

IoT Week 2022



IoT and Edge computing as enabling technology for data spaces

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Speaker



CEO Trialog

- IoT systems: Smart meters, Vehicle charging, Connected vehicles

Standardisation

- ISO/IEC, ISO, ITU-T, CEN-CENELEC, ETSI (through IRT SystemX)
- Architecture, IoT, Digital twin, AI, Security and Privacy

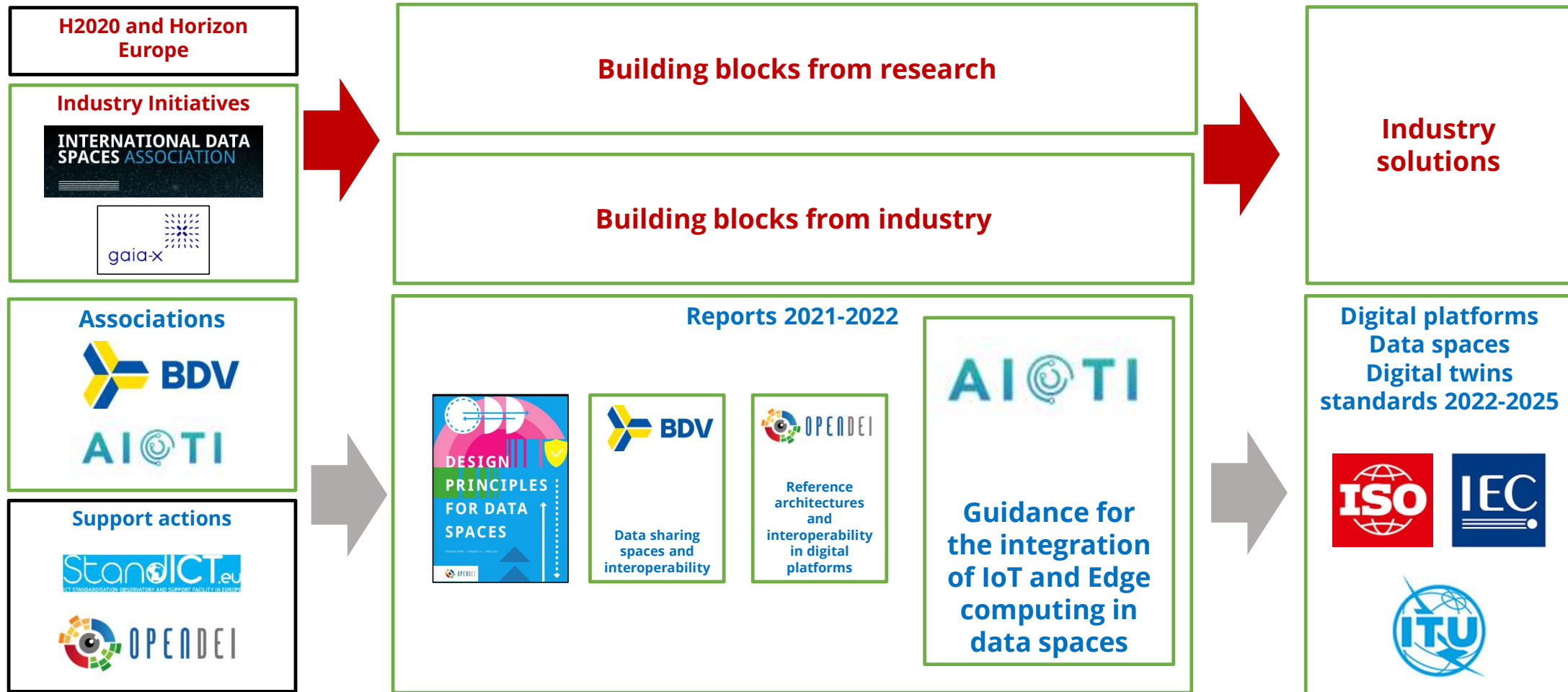
ISO/IEC JTC 1/SC 41 IoT and digital twin

