IPA Better Life with IT

Information-technology Promotion Agency, Japan

# Message from the Chairman

## Enabling a super-smart society for our digital empowerment

Recent studies found creatures such as monkeys and crows turn twigs and rocks into tools to access food. However, only humans can transform the way they live and accelerate their evolution with tools they create. History shows new tools and technologies have always been the fundamental driver of human progress. Now we are about to witness another quantum leap in the human history as the data-driven Fourth industrial revolution is arriving.

What awaits us in the new era is a super-smart society where data and digital technologies empower people to live more pleasant, fulfilling life. Our activities are digitized with sensors and devices, analyzed through a resourceful computing infrastructure built around artificial intelligence (AI), and optimized as feedback to be translated into better services or innovations in our real-life world. Designed to deliver both economic growth and solutions to social problems, this vision of digitally transformed future built upon integrated cyber-physical data sphere is named Society 5.0.

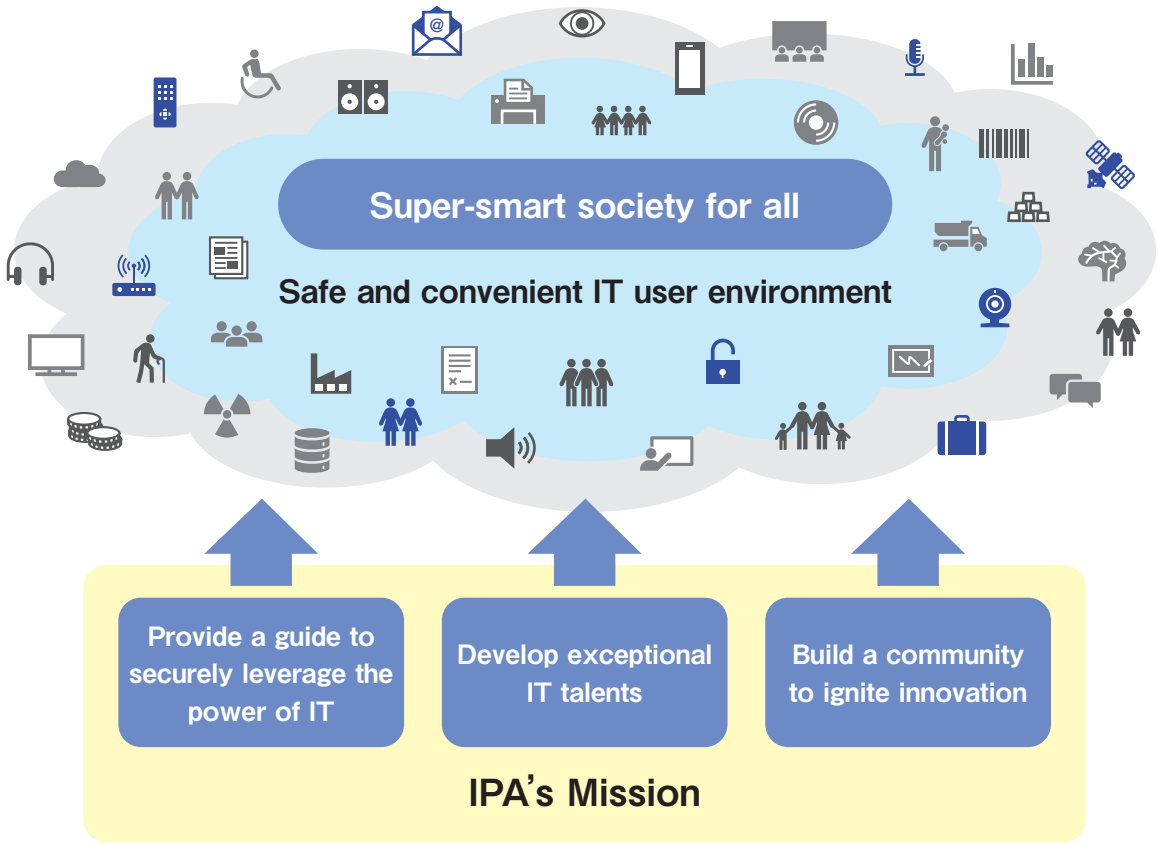
There are three imperatives for this transformative society. First, we must build a common digital platform for various expert communities to collaborate. Next, we must develop significant quantity of digital talent capable of creating new value from diverse sets of data. Finally, we must augment service capabilities for everyone to use data in safe and secure digital environment — enhancing defense to counter cybersecurity threats that continue to grow and evolve in frequency, vector, and complexity is one example. A coherent approach is necessary as these are part of the nation's growth strategy, which enterprises or individuals cannot accomplish on their own.

Playing a key role in implementing such initiatives under the Ministry of Economy, Trade and Industry (METI), the Information-technology Promotion Agency, Japan (IPA) is thriving on its mission to expedite the digital empowerment of Japanese people for their well-being. It is our commitment at IPA to address the nation's agenda of designing digital architecture and platforms to enable the advent of Society 5.0, develop digital talent to drive digital transformation (DX), and meet cybersecurity challenges of raising defense against highly sophisticated and targeted attacks in today's integrated cyber-physical environment.

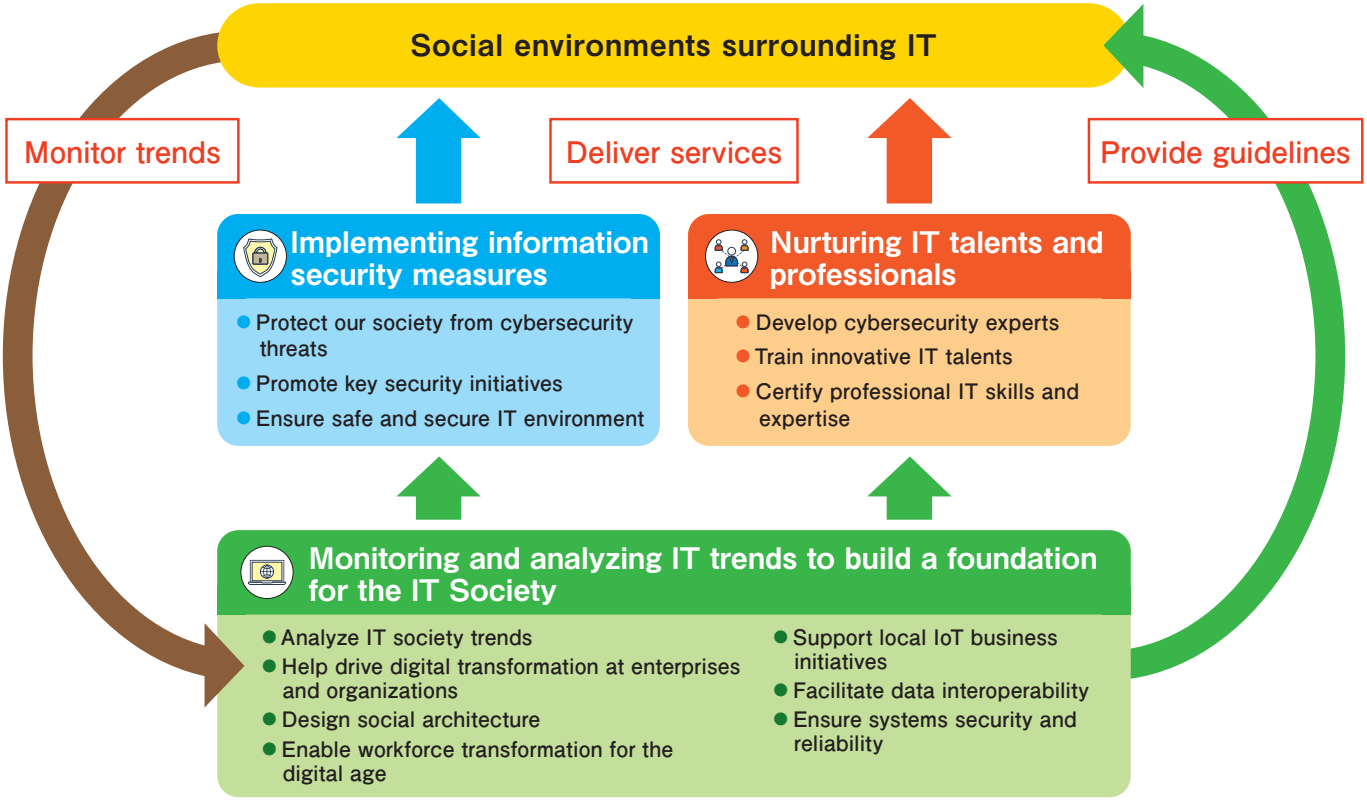
We would appreciate your continued support to our endeavors in achieving the digitally enabled society that benefits all.

