

# **The Global Strategy of the Forth Industrial Revolution**

# Establishment of “World Economic Forum Center for the Fourth Industrial Revolution Japan: C4IR (Japan)”

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The Asia Pacific Initiative (AP Initiative), World Economic Forum and the Ministry of Economy, Trade and Industry plan to establish “World Economic Forum Center for the Fourth Industrial Revolution Japan: C4IR (Japan)” in summer 2018.

## 1 . World Economic Forum’s Center for the Fourth Industrial Revolution

The World Economic Forum headquarters (Geneva) established the Center for the Fourth Industrial Revolution in San Francisco in March 2017 as a site for focused discussions on and demonstrations of initiatives related to the Fourth Industrial Revolution which makes use of artificial intelligence (AI), Internet of Things (IoT), and other technologies.

## 2 . World Economic Forum Center for the Fourth Industrial Revolution Japan: C4IR (Japan)

Japan’s hub in Tokyo will be established in summer 2018 as a one of the global sister centers of the World Economic Forum’s Center for the Fourth Industrial Revolution by AP Initiative, Japanese companies and public intellectuals. The Japan Center will actively collaborate with the World Economic Forum’s Center for The Fourth Industrial Revolution and other sister sites worldwide which will be established as well.

# Establishment of “World Economic Forum Center for the Fourth Industrial Revolution Japan: C4IR (Japan)”

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## ( 1 ) Mission of the World Economic Forum Center for the Fourth Industrial Revolution Japan: C4IR (Japan)

Facilitating contributions by humans to the Fourth Industrial Revolution and maximizing its benefits to society through Japanese and global science and technology.

## ( 2 ) Purpose of the World Economic Forum Center for the Fourth Industrial Revolution Japan : C4IR (Japan)

- Freely spread and share people, technology, capital, knowledge and systems; contribute to new growth in the global economy through open innovation that transcends national borders.
- Build a global innovation site to overcome the governance gap of discrepancies between progress in advanced technologies and corresponding systems, and discrepancies between various countries’ systems.

# Establishment of “World Economic Forum Center for the Fourth Industrial Revolution Japan: C4IR (Japan)”

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## ( 3 ) Areas for study at the World Economic Forum Center for the Fourth Industrial Revolution Japan: C4IR (Japan)

Healthcare, mobility (autonomous driving/mobility-as-a-service (MaaS) and drone utilization), and construction of a legislative system that promotes innovation.

※ The Japan Center also plans to actively collaborate on themes being discussed by the World Economic Forum’s Center for the Fourth Industrial Revolution, such as AI, IoT, blockchain, autonomous driving, civilian use of drones, cross-border data flow, precision medicine, marine environment, and small and medium business innovation, while taking into account local participants needs.

## 3 . Upcoming schedule

Specific activities are planned to begin in summer 2018.

# (Reference) Main attendees at the press conference in the World Economic Forum Annual Meeting in Davos

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## 1 . AP Initiative

Yoichi Funabashi Chairman

Nobuyoshi John Ehara Trustee/ Founder, Partner, UNISON CAPITAL Inc.

## 2 . World Economic Forum

Murat Sönmez Head, Center for the Fourth Industrial Revolution; Member  
of the Managing Board, World Economic Forum

## 3 . Japanese corporate representatives and public intellectuals

Nobuhiro Endo Chairman of the Board (Representative Director), NEC Corporation

Yoshimitsu Kobayashi Director of the Board, Chairperson, Mitsubishi Chemical Holdings Corporation

Hiroaki Nakanishi Chairman of the Board and Representative Executive Officer, Hitachi, Ltd.

Takeshi Niinami President & Chief Executive Officer, Member of the Board, Representative Director,  
Suntory Holdings Limited

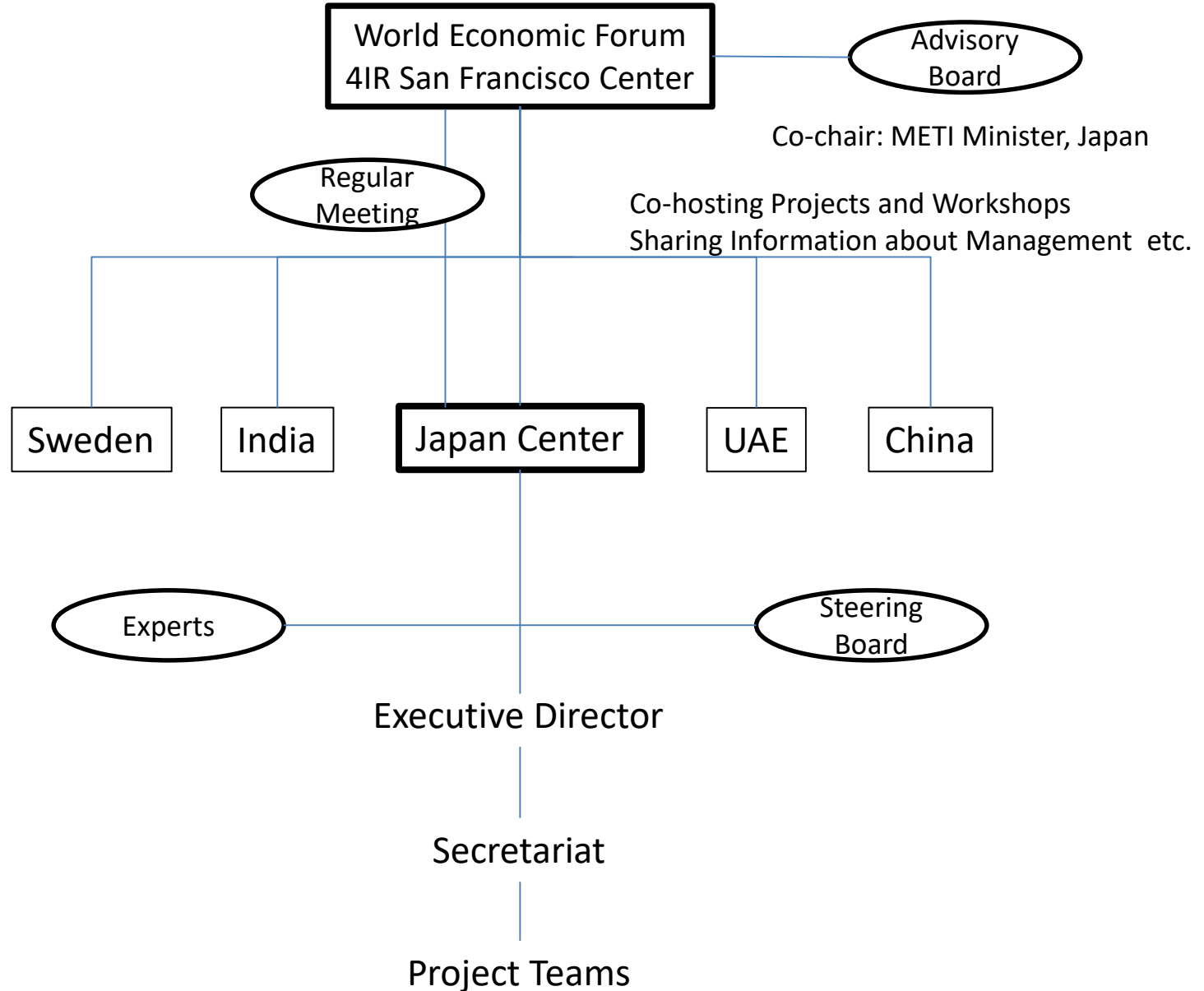
Kengo Sakurada Group CEO, Representative Director, President and Executive Officer,  
Sompo Holdings, Inc.

