Cybersecurity in industries
-- Introducing CRIC CSF --

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Cyber Risk Intelligence Center,
Cross Sectors Forum

Miho Naganuma, NEC Corporation

Agenda

1. CRIC Cross Sectors Forum

2. Shortage of Cybersecurity Talents

3. Activities and Results

4. Future work plan

1. CRIC Cross Sectors Forum

- **URL: http://cyber-risk.or.jp/**
- **Launched in June 2015**
- **Trigger to Launched : Advisory Board of Cybersecurity in "Keidanren"**
- **Our proposals adapted into "Cyber security strategy" of the Japanese government in July 2018**
- **More than 40 companies(44 Members as of Oct 2018) mainly from 14 Critical Infrastructure Industries (e.g. Finance, Airline, Railway, Power, Energy etc)**

JX IT Solutions (Oil)

Sumitomo Chemical

Toyota

KDDI

All Nippon Airways

DNP (Printing)
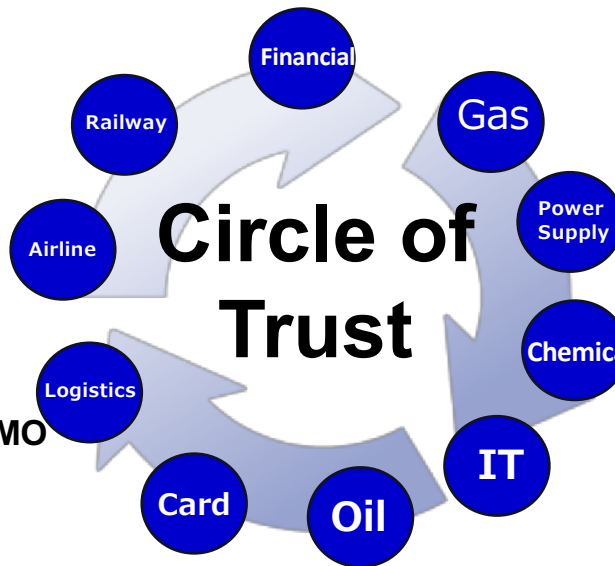
TAKENAKA (Construction)

Nippon Express

Japan Post

Mitsubishi Electronics

NIPPON STEEL & SUMITOMO METAL

Yamato Holding (Transportation)

SONY

Panasonic

Nippon Life Insurance Company

Mizuho Financial Group

Mitsui E&S Holdings

NTT

NEC

Hitachi

Fujitsu

Toshiba

… and more

Circle of Trust

Financial, Gas, Power Supply, Chemica, IT, Oil, Card, Logistics, Airline, Railway

2. Shortage of Cybersecurity Talents

Situation in Japan

- Japan will be short of 193,000 cybersecurity professionals in 2020.
- Japanese Business Federation declared it is urgently crucial to increase such professionals.

  (http://www.keidanren.or.jp/en/policy/2015/017.html)

Key questions to ask

- What kind of Cybersecurity Talents do Japanese Critical Infrastructure companies need?
- HR Supply and Demand to match?
- Japanese business culture?

Uniqueness of Japanese Business

1. Life-time employment:
- Stay in a single company for entire lifetime
- Rotate every 2-3 years
- ● Implications
- Difficult for employees to accumulate cybersecurity expertise
- Mission Definition of teams and Documentation for new comers is crucial

2. More IT/Cybersecurity Outsourcing:
- Only 24.8% of IT professionals work in-house in Japan
- 71.5% in the U.S
- ● Implications
- End users rely on vendors for technical work such as Forensics, Malware Analysis

3. Multi-hat CISOs:
- Tend to lack IT/cybersecurity background
- ● Implications
- Crucial to assign experienced cybersecurity professionals to assist CISO team