**Yutaka Saito**
Chairman

# IPA Vision




# Scope of IPA Activities



# Implementing information security measures

Advances in IT have made our lives and society convenient. With the increase in data, devices and connections, however, this digitized and interconnected world is exposed to the threat of cyber-attackers that seek to exploit vulnerabilities in our systems.

In order to enhance security in today's IT society, we must raise the level of our defense against those growing threats of cyber-attacks, computer viruses and unauthorized access. To deal with these security challenges, IPA promotes various initiatives for enterprises and organizations to safeguard their systems and data, engages in activities to raise information security awareness, and encourages the public to implement policies and guidelines for optimal security of IT products and systems.

## Protect our society

### J-CSIP・J-CRAT

**For** All enterprises and organizations in Japan

J-CSIP
Initiative for Cyber Security Information Sharing Partnership of Japan

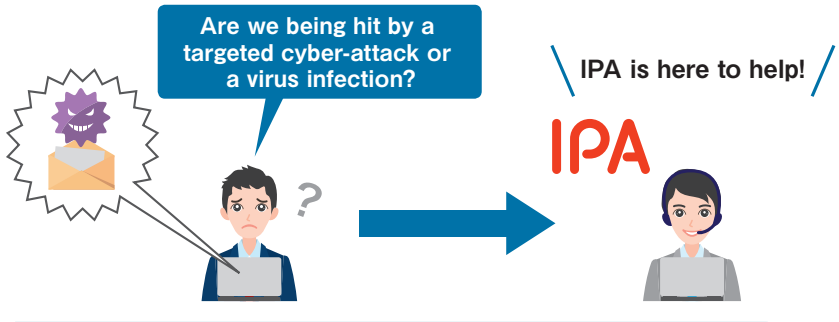
IPA J-CRAT
Cyber Rescue and Advice Team against Targeted Attack of Japan

Sophisticated, targeted cyber-attacks are on the rise and defense against those attacks has become a priority at every organization. IPA is leading initiatives called J-CSIP and J-CRAT to protect critical industries and societal infrastructure against these threats.

J-CSIP, which stands for Initiative for Cyber Security Information Sharing Partnership of Japan, collects and analyzes data from actual incidents to share findings with participating organizations and industry groups for early detection of attacks and effective countermeasures.

Abbreviated for Cyber Rescue and Advice Team against Targeted Attack of Japan, J-CRAT helps attacked organizations quickly analyze the damage and undertake countermeasures to prevent or reduce further expansion of damage.

For
- Public organizations and institutions
- Educational institutions
- General corporations and foundations
- Key industries
- Industry groups
- Public-service corporations and foundations




https://www.ipa.go.jp/security/todokede/tokubetsu.html

User interface and contents in Japanese only

# Security risk assessment for industrial control systems

**For** Critical infrastructure operators in Japan

Cyber-attacks on industrial control systems (ICS) of critical infrastructure that provides essential services underpinning Japanese society must be prevented to ensure their uninterrupted operation.

IPA supports critical infrastructure industries and operators with risk assessment and countermeasure planning to protect the systems from threats and to further enhance their security and resilience.



# Security auditing and monitoring for government-affiliated organizations

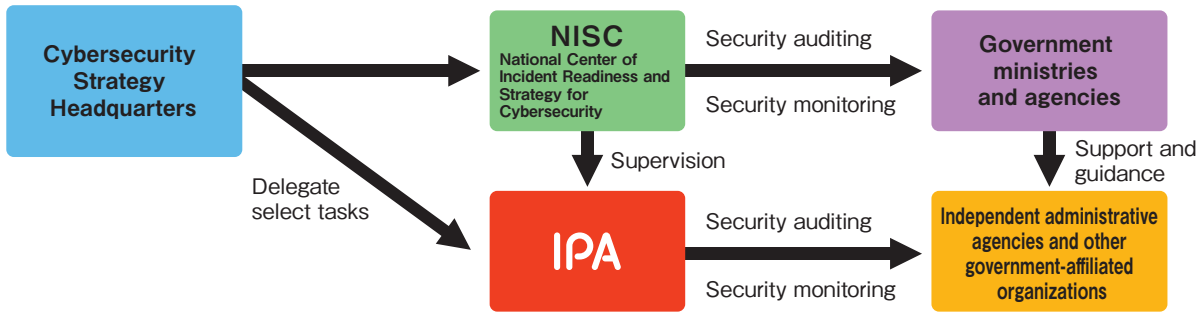
**For** Independent administrative agencies and designated associations

In order to support autonomous and continuous improvement in cybersecurity capabilities at independent administrative agencies and other government-affiliated organizations*, IPA undertakes some of the tasks from the Cybersecurity Strategy Headquarters and the National Center of Incident Readiness and Strategy for Cybersecurity (NISC).

Conducting information security auditing and monitoring of unauthorized connections to detect possible cyber-attacks are a few of the examples.

* As designated by the Cybersecurity Strategy Headquarters among government-affiliated and other authorized corporations

**IPA's role under the Basic Act on Cybersecurity**



# Promote key security initiatives

## Vulnerability countermeasures promotion initiatives

**For** All enterprises, organizations and IT users in Japan

**Vulnerability Notification Scheme**
Software developers and website administrators will be notified of reported vulnerabilities in their products or systems. Updates are published on the Japan Vulnerability Notes (JVN) portal site.
17,845 notifications as the end of December 2022.

https://www.ipa.go.jp/security/english/about_partnership.html

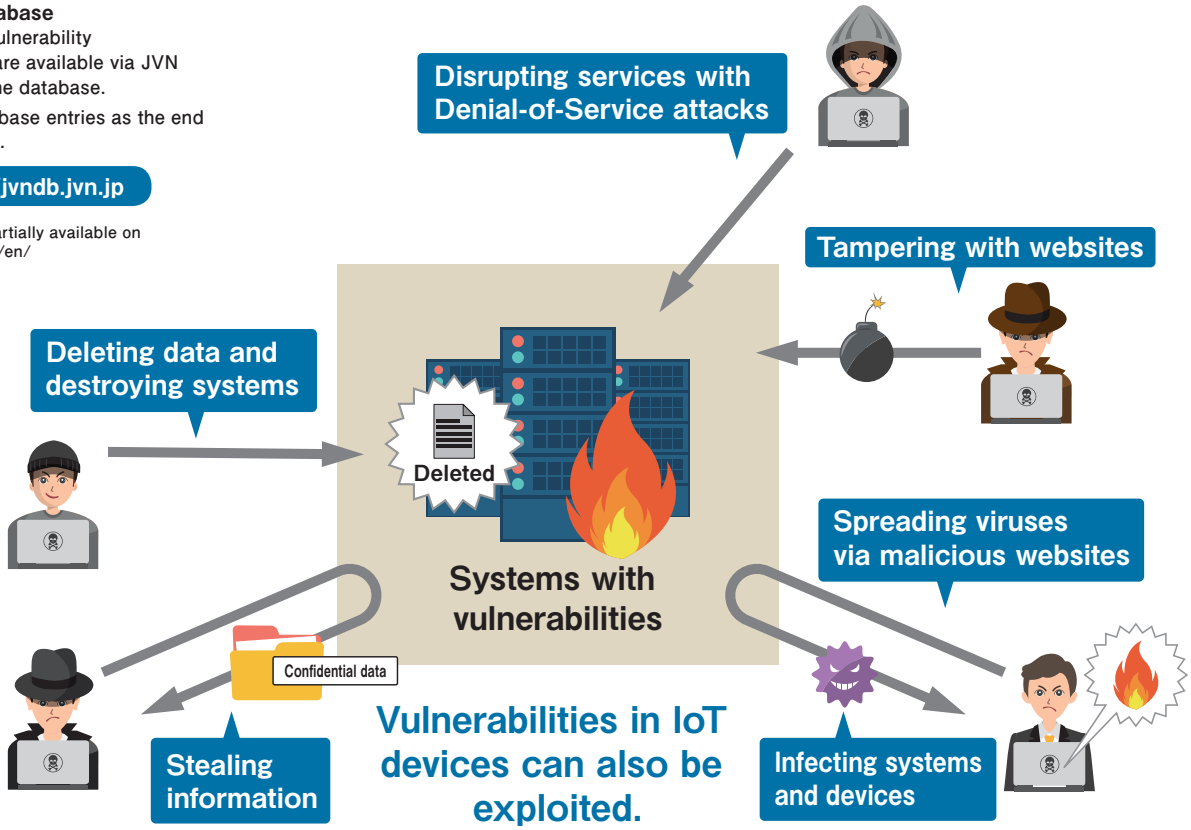
**Vulnerability Countermeasure Information Database**
Updates on new vulnerability countermeasures are available via JVN iPedia*, IPA's online database.
Over 151,000 database entries as the end of December 2022.

