

AIOTI
ALLIANCE FOR INTERNET OF THINGS INNOVATION

WG03 – IoT Standardization

Emmanuel Darmois

Connected Smart Cities Conference, Brussels, January 12th, 2017

WG03 IoT Standardisation in AIOTI first phase

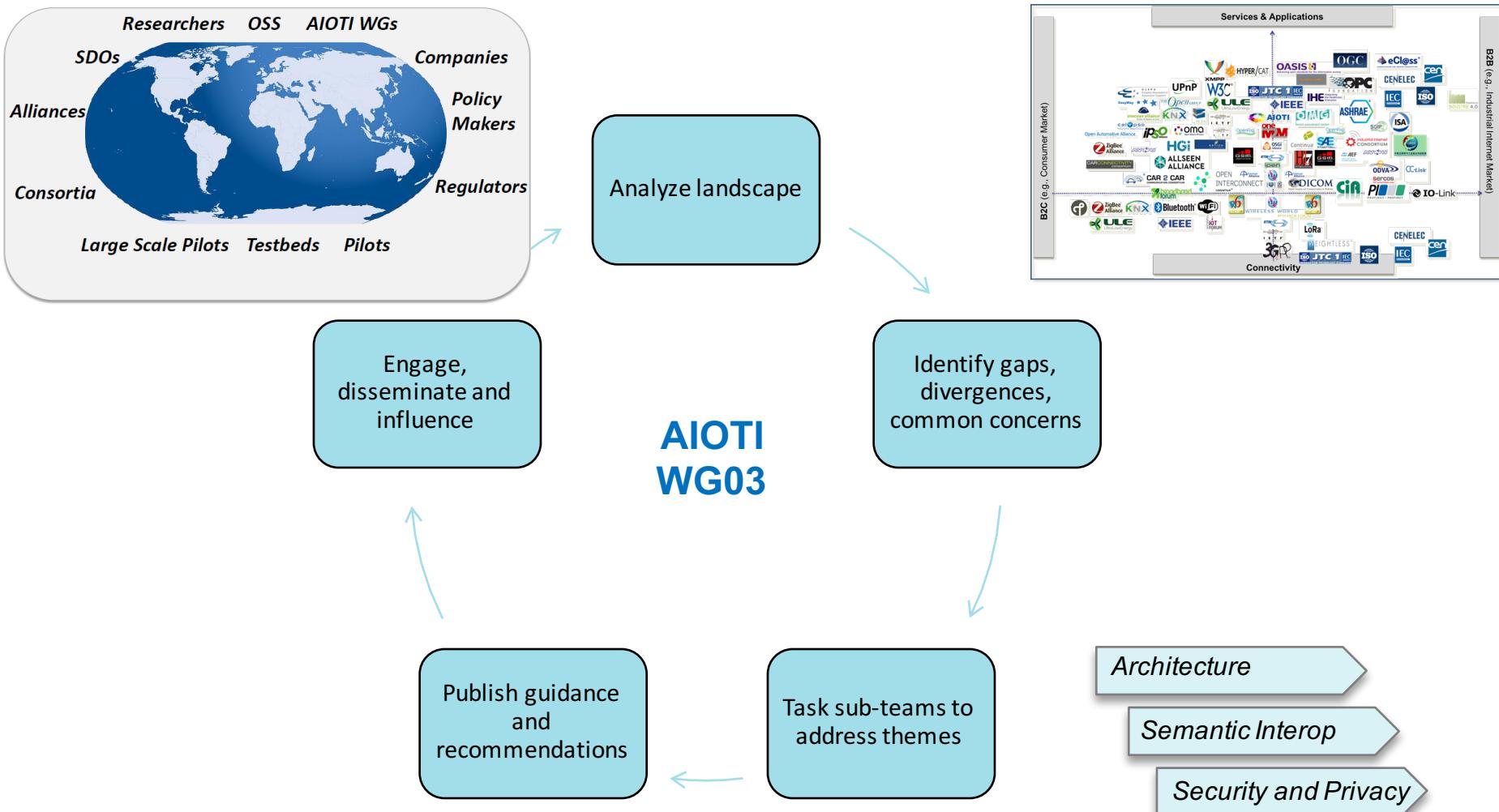
- ❖ AIOTI WG03 had
 - 270 Members,
 - 400+ subscribers in exploder list,
 - 30+ liaisons
- ❖ 4 sub-groups with 4 reports published
 - IoT Landscape
 - High Level Architecture
 - Semantic Interoperability
 - Joint Work Paper with oneM2M, W3C and IEEE
 - IoT Privacy
 - in cooperation with WG04 (IoT Policy)
- ❖ Plus 2 Technical Reports published by EC funded ETSI STF 505
 - Identification of IoT Standards
 - Identification of IoT Gaps