## 4 . Ministry of Economy, Trade and Industry

Tadao Yanase Vice-Minister for International Affairs



## Japan Center & San Francisco Center





# the Forth Industrial Revolution Center (4IRC) Gateway to the World

## Connected Industries

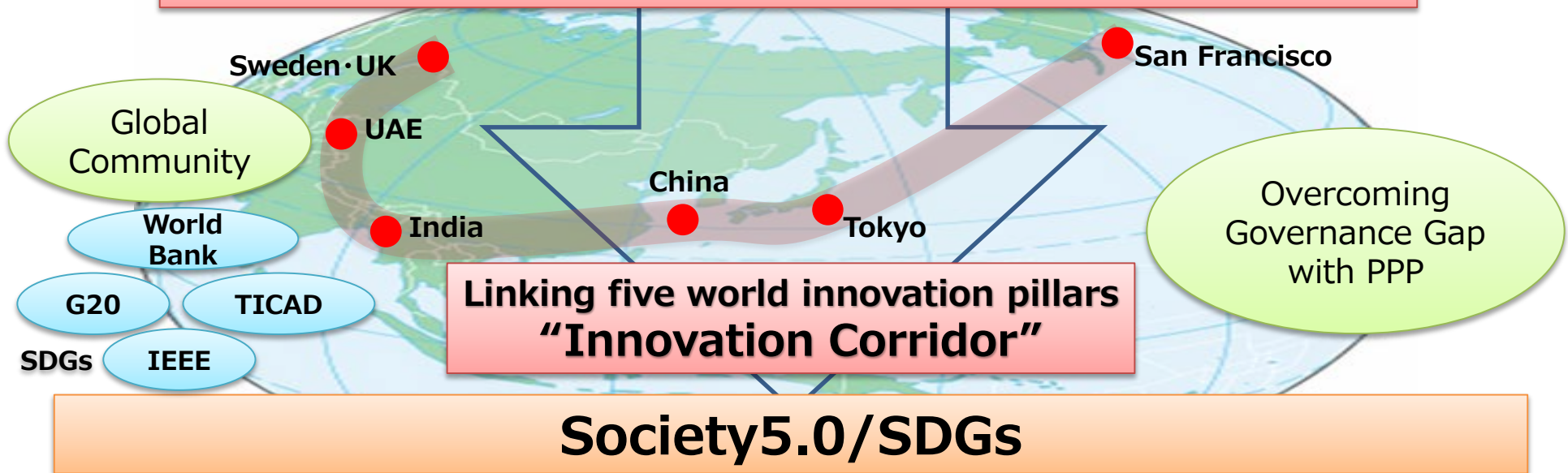
Isolation  
in the  
World

**METI**  
**Autonomous Driving, MaaS, Manufacturing, Robotics,  
Biotechnology, Materials, Plant Maintenance and  
Security, Smart life, Health care**

Less  
Agility

**Private : IoT Lab, etc**

## WEF the Forth Industrial Revolution Center





Japan Creates New Value  
for the Global Future

# Deep Social Divides

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Brexit



Political Stance



# Growing Inequality ①

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Poverty



Education

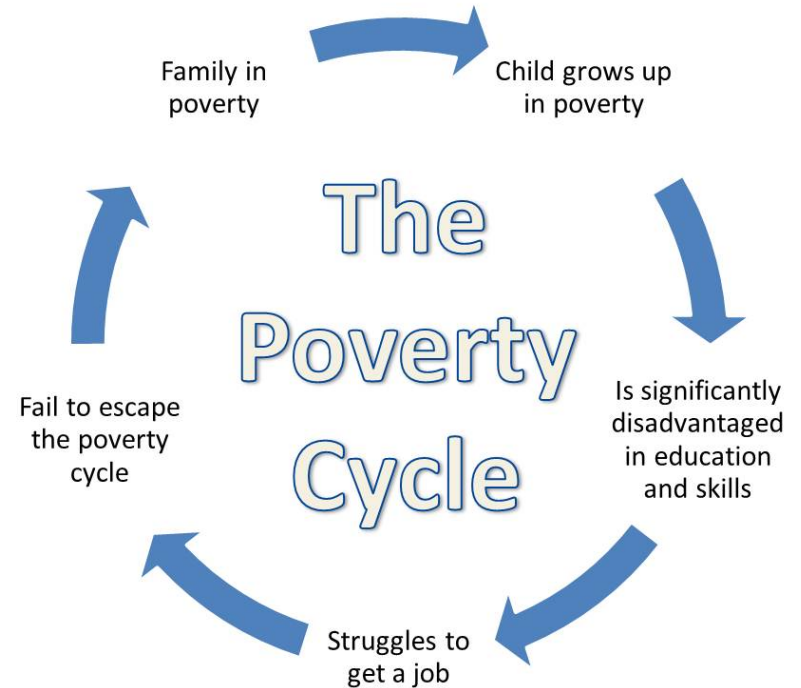


# Growing Inequality ②

## IT Literacy



## Cycle of Poverty





# Growing Inequality ③

Does the forth industrial revolution expand division of society and inequality ?

Unemployment



Social Systems



Financial Systems



Disparity of Data

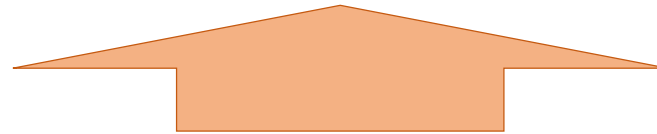


# 4IR and Social Vision

The Important Thing

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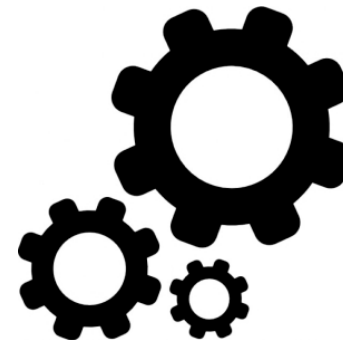
Social Vision



The Fourth Industrial Revolution  
(AI, IoT, Big Data etc...)

=

Tool





# Japan's Vision of the Future

Japan-Specific Things

Traditional Value



Culture



History



# Japan's Vision of the Future

Generous



Tolerant



Diverse



Sustainable  
Society 5.0

Inclusive



The Principle of 4IR Japan  
and the Future Society to be realized

# Challenges of Japan Center



# Mobility Innovation

CASE

(Connect, Autonomous, Share, EV)



Linking to Energy Networks



Transmitting Rules and  
Technical Standards



Mobility Services



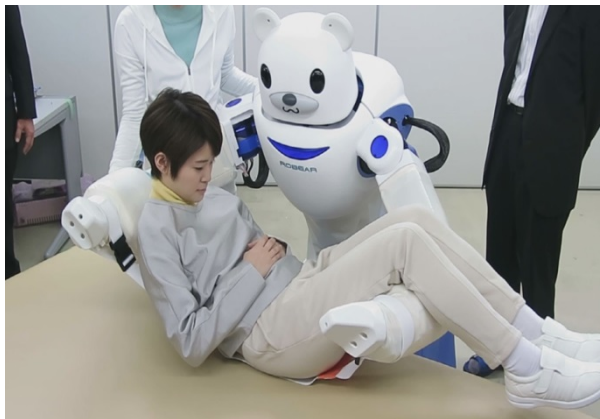
# Precision Healthcare

## 120-year Life Society, Healthcare Technology Innovation

Vintage Labo  
Nevertiree Society



Elderly Care Services,  
Robots and Design



Medical Care  
with AI and Bigdata



Education with Blockchain





# Social Changes with Internet of Things

Innovation of Life



Fintech



Distribution and Logistics



Safety and Maintenance





# Manufacturing Innovation on Small and Medium-sized Enterprises

Industrial Deep Learning



Industrial Cybersecurity



Smart Manufacturing based on Data Sharing  
among Companies and Countries

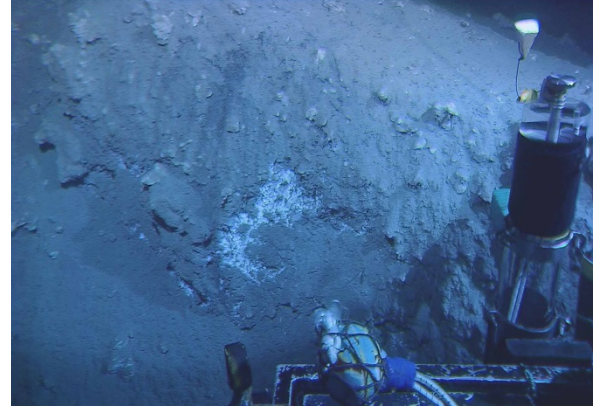


# Marine Industry

Marine Foods Innovation



Marin Resources Innovation



Marin Environment Innovation  
(Great Improvement of Marine Pollution)



