

# ITT Control in Academia

February 2019

Ministry of Economy, Trade and Industry (METI), Japan

# Diversification and sophistication of procurement activities

- As procurement activities by entities of concern is more and more diversified and sophisticated, academic/research exchanges are targeted as a place to acquire advanced dual use technologies.
- At the same time, due to declining population, internationalization of Japanese universities and research institutes is rapidly progressing. (e.g., the number of international students in Japan is 299,000 in 2018, an increase of 12% from 2017.)
- Under such circumstances, special attention should be paid to the possibility of leakage of technologies through academic and research exchanges at universities and research institutes.

## Export transactions:

- Front companies
- Trading via a third country
- Disguised end users, end uses, etc.

## Technology transactions:

- Front companies
- E-mails and cloud computing
- Exhibitions and lectures

## M&As:

- Influences of foreign governments
- Support from government-affiliated funds

## Academic/research exchanges:

- Faculty members, researchers, and international students
- Joint research
- Peer reviews

## Hiring recruitment/job seeking:

- Head-hunting
- Recruitment by major companies

## Technology theft:

- Cyber attacks
- Industrial espionage

- Because organizational missions and subjects of management of universities differ greatly from those of companies, universities face many challenges.

## Organizational Mission

- Universities' research focuses on activities to support academic promotion and, in principle, they pursue public disclosure of its results in and outside Japan.  
→ **Researchers of universities are less aware of technology control than private companies, and their sense of crisis concerning technology leakage is relatively low.**

## Subjects of management

- Universities mainly manage technologies that developed through their research rather than goods. Since their research objects are diversified, they manage wide variety of technologies.  
→ **It is difficult to exhaustively grasp all technologies they possess. Furthermore, classification of technologies is more difficult than goods.**

## Opportunities for Technology Transfer

- Due to internationalization of academic researches and advances in ICT and science technology, opportunities for providing technologies are increasing.  
→ **The possibility of unintentional technology leakage are increasing due to internationalization of academic researches. With the progress of science and technology, it became easy to exchange the genetic information of the virus. Peer review of unpublished thesis is exchanged via e-mail and discussed by researchers across the border.**

## Independence of Individual Researchers

- The organization of the universities are not strictly centralized and faculty members' independence is well respected.  
→ **Management of faculty members by the administrative division is difficult.**

# Necessity of unique approaches to universities

- In order to address the challenges of universities, unique policy approach to universities is needed.

## 【Approaches to universities】

- Awareness raising concerning the importance of technology management (promotion of organizational understanding including faculty members)
- Concurrent realization of effective control and reduction of burdens (differentiated management according to research activities)
- Adequate, case-by-case technology management (acceptance of international students, joint research, etc.)
- Development of a management system suitable for university size and faculty structure (engineering, medicine, information, etc.).

For these purposes, METI have conducted the following activities:

- (1) Preparation of guidelines particularly designed for universities and research institutes**
- (2) Dissemination and awareness raising on security export control system based on the guidelines**
- (3) Support for establishment and improvement of operation of their internal control system**
- (4) Strengthened guidance to universities with insufficient internal control**

# (1) Preparation of guidelines particularly designed for universities and research institutions

- Under the guidelines for universities, management methods suitable for the actual situation taking into account the characteristics and challenges of university are provided.

## [Key points of the guidelines]

- Provision of concrete examples of organizational structure for internal control
  - Present concrete examples of internal organizational structures, personnel in charge, roles and responsibility, etc., with reference to examples of other universities that have already established management structure.
- Provision of procedures suitable for universities' actual situations
  - Present concrete management methods for situations that universities actually face, including admission of international students, joint research, overseas travel and temporarily returning home.
- Provision of information needed for differentiated control at universities
  - Present efficient screening methods of preliminary screening by researcher and detailed screening by administrator
  - Present examples of research areas for careful screening
- Provision of examples of Compliance Program and forms/documents
  - Present templates for CP and screening forms, etc.