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

The AIOTI WG03 Dynamics



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

IoT SDOs and Alliances Landscape (Technology and Marketing Dimensions)



Source: AIOTI WG3 (IoT Standardisation) – Release 2.7



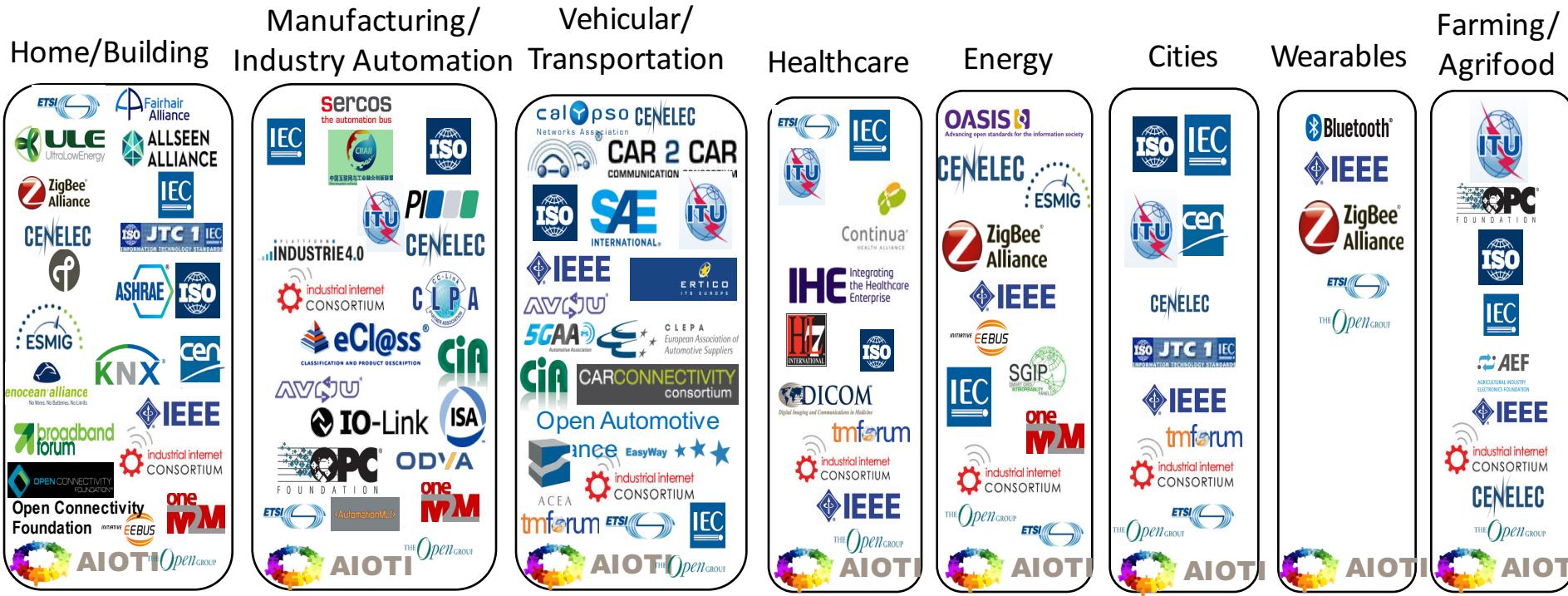
AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

Connectivity

IoT SDOs and Alliances Landscape

(Vertical and Horizontal Domains)



