

IoT and Edge Computing Standardization Challenges

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Speaker



Co-chair WG standardisation AIOTI

Standardisation topics

- Architecture
- Interoperability
- Trustworthiness (including security and privacy)
- Use cases
- Ecosystems

- IoT
- Digital twins
- AI
- Smart cities

IPEN (Internet Privacy Engineering Network) wiki:

- <https://ipen.trialog.com/wiki/ISO>

Involvement in ISO/IEC JTC1

- AG8 Meta Reference architecture
- WG13 Trustworthiness
- SC7 Software and system engineering
- SC27 Cybersecurity and privacy
- SC41 IoT and Digital Twin
- SC42 AI

Involvement in ISO

- TC215 Health Informatics
- TC22 Automotive
- PC317 Privacy-by-design for consumer goods and services

Follows ITU-T

- SG17 Security
- SG20 focus groups

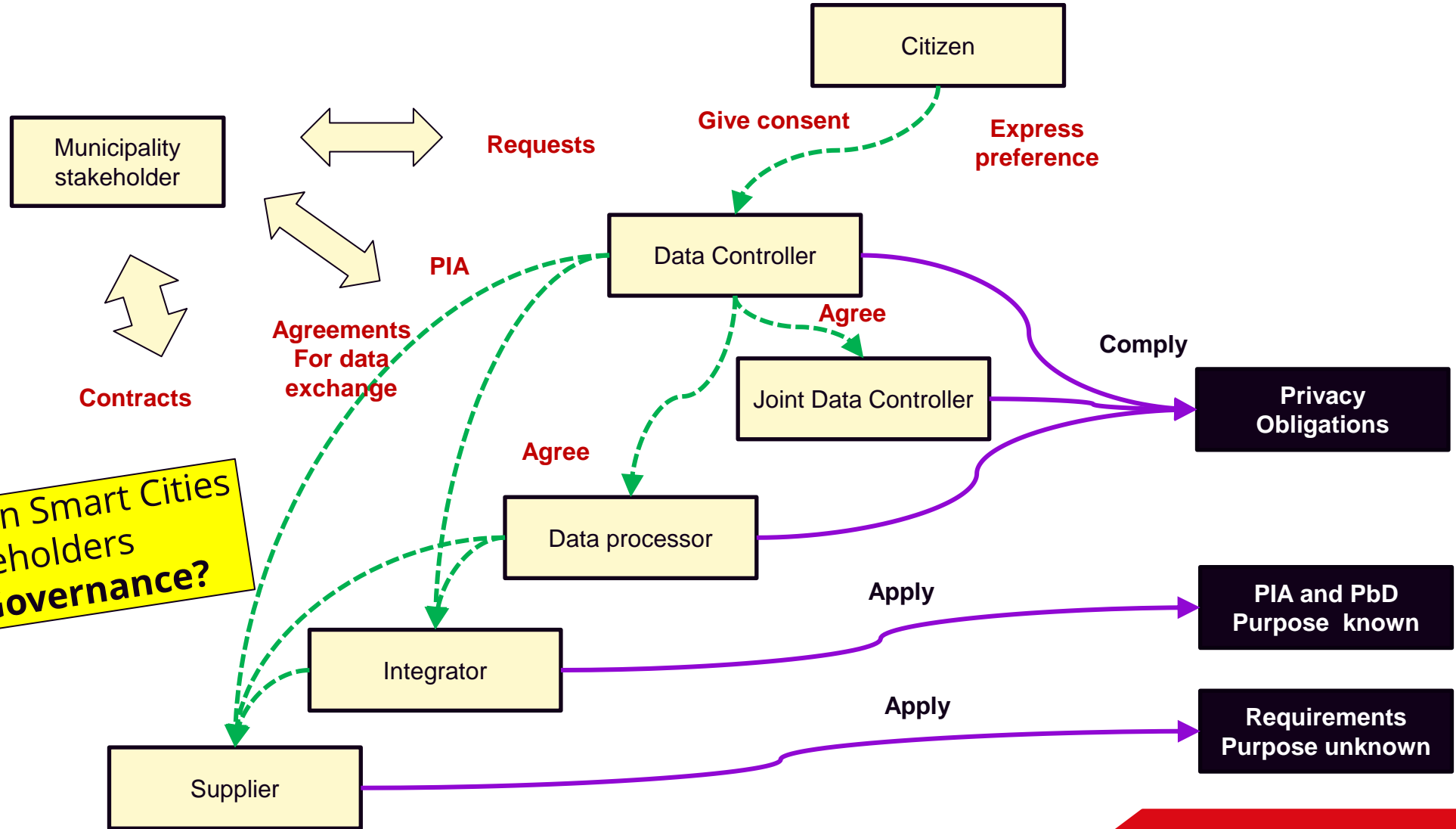
Follows CEN-CENELEC

- JTC13 Cybersecurity and data protection
- JTC21 AI

Why?

