Open & Agile Smart Cities
Martin Brynskov, Chair, OASC

》 Digital4Planet, 16 March 2021

OPEN & AGILE SMART CITIES

Martin Brynskov

Chair, Open & Agile Smart Cities (OASC)

Director & Associate Professor, Aarhus University
DITCOM – Centre for Digital Transformation of Cities & Communities

Vice-Chair, Living-in.EU Tech & UN U4SSC
Coordinator, NGIoT, SCORE & SynchroniCity
Chair, Danish Standards Committee on SSCC (ISO TC268/ITU SG20)
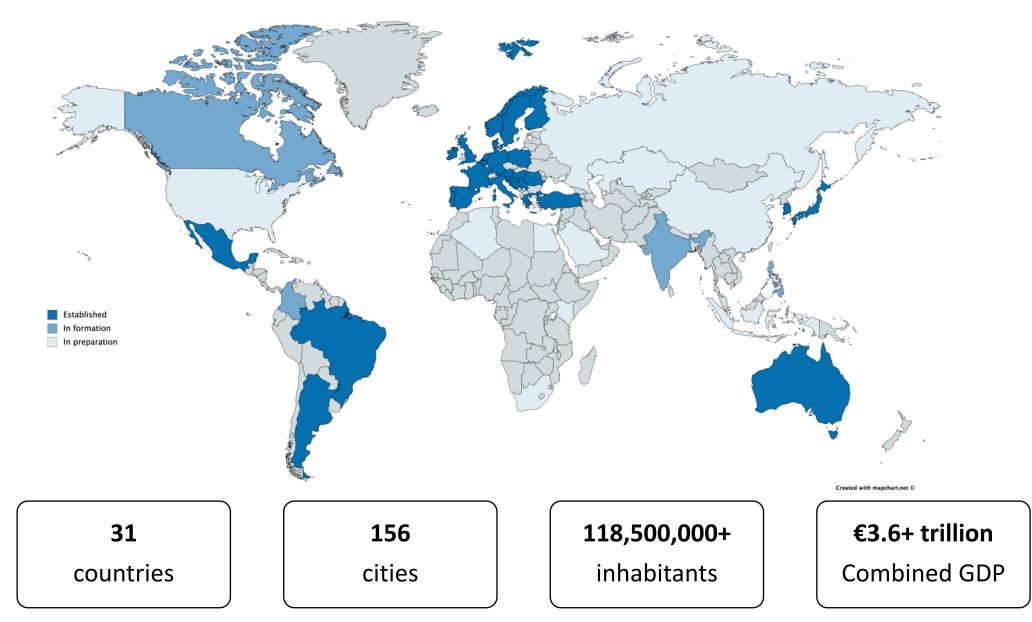Partner, Smart City Cluster Denmark

oascities.org
ditcom.au.dk

➤ OASC 2021

OPEN & AGILE SMART CITIES

Established
In formation
In preparation

| **31** countries | **156** cities | **118,500,000+** inhabitants | **€3.6+ trillion** Combined GDP |

OASC Partners 2021

OASC
OPEN & AGILE SMART CITIES

Strategic

European Commission • UNITED NATIONS • WORLD ECONOMIC FORUM • FIWARE FOUNDATION • MyData • · · · ·

Core

AARHUS UNIVERSITY • CATAPULT Connected Places • imec • BUSINESS TAMPERE • Fraunhofer IAO

Enterprise

aws • vastuu group • Atos • Deloitte. • NEC

CxC SMEs

U·HOPPER • hopu Smart Cities • • SIRUS • UrbanTide

Cleverciti • MARTEL innovate • PRETECKT • ubiwhere • VAIV

Everimpact° • MONADD • SEEDiA • TST • SUPERGRAPH

» Minimal Interoperability Mechanisms

Status and roadmap

INFORMATION

MIM 1: Context (semantic and physical)

MIM 2: Data Models

MIM 3: Marketplace enablers (Ecosystem Transaction Management)

INTEGRITY – Security, Trust, Ethics

MIM 4: Personal Data Management

MIM 5: Fair AI

IMPACT – Monitoring & Measuring

MIM X: Circular Resource Management

MIMs 1-3 adopted by OASC Council of Cities 2019. MIMs 4-5 approved as work items 2020.
New MIMs to be proposed to OASC Technology Council.

OPEN & AGILE SMART CITIES

CxC

Connecting Cities. Empowering Communities.