3. Activities and Results

Activities

- Monthly Plenary Meeting
- 4 Monthly Working Group
  - Workforce Definition
  - Workforce Development
  - Information Sharing
  - Collaboration with Academia
- Annual Conference for C-Suites
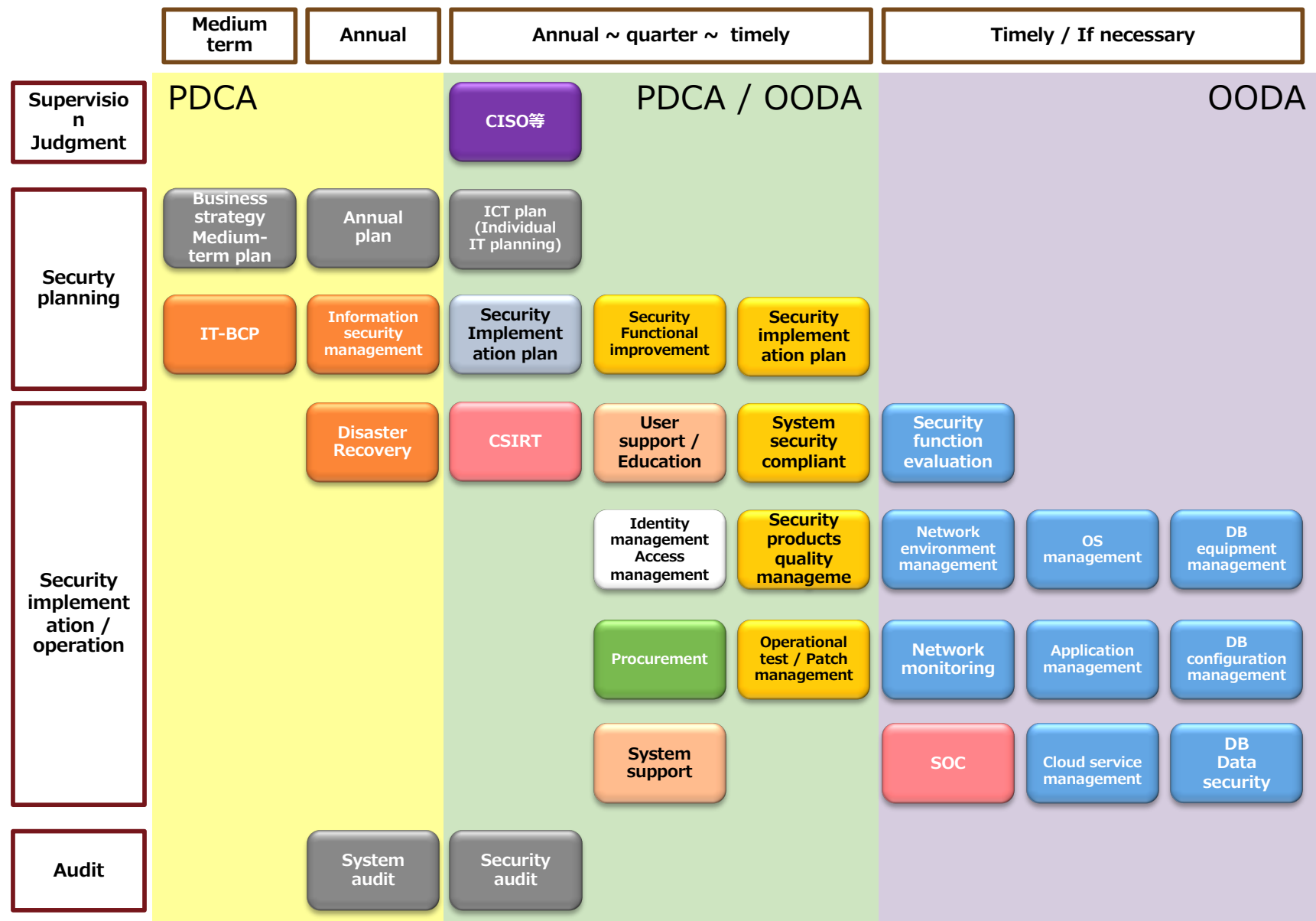- Participation to Cybersecurity Discussion at Government

3rd C-Suites Annual Conference

Outputs

- Activity Report
- Tools: Talent Definition, Outsourcing Guideline, CISO Calendar

Function definition of cyber security measures

	Medium term	Annual	Annual ~ quarter ~ timely			Timely / If necessary		
Supervision Judgment	PDCA		PDCA / OODA	CISO等		OODA		
Securty planning			Business strategy Medium-term plan	Annual plan	ICT plan (Individual IT planning)			
	IT-BCP	Information security management	Security Implementation plan	Security Functional improvement	Security implementation plan			
Security implementation / operation		Disaster Recovery	CSIRT	User support / Education	System security compliant	Security function evaluation		
				Identity management Access management	Security products quality manageme	Network environment management	OS management	DB equipment management
				Procurement	Operational test / Patch management	Network monitoring	Application management	DB configuration management
				System support		SOC	Cloud service management	DB Data security
Audit		System audit	Security audit					

Cross-sectors collaboration for Cybersecurity Workforce Development

Cybersecurity workforce definition for Japanese companies.
Sharing into industry organizations and government organizations.