Marine Biotechnology



# Biotech Materials Innovation

New Materials



Multi-Materials



Biobuildings



Biofuels





# Fintech and Blockchain

## Regulation and Rules



## Services



## Systems



# Cross-cutting Areas

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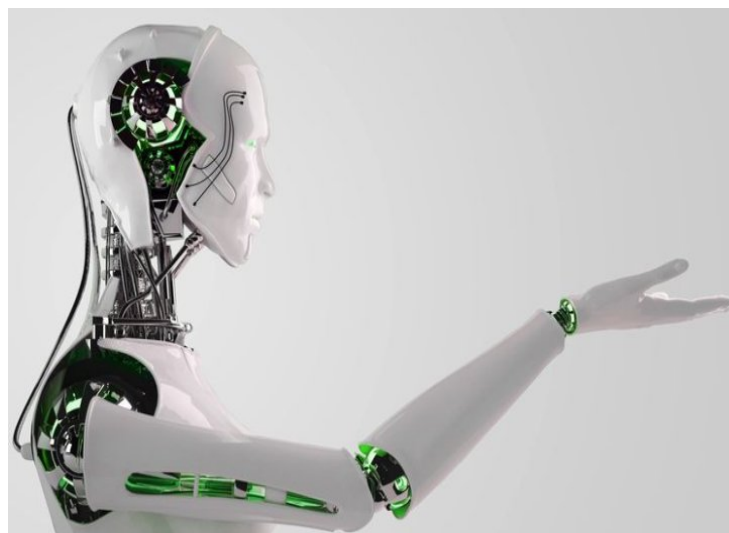
Digital Trade



Cybersecurity



Artificial Intelligence



# The “Innovation and Law” Study Group – Proposals for Reform-

## (1) Transformation of Social and Industrial Structure

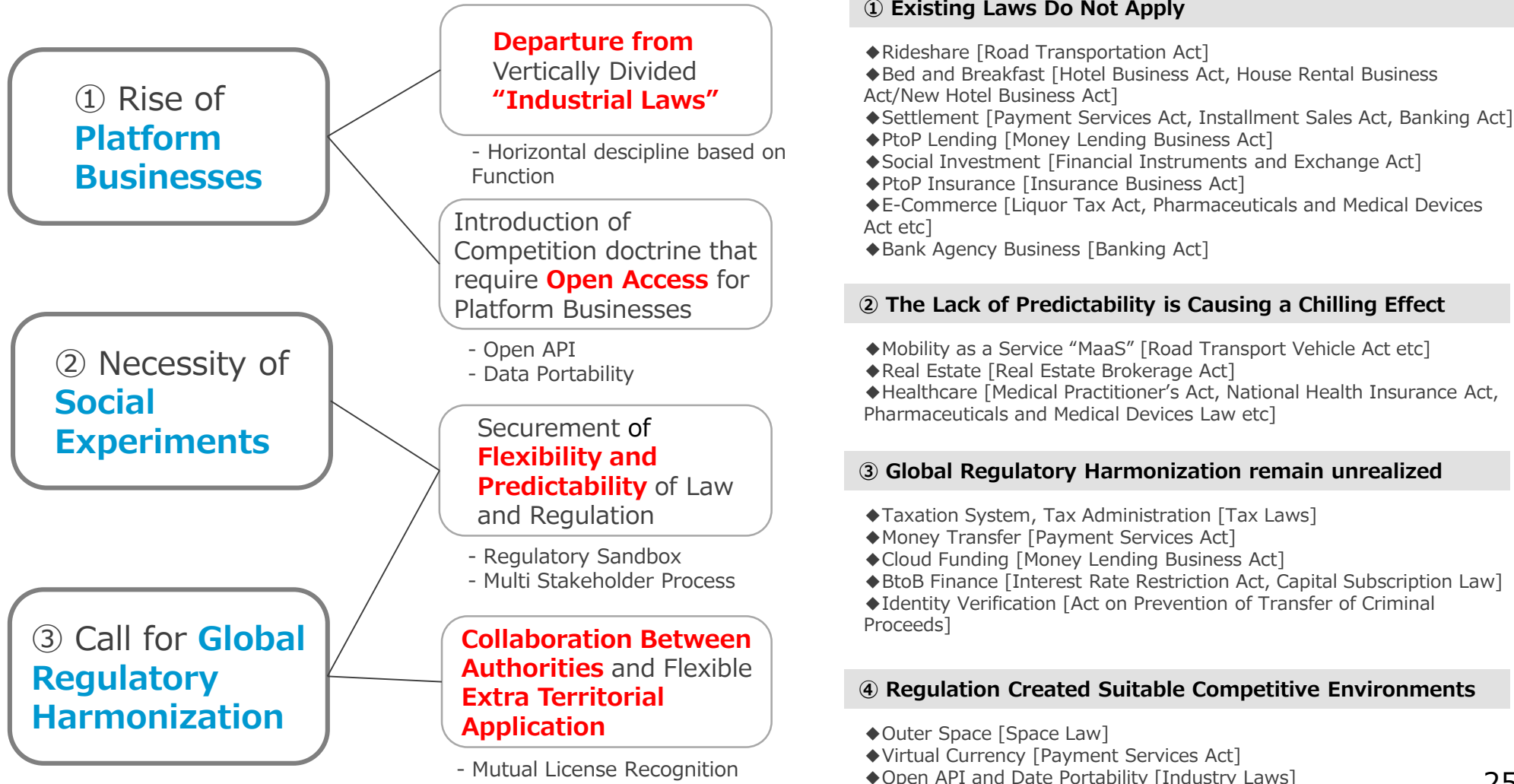
The social and industrial structure, the historical background that the current law supposes and is based upon, is transforming through innovation.

## (2) Principles of Law

Re-examination of the original legal interest protected that propel and push forward innovation is desired.

## (3) Specific Agendas and Solutions

Specific agendas that are now occurring and conceivable solutions in each business area.





# Society 5.0 and Global Strategy in Platform Competition

- Japan will build “Data connection platforms” to promote the realization of “Society 5.0” (presented in “the 5th Science and Technology Basic Plan”). It will connect all sort of data and create new values.
- U.S. :Gigantic platformers like Google, Amazon have been expanding their business into industrial business (business to business) with their advantage as consumer business (business to consumer).
- Europe :Innovative services and products are created on the platform connecting whole supply chain Manufacturing plays main role under “Industry 4.0”.
- **Japan will contribute to revive global economy and solve global problems(SDGs) through cooperation with U.S. and Europe. Cooperation between CSTI/SIP and WEF will play important role.**



## Industry 4.0

From manufacturing in Germany, Industry 4.0 has been expanding into all sorts of industries.

Ex. An Inter-company platform(test bed) has been formed. It is a system open for small business.

## GIGANTIC PLATFORMERS

*(Google, Amazon, Apple, etc.)*



Collect, store and utilization of more global data. From B to C to B to C.

Ex. Life data collected through smart watch and utilize it for reducing medical expenditure and promoting health.

**Alliance with  
international  
organization like WEF  
accelerates global  
cooperation**

## Society 5.0

Public private cooperation by CSTI/SIP

Ex. AI, data connection, automated driving, infrastructure, disaster prevention, agriculture, manufacturing, medical care, etc.



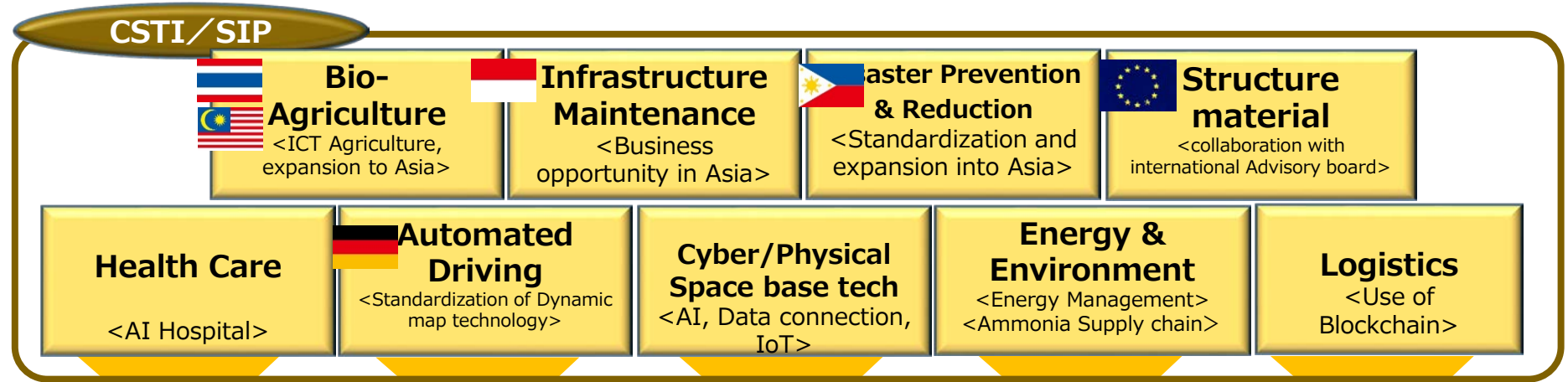
# Cooperation between CSTI and WEF

**CSTI/SIP** : R&D and Global standardization for realization of “Society 5.0”

**WEF Center for the Fourth Industrial Revolution** : Planning global social infrastructure and standardization as a hub of global open innovation.

⇒ **Targets and approaches of both actions are same. CSTI will expand SIP globally in with WEF Center.**

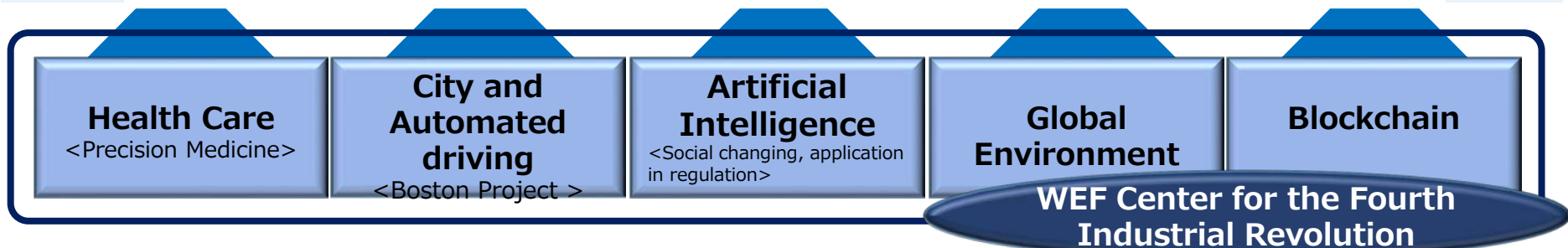
CSTI : Council for Science, Technology and Innovation  
SIP : Strategic Innovation Promotion Program



• Expand Japan's technology globally and make it global standard

• Elaborating cooperation through WEF Japan center matchmaking event between SIP's Project leaders and WEF Project's.

Global Standardization, Proposal of standard strategy,  
Collaboration with Japan's technology



# 1. New Regulatory Sandbox framework in Japan

- The Government of Japan (GOJ) introduced this framework on June 6, 2018 as one of the mechanisms for regulatory reform to facilitate realization of innovative technologies and business models in Japan.
- The framework does not limit the area of regulations, but covers those on financial services, healthcare industry, mobility and transportation.
- Companies, including overseas companies, can
  - apply to conduct “demonstrations” under this new framework and
  - test the possibilities of using innovative technologies such as AI, IoT or block chains for future business, especially when they cannot start businesses due to existing Japanese regulations.



## Overview of the process for regulatory reform

In cases where

- you would like to conduct business activities which utilize new technologies or new business models,
- but they conflict with existing Japanese regulations, because they do not assume such new technologies:

→ You can apply to conduct operations not as business activities but as "demonstrations" with limited time periods and participants.

→ Data collected through the demonstrations will be utilized in deliberation for regulatory reform, which will facilitate the creation of such innovative business activities with new technologies and new business models.

**Contact:** GoJ's Regulatory Sandbox Team at Japan Economic Revitalization Bureau, which works as the single window of the GoJ (Government of Japan)

<http://www.kantei.go.jp/jp/singi/keizaisaisei/regulatorysandbox.html>

E-mail: Shingijutsu\_sb@cas.go.jp

Tel: +81 3-3581-0769

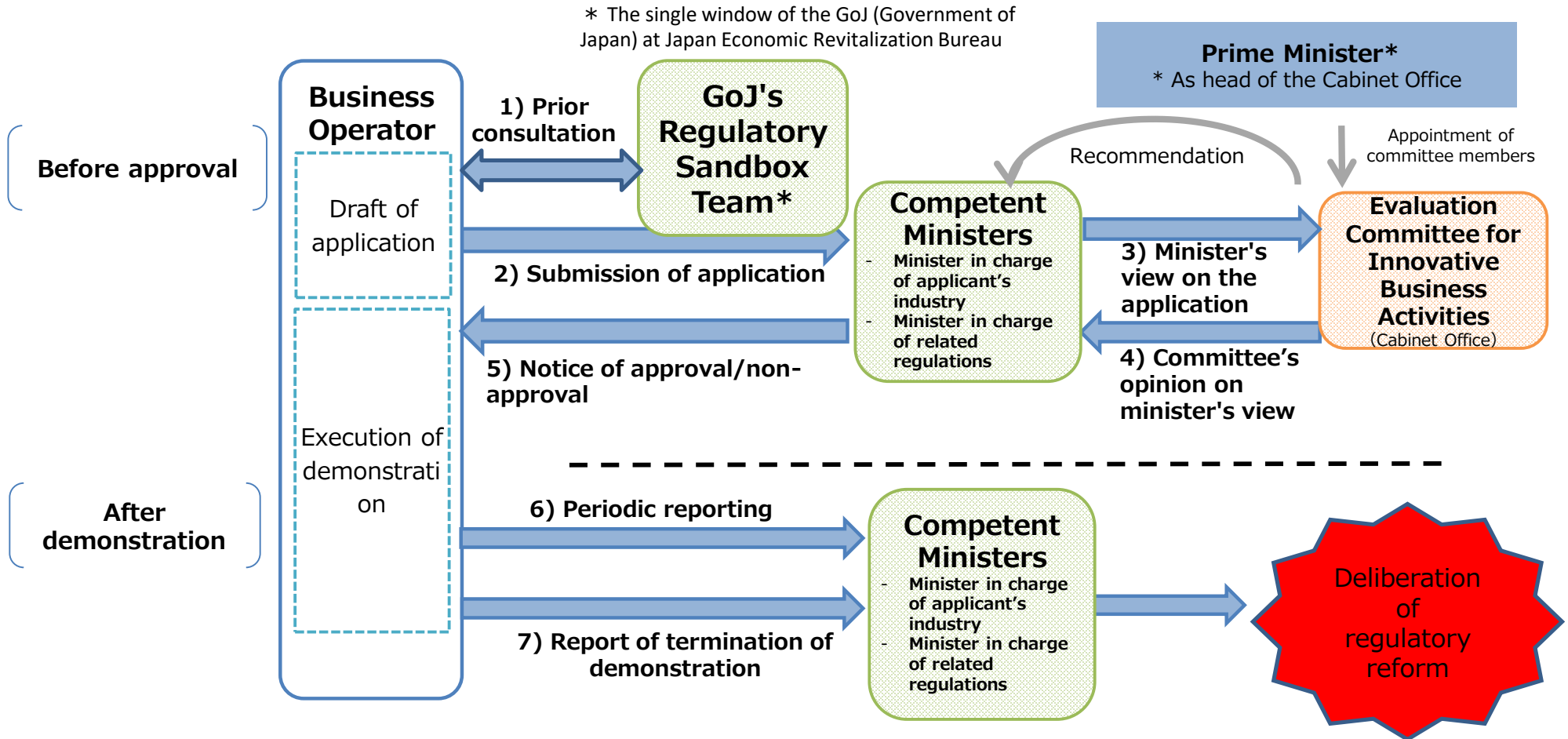
If you are of an overseas company or a foreign-affiliated company in Japan, you can consult the "Invest Japan Hotline" of JETRO before consulting the GoJ's Regulatory Sandbox Team.

<https://www.jetro.go.jp/en/invest/hotline.html>

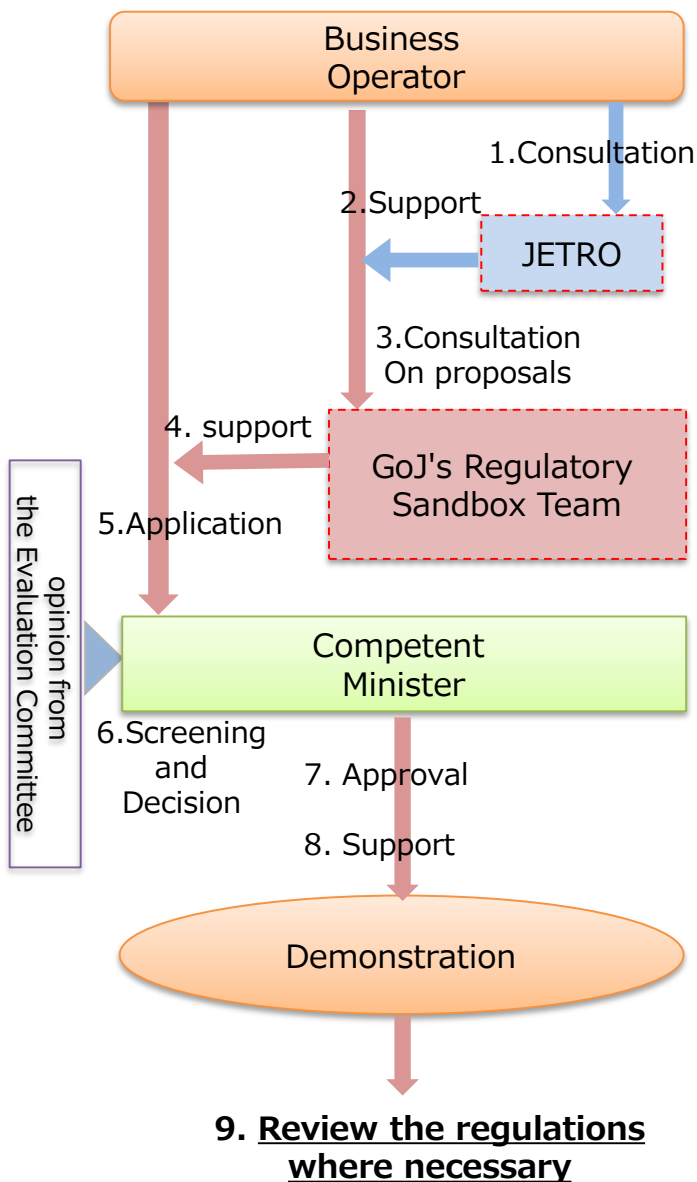
E-mail: Please send by "Inquiry Form"

Tel: +81 3-3582-4684

## 2. Process under Regulatory Sandbox (RS) framework



### 3. Support when using “Regulatory Sandbox” framework



1. If you are of an overseas company or a foreign-affiliated company in Japan, you can consult JETRO before consulting the GoJ's Regulatory Sandbox Team.

2. JETRO will support you to consult the GoJ's Regulatory Sandbox Team.

3,4,5. GoJ's Regulatory Sandbox Team works as the single window of the GoJ(Government of Japan)

- to provide consultation for private businesses, and
- to exchange views with regulators, when appropriate, on the proposals to be made under the Regulatory Sandbox framework.

6,7. Screening and decision making by the competent minister referring to the opinion from the evaluation committee.

8. After the approval, provide information and advice from the competent minister necessary for the smooth and secure implementation of the demonstration

9. Competent minister will review the regulations where necessary by using the demonstration data.



# **J-Startup**

Next Growth for Japan's Startups.

Next Innovation for the World.



# Vision

Next Growth for Japan's Startups.  
Next Growth for the World.

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In Japan, over 10,000 startups are exploring new frontiers of business opportunities,  
but only a few have succeeded in the global market.

J-Startup is an initiative to concentrate both our public and private resources to support those startups with high potential.

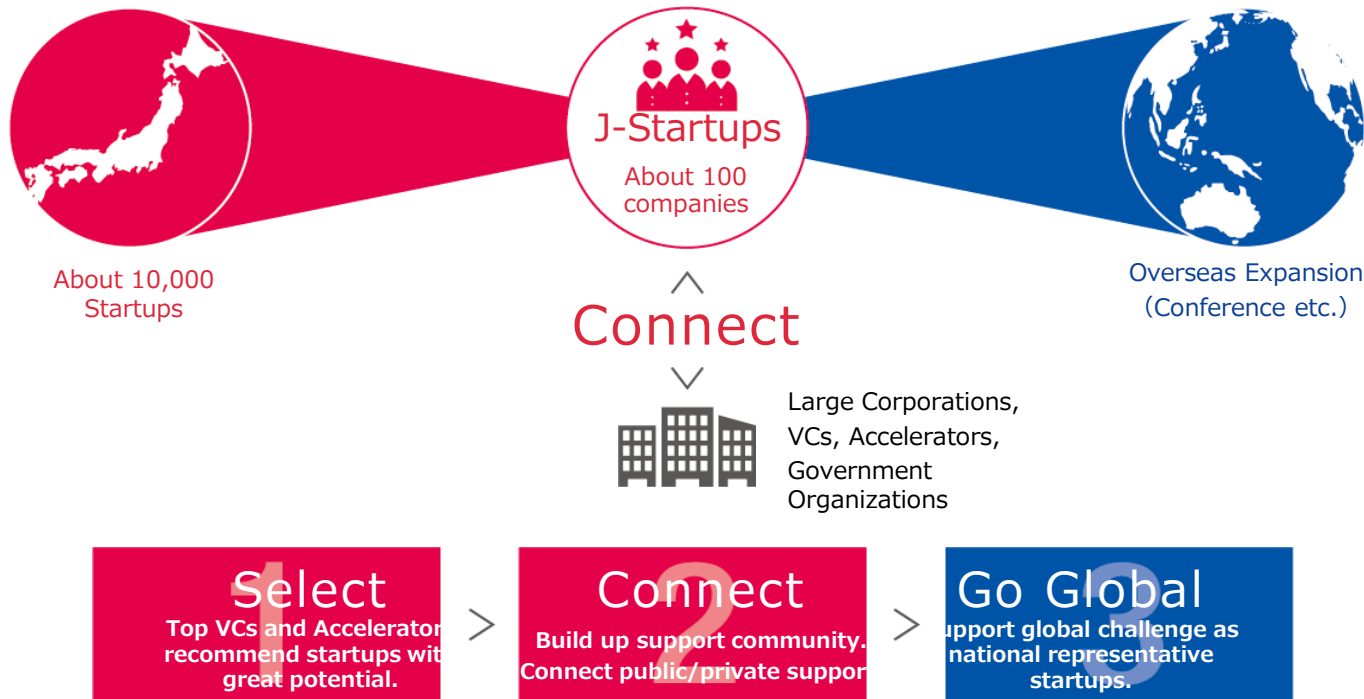
Our goal is to create foster global startup players, providing new values to the world.

The successful Japanese startups from the J-Startup initiative will hopefully bring social respect to enthusiastic entrepreneurship and empower Japan's startup ecosystem.



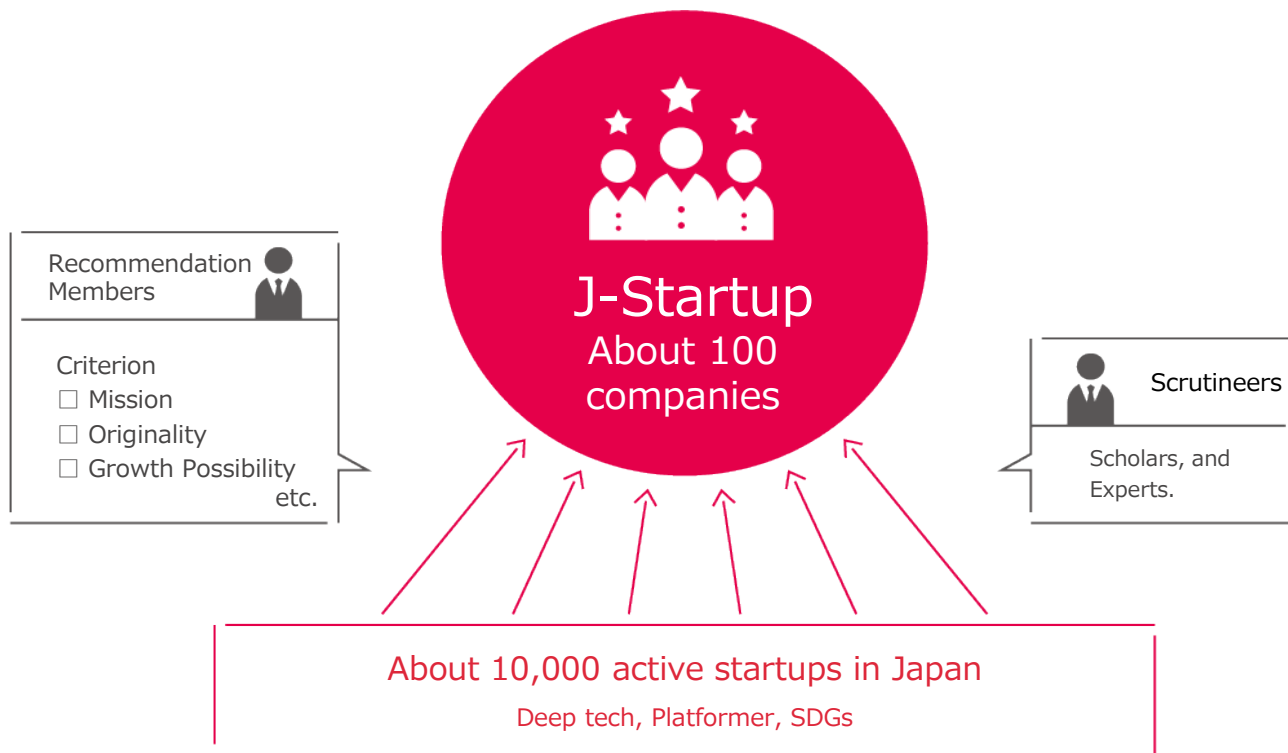
# About

The J-Startup initiative aims to create successful, cutting-edge Japanese startups in the global market. Those successful startups are expected to bring new values to the world, and empower Japan's startup ecosystem.



# Select

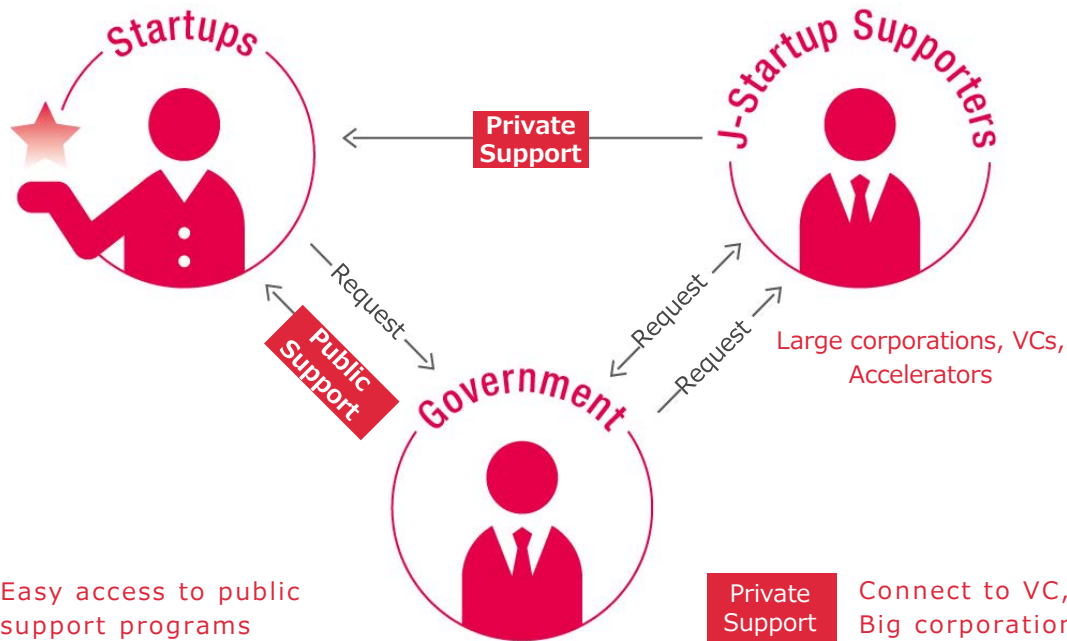
The recommendation members (consisting of top VCs, accelerators, and corporate VCs) choose startups from the view of originality, potential and mission setting, in the fields of real tech, platforms, and SDGs. The startups are then endorsed by the review members (consisting of scholars and experts), before being appointed by the government.



# Connect

J-Startup support community will provide private and public support to the selected startups.

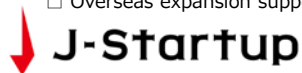
The support community is mainly formed by VCs, Accelerators, large corporations and government organizations.