OPEN & AGILE SMART CITIES

CxC FESTIVAL

CxC ACADEMY

CxC CATALOGUE

CxC STANDARDS

citybycity.com

citybycity.academy

catalogue.city

standards.city

THEMES

SUSTAINABLE MOBILITY	ENVIRONMENT & WELLBEING	CITIZEN ENGAGEMENT	OPEN THEME

CHALLENGES

Enabling and improving mobility as a service

Climate Change mitigation

Increasing citizen engagement in decision making

Open challenge

Encouraging more non-motorised transport

Reducing noise and air pollution

Increasing a greater level of diversity in political engagement

CASD : Clean Air School Districts

leapcraft

SEE.SENSE
SMART CYCLING

TEACHER'S GUIDE
to aids and experiments on indoor air pollution and tools to create awareness on air quality issues and climate change

CASD
Clean Air School Districts

704

leapcraft
See the air

Your guide to solving ambient air pollution and poor indoor air quality.

SEE.SENSE® BT

MANCHESTER CITY COUNCIL
Dublin City Council

SYNCHRONICITY
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Forbes
"Transforming cities with big data & bicycle lights"

Helsinki

Semantics   Geometry   Semantics   Geometry

RainBrain
The smart blue-green roof

Healthier green roofs
- RainBrain monitors and predicts the vegetation's health
- Waters vegetation automatically when needed

The best of IoT and analytics combined
- Vegetation sensors, solar panel and LoRaWAN
- Weather data, machine learning and modeling
- RainBrain insights and controls through a mobile app

Optimized water availability
- RainBrain analyses the current and future water availability
- Anticipates on extreme weather: stores water to survive droughts, empties buffers to prevent floods

Developed by
Sumaqua   AGILIS   GREENBEAT

Piloting in
Antwerp (Belgium)
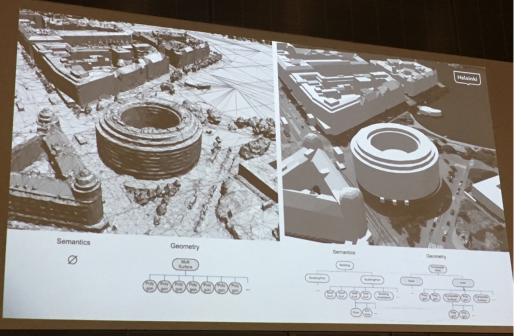Eindhoven (Netherlands)

Funded by
SYNCHRONICITY
synchronicity-iot.eu/

RAINBRAIN: THE SMART BLUE-GREEN ROOF

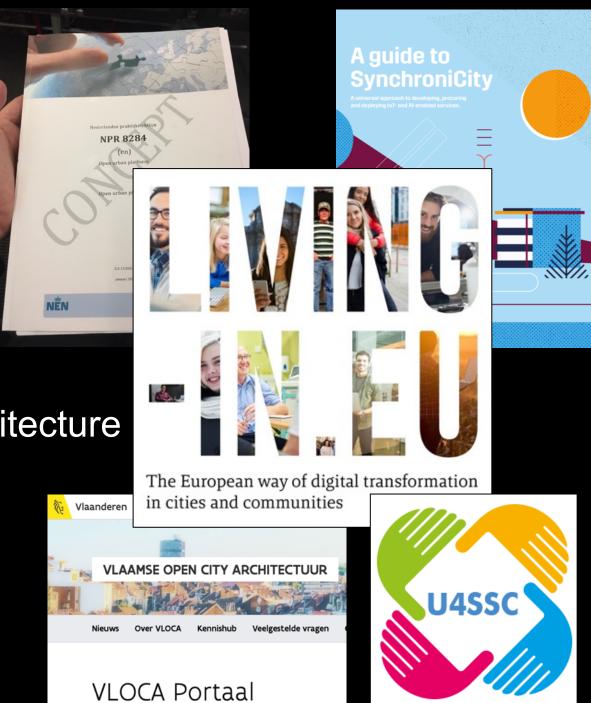piloted in the framework of SynchroniCity

National guides
- Denmark → DS/KL
- Sweden → KLASSA/SKR
- Netherl. → NEN/VNG
- Flanders → VLOCA
- Japan → Society 5.0

EU/Global
- Living-in.EU → MIMs+
- UN SDGs → U4SSC/New Architecture
  → SG20 FG-DPM

Commercial
- National
- Global region
- Global / hyperscalers

Overview commitments

Financial

1.1
Joint Investment Plan

1.2
Multi-level synergies

1.3
Local digital transformation with EU funds

1.4
Use common procurement practices

Technical

2.1
Common list of Standards & Technical Specifications

2.2
Key Enablers –Available for All

2.3
Common Marketplace

Legal

3
Assess and develop legal measures for a common EU framework

Education & Capacity Building

4.1
Develop administrative capacities

4.2
Citizen-centric design approaches

4.3
Digital education and skills for public authorities and businesses

4.4
Provide digital education and skills to the public

4.5
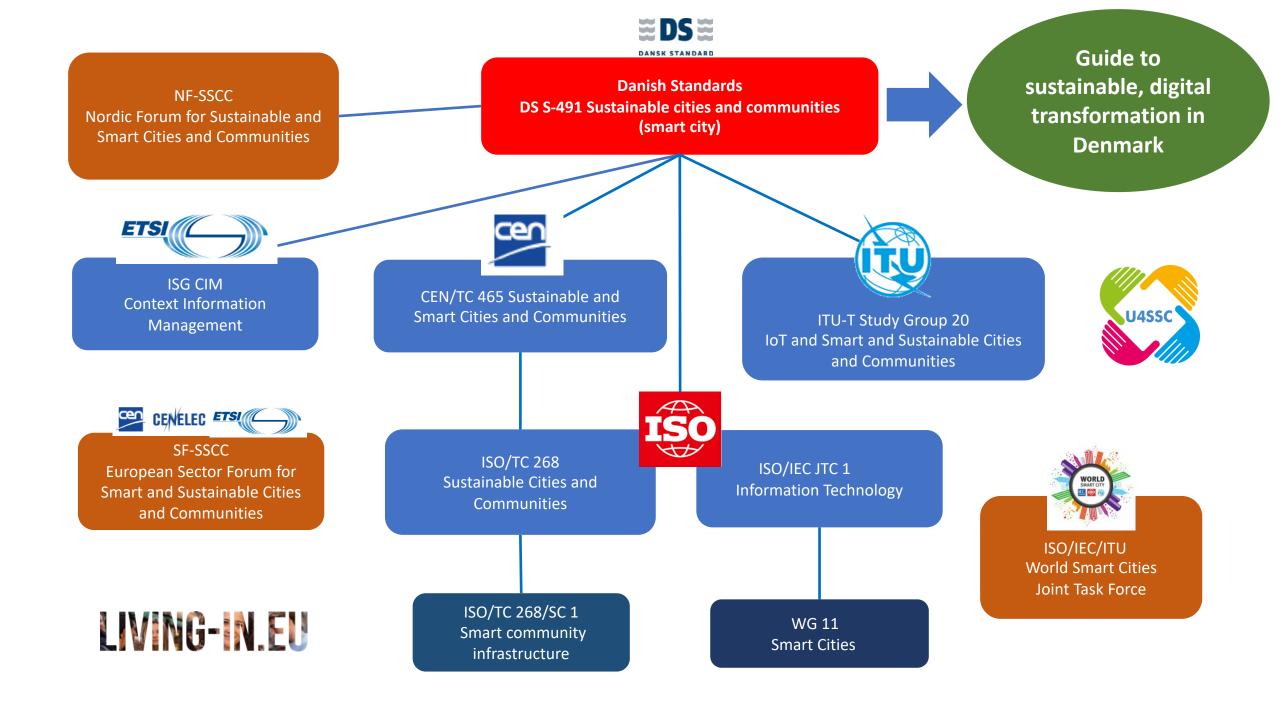Culture of co-creation, participative and cross-sector approach

4.6
Facilitate and coordinate activities for scaling-up

4.7
Opportunities that can accelerate deployment DIHs

Monitoring & Measuring

5
Framework based on existing methodologies

DS
DANSK STANDARD

NF-SSCC
Nordic Forum for Sustainable and Smart Cities and Communities

Danish Standards
DS S-491 Sustainable cities and communities (smart city)

Guide to sustainable, digital transformation in Denmark

ETSI
ISG CIM
Context Information Management

cen
CEN/TC 465 Sustainable and Smart Cities and Communities

ITU
ITU-T Study Group 20
IoT and Smart and Sustainable Cities and Communities

U4SSC

cen CENELEC ETSI
SF-SSCC
European Sector Forum for Smart and Sustainable Cities and Communities

ISO/TC 268
Sustainable Cities and Communities

ISO

ISO/IEC JTC 1
Information Technology

WORLD SMART CITY
ISO/IEC/ITU
World Smart Cities Joint Task Force

LIVING-IN.EU

ISO/TC 268/SC 1
Smart community infrastructure

WG 11
Smart Cities

GUIDE

MEANS

TECHNOLOGY   GOVERNANCE

GOALS

Data
Sensors
Internet of Things
Algorithms
Artificial Intelligence
Robots
Drones
Mobiler
Broadband
Netvorks
5G
Platforms
...