## (2) Dissemination and awareness raising on security export control system

- In cooperation with other related ministries and agencies, dissemination and awareness raising activities to strengthen universities' technology management system are conducted.

### **(METI's visit to universities)**

- METI visits and provides explanations directly to presidents and top management members who were formerly faculty members to raise their awareness on universities' technology management.

### **(Hold seminars)**

- In cooperation with Ministry of Education, Culture, Sports, Science and Technology, METI holds seminars for universities and research institutes in Tokyo, Nagoya and Osaka. The National Police Agency also provides presentations referring concrete cases at the seminars.
- METI also arranges individual consultation session with some universities after the seminars.

### **(Support of regional networking)**

- METI supports the development of regional network among university personnel in charge in order to exchange information of technology management and share their best practices.
- METI's local branch offices play a significant role to support regional network among universities.
- METI also expands these initiatives to the 27 national research and development agencies by holding study sessions for these agencies.

### **(Preparation and publication of e-learning contents (in Japanese and English))**

- Create a video for faculty members and personnel in charge by explaining security export control in a easy-to-understand manner, which is also published on METI's website.

### (3) Support for establishment and improvement of operation of their internal control system

- In addition to holding seminars, fine-grained support is provided to universities by dispatching advisors to each university and providing advices and guidance for the development of internal control system and their operation.

#### [Dispatch expert advisor]

- METI appoints 20 advisors who have rich experience of security export control in universities and private companies.
- METI dispatches the advisors to universities that have yet to develop sufficient export control system and operation.

#### [Dispatch record]

##### 2018FY

- A total of 207 individual consultations for 50 universities, including dispatching advisors.
- Out of the 32 universities that had no internal export control system, 15 universities newly established internal export control systems.

##### 2019FY

- A total of 120 individual consultations for 78 universities, including dispatching advisors (as of the end of 2018).
- METI also focuses on universities that have yet to develop sufficient export control system and operation by evaluating the number of students, size of universities and actual records of transactions, etc. In cooperation with advisors, METI also conducted intensive advice and guidance to them and found some problems such as lack of communication between faculty members and administration offices.

## (4) Strengthened guidance to universities

- Through conducting advice and guidance activities to universities, similar misunderstandings and problems are found.
- By collecting case studies of such misunderstandings and problems, guidance activities to universities should be further strengthened.

### **Some misunderstanding and problems found through advice and guidance activities to universities:**

- Misinterpretation of exemption clause such as “basic scientific research” or “in the public domain”. Some researchers might misunderstand that all academic researches at university are “basic scientific research” and not subject to export control. Since it is difficult to leave each researcher to classify technology as controlled item or exempted item, management by funding agency of R&D project for classification of technology might be efficient.
- Misunderstanding of the scope of export control. For example, some researchers might consider that sending samples or hand carry item are not subject to export control.
- Lack of proper rules and operation for access of research lab and data download by international students and researchers.



## Summary

- Because of different characteristics of universities compared to private companies, unique approaches to university is necessary.
- In cooperation with related ministries and agencies, government should provide fine-grained support activities to universities such as publishing guidance and holding seminars and workshops for awareness raising and deepening understandings of export/technology control.
- Deepening network among universities are efficient for the development of export control operation of universities.
- Further improvement will be achieved through continuous discussion with and encouragement to universities.

- The Comprehensive Strategy on Science, Technology and Innovation, a national R&D promotion strategy published in June 2018, states importance of ITT control in academia and strengthening its measures.
- METI has strengthened outreach activities for academia.