Ecosystem concern

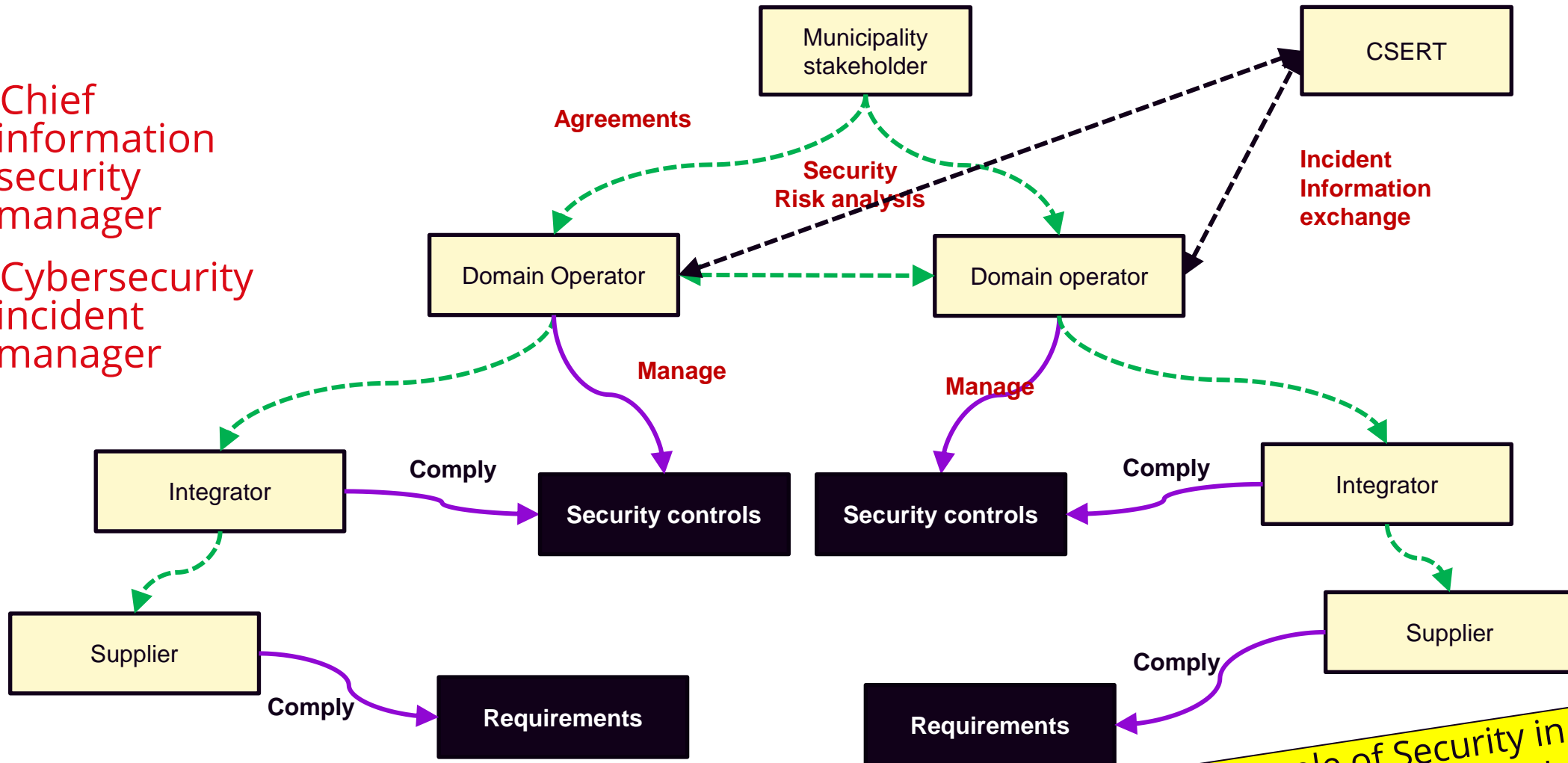
- Data controllers
- Data processors
- Integrators
- Suppliers



Example of privacy in Smart Cities
Multiple stakeholders
Coordination / Governance?