AIOTI

- Co-chair AIOTI WG3 Standardisation
- Liaison officer AIOTI to JTC 1/SC 41



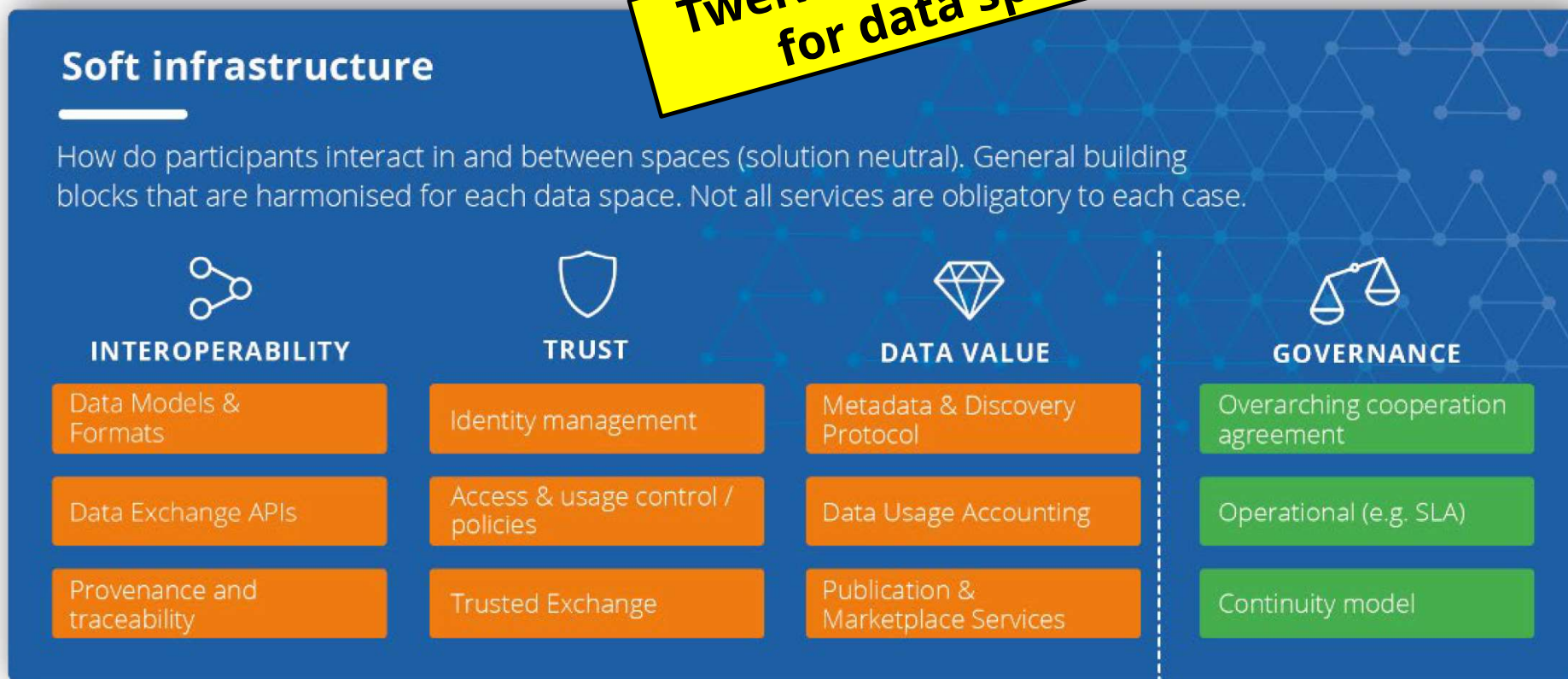
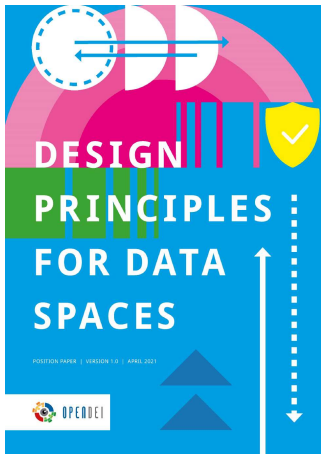
Context: Data Space Initiative for Standardisation



Context: Design Principles for Data Spaces



Twelve building blocks for data spaces



 Technical Building Blocks

 Governance Building Blocks

Context: Data Sharing Spaces and Interoperability



Data sharing spaces and interoperability

BDVA

Draft white paper version for internal consultation



Table of content

1	Scope	1
2	Introduction	1
3	Context	2
3.1	Definitions.....	2
3.1.1	Data and metadata	2
3.1.2	Interoperability and portability.....	3
3.1.3	Data spaces	3
3.2	Interoperability in data spaces	6
3.2.1	Ecosystems and interoperability	6
3.2.2	Data lifecycle	9
4	Value of Metadata Interoperability	11
4.1	Enabling the Data Sharing Value Wheel	11
4.2	Enabling FAIR Data	12
4.3	Enabling Governance	12
4.4	Empowering People	12
4.5	Improving Organisation Operations	13
4.6	Technology Enablers	13
5	The Mechanics of Metadata Interoperability	14
5.1	Creating knowledge on data	14
5.2	Representing Knowledge on the Web	15
5.3	Organising Interoperable Exchange	16
5.4	Acquiring Metadata Automatically	16
6	Metadata interoperability for data sharing spaces	17
6.1	Overview of viewpoints	17
6.1.1	Interoperability Framework Viewpoint.....	17
6.1.2	Smart City Viewpoint	18
6.1.3	Cyber Physical Systems Viewpoint.....	18
6.1.4	AI viewpoint	19
6.2	Towards an inventory of metadata information	20
7	Relation to Architectures	20
7.1	IDS Reference Architecture	20
7.1.1	Overall Characteristics	20
7.1.2	Interoperability	22
7.1.3	Metadata Interoperability.....	23
7.2	GAIA-X Reference Architecture.....	23
7.2.1	Overall characteristics	23
7.2.2	Interoperability	27
7.2.3	Metadata interoperability.....	28
7.3	FIWARE Reference Architecture	28
7.3.1	Overall Characteristics	28
7.3.2	Interoperability	29
7.3.3	Metadata interoperability.....	29
7.4	PLATOON Research Project.....	30
7.4.1	Overall characteristics	30
7.4.2	Interoperability	31
7.4.3	Metadata interoperability.....	31
7.5	InterConnect Research Project	31

7.5.1	Overall characteristics	31
7.5.2	Interoperability	32
7.5.3	Metadata interoperability.....	33
7.6	SmartBear Research Project	34
7.6.1	Overall characteristics	34
7.6.2	Interoperability	35
7.6.3	Metadata interoperability.....	35
7.6.4	Use case	35
8	Data Space Use Cases	36
8.1	Agriculture	36
8.2	Renewable energy	36
8.3	Health.....	37
8.4	Industry 4.0	37
8.5	Smart living	38
	Recommendations	39

