



# Society5.0 & Trust Service

May 2019

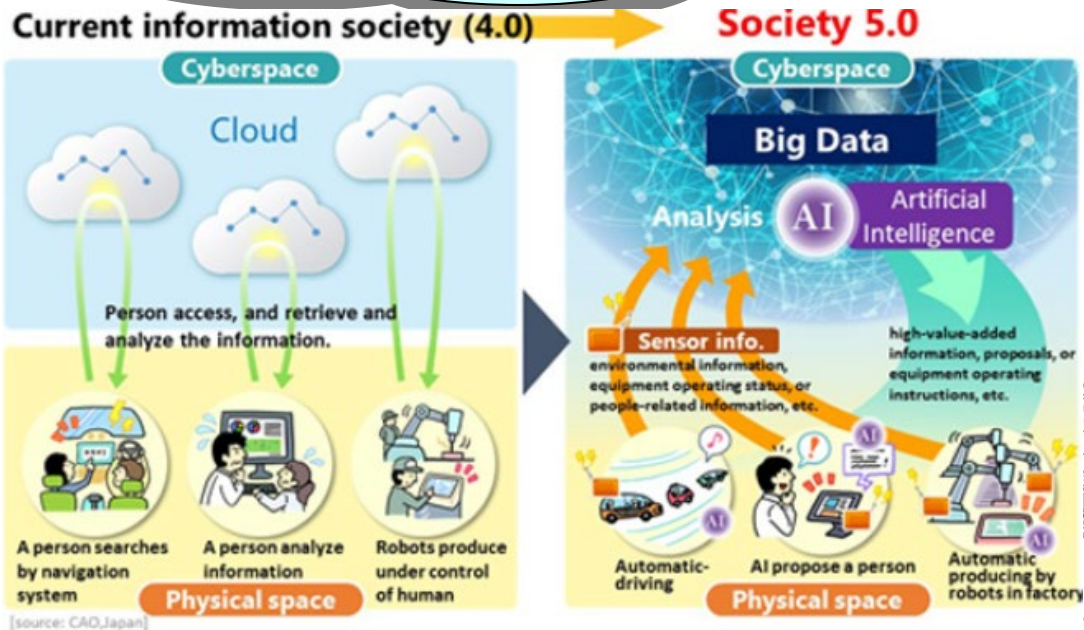
Japan Trust Service Forum Chairman, Steering Committee

Seiko Solutions Inc. DX Solution Div.

Koichi Shibata

# JTSF What Society5.0

A society where "DATA" shall enriches people



Society5.0  
Super smart society



Society4.0  
Information



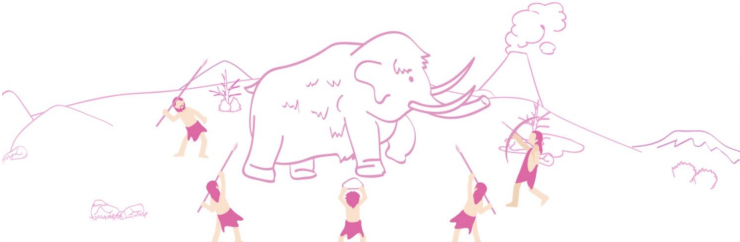
Society3.0  
Industrial



Society2.0  
Agricultural



Society1.0  
Hunting & Gathering



Source : [http://www8.cao.go.jp/cstp/society5\\_0/index.html](http://www8.cao.go.jp/cstp/society5_0/index.html)  
[https://www8.cao.go.jp/cstp/english/society5\\_0/index.html](https://www8.cao.go.jp/cstp/english/society5_0/index.html)

- Toward Realization of Society 5.0: Establishment of JTTSF
- Trust Service in Japan
- Trust service considerations in Japan
- Trust Service Working Group

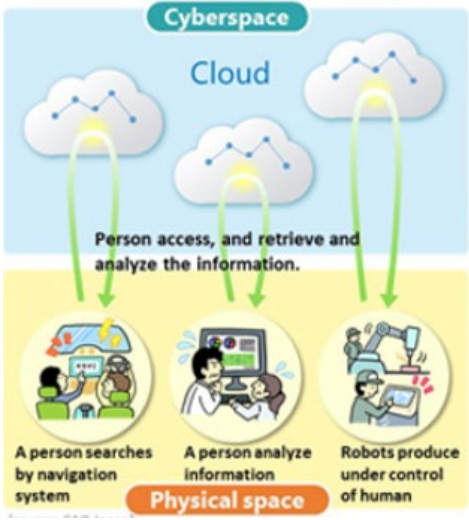
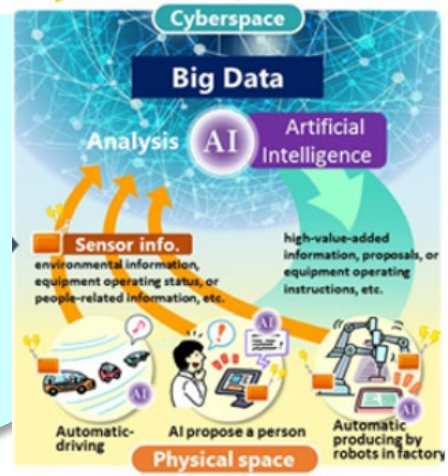
- In Japan, since the "e-Japan strategy" in 2001, the world's most complete Internet usage environment has been built, [a large amount of data](#) has been distributed, and it has become a society where [transactions and operations rely on digital information](#).
- In addition, digital technology realizes advanced information processing, ease of storage without information accumulation and deterioration, a society where information can be instantaneously shared [beyond space](#) by communication, and everything is digitally recorded [over time](#) Society that can be saved and saved, it is becoming [the era of digital first](#).
- As a result, [the advent of the ultra-smart society](#) through innovation that makes full use of digital technology has become a reality.

