

글로벌 ICT 표준 컨퍼런스 2023

Global ICT Standards Conference 2023

(Session 1) 미래 핵심기술 표준화를 위한 ISO/IEC 전략·대응

ISO/IEC JTC 1 총괄 이슈

이승윤 센터장, ETRI

주최



과학기술정보통신부
Ministry of Science and ICT



특허청
Korean Intellectual
Property Office

주관



국립전파연구원
National Radio Research Agency



IITP

KEA

kista

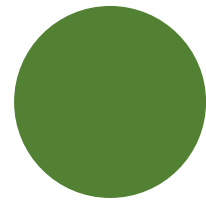
ETRI

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01 JTC 1 현황

01. JTC 1 현황

ISO and IEC Joint Technical Committee (JTC 1)
for information technology, is a consensus-based,
voluntary international standards group

ACTIVITIES

- Design and development of IT systems and tools
- Performance and quality of IT products and systems
- Security of IT systems and information
- Portability of application programs
- Interoperability of IT products and systems
- Unified tools and environments
- Harmonized IT vocabulary
- User friendly and ergonomically designed user interfaces

<https://jtc1info.org/>

01. JTC 1 현황

Vision

To improve the lives of everyone on the planet through the development and delivery of international standards for IT, which make everything smarter, better connected, more reliable and trustworthy.

Mission

The mission of JTC 1 is to provide information technology standards that are applicable **across domains** (sometimes referred to as horizontal or foundational standards), and to work together with ISO and IEC technical committees that are utilizing IT to develop **domain specific standards**.

Ensuring that JTC 1 standards are globally recognized, **enable global interoperability** and **enable sustained development and retention of investment** are paramount. JTC 1 will do this by developing, maintaining, promoting and facilitating the use of IT standards that respond to the needs of many stakeholders, including consumers, businesses, governments, and other organizations.



Vision, mission and principles



01. JTC 1 현황

ISO and IEC Joint Technical Committee (JTC 1)

23

Subcommittee

5

Working Group

7

Advisory Group

3

Ah-hoc Group

<https://jtc1info.org/technology/>

01. JTC 1 현황

23

Subcommittee

5

Working Group

7

Advisory Group

3

Ad-Hoc Group

▶ JTC 1 구조 (2023.10월 현재)

1. JTC 1/SC 2 - Coded character sets
2. JTC 1/SC 6 - Telecommunications and information exchange between systems
3. JTC 1/SC 7 - Software and systems engineering
4. JTC 1/SC 17 - Cards and security devices for personal identification
5. JTC 1/SC 22 - Programming languages, their environments and system software interfaces
6. JTC 1/SC 23 - Digitally recorded media for information interchange and storage
7. JTC 1/SC 24 - Computer graphics, image processing and environmental data representation
8. JTC 1/SC 25 - Interconnection of information technology equipment
9. JTC 1/SC 27 - Information security, cybersecurity and privacy protection
10. JTC 1/SC 28 - Office equipment
11. JTC 1/SC 29 - Coding of audio, picture, multimedia and hypermedia information
12. JTC 1/SC 31 - Automatic identification and data capture techniques
13. JTC 1/SC 32 - Data management and interchange
14. JTC 1/SC 34 - Document description and processing languages
15. JTC 1/SC 35 - User interfaces
16. JTC 1/SC 36 - Information technology for learning, education and training
17. JTC 1/SC 37 - Biometrics
18. JTC 1/SC 38 - Cloud computing and distributed platforms
19. JTC 1/SC 39 - Sustainability, IT and data centres
20. JTC 1/SC 40 - IT service management and IT governance
21. JTC 1/SC 41 - Internet of things and digital twin
22. JTC 1/SC 42 - Artificial intelligence
23. JTC 1/SC 43 - Brain-computer interfaces