Metadata interoperability in data spaces

Need for Metadata inventory

Context: Reference Architectures and Interoperability in Digital Platforms



**Final Event Workshop
Brussels 27th October**
<https://www.opendei.eu/event/open-dei-communitys-success-celebration/>

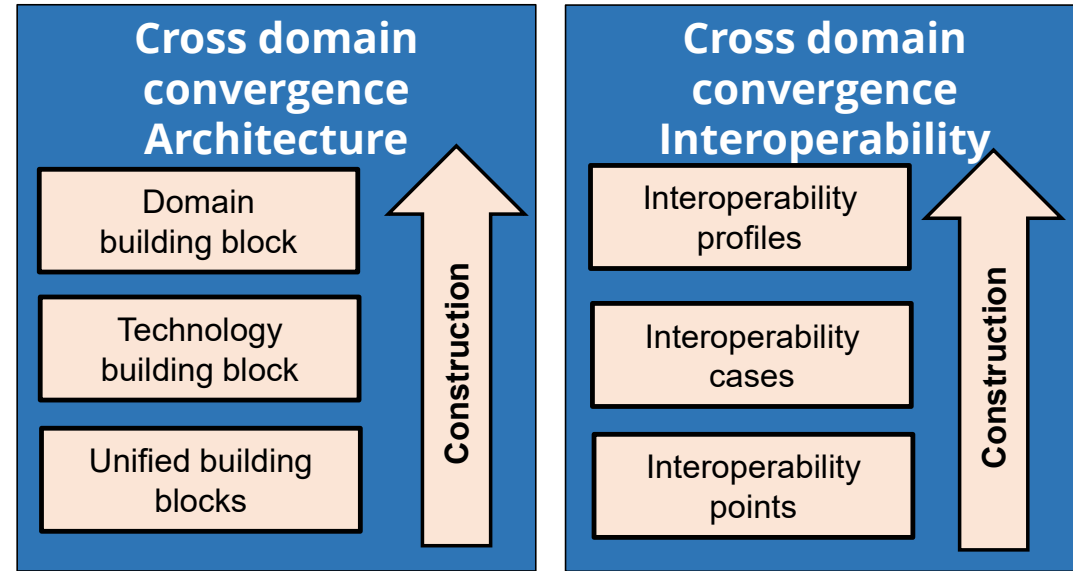
TABLE OF CONTENTS

1	Introduction	7
1.1	Structure of Position Paper	7
1.2	Acknowledgement	7
2	Aligning Digital Platforms for DEI	9
2.1	Context	9
2.2	Reference Architectures	9
2.2.1	OPEN DEI Reference architecture framework	9
2.2.2	Digital Platforms Convergence - DSBA Initiative	11
2.2.3	Purpose of Reference Architectures	11
2.2.4	Building an architecture	13
2.3	Interoperability Frameworks	13
2.3.1	Purpose of Interoperability Frameworks	13
2.3.2	Building Interoperability	16
2.3.3	Hyperdimensional Interoperability	18
2.4	Topics of Interest for Federated Platforms	21
2.4.1	Trustworthiness	21
2.4.2	Universal resource management	22
2.4.3	Digital twin and AI integration	25
2.4.4	Semiotic approach to support cyber physical systems	27
2.4.5	Interoperability approaches	28
2.4.6	Executable policies for digital governance	30
2.5	Aligning with Solutions	31
3	Reference Architectures and Interoperability for Digital Manufacturing Platforms	32
3.1	Context for Manufacturing	32
3.2	Reference Architectures for Manufacturing	32
3.3	Interoperability Frameworks for Manufacturing	35
3.4	Aligning the Manufacturing domain for DEI	36
4	Reference Architectures and Interoperability for Digital AgriFood Platforms	37
4.1	Context for AgriFood	37
4.2	Reference Architectures for AgriFood	37
4.3	Interoperability Frameworks for AgriFood	46
4.4	Aligning the AgriFood Domain for DEI	48
5	Reference Architectures and Interoperability for Digital Energy Platforms	49
5.1	Context for Energy	49
5.2	Reference Architectures for Energy	49
5.3	Interoperability Frameworks for Energy	50
5.4	Aligning the Energy Domain for DEI	51
6	Reference Architectures and Interoperability for Digital Health & Care Platforms	53
6.1	Context for Health and Care	53
6.2	Reference Architectures for Health and Care	55
6.3	Interoperability Frameworks for Health and Care	56
6.4	Aligning the Health and Care domain for DEI	57
6.5	Example of InteropEHRate Research Project	60
7	Conclusion and Recommendations	62



Construct architecture for cross-domain

Construct interoperability for cross-domain



Context: Standardization Actions for Data Spaces



IoT and Digital Twins

- ISO/IEC JTC 1/SC 41
- Led by AIOTI
- Focus: the role of IoT and Edge in data spaces
- Creation of Advisory Group 31
 - Impact of standardization activities of other groups on S
 - Convenor (Antonio Kung)
 - Liaison with ITU-T SG20

Artificial Intelligence

- ISO/IEC JTC 1/SC 42
- Led by BDVA
 - Towards a family of data space related standards

Establishment of an AG on Impact of standardization activities of other groups on SC 41