Public Support

Easy access to public support programs

- ex) ☐ Funding support by certified VCs  
☐ Regulatory Sand-box  
☐ Intertextual property strategy  
☐ Overseas expansion support



Private Support

Connect to VC, Accelerator, Big corporation

- ex) ☐ collaboration opportunity  
☐ mentoring by the management and experts  
☐ office and manufacturing/testing facilities  
☐ acceleration programs

Government Organization  
(Secretariat : METI, NEDO, JETRO)



# Go Global | Supporting Overseas Expansion

## Startup tour

Support for participation to global conference

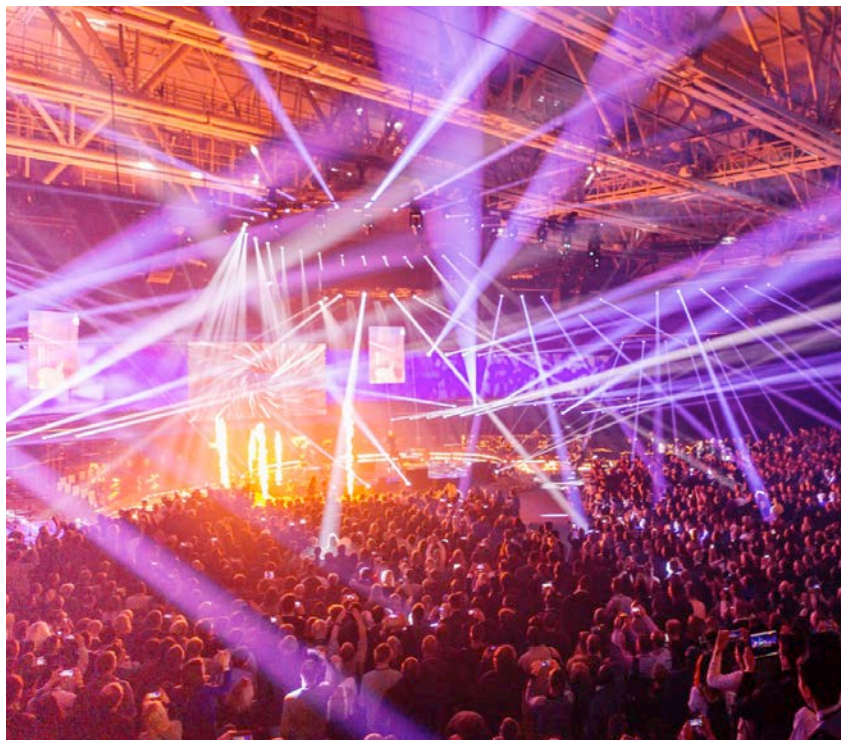
J-Startup Pavilion

conference :

SLUSH、SXSW、CES、TECH IN ASIA、  
GITEX FUTURE STARS、Web Summit  
VIVA TECH

## JETRO Global Acceleration Hub

Consultation staffs are allocated in major cities around the world, providing local information, mentoring service, and networks in the local community.



# Startup Tour Schedule

## Global



GITEX FUTURE STARS

10/14-17  
@Dubai



11/5-8  
@Lisbon



12/4-5  
@Helsinki

Consumer  
Technology  
Association™



1/8-11  
@Las Vegas



3/8-17  
@Austin

## Japan



9/11  
@Tokyo



10/16-19  
@Tokyo



10/22-24  
@Tokyo



12/3-4  
@Tokyo

# Inbound

Attracting cutting edge entrepreneurs from around the world.

## JETRO Global Acceleration Hub

Consultation staffs are allocated in major cities around the world, will also support local startups entering the Japanese market, by providing market information, support for administrative procedures etc.

## Startup VISA

Certified local government will give support to the foreign entrepreneurs starting their business in Japan.

Current 6 months period entrepreneurs are able to stay in Japan to prepare for launching, is expanded to 1 year under the new program.



# J-Startup 100

ArchiTek	Caulis	SORABITO	Microwave Chemical
ispace	CureApp	Challenergy	Money Forward
AWAKENS, Inc.	iQPS	tsumug	MAMORIO
Axelspace	Kyulux	Terra Motors	MUJIN
Astroscale	Kyoto Robotics	TELEXISTENCE	Megakaryon
ABEJA	Quantum Biosystems	Trigence Semiconductor	mediVR
ARAYA	CrowdWorks	Triple W Japan	Mercari
AlpacaJapan	GROOVE X	Nanoegg	MELTIN MMI
Idein	Global Mobility Service	JEPLAN	Euglena
Inagora	Cogent Labs	PKSHA Technology	UZABASE
InstaVR	COCOA MOTORS	BIOME	Life is Tech !
Infostellar	CONNECTEC JAPAN	Panair	Raksul
WHILL	CYBERDYNE	P Mind	ReasonWhy
AISing	GRA	Pixie Dust Technologies	LeapMind
AI SILK	JTOWER	visasQ	Liquid
EXAWIZARDS	Studio Ousia	VISITS Technologies	RIVERFIELD
EdiGENE	Spiber	BizteX	ReproCELL
Lpixel	Spacelink	BizReach	Routrek Networks
Elephantech	SmartHR	Finc	Lequio Power Technology
O:	SmartDrive	Photo electron Soul	RegCell
MONEY DESIGN	SuRaLa Net	Preferred Networks	WAmazing
Origami	Seven Dreamers	Fringe81	
alt	Laboratories	FLOSFIA	
	ZMP	PeptiDream	
		Holoeyes	



# J-Startup Recommenders

Toru AKAURA /Incubate Fund  
Hironobu AZUMA /The Japan Research Institute, SMBC  
Tomohiro ANZAI /Fast Track Initiative  
Gen ISAYAMA /WiL  
Sorato IJICHI /Creww  
Tsuyoshi ITO /Beyond Next Ventures  
Junichi IMOTO /Nissei Capital  
Takehiko UCHIDA /JOMDD  
Takaaki UMEZAWA /A.T.Kearney  
Kazuya UMEDA /Kyoto Research Park  
Takuto EGUSA /Nomura HD  
Tomohiro EBATA /KDDI:KDDI ∞ labo  
Hajime OSHITA /MedVenture Partners  
Osamu OGASAWARA /ABBA Lab  
Hiroaki OKAHASHI /Miyako Capital  
Hiromi OKUDA /Wiz Group  
Yoshimasa KATO /TOKYU CORPORATION  
Hiroaki KATO /Digital Hollywood University  
Yoshihisa KANEKO /Daiwa Securities : Daiwa Innovation network  
Soichi KARIYAZONO /Globis capital partners, JVCA  
Junichiro KONO /ITOCHU Technology Ventures  
Kota KIMURA /IBM Japan : IBM Blue hub

Ryosuke KIMURA /IF Lifetime Ventures  
Takeshi NATSUNO /Keio University  
Yukihiko KUNIMOTO /INDEPENDENTS CLUB  
Masashi KUBOTA /Microsoft Japan : Microsoft Innovation Award  
Hideomi KURITA /KSP  
Tomotaka GOJI /UTec  
Shingo KOKUDO /TX entrepreneur partners  
Yuma SAITO /Deloitte Tohmatsu Venture Support  
Kentaro SAKAKIBARA /Samurai Incubate  
Tsuyoshi SAKAMOTO /QB Capital  
Masahiro SAMEJIMA /Attorney  
James Riney /500 Startups Japan  
Hitoshi SHIN /MIZUHO Securities : MIZUHO Innovation Award  
Norifumi SUZUKI /01 Booster  
Hiroshi SOGA /KAPION  
Taizo SON /Mistletoe  
Makoto TAKANO /Forbes Japan, MT partners  
Tadashi TAKIGUCHI /WERU Investment  
Masahiro TAKIZAWA /NTT East  
Kotaro CHIBA /DRONE FUND, Angel Investor  
Naomi TOKUNAGA /Fujitsu  
Kazuhiko TOYAMA /IGPI