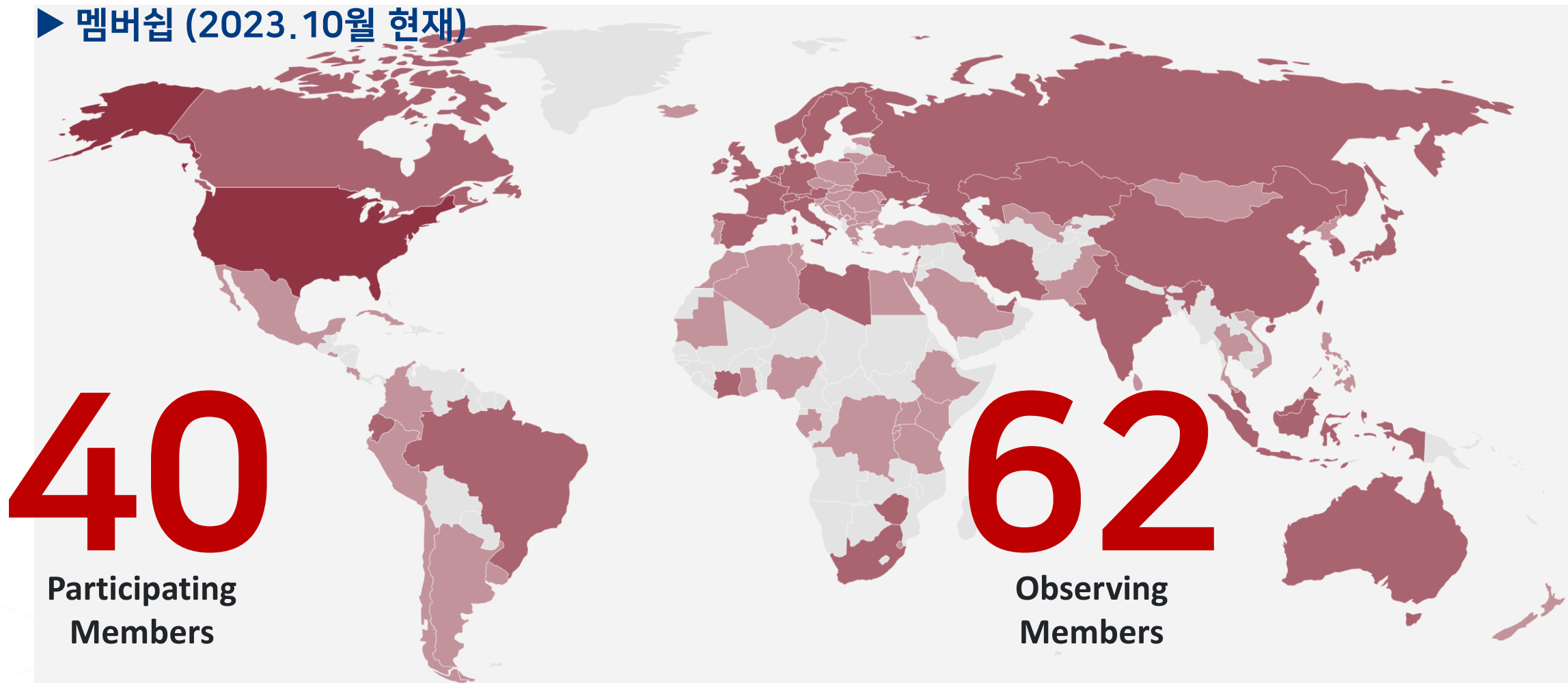
1. JTC 1/WG 11 - Smart cities
2. JTC 1/WG 12 - 3D Printing and scanning
3. JTC 1/WG 13 - Trustworthiness
4. JTC 1/WG 14 - Quantum Computing
5. JTC 1/WG 15 - JTC 1 Vocabulary

1. JTC 1/AG 1 - Advisory Group on Communications
2. JTC 1/AG 2 - Advisory Group on JTC 1 Emerging Technology and Innovation (JETI)
3. JTC 1/AG 14 - Systems Integration Facilitation (SIF)
4. JTC 1/AG 15 - Standards and Regulations
5. JTC 1/AG 19 - Coordination with ISO TC 20/SC 16 on Unmanned Aircraft Systems (UAS)
6. JTC 1/AG 20 - Coordination with ISO/TC 268/SC 1 on Smart Community Infrastructures
7. JTC 1/AG 21 - JTC 1 Strategic Direction

1. JTC 1/AHG 4 - Collaboration across domains
2. JTC 1/AHG 5 - JTC 1 Standards Made Freely Available
3. JTC 1/AHG 7 - Supplement Alignment
4. JTC 1/JAG - JTC 1 Advisory Group

01. JTC 1 현황

▶ 멤버십 (2023.10월 현재)



This map is designed to visually demonstrate the geographic distribution of our Members. The boundaries shown do not imply an official endorsement or acceptance by ISO.

