

IOTWeek

Dublin — June 20-23, 2022

Interconnect Project and OPEN DEI TF3 23 June 2022

Antonio Kung (Trialog)

GLOBAL VISION:

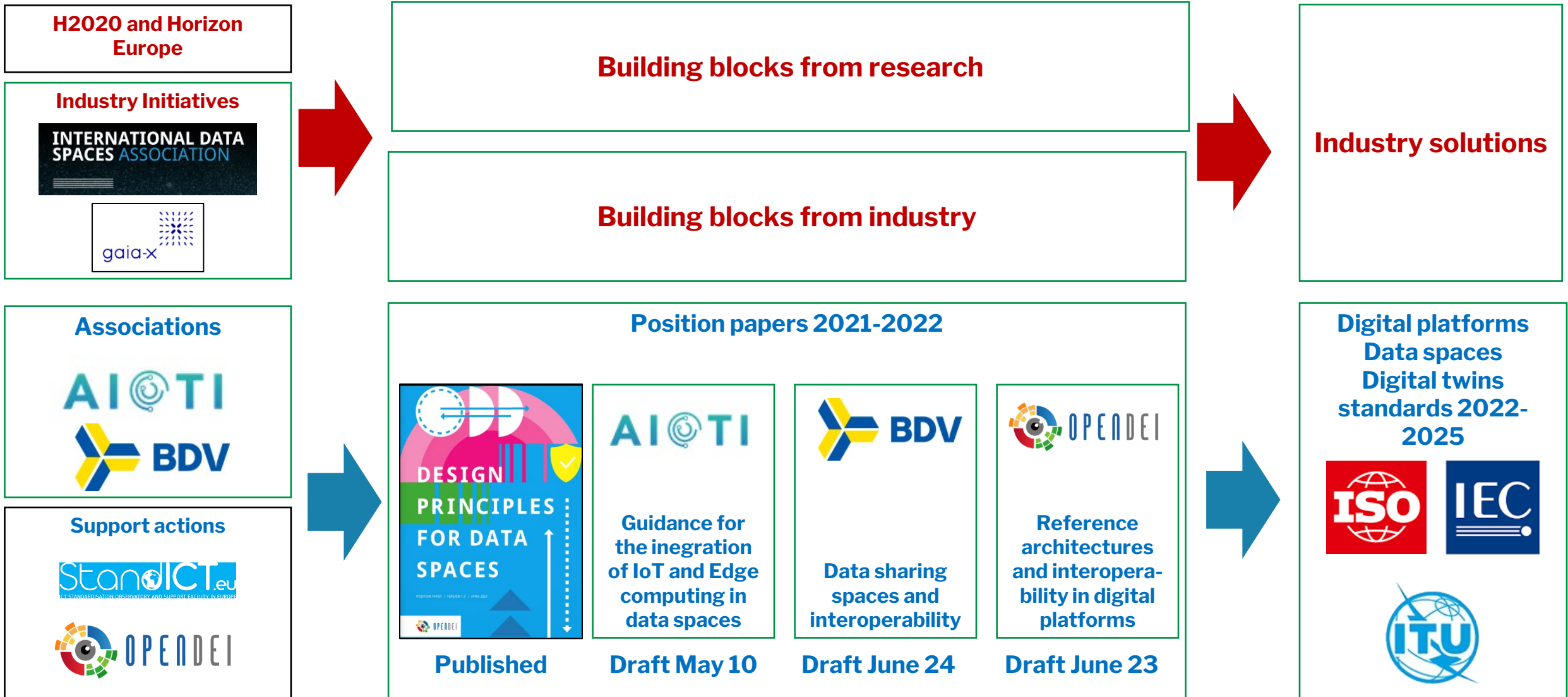
IoT TODAY AND BEYOND

IOTForum

AIOTI-BDVA-European Projects Position papers

IOTWeek

Dublin — June 20-23, 2022





OPEN DEI TF3

REFERENCE ARCHITECTURES AND INTEROPERABILITY IN DIGITAL PLATFORMS

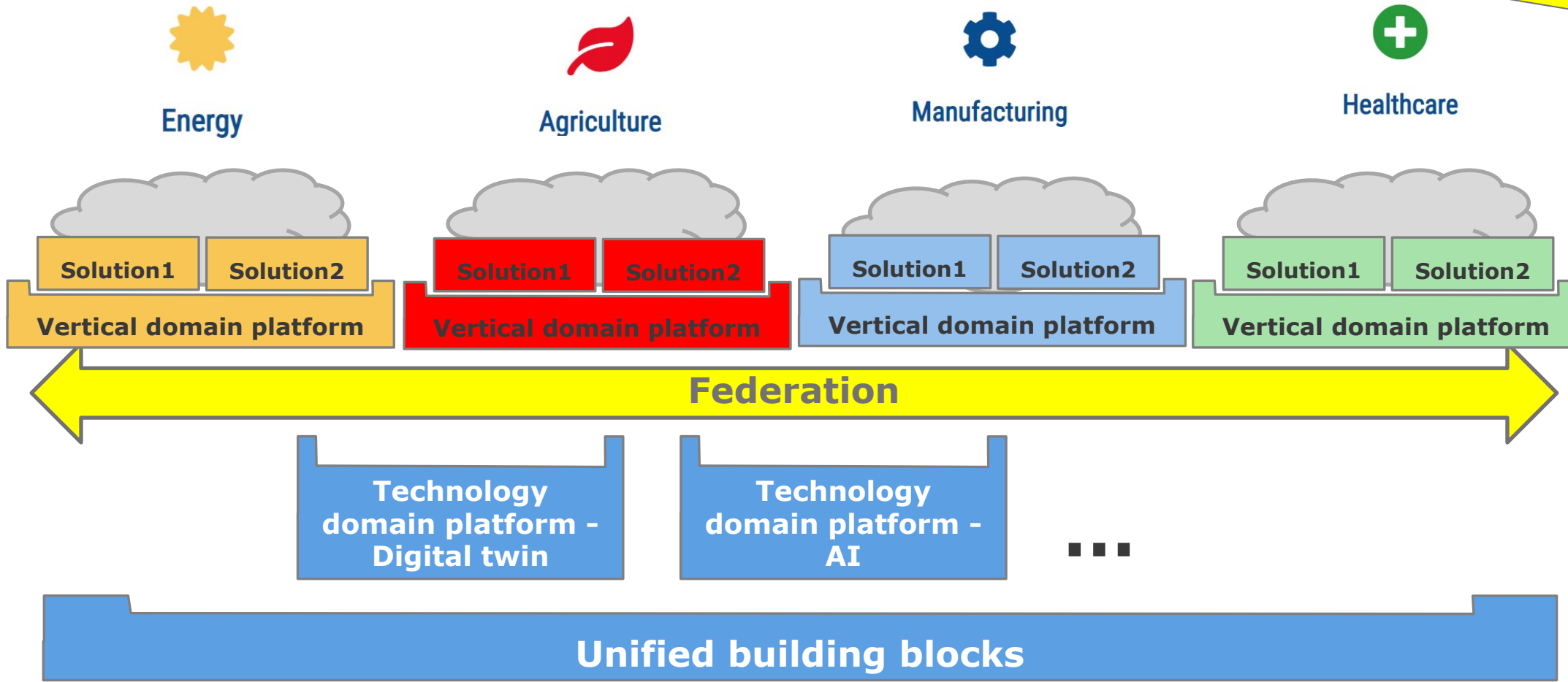


TABLE OF CONTENTS

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	Purpose of Reference Architectures.....	9
2.2.2	OPEN DEI Reference architecture framework.....	11
2.2.3	Digital Platforms Convergence - DSBA Initiative	12
2.3	Interoperability Frameworks	13
2.3.1	Purpose of interoperability Frameworks	13
2.3.2	Building Interoperability	16
2.4	Topics of Interest for Federated Platforms	18
2.4.1	Trustworthiness	18
2.4.2	Universal resource management	19
2.4.3	Digital twin and AI integration.....	21
2.4.4	Semiotic approach to support cyber physical systems.....	24
2.4.5	Interoperability approaches.....	25
2.5	Aligning with Solutions	26
3	Reference Architectures and Interoperability for Digital Manufacturing Platforms	27
3.1	Context for Manufacturing.....	27
3.2	Reference Architectures for Manufacturing	27
3.3	Interoperability Frameworks for Manufacturing.....	30
3.4	Aligning the Manufacturing domain for DEI	32
4	Reference Architectures and Interoperability for Digital AgriFood Platforms	32
4.1	Context for Agrifood	32
4.2	Reference Architectures for Agrifood	32
4.3	Interoperability Frameworks for Agrifood	41
4.4	Aligning the Agrifood Domain for DEI.....	43
5	Reference Architectures and Interoperability for Digital Energy Platforms	44
5.1	Context for Energy	44
5.2	Reference Architectures for Energy	44
5.3	Interoperability Frameworks for Energy	45
5.4	Aligning the Energy Domain for DEI.....	46
6	Reference Architectures and Interoperability for Digital Health & Care Platforms	48
6.1	Context for Health and Care	48
6.2	Reference Architectures for Health and Care	49
6.3	Interoperability Frameworks for Health and Care	50
6.4	Aligning the Health and Care domain for DEI.....	51
6.5	Example of InteropEHRate Research Project	54
7	Lessons Learned and Recommendations	56