416. Noting
- AIOTI request to address topics on the impact of AI / data on IoT and digital twin (SC 41 N2003),
 - Support from France, Ireland, Norway, Finland, Korea, US, Switzerland, Spain, Germany,
 - Interest of the ITU-T SG20 liaison officer, and
 - Sweden request to ensure proper management of external liaisons
- JTC 1/SC 41 instructs its Committee Manager to do whatever is required to create an advisory group on Impact of standardization activities of other groups on SC 41
- Convenor:** Antonio Kung (France)
- Terms of reference:**
- Using the SC41 liaison list, interact with liaison groups (or liaison officers where there is no liaison group) to help identify standards, organizations and topics of interest to SC 41 and maintain a catalogue of such information.
 - Take into account topics suggested by SC 41 N2003: AI and data as well as sensor data quality management issues identified in SC 41 N2032
 - Provide recommendations on how to address the impact of those standards and topics to SC 41
 - Present a consolidated report of activities at each SC 41 plenary
- The AG is open to all experts of SC41. The initial members are
- Osten Franberg (SE)
 - Ray Walshe (IE)
 - Jaeho Lee (KR)
 - Asbjoern Hovsto (No)
 - Raul Garcia (ES)
 - Jan deMeer (DE)
 - Alex Samarin (CH)
 - Kate Grant (GB)
 - Karim Tobich (GB)
 - Marco Carugi (ITU-T SG20 liaison officer).
 - Sushil Kumar (IN)
 - Gargi Keeni (IN)

IoT and Edge Computing as Enabling Technology for Data Spaces

<https://aioti.eu/wp-content/uploads/2022/09/AIOTI-Guidance-for-IoT-Integration-in-Data-Spaces-Final.pdf>