From the charter

## Digital pitfall

A society where "DATA" shall enriches people

- Since digital can be corrected without trace, it is **easy to falsify information**.
- There is a risk of **spoofing** and eavesdropping.
- There is a possibility of **denial** after the fact that it is not possible to remove the suspicion of tampering or fabrication.
- In a digital society that can be easily copied and transmitted to the whole world in an instant, **it may cause doubts and may lead to an uneasy society.**

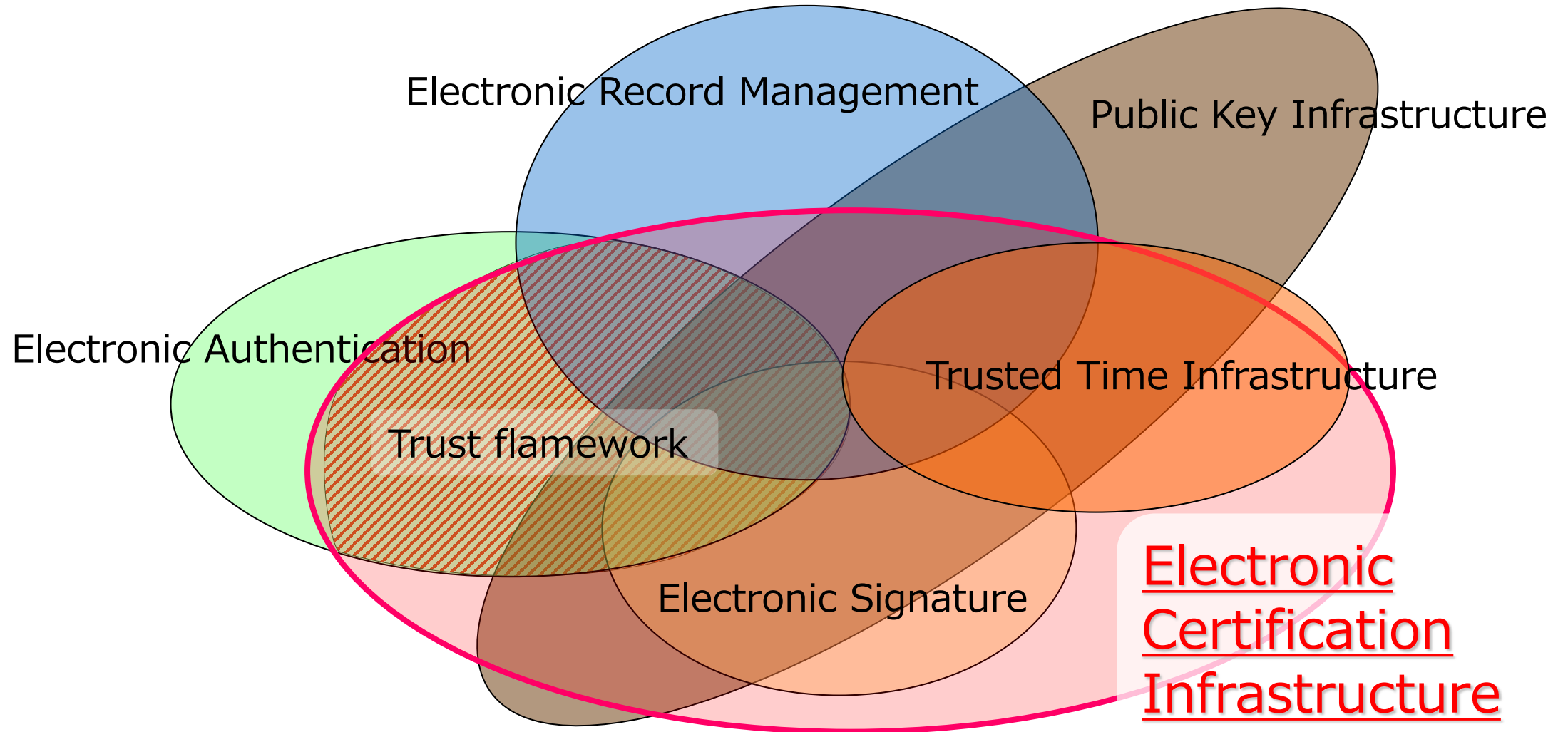


A society in which "DATA" analyzed and generated by computers without human intervention is essential for social life from the huge amount of data not only from humans but also from IoT.

In order to realize the "super-smart society" that enjoys convenience by using digital data safely and security, it is necessary to consider the ideal way of trust service that **guarantees the trust of distributed data.**

- Services that integrate the real world and cyber space by IoT and AI technology, businesses that use big data are born one after another, and these services bring new value and convenience, On the other hand, the reliability and security of the data and services handled there become issues.
- There are various technologies and products that protect systems and data. An important issue is how the user who ultimately determines the availability of the service or data should "trust" the other party on the other side of the net and the data sent from there.
- Therefore, it is necessary to have a mechanism and a foundation to provide means for verifying the other party's authentication, non-falsification of data and services themselves, and legitimacy, which become the basis of "Trust".