01. JTC 1 현황

▶ 표준개발 현황 (2023.10월 현재)

ISO and IEC Joint Technical Committee (JTC 1)

3430

published ISO standards

494

ISO standards
under development

40

Participating members
(P-members)

62

Observing members
(O-members)

<https://www.iso.org/committee/45020.html>

01. JTC 1 현황

▶ PAS 현황 (2023.10월 현재)

ISO and IEC Joint Technical Committee (JTC 1)

PAS Submitters

[Eclipse Foundation](#) 


[Khronos Group](#) 

[OMG](#) 

[The Open Group](#) 

[DMTF](#) 

[NESMA](#) 

[Open Geospatial
Consortium \(OGC\)](#) 

[Trusted Computing
Group \(TCG\)](#) 


[GS1](#) 

[OASIS](#) 

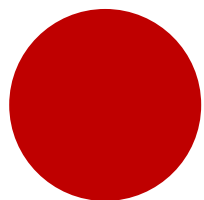
[SMPTE](#) 

[W3C](#) 

[JDF](#) 

[Open Connectivity
Foundation \(OCF\)](#) 

[SNIA](#) 



02 JTC 1 주요 이슈 및 현안

02. JTC 1 주요 이슈 및 현안

▶ 우리나라 의장단 현황 | 간사국, 의장/컨비너



- 간사국 3개 ▶ SC 6, SC 36, SC 41
- SC 의장 2석 ▶ SC 6, SC 24
- 컨비너 21석 (18명)

02. JTC 1 주요 이슈 및 현안

▶ JTC 1-K 전문위원회 대응현황

1. JTC 1/SC 2 - Coded character sets
2. [JTC 1/SC 6 - Telecommunications and information exchange between systems](#)
3. JTC 1/SC 7 - Software and systems engineering
4. [JTC 1/SC 17 - Cards and security devices for personal identification](#)
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15. [JTC 1/SC 35 - User interfaces](#)
16. [JTC 1/SC 36 - Information technology for learning, education and training](#)
17. [JTC 1/SC 37 - Biometrics](#)
18. [JTC 1/SC 38 - Cloud computing and distributed platforms](#)
19. [JTC 1/SC 39 - Sustainability, IT and data centres](#)
20. [JTC 1/SC 40 - IT service management and IT governance](#)
21. [JTC 1/SC 41 - Internet of things and digital twin](#)
22. [JTC 1/SC 42 - Artificial intelligence](#)
23. [JTC 1/SC 43 - Brain-computer interfaces](#)

1. JTC 1/WG 11 - Smart cities
2. [JTC 1/WG 12 - 3D Printing and scanning](#)
3. JTC 1/WG 13 - Trustworthiness
4. JTC 1/WG 14 - Quantum Computing
5. JTC 1/WG 15 - JTC 1 Vocabulary

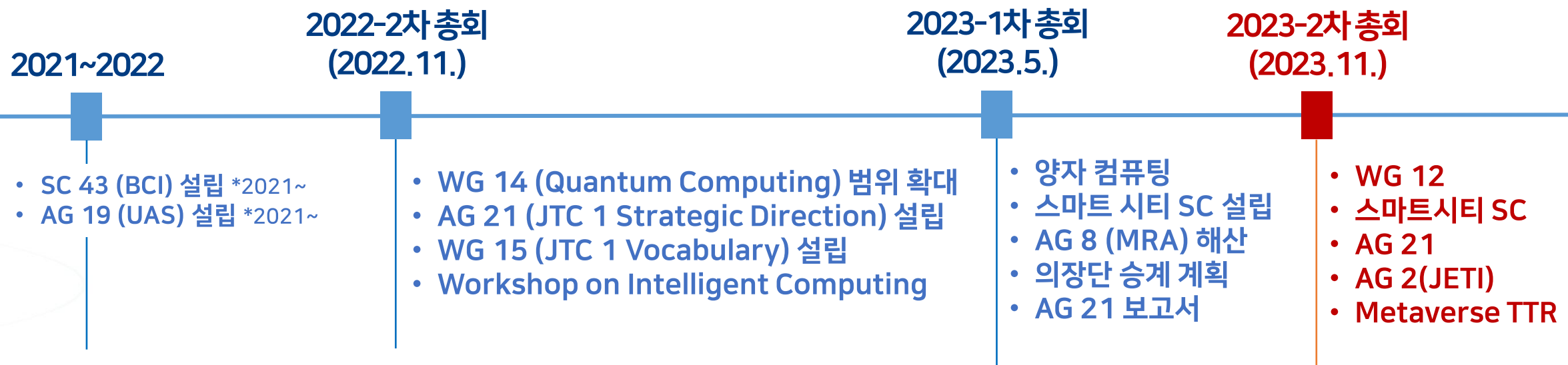
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 7. [JTC 1/AG 21 - JTC 1 Strategic Direction](#)

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1. JTC 1/AHG 4 - Collaboration across domains
 2. JTC 1/AHG 5 - JTC 1 Standards Made Freely Available
 3. [JTC 1/AHG 7 - Supplement Alignment](#)
 4. JTC 1/JAG - JTC 1 Advisory Group

02. JTC 1 주요 이슈 및 현안

▶ 현안이슈 (2022~2023)

AG 21 | JTC 1 Strategic Direction
UAS Smart Cities **WG 12** | 3D Printing & Scanning
BCI Quantum Computing **AG 2** | JETI **Metaverse**



02. JTC 1 주요 이슈 및 현안

- ▶ 현안이슈 | 뇌컴퓨터 인터페이스(BCI) & 무인비행시스템(UAS)

**Brain-Computer Interface
(BCI)**

SC 43 (2021~)

**Unmanned Aircraft System
(UAS)**

Coordination with ISO TC 20/SC 16

AG 19 (2021~)

02. JTC 1 주요 이슈 및 현안

▶ 현안이슈 | 양자컴퓨팅

Quantum Computing

New JTC (JTC Q) ? WG 14 (Quantum Information Technology)

02. JTC 1 주요 이슈 및 현안

▶ 현안이슈 | 스마트시티

Smart Cities

New SC in JTC 1 ?

SMB/TMB voting

02. JTC 1 주요 이슈 및 현안

▶ 현안이슈 | JTC 1 전략방향

AG 21 – JTC 1 Future Direction

Future of Work Group

02. JTC 1 주요 이슈 및 현안

▶ 현안이슈 | 3D 프린팅 & 스캐닝

WG 12 – 3D Printing & Scanning

Challenge

Opportunities

02. JTC 1 주요 이슈 및 현안

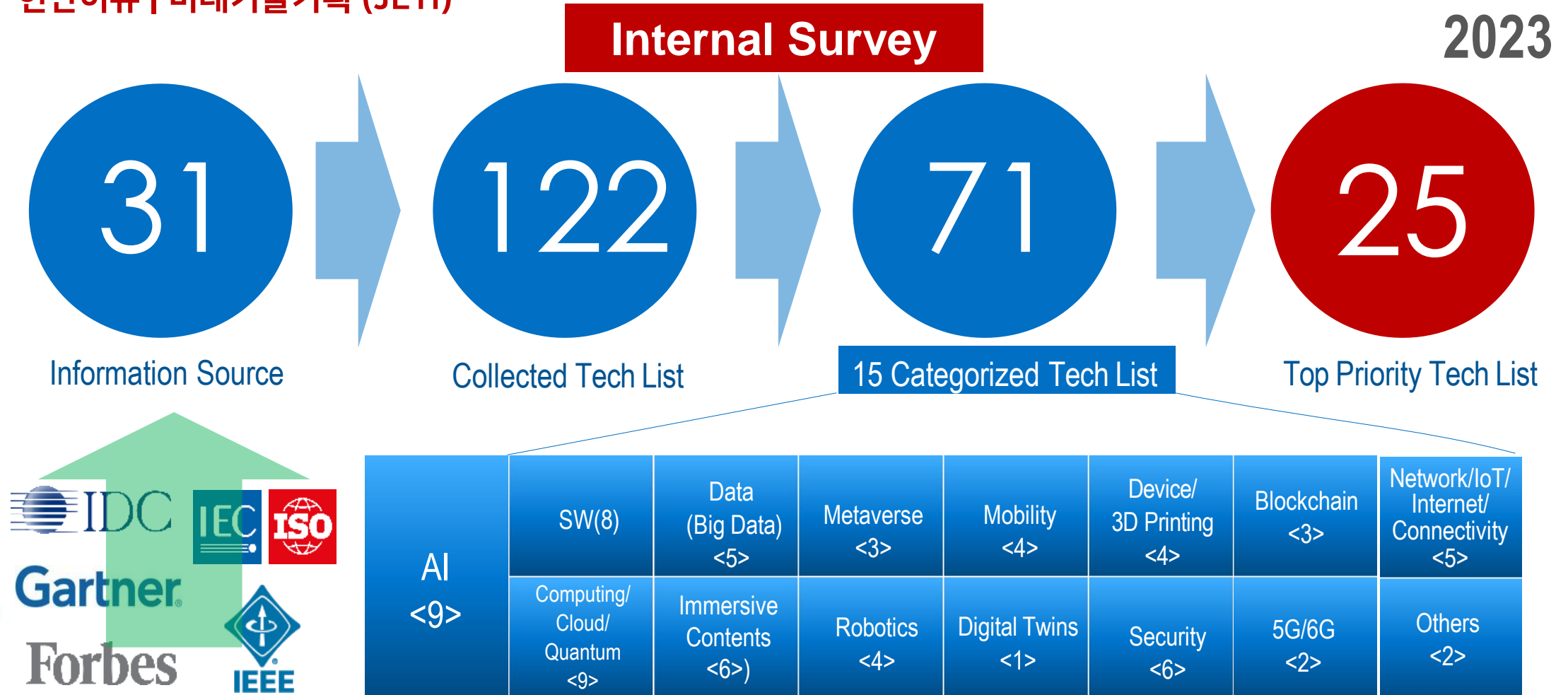
▶ 현안이슈 | 미래기술기획 (JETI)