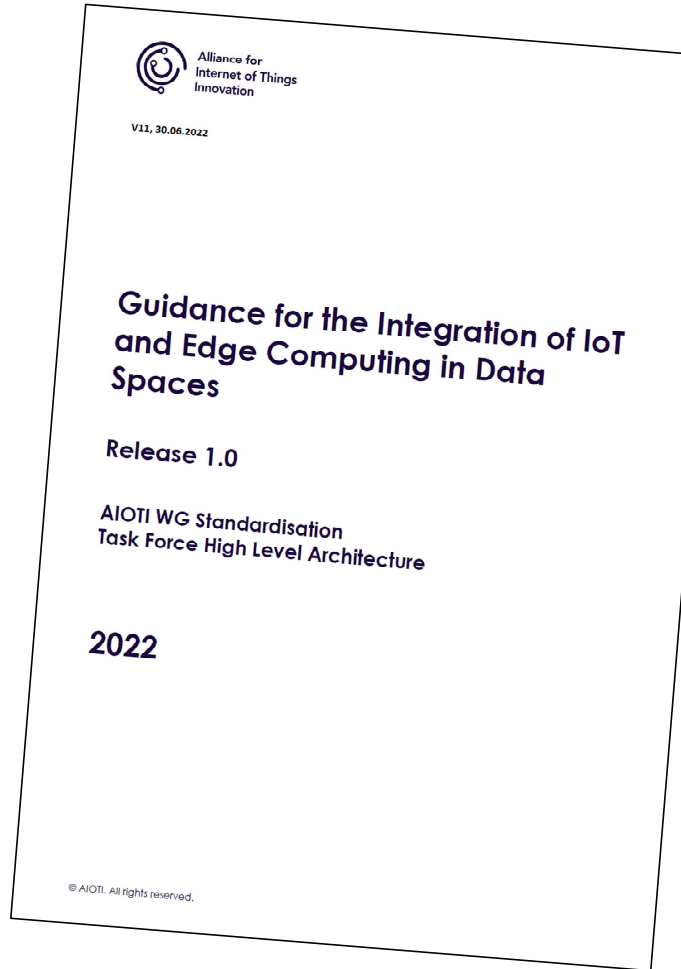


Table of Content

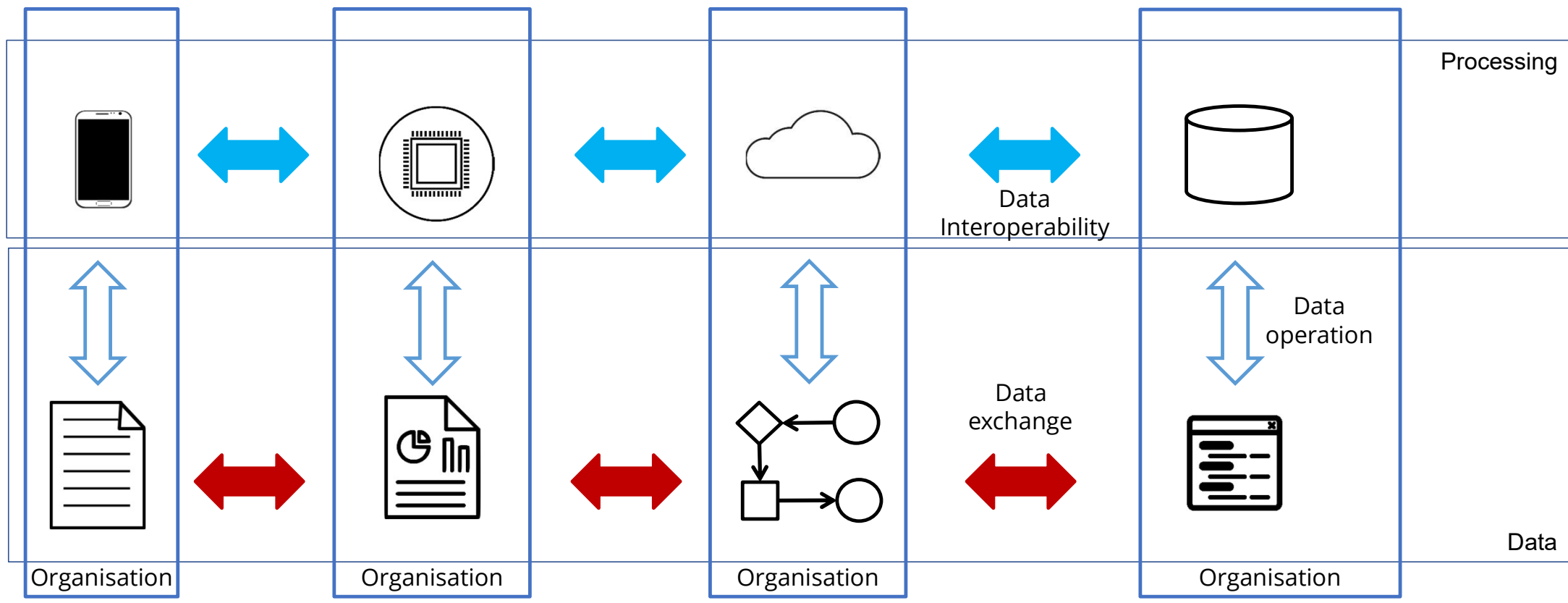
- Executive Summary 2
- Table of Figures 5
- List of Tables 6
- 1 Context 7**
 - 1.1 Data Spaces 7
 - 1.2 Data Spaces Principles and Challenges 9
 - 1.3 Data Spaces in the AIOTI High-Level Architecture 10
- 2 IoT and Edge Computing Data Space Reference Architecture 14**
 - 2.1 Systems-of-interest 14
 - 2.1.1 Computing Continuum Perspective 14
 - 2.1.2 Federated Systems Perspective 15
 - 2.1.3 Data Collecting and Trading Perspective 16
 - 2.2 Stakeholders 16
 - 2.3 Concerns and Properties 18
 - 2.3.1 Global concerns for data spaces 18
 - 2.3.2 Global concerns for cyber physical systems 20
 - 2.3.3 Integration concerns for edge computing and processing 21
 - 2.3.4 Impact of the Trustworthiness Concern: Full stack integrity 22
 - 2.4 Building Blocks to Address Concerns 23
 - 2.4.1 Data Governance Building blocks 23
 - 2.4.2 Cyber Physical System and Digital Twins support building blocks 23
 - 2.4.3 Trustworthiness support building blocks 23
 - 2.4.4 Interoperability support building blocks 23
 - 2.4.5 Infrastructure reconfiguration support building blocks 23
 - 2.4.6 Data Business Marketplace Building blocks 23
 - 2.4.7 Hyperdimensional Interoperability 23
- 3 Relation to Solution Architectures 23**
 - 3.1 Constructing solutions architectures 23
 - 3.2 IDSA Reference Architecture 23
 - 3.2.1 Overall Characteristics 34
 - 3.2.2 Integration of IoT and Edge Computing 37
 - 3.3 oneM2M 39
 - 3.3.1 Overall Characteristics 39
 - 3.4 ETSI (Multi-access Edge computing) 40
 - 3.4.1 Overall characteristics 40
 - 3.4.2 Integration of IoT and Edge Computing 43
 - 3.5 Flying Forward 2020 research project and the Spatial Web architecture 44
 - 3.5.1 Overall Characteristics 44
 - 3.5.2 Integration of IoT and Edge Computing 47
 - 3.6 PLATOON IoT research project 50
 - 3.6.1 Overall characteristics 50
 - 3.6.2 Integration of IoT and Edge Computing 51

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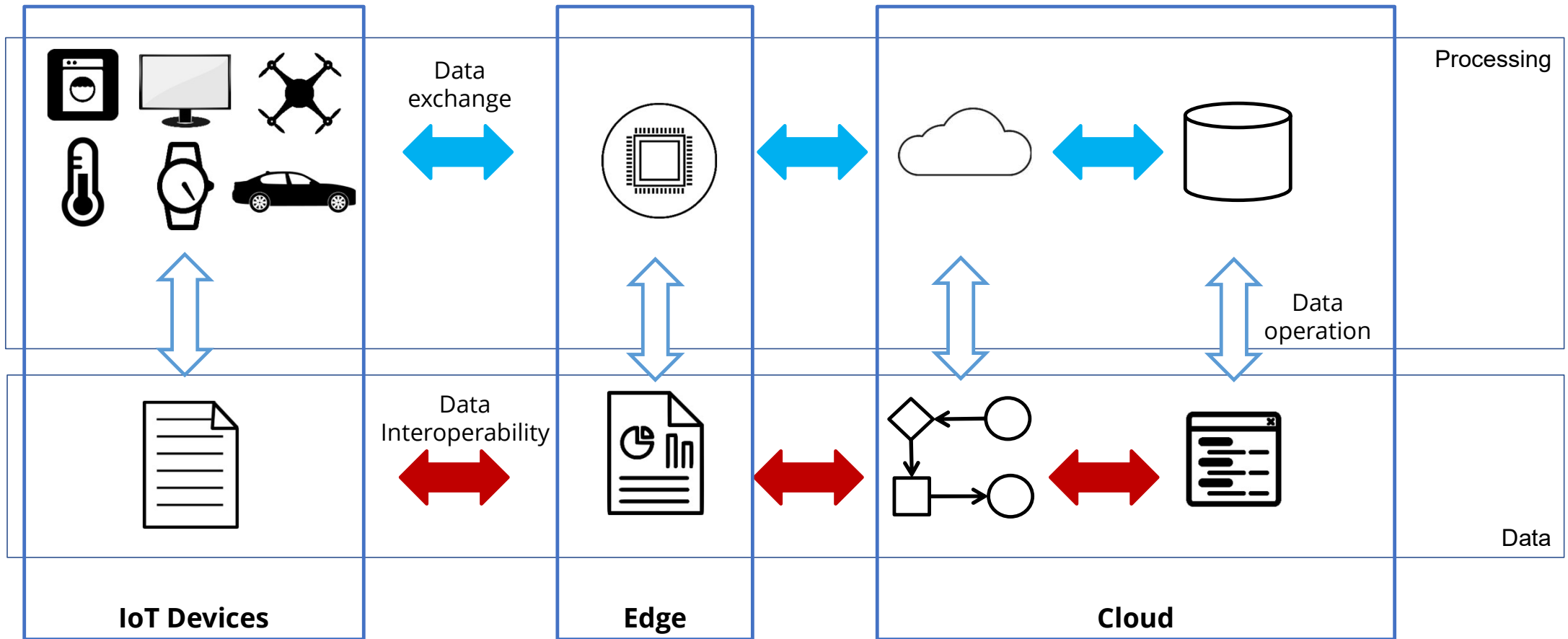
- 3.7 INTERCONNECT IoT research project 52**
 - 3.7.1 Overall characteristics 52
 - 3.7.2 Integration of IoT and Edge Computing 53
- 3.8 SMARTBear IoT research project 54**
 - 3.8.1 Overall characteristics 54
 - 3.8.2 Integration of IoT and Edge Computing 57
 - 3.8.3 Use case 57
- 3.9 ASSIST-IoT research project 58**
 - 3.9.1 Overall characteristics 58
 - 3.9.2 Integration of IoT and Edge Computing 60
 - 3.9.3 Use case 62
- 4 Recommendations for standardisation 64**
- 5 Contributors 66**
- 6 Acknowledgments 67**
- 7 About AIOTI 68**