https://jvndb.jvn.jp

* English contents partially available on https://jvndb.jvn.jp/en/

If left unaddressed, vulnerabilities in operating systems, software and any products that contain them may be exploited and lead to serious consequences and damages through unauthorized access, virus infections and the leakage of personal information.

By offering the Vulnerability Notification Scheme and the Vulnerability Countermeasure Information Database, IPA collects and publishes information on those vulnerabilities to encourage product developers and website operators to fix them, as well as to help their end-users embrace effective countermeasures.



# Information security awareness promotion initiatives for individual IT users

For **All IT users in Japan**

Improving information security awareness is imperative to protect your data and organization. IPA offers a dedicated single point of contact to advise IT users on computer viruses, unauthorized access and other cybersecurity incidents they are experiencing. In order to help them elevate the level of their defense against such threats, reported incidents are analyzed and findings are posted as online reference materials to learn how attacks are executed and how they can be blocked.

For raising public awareness of information security, IPA has also made available easy-to-understand booklets and videos outlining threats and possible countermeasures, in addition to seminars and educational events designed for a diverse set of the target audience.

## IPA Information Security Consultation Service

We offer **consultations via phone or email** on cyber frauds and crimes.

We **publish information** to protect IT users from malicious cyber activities.

- **Information Security Consultation Service homepage**
- **Data & Stats**
- **Twitter**
- **FAQs**

## Information Security Awareness Campaign Videos


**A series of short movies* on information security threats and countermeasures**

*Available on the IPA homepage - some contents in English

## Free Internet Safety School

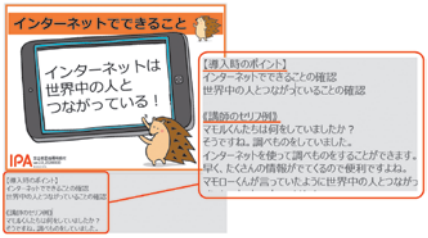
(held nationwide – online format available)

**For teachers, parents and those involved in safety education**

To understand key coaching points

**For home Internet users**

To learn Internet security fundamentals




## Information Ethics Education Awards

IPA invites schools and students to submit their works of **slogans, posters, 4-panel comic strips, transcription and school-wide campaigns** that promote ethical use of digital communications media and devices.

# Information security awareness promotion initiatives for SMEs

For SMEs in Japan

SECURITY ACTION

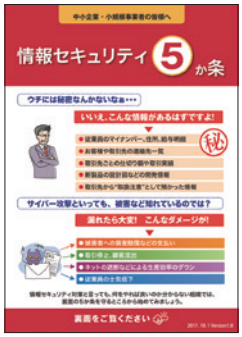
SECURITY ACTION

Supply chains have cybersecurity vulnerabilities at their touchpoints with manufacturers, suppliers, retailers and other service providers. Thus, supply chain attacks have been a concern for cybersecurity experts in recent years because the chain reaction triggered by one attack on a single supplier can compromise a network of providers. It is also concerned that Japan's small and medium-sized enterprises (SMEs) are less prepared for such threats.

IPA's SECURITY ACTION program helps SMEs take the first step to become cyber resilient by encouraging enterprises to commit to achieving the two-tier goals of their information security readiness.

## ★One Star

To qualify, companies must declare their commitment to implementing the Five Articles of Information Security as defined in the appendix to the Information Security Measure Guidelines for SMEs.




### The Five Articles of Information Security

1. Update operating systems and software
2. Install anti-virus software
3. Use strong passwords
4. Review data/file sharing settings
5. Understand possible threats and attacks

## ★★Two Stars

To qualify, companies must assess their information security readiness by referring to the Five-Minute Information Security Self-Diagnosis, which is in the appendix to the Information Security Measure Guidelines for SMEs. The process is complete when the companies set and publicly disclose their information security policies as key principles.


サイバーセキュリティお助け隊

Cybersecurity Supporters Service

IPA supports the Cybersecurity Supporters Service program that allows SMEs to identify providers offering bundled endpoint and network protection services at an affordable cost.

Under this program, qualified one-stop cybersecurity service packages that include consultation services, anomaly detection services, emergency response services and simple cybersecurity insurance are named Cybersecurity Supporters Service and are listed on IPA's website. The program makes cybersecurity protection and post-incident support feasible for SMEs to help them keep up with today's cybersecurity needs.

# Ensure systems security and reliability

## IT security evaluation and certification initiatives

**For** IT vendors, governments and affiliated entities

**Japan Information Technology Security Evaluation and Certification Scheme**

IPA runs a program named Japan Information Technology Security Evaluation and Certification Scheme (JISEC). It is for evaluating the security adequacy and reliability of IT products based on the ISO/IEC 15408 international standard, Common Criteria for Information Technology Security Evaluation.

The program reduces security risks in government systems that handle highly confidential information by certifying products to be used in those systems. As of March 2023, mutual recognition by 31 countries including Japan of such product certification is in place for their government procurement under the Common Criteria Recognition Arrangement (CCRA).

**Japan Cryptographic Module Validation Program**

Cryptographic functions are embedded in electronic devices, such as smartphones and encrypted USB memory/HDD, to prevent unauthorized access to and tampering with stored data.

IPA facilitates the use of secure electronic devices through the Japan Cryptographic Module Validation Program (JCMVP), which validates the suitability and reliability of the cryptographic functions embedded in those devices based on the ISO/IEC 19790 international standard.


**JISEC Certificate**


**JCMVP Certificate**

# Security technology evaluation initiatives

**For** IT vendors, governments and affiliated entities

CRYPTREC
Cryptography Research and Evaluation Committees

**Cryptography Research and Evaluation Committees**

Cryptographic technology is one of the critical elements in cybersecurity. Working together with the Ministry of Internal Affairs and Communications (MIC), the Ministry of Economy, Trade and Industry (METI), and the National Institute of Information and Communications Technology (NICT), IPA runs Cryptography Research and Evaluation Committees (CRYPTREC), a collaboration project to evaluate and recommend cryptographic technologies suitable for Japan's e-Government initiatives.

CRYPTREC publishes the CRYPTREC Ciphers List, which specifies cryptographic technologies recommended for system procurement and use by government agencies. Guidelines, reports and other reference materials on cryptographic technologies are also posted on its website, allowing businesses and government agencies to securely use such technologies.

