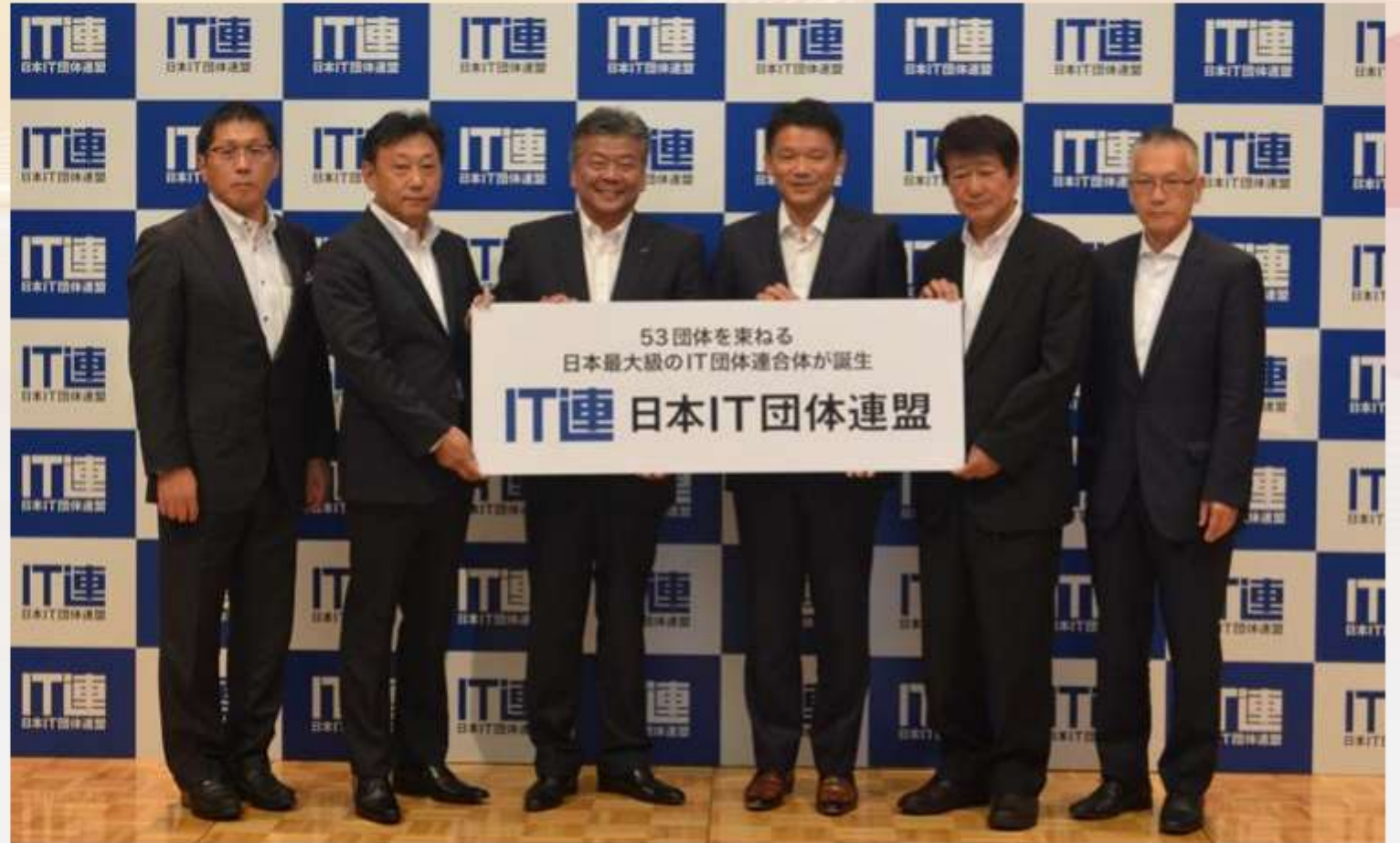
**Chairman: All Nippon Information Industry Association Federation (ANIA)**



The Japan Federation of IT Associations was founded.  
Wataru Hasegawa, CEO of kcg.edu group,  
was inaugurated as Vice Chairman on July 2016.

国内のIT・コンピュータ業界  
団体53団体が結集し、日本  
IT団体連盟を設立。会員企業  
数は5,000社、全従業員数  
(社長を含む)400万人。

The Japan Federation of IT  
Association consists of 53 IT  
related organizations which  
contain 5000 companies and  
a membership of 4,000,000  
people.