Webinar: Promotion of
 Guidance for the Integration of IoT and Edge Computing in Data Spaces
 Wednesday, 23 November 2022
 15:00 – 16:30

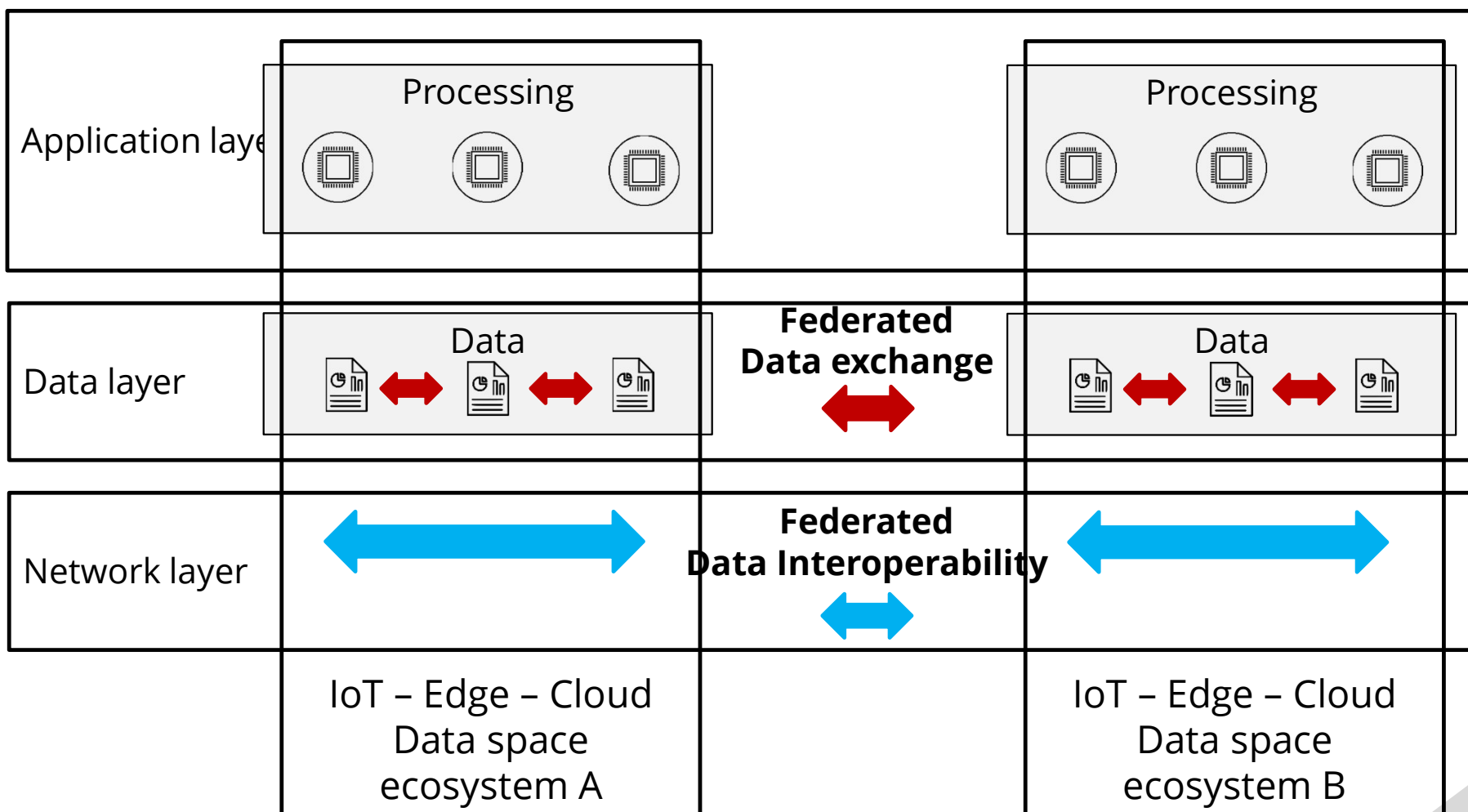
Data Space: Trustworthy Decentralized Environment for Data Sharing



