ETSI The Standards People

IoT Conference 2023

Latest Activities in AIOTI

SESSION 8: The Role of MEC (Multi-access Edge Computing) in IoT Digital Transformation

Presented by: Antonio Kung

Trialog

AIOTI July 5th, 2023

Presentation of AIOTI

Mission and Vision

Alliance for IoT and Edge Computing Innovation

Mission

To drive on behalf of our members **business, policy, research and innovation development** in the **IoT & Edge Computing**, AI and other converging technologies across the Digital Value Chain to support digitization in Europe, and competitiveness of Europe.

Vision

Together we aim to lead, promote, bridge and collaborate in IoT & Edge Computing, AI and other converging technologies research and innovation, standardisation and ecosystem building providing IoT deployment for European businesses creating benefits for European society. We co-operate with other global regions to ensure removal of barriers to development of the IoT & Edge Computing market, while preserving the European values, including privacy and consumer protection.

Alliance for IoT and Edge Computing Innovation

Main Themes

- IoT/IIoT/edge/AI applications in verticals
- IoT/IIoT as an engine for convergence in **Computing continuum**

Thought Leadership

- We support development of the EU policies, regulation, strategies and standardisation by providing examples, best practices, use cases and testbeds

Collaboration

- With our partners we develop R&I agenda for EU funded projects and partnerships
- We help our community to build consortia for EU funded projects

AIOTI

Community

186
Members

807
Contributors

9
Groups

7
Focus Groups

7
Task Forces

42
Corporates

63
SMEs

59
Research/Academia

21
Associations

1
Public Authorities

How we work

Horizontal WG

- Research & Innovation
  - Innovation Ecosystems
  - SCoDIHNet
- Standardisation
  - Semantic Interoperability
  - Landscape, Gaps, Comp Continuum, IoT and relation to 5G
  - High-Level Architectures
  - Security & Privacy
- Testbeds
- Policy

Vertical WG

- Agriculture
- Energy
- Buildings & Communities
- Health
- Manufacturing
- Mobility

Task Force

- Digital for Climate
- Early Innovation Champions
- Web3 Accelerator

Reports (I)

Research & Innovation

Strategic Research and Innovation agenda

Strategic Foresight Through Digital Leadership: IoT and Edge Computing Convergence

HE Interim Evaluation

(Immersive technologies, digital twins and edge/AI)

White Paper Mission and Activities of IoT Digital Innovation Hubs Network

Vision on IoT Innovation Ecosystems

Replicability and Scalability Assessment Tool

(Diversity and circularity as enabler for innovation)

(DIH Service Platform)

Policy

AI Act and AI Liability

Network and Information Security Directive 2

Chips Act

Data Act

Data Governance Act

Cybersecurity Resilience Act

EU Standardisation Strategy

Standardisation

IoT & Edge Landscape Report

Gap Analysis Report

IoT Impact Beyond 5G Report

Computing Continuum Report

Ontology Landscape Report

Guidance on integration of IoT/Edge in Data Spaces

Landscape of EU funded projects

(High Level Architectures and Digital Twins)

(Report on continuum)

Testbeds

IoT/Edge Testbeds Catalogue

IoT/Edge Testbed Methodology

Report on DLT-IoT-AI Technological Convergence

(DLT PET testing)

(DLT Testbeds & Regulatory Sandbox)

Digital for Climate

Sustainability Product Initiative

Renewable Energy Directive III

Strategic Foresight Report

Green Deal Vision

Carbon removal certification

Methodology for carbon footprint measurement and reduction (Collaboration with ETSI/ITU-T SG5)

EGDC contribution

Reports (II)

Agriculture

Role of IoT in addressing the agroecological focus of the Green Deal

Role of IoT in addressing biodiversity and environmental monitoring

Buildings & Communities

Energy Efficiency Directive recast

Renewable Energy Directive recast

Revision of Energy Performance of Buildings Directive

(IoT value for building and infrastructure)

IoT and Crisis Preparedness

Online Catalogue of Solutions

IoT improving Healthy Urban Living

Energy

Open Energy Marketplaces Evolution - Beyond Enabling Technologies

Digitalising Energy System Action Plan

Energy Flexibility Solutions

Electricity Market Design

(Edge driven Digital Twins in distributed energy systems)

