



Grant Agreement N°: 956671

Topic: ICT-56-2020



The European IoT Hub

*Growing a sustainable and comprehensive ecosystem
for the Next Generation Internet of Things*

D5.1: Marketing and Communication Strategy and Plan

Revision: v.1.0

Work package	WP 5
Task	Task 5.1, 5.2
Due date	31/01/2021
Submission date	15/02/2021
Deliverable lead	Martel Innovate
Version	1.0

Abstract

This deliverable describes the Marketing and Communication Strategy and Plan at the service of the entire EC-driven Next Generation Internet of Things initiative. This document should be considered as a living document that reflects the emerging opportunities and changing conditions that apply, according to the IoT priorities and needs of a growing and on-the-move community.

Keywords:

IoT, Dissemination, Communication, Marketing, Online Communication, Communications Task Force, Events, Content, Visual Identity, Web Portal, Social Media, Promotional Material, Newsletter, Reports, Scientific Papers, Position Papers, White Papers, Presentations, Conferences, Workshops.

Document Revision History

Version	Date	Description of change	List of contributor(s)
V0.1	21.12.20	TOC draft	Katherine Anderson (Martel)
V0.2	28.01.21	Input on draft	Emilie M. Jakobsen (AU), Brendan and Robert (BLU), Rute Sofia (FOR), Dariya Rublova (Intrasoft)
V0.9	10.02.21	Main editing and several rounds of integration and reviews	Margherita Trestini (Martel), Katherine Anderson (Martel),
V1.0	15.02.21	Final edits and review	Monique Calisti, Lamprini Kolovou (Martel)

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Project co-funded by the European Commission under H2020

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Dissemination Level		
PU	Public, fully open	√
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EXECUTIVE SUMMARY

The Internet of Things (IoT) Research and Innovation strategy promoted by the European Commission (EC) has centred on a thriving ecosystem, a human-centred IoT approach and a single market. Uptake of IoT is booming in areas such as healthcare – even more so during the COVID-19 pandemic, as well as in smart cities, agriculture, retail, energy, and manufacturing.

The EC is keen to ensure European values of privacy, data governance, liability, energy consumption, and ultimately security, are embodied via alignment on commonly agreed goals among all key stakeholders. There is a need to bring together latest thinking and activity on IoT to coordinate policy, regulation and action and this congregation requires a solid marketing and communications strategy.

The EU-IoT project is designed to facilitate dialogue among all stakeholders, to build trust and confidence among users, to create awareness, particularly of funding opportunities, and to promote knowledge and technology transfer.

The EU-IoT mandate is to conduct marketing and communications activities to support the Next Generation Internet of Things (NGIoT) initiative intended as the plethora of ongoing projects and efforts at work for a human-centric and sustainable digital transition.

This document presents the EU-IoT Marketing and Communications Strategy and explains how the project shall reinforce connections between stakeholders, lead key activities and provide the necessary tools for effective community building, communications, and events.

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ABBREVIATIONS

AB	Advisory Board
AI	Artificial Intelligence
AIOTI	Alliance for Internet of Things Innovation
CB	Coordination Board
CTF	Communication Task Force
CSA	Communication and Support Action
DEI	Digitising European Industry
DG CONNECT	Directorate-General for Communications Networks, Content & Technology
EC	European Commission
EG	Expert Group
EU-IoT	European Union Internet of Things
H2020	Horizon 2020
HEP	Horizon Europe
LSP	Large Scale Pilot
MARCOM	Marketing and Communication
NGIoT	Next Generation Internet of Things
RIA	Research and Innovation Action
WP	Work Package

1 INTRODUCTION

EU-IoT is a Horizon 2020 (H2020) Coordination and Support Action (CSA) to support and coordinate research and innovation efforts led by several other H2020 projects focusing on Next Generation Internet of Things (IoT). The main mission of EU-IoT consists in supporting the creation and growth of a sustainable and competitive ecosystem embracing, on the supply side, all European technology and system providers, as well as researchers, SMEs/Startups, policy makers and regulators, and, on the demand side, all potential users (both private and public organisations) across several sectors that will benefit from NGIoT technologies and solutions.

EU-IoT's ambition breaks down into the following main objectives and related sets of activities:

- **To support the development of synergies and strategic coordination among NGIoT projects** and related initiatives (e.g., AIOTI, Smart Networks and Services partnership, GAIA-X, etc.) having as a main driver the maximisation of impact and reinforcement in the leadership of EU-made IoT to achieve H2020 goals while transitioning to Horizon Europe.
- **To grow the NGIoT ecosystem by engaging target stakeholders**, while facilitating participation for newcomers and fostering collaborations among them. Experts on various topics will be engaged in various ways (surveys, consultations, interviews, etc.), and via dedicated monitoring and mapping of relevant open source and (pre)standardisation efforts, several liaisons will be established and know-how/tech-transfer facilitated.
- To lower the barrier for adoption and development of IoT-empowered solutions, in close collaboration with others as relevant (cloud, edge, AI, 5G, etc.), by fostering the development of **business models, innovation** and **skills** building activities.
- To support and coordinate **outreach and impact creation** activities across the NGIoT ecosystem and beyond, by orchestrating communication and dissemination efforts, open calls promotions, events organisation and participation, as well as social media channels.

The IoT is a complex system (of systems, very often) composed of interconnected cyber-physical systems (CPS) in which **people/end users are becoming an essential part of these systems (in a dual consumer/prosumer role)**. A variety of sensing connected devices and sensors are increasingly intertwined with our daily lives, being applied in a variety of contexts, from industrial (Industrial IoT) to consumer environments. But there is more complexity than CPS, devices, and people to IoT: there is data and there is connectivity, which bring along specific constraints, but also opportunities, especially in the current move to the edge. **Edge computing** will be key to the success of IoT, as a significant part of processing the data generated by devices / sensors will take place locally (supported by more capable, powerful, and intelligent features), instead of being transmitted for elaboration to centralised servers in the cloud.

Within this complex scenario, the NGIoT community exists as a growing and on-the-move 'network of networks', at the intersection of different research and innovation communities, working also across specific vertical market sectors. In this respect, given the EU-IoT mandate, a visionary marketing and communication (MARCOM) strategy accompanied by a pragmatic and comprehensive set of activities is key to success. Therefore, within the EU-IoT project, a dedicated Work Package (WP), namely **WP5 EU-IOT Amplifier**, will i) Closely cooperate with the EC and the other ongoing H2020 projects and relevant initiatives / bodies for cross-programme coordination on communication and marketing (Task 5.1), ii) Define and run a set of dedicated dissemination and communication activities (Task 5.2), and iii) assess the impact of IoT project outcomes, by facilitating exploitation and sustainability (Task 5.3).

It is important to note that given the centrality of outreach and marketing activities both at the service of the EU-IoT CSA, but also at the service of the overall NGIoT initiative, WP5 will closely interact with the other WPs within the EU-IoT project, but also with the EC and the set of relevant H2020 projects. Coordination with these latter entities will be ensured by the creation of a dedicated Communication Task Force (CTF) gathering dissemination and communication partners from all H2020 projects and the EC. At the time of assembling this document, the CTF

has been activated and a first meeting is planned soon, which will be a first point of assembly to possibly validate and enrich the Marketing and Communication Strategy and Plan as presented in this deliverable.

In some of its activities, including communication and dissemination, EU-IoT is joining forces with the ongoing H2020 NGIoT CSA as well as with the H2020 OPEN DEI CSA. As explained in more detail later in this deliverable, EU-IoT will take over the already established NGIoT communication channels and advocate NGIoT as the common brand and initiative under which next generation IoT efforts (both H2020 and Horizon Europe, HEP) will be promoted.

1.1 Purpose of this Deliverable

To ensure effective and durable impact creation of activities, an initial draft of the Marketing and Communications Strategy was described in the EU-IoT Description of Action. In this document we further elaborate and extend such an initial strategy and plan, considering 1) what happened in the last 8-10 months within the IoT and broader ICT scene and EC plans; 2) the input received in these first months of the project by the EC (which is one of the reasons the submission of this deliverable has been delayed of a couple of weeks); 3) the internal work and discussions to refine and define planned work (especially in the first 6-8 months of the project), as well as tools, mechanisms and processes. WP5 partners will use this deliverable as a basis to indicate to all partners, as well as to the EC and other IoT projects, how to synchronise and promote dissemination and communication efforts, providing critical guidance in a forward-looking perspective. In this respect it will be very important to keep close liaisons with the EU-IoT Coordination Board (CB) (led by work package WP2 EU-IoT Guide) that gathers all ICT-56 project coordinators, as well as representatives of the EC and of OPEN Dei, NGIoT and EU-IoT.

The EU-IOT MARCOM strategy outlines the extensive dissemination and communications activities to amplify IoT projects and community efforts, as well as giving an outline of the tools and actions for awareness creation and engagement of all target stakeholders. It also outlines how the impact creation activities will be assessed to ensure progress as planned, but also to identify assets that can be better leveraged, in an exploitation-driven perspective.

1.2 Structure of the Marketing and Communication Strategy and Plan

The Marketing and Communication Strategy is organised as follows:

- Section 1 introduces the context and describes the MARCOM strategy.
- Section 2 describes key planned actions, focusing on the first 12 months of the project.
- Section 3 describes how these actions will be assessed and evaluated.
- Section 4 gives the conclusion and next steps.

1.3 Strategic Factors for Effective NGIoT Marketing and Communication

A complex scenario, where communication is key.