From the charter



e-Japn Strategy  
2001

A declaration to be the world's most advanced IT nation formulated  
2013

Society5.0

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 **2018** 2019 2020 2021~

Time Business Study group

Time Business Promotion Forum (TBF)

Time Business Forum (TBF)

Japan Trust Service Forum (TSF)

TBF 10th anniversary  
2016/9/20  
E-Trust Japan Declaration

EU:eIDAS  
Preparation by related 4-organizaitions

2018/6/5  
Establishment

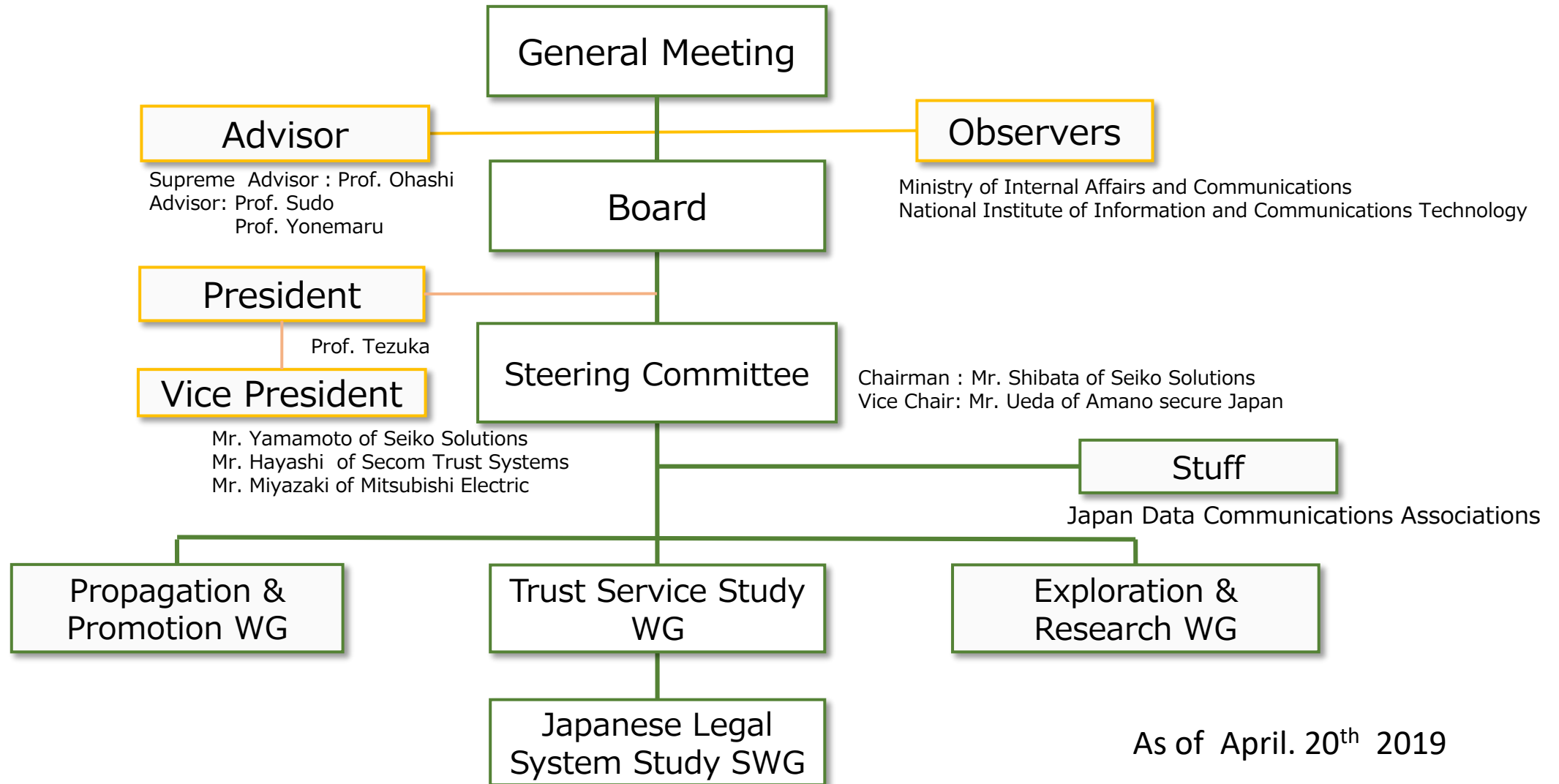
EU:electronic Signature Directive  
Act on Electronic Signatures and Certification Business

e-Document Law  
Time Business Accreditation Program  
The Guideline of Time Business

TBF:Time Business Form  
JIPDEC:Japan Information Processing and DEvelopment Center  
JNSA:Japan Network Security Association  
CAC:Certification Authority Conference



- It is difficult for users to collect all kinds of information and comprehensively judge reliability and safety, and it is necessary to have a [mechanism for collecting information on behalf of users](#) and providing materials for judgment.
- While inheriting the activities and results of the conventional time business council, we examined the way of reliable service (trust service) and [the mechanism that users can select services Relief and Trust](#), and the immediate objective is to promote the improvement of the environment that realizes it.
- First, visualize trusted services and construct a list ([trusted list](#)) for users to make judgment or verification.
- Furthermore, in the era when storing increasing digital information for a long period of time or exchanging across national borders everyday, [cooperate with overseas](#) to provide trust beyond time and space in cooperation [with industry, academia and government](#), [It aims at building the foundation and scheme](#).