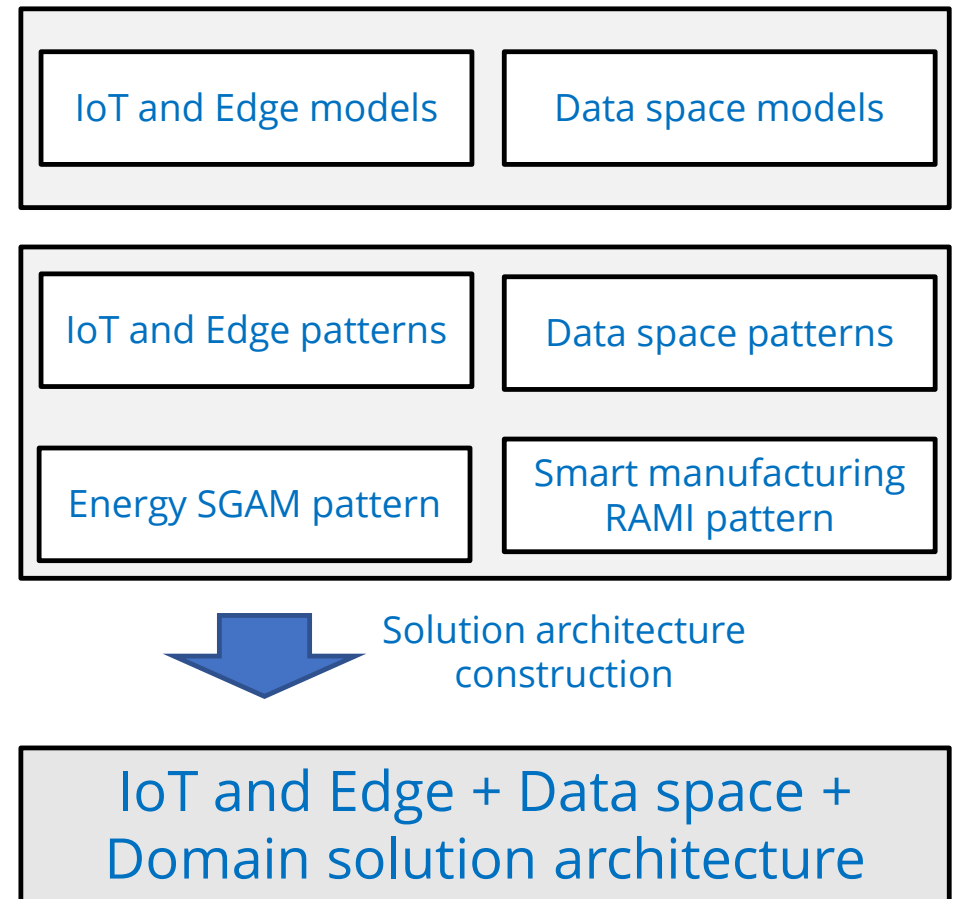
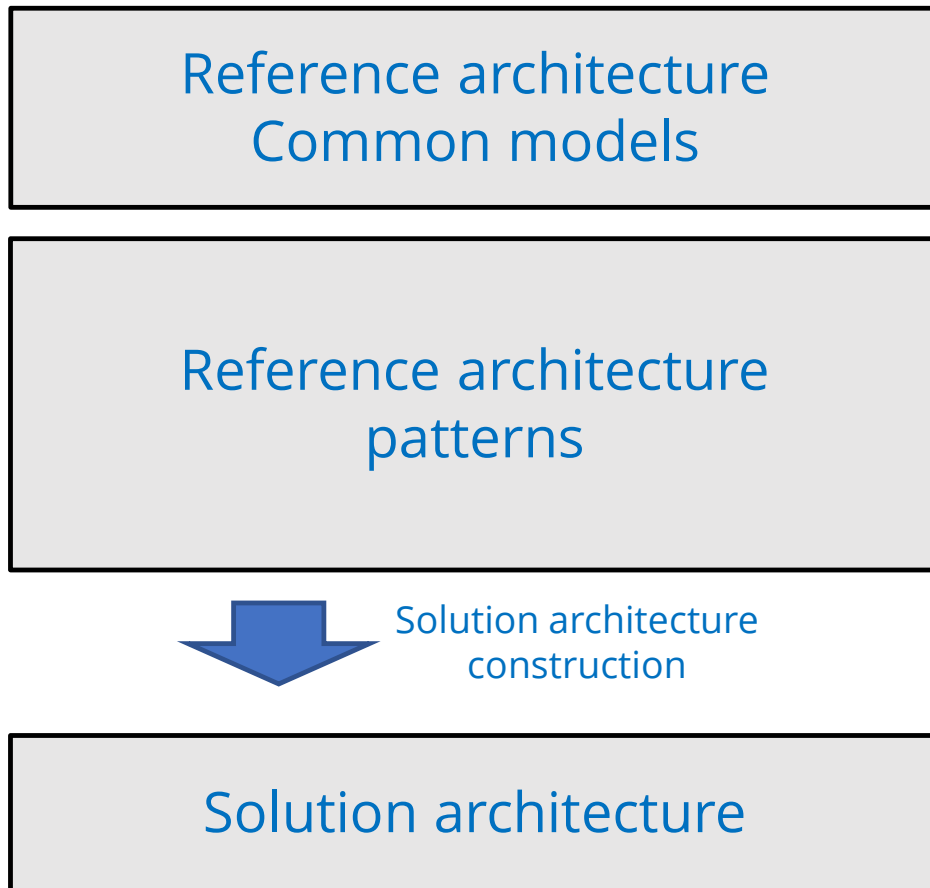
Continuum processing