EC Smart Grids Expert Group

Health

AI for better health

(Health Data and Data Spaces)

Mobility

Electric vehicles (EV) and electric vehicle charging User Cases driven approach

(White Paper on future mobility)

Manufacturing

Business Impact of IoT in Manufacturing Industries

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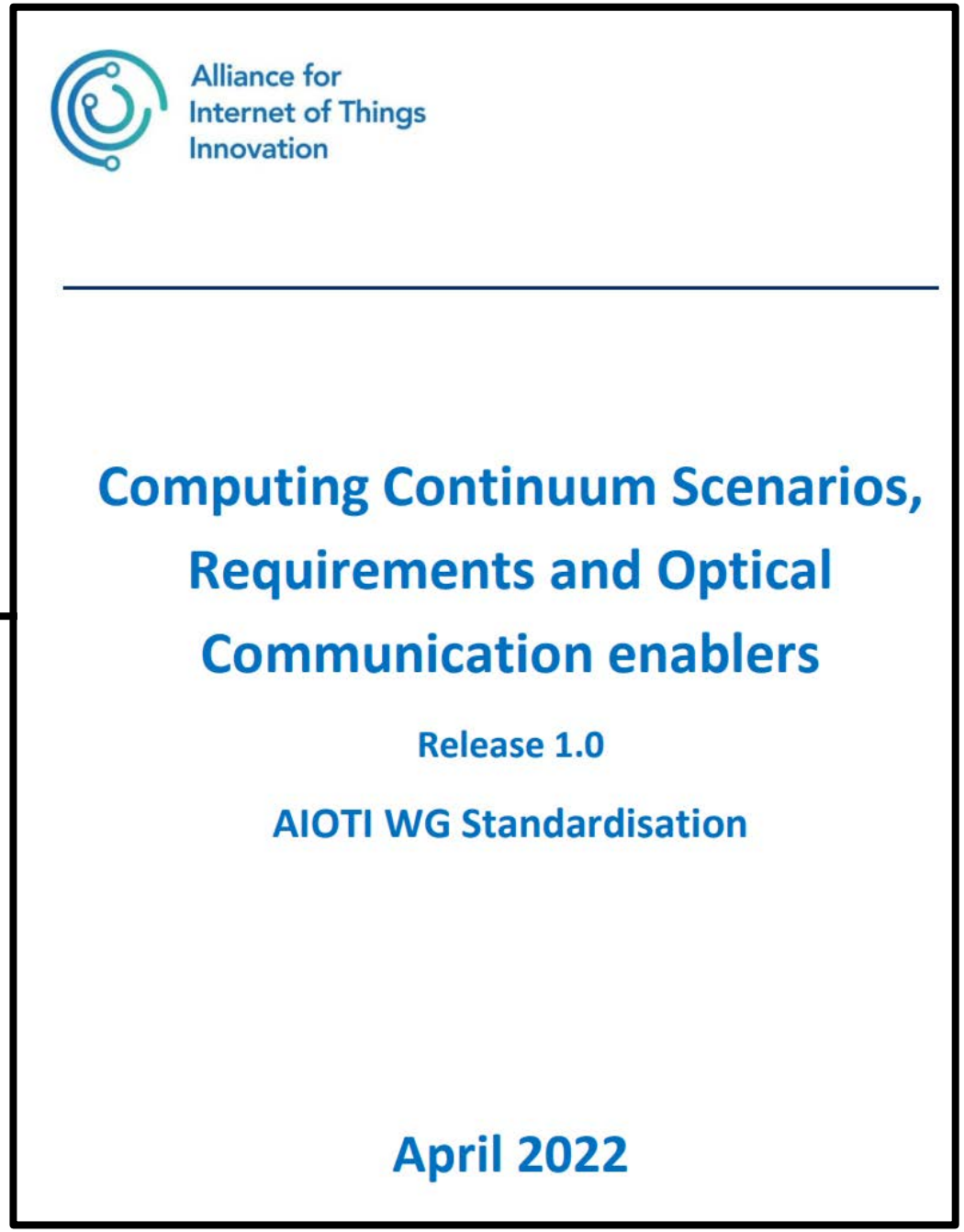
Selection of four Reports