DEMAND

CITIZEN

SUPPLY

REGULATORS

Welfare
Quality of Life
Climate
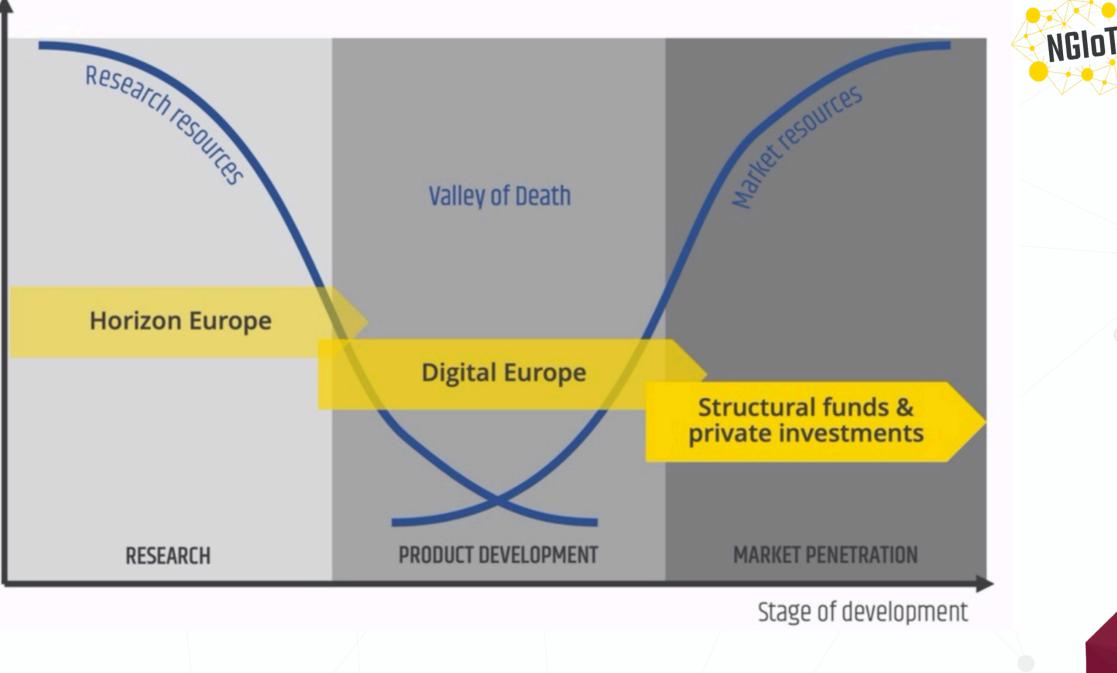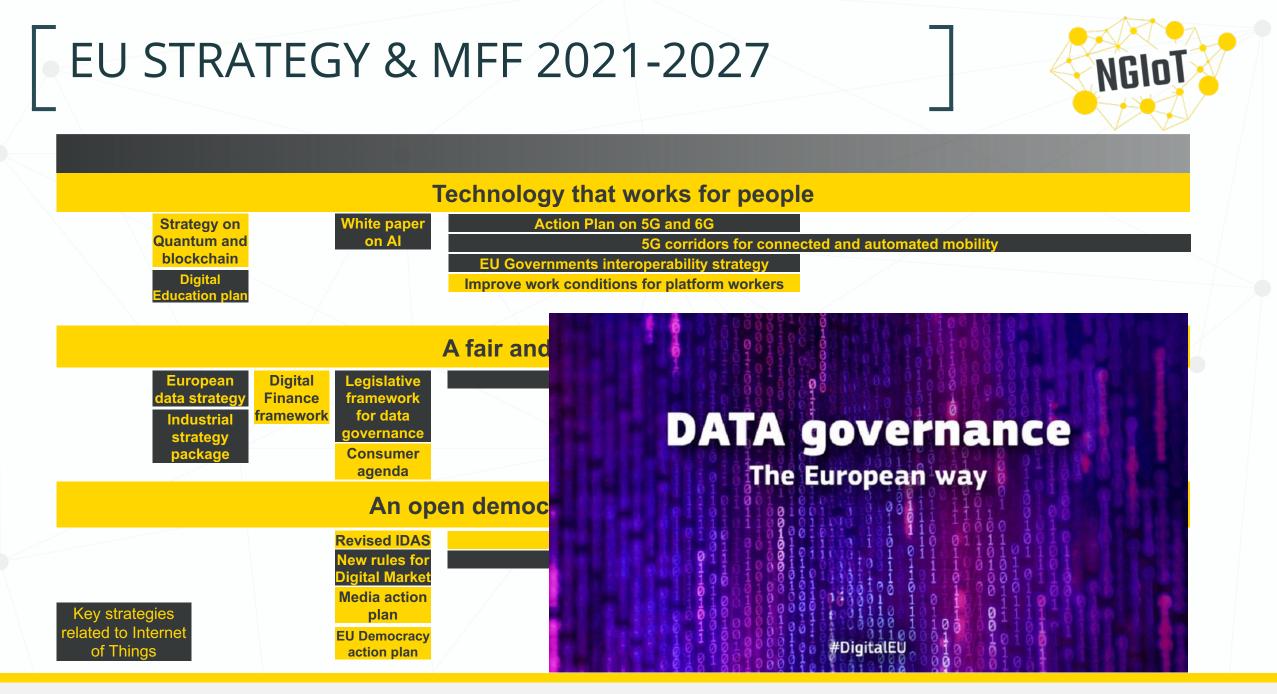Environment
Economy
Safety
Privacy
Health
...