AG 2 - JETI

New Emerging Topic

02. JTC 1 주요 이슈 및 현안

▶ 현안이슈 | 미래기술기획 (JETI)



02. JTC 1 주요 이슈 및 현안

▶ 현안이슈 | 미래기술기획 (JETI)

2023 JETI's Top 25 Priority Technologies (FINAL)

2023 Top 25 priority technologies

No.	2023 Emerging Technology	Category	Comparison with 2022*
1	AI and ML (Machine Learning)	AI	AI Engineering
2	Applied AI	AI	AI Engineering
3	Generative AI	AI	AI Engineering
4	Blockchain (Technology, Knowledge)	Blockchain	
5	Trust with Blockchain	Blockchain	
6	Predictive analytics	Data	Datafiction
7	Data Science	Data	Datafiction
8	Smart Devices	Device & IoT	
9	Edge & Fog Computing	Future Computing	Edge Cloud
10	Cloud-native Computing	Future Computing	Cloud-native platforms
11	Industry cloud platforms	Future Computing	Edge Cloud
12	Neuromorphic computing	Future Computing	
13	Augmented Humans	Immersive Contents	Metaverse
14	Metaverse	Immersive Contents	Metaverse
15	Digital Twins	IoT & Virtual Modeling	
16	Drones (Technology)	Mobility	
17	Autonomous Vehicles	Mobility	Autonomous Vehicles
18	IoT (Internet of Things)	Network & Connectivity	
19	5G/6G Application & Service	Network & Connectivity	5G/6G
20	Robotic Process Automation (RPA)	Robotics	
21	Digital Security	Security	Data Privacy
22	Cybersecurity	Security	Data Privacy
23	Digital Trust	Security	Data Privacy
24	AI Security/Privacy	Security	Data Privacy
25	Sustainable Technologies	Sustainability	Green Tech

FINAL

Candidate
for
2023 JTC 1
Survey

02. JTC 1 주요 이슈 및 현안

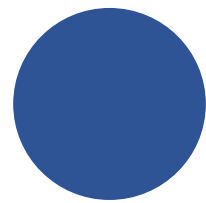
▶ 현안이슈 | 메타버스

Metaverse

Role of JTC 1

TTR development

* TTR : JTC 1/AG 2(JETI)에서 발간하는 기술동향보고서(Technology Trend Report)



03

시사점 및 대응전략

03. 시사점 및 대응전략

▶ 시사점

- JTC 1 역할 및 구조 개선 요구사항
- 표준화 기구간 협력 이슈
- 신기술 이슈 주도권 경쟁 심화
- 의장국의 역할, 중국의 약진과 경계 분위기

03. 시사점 및 대응전략

▶ 대응전략(안) | 표준선도 및 총회 대응체계 강화

- **미래 이슈 주도형 전략적 표준화 대응** (미래시장 창출 연계 및 표준선도 기반 마련)
- **국가차원(범 정부) 주요 이슈 신속 대응** (이슈 처리구조, 전문위원회 구성, 총회 대응 등)
- **이슈 관리 및 대응 체계 구축** (총회 대응 이슈 상시관리, 전문위원회 이슈 공유 및 총회 의제 연계 등)
- **유연한 전문위원회 구성 및 운영** (대응 범위에 따른 전문위원 구성 및 운영)
- **총회 대응체계 개선** (상시대응, 의제분석, 의사결정 구조 등)



감사합니다.

이승윤 센터장, ETRI
syl@etri.re.kr