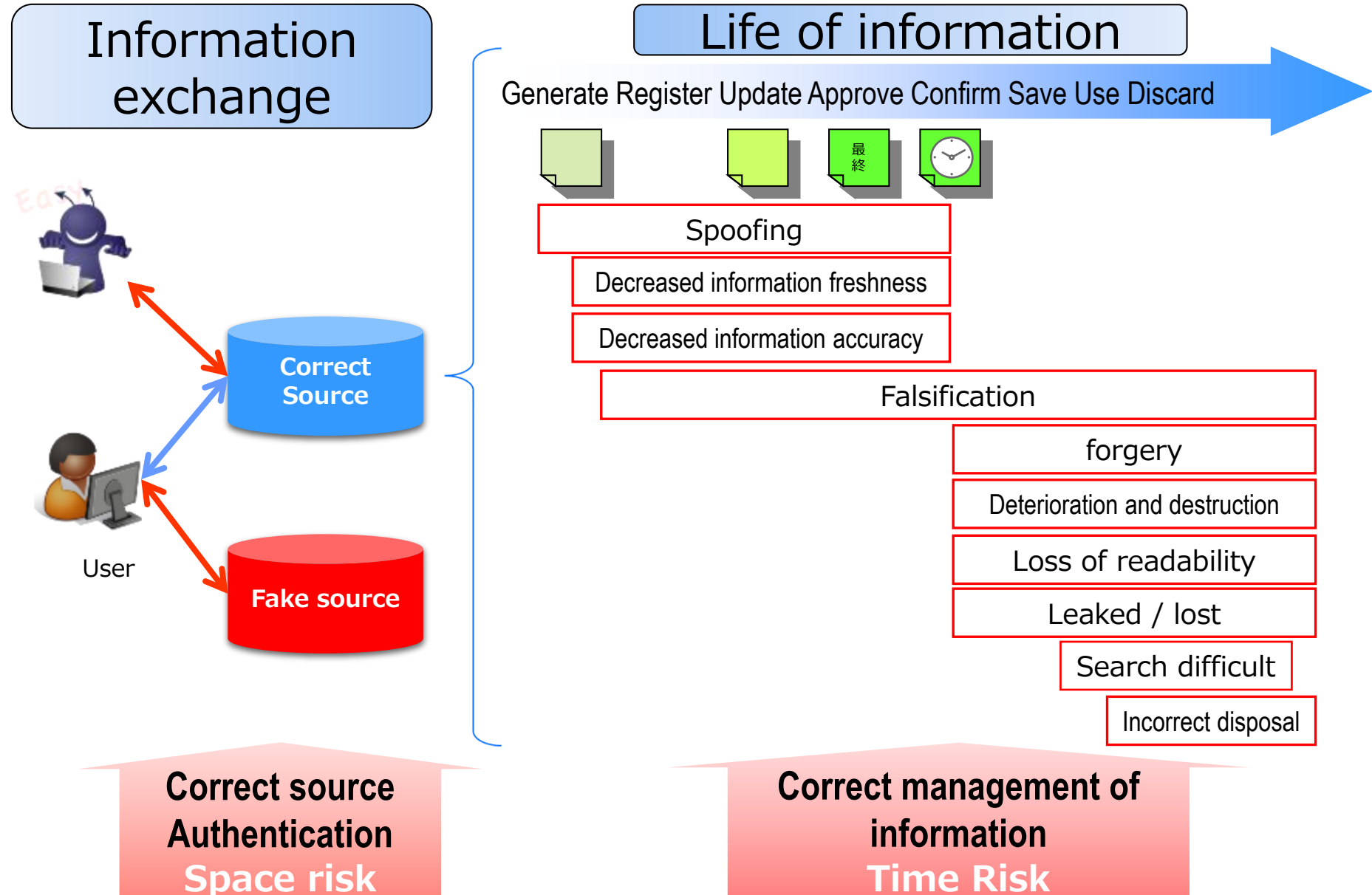


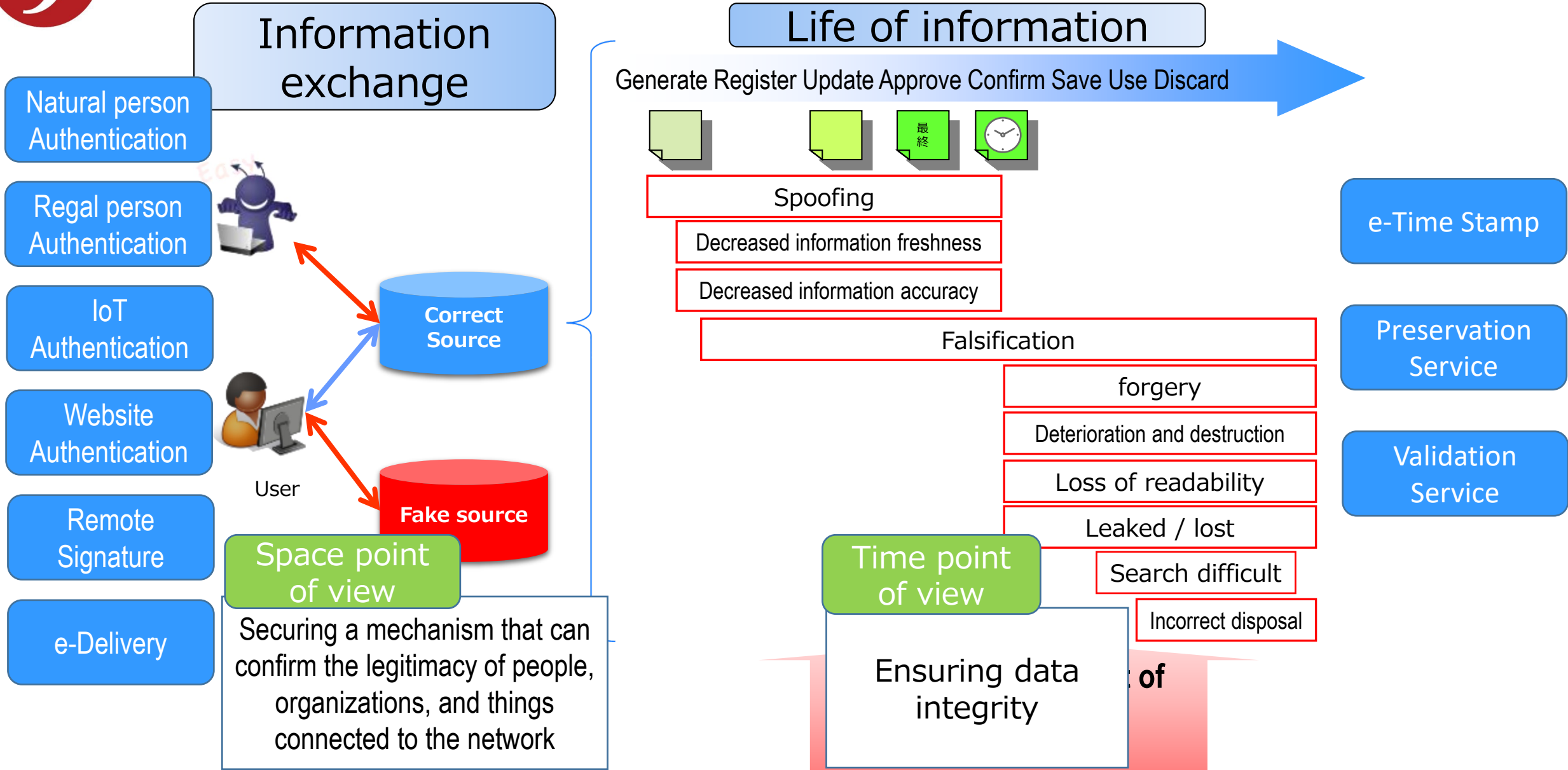
As of April. 20<sup>th</sup> 2019

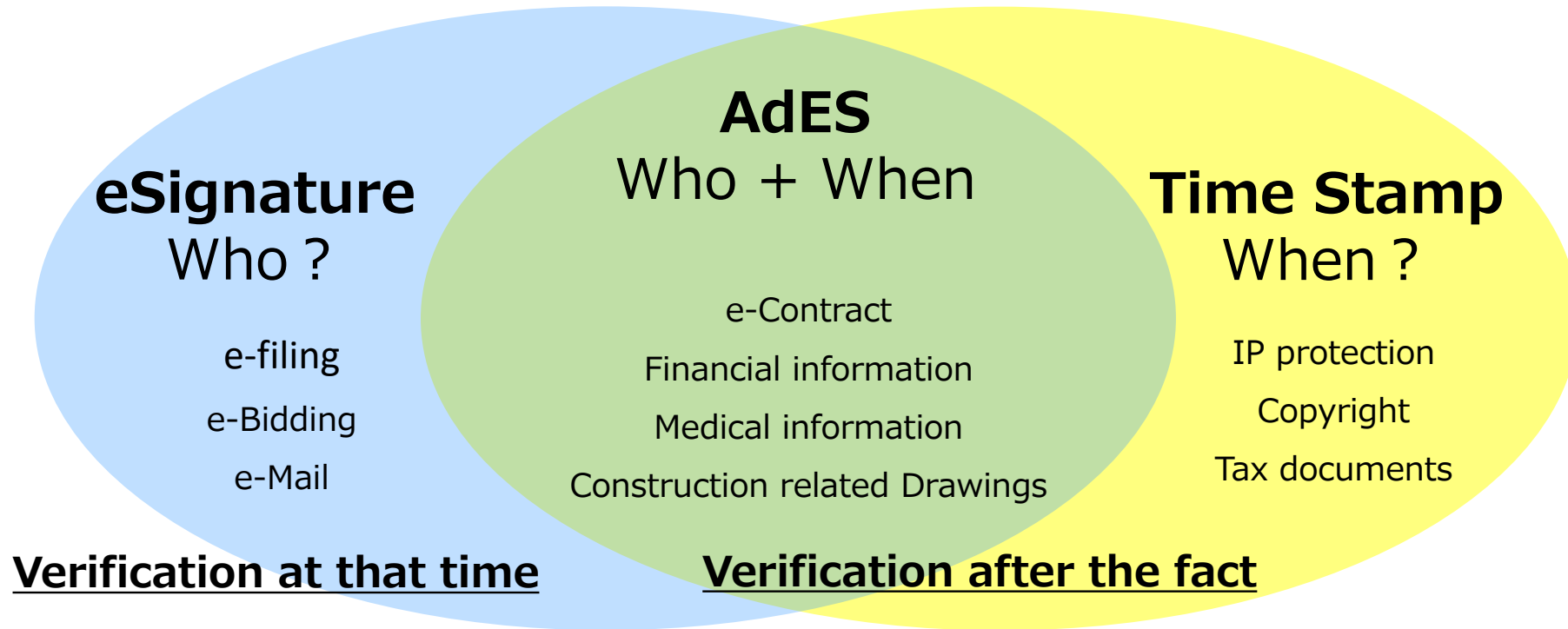
Field		Members	Special Members	Total
Academia			7	7
Industries	TSA (Time Stamp Authority) TAA (Time Assessment Authority)	8		8
	CA (Certification Authority)	8		8
	Trust Service Application Servicer	16		13
	Conformity Assessment body	1	1	2
Experts	PKI, Legal, Tax, Intellectual property		9	9
Organizations	Computer Software, IoT, PKI, CA, Document Record,		5	5