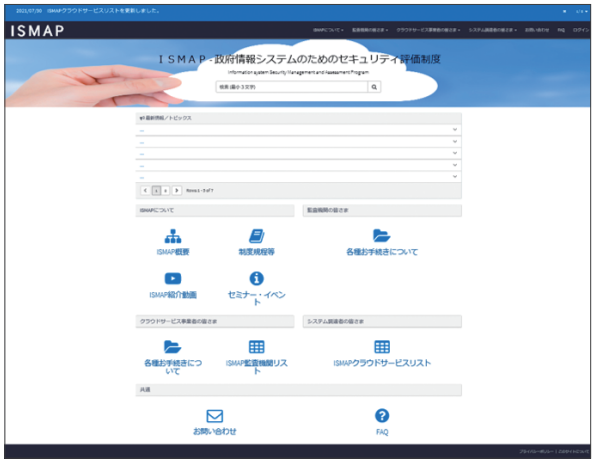
## ISMAP

**Information System Security Management and Assessment Program**

The Information System Security Management and Assessment Program (ISMAP) is the Japanese government's program for assessing the security of cloud services. Designed to ensure an appropriate level of security in government cloud services procurement, the program evaluates and registers cloud services that meet the Japanese government's security requirements.

It is operated jointly by the National Center of Incident Readiness and Strategy for Cybersecurity (NISC), the Digital Agency, the Ministry of Internal Affairs and Communications (MIC) as well as The Ministry of Economy, Trade and Industry (METI). IPA provides operational and technical support to the program.


**CRYPTREC Portal Site**
**https://www.cryptrec.go.jp/en/**




**ISMAP Portal Site**
**https://www.ismap.go.jp/csm**
(English contents available)

# Nurturing IT talents and professionals

In a world fraught with diversifying security threats that accompany new technologies, it is critical to have skilled and knowledgeable information security professionals capable of protecting organizations and society from such threats, as well as of creating new value by connecting advances in IT with the next round of innovations. As IT plays a more significant role to support our society's safety and progress, enabling IT talents and professionals who can embrace these challenges is becoming more important.

At IPA, we are committed to nurturing cybersecurity and IT innovation professionals who possess refined skills through various initiatives to expand the scope of IT professional communities and activities.

## Develop cybersecurity experts

### Security Camps

**For** **IT professionals in Japan**

IPA co-hosts Security Camps with the Security Camp Committee to discover and nurture promising young cybersecurity talents, who are instrumental in building the IT society of the future.

National Security Camps are multi-day group training programs for students age 22 and younger to learn cutting-edge technology and ethical conduct in information security. More advanced learning is available in Security Next-Camps.

Security Mini-Camps for smaller groups are also offered at various locations.

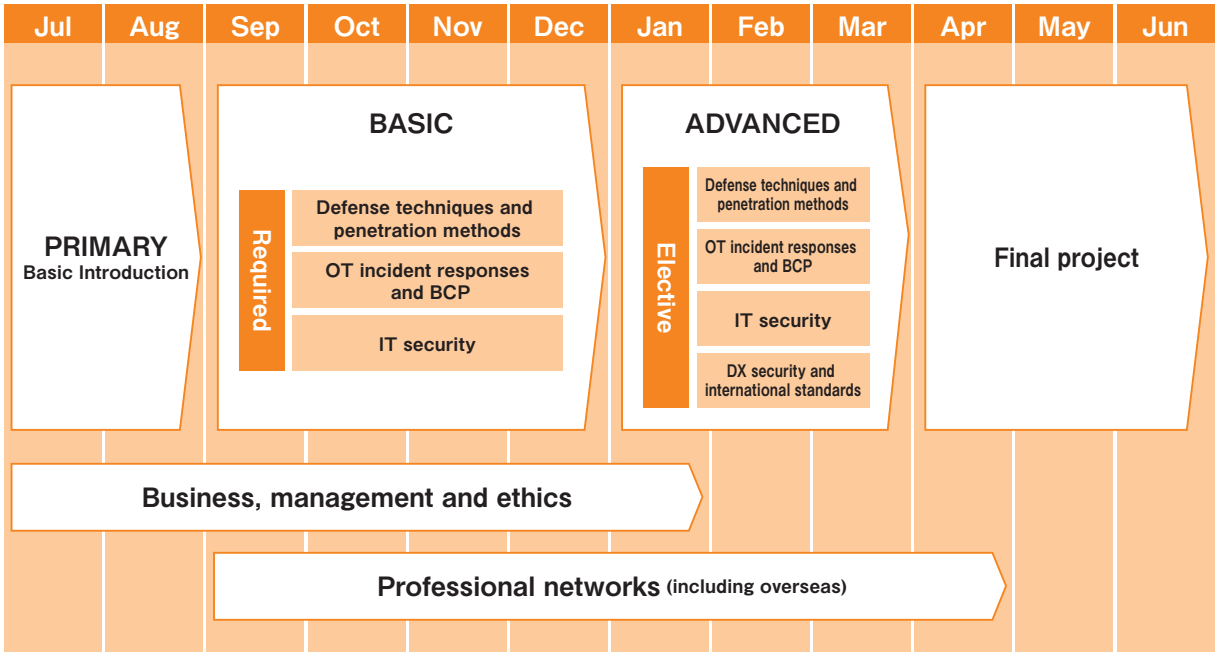
# Industrial Cyber Security Experts Training

For **Social and industrial infrastructure engineers**

At IPA, Industrial Cyber Security Center of Excellence (ICSCoE) offers a year-long training program for developing core cybersecurity personnel to protect social and industrial infrastructure against cyber-attacks. The program is designed for improving the quality and depth of cyber-security experts who will lead various cybersecurity initiatives in their respective industries, forming a bridge between corporate executives and field personnel from a security perspective.

In our Core Human Resource Development Program, trainees experience hands-on exercises utilizing our simulated plants that can replicate the control systems of various industries. The program helps them understand workplace risks and acquire skills in information and operational technologies (IT/OT). A series of training programs in collaboration with overseas industrial cybersecurity organizations are also offered, which allows trainees to build a global network of security experts while gaining knowledge and expertise in the most advanced cybersecurity technologies.

## Program Calendar




IPA's simulated plants for cybersecurity training

Cybersecurity training class

# Train innovative IT talents

## MITOU Programs for the next-generation IT innovation leaders

**For** IT professionals and promising tech talents in Japan

**The MITOU Program**
Project for finding and developing undiscovered IT talents

The MITOU Program is an endeavor to discover "mitou" (Japanese for hidden) young IT talents and to draw out their potential. We bring them together for friendly rivalry and have them work with project managers who provide guidance to improve their skills and ideas through creative projects. This program has generated numerous outcomes of revolutionary new products, solutions and startup businesses, built upon big data, AI and robotics.

Eligibility: IT talents under age 25; Duration: approx. 9 months

**The MITOU Advanced Program**

The MITOU Advanced Program is for promoting and supporting IT entrepreneurship in Japan. As mentors, experts from academic, technology and business communities provide technical as well as business advice for future entrepreneurs to lead Japan's IT innovation. The program helps them create new value for our society through ingenious products or business development.

Eligibility: IT talents of all ages; Duration: approx. 8 months

**The MITOU Target Program**

The MITOU Target Program aims to develop IT professionals with highly specialized skills and expertise in pioneering technology and applications. With this program, we support transformational IT talents capable of driving future innovations. Project themes are chosen from among new technologies that are coming under the spotlight in research and development across the globe.

Eligibility: IT talents of all ages; Duration: approx. 9 months

### Discovering and nurturing transformational IT talents

Admission

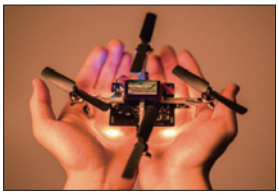
Talent development activities (joint camps and workshops)

Presentations and evaluations

### Past outcomes


ONTENNA, a hair clip that lets hearing-impaired people feel sound

SIGHT, a wearable device that allows people to hear "sight"



PHENOX, a palm-sized flying robot for fun and business use

# Certify professional IT skills and expertise

## The Registered Information Security Specialist (RISS) certification program

**For** All enterprises, organizations and IT professionals in Japan

As cyber-attacks have seen significant growth over recent years, IT professionals with strong security skills who can proactively protect all parts of your organization – users, data, applications and infrastructure – are high in demand but short in supply.

To meet this challenge, a national qualification system of the Registered Information Security Specialist (RISS) to certify and register highly skilled cybersecurity professionals was established in October 2016. IPA runs this program and manages its examination, registration and training process.