Tetsujiro NAKAGAKI /Draper Nexus Venture Partners  
Jun NAKAJIMA /archetype  
Akihiko NAGATA /Real Tech Fund  
Nahiro NISHIGUCHI /Japan Innovation Network  
Ryuichi NISHIDA /B Dash Ventures  
Takashi HAKII /KONICA MINOLTA  
Yuka HATTORI /Inclusion Japan  
Chiaki HAYASHI /Loftwork  
Ryuhei HAYASHI /DOGAN β  
Katsuya HIROKAWA /SFC Forum  
Phillip Seiji Vincent /Plug and Play, Japan  
Takahiro FUKUI /Japan Post  
Norihisa FUJIKI /Future Venture Capital  
Hideto FUJINO /Rheos Capital Works  
Daisuke HOSHINO /CCC  
Yoshito HORI /GLOBIS University  
Shuji HONJO /Honjo Shuji Office  
Takuya MATSUTANI /Project Nippon  
Yukihiro MARU /Leave a Nest  
Keisuke MIYOSHI /JAFCO  
Masao YUKI /MUCAP  
Yasuhiko YURIMOTO /Global Brain

# J-Startup Supporters

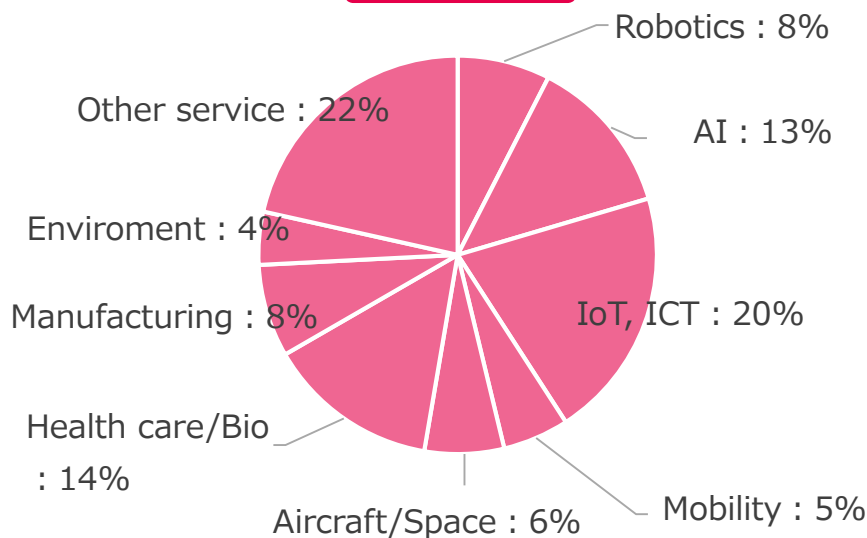
Archetype  
iEducation  
IF Lifetime Ventures  
AXA Life Insurance  
ABBALab  
ITOCHU Technology Ventures  
Incubate Fund  
Inclusion Japan  
INDEPENDENTS CLUB  
Wiz group  
WIL  
WERU Investment  
Uchida & Samejima Law Firm  
A.T. Kearney  
edge of  
NTT DATA  
NTT DOCOMO  
MT Partners  
Oki  
Omron  
Olympus  
KAPION  
Culture Convenience Club  
QB Capital  
Kyoto Research Park  
Kirin  
Google  
Creww  
Global Brain  
Globis Capital Partners  
Globis University  
IGPI  
KSP  
KDDI  
KONICA MINOLTA  
Samurai Incubate  
SHARP  
Japan Innovation Network  
JAFCO  
Johnson & Johnson Innovation  
Ernst & Young ShinNihon  
Sumitomo Life Insurance  
SEIKO EPSON

01 Booster  
Softbank  
SB Innovation  
Sompo Japan Nipponkoa Insurance  
The Dai-ichi Life Insurance  
DNP  
Daiwa securities  
Takeda Pharmaceutical Company  
Mitsubishi Tanabe Pharma Corporation  
TDK  
TX Entrepreneur Partners  
Deloitte Tohmatsu Venture Support  
Tokio Marine Holdings  
Tokyo Gas  
TOKYU CORPORATION  
UTEC  
DOGAN β  
Draper Nexus Venture Partners, LLC  
DRONE Fund  
Nissei Capital  
IBM Japan  
Japanese Organization for Medical Device Development (JOMDD)  
Nippon Life Insurance Company  
The Japan Research Institute  
Microsoft Japan  
Japan Post  
Japan Society of Clinical Research  
Nomura Holdings  
HEART CATCH  
Panasonic  
B Dash Ventures  
PwC  
NTT East  
Beyond Next Ventures  
500 Startups Japan  
Fast Track Initiative  
Phillips Japan  
Fujitsu  
Future Venture Capital  
Plug and Play, Japan  
Project Nippon  
Venture Café Tokyo  
MAEDA CORPORATION  
NIPPON STEEL KOWA REAL ESTATE CO.,LTD.

Mistletoe  
MIZUHO Bank  
MIZUHO Securities  
SMBC  
Mitsubishi Estate Company  
Mitsubishi UFJ Capital Company  
MUFG Bank  
Miyako Capital  
MedVenture Partners  
Mori Building Company  
Real Tech Fund  
LINK-J/ Mitsui Fudosan  
Ricoh  
Leave a Nest  
Rheos Capital Works  
Regus Japan  
ROHTO Pharmaceutical Company  
Loftwork  
East Japan Railway Company  
SBI Investment  
SMBC Venture Capital  
Spiral Ventures/Spiral Ventures Japan  
SMBC NIKKO SECURITIES  
KPMG AZSA  
Sony Bank  
Recruit Management Solutions  
KADOKAWA ASCII Research Laboratories  
The Kansai Electric Power Company  
Mitsubishi UFJ Morgan Stanley  
Accenture Japan  
SPARX Group  
Mitsui Sumitomo Insurance  
TOPPAN PRINTING  
Amazon Web Services Japan  
DMM.com  
MEIJI YASUDA LIFE INSURANCE COMPANY  
Keio Innovation Initiative  
TEPCO Ventures  
ProtoStar  
Sony Corporation  
SEKISUI CHEMICAL  
Socionext Inc.  
Yaskawa Electric Corporation

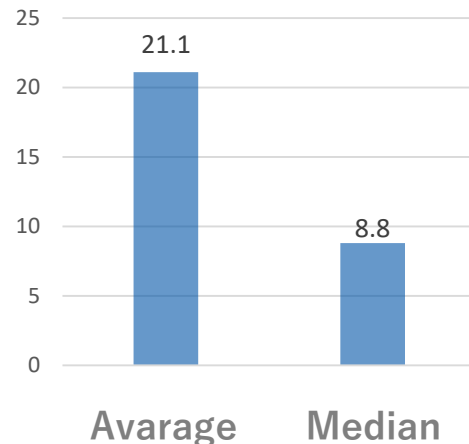
# Summary of J-Startup

## Overview



## Capital

Billion





Secretariat : Ministry of Economy, Trade and Industry Startup and New Business Promotion Office, Economic and Industrial Policy Bureau  
〒100-8901 Kasumigaseki 1-3-1, Chiyoda-ku,TOKYO  
Call : +81-3-3501-1569  
Mail:METI\_J-Startup@meti.go.jp



Secretariat : Japan External Trade Organization, Innovation promotion Division  
〒107-6006 6F Ark Mori Building 12-32-1 Akasaka Minato-ku TOKYO  
Call : +81-3-3582-5770  
Mail:JETRO\_J-Startup@jetro.go.jp



Secretariat : New Energy and Industrial Technology Development Organization, Innovation Promotion Department  
〒212-8554 20F Muza Kawasaki Central Tower, 1310 Omiya-cho, Saiwai-ku Kawasaki City, KANAGAWA  
Call : +81-44-520-5173  
Mail:NEDO\_J-Startup@nedo.go.jp