Report 1

Standardisation

- IoT & Edge Landscape Report
- Gap Analysis Report
- IoT Impact Beyond 5G Report
- **Computing Continuum Report**
- Ontology Landscape Report
- Guidance on integration of IoT/Edge in Data Spaces
- Landscape of EU funded projects
- (High Level Architectures and Digital Twins)
- (Report on continuum)



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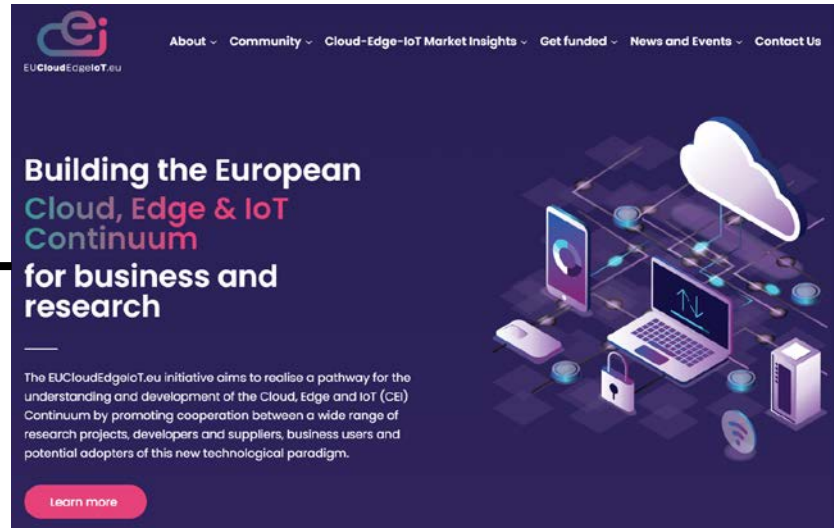
Report 2 (Planned)

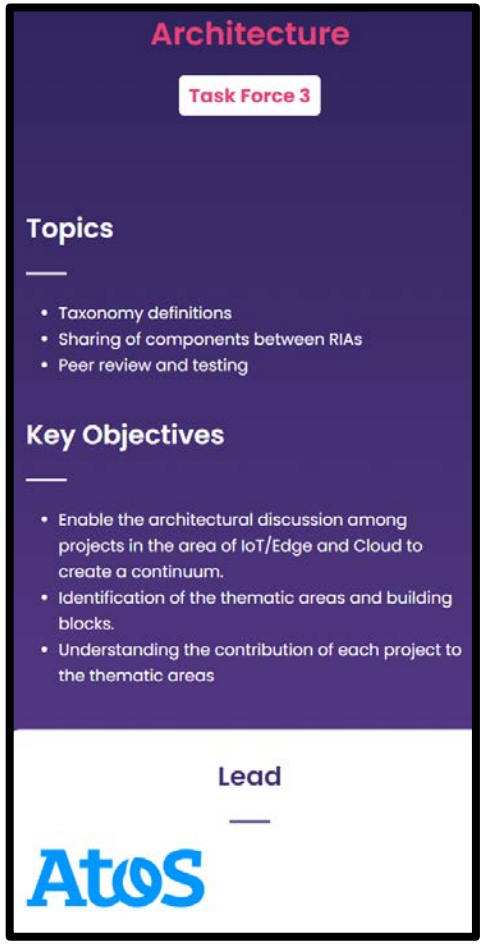
Towards **Computing continuum reference architecture**

Standardisation

- IoT & Edge Landscape Report
- Gap Analysis Report
- IoT Impact Beyond 5G Report
- Computing Continuum Report
- Ontology Landscape Report
- Guidance on integration of IoT/Edge in Data Spaces
- Landscape of EU funded projects
- (High Level Architectures and Digital Twins)
- **(Report on continuum)**

https://eucloudedgeiot.eu/





MetaOS

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Report 3
Guidance on integration of IoT/Edge in Data Spaces