Source: AIOTI WG3 (IoT Standardisation) – Release 2.7

Horizontal/Telecommunication

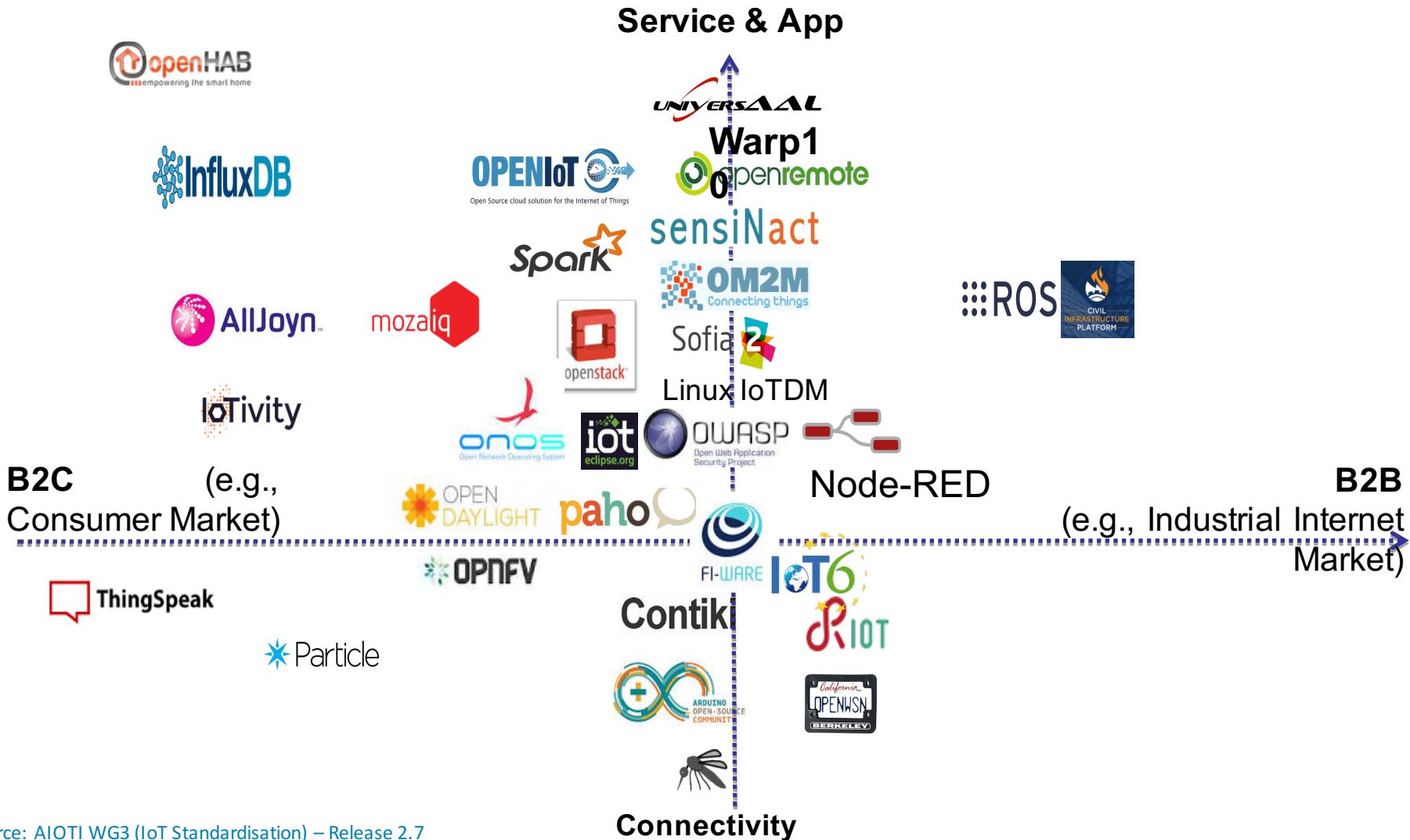


AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

IoT Open Source Initiatives Landscape

(Technology and Marketing Dimensions)



Source: AIOTI WG3 (IoT Standardisation) – Release 2.7



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

Mapping of IoT SDOs/Alliances to Knowledge Areas

Security & Privacy



GLOBAL PLATFORM®



Applications (*)