Ecosystem concern

- Chief information security manager
- Cybersecurity incident manager



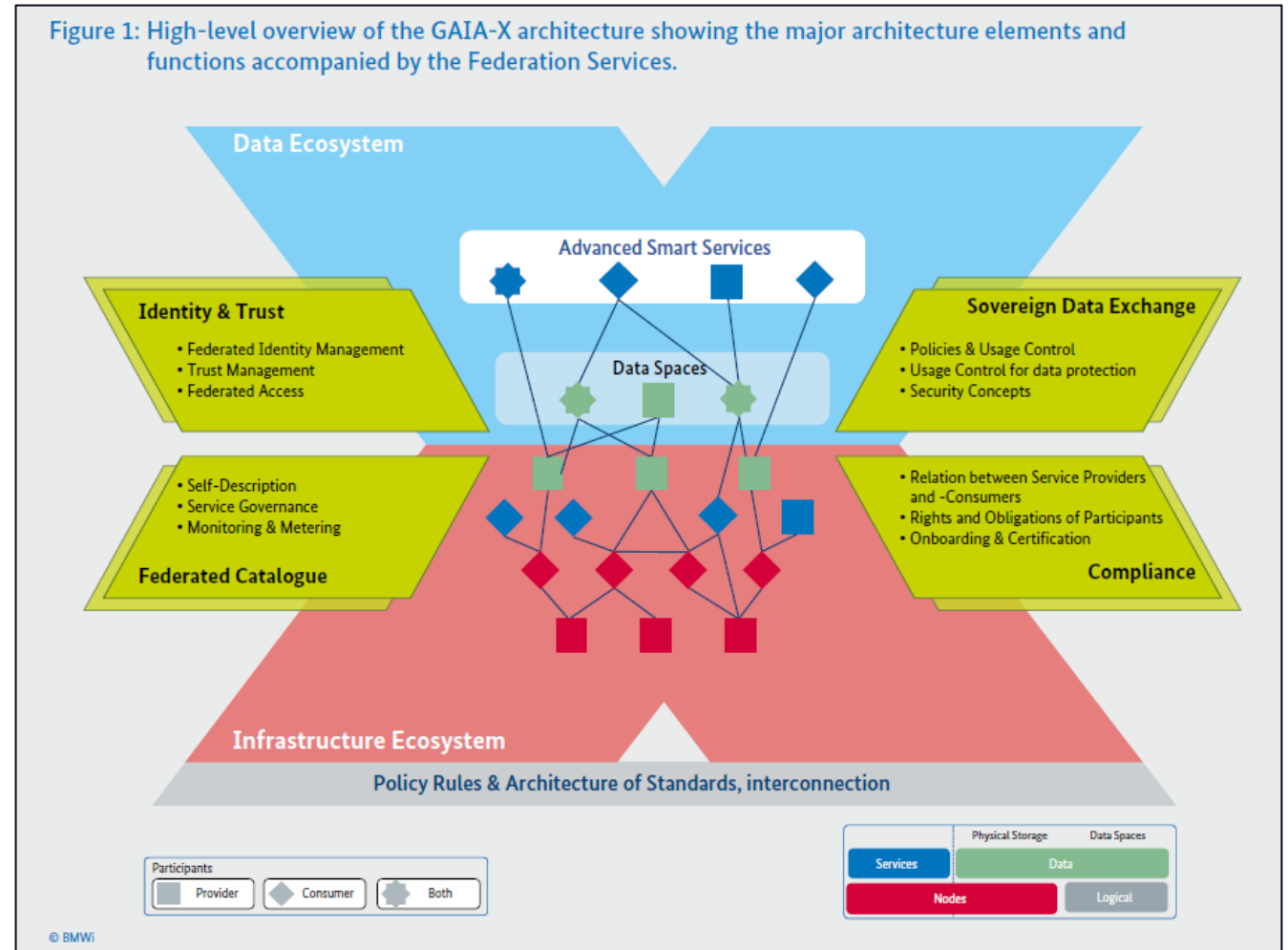
Example of Security in Smart Cities
Multiple stakeholders
Coordination / Governance?

Ecosystem concern

Data space such as GAIA-X

- https://www.data-infrastructure.eu/GAIA-X/Navigation/EN/Home/home.html

Example of Data space
Multiple stakeholders
Coordination / Governance?



Standardisation development and interoperability challenges for IoT and Edge computing

Challenge: ecosystem governance

- E.g. Data sovereignty

Challenge: ecosystem architecture

- E.g. combining IoT with digital twins

Challenge: ecosystem lifecycle

- E.g. AI lifecycle + Digital twin lifecycle

Challenge: ecosystem trustworthiness and assurance

- E.g. security, privacy, safety, ethics, responsibility, sustainability, resilience

Take an ecosystem viewpoint

Standardisation Ads

- IPEN (Internet Privacy Engineering Network) wiki on privacy standards
 - <https://ipen.trialog.com/wiki/ISO>
- Standardisation landscape reports
 - EU Observatory for ICT standardization (<https://www.standict.eu/euos>)
 - AI Landscape report published
 - Digital twin report to be published this year
 - Block chain report to be published this year
- IEC Academic workshop on digital twins
 - Experts invited to influence future digital twins standards are invited
 - Contact workshop chair (Antonio.kung@Trialog.com)
 - 16 September 15.00-18.00 : use cases
 - 21 September 09.00-12.00 : concepts
 - 23 September 15.00-18.00 : architecture
 - 28 September 09.00-12.00 : integration



Thanks



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