The development of IoT is taking place in a complex technological, economic, and societal environment, with a sudden and dramatic uptake in digital technologies, due to the COVID-19 pandemic, which clearly opens opportunities but also amplify challenges related to broader IoT adoption and deployment [1]. While IoT is indeed booming in an increasing number of vertical domains, such as Healthcare, Smart Cities, Agriculture, Retail, Energy and Manufacturing, increasing concerns about privacy, data governance, liability, energy consumption, and ultimately

security are emerging. This requires regulators, policy makers, private and public authorities to coordinate and align, which is why effective and targeted marketing and communication activities are crucial to facilitate the dialogue among all stakeholders, to build trust and confidence among the users, and finally to create awareness and facilitate knowledge and technology transfer in a broad perspective.

The European IoT framework, voice them all.

In the last decade, the European Commission (EC) actively cooperated with industry, organisations, and academic institutions to unleash the potential of next generation IoT technologies across all EU Member States and beyond.

To this purpose, the EC launched in 2016 the Alliance for Internet of Things (AIOTI) and dedicated approximately €1 billion of H2020 funding to research and innovation under the European Commission's initiative for Digitising European Industry (DEI), establishing large-scale pilots (LSPs) in several areas (agriculture, health care, smart cities, automotive, manufacturing, etc.). Within the IoT-LSP context, the EC also funded four CSAs to coordinate and support activities: CREATE-IOT, U4IOT, the EXCITING EU-CHINA project and in 2018, NGIoT. Also, as part of its Cybersecurity Strategy for the Digital Decade, the EC funded several projects (IoT Security cluster of projects) focused on the development of secure, robust, and modular frameworks that can be deployed and integrated into new and existing solutions in several domains (living, healthcare, manufacturing, food supply, energy, and transportation).

More recently, in the transition from H2020 to HEP, besides OPEN DEI and EU-IoT CSAs, several new research and innovation projects have been launched (those funded under ICT-56 which started between Q4 2020 and Q1 2021). The ICT-56 RIAs work is focussed on:

- **Next generation IoT architectures with a focus on user-aware, self-aware and semi-autonomous IoT systems**, addressing new real-time capable solutions, which solve performance challenges such as streaming and filtering at the edge, latency and network constraints. Projects are expected to use distributed AI, address security, privacy and trust requirements by design and allow for new de-centralised topologies and governance.
- **Interoperability** to cope with the increased complexity of connecting vast numbers of heterogeneous devices with increasing demands for data sharing, protection of privacy, data monetization and contractual arrangements for secure and trusted interaction.
- **Intelligent IoT devices** supporting the proposed use cases and drawing from applicable results in micro-nano-bio technologies, including resource-aware hardware/software concepts, low power processor platforms integrating computing, networking, storage and acceleration elements, new communication schemes and topologies that range from the cloud continuum towards mesh, and securing computing and communication at device level with constrained resources.
- **Tactile/contextual Internet of Things** based on human-centric sensing/actuating, augmented/virtual reality and new IoT service capabilities such as integration with parallel and opportunistic computing capabilities, neuromorphic and contextual computing.

Notice that the ICT-56 projects will issue cascading calls providing financial support to third parties, which will be promoted by EU-IoT marketing and communication actions.

IoT technologies and solutions do not come alone!

The growing number of sensors and smart devices generating huge amounts of data, and the need for quick and reliable processing of this data have catalysed an increasing shift to IoT architectures of Edge devices communicating with IoT cloud platforms. In this shift towards building a digital continuum, IoT is therefore often integrated, associated or dependent on a number of other technologies, including Artificial Intelligence, Data Analytics, Blockchain, Distributed Ledger Technologies, 5G/6G and IoT at the Edge / from cloud to Edge.

At the research and innovation level, but also at policy and market levels, this is clearly calling for

closer interactions among different communities. This is an important aspect to be considered to develop an effective holistic marketing and communications approach allowing several initiatives and other projects and organisations to be reached and engaged into the growth and consolidation of the NGIoT initiative.

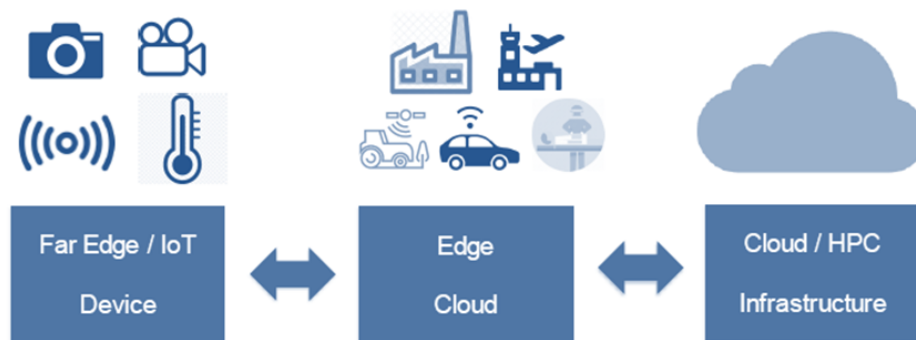


Figure 1: The convergence of IoT, Cloud and Edge Computing

The most prominent initiatives that EU-IoT has already identified and established contacts with include the AIOTI, the IoT Forum, GAIA-X, the Smart Networks and Services (SNS) partnership (that will succeed 5G PPP), the Big Data, AI and Robotics (DAIRO) partnership (that succeeds BDVA), the NGI initiative, the AI4EU platform, the FIWARE Foundation, OASC, as well as multiple Digital Innovation Hubs.

These liaisons will be exploited to establish marketing and communication channels that will allow for broad advertisement of the work and outcomes of NGIoT projects, as well as latest news on relevant EC policies and regulations, contributions to standards and open-source communities, success stories and best practices, IoT trainings, etc.

An agile purpose-driven approach

The EU-IoT dedicated work package, WP5 EU-IoT Amplifier will coordinate dissemination and communication activities within the CSA and across the overall NGIoT ecosystem, to increase trust and acceptance in human-centric IoT made in Europe - that is sustainable, trustworthy, secure, and preserving privacy-by-design. This will be achieved by providing tools (such as mailing lists, a common and protected repository, conference call facilities, etc.) and ensuring regular (online for the time being) meetings, dedicated webinars, etc. (see Section 2 and 3), aiming to:

- Coordinate communication and dissemination efforts among the ongoing projects (and with the EC or other relevant initiatives) to gather and promote relevant news of common interest, foster the organisation of common events, organise presentations and demonstrations, contact the press, etc.
- Amplify the communication and dissemination efforts of the ongoing projects to help increase their visibility, but also engage newcomers in the NGIoT initiative – for instance via broad advertisement of the planned ICT-56 projects' open calls. The common NGIoT channels (both social media and web site) will be put at the service of the whole community.
- Creating common storytelling/messages to strengthen the NGIoT vision and ambition. While technologies, applications and specific research outcomes of the various projects will be different and apply to a diversity of vertical sectors, the main idea is to promote common values and a commonly grounded approach that is green and human-centric.

EU-IoT is closely coordinating with the EC DG CNECT E4 Unit and will stay agile to serve the emerging needs and optimise on opportunities as they arise. In doing so, as anticipated, close interaction with the NGIoT CSA (finishing in Q3 2021) and with the OPEN DEI CSA (finishing in Q1 2022). EU-IoT will ensure continuity of efforts beyond the end of these two other CSAs to help grow and consolidate the NGIoT ecosystem within Horizon Europe and beyond.

1.4 Current State of Affairs

Since its start in October 2020, the EU-IoT WP5 has already supported a series of dissemination and communication activities.

- Coordination with the EC to discuss and identify the core strategic elements to define a comprehensive and well-structured marketing and communication strategy and plan, as presented in the current deliverable.
- Coordination with the NGIoT CSA to join forces in the animation of NGIoT social media channels, as well as NGIoT web portal updates.
- Coordination with the OPEN DEI CSA to amplify communications across the channels managed the two projects.
- Creation of a slide set to present the EU-IoT project's main objectives and planned activities.
- The design of the EU-IoT identity and the work to revamp the NGIoT brand identity (see deliverable D5.2: Brand toolkit and guidelines). The EU-IoT Brand toolkit and guidelines give a comprehensive overview of branding for the EU-IoT initiative, which is mostly destined for internal coordination purposes, as well as a revamp of the NGIoT initiative brand and to differentiate it clearly from the homonymous current CSA project identity to establish a strong umbrella visual identity. The brand identity is made of visible elements such as: the logo, colours, fonts, and other graphical elements that identify and distinguish the brand in the mind of the audience. The guidelines define a set of graphic elements for future materials (digital banners, flyers, brochures, posters, press releases, videos, etc.) to facilitate recognition of the initiative. The brand guidelines have informed the design and production of an EU-IoT-branded deliverable template, as evidenced by the current document. Another important support to assure the consistency of the EU-IoT identity is the presentation template, designed to reinforce the identity of the project. A set of presentation slides was designed and distributed among the consortium members. The brand guidelines (see EU-IoT deliverable D5.2) are also informing the development of the redesign of the www.ngiot.eu website for which a good deal of work has already taken place. EU-IoT has established a protected document repository to facilitate information sharing and retrieval amongst partners.
- Joining forces with the NGIoT CSA for a webinar series conducted on IoT and Edge Computing. Two workshops were held on [IoT and Edge Computing: Future directions for Europe](#) [2] and [IoT and Edge Computing II: The Far Edge](#) [3].
- A third workshop will take stock and consolidate on the key messages from the previous workshops. It will be attended by European industry and the public sector with the aim to reflect on the results from the two previous workshops and convey the position of the participants or provide spontaneous feedback on the role of Edge Computing as they experience it in their relevant sectors. EU-IoT is co-hosting and supporting the promotion of this upcoming event, [IoT and Edge: Instruments, Priorities and Partnerships Webinar](#) [4], to be held on 25 February, 2021 with NGIoT, ARTEMIS-IA, AIOTI and the European Commission, DG Connect. Accompanying the workshop, participants have been invited to share their vision of IoT in Europe through a vision statement, a process also supported by EU-IoT.
- More recently, started planning of the EU-IoT Forum as flagship event for promoting the NGIoT initiative efforts and projects' outcomes.
- Organised the EU-IoT Communication Task Force by contacting all ICT-56 projects and creating a dedicated mailing list and repository. A first meeting is planned for the end of February 2021.