## METI's Approach (Overview)

### Guidance for Academia

- Publicize the Guidance on METI's website (Oct 2017) and send it to all universities through the Ministry of Education  
(Ref) [http://www.meti.go.jp/policy/ampo/law\\_document/tutatu/t07sonota/t07sonota\\_jishukanri03\\_eng.pdf](http://www.meti.go.jp/policy/ampo/law_document/tutatu/t07sonota/t07sonota_jishukanri03_eng.pdf) (English)

### E-Learning Contents for Academia

- Release e-learning contents for academia on METI' website (May 2018).  
(Ref) [http://www.meti.go.jp/policy/ampo/daigaku/el/elindex\\_e.html](http://www.meti.go.jp/policy/ampo/daigaku/el/elindex_e.html) (English)

### Establishing Networks

- Seminars targeting administrative staff
- Establish networks not only between government and universities but also among universities in each region
- Establish a network among national research institutes

### Dispatch of Expert Advisers

- Dispatch 20 expert advisers to assist universities in implementing export control management in accordance with the Guidance

### On-site consultation services by METI

- METI visits and consults with university leadership. Since July 2016, METI has visited over 100 universities

Holistic Approach  
↑  
↓  
Specific Approach

## ➤ METI's Guidance:

- ✓ Identifies control areas and exemplifies 55 critical research areas that universities should pay particular attention to.
- ✓ Provides model organizational structures in consideration of actual university situations; suggests efficient management methods for researchers and administrators.
- ✓ Provides model documents for ICP, Check sheet and Review sheet.

## Key Elements of the Guidance

### Identify Control Areas

#### Activity

- Admission and exit of foreign students
- Participation in international conferences
- Collaborative research with other universities
- Visiting fellows from overseas

#### Critical Research Areas

- Nuclear engineering
- Automatic control, robotics
- Aerospace engineering
- Telecommunication
- Sophisticated materials etc.

### Control Methodology

#### Organization

- Top-down system led by the President
- Establishment of security export control division (establish branch as necessary for more appropriate administration)

#### Division of Roles

- Each Professor
  - ✓ Screening based on simple check sheet
- Administrative division
  - ✓ Careful review based on review sheet

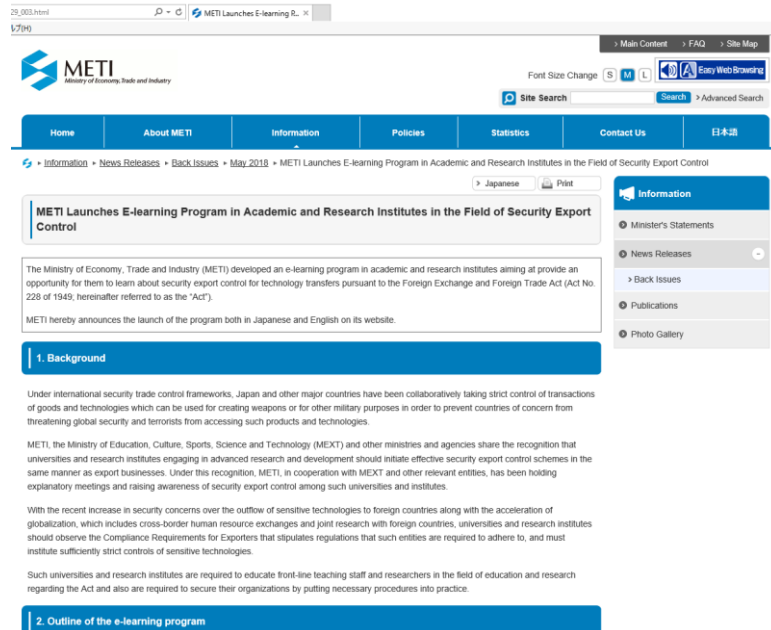
### Model documents

- Internal Compliance Program
  - ✓ Formulate two types according to the size of the university