RECOMMENDATIONS

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DS
DANSK STANDARD

EU STRATEGY & MFF 2021-2027

NGIoT

Technology that works for people

- **Strategy on Quantum and blockchain**
- **Digital Education plan**
- **White paper on AI**
- **Action Plan on 5G and 6G**
- **5G corridors for connected and automated mobility**
- **EU Governments interoperability strategy**
- **Improve work conditions for platform workers**

A fair and

- **European data strategy**
- **Industrial strategy package**
- **Digital Finance framework**
- **Legislative framework for data governance**
- **Consumer agenda**

An open democ

- **Revised IDAS**
- **New rules for Digital Market**
- **Media action plan**
- **EU Democracy action plan**
- **Key strategies related to Internet of Things**

DATA governance
The European way

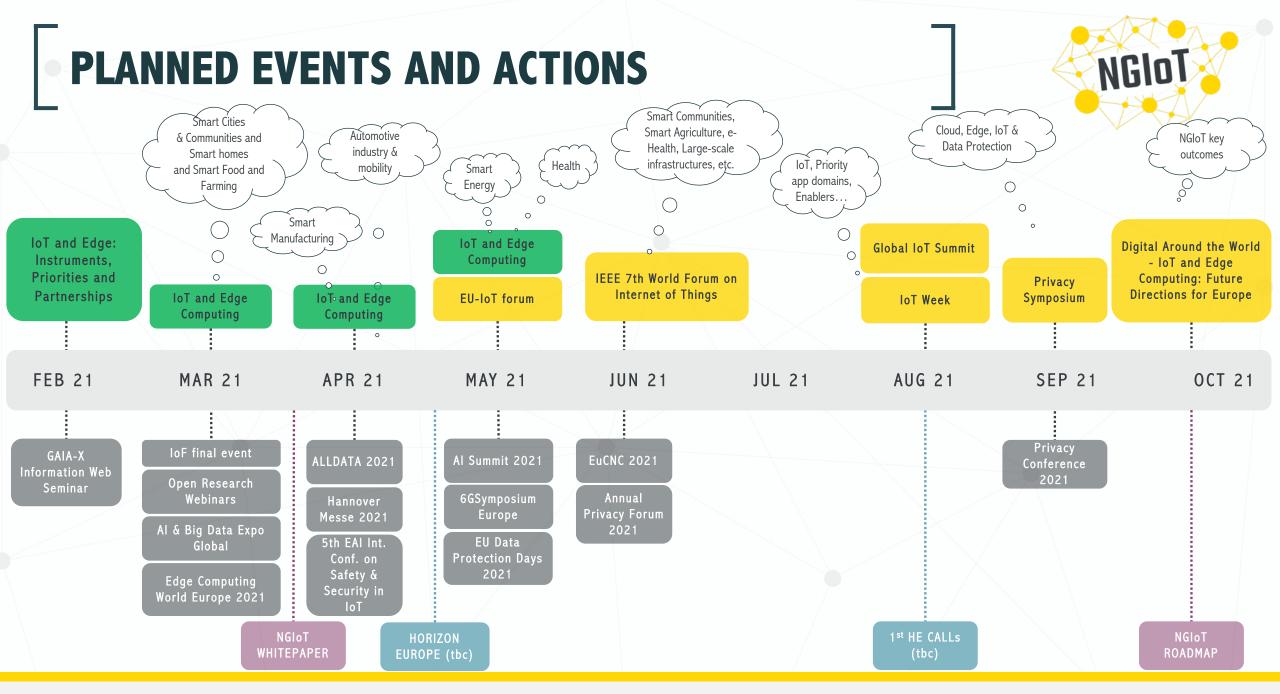#DigitalEU

EU Instruments – a selection

- Horizon Europe, CEF2, RRF
  - Missions, Green Deal
- Digital Europe Programme
  - data spaces: smart cities & communities
  - local data platforms
  - local digital twins
  - interoperability
- EU Rolling Plan for ICT Standards
- Living-in.EU
  - Tech specs: MIMs Plus [link]
- EDIH network

PLANNED EVENTS AND ACTIONS

NGIoT

Smart Cities & Communities and Smart homes and Smart Food and Farming

Automotive industry & mobility

Smart Manufacturing

Smart Energy

Health

Smart Communities, Smart Agriculture, e-Health, Large-scale infrastructures, etc.

IoT, Priority app domains, Enablers…

Cloud, Edge, IoT & Data Protection

NGIoT key outcomes

IoT and Edge: Instruments, Priorities and Partnerships

IoT and Edge Computing

IoT and Edge Computing

IoT and Edge Computing

EU-IoT forum

IEEE 7th World Forum on Internet of Things

Global IoT Summit

IoT Week

Privacy Symposium

Digital Around the World - IoT and Edge Computing: Future Directions for Europe