2 MARKETING AND COMMUNICATION STRATEGY

2.1 Grounding Marketing and Communication

Some important aspects need to be considered to ground an effective and “realistic” marketing and communication strategy and plan.

- **Pandemic and its effect:** it is still unclear how and when the situation will normalise, but what appears evident is that there will possibly be a new normality for all society. The extent to which the pandemic has and will impact technology, science, business, politics, environment, and ultimately EC projects, is still hard to quantify and properly assess. However, what appears important for the work planned within the EU-IoT project, and more specifically the work undertaken by WP5 EU-IoT AMPLIFIER is as follows:
 - Some of the planned engagement activities will need to move online, especially in 2021, if not longer term. This means it may be necessary to revisit some of the planned Dissemination and Communication activities and KPIs – in this respect close coordination with the Project Officer is planned and some preliminary discussions already took place. If needed, we will amend the Grant Agreement correspondingly. The idea is to use unspent resources earmarked for physical events on intensifying closer contacts with the press (general and technical) and to hold online (or hybrid) events until in-person meetings resume.
 - Some target stakeholders might be less able to engage in community-building activities, when heavily impacted by COVID isolation and economic crises. This may become more evident in the longer-term perspective, however, close coordination of all EU-IoT work packages, as well as coordination via the EU-IoT CB and the CTF will proactively monitor the situation and anticipate corrective measures as needed.
- **Research and Innovation trends.** To facilitate and accelerate the uptake of IoT across all economic sectors, the EU strategy for IoT has to date been articulated around three pillars: a thriving IoT ecosystem, a human-centred IoT approach and a single market for IoT. Therefore, at a strategic level, to define a MARCOM strategy that can effectively capture all target audiences, it is important to identify the most significant research and innovation priorities and challenges ahead, including specific topics and initiatives, such as Edge/far Edge/ green data centres, energy efficient cloud, etc., since different R&I communities, as well as different policy makers, regulators and/or vertical stakeholders and wearable/sensing IoT will become part of our target stakeholders’ outreach and engagement activities. The mapping of topics that WP2 is currently conducting will be of utmost importance, also the next version of the NGIoT Roadmap (elaborated by the NGIoT CSA). The NGIoT Roadmap, to be completed by end of Q3 2021, frames IoT as a technology enabler that is central to the successful implementation of the green and digital recovery and transition of Europe. EU-IoT will inject inputs into the roadmap as relevant.
- **Transitioning from H2020 to Horizon Europe.** A solid marketing and communications strategy is essential as EU-IoT supports the transition phase from Horizon 2020 to Horizon Europe to create a strong and sustainable ecosystem – as a neutral and fully connected ‘living hub’ coordinating strategic and operational aspects working in close collaboration with the European Commission. From a strategic point of view, in addition to the mandate of EU-IoT within H2020 and Horizon Europe, IoT is a facet of a multitude of EC policy initiatives, including the EU Data Strategy, the EU Industrial Strategy, the EU Recovery Plan, the Green Deal, the Data Governance Act, the Digital Market Act and the Digital Services Act, the EU Green Deal and the Cybersecurity Act. To operate effectively in this overlapping policy environment, EU-IoT’s Marketing and Communications strategy is vital.
- **Inter-CSAs coordination.** To minimise overlap and maximise synergies, also at marketing

and communication level, initial meetings with both OPEN DEI and NGIoT have been organised. The EC also called for a common meeting that took place during the first half of January and a common inter-CSA coordination plan is being drawn together. The main principle is that by joining voices the outreach and impact will be greater, on the other hand duplication and overlap of the efforts will be avoided as much as possible.

2.2 Purpose of the Marketing and Communication Strategy

The Marketing and Communications Strategy, developed and managed within the lead of Task 5.1, supports the main aims and related activities of EU-IoT which leads coordination and support activities for the consolidation and growth of the NGIoT ecosystem by ensuring strategic coordination of all players in the community; and by providing a rich set of collaborative content, tools and actions, to maximise the impact of the programme and beyond. Excellence in communications is vital to the overall objective of EU-IoT.

The Strategy gives guidance for outreach and how to run agile and professional communications, as well as outlining methodologies, tools and approaches to enable the IoT community to align on the communication of achievements and calls to action.

Communications objectives include supporting the EU-IoT ecosystem with the support of EU-IoT expert storytellers/editors to promote the overall ambition to lead the adoption of IoT in Europe across public and private sectors. Support will be given to properly address all target stakeholders, including SMEs/Startups, policy makers and regulators, standardisation bodies, academia, as well as industry, end users and citizens, by addressing as relevant diversity and gender aspects. EU-IoT can help shape the development of IoT policy, regulation and activity in the transition from H2020 to Horizon Europe.

The Strategy outlines the marketing and communications objectives to communicate NGIoT to all stakeholders to increase awareness of the values promoted by NGIoT, strengthen the reputation and credibility of NGIoT within ICT in Europe, foster regular interactions, engage experts in consultations, promote best practice use cases and lessons-learned and clarify the vision and strategy for IoT in Europe with the following aims:

- Support the communication and dissemination activities of upcoming ICT-56 RIAs, while promoting EU-IoT tools and actions at the service of the community (such as IoT Club, events, webinars, training, mentoring, business models, etc.). EU-IoT will help create synergies, orchestrate communication efforts, and multiply their impact. Collaboration will be fostered, ensuring awareness about various initiatives, news, content, policies, standards, events, encouraging knowledge-transfer, and promoting activities related to open calls, best practices, and any other asset (open-source software, algorithms, tools, publications etc.) produced across the IoT ecosystem.
- Promote IoT efforts to underpin the NGI vision, as uniquely identifiable initiatives, under the tagline “Human-centred IoT”, sharing common values and principles, such as safety, transparency, end-user trust, privacy by design, inclusion, participation, and sustainability. To this purpose, EU-IoT will use its online presence, e.g., portal, social media, newsletters, etc. to collect, curate and disseminate relevant content to benefit all community participants in acquiring broader reach, visibility, and credibility.
- Communicate the overall NGIoT strategy and plans as elaborated within WP2 EU-IoT GUIDE and promote activities (such as surveys, consultations, workshops, etc.) to engage experts in the dialogues of the NGIoT Coordination Board.
- Support and develop actions and assets to assist in the adoption of open-source solutions, in contributions to pre-normative and standards development organisations (SDOs), as detailed in WP3 EU-IoT CATALYST. The actions developed in WP3 (e.g., open-source IoT catalogue; EU-IoT hackathon) are expected to foster early adoption of innovative IoT

technologies and solutions, and to facilitate market access especially for SMEs/Startups, in collaboration with the selected RIAs and the LSPs projects.

- Position, promote and strengthen IoT as a driver for business and business models in new stakeholder ecosystem constellations, as elaborated within WP4 EU-IoT COACH and lower the barriers for the adoption and development of IoT-empowered solutions by paving the way for the development of best practice business models, innovation activities and skills building.
- Facilitate the creation of partnerships and liaisons, by establishing meaningful dialogue and facilitating information exchange between NGIoT projects/players and relevant R&I initiatives, including but not limited to AIOTI, NGI, IoT-LSP, BDVA, 5G PPP, SNS, IoT ESP, ECS PPP, EPOSS, FIWARE, Digital European Industries, Connected Europe, ENISA and the ERC-European Research Cluster on the Internet of Things. This will also be achieved by the organisation of common events, inviting experts to NGIoT (online and offline) activities, and ensuring the presence of NGIoT ambassadors at external events.

This Marketing and Communications Strategy defines key Marketing and Communications activities and methodologies including branding, stakeholders, and approach.

2.3 Communications as an Amplifier

EU-IoT conducts activities to support The Next Generation Internet of Things (NGIoT), which remains as an umbrella brand that is deployed in all communications.

EU-IoT marketing and communications are implemented internally by WP5, EU-IoT AMPLIFIER to combine impact amplification with coordination and cost effectiveness.

The EU-IoT marketing approach supports the key elements of the CSA, to guide synergies across IoT markets (WP2, EU-IoT Guide); grow the NGIoT ecosystem (WP3, EU-IoT Catalyst); highlight innovations and highlight best practices among tech enablers (WP4, EU-IoT Coach).

Using the general guidance of WP2 EU-IoT GUIDE to define the overall communication objectives, EU-IoT AMPLIFIER plans and executes communication and dissemination actions and channels best suited to each project and their specific content.

To profile target stakeholders and audiences, EU-IoT AMPLIFIER works in close collaboration with WP3 EU-IoT CATALYST to identify the best channels and messages to be conveyed to reach out to specific communities. EU IoT AMPLIFIER also offers strong competencies for specific communication and storytelling skills.

The Communications Task Force, outlined in detail below, will provide support to promote Open Calls, Prizes, Exchange Programmes, Success Stories, and other meaningful content in close collaboration with the EC and NGIoT projects on the one hand, and with media and press representatives on the other.