For helping these certified cybersecurity talents fully exhibit their capabilities and explore career opportunities at organizations in need of their expertise, IPA offers mandatory training to update their skills and makes their registered information publicly available.

Under this program, 21,633 professionals have been registered as of April 1, 2023.

### RISS program process

**Pass** — **Bi-annual RISS exam every April and October**

↓

**Register** — **RISS registration every April 1st and October 1st**
(Applications accepted year-round)

↓

**Maintain** — **Mandatory online education** (every year) **and practical training** (every three years)

**Renewal of registration** (every three years)

### RISS's tasks include but are not limited to:

**Administrative support**

- Assess and address security risks to organizations' growth
- Help design and implement valid and effective security policies and guidelines
- Report security incidents and work with internal and external stakeholders

**Technical support**

- Help collect, analyze and apply up-to-date security intelligence
- Plan, develop, implement and maintain optimized security programs
- Uncover and disrupt cyber-attacks with technical expertise

**Online training sessions for RISS members to continuously update their skills**

# The Information-Technology Engineers Examination (ITEE)

**For** IT professionals and users in Japan

The Information-Technology Engineers Examination (ITEE) is a group of national qualification exams through which the Ministry of Economy, Trade and Industry (METI) certifies IT professionals and other individuals as meeting or exceeding a set standard of IT knowledge and skills. Based on the Act on Facilitation of Information Processing, these examinations are administered by IPA alongside the Registered Information Security Specialist (RISS) examination for vendor-neutral professional certifications.

A wide variety of IT vendors and user organizations are referring to ITEE certification as a consistent, objective indicator in assessing the level of IT knowledge and skills of individuals by category.

There were 599,247 applicants for the exams in FY2022 alone.

### Information-Technology Engineers Examination (ITEE) categories

| For IT engineers | | | For all persons who utilize IT | |
|---|---|---|---|---|
| Fundamental | Applied | Advanced | | |
| Fundamental Information Technology Engineer Examination (FE) | Applied Information Technology Engineer Examination (AP) | IT Strategist Examination (ST) | For all businesspersons | Examination of common and basic knowledge in IT use |
| | | Systems Architect Examination (SA) | | IT Passport Examination (IP) |
| | | Project Manager Examination (PM) | For all persons who promote safe utilization of IT | Examination of fundamental knowledge and skills for promoting safe IT use |
| | | Network Specialist Examination (NW) | | Information Security Management Examination (SG) |
| | | Database Specialist Examination (DB) | | |
| | | Embedded Systems Specialist Examination (ES) | | |
| | | IT Service Manager Examination (SM) | | |
| | | Systems Auditor Examination (AU) | | |

### RISS Examination

| For Registered Information Security Specialists (RISSs) |
|---|
| Examination of information security knowledge and skills required for designing, developing and implementing safe and secure information systems |
| Registered Information Security Specialist Examination (SC) |

# Information technology engineer examinations in Asia

**For** IT professionals and users in Asia

In order to help nurture IT talents and professionals in Asia, IPA collaborates with six Asian countries, which form the Information Technology Professional Examination Council (ITPEC), to administer the ITPEC examination. Based on ITEE in Japan, ITPEC examinations equivalent to IPA's IT Passport Examination (IP), Fundamental Information Technology Engineer Examination (FE) and Applied Information Technology Engineer Examination (AP) are conducted in the member countries. IPA supports the Council to enhance their skills in developing the exam questions, and to facilitate other relevant activities of ITPEC examination.

In addition, mutual recognition agreements on the IT national exams are concluded between IPA (Japan) and certain other Asian countries and region, which are not ITPEC members. The agreements are for IT professionals to expand their career opportunities within the Asian region.


**ITPEC members include:**
Philippines, Thailand, Vietnam, Myanmar, Mongolia and Bangladesh

**Mutual Recognition Agreements concluded with:**
India, Singapore, South Korea, China and Taiwan

# Monitoring and analyzing IT trends to build a foundation for the IT society

As technology and its surroundings have always moved at speed, we must navigate an increasingly complicated playing field filled with new terminology and advancements. In this turbulent yet exciting time, it is crucial for all of us to keep up with the shifting focus of the IT industry and society in order to gain a tech-driven competitive advantage, as well as to ensure the arrival of a secure, sound IT society.

IPA monitors and analyzes the forces reshaping the IT landscape for insights to help us prepare for advanced information security threats, ensure the proper use of data and digital technologies, and satisfy the skill and IT literacy requirements of Japan's workforce today. Looking ahead, we design and share a roadmap for further growth of industries and solutions to various social issues, while promoting information security, driving digital transformation, and building a foundation for a super-smart society for all.

## Analyze IT society trends

### Research and analysis of emerging tech developments and threats

**For** **All enterprises, organizations and IT users in Japan**

We publish reports and whitepapers on critical developments in the tech space that will impact our society and companies across industries.

As businesses are racing to keep pace with the evolving complexity and sophistication of cyber-attacks, our research reports address those issues and supply key tactics to help them stay one step ahead.

For enterprises in pursuit of enhanced performance and growth by digitally transforming their business, their success is strongly tied to how well they can create agile business organizations that can capitalize on the power of data and digital technologies for innovative business models and ideas. Our publications provide them with data-driven insights and takeaways on digital transformation strategies, new technologies and tech talent supply issues, making them better prepared for the challenge to gain or maintain their leading position in today's dynamic business environment.



IPA research and analysis publications

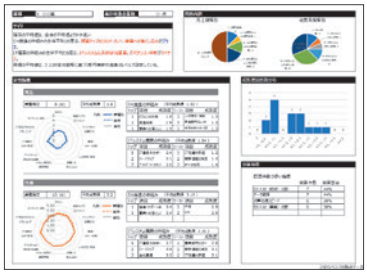
# Help drive digital transformation at enterprises and organizations

## Digital transformation support initiatives

**For** All enterprises and organizations in Japan

IPA helps companies of all sizes and types move forward in this era of digital transformation, supporting their efforts to gain competitive advantages by leveraging new technologies, talent, and processes, thereby improving business operations and customer satisfaction. In order to allow such companies to approach digital transformation in a structured, timely way, we provide a self-assessment tool for digital transformation maturity, assessment benchmark services, and systems requirement guidelines to support data-driven business operation.

IPA is also engaged in initiatives to design digital platforms across regions and industries, as well as to provide learning tools for mid- to small-sized companies taking the initial step in driving digital transformation within their respective organizations.



Digital transformation maturity assessment website


Educational videos and online learning materials

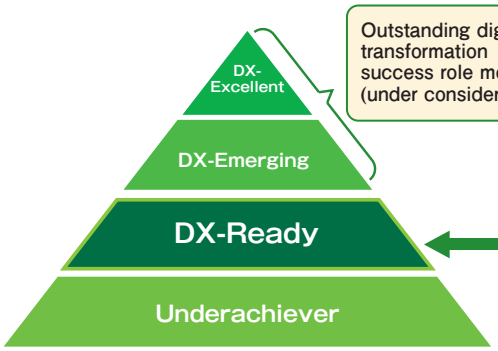
## Japan Digital Transformation Certification and Digital Transformation Stocks

**For** All enterprises and organizations in Japan

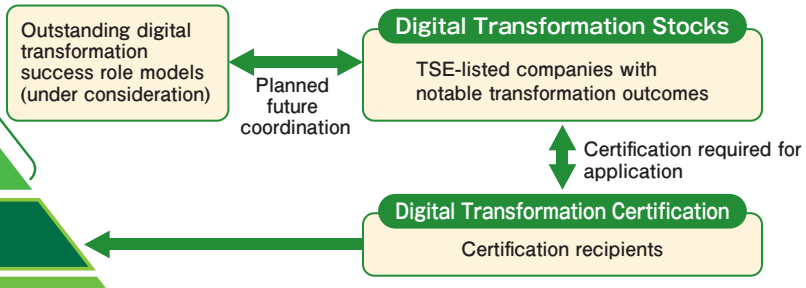
The Ministry of Economy, Trade and Industry (METI) issues the certification to acknowledge businesses that are ready to undertake digital transformation challenges according to its pre-set criteria. IPA runs the program as its administrative office and a primary point of contact for applicants to place inquiries.