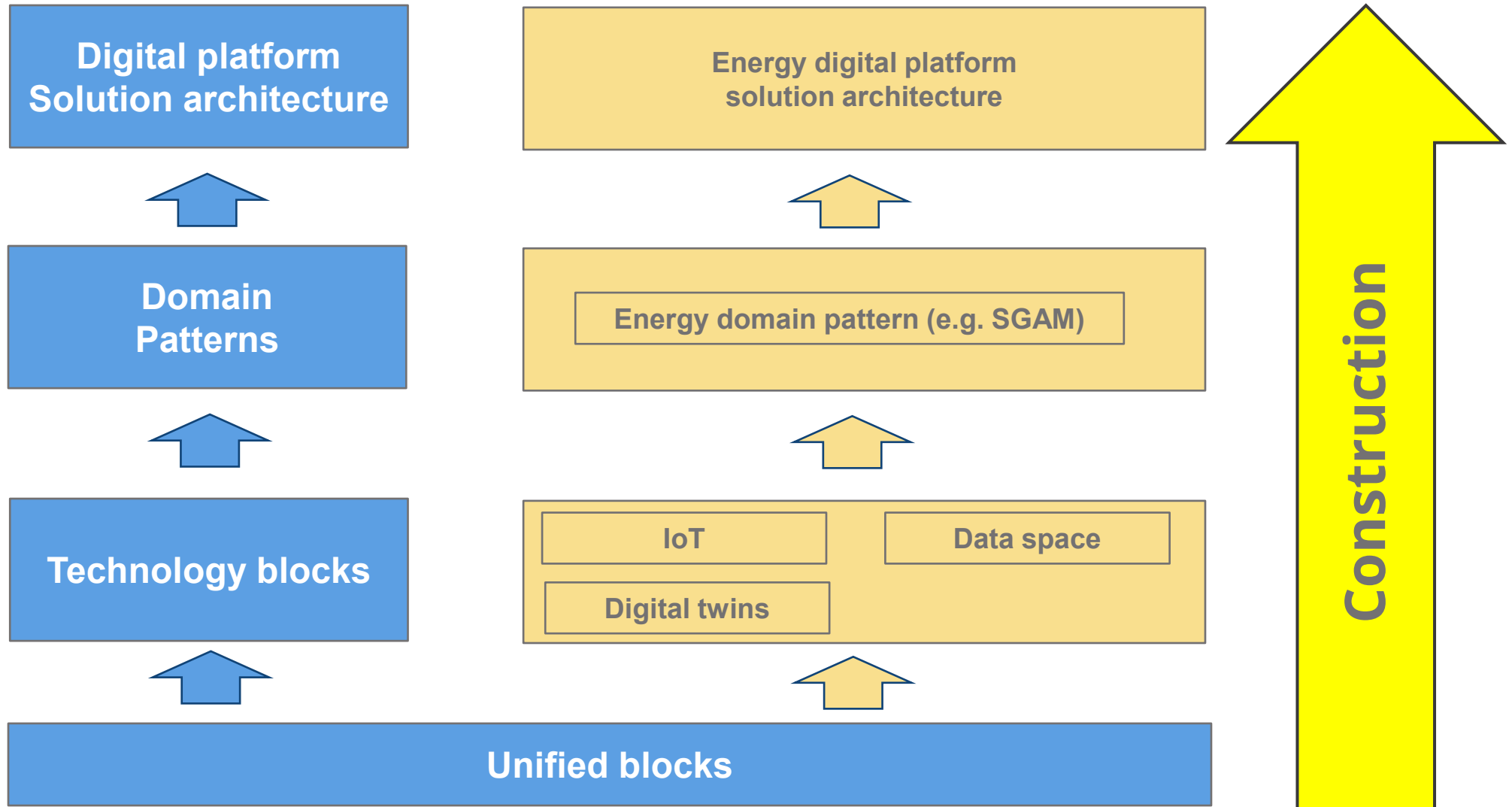
Architecture Approach

Follows Reference Architecture Standards
ISO/IEC/IEEE 42010 - Architecture description
JTC 1/AG 8 - Meta Reference Architecture