FEB 21	MAR 21	APR 21	MAY 21	JUN 21	JUL 21	AUG 21	SEP 21	OCT 21

GAIA-X Information Web Seminar

IoF final event

Open Research Webinars

AI & Big Data Expo Global

Edge Computing World Europe 2021

ALLDATA 2021

Hannover Messe 2021

5th EAI Int. Conf. on Safety & Security in IoT

AI Summit 2021

6GSymposium Europe

EU Data Protection Days 2021

EuCNC 2021

Annual Privacy Forum 2021

Privacy Conference 2021

NGIoT WHITEPAPER

HORIZON EUROPE (tbc)

1st HE CALLs (tbc)

NGIoT ROADMAP

WORKSHOPS: IOT & EDGE

Theme	Date
I: Future Directions for Europe	11 Sept. 2020
II: The Far Edge	7-8 Dec. 2020
III: Positions and Priorities	25 Feb. 2021
Smart Cities & Communities Agri-food · Rural Smart Communities	30 March 2021
Manufacturing Mobility and automotive	27 April 2021
Energy Health	18 May 2021

IoT and Edge Computing II:
The Far Edge **SHOP**

7-8 Dec ... ROPM CET

NEXT GENERATION IoT

ABOUT PROJECTS GET FUNDED NEWS EVENTS RESOURCES CONTACT

IoT and Edge: Instruments, Priorities and Partnerships

WHEN: February 25, 2021 @ 9:30 am – 12:30 pm   Calendar

WHERE: Online

KEY EVENT   NGIOT EVENT

The purpose of the workshop is to take stock and consolidate on the key messages from the previous workshops on IoT and Edge computing, organised by the Horizon 2020 project NGIoT, held on 11 September and 7/8 December 2020.

NGIoT invites European industry and the public sector to reflect on the results from these workshops and convey their position or provide a spontaneous feedback on the role of Edge Computing as they experience it in their relevant sectors. Feedback could be provided orally or through quote and/or expression of interest in supporting the future strategic discussion on Edge Computing at the European level.

We welcome your vision

NGIOT NEWSLETTER

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