Moving toward the next phase, businesses that have successfully implemented transformation initiatives are named as Digital Transformation Stocks* and are listed on the METI website. In 2021, IPA joined METI and the Tokyo Stock Exchange (TSE) to conduct an annual survey designed to identify digital transformation success role models under this program.

*Companies listed on the Tokyo Stock Exchange only




Digital Transformation (DX) Certification Level




Digital Transformation Stock Selection & Digital Transformation Certification Program

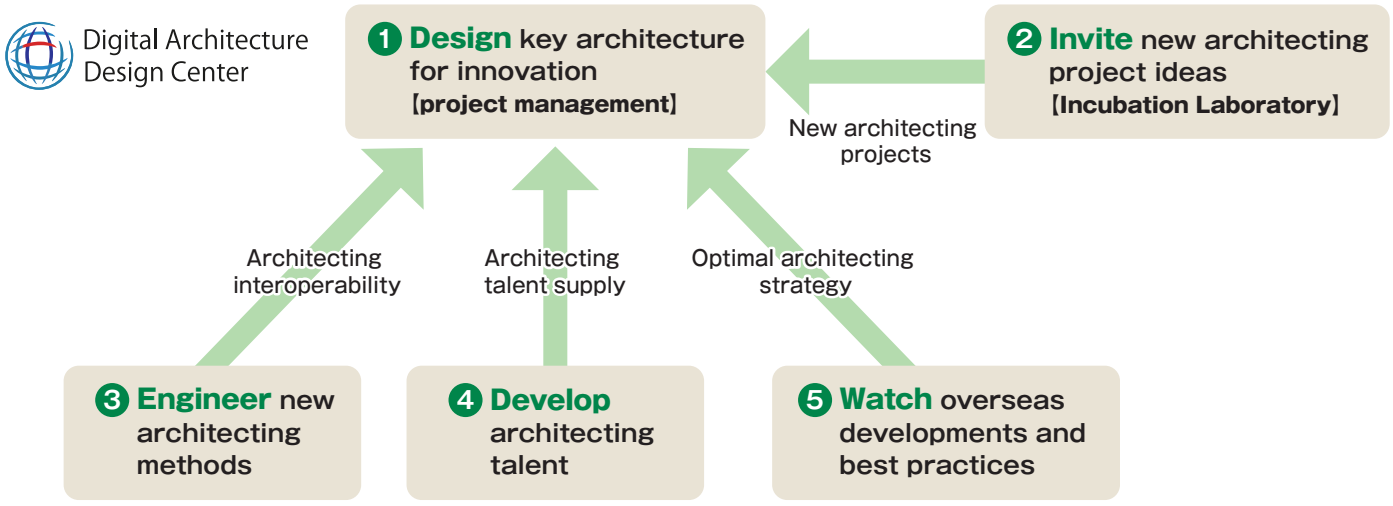
# Design social architecture

## Digital architecture design initiatives

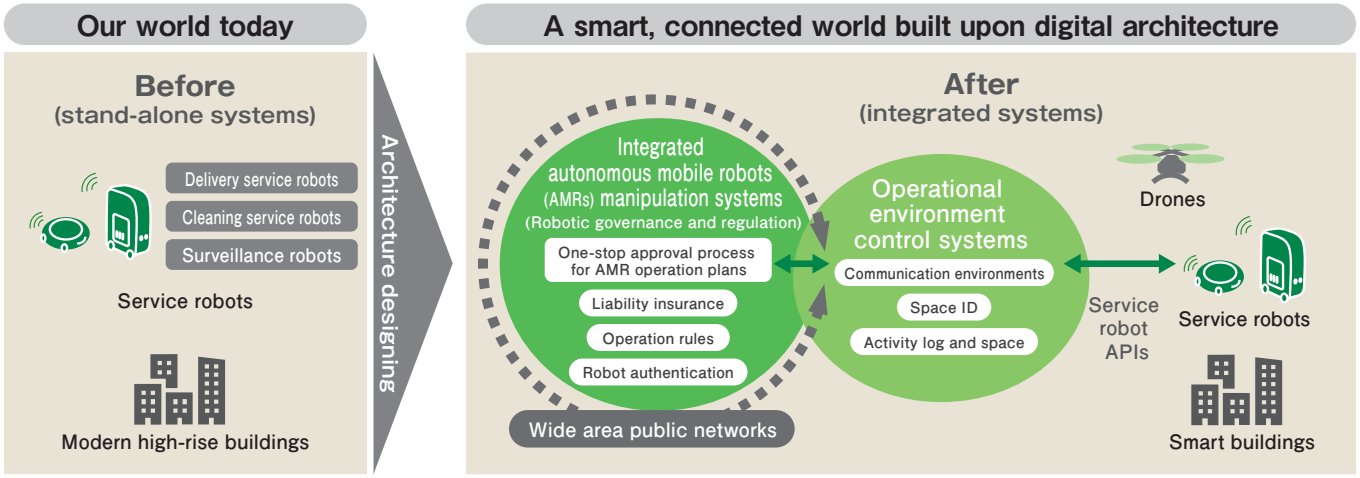
**For** All enterprises and organizations in Japan

To ensure our nation is properly keeping pace with the demands of digital transformation and facilitating the arrival of a super-smart society (Society 5.0), we must have a strong, secure digital infrastructure that links data from different systems and applications across industries to create new value for the coming era. A holistic approach to draw a blueprint for optimal architecting that supports such an agenda is imperative in enabling a prosperous future built upon big data and digital technologies.

The Digital Architecture Design Center (DADC) was established under IPA in 2020 as a fair, neutral and democratic organization to undertake this agenda. Collecting resources and expertise in industry, government and academia, DADC is a venue to design critical architecture designated by the Japanese Government and businesses, conduct research and analysis for optimal architecture designing capabilities, and nurture architecting talents through a wide range of hands-on learning opportunities.




DADC activities




Architecture example: service robots

# Enable workforce transformation for the digital age

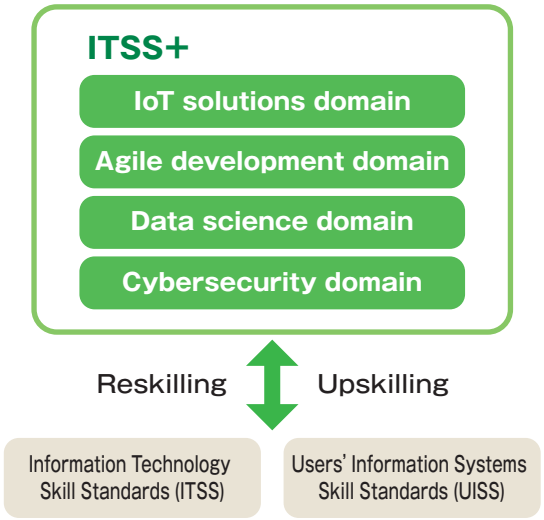
## Workforce transformation initiatives

**For** All enterprises, organizations and the workforce in Japan

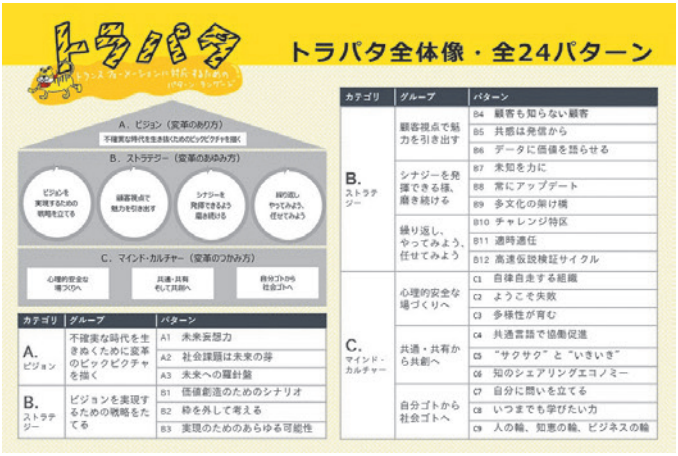
The latest industrial revolution – fueled by a new wave of technologies and digital transformation – will have significant effects on the requirements for workforce skills and capabilities in every industry. As innovation and market forces are changing the economy, the ability of your workforce to adapt, reskill, and assume new roles is critical to make your organization fit for the digital future.

