

Alliance for Internet of Things Innovation

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SIGNATURE EVENT

IoT and Edge computing : Societal Impact and Opportunities for the Green Digital Twin Transition

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Alliance for Internet of Things Innovation

AIOTI Signature Event • 27 September 2022

AIOTI WG Standardization Session

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What is Happenning in Terms of Contributions to SDOs?

Perspective of the ICT-56 Projects (Next Generation IoT Flagship Projects)

















0-0

AGRI

CULTURE





48.5

- Decentralised architectures and frameworks
- Low-power devices and hardware accelerators
- Federated and distributed intelligence
- DLTs enabled data management
- Active and proactive cybersecurity
- 5G: smart networking, VFN, orchestrators
- Tactile IoT, human-in-the-loop
- Explainable and trustworthy AI

NGIOT Ecosystem

EU-loT WP3 - Catalyst

Standardisation and Open-source Analysis and Recommendations

EU IōT

- Technology: Novel and advancing enabling technologies.
- Market: Applications, services, and models enabled by the technologies (both individual and varied combinations).
- Standards and policies: Common approaches, standards, and policies.
- Skills: The current and future demands resulting from all the above.





NGIoT Projects

Contributions across the IoT Landscape and Across EU Competitiveness Domains



EU-loT Deliverable D3.7: Research recommendations towards standardisation https://www.ngiot.eu/download/d3-7/?wpdmdl=4037&masterkey=615c4c9f8d019



NGIoT Projects

Contributions towards SDOs



O (low activity)

Monitoring



Direct Contributions



NGIOT Projects Recommendations – increasing the impact of Research in SDOs

	HUMAN/IOT	FAR EDG	FAR EDGE		NEAR EDGE	
Scope	Distrib Tactile Interfaces	uted Al Open Brownfield integration	hardware Neuromorphic Intelligent of	MEC Computing ffloading	Federated learning Hardware and ML	
	 IEEE P1918 "Tactile Internet Working Group" ITU-T, Tactile Internet, ETSI ISG IP6, participation in work items. AIOTI WG on Standardisation, specifically focusing on ontologies and semantic technologies. 	 IEEE, federated learn standards. BDVA, regarding consupapers. IETF, <i>Reliable Availa</i> (<i>RAW</i>) working gedeterministic use-or requirements, mobile environments and TSN wireless. 	ing application Itation, position able Wireless group about cases and far Edge integration into	•ETSI MEC		
Ŷ	ΑΙ©ΤΙ	 IETF IoT operations Wo for, for instance, bro integration, large-scale trustworthiness, etc. 	rking Group, as wnfield device e onboarding,		7	

EU-IoT: ICT-56 2021 RIA Analysis

	INFRASTRUCTURE	DATA SPACES		
	5G core integration	Al-based knowledge representation		
Ш	SDN, NVF Satellites and 5G	Edge semantic orchestration		
SCO	Satellites as a Service	Multi-agent WoT systems		
	Wireless TSN Fede	rated Al		
Recommendations SDOs	 IETF COIN (Computing in the Network Research), about service and network decentralisation aspects, SDN, ICN. IRTF Network Management WG, 5G and Edge integration 	 •GAIA-X, architectural design, data interoperability •BDVA/DAIRO and AIOTI joint initiative for DATA Spaces: trustworthiness, privacy use-cases; interoperability •<i>Trust and Trustworthiness</i>. Trustworthiness should be designed as part of an IoT end-to-end system, considering aspects such as reliability, dependability, safety. Projects are specifically focusing on the ISO TC42. Via the BDVA/DAIRO joint initiative, it is also possible to extend this support to other relevant ISO standards. 		

In Short

- Projects show a significant overlap in specific areas, which may lead to stronger impact towards SDG.
- Projects are doing significant efforts in monitoring relevant SDOs Time and effort consuming
- But contributions towards SDOs are still low
- Key identified overlapping areas
 - security, privacy, and trustworthiness
 - distributed AI/ML and Edge and Cloud computing
- EU-IoT is developing actions to assist projects towards SDO interaction
 - Good point to address together with AIOTI WG Standardization?



Thank you for listening

Any questions? You can find us at <u>@AIOTI_EU</u> or email <u>sg@aioti.eu</u>