Guideline
for out-sourcing

Annual events of security
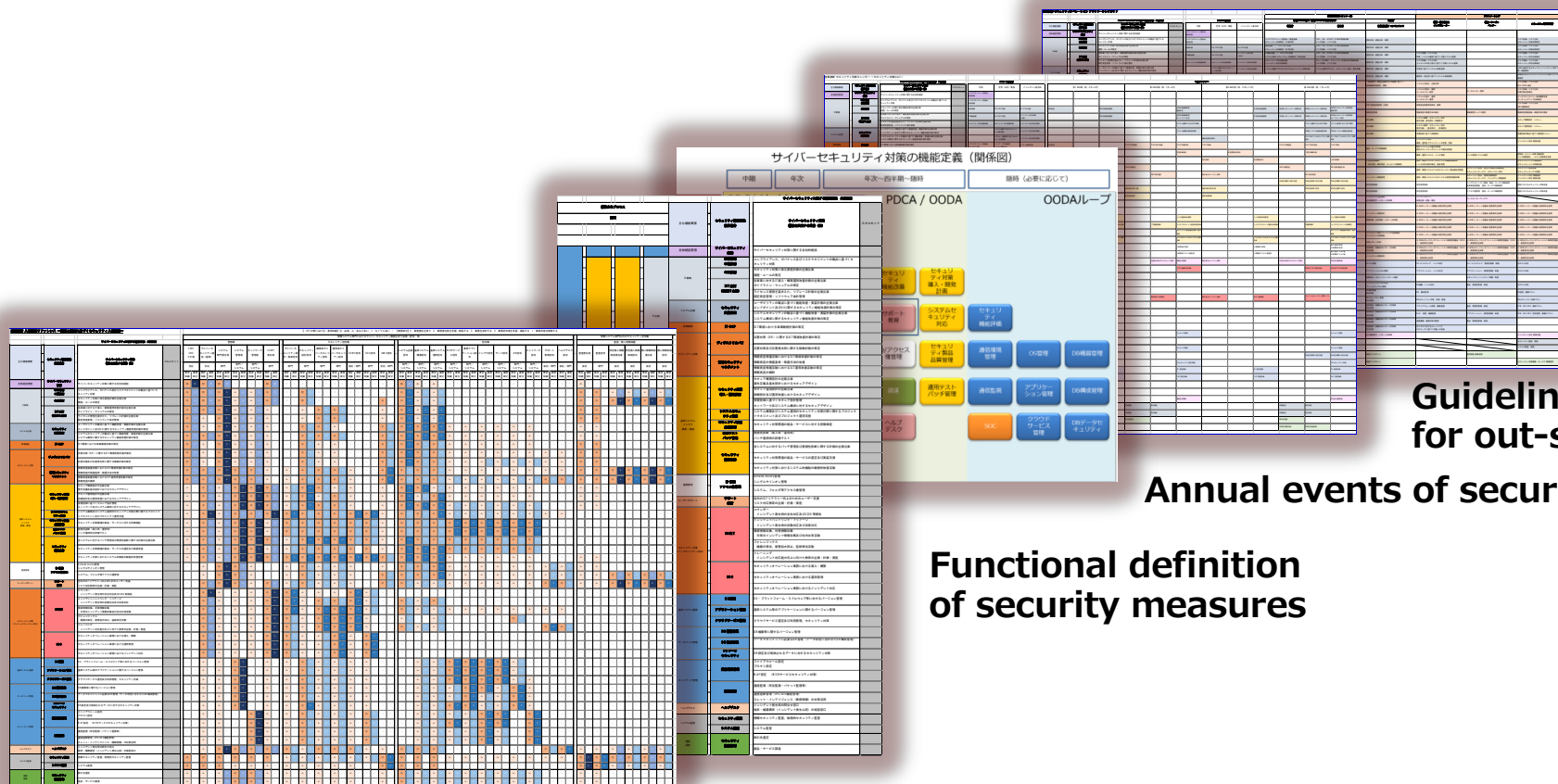
Functional definition
of security measures

Department roles and functional definition

Workforce Definition Reference

Relationship between "Workforce definition reference" through external service personnel model through SP 800-181

The way of external skill reference cooperation based on workforce definition reference

A. Workforce Definition Reference

Faction definition & SP800-181

External Skill Reference (Example)