As of April. 20<sup>th</sup> 2019

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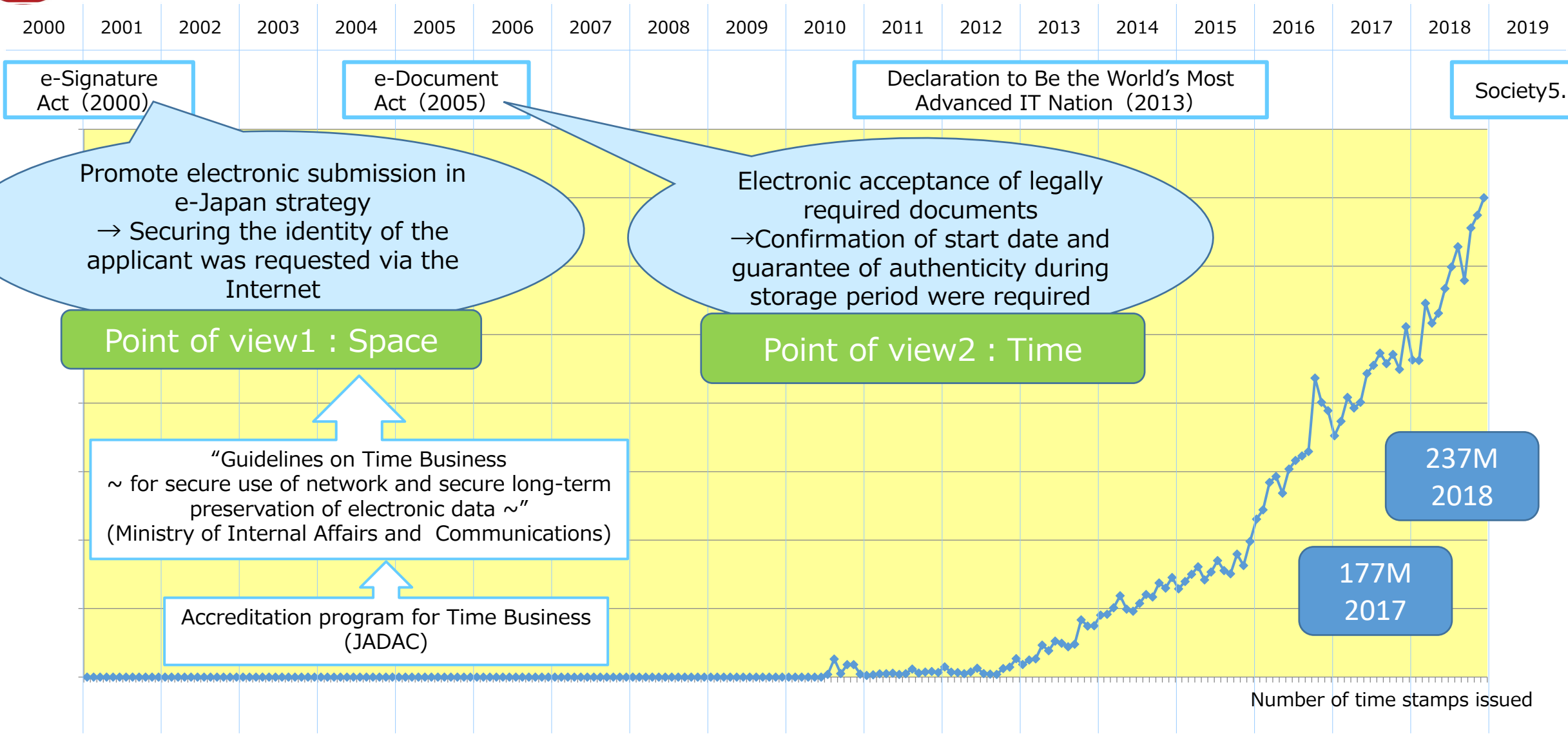




Markets	Goals	Market Size	Services	Relying Documents
Medical Information	Disposal of paper-based original doc. BCP Dispute resolution Protection of personal information	Hospital : 8,412 General clinic : 101,471 Dental clinic : 68,609 (2017.Oct)	eSignature, Timestamp	Ministry of Health Labor and Welfare "Guidelines on secure management of medical information system" Ver.5 (May 2017) Ministry of Economy, Trade and Industry "Guidelines on medical information management for Information processing service operators" (Oct 2012)
IP Protection	Dispute resolution Abusive application resolution BCP Protection of trade secrets		Timestamp	Japan Patent Office "Guidelines for the Prior User's Rights Systems" (Ver.1 Jun 2006, Ver.2 May 2016)
National tax documents	Disposal of paper-based original doc. Compliance	Number of approvals : 200,726 (Internal)Scanner : 1,846 (2017.Oct)	Timestamp	The ordinances on storage of electronic account books Art. 4: preservation of national tax related documents in electronic form (Jan 2005) Revision of its implementing Rules Art. 3 (Mar 2015, Mar 2016)
e-Contract e-Commerce Certificate-distribution	Reduction of stamp tax Reduction of postal cost Improvement of operational efficiency Reduction of printing cost		eSignature (Remote Signature), Timestamp	Tax Office Tax Answer, e-Document Law (Apr 2015) The ordinances on storage of electronic account books Art. 10: Electronic preservation of electronic commerce information (Jan 2005) Implementing Rules Art. 8 Revision (Mar 2015)
Construction related Drawings	Disposal of paper-based original doc. BCP Improvement of operational efficiency	Architect : 1,091,887 Architect office : 114,983	eSignature, Timestamp	e-Document Law: Building Standard Law, Act on Architects and Building Engineers (Apr 2005) Ministry of Land, Infrastructure, Transport and Tourism: Notification No. 177 (Construction Business Act: Oct 2008) Notification No. 394 (Building Standards Law: May 2014)



# Trend of Time Stamp number



Maintained by law

- Authentication of natural persons (e- signature Act)
- Authentication of persons delegated from corporation (e-Power of Attorney Act)

Not maintained

- Certificate of being issued from organization
- Authentication of equipment

## eSignature

Who ?

e-filing

e-Bidding

at that time

## AdES

Who + When

## Time Stamp

When ?

protection

copyright

documents

Workflow with recording has a rule (culture) by paper documents, but computerization **hesitates** to adopt because the rule is vague.

There is no provision for electronic records that require completeness over the long term.

We have time business Accreditation Program, but it is a private system and there is no legal basis.

+ TRUST

In the eJapan strategy, the main application was authentication of the person (natural person) in e-filing and bidding etc.

Subject1 : Undeveloped standard  
Is this service correct and valid?

Subject2 : Stability  
Is it okay to use the service for a long time?

Subject3 : Cross-border response  
Is it valid for overseas trading?