Standardisation

IoT & Edge Landscape Report

Gap Analysis Report

IoT Impact Beyond 5G Report

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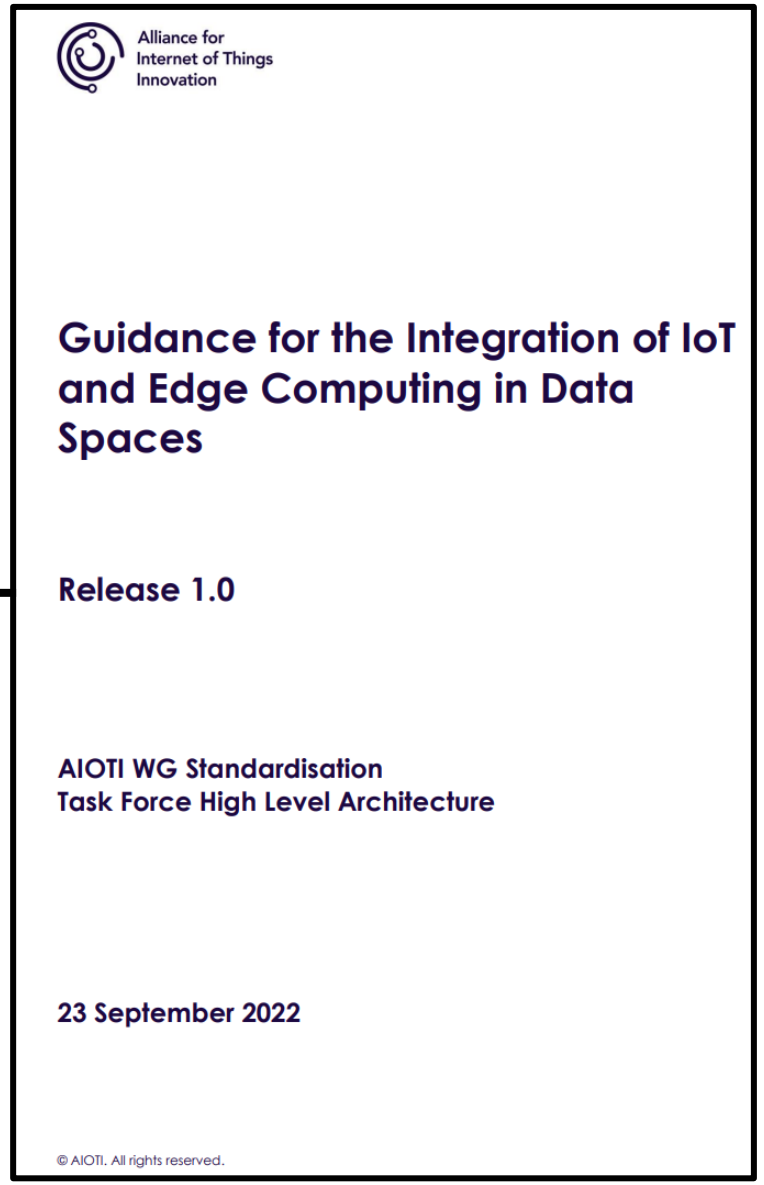

Impact of Report 3

- Preliminary work item in ISO/IEC JTC 1/SC 41 IoT and Digital twins

Guidance on the integration of IoT and digital twins in data spaces

ISO/IEC JTC 1/SC 41/AG 31 Draft

April 2023

Source (Antonio Kung – FR, AIOTI, Jieshan – CN, Jan de Meer - DE)