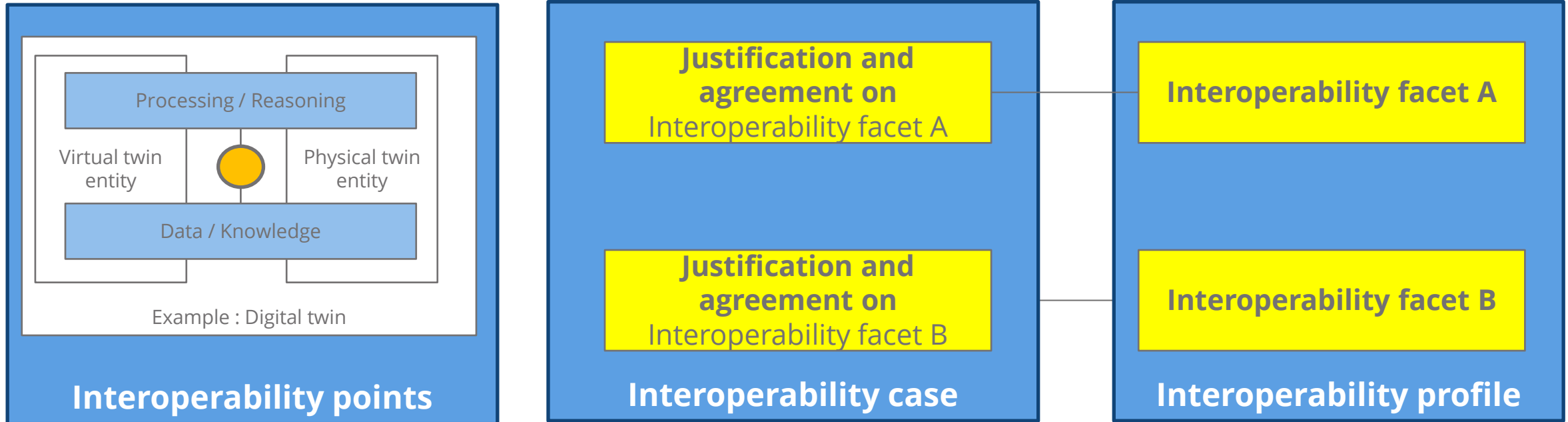


Construction

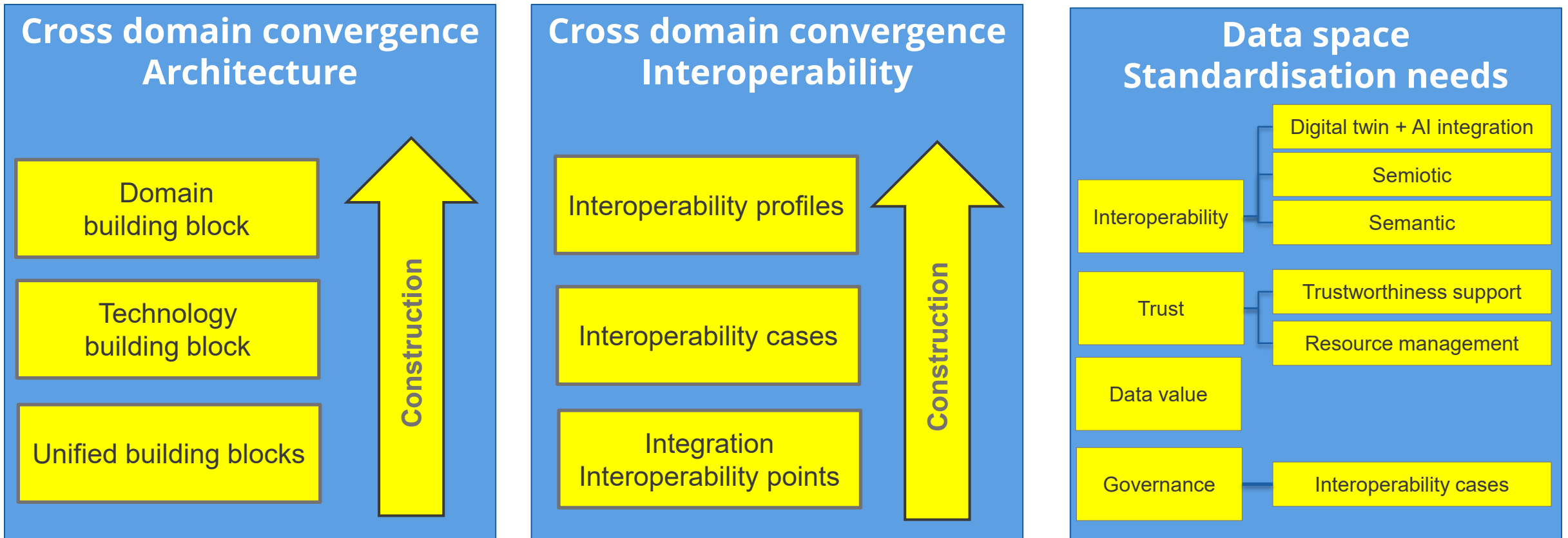
Architecture approach – Energy example



Interoperability Approach – Data space (digital twin) example



Conclusion : Construction convergence supported by standards



Alignment in 4 domains





IOTWeek

Dublin — June 20-23, 2022

Thank you!

Find more:

<https://www.opendei.eu/>

[iotweek.org](https://www.iotweek.org)