Faced with this workforce transformation challenge, IPA drives various initiatives to support the skill transition of Japan's workforce and make them digital-ready. Shaping the digital future for businesses in Japan and their crew, IPA issued the Information Technology Skill Standards Plus (ITSS+), which is an updated set of reskilling and upskilling guidelines for IT professionals today; published survey reports on IT workforce and workplace transformation; and developed a pattern language to support the transformation.

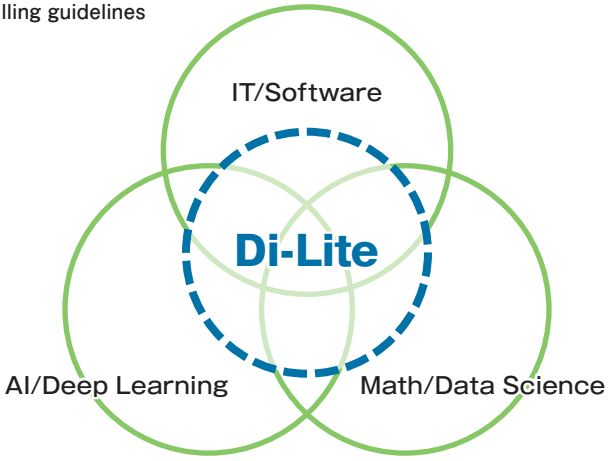
IPA also joined hands with the Japan Data Scientist Society and the Japan Deep Learning Association to form the Digital Literacy Council, an organization to define and disseminate the notion of digital skills and knowledge required for professionals to excel in the coming age.




ITSS+: reskilling and upskilling guidelines




Transformation Pattern Language




Di-Lite: digital literacy needed in the digital age

# Support local IoT business development

## Local IoT business support initiatives

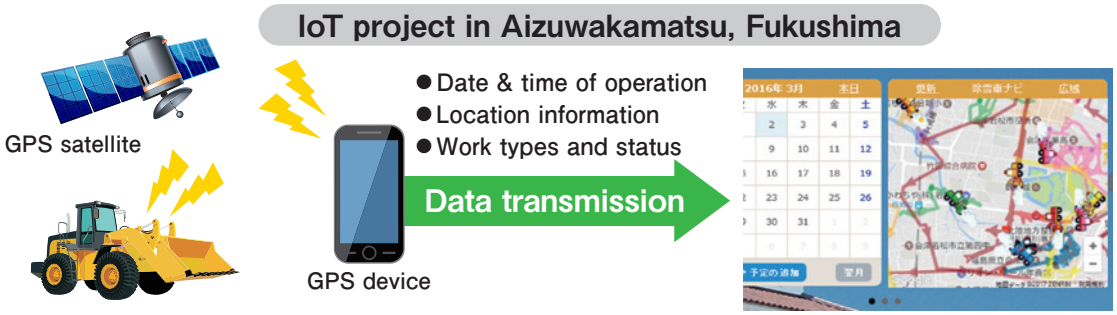
**For** Local governments and organizations

IoT Acceleration Local Lab

Working together with the Ministry of Economy, Trade and Industry (METI), IPA accommodates promising Internet of Things (IoT) projects throughout Japan with strategic, technical and networking support under the Local IoT Acceleration Laboratory program. The program is for building local IoT business ecosystems that will allow municipalities and local businesses to drive IoT initiatives for new growth opportunities and smart solutions to their regional issues.

As of August 2021, 105 local projects have been accepted into the program.

**IoT project in Aizuwakamatsu, Fukushima**




With sensors attached to the city's snowplow fleet and interactive mapping technology in action, residents can stay informed on snow removal routes and statuses using their PCs or mobile devices.

# Facilitate data interoperability

## Common Vocabulary Framework

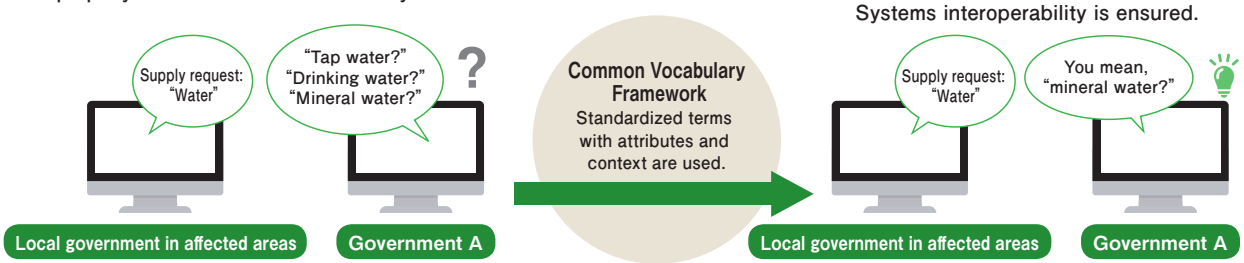
**For** Governments, enterprises, NPOs and individual IT users in Japan

One of the challenges governments must face in promoting the widespread use of public (open) data is how to standardize vocabulary to ensure that anonymous users with diverse needs, skills, education, and other backgrounds can extract the same value from such data. This standardization is also important for the systems' interoperability as errors may occur if vocabulary used in data is not well-defined in different systems. Secondary use of inconsistent data may also be problematic.

In order to solve these problems, IPA is driving the Common Vocabulary Standardization Project for standardized definitions of terms in data with proper context and attributes to supplement them.

**[Example]**

Relief supplies after a major disaster delayed as the definition of "water" was not properly standardized between the systems.



# Ensure systems security and reliability

## Guidance for developing IoT products and systems

**For** **IT vendors, users and professionals in Japan**

IoT devices and applications are becoming ubiquitous in our lives, but constant connectivity and data sharing pose security challenges. To address this issue, IPA promotes guidelines on safe, secure IoT products and systems development. It is an endeavor to help developers understand what security risks are involved and how to avoid them.