To realize Society 5.0, we need a trust service that guarantees the trust of the information being distributed

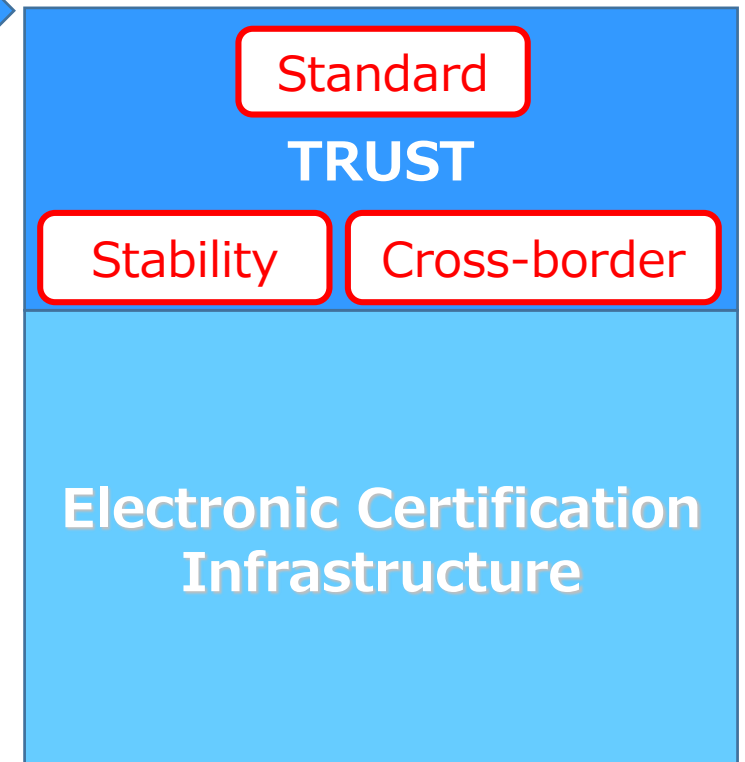
expected  
"Safety / relief" level 

## Trust Service is

- Services to realize the expected safety and security

### 【Requirement】

- Work as expected
- Believe and use without verifying myself
- Anyone can use anywhere



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## Examination of the framework of the comprehensive trust service system

### Sub1 : Standard、Sub2 : Stability

Private initiatives are often by industry or sector, and have different standards by industry,

Inhibiting the emergence of cross-industry systems and services may hamper economic development.

[1-1] Structure of maintenance and utilization of trust service

[1-2] Development of legal system to improve social safety and productivity by using trust service

[1-3] Maintenance of comprehensive conformity assessment system for trust service

## Examination about how to proceed mutual approval of trust service with foreign countries

### Sub3 : Cross-border ( International mutual recognition )

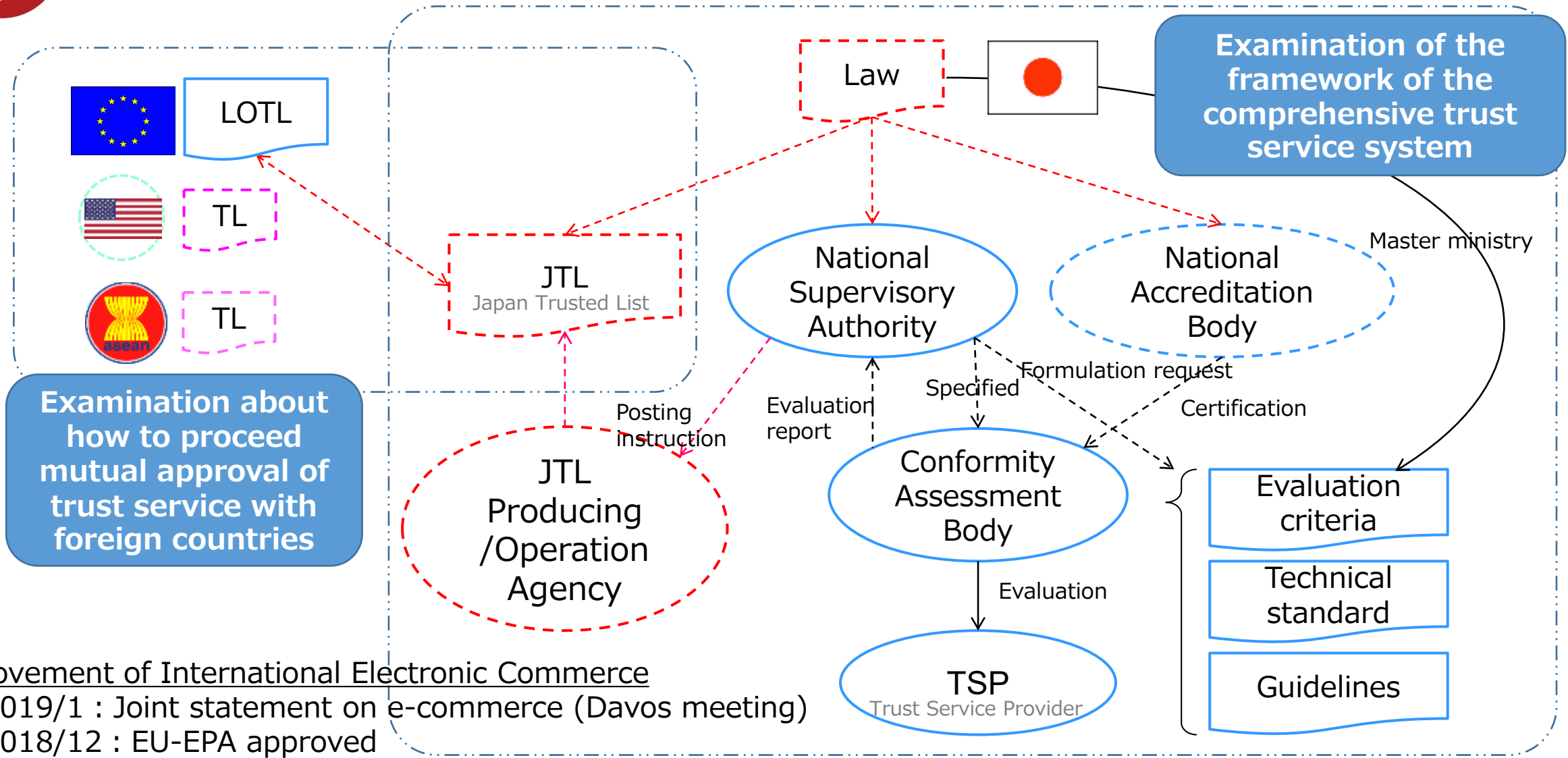
International transactions and rule-making can not be equalized without national arrangements.