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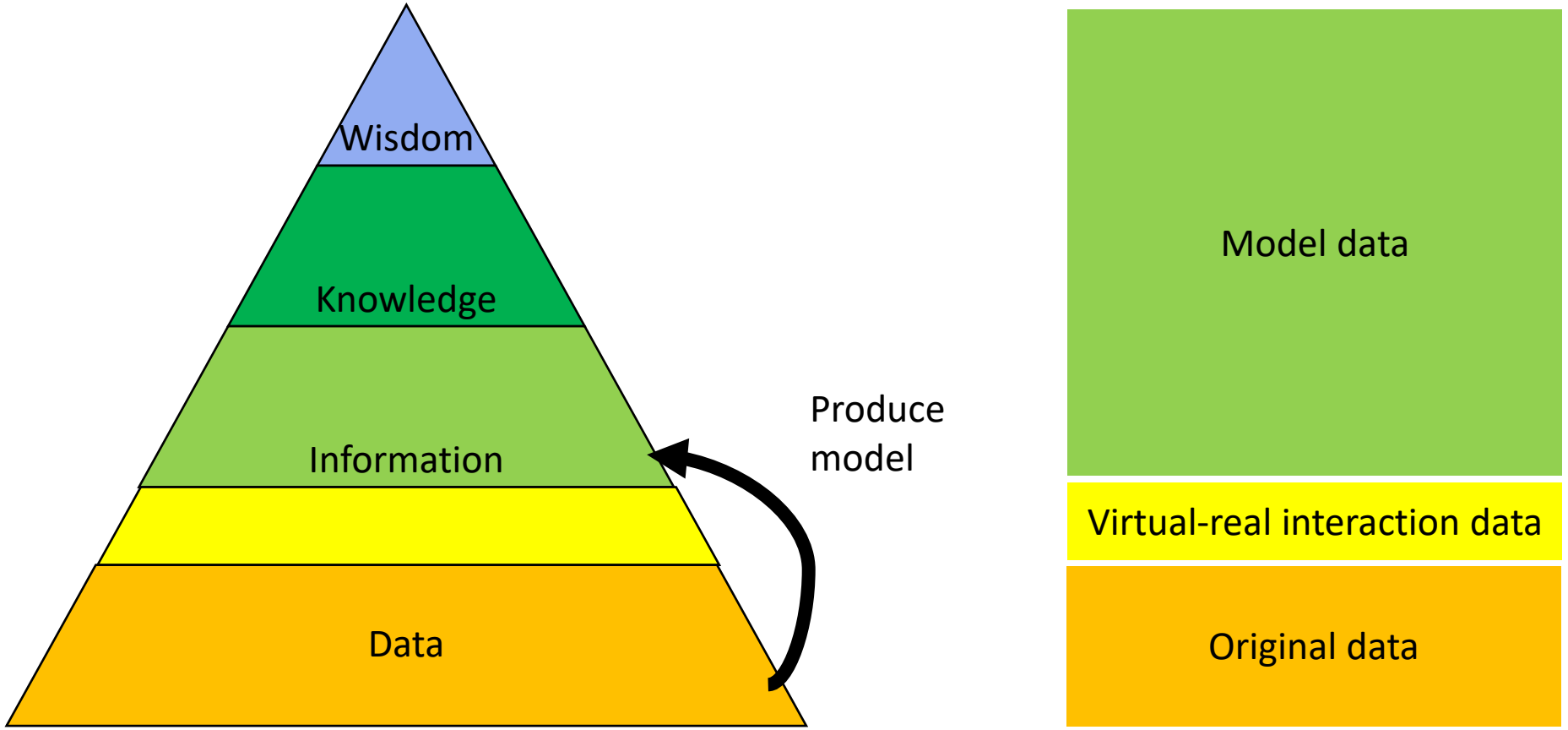
Table of Content

Impact of Report 3
Guidance on integration of IoT/Edge in Data Spaces



Mapping DIKW pyramid to digital twins

Report 4

Standardisation

- IoT & Edge Landscape Report
- Gap Analysis Report
- IoT Impact Beyond 5G Report
- Computing Continuum Report
- Ontology Landscape Report
- Guidance on integration of IoT/Edge in Data Spaces
- Landscape of EU funded projects
- **(High Level Architectures and Digital Twins)**
- (Report on continuum)

High Level Architecture and digital twins

- Common initiative AIOTI, BDVA/Adrae, StandICT/HSBooster
  - Antonio Kung, Arne Berre, Ray Walshe
- Context
  - Horizon projects on digital twins
  - Strategic liaison with ISO and ITU-T

Impact of Report 4

High Level Architecture and digital twins

Standardisation

IoT & Edge Landscape Report

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Digital twin project 1

Digital twin project 2

Digital twin project N

Multi-purpose physical-cyber agri-forest drones ecosystem for governance and environmental observation

- Forestry
- Livestock
- Cropping

https://spade-horizon.eu/

Digital Twin Reference Architecture

ISO/IEC 30188

Security and Privacy of Digital Twins

ISO/IEC 27568

Systems of systems UAS (Unmanned Aircraft Systems Reference Architecture

ISO/IEC 22080, ISO/IEC 27115

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Thank you for listening

Any questions?

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