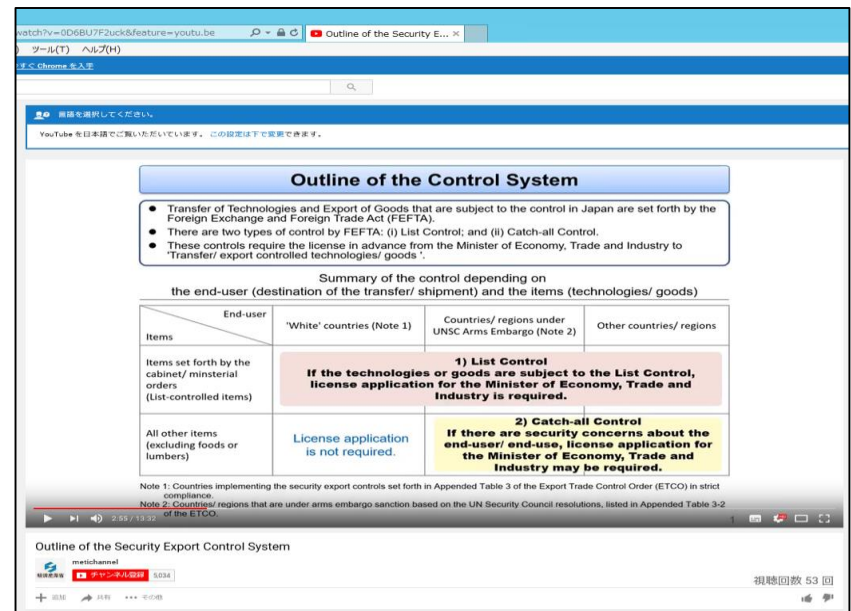
- Check sheet, Review sheet
  - ✓ Simple "Yes" or "No" format
  - ✓ Check the list for concerned research areas

- Written Pledge

- E-learning program is aimed for providing an opportunity for researchers and academic staff to learn about security export control.
- It provides videos for three themes both in Japanese and English. The themes are:
  - (i) The Need for Security Control;
  - (ii) Outline of the Security Export Control System and;
  - (iii) Aspects to be paid Attention to in Individual Cases Part I & II (daily research activities, admission of foreign students/researchers and joint research activities).



The screenshot shows the METI website with a navigation menu and a main content area. The main content area features a blue header with the METI logo and a navigation menu. Below the header, there is a section titled "METI Launches E-learning Program in Academic and Research Institutes in the Field of Security Export Control". The text below this section states: "The Ministry of Economy, Trade and Industry (METI) developed an e-learning program in academic and research institutes aiming to provide an opportunity for them to learn about security export control for technology transfers pursuant to the Foreign Exchange and Foreign Trade Act (Act No. 228 of 1949, hereinafter referred to as the "Act"). METI hereby announces the launch of the program both in Japanese and English on its website."



The screenshot shows a video player displaying a video titled "Outline of the Security Export Control System". The video content includes a section titled "Outline of the Control System" with a bulleted list of points:

- Transfer of Technologies and Export of Goods that are subject to the control in Japan are set forth by the Foreign Exchange and Foreign Trade Act (FEFTA).
- There are two types of control by FEFTA: (i) List Control; and (ii) Catch-all Control.
- These controls require the license in advance from the Minister of Economy, Trade and Industry to "Transfer/ export controlled technologies/ goods".

Below the list is a table titled "Summary of the control depending on the end-user (destination of the transfer/ shipment) and the items (technologies/ goods)".