Therefore, in some cases, the rules of the partner country may be compelled, and the autonomy of the country may be impaired.

[2-1] Alignment of trust service and certification frameworks

[2-2] Establishment of concrete trust service interoperability mechanism

[2-3] Organizing the position of trust service from the perspective of international commerce



Movement of International Electronic Commerce

- 2019/1 : Joint statement on e-commerce (Davos meeting)
- 2018/12 : EU-EPA approved
- 2017/7 : Adopted model law at UNCITRAL

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## Key issues

- (1) Issues concerning the difference in conditions and rules of handling user information (secrecy of communications, privacy information and so on) between Japan's telecommunications carriers and Japan's and overseas online platform services.
- (2) Issues concerning the ideal state of Japan's trust services and measures to secure interoperability with overseas countries from the viewpoint of promoting smooth data distribution utilizing online platform services in Japan and overseas countries.**
- (3) Others

## Members

- 12 people
- Chair : George Shishido (Professor, Graduate Schools for Law and Politics, the University of Tokyo)
- Other members : professors, lawyers, and so on

## Schedule

- First meeting on, October 18; second meeting on, November 5  
<Scheduled to be held sequentially>
- Planning to summarize issues by the end of FY2018.



## 「トラストサービス検討ワーキンググループ」開催要綱

**1 目的**

近年のIoTの爆発的な普及等に伴い、サイバー空間と実空間の一体化が加速的に進展しており、実空間での様々な活動がサイバー空間に置き換わる中で、その有効性を担保するためには、サイバー空間の安全性や信頼性の確保がますます重要な課題となっている。

Society5.0の基盤として、誰からの／何からのデータであるかを確認する仕組みや、データの完全性を確保する仕組みとしてのトラストサービスが不可欠であると考えられる。

このため、「プラットフォームサービスに関する研究会」の下に本ワーキンググループを設置し、我が国におけるトラストサービスに関する課題を整理し、その在り方について、検討を行う。

**2 名称**

本ワーキンググループは、「トラストサービス検討ワーキンググループ」と称する。

**3 検討事項**

- (1) 我が国のトラストサービスに係る現状と課題
- (2) 上記(1)の課題を解決するための方策
- (3) その他

**4 構成及び運営**

- (1) 本ワーキンググループの主査は、プラットフォームサービスに関する研究会の座長が指名する。
- (2) 本ワーキンググループの構成員は、別紙のとおりとする。
- (3) 主査は、本ワーキンググループを招集し、主宰する。
- (4) 主査は、必要があると認めるときは、主査代理を指名することができる。
- (5) 主査代理は、主査を補佐し、主査不在のときは主査に代わって本ワーキンググループを招集し、主宰する。
- (6) 本ワーキンググループの構成員は、やむを得ない事情により出席できない場合において、代理の者を指名し、出席させることができる。
- (7) 主査は、必要に応じ、オブザーバーを招聘することができる。
- (8) 主査は、必要に応じ、外部の関係者の出席を求め、意見を聞くことができる。
- (9) その他、本ワーキンググループの運営に必要な事項は、主査が定める。

**5 議事・資料等の扱い**

- (1) 本ワーキンググループは、原則として公開とする。ただし、主査が必要と認める場合については、非公開とする。
- (2) 本ワーキンググループで使用した資料は、原則として、総務省のウェブサイトに掲載し、公開する。ただし、公開することにより、当事者又は第三者の利益を害するおそれがある場合若しくは主査が必要と認める場合については、非公開とする。
- (3) 本ワーキンググループの議事要旨は、原則として公開とする。ただし、主査が必要と認める場合については、非公開とする。

**6 その他**

本ワーキンググループの事務局は、サイバーセキュリティ統括官室が行う。

- 1<sup>st</sup> Jan 31<sup>st</sup> 2019 : State of the Trust Service
- 2<sup>nd</sup> Feb 15<sup>th</sup> 2019 : Remote signature、PAdES
- 3<sup>rd</sup> Feb 28<sup>th</sup> 2019 : Time stamp
- 4<sup>th</sup> Mar 19<sup>th</sup> 2019 : e-Seal、e-Delivery
- 5<sup>th</sup> April 15<sup>th</sup> 2019 : Website Auth、IoT Auth
- 6<sup>th</sup> May 13<sup>th</sup> 2019 : Remote Signature

reference from

[http://www.soumu.go.jp/main\\_sosiki/kenkyu/platform\\_service/02cyber01\\_04000001\\_00016.html](http://www.soumu.go.jp/main_sosiki/kenkyu/platform_service/02cyber01_04000001_00016.html)

- TSF Annual Fee

Board Member : 500,000yen, Supporting member : 100,000yen  
(No enrollment fee required.)

- Please contact below for membership or any inquiries:

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Trust Service Forum Secretariat

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Digital can secure  
**Integrity · Authenticity · Accountability**  
of Information