IoT Architecture



Source: AIOTI WG3 (IoT Standardisation) – Release 2.7



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

Mapping of IoT OSS initiatives to Knowledge Areas

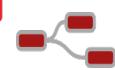
Security & Privacy



sensiNact



Integration / Interoperability



sensiNact



Open Source cloud solution for the Internet of Things



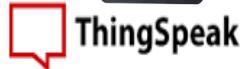
Infrastructure



sensiNact



Linux IoTDM



Communication and Connectivity



Contiki



Devices and Sensor Technology

IoT Architecture



Linux
IoTDM



sensiNact

Source: AIOTI WG3 (IoT Standardisation) – Release 2.7



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

The ETSI STF 505 in support of AIOTI WG3

- ❖ ETSI TC SmartM2M launched a Specialist Task Force (STF505) to provide two reports
 - TR 103 375 on IoT Standards landscaping
 - analyzing the standards landscape provides a list of existing standardized technology suggested for reuse by the LSPs
 - TR 103 376 on IoT gap analysis
 - identifying technical/societal/business gaps as a good indication of the level of maturity of standardization in a given vertical domain
- ❖ Both reports have been published
 - Stable Draft in June 2016
 - Public review phase
 - Final Draft in August 2016
 - Publication as ETSI reports in October 2016
- ❖ Final presentation of results on February 7th in Brussels
 - Presentation of STF 505 results and recommendations
 - Feedback from IoT community stakeholders, e.g., Standards O



[Landscape](#)



[Gaps](#)

Highlights of TR 103 375 on IoT Landscaping

❖ 329 standards identified

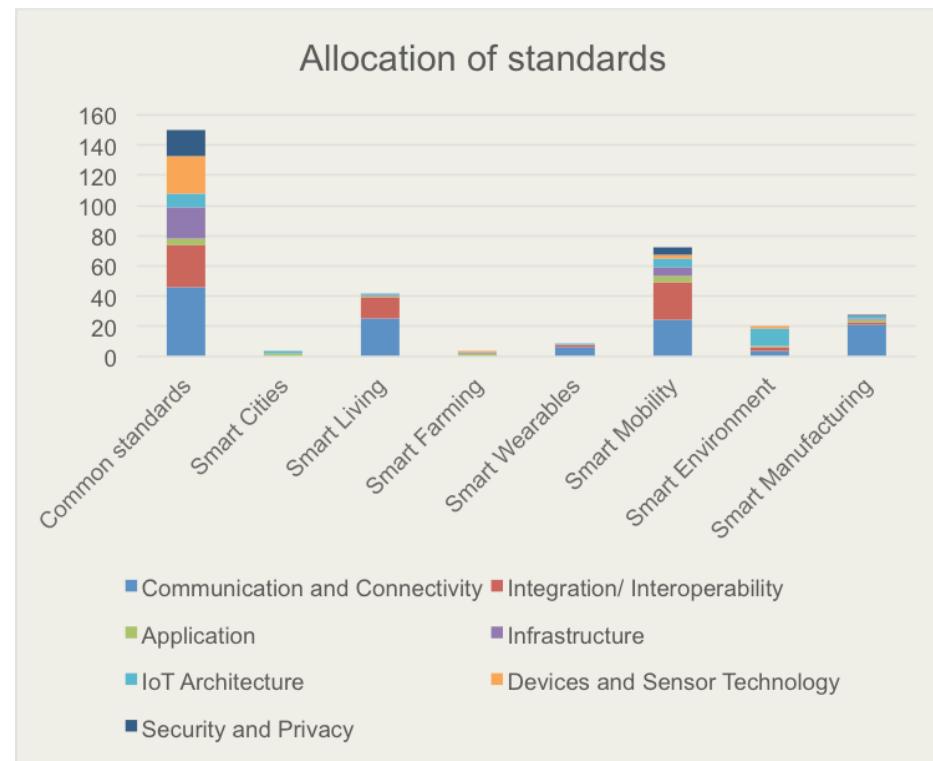
- allocated to
 - 7 vertical IoT Domains (LSPs)
 - 7 Knowledge Areas (AIOTI WG3)
- 150 Generic Standards
 - Common to 3+ vertical domains
- 179 Domain-specific Standards

❖ Over 70% of standards in

- Communication and connectivity
- Integration/Interoperability
- IoT Architecture

❖ Common standards mostly in

- Communication and connectivity
- Integration/Interoperability
- Device and sensor technology
- Infrastructure



Highlights of TR 103 376 on IoT Gaps Analysis

❖ What gaps are

- Missing standards; missing APIs
- Duplications requiring harmonization
- Missing interoperability profiles