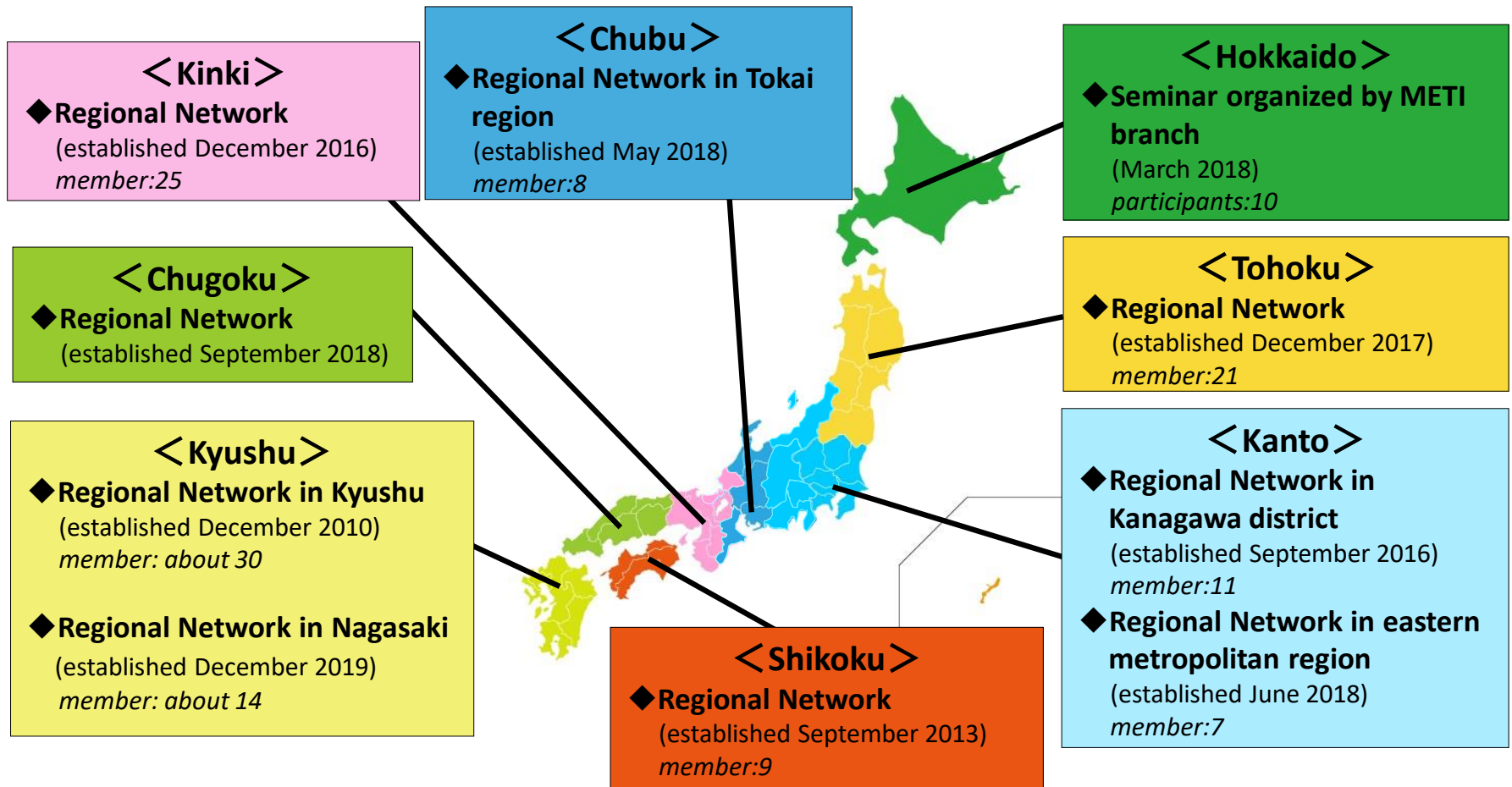
Items	End-user	'White' countries (Note 1)	Countries/ regions under UNSC Arms Embargo (Note 2)	Other countries/ regions
Items set forth by the cabinet/ ministerial orders (List-controlled items)			<b>1) List Control</b> If the technologies or goods are subject to the List Control, license application for the Minister of Economy, Trade and Industry is required.	
All other items (excluding foods or lumbers)		License application is not required.	<b>2) Catch-all Control</b> If there are security concerns about the end-user/ end-use, license application for the Minister of Economy, Trade and Industry may be required.	

Notes:  
Note 1: Countries implementing the security export controls set forth in Appended Table 3 of the Export Trade Control Order (ETCO) in strict compliance.  
Note 2: Countries/ regions that are under arms embargo sanction based on the UN Security Council resolutions, listed in Appended Table 3-2 of the ETCO.

URL: [http://www.meti.go.jp/policy/ampo/daigaku/el/elindex\\_e.html](http://www.meti.go.jp/policy/ampo/daigaku/el/elindex_e.html)

# (Ref) Organizing Regional Networks

- METI encourages the organization of networks among universities in each region in Japan.
- These networks enable university staff without sufficient knowledge and experiences in export control to access shared information and best practices.



※"participants" are the number of participated universities. In some universities, multiple people were participated.