Federated Systems Perspective of Data Spaces



Building a Data Space Architecture Integrating IoT and Edge



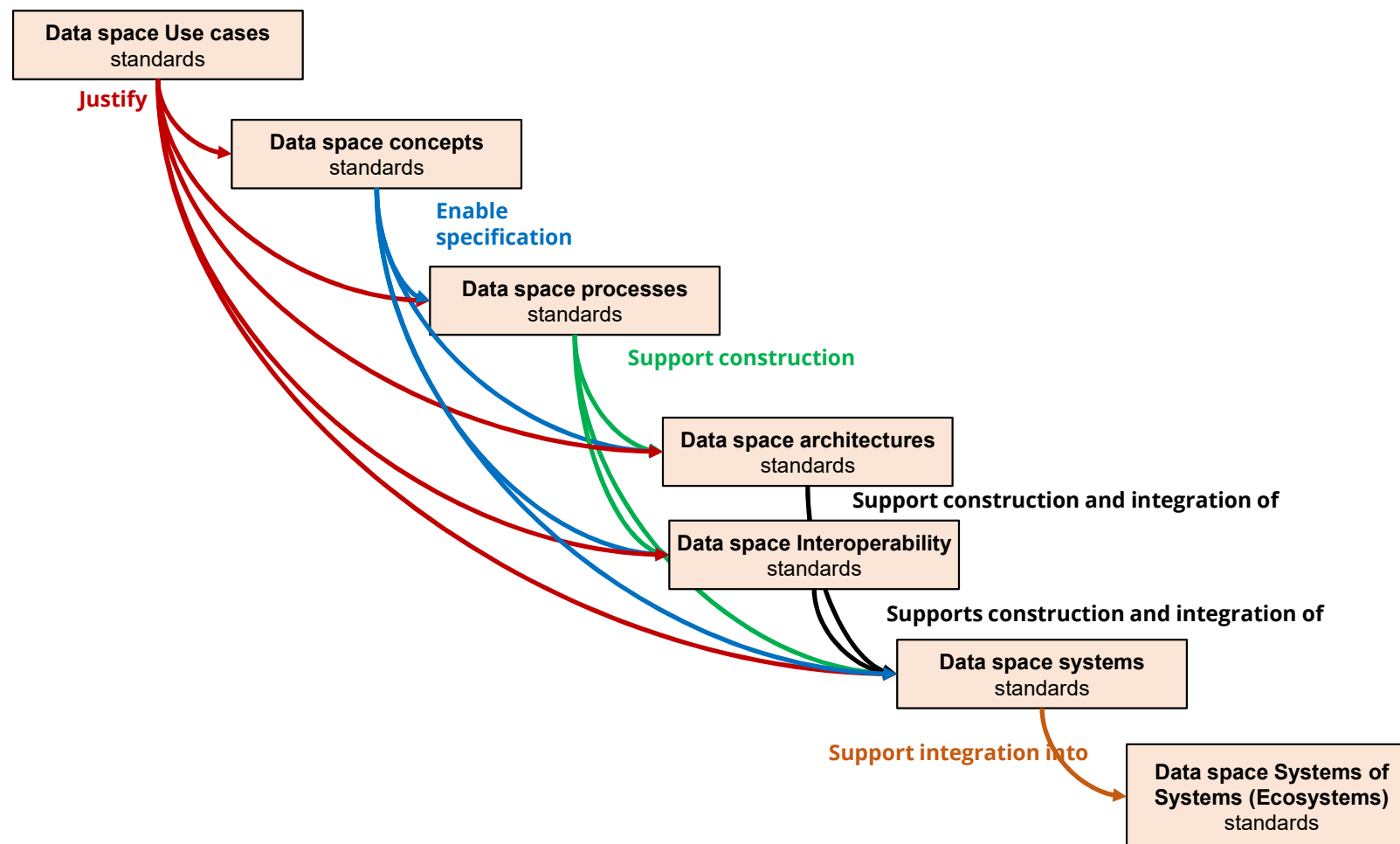
Solution Architectures and Projects

- ▀ IDSA Reference Architecture
- ▀ OneM2M
- ▀ ETSI MEC
- ▀ Flying Forward 2020 (Spatial Web Architecture)
- ▀ Platoon
- ▀ Interconnect
- ▀ SmartBear
- ▀ Assist-IoT

Recommandation 1: Data Space Principles

1	Data spaces are ecosystems of systems
2	Data usage require provisioning from connecting devices
3	Data spaces support data lifecycle
4	Data interoperability enabled by a common language
5	Data usage enabled by common data models
6	Data curation
7	Trust in data sharing
8	Governance for ethical usage of data
9	Decentralisation
10	Integrated data management
11	Extensible data spaces
12	User-centricity

Recommandation 2: Architecture of standards for data spaces



Recommendation 3: Integration of IoT and Digital twins in Data Spaces

- Integrate IoT, Edge and digital twin concerns in data space standards
- Standards should be jointly worked out by working groups focusing on
 - AI
 - Data
 - Data governance
 - IoT
 - CPS
 - Digital twins



Thanks



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