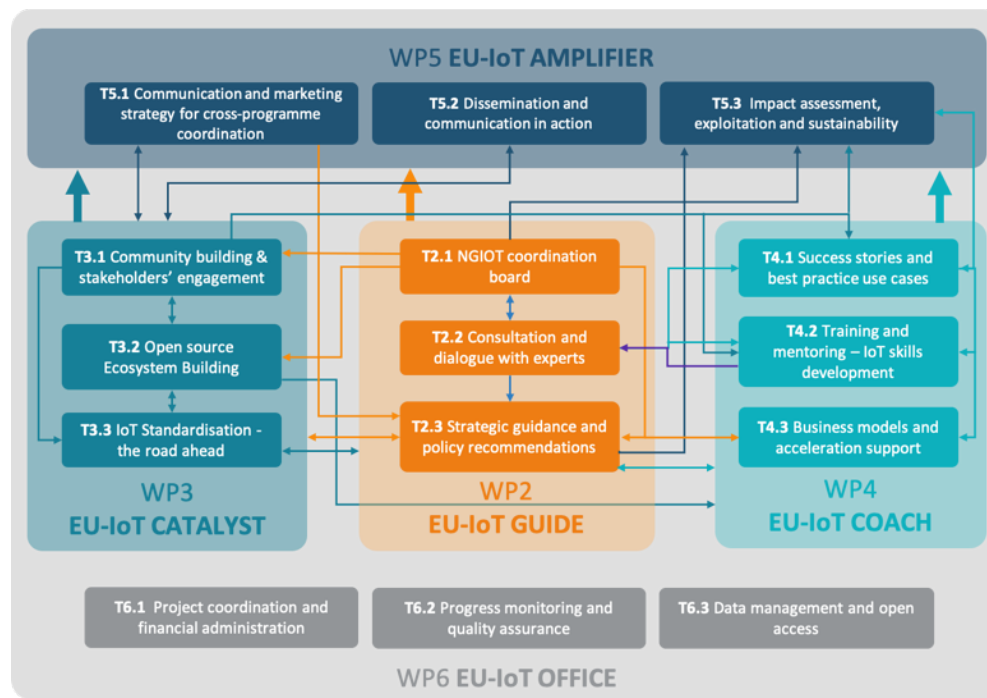


Figure 2: EU-IoT AMPLIFIER in relation to EU-IoT work packages

Marketing excellence is crucial to support the NGIoT community and this strategy aims to reinforce the primary objectives to:

- Establish connections with all key players and initiatives of relevance through dedicated and regular activities, including consultations, meetings, workshops, webinars, and communications.
- Lead coordination activities across the overall NGIoT ecosystem by engaging key players and provide them with tools and processes to collaborate effectively and smoothly.
- Enforce clear processes and provide tools and points of encounters whether virtual (conference calls, mailing-lists, common protected repository etc.) or physical (workshops, events, interviews, etc.).

EU-IoT acts as the hub of the IoT network-of-networks, reliant on effective communications to support networking. This is led via coordinator partners at the strategic level via the Coordination Board and at a communications level via the Communications Task Force.

EU-IoT offers a competence center approach to the IoT community consisting of event organisation, open calls promotion, expert consultation, tools, knowledge, access to business acceleration, all of which require highly coordinated communications processes and plans.

2.4 Targeted Engagement Partners and Strategic Stakeholders

EU-IoT is positioned at the hub of the overall NGIoT initiative, as illustrated in Figure 3 to properly support and coordinate activities among the various relevant projects, develop synergies and exchange with other relevant initiatives within the broader community, working as a network of networks. The EU-IoT targeted engagement partners include EU researchers, developers, integrators, and users, as part of a European IoT core building block in the EU Digital Single Market.

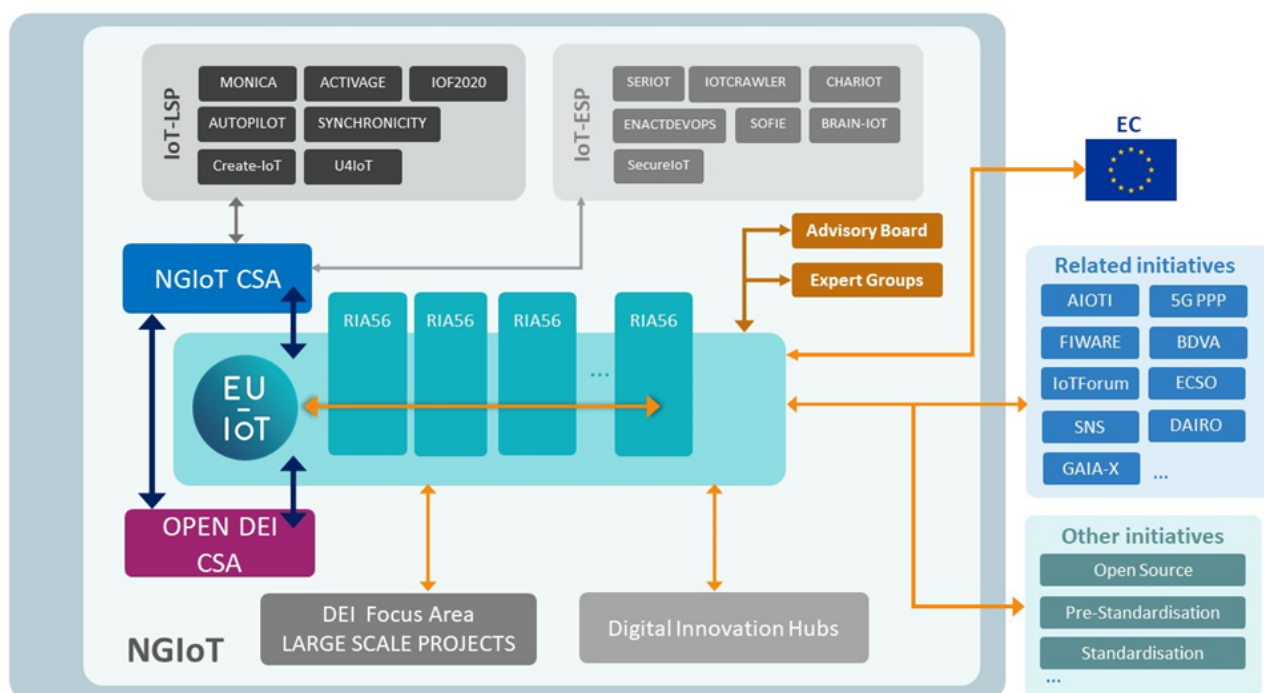


Figure 3: Key stakeholders in the EU-IoT ecosystem

We summarise the key stakeholders and their areas of interest in Table 1 below:

Stakeholder	Group	Type	Areas of interest
IntellIoT	Direct	ICT-56 project	AI, applications
IoT-NGIN	Direct	ICT-56 project	Architecture, 5G, Cybersecurity
Assist-IoT	Direct	ICT-56 project	Architecture, HMI interactions
Terminet	Direct	ICT-56 project	Architecture, BlockChain, Manufacturing
VEDLIoT	Direct	ICT-56 project	Deep learning
inGenious	Direct	ICT-56 project	Integration, first responders
IoT Next Club	Direct	Community/ Forum	SMEs, implementation, ecosystem building
Gaia-X	Collaborative	Project	Infrastructure, Cloud, Open-Source, Standardisation
AIOTI	Collaborative	Association	
BDVA/ DAIRO	Collaborative	Association	Communications, AI, Data
5G IA	Collaborative	Association	Communications, Infrastructure
Quantum Flagship	Collaborative	EC Initiative	Quantum, Communications, Research & Innovation
IEEE	Collaborative	Association	Standardisation, Education
ETSI	Collaborative	Standardising body	Standardisation, implementation

Stakeholder	Group	Type	Areas of interest
ITU	Collaborative	UN Agency	Standardisation, implementation
NGIoT	Collaborative	CSA	Strategy of IoT, Research & Innovation, Deployment
EU AI HLEG	Collaborative	High-level Expert Group	AI, Ethics, Trust, Policy
EFFRA	Collaborative	Association	Smart Manufacturing, Research & Innovation
OpenDEI	Collaborative	CSA	Platforms, Implementation, Standardisation, Data ecosystem
ArtemisIA	Participatory	Association	Research & Innovation, Embedded systems
H-Cloud	Participatory	CSA	Cloud, Policy, Standardisation
CharIoT	Participatory	RIA	Privacy, Security and Safety
IoT Crawler	Participatory	RIA	Data, Deployment, Integration
SOFIE	Participatory	RIA	Architectures, Implementation
BrainIoT	Participatory	RIA	Privacy, Cooperation, Implementation
Gerlot	Participatory		
SemIoTics	Participatory	RIA	Frameworks, Cloud
Enact DevOps	Participatory	RIA	Trust, Smart IoT

Table 1: List of NGIoT ecosystem key stakeholders

EU-IoT strategic stakeholders are aligned with the NGIoT stakeholders of Initiatives, Liaised Projects, IoT Large Scale Pilots (IoT-LSPs) and European Security and Privacy (ESP) projects, Standardisation Bodies (SDOs), including IIC, EETF, ETSI, 3GPPP and the ITU, and Security and Privacy Initiatives.

EU-IoT key stakeholders include the 5G Public and Private Partnership (5G PPP), the Alliance for IoT Innovation (AIOTI), the Big Data Value Association (BDVA), and more. EU-IoT will target IoT start up and SME ecosystems (IoT Next Club, IoT Tribe) and promoters of IoT market applications.

EU-IoT will strategically target all major IoT key players, particularly the ICT-56 RIAs and RIAs from other relevant calls, in Europe and beyond. EU-IoT will also strategically target open-source communities and tech communities where open-source software is a thematic priority. EU-IoT will engage tech enablers in areas where IoT may be applied, such as agriculture, manufacturing, and smart cities.

Appendix B contains a full list of specific stakeholders in the NGIoT community. This is a list that will be dynamically updated throughout the implementation of all the planned engagement activities. Especially for the SDOs category, EU-IoT WP4 will deliver a full catalogue of open source and standardisation initiatives that will be available online through the ngiot.eu website.

Marketing and Communications are guided by the priorities of the EU-IoT Advisory Board, Coordination Board, Expert Groups and Communications Task Force.

2.5 EU-IoT Advisory Board

EU-IoT is establishing an Advisory Board to give strategic guidance to all activities and plans covered by the CSA. Experts on IoT and related thematic areas have been selected and will guide the smooth roll out of EU-IoT strategic objectives. Advisory Board members are as follows:

Martin Brynskov is the coordinator of the CSA, NGIoT and Chair of the global Open & Agile Smart Cities initiative (OASC), which encompasses more than 150 cities from 31 countries. Dr Brynskov is an associate professor, in Interaction Technologies at Aarhus University in Denmark, director of AU Smart Cities (AUSC) and the Centre for Digital Transformation of Cities and Communities (DITCOM), founder and co-director of the Digital Living Research Commons (DLRC), Director of the Digital Design Lab, and Fellow at the Centre for Advanced Visualization and Interaction (CAVI).

Gabriella Cattaneo is Associate Vice President of the IDC European Government Consulting unit, which she founded in 2005 to provide research and consulting services to governments and policy makers on ICT market trends and scenarios, leveraging IDC's global research. Mrs Cattaneo has more than 30 years' experience in socio-economic research, impact assessment and benchmarking of ICT policies on behalf of the European Commission. She represents IDC in the Big Data Value Association (BDVA).

Nuria de Lama is European Programs Manager, Atos Research and Innovation and a Member of the Board of Directors, BDVA of which she is a founding member. She has worked more than 20 years in Research, Development and Innovation in different IT environments. She has managed or contributed to more than 40 innovation projects in areas like Digital Platforms, Digital Transformation, IoT and Big data applied to different sectors, notably Smart Cities and Agriculture. She was one of the founders of the Future Internet Partnership, (FIWARE).

Ulrich Ahle is CEO of the FIWARE Foundation. He is a reputed executive in the industrial sector, formerly Vice President and leader of Manufacturing, Retail & Transportation business and responsible for Industrie 4.0 at Atos in Germany. He is also founder and member of the Board of the International Data Spaces Association in Germany and served 16 years in the Board of the prostep ivip organization until April 2018.

Advisory Board members are expected to have a bidirectional role with regards to dissemination and communication. AB members will be enlisted to act as communication ambassadors, leveraging their networks to promote the activities of the project and support directed dissemination of project outputs to the relevant and specific communities within which they have a particular role. This may include the sharing of reports and documents.

2.6 Communications Task Force

The NGIoT Communication Task Force (CTF) has been set up by WP5 to address specific plans and activities around communication and dissemination. It is formed by representatives of the various NGIoT projects to align on why, what, where, when and how to brand, communicate and disseminate next generation human-centric IoT efforts. Currently it gathers representatives from:

- [IoT-NGIN](#) (RIA)
- [TERMINET](#) (RIA)
- [iGENIOUS](#) (RIA)
- [IntelloT](#) (RIA)
- [VEDLIoT](#) (RIA)
- [ASSIST-IOT](#) (RIA)
- [NGIOT](#) (CSA)
- [OPEN DEI](#) (CSA)

- [EU-IOT](#) (CSA)

DG CNECT IoT Unit E4 Communication Officer, Olivier Trouille, is involved from the EC side in the CTF-led activities.

The main objective of the CTF is to coordinate and create synergies to amplify outreach and increase the impact of activities. Also, the idea is to help all the RIAs in promoting their Open Calls to reach a broad audience. This is achieved thanks to the already established NGIoT channels (website, social media, mailing lists etc). NB, NGIoT indicates the initiative, the channels are run by Martel on behalf of the two CSAs, NGIoT and the EU-IOT projects.

EU-IoT will organise and support CTF monthly conference calls (the first one will take place during the second half of February 2021), maintenance of common plans and actions, leading coordinated participation at selected events, ensuring proper synchronisation of presentations and promotion of exchange programmes, open calls, and other news and activities.

The CTF will produce curated content in the form of blog posts, articles, interviews and features which will focus on current activities in IoT research and innovation in Europe.

A yearly face-to-face meeting (depending on the evolution of the pandemic) will be held for CTF participants, also involving Coordination Board (CB) members (see below) and representatives of the EC. In addition, the CTF will establish and maintain a list of key events in which NGIoT projects will participate and/or co-organise.

The CTF will engage in regular coordination with the European Commission and other relevant initiatives and bodies within the IoT ecosystem and in the broader NGIoT context, in close coordination with T2.1 (EU-IoT Coordination Board) under the lead of T5.1. The CTF works in close collaboration with other CSAs in the CNECT E4 IoT Unit, namely OPEN DEI and NGIoT, as well as the ICT-56 projects.

The CTF will coordinate the creation of curated content and stories to promote the overall ambition of Europe to lead the processes of sustainable and human-centric IoT uptake across public and private sectors. This will be key in increasing the reputation, the credibility, and the visibility of IoT efforts in the ongoing transition from H2020 to Horizon Europe, reaching out - beyond the scientific and industrial community - to policy makers, media/press, as well as civil society.

The first meeting of the CTF is due late February 2021.

2.7 EU-IoT Coordination Board

The Establishment of the Coordination Board (CB) will be carried out by EU-IoT WP2 during 2021 to facilitate collaboration and synergies within the NGIoT ecosystem. The main purpose of the EU-IoT CB is to ensure consultation and dialogue with experts by establishing and coordinating the Advisory Board and Expert Group to elaborate on key strategic areas of actions across the NGIoT initiative, map various relevant efforts and initiatives and develop a guidance framework for capturing inputs from other WPs/IoT projects. The CB brings together representatives from the EC, the NGIoT CSA, the OPEN DEI CSA and the ICT-56 RIAs.

2.8 EU-IoT Expert Group

The Expert Group (EG) will bring together leading members of the European and International IoT community to provide inputs on specific aspects of relevance to the NGIoT community. This group will be asked to focus initially on set topics of interest as defined by the EU-IoT consortium together with the ICT-56 coordinators and the European Commission at the beginning of 2021. However, the approach to the Expert Group topics will be iterative and can be expected to evolve

based on each Expert Group session. Each of the Expert Groups will be collected around a horizontal dimension of IoT such as enabling technologies, applications, policy and skills. The Expert Groups will meet in sessions, each of which will be focused on a topic along the human-device-cloud continuum of IoT.

2.9 Communications phases

Communications will be implemented in a three-phased approach. In the first months of the project, in collaboration with EU-IoT partners, the CTF unites communication and dissemination representatives of the ICT-56 RIAs (as well as NGIoT and OPEN DEI CSAs) to coordinate NGIoT communication and dissemination efforts. Via monthly calls, the CTF will coordinate and refine planned activities according to the evolving priorities of the community, in close coordination with the Coordination Board (CB, Task 2.1). The revised branding of NGIoT will be presented and the channels, tools, content, and contacts will be assessed and updated.

Stakeholder engagement commences as a continuous activity, to bring on board the relevant actors for awareness-raising, engagement, added value and retention of messaging. The overall dissemination and communication plan is divided into three macro-phases, as illustrated in figure 4.



Figure 4: EU-IoT high-level dissemination and communication timeline

Phase I: months 1 - 6, Dissemination and communication foundation

In the first and ongoing phase, the Marketing and Communications Strategy and Plan (this document) clarifies target groups and selection of dedicated communication tools and community building activities, while informing all relevant stakeholders about the EU-IoT scope and objectives.

This phase is also dedicated to defining the liaisons and interaction mechanisms with the rest of the relevant entities and players within the IoT ecosystem, starting from the running CSAs in the IoT domain, the funded ICT-56 RIAs, the Large-Scale Pilots under the DEI Focus Area (H2020), DT-ICT-07-2018-2019, DT-ICT 11-2019, DT-TDS-01-2019 projects, etc.

This phase encompasses the branding of communication guidelines and templates to be used across IoT projects; a dedicated calendar of events, an introduction flyer about the NGIoT

initiative, a programme presentation (slide deck); dedicated social media channels; dedicated mailing list for the Advisory Board and various Interest/Working Groups; a protected document repository at the disposal of all NGIoT projects; circulation of the first edition of the EU-IoT e-newsletter; the first meeting of the Expert Group workshop as well as the first educational workshop (at project M06). Key actions include:

- The Brand Toolkit and Guidelines (D5.2) are agreed upon and completed (M4).
- The first two quarterly newsletters are released.
- Common strategic objectives across the IoT ecosystem are defined and a strategy White Paper “Towards a vibrant European IoT ecosystem” is published (M6).
- Establishment of liaisons between EU-IoT partners together with the Experts’ Group towards SDOs (M6).
- Initial mapping of relevant strategic areas and gaps in standardisation towards H2020 projects (M6).

This phase also sees the launch of communication actions such as participation in events, active online communications, combining planned activities with agile interventions according to the emerging needs of the IoT community.

Phase II: months 7 – 18, Amplified and coordinated outreach

The second phase of the marketing and communications strategy focusses on active community engagement to reach target stakeholders and generate interest in NGIoT and IoT project activities and outcomes, setting a solid foundation for the planned dissemination, community building and impact-creation.

Key aspects include knowledge-sharing, best-practices documentation, consultations, road mapping activities, standardisation and pre-normative activities, as well as an IoT skills development framework and acceleration support led by WP2, WP3 and WP4.

Participation in key events will also be ensured and the first edition of the EU-IoT Forum is organised, a major community event, under consideration for co-location with other relevant events.

Measures include the publication of best-practices and success stories (curated contents/storytelling), the first edition of the major community flagship event (See Task 3.1 at M12), the first video interviews from IoT representatives and experts to raise awareness, the animation of social media channels, the production of several news items pushed out via the website and media, newsletters, webinars and participation in selected events to facilitate networking, outreach and community building. See also:

- Recommendations on research priorities and innovation strategies to standardisation (D3.4, M12)
- Community engagement report (D3.1, M18).
- Open-source catalogue on the EU-IoT Website (D3.2, M18).
- Report on mapping of knowledge areas to relevant SDOs, pre-normative entities, related consortia and associations (e.g., Gaia-X, AIOTI) (D3.3, M18).
- The Report on best practices for use cases (D4.1) and the first report of training activities (D4.3) are published.
- Strategic white papers concerning a vision on decentralised Edge topics and open-source initiatives.
- EU-IoT Hackathon planning defined (M8).

Phase III: months 19-30, Long-lasting impact creation

The final extended stage of the Marketing and Communications Strategy is focused on the engagement of target stakeholders on a broad scale in Europe and beyond, ensuring the establishment of an inclusive and sustainable collaborative framework for human-centric IoT made in Europe to achieve the H2020 goals, while supporting the transition to Horizon Europe. Activities focus on ensuring strategic and extensive dissemination and communication (Tasks 5.1 and 5.2) in combination with targeted community building actions (T3.1), a stronger engagement of stakeholders and fostering early adoption of products and innovative concepts (T3.2) and assisting a better interconnection to SDOs (T3.3).

Activities include production of promotional material in various forms (presentations, interviews, videos, flyers, etc.), scientific publications and strategic white papers, established liaisons with relevant research and innovation projects, news/newsletters, social media presence, dedicated webinars, participation in events, including the second edition of the EU-IoT Forum and EU-IoT Hackathon (See Task 3.1 at M24), two additional experts' workshops (See Task 2.2 at M24, M30), the full open-source IoT catalogue (See Task 3.2, M30) and the review of recommendations on research priorities and output to standardisation (see Task 3.3, M30).

Two additional IoT training workshops will be conducted (See Task 4.2, at M24, M30). EU-IoT will also provide guidelines (Task 5.3) which will ground the creation of an action plan for exploitation of valuable assets within the NGIoT ecosystem and the development of sustainable collaborations (D5.6, D5.7 Guidelines for IoT collaboration sustainability, M24, M30). See also:

- NGIoT Roadmap and policy recommendations (D2.5)
- Open-source Ecosystem Catalogue (D3.2, M30).
- Recommendations on research priorities and strategies to standardisation (D3.4, M30).

3 DISSEMINATION & COORDINATION IN ACTION

Dissemination and communication activities are managed under the combined lead of Tasks 5.1 and 5.2, by closely coordinating with all other EU-IoT tasks and work packages as relevant. It comprises the branding and visual identity refining the animation of the web portal, social media channels, promotional materials, and main communications tools.

The key factors for EU-IoT's approach to marketing and communications are:

- Popularity, recognition, awareness.
- Engagement and interaction.
- Knowledge transfer.

EU-IoT offers a motif with a common identity/brand for all NGIoT projects:

- Common Identity.
- Common branding and communication of key events.
- Common hashtags and keywords across online channels.
- NGIoT branded newsletter that gather input from all projects.
- Harmonized slides / white papers / report etc. templates and promo materials

EU-IoT shall guide the relevant collection, dissemination, and amplification of content to relevant identified audiences. This will be achieved with input from 'multipliers' who shall give strategic guidance on content i.e.. the Expert Group (EG), Advisory Board (AG), Coordination Board (CB), Communication Task Force (CTF), and ultimately the EC. In this way, key content topics are identified, fed to projects, results are reported, and the content is positioned for the relevant audience.

ACTIVITY	PULL	INTERACTIVE	PUSH
Dissemination tools: Workshops Events Hackathons Publications Video-tutorials/training			
Social Media			
Reports under WP3			
Coordination Board			
EC policy priority			

Figure 5: Communications activities

News items, blogs, press releases and other curated stories and white/position papers will be published and selectively shared across specialised channels (e.g., NGI portal, IoT LSP social media, NGIoT social media, etc.). Calls for papers and new publications are circulated broadly within the community.

3.1 Branding and Visual Identity

A unique, well thought out identity allows all stakeholders to recognize a consistent look and feel across all media outlets (electronic and printed visual media). It defines how those who encounter the brand should perceive it and influences their opinion of it.

The EU-IoT visual identity and promo kit definition comprises of brand and communication guidelines, colour and font codes, logo variants, templates for presentations, deliverables and reports.

The EU-IoT project brand identity and communication is secondary, while the NGIoT initiative brand identity, uniqueness, awareness and outreach represent the foremost primary objective of the CSA efforts.

As discussed with the European Commission, the EU-IoT project has strategically decided to leverage on the results, assets and communication channels developed by the NGIoT project. However, there is a compelling case to revamp the NGIoT initiative brand and to differentiate it clearly from the homonymous current CSA project identity to establish an initiative umbrella strong, visual identity.



Figure 6: Logos of the NGIoT CSA, The EU-IoT CSA and the NGIoT initiative

A common visual element is crucial to identify all the NGIoT projects as part of a common initiative. In order to achieve this goal the EU-IoT design team has designed a simple “branding sticker” (Figure 7) which will be shared with all the projects, to be used across all their online and offline communication materials.



Figure 7: NGIoT affiliation stickers

A full description of the branding of EU-IoT and the NGIoT initiative is given in deliverable D5.2: Brand toolkit and guidelines.

3.2 Web Portal

The web portal is at the service of the whole NGIoT initiative as an entry door to gather knowledge, resources and activities.

Basic facts: The New NGIoT web portal is taking over the work done by the NGIoT CSA and will use the same URL <https://ngiot.eu>. Martel Media, which is the Martel's department specialized in communication services, created the web portal and will technically maintain it throughout the whole duration of the project, with active collaboration from all project's partners.

The web portal is based on the WordPress (<http://wordpress.org/>), one of the most popular Open Source Web Content Management System (CMS) which uses PHP to generate HTML code, pages are styled with CSS3. The entire code of the website adheres to the standards of accessibility defined by the World Wide Web Consortium (<https://www.w3.org/>).

The website is hosted by GreenGeeks (<https://www.greengeeks.com/platform>), who puts back three times the power they consume into the grid in the form of renewable energy. The hosting platform has been designed to be as energy efficient as possible and limit waste of resources.

Design aspects: The design of the web portal is strongly brand-oriented to grow and consolidate the image of the NGIoT initiative. All the dissemination material produced within the project and for the interaction with social networks will use the portal as point of reference, in order to have a consistent communication and an easy-to-recognise image/brand. To support multimodal access of the web portal, it adopts responsive design principles aimed at providing an optimal viewing experience: the interface adapts the layout to the viewing environment by using fluid, proportion-based grids.



Figure 8: NGIoT web portal on desktop computer and smartphone

The web portal aims to be the entry point for all information about the NGIoT ecosystem. All relevant information about projects, outcomes, events, milestones, developments, etc., must be well exposed and accessible via the dedicated areas the portal has been structured around.

The EU-IoT consortium will be constantly searching, gathering and elaborating information to be posted, especially in relation to the planned activities of the various work packages. Moreover, the EU-IoT partners will regularly pull for information and motivate the community to share their most relevant information.

A key success factor for the promotion of the web portal will be the close relation with the various active NGIoT social networks. Twitter and LinkedIn will regularly echo what is happening in the web portal. This will be crucial to attract new visitors and target stakeholders.

A user-friendly interface allows for smooth access to promote and retrieve information and any public material. The homepage, as the entry point of the web portal will make a brand exercise to consolidate the new identity with a full screen animated banner. This element could be use for special promotions if needed. Scrolling down the homepage there will be some highlighted information such as the upcoming events, the NGIoT projects and community as well as the connection to the social networks and the newsletter.

The main structure of the new web portal is divided as described in Figure 9:

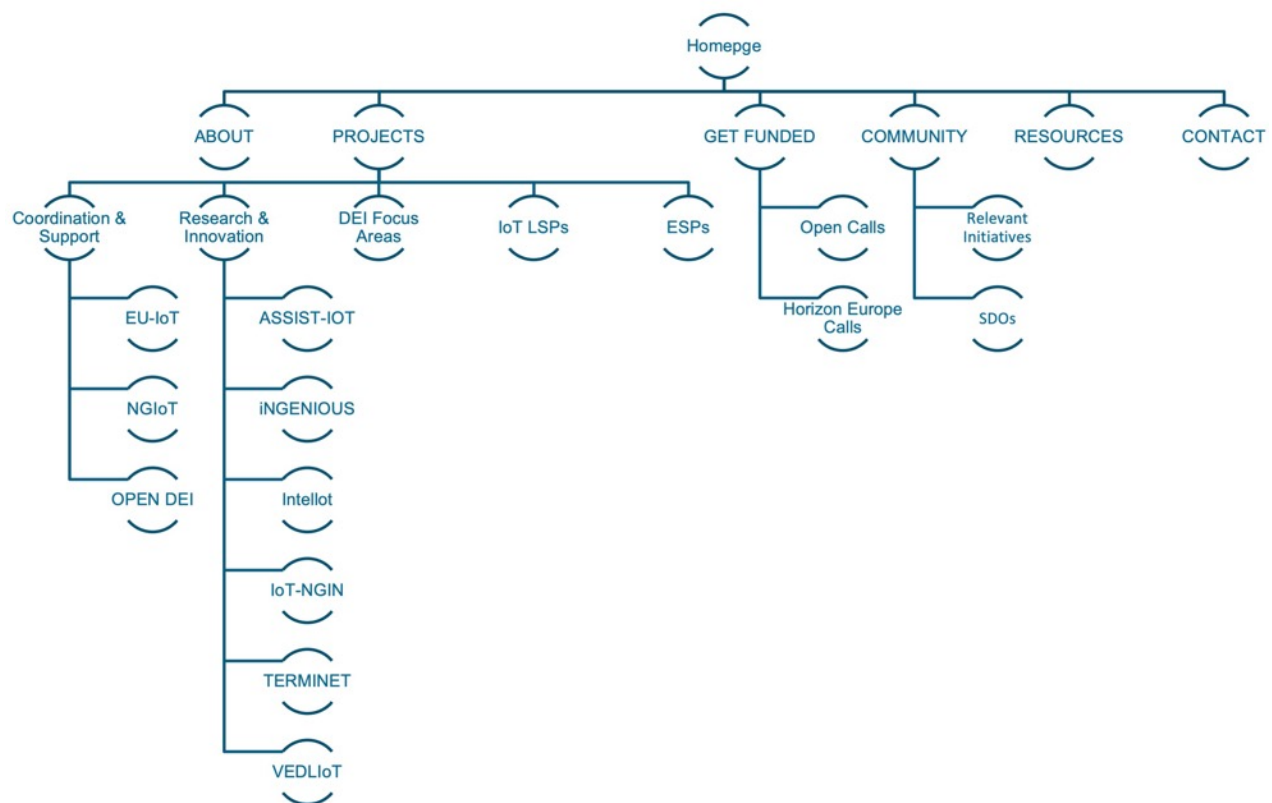


Figure 9: NGIoT web portal main structure

As already mentioned and in line with the objectives of the EC for ‘one voice’ for IoT in Europe, EU-IoT is remodelling the same web portal www.ngiot.eu already developed by the NGIoT CSA project. This process is at an advanced stage and is fully described in deliverable D5.2, Brand toolkit and guidelines.

3.3 Social Media

EU-IoT animates the well-established social media channels already in place through the existing NGIoT project. This is used to funnel the NGIoT initiative activities, news and events. As such, EU-IoT is the ‘invisible hand’ behind the social media channels. The branding of the NGIoT channels will be revamped by the new visual identify as described in document D5.2: Brand toolkit and guidelines. By leveraging these channels, with established audience, followers and interactions, EU-IoT will extend and enrich the reach and scope of both contents and communities.

NGIoT is well represented on social media via a strong Twitter account, a LinkedIn profile, and a YouTube channel, which are exploited to build a growing community.

3.3.1 Twitter

The Twitter account at @NGIoT4eu <https://twitter.com/NGIoT4eu> – currently has more than 700 followers. The editorial team publishes at least one Tweet per day (usually more) on relevant NGIoT content, upcoming events or sharing /curating relevant news stories.

NGIoT relevant Twitter hashtags	#IoT #NGIoT #IoTEdgeEU #secureiot #horizoneurope #DigitalEurope #EUIoT
EU-IoT partner Twitter handles	@Martel_Innovate @AarhusUni @INTRASOFT_Int @Bluspecsinnova @fortiss @IoTNextClub1 @IoTTribe
Coordination Board/project Twitter handles	@IoTNgin @Terminet_H2020 @INGENIOUS_EU @IntelIoT @VEDLIoT @AssistIoT @NGIoT @opendei_eu
EC relevant Twitter handles	@EU_Commission @DSMeu @NetTechEU @NGI4eu

Table 2: Social media handles and hashtags

3.3.2 LinkedIn

The NGIoT LinkedIn Group is named 'Next Generation Internet of Things' <https://www.linkedin.com/groups/8774065/> and has almost 100 members and allows the publication (and moderation) of contents of multiple players. It is very active and allows multiple voices and contributions.

3.3.3 YouTube

The NGIoT YouTube channel is named 'NGIoT Next Generation Internet' <https://www.youtube.com/channel/UCoybrBS6vzvKnkAsCXK9R1Q/featured>

It is currently organised with three playlists:

- One dedicated to IoT Week 2019, with four videos.
- One which collects the recordings of the webinars conducted by the NGIoT CSA project with 21 videos.
- And a third playlist with three videos introducing the NGIoT initiative.

The total views accumulated for the channel so far is 1,377.

The EU-IoT project will produce three videos per year gathering a target of 200 views per video which will be positioned on the YouTube channel. Moreover, the projects will be invited to upload their videos on the channel to create a one-stop shop' for content. Dedicated playlists will be created according to the relevant needs.

All videos will be posted in the resource area of the NGIoT web portal.

3.4 Document Repository

Within the context of the Marketing and Communications Strategy, EU-IoT has established and is maintaining and/or moderating a protected document repository partitioned to share information, documents and resources among project partners. This includes but is not limited to the Advisory Board, the Expert Group, the Expert Groups, the Communications Task Force members and others. Mailing lists for various bodies and groups within the community (see WP2 in the DOA Part A and T5.1) are also provided and curated.

3.5 Promotional Material

EU-IoT will design and produce promotional material such as brochures, slides, posters, roll-ups, and videos, to be used and distributed in accordance with the EU-IoT activities and NGIoT programme needs.

Materials are situated online and off-line. EU-IoT will produce a variety of dedicated dissemination materials (e.g., slides, posters, roll-ups, flyers, videos, photo galleries and giveaways) presenting the project and its achievements, as well as the plurality of the four RIAs, the IoT LSPs and the overall IoT community.

In accordance with the EC Guidance document on [Preparing a Waste Prevention Programme](#) [5], any material produced by EU-IoT will aim to minimise waste and energy consumption as well as using eco-friendly material, by embracing green practices that offer a low carbon footprint.

3.6 Newsletter and Newsflash

News will be pushed out via quarterly e-newsletters and monthly newsflashes to gather highlights and announcements of interest to all target stakeholders. Input will be collected from all ongoing NGIoT RIAs. Regular updates about work within the community, open calls, events, success stories etc. are shared in this quarterly newsletter, while shorter and more frequent newsflashes are issued to promote highlights and broadcast announcements.

The newsletter and newsflash will be rebranded according to the new branding guidelines. The channel is the same as NGIoT. There are currently 230 subscribers to the newsletter.

All newsletters and newsflashes will be stored in the resources area of the NGIoT web portal and will be echoed on the social channels to enhance their impact and dissemination.

3.7 Active Dissemination of Key Content

Dissemination activities will be carried out via the publication of reports, scientific, position and white papers, as well as presentations and notes given at conferences, workshops, and relevant events by ongoing IoT projects, including relevant know-how/documents such as Reports, Scientific Papers, Position Papers and White Papers produced by EU-IoT or within the broader context.

Content to be agreed by the CTF will be guided by key activities of EU-IoT including, but not limited to:

- Support and coordinated outreach and impact creation activities of upcoming ICT-56 RIAs and in RIAs from other relevant calls involving IoT e.g., dissemination, open calls, events, contributions to standards. Strategy White Paper “Towards a vibrant European IoT ecosystem” (D2.1)

- NGIoT Roadmap and policy recommendations (D2.5)
- EU-IoT Flagship Event and EU-IoT Hackathon (under the lead of WP3), focusing on far Edge applications and scenarios.
- IoT Open-source Ecosystem Catalogue (D3.3 and D3.4)
- Mapping of Knowledge Areas to Standardisation (D3.5 and D3.6)
- Recommendations on research priorities and innovation strategies to standardisation (D3.7 and D3.8).
- Published IoT success stories (written and multi-media) to highlight best practices among tech enablers and business innovations as IoT Use Cases
- Report with analysis of best practices for IoT Use Cases featuring SME's and Start-ups role in creating and promoting human-centric IoT related innovations, the role of digital maturity, and the role of IoT business model patterns (D4.1 and D4.2)
- Published strategy and programme for training and mentoring IoT communities for developing the proper skills towards designing, deploying, operating and fully leveraging next generation IoT applications (D4.3, D4.4 and D4.5)
- Exploitation action plan, guidelines for IoT collaboration sustainability (D5.6 and D5.7)

3.8 Media Relations and Engagement

Media relations will include but not be limited to European tradition and online general media as well as specialised press related to the Internet of Things specifically and technology in general. In addition, in alignment with CTF priorities, specific communities such as agriculture, manufacturing and smart cities, as well as standards setting.

3.9 Events

EU-IoT will coordinate the organisation of events within the NGIoT ecosystem, including an annual Flagship Event, tentatively termed the EU-IoT Forum. This major community event will involve academia, SMEs and Start-ups, industry, security and privacy stakeholders, civil society, policy makers and the media, giving ongoing NGIoT projects the opportunity to present and showcase their main results and promote their open calls, while attracting newcomers to form a living community coordinating IoT research and innovation efforts at the pan-European level. Co-located with the annual Flagship Events, EU-IoT will organize a Hackathon in two editions (M12, M30) dedicated to the development of mobile applications and challenges in the far Edge/Decentralised Edge and aligned with Sustainable Development Goals challenges. Key organisations and the RIAs shall be involved.

EU-IoT will adopt dynamic, interactive, and participatory techniques fostering creativity and engagement. These events provide opportunities to voice prominent experts, animate thematic panels, showcase demos, and foster hands-on sessions for collaborative exchange of experiences among the represented groups of stakeholders.

EU-IoT shall also organise dedicated expert workshops (under the lead of T2.2) to foster consultation of experts and discussions on specific strategic aspects to provide proper guidance to the community.

Dedicated training and mentoring workshops will be organised by WP4 to engage experts from different domains to better understand industry demand and identify how to forge IoT education programmes and provide consultation relevant to proper skills development for different

stakeholders' categories, see Section 1. Timing and colocation of events, including project meetings has been organized to minimize travelling and overhead.