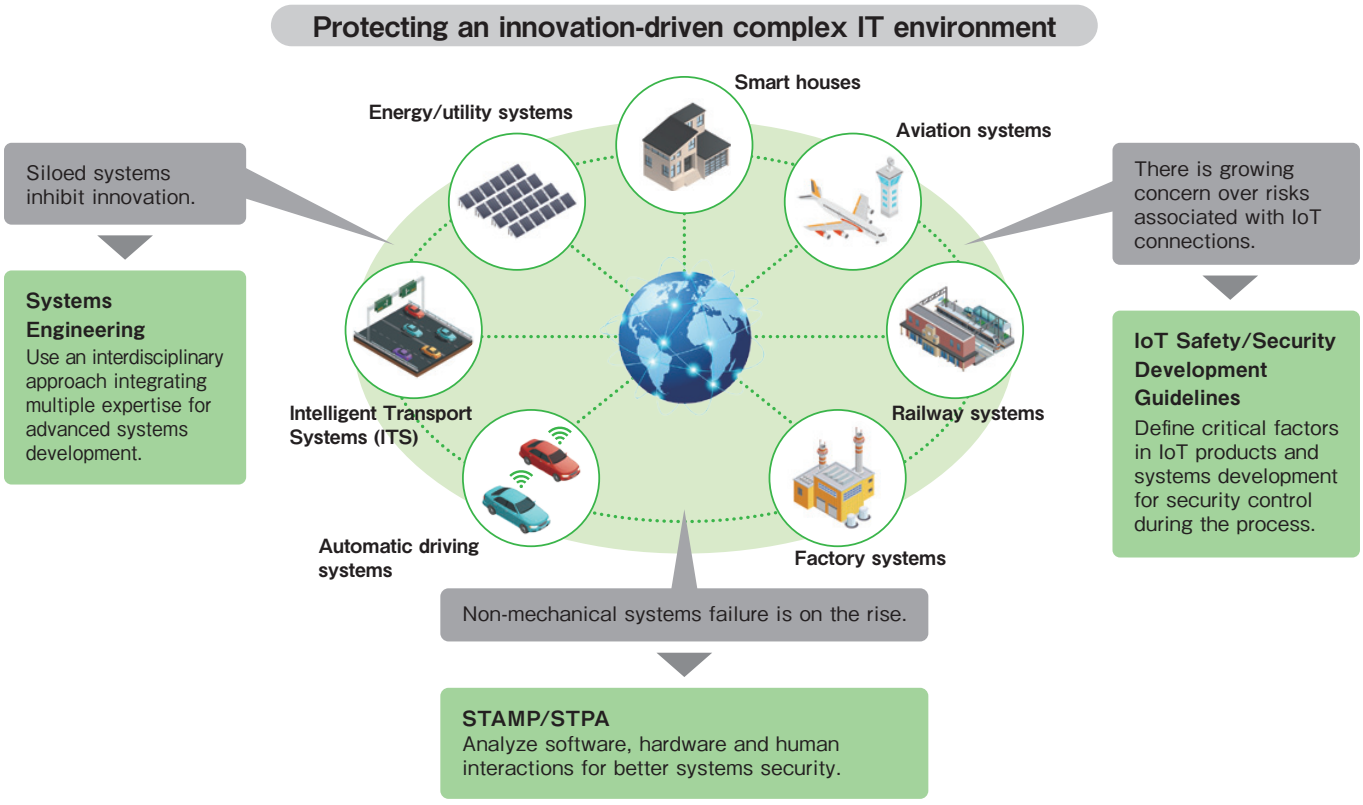
We are also raising awareness and are engaged in cross-border standardization efforts for the guideline. This will ensure the optimal level of requirements are met across nations and industries.

## Enhanced reliability in complex and expansive systems

**For** **IT vendors, users and professionals in Japan**

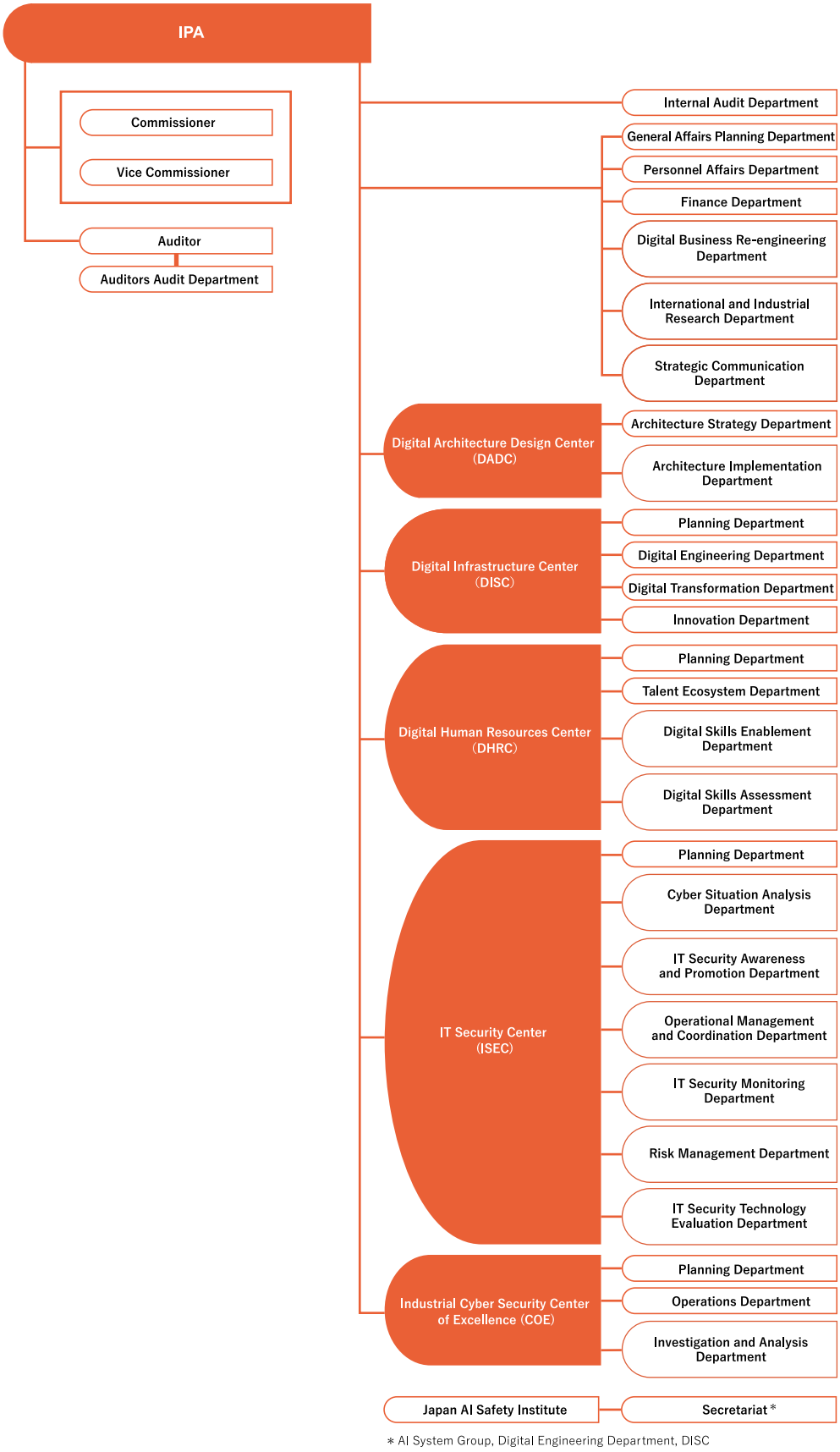
Challenges in cybersecurity are evolving as more organizations and systems are getting connected. With the emergence of AI and IoT technologies, systems are becoming more complex and the way we develop those systems has been significantly affected.

At IPA, we are promoting holistic approaches to optimize such systems and their environments. Our focus in this initiative includes Systems Engineering; Systems Theoretic Accident Model and Processes (STAMP), which is a new accident causality model based on systems theory and systems thinking; and System-Theoretic Process Analysis (STPA), a STAMP-based hazard/cybersecurity analysis technique.



# About IPA

Inaugurated on January 5, 2004 to succeed the IPA Special Law Entity (founded October 1, 1970), the Information-technology Promotion Agency, Japan (IPA) is an independent administrative agency that implements IT policies and strategies of the Japanese Government under the Ministry of Economy, Trade and Industry (METI)




* AI System Group, Digital Engineering Department, DISC

# For more information

## IPA website

https://www.ipa.go.jp/en/index.html

# Other IPA public relations media

(contents and user interface in Japanese only)

## IPA e-newsletter

https://www.ipa.go.jp/mailnews.html

## IPA official Facebook page

https://www.facebook.com/ipaprjp/

## IPA official Twitter page

https://twitter.com/ipajp

## IPA official YouTube page

- IPA Channel: educational video library
  https://www.youtube.com/user/ipajp/

## IPA bi-monthly public relations magazine

- IPA News
  https://www.ipa.go.jp/about/ipanews/


IPA Better Life with IT



[Address]

Bunkyo Green Court Center Office
(Reception desk on floor 13)
2-28-8 Honkomagome
Bunkyo-ku, Tokyo 113-6591
Tel: (03) 5978-7501　Fax: (03) 5978-7510

**Industrial Cyber Security Center of Excellence (Akihabara)**
North 20F, Akihabara UDX Building
4-14-1 Sotokanda
Chiyoda-ku, Tokyo 101-0021
Tel: (03) 3258-8808　Fax: (03) 3258-8807


[Access]

- Toei Mita Line: 4 min. walk from Sengoku Station
- Tokyo Metro Namboku Line: 9 min. walk from Komagome Station
- JR Yamanote Line: 10 min. walk from Komagome Station or 12 min. walk from Sugamo Station

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