- NIST SP
- SecBoK
- ITSS / ITSS+
- Integrated Security Workforce Models

Replace references as necessary

C. Outsourcing Guide

C. Outsourcing Guide (Insource)

C. Outsourcing Guide (Outsource)
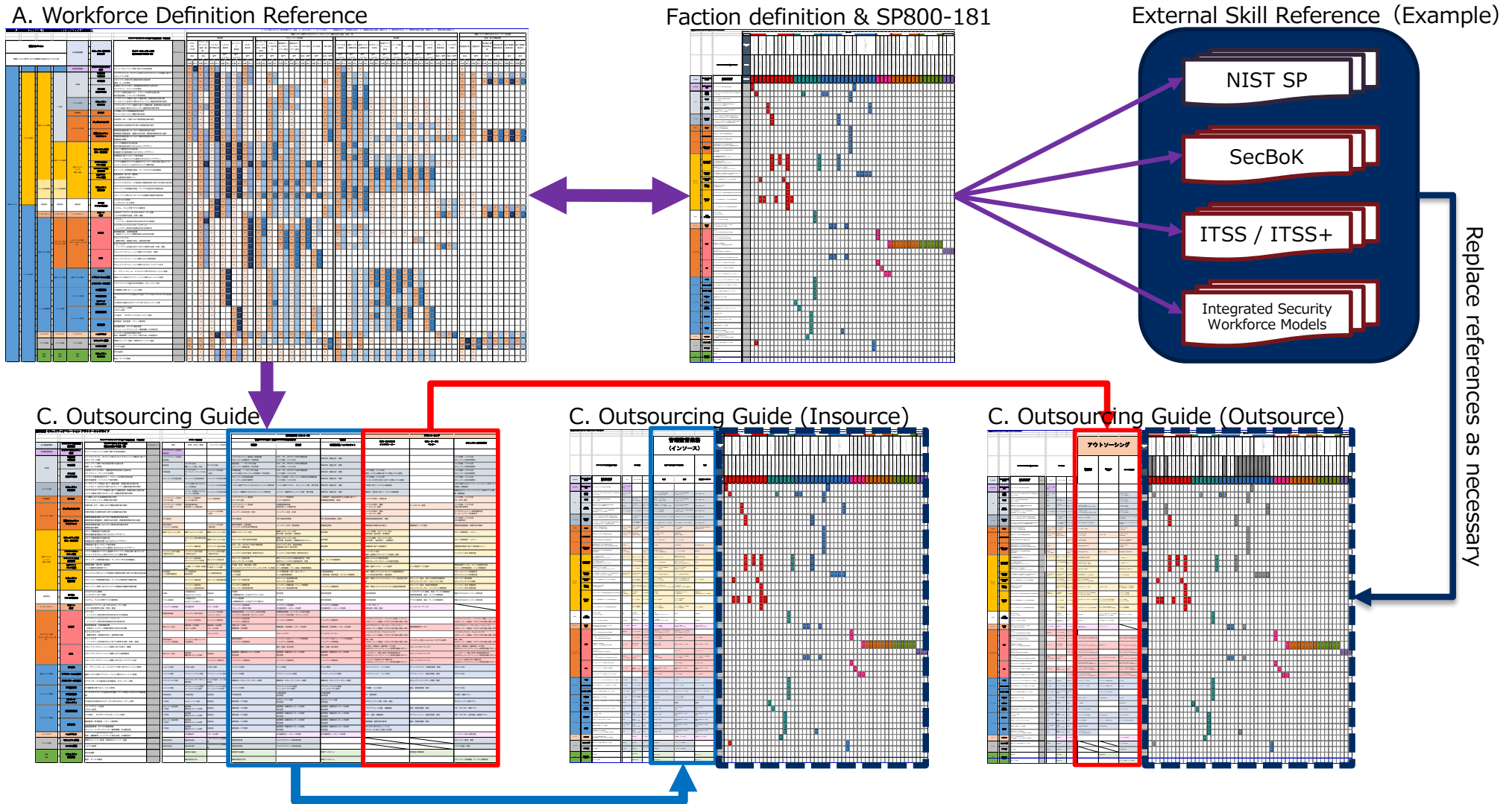
Eco-System for Cyber Security Workforce Development

High School and National Institute of Technology

Academia

Security Basics
Literacy and ethics education
Human resource development, finding

Sending lecturers

Employment

Employment

Employment

Under graduate and Post graduate University

Education environment

Curriculum of human resource development

Human resources finding from other than the information systems department

Inter-university cooperation

Employment of Security experts
Internship

ICT Companies
Security venders

Sending lecturers

Security knowledge sophistication
Continuing education
A number of human resources emissions

Workforce definition

Design of career path

- Promoting hiring
- Reforming of evaluation system

Promoting collaboration within Industries

Leadership by top managements

Outsources

Sending Employee

Accepting graduate

Networking

Non-ICT companies
User companies

Industries

Security expert employment
Relocation and skills improvement of existing technical personnel

Networking

Development and promotion of eco-system

Government

Topgun | Assign Security Expert(Mandatory) | Certificate System | Common Criteria | Budget | Support of lecturer

4. Future work plan : The third phase (January 2019)

1. Security Summit (tentative name)

- To further improve industrial awareness, it will be held just one year before the Tokyo Olympic Games and the Paralympic Games.

2. Corporate Cybersecurity Case-collection/research TF

- Collect more concrete examples and conduct a practical case study on how security in enterprise management should be.

3. WG activity (continuation of the previous term)

- Information linkage · Knowledge sharing WG
- Cyber Security Corporate Strategy WG

Thank you

Info@cyber-risk.or.jp