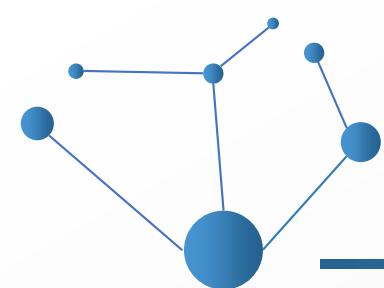


# HASEGAWA Wataru



- Bachelor of Arts, Waseda University
- Master of Education, Master of Arts, Columbia University, USA (M.Ed./Education Leadership/Educational Administration)
- Representative Director & Prime Vice Chairman, Information Technology Federation of Japan (Itrenmei)
- Chairman, Kyoto Information service Industry association
- Chairman, All Nippon Information Industry Association Federation (ANIA)
- Director of Information Processing Society of Japan
- Director of Japan Massive Open Online Courses Promotion Council
- Previous position includes: Vice Chairman, IT Coordinators' Association, Member of the Human Resources Development Committee of the Information-technology Promotion Agency, Japan, Member of the Steering Committee of the Japan Organization for Employment of the Elderly, Persons with Disabilities and Job Seekers, Advanced Vocational Ability Development Promotion Center
- Advisory Director, Nippon Applied Informatics Society (NAIS)
- Awards, Minister of Education, Culture, Sports, Thailand (Twice); Ghana Minister of Culture Award
- (SDA) New York State permanent certification as a school district administrator
- (SAS) the school administrators and Supervisors Certificate
- Visiting Professor, Tianjin University of Science and Technology, Policy Advisory Committee, Jeju International Free City Development Center, Public Enterprise under the Ministry of Land, Transport and Maritime Affairs of Korea
- CEO of The Kyoto College of Graduate Studies for Informatics





# 日本政府の目指すところ

## Overview of digital policies in Japan



**2001 e-Japan Strategy**

⋮

**2013 Declaration to be the World's Most Advanced IT Nation**

**2017 Declaration to be the World's Most Advanced IT Nation**

Basic Plan for the Advancement of Public and Private Sector Data Utilization

**2019 Public-Private ITS Initiative/Roadmaps**

⋮

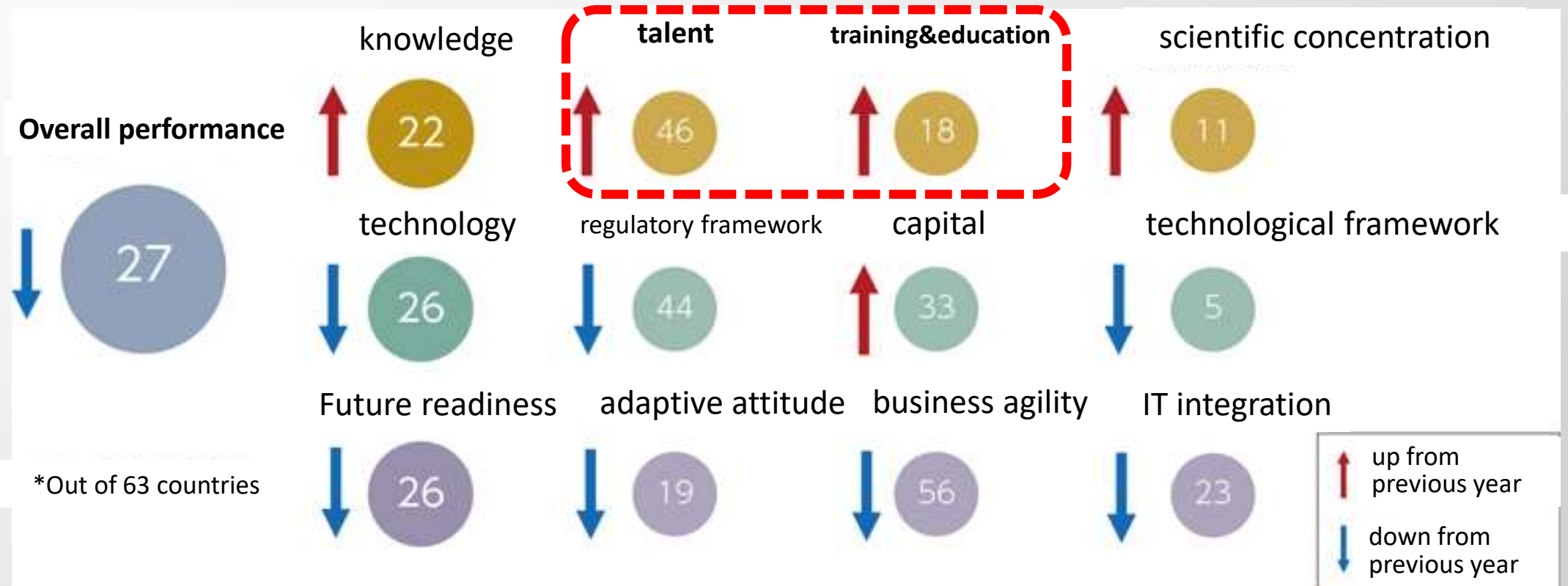
**The Digital Agency (est. Sep.2021)**

**「Priority Policy Program for Realizing Digital Society」**

[https://japan.kantei.go.jp/policy/it/index\\_e.html](https://japan.kantei.go.jp/policy/it/index_e.html)