❖ Technical/Business/Societal gaps

- Security & privacy classified as Societal gaps

❖ Gaps Identification

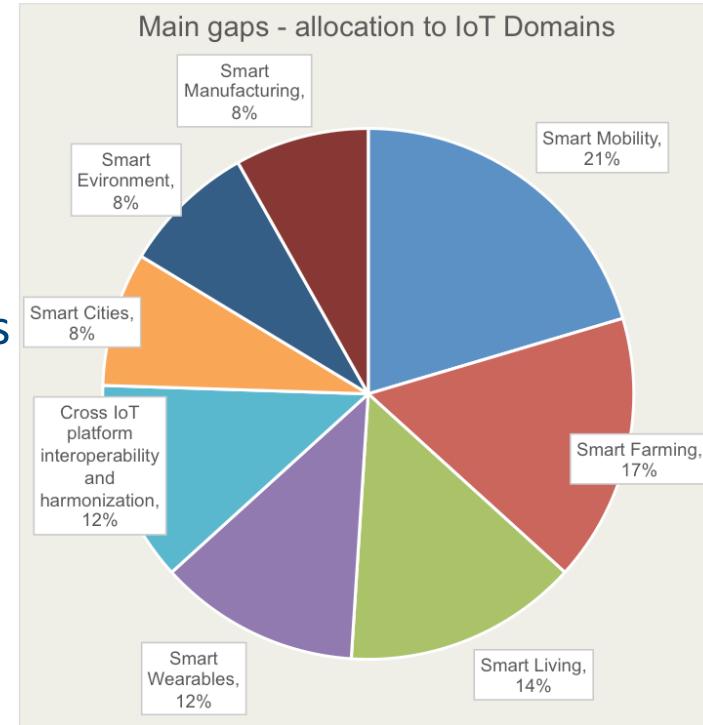
- Survey in the IoT community (215 answers)
- Complemented by the STF experts analysis

❖ Dissemination of STF results

- Towards the IoT community e.g., LSPs

❖ Resolution of gaps

- Left to the proper organizations in the IoT community



WG03 Plans with H2020 IoT LSPs in the new AIOTI Association

- ❖ Keep large membership and great momentum and its current organisation based on 5 sub-group and deliverables, the liaised SDOs/Alliances in order to solve AIOTI WG03 future key and specific challenges.

- ❖ IoT Landscape / georgios.karagiannis@huawei.com
 - IoT Landscape maintenance is key to keep the liaisons alive and maintain dialogue on how to foster collaboration to improve interoperability & security
 - IoT-EPI IoT Platforms analysis improvement / H2020 UNIFY-IoT Ph. Moretto (ETSI STF)
 - Gap Analysis and recommendations / EC funded STF 505 E Darmois (ETSI STF)
 - Cooperation with SDOs/Alliances to foster co-creation and interworking (Patrick Guillemin)

- ❖ HLA / High Level Architecture / omar.elloumi@nokia.com
 - IoT identification juergen.heiles@siemens.com
 - IoT Reference Architecture and its mapping with existing IoT Reference Architectures

- ❖ IoT Semantic Interoperability Paul.Murdock@landisgyr.com
 - Important topic of the moment that created a great international collaboration

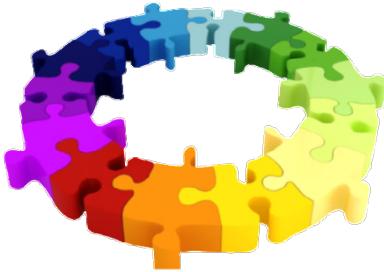
- ❖ IoT Privacy (with WG04) vanderwees@arthurslegal.com
 - IoT Platform, experimentation, LSPs need concrete standard framework & references to enable "IoT Trust" and IoT "Privacy by design"

- ❖ IoT Security (with WG04) vanderwees@arthurslegal.com,
jacques.kruse-brandao@nxp.com, harmarendshorst@nl.verizon.com
 - IoT Security Architecture for Trusted IoT Devices; Baseline Requirements for Security & Privacy up to segment requirements; experimentation, LSPs need concrete standard framework & references to enable "IoT Trust" based on IoT "Security by design"



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

Thank you!

www.aioti.org

#AIOTI



AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION