IoT-NGIN

Next Generation IoT as part of Next Generation Internet

Introduction to IoT-NGIN and relevance to OSS

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IoT-NGIN Project Identity Card

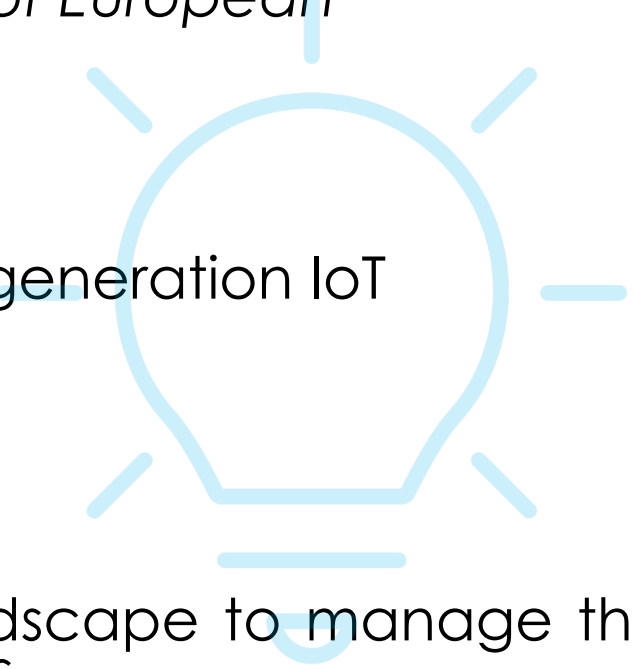
- Title: Next Generation IoT as part of Next Generation Internet
- Grant agreement ID: 957246
- H2020 Call: H2020-EU.2.1.1.
  - Funding Instrument: RIA (Research and Innovation action)
- Duration: 36 months
- Starting Date: 1st October 2020
- EU Contribution: 7 998 622,50 Euro
- Partners: 19 (Country Coverage: France, Spain, Germany, Finland, Luxembourg, Italy, Greece, Cyprus)

IoT-NGIN Consortium

	Logo	Participant organisation name	Short name	Country	
01		Capgemini Technology Services	CAP	France	Industry
02		Atos Spain S.A.	ATOS	Spain	
03		ERICSSON GmbH	EDD	Germany	
04		ABB Oy	ABB	Finland	
05		INTRASOFT International S.A.	INTRA	Luxemburg	
06		Engineering-Ingegneria Informatica SPA	ENG	Italy	
07		*Robert Bosch Espana Fabrica Aranjuez SA* *	BOSCH	Spain	Living Labs
08		ASM Terni SpA	ASM	Italy	
09		Forum Virium Helsinki	FVH	Finland	
10		Optimum Technologies Pilroforikis S.A.	OPT	Greece	SME
11		eBOS Technologies Ltd	EBOS	Cyprus	
12		Privanova SAS	PRI	France	
13		Synelixis Solutions S.A.	SYN	Greece	
14		CUMUCORE Oy	CMC	Finland	
15		Emotion s.r.l.	EMOT	Italy	
16		AALTO-Korkeakoulusaatio	AALTO	Finland	Research
17		i2CAT Foundation	I2CAT	Spain	
18		Rheinisch-Westfälische Technische Hochschule Aachen	RWTH	Germany	
19		Sorbonne Université	SU	France	

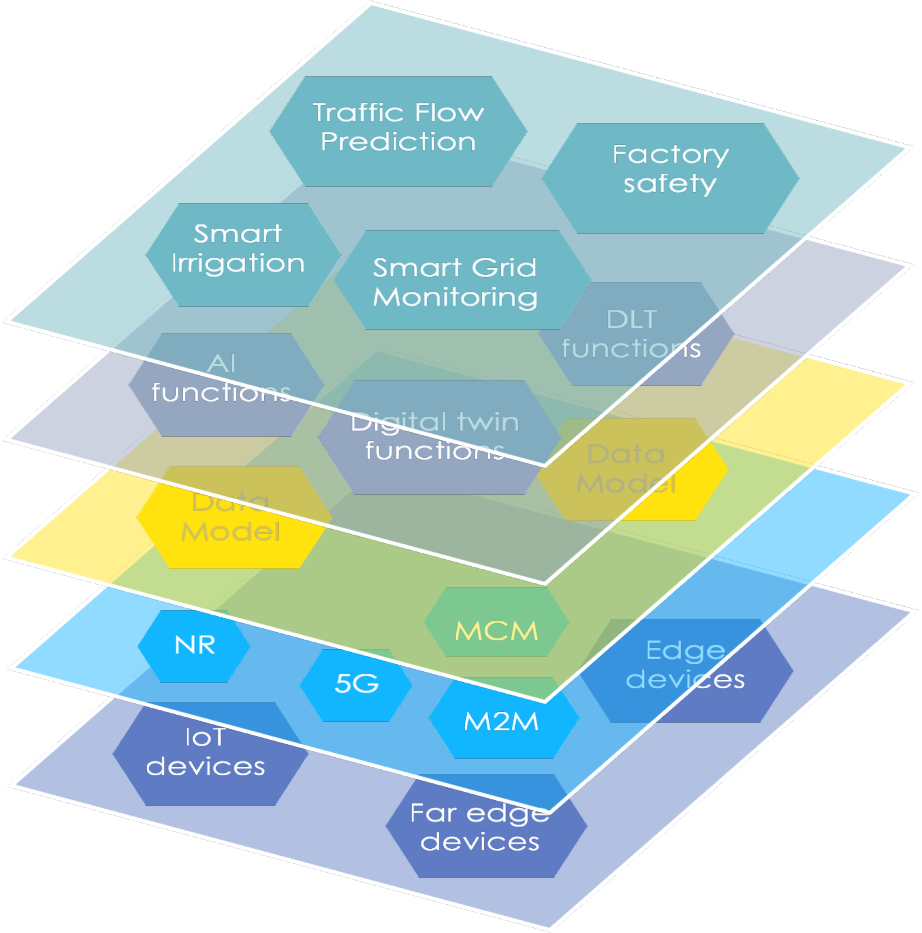
IoT-NGIN in one slide

- Our goal:
  - *Bringing the IoT and modern technologies (5G, AI, DLT…) together in an optimal way, towards a sustainable ecosystem of European Technology and System providers*



- Our way:
  - Offer new tools and ecosystem to enable next-generation IoT
    - New services to existing platforms
    - New platform opportunities
    - New collaboration paradigms
    - New business potential
  - Prepare the technology & standardization landscape to manage the demands posed by large-scale IoT deployments

IoT-NGIN vision and principles



- Interoperability
- Security by design
- Privacy by design
- Traceability by design
- Data sovereignty by design

IoT-NGIN core technical objectives

- Patterns-based meta-architecture
  - Architectural design language for IoT platforms and services
  - targeting mostly next-generation IoT architectures
    - Compatible with existing, legacy IoT architectures

- IoT-NGIN federation approach
  - Privacy preserving federated ML training – Distributed AI
  - Inter-DLT technologies for secure and trusted data sharing
  - Zero knowledge proof techniques for ML models verification
  - Meta-level digital twins
  - Ontology-based operations

IoT-NGIN core technical objectives

- Optimize IoT/M2M and 5G/MCM communications
  - Task offloading (μ-services) onto a secure edge cloud
  - 5G slicing
  - Time Sensitive Networking
  - Research over a 5G network exposure API
- Enable user and self-aware, autonomous IoT systems
  - privacy-preserving federated ML
  - ambient intelligence, with AR support
- Research towards distributed IoT cybersecurity and trust
  - Self-Sovereign Identities
  - Interconnected DLTs
  - ML-based cybersecurity auditing and active protection

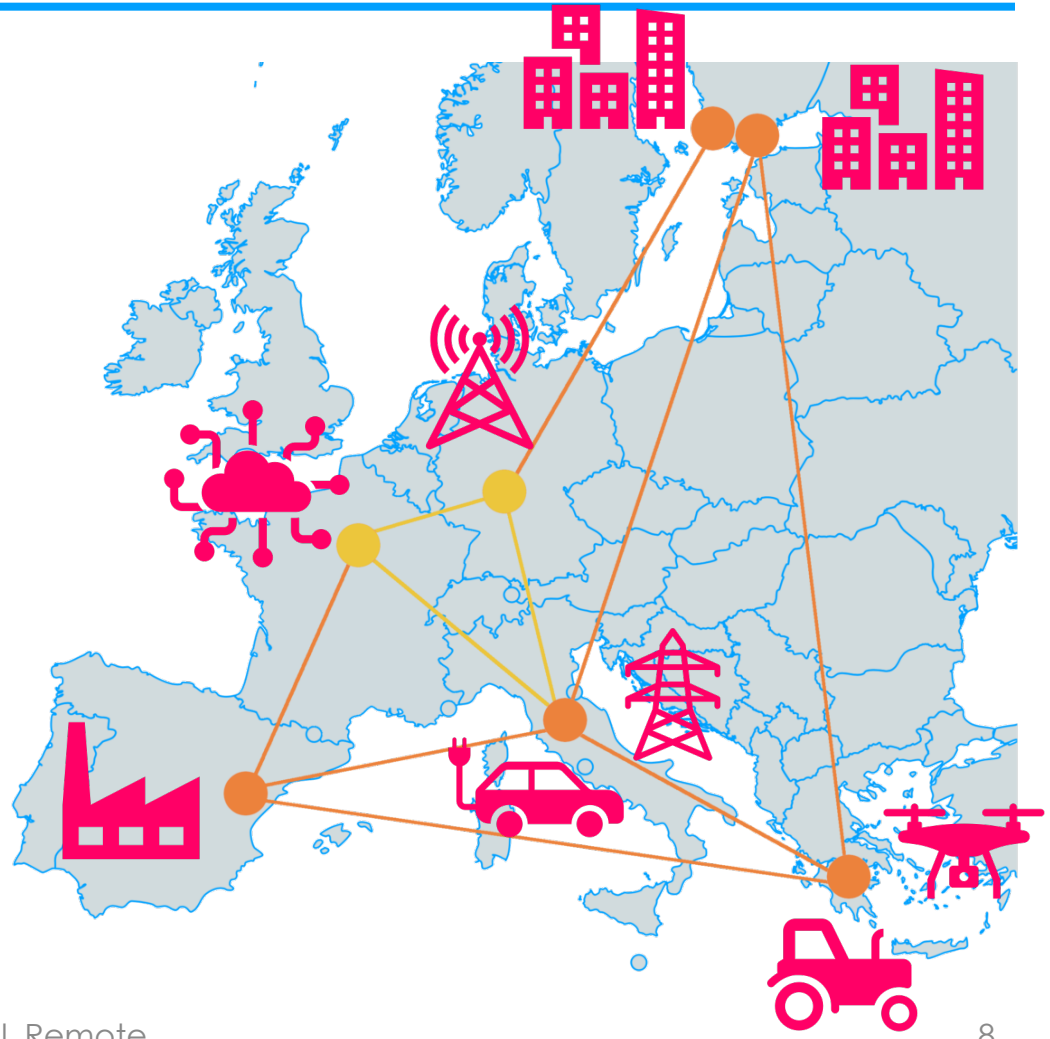
Validation

7 COUNTRIES

7 LLs and Lab Tests

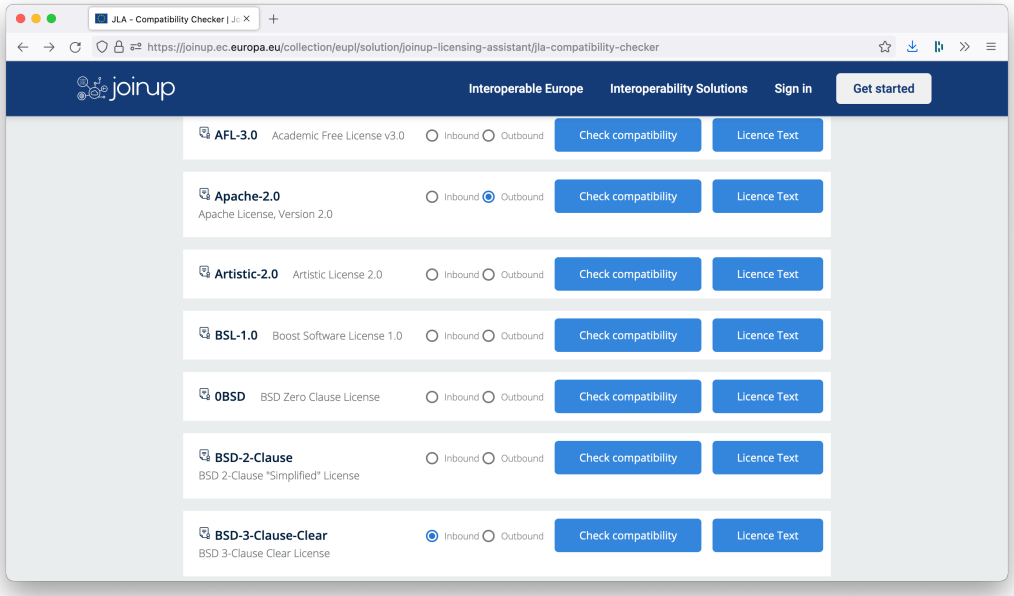
12 PARTNERS

>10 USE CASES



IoT-NGIN and OSS

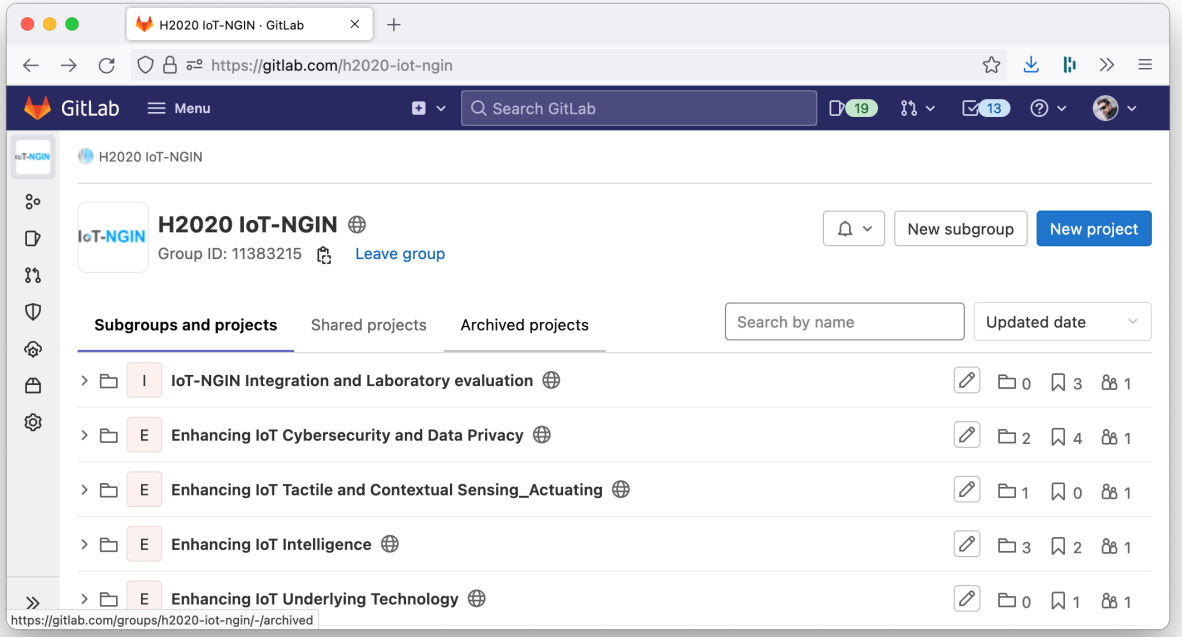
- IoT-NGIN and OSS:
  - USE OSS
  - DELIVER OSS
- OSS licensing can be challenging, due to multiple:
  - Programming languages
  - Development frameworks
  - Integrating components
  - e.g. AGPL v3, Apache 2.0, PostgreSQL License, BSD License, EPL/EDL, etc.
- We have employed the JLA – Compatibility Checker ⇒
- Not a unique/global project license for the project activities



Joinup Licensing Assistant Compatibility Checker

IoT-NGIN and OSS

- Gitlab-hosted
  - Repository mirroring to Github under consideration
- All high-level groups are public
  - Most projects are private until they reach a certain maturity level
- All will be publicly available as OSS, licenses still under consideration
- Docker images will be publicly available as well
  - Not directly relevant to OSS discussion



Goals of today and future discussions

1. Understand how to correctly approach the project licencing position
2. Get a grasp of how Eclipse Foundation activities could be relevant to the project and how we could contribute to it
3. How can we boost our OSS visibility?
4. Understand how to have practical exploitation potential through OSS

IoT-NGIN

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#iotngin, #iot, #ai