# Japan and the World Digital Competitiveness Ranking

Japan's Digital Competitiveness Ranking as of 2020



# IT talent shortage in Japan — a chronicl issue

## Ministry of Trade and Industry

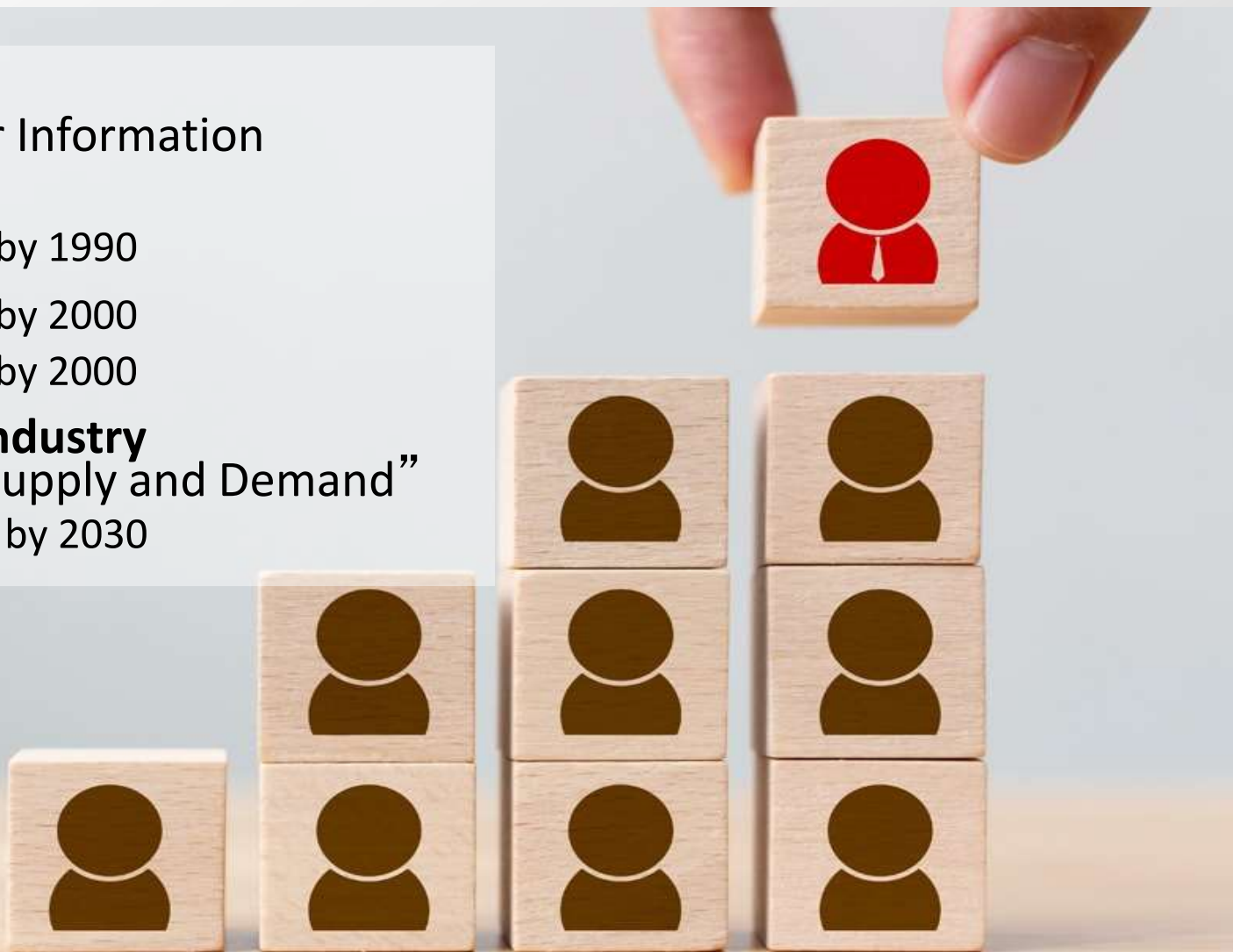
“Supply and Demand Forecasts for Information Processing Engineers”

- estimate of 1984: **600,000 short** by 1990
- estimate of 1987: **970,000 short** by 2000
- estimate of 1992: **540,000 short** by 2000

## Ministry of Economy, Trade and Industry

“Survey on IT Human Resources Supply and Demand”

- estimate of 2019: **790,000 short** by 2030



# IT talent shortage — a common issue around the globe

## Europe

Estimated\*<sub>1</sub> that, there would be a shortage of **900,000** skilled people in the ICT sector by 2020



## European Digital Decade (2021)

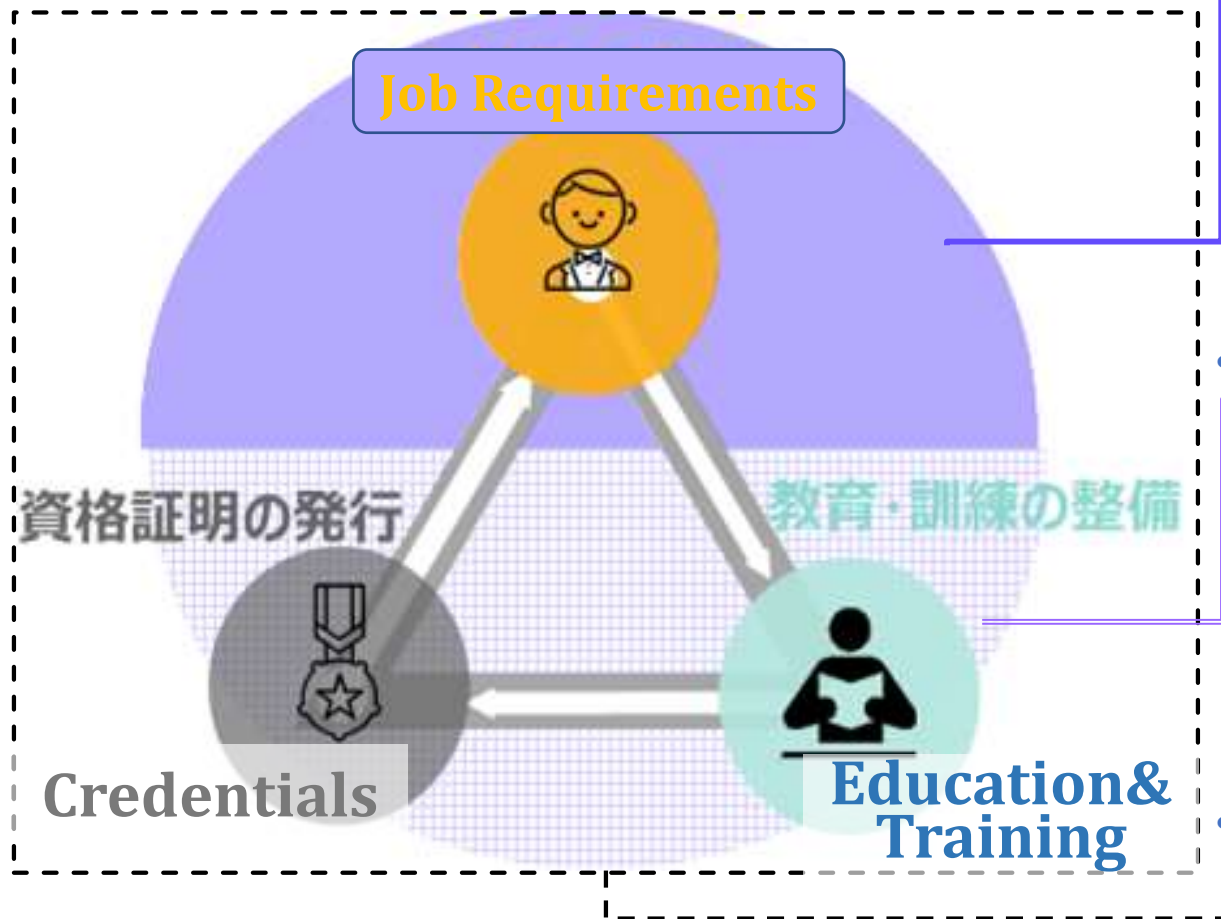
By 2030, at least 80% of all adults should have basic digital skills, and there should be 20 million employed ICT specialists in the EU

\*1 Joop Hazenberg 'Grand Coalition' must fill the gap of 900,000 ICT vacancies (April 2013)  
<https://encompass-europe.com/comment/grand-coalition-must-fill-the-gap-of-900000-ict-vacancies>

\*2 Europe's Digital Decade: digital targets for 2030 [https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en)



# Efforts at Itrenmei Education & Workforce Committee



## Technology Application Group . . . .

Clarify profiles of IT professionals requirements based on competencies. Collaborate with partners such as SmartSE and IPSJ (Information Processing Society of Japan) to further industry-academia cooperation for talent development

- Education Contents Group . . . Organize education contents that responds to the job requirements based on competencies, and examine what's necessary for industry to recognize learning achievements

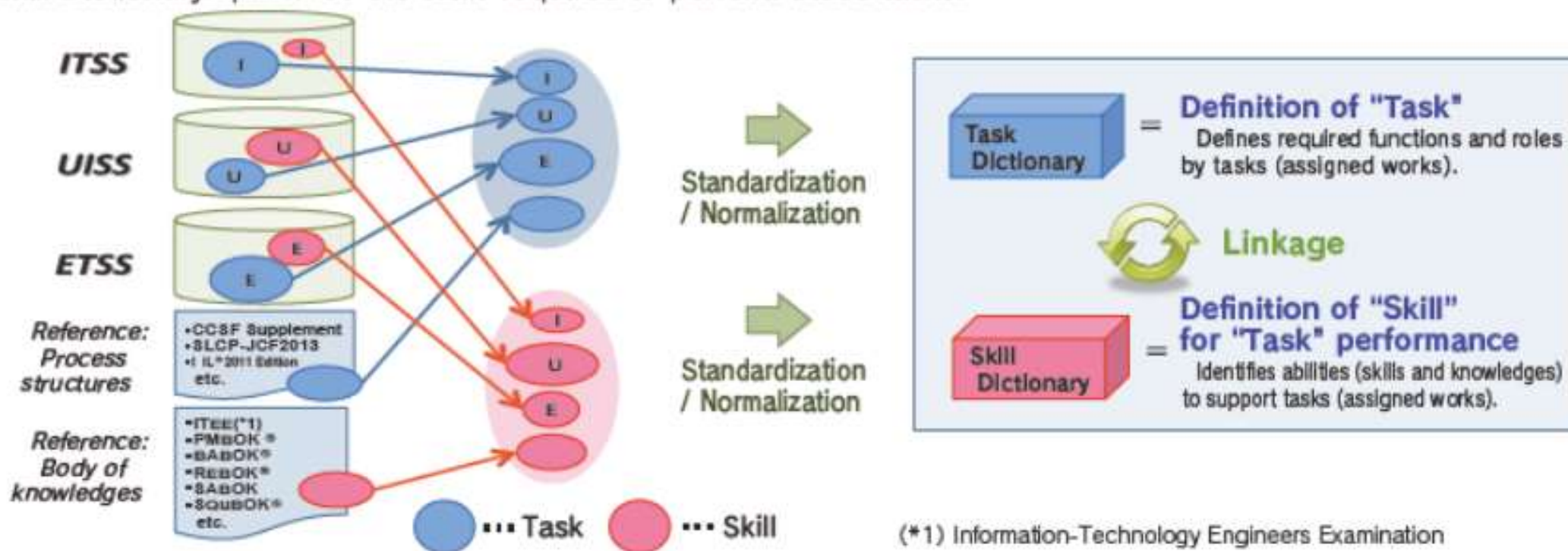
Policy Proposal Group . . . . Compile policy proposals based on the vision of the committee.



# Connecting industry-academia through iCD

## About i-Competency Dictionary, iCD

The i Competency Dictionary(iCD) was released as a structured dictionary composed of the "Task Dictionary" and the "Skill Dictionary". The "Task Dictionary" contains the tasks for any business using information technology in any companies, while the "Skill Dictionary" provides the skills required to perform those tasks.

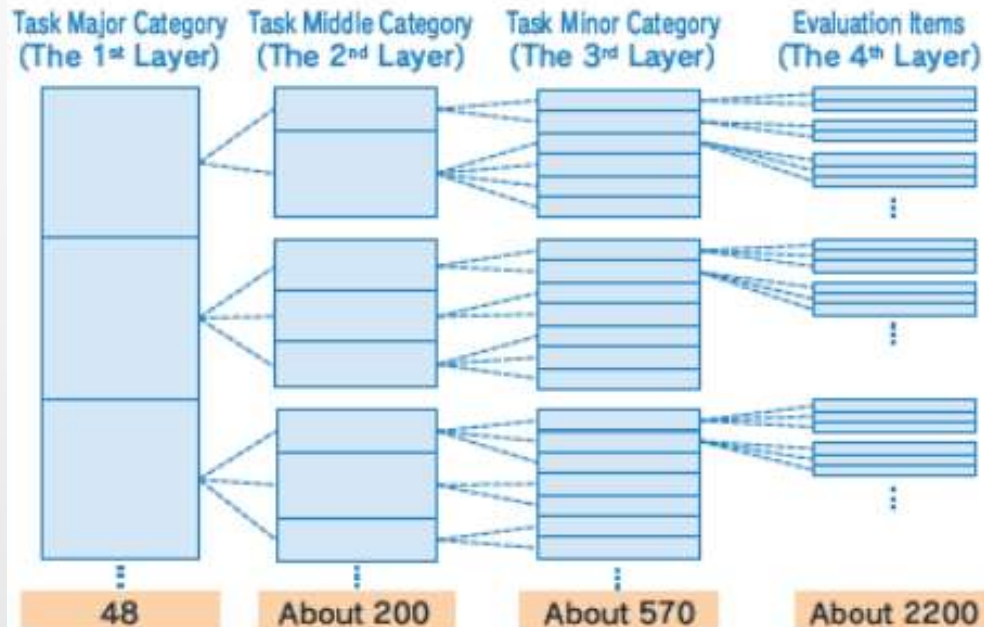


# Connecting industry-academia through iCD

## the structure of i-Competency Dictionary

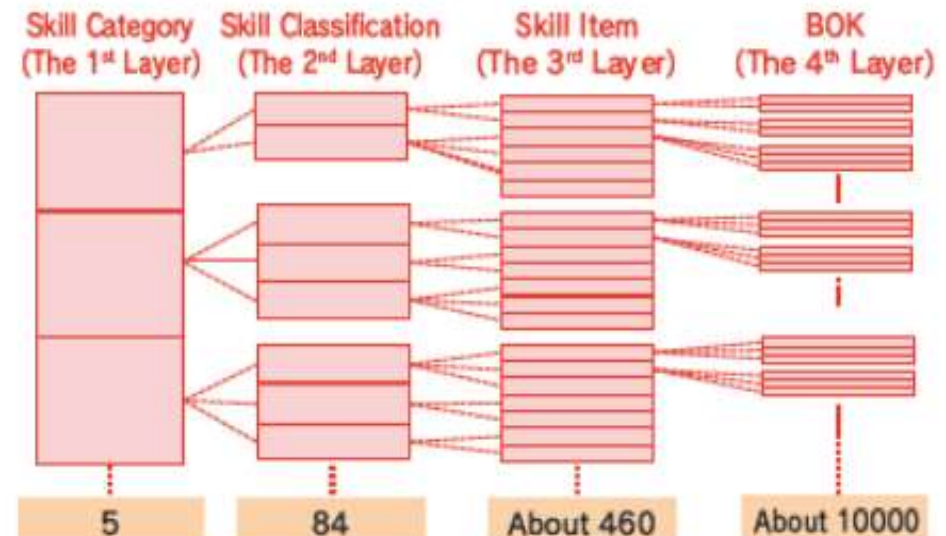
### task dictionary

The Task Dictionary is comprised of four layers that are divided into three task layers plus the Task Evaluation Items layer.



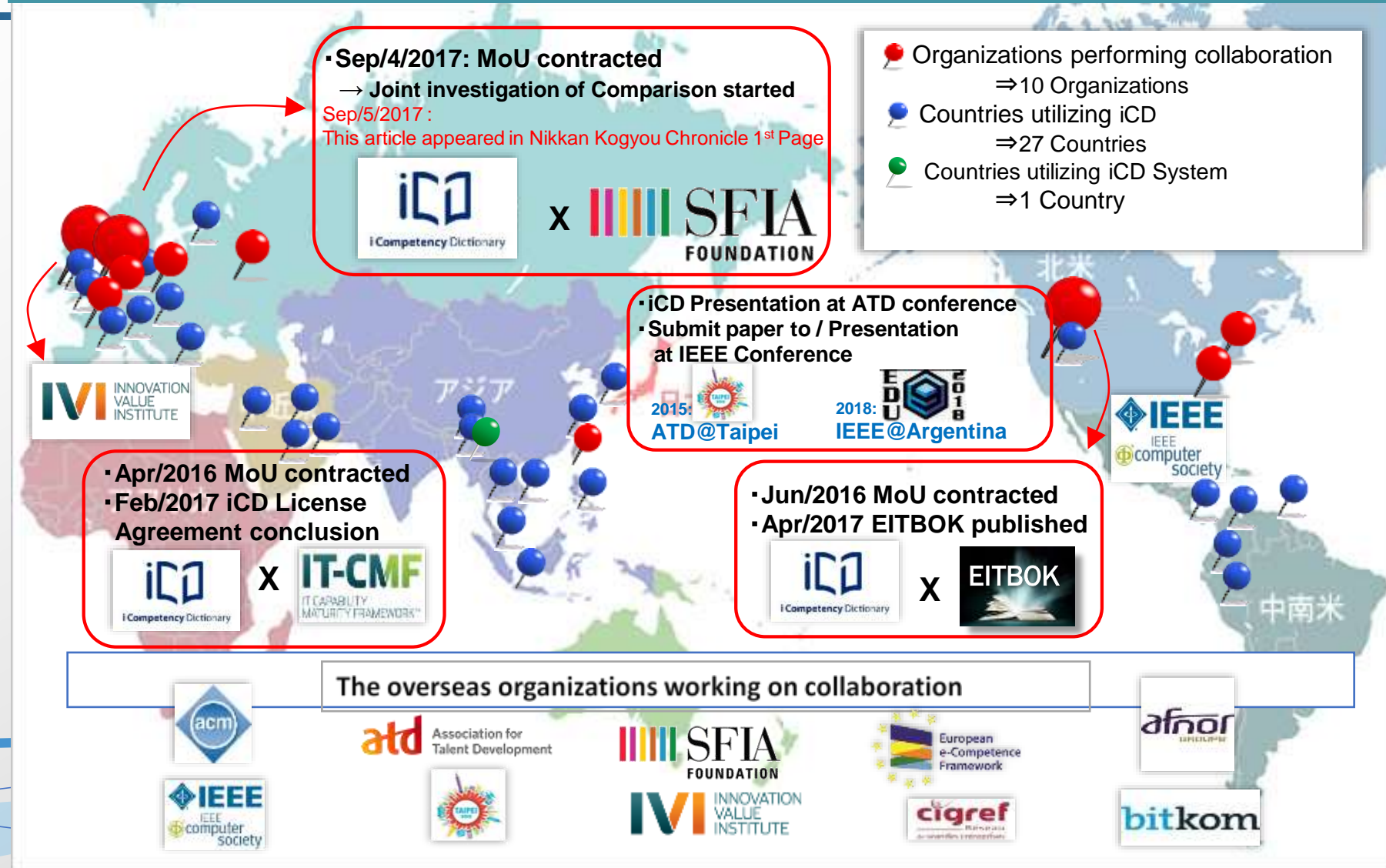
### skill dictionary

Skills are capabilities required to handle associated knowledge items to execute a task. The Skill Dictionary is comprised of four layers divided into three skill layers plus Associated Knowledge Items (approx. 10,000 knowledge items). The Skill Dictionary refers major Body of Knowledges and skill standards in the world.



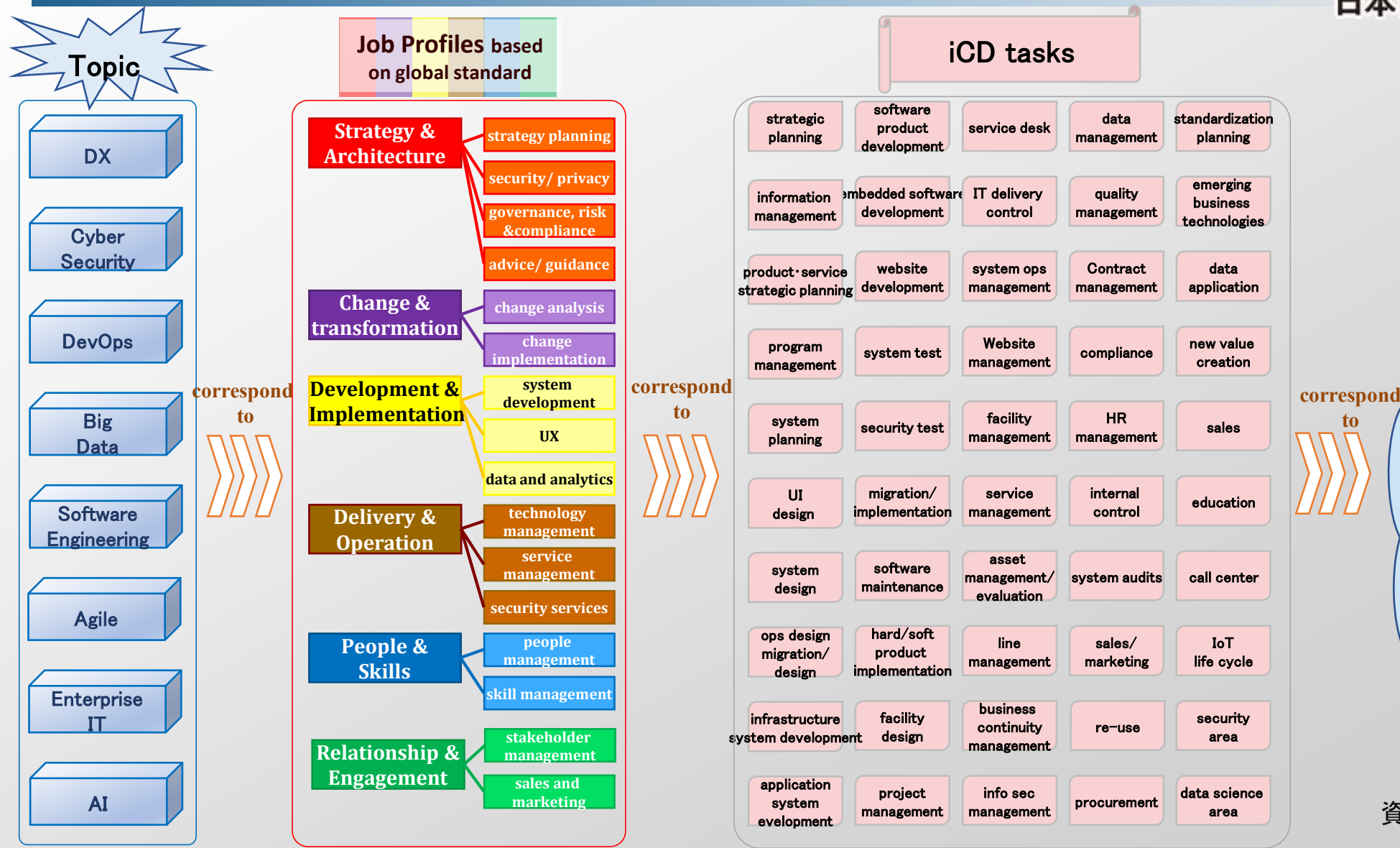
# iCD Global Activities Status

## Various Collaboration activities promote iCD global expansion



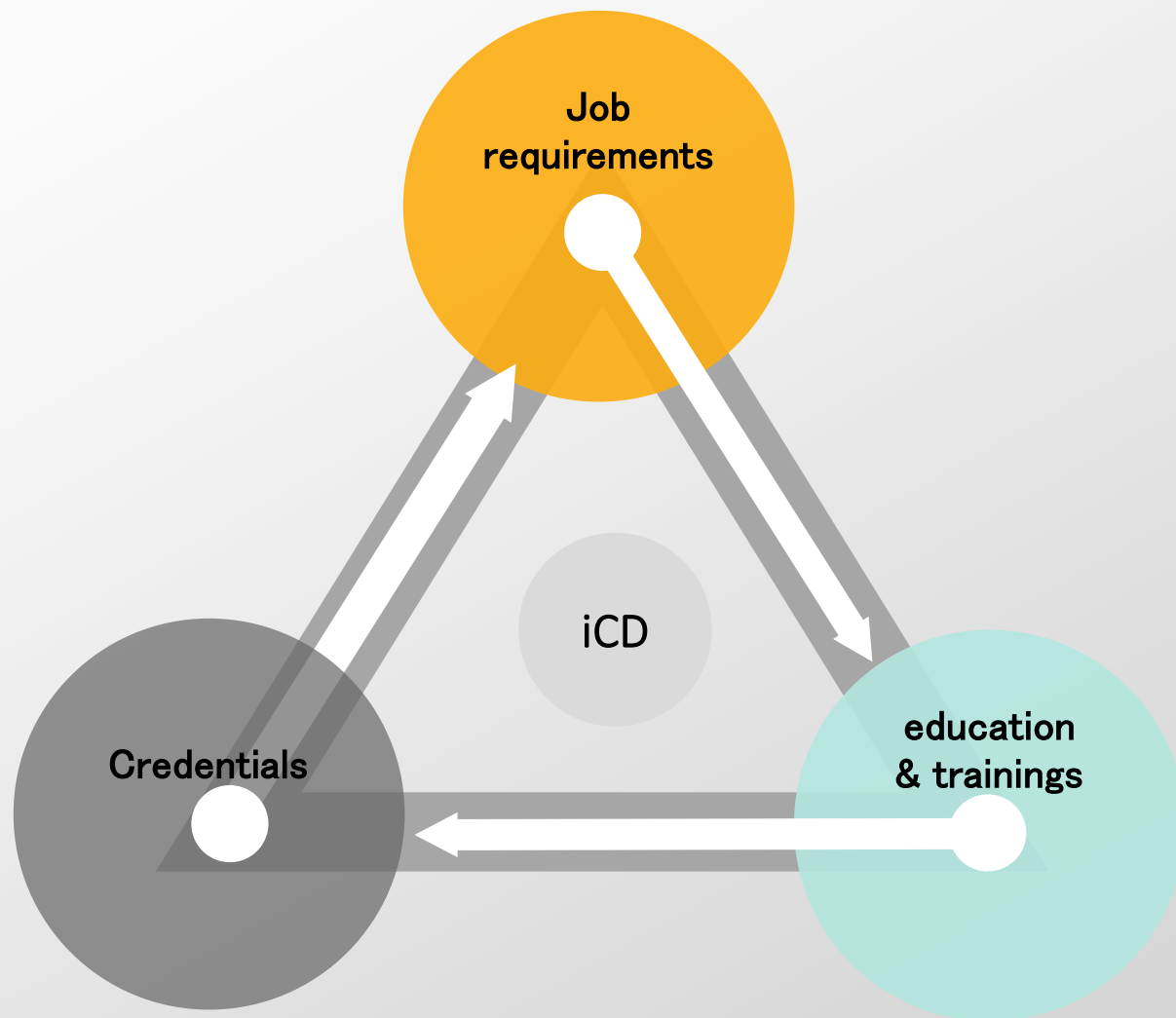


# Connecting job demand with education through iCD



# Conceptual vision: IT talent development infrastructure

A system that streamlines education and HR development, opens up careers based on learning achievements



## Job Requirements

- Clearly express job requirements by industry based on iCD



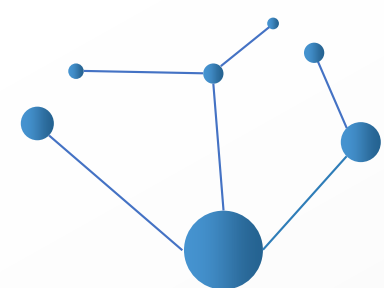
## Education & Trainings

- Develop educational contents based on iCD to meet job requirements with clear competencies
- Build a portal that can organically link industry-academia courses, and search across iCD-based jobs and human resources



## Credentials

- Develop a standard format for digitized certifications that allow industry to recognize learning outcomes



# Looking for future collaborations

Thank you

Contact Us ✉ [education\\_workforce@itrenmei.jp](mailto:education_workforce@itrenmei.jp)