3.9.1 Annual NGIoT Event

The NGIoT Flagship Event, tentatively termed the EU-IoT Forum is currently being developed, together with EU-IoT Catalyst an outline is being prepared and input is anticipated by the CTF in its inaugural meeting. The EU-IoT Hackathon will be co-located with the Flagship Event. The first edition of the event is planned for Q2 of 2021.

3.9.2 Key Events

NGIoT will be present at other IoT related events throughout the calendar, in line with the CTF priorities.

Events include EuCNC, NGI Forum, IoT Week, ICT Proposers' Days, ICT 2021, etc. through demos, presentations, dedicated sessions and workshops, regular meetings with experts and expert panels sessions moderation, booths, etc. (T3.1, D3.1, D3.2; T3.3, D3.4, M18, M30).

This list of events will expand to include those organised by the other two H2020 CSAs (NGIoT and OPEN DEI) and EU-IoT will explore possible synergies and joint activities under the umbrella of these events. The following diagram presents a tentative plan shared by the NGIoT CSA for future events.

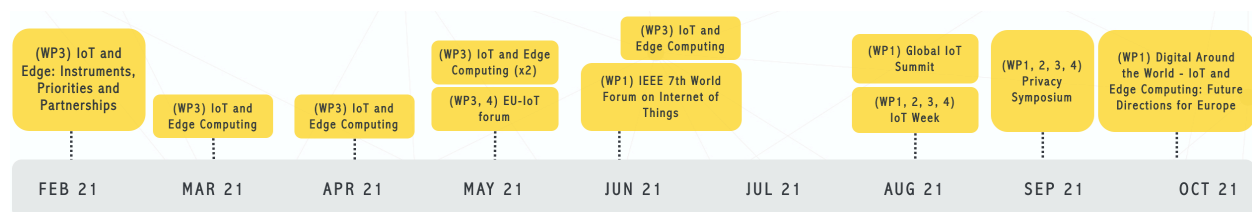


Figure 10: 2021 timeline of events planned in the next 8-10 months.

3.9.3 Other Events

NGIoT may also feature as part of other events, beyond the IoT community, related to IoT standardisation, as well as applications of IoT technologies such as manufacturing, agriculture, smart cities or healthcare.

Participation in events may include in the form of keynote speeches, presentations and/or dedicated sessions, exhibitions, etc.). Event participation should help promote the project's results and efforts in the community (also at policy level), and create awareness about NGIoT efforts, attracting new players and communities to join, possibly fostering knowledge transfer and increasing positive impact at a scientific, technological, business, and environmental level.

Presentation and materials to be used at events will also be used to feed into dissemination and communication activities online. The major events on the EU-IoT radar include scientific, as well as policy-driven initiatives, such as EuCNC, the NGI Forum, IoT Week, ETSI IoT week, the Digital Assembly, ICT Proposers'/Info Days, ICT 2020, AIOTI events, DIHs in IoT workshops, EC relevant events, Connected Smart Cities and Communities conference, IoT Tech Expo Europe, Internet of Things World Europe, Artificial Intelligence & Big Data Conference, Internet of Manufacturing, International Conference on Internet of Things, Big Data and Security conference, Mobile World Congress, 4 Years From Now, IEEE ICC, Emerging Issues in International Security, European Security Course, IFSEC International, European Space Conference, Cyber Security & Cloud Expo Global, World Conference on Cyber Security and Ethical, ICS Cyber Security Conference, International Cyber Security Forum, etc.

4 IMPACT CREATION MONITORING

4.1 Impact assessment

EU-IoT will assess impact creation at cross-programme level as a basis to identify valuable assets for ensuring European technological sovereignty and elaborate on exploitation and sustainability opportunities. To this effect, it will produce guidelines which will ground the creation of an action plan for the development of a sustainable innovative IoT ecosystem, building on top of assets produced within the NGIoT initiative including outcomes generated by the EU-IoT project, at the benefit of all its participants.

To this purpose, EU-IoT will work in close collaboration with key actors in IoT and the 2030 Agenda (and associated Sustainable Development Goals) value creation chain, coordinating with the CB (see T2.1), with the CTF (see T5.1), with the AB (see T2.2), with the EC and any other relevant player. Publicly available information about upcoming NGIoT RIAs (websites, factsheets, etc.), interviews with projects' representatives and IoT experts in the broader context (see T2.2) and the available literature, we will develop a (mainly qualitative) methodology aiming at identifying and analysing project outputs and their impact. EU-IoT will adapt and extend the SDG "green points" indicators to assist in assessing the impact of IoT projects regarding sustainable IoT; discuss and implement specific challenges (provided by the RIAs) on EU-IoT.

Special attention will be dedicated to the analysis of the processes followed by projects to reinforce cooperation, issue open calls, work towards sustainability and scaling up, disseminate results, etc. The first draft of the EU-IoT methodological framework will be presented to the NGIoT projects via a dedicated webinar (at M10) to collect input and feedback that will be used to update the methodology as needed. Based on that EU-IoT will fine-tune the indicators and develop data gathering channels/tools/templates, which will comprise semi-structured interviews, focus groups, participatory observations, and secondary data analysis (project deliverables, scientific articles produced by the projects, etc.). Two rounds of data gathering and analysis, one for impact and one for sustainability assessment, will be run (at M18 and M24) by applying different sustainability methodological frameworks, e.g., the IMP.ACT [Implementation-in-Action] and InPPPact framework. The outcomes will allow to assess impact created by several actions/activities run by the NGIoT RIAs and elaborate on exploitation opportunities for target stakeholders within the IoT ecosystem either individually or jointly for increased impact to be reached at scientific, technological, industrial, regulatory and societal levels.

4.2 Online analytics

EU-IoT has indicated, among its KPIs, more than 2,500 visitors per year to the web portal. In order to monitor the progress towards this result, visits to the website are measured and evaluated by using statistics measured by Google Analytics (GA). GA is the best tool for personalized views and graphs about the type of users, geographical location, web referrals, most popular content, etc.

Analytics work by tracking 'tags', which are a small piece of JavaScript code that are installed on every page of the website to work properly. This data is then collected and shown in a 'report' page in the Google Analytics' admin interface.

Google Analytics tracks the total number of visits, including both new and returning visitors. A returning visitor would be counted twice or more in this number, and so 'visits' is a different measurement to 'absolute unique visits'.

- **Page Views:** The total number of pages viewed.
- **Bounce Rate:** The percentage of visitors who leave the site without viewing a second page

(i.e., they click the 'back' button, type a new URL, close the window or session time-out - Usually 30 minutes). A good bounce rate is below 20%, 30% is standard, and anywhere over 50% suggests a close look is needed to see why so many people are leaving the site.

- **% New Visits:** The percentage of visitors who were new; the difference between this and 100% is the percentage of returning visitors.

Also, Google Analytics includes an overview of where in the world the visitors are located, which languages they use, as well as a breakdown of the browsers and platforms they are using.

In summary, Google Analytics is the perfect tool to accurately measure the performance of the website. As such, web strategy should be constantly evolving, tweaking both traffic strategy and conversion processes to optimize the site.

Other popular applications in this field will be used to include the KPIs in Social Media channels. The combination of all these tools will allow us to have a complete view of our progress, defining improvements in line with the analysis of complete reports.

The evolution of the indicators will be revised periodically, and the main results of the communication actions will be reported in the annual deliverable on "Dissemination and Communication activities", including, for instance, the following indicators:

- Number of visitors to the website
- Number of followers in Social Media accounts
- Number of newsletter receptors
- Socio-demographic data studies of the website visitors
- Information requests
- Engagement indicators

4.3 Stakeholder satisfaction

EU-IoT will monitor the impact of marketing and communication in terms of awareness, impact, interest and value-buy-in across the key external stakeholders. EU-IoT shall run periodic online surveys, verify event participants' interest/satisfaction, and evaluate the opportunity to engage a reputable research agency, to assist the verification of NGIoT brand relevance and understanding.

Openness to the voice of external stakeholders will guide the monitoring of the effectiveness of marketing and communications activities and elucidate what can be sharpened and optimized.

The NGIoT Communications Task Force mailing list and periodic calls will allow the consortium to engage and consult with partners to ensure their needs are well represented, promoted and amplified.

4.4 Dissemination and Communication KPIs

The following metrics will be used to monitor and assess the progress of the dissemination and communication activities and provide some measurable outcomes related to their impact created (as far as this is feasible from a quantitative point of view).

Measure	Indicators	Target (M30)	Source and methodology
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Flyers Posters/roll-ups	N. of flyers N. of posters/roll-ups (by the end of the project)	> 4 > 4	Distribution via participation to and organisation of dedicated events. Electronic distribution via the project website.
EU-IoT Portal	N. of unique visitors to the website (average per year)	> 2500	News, Publications, Open Calls corner, Videos, Newsletters, Deliverables, Success stories, etc.
Social Networks (~ new followers per year)	N. of followers Twitter N. of followers LinkedIn	> 1000 > 300	Keeping EU-IoT profiles on such networks active via regular posting and monitoring
e-Newsletter (every 3 months)	N. of views (by the end of the project)	> 2000	Views of the electronic newsletter
e-Newsflashes (~every 1-2 months)	N. of issues	>15	e-Newsflashes will also be published on the website
News/curated contents/blogs/reports	At least 2-4 items per month	~80	Items published on the website and echoed across social media
Press Releases	No of press releases	At least 2 per year	Press releases will be published on the website and distributed to a list of media/journalists interested in technology/IoT topics
Videos	N. of videos published on the EU-IoT YouTube channel and average number of views	3 videos per year and 200 views per video	Introduction, informative and educational videos to support awareness creation and stakeholder engagement
EUIoT Forum (2 editions in total) * in case of travel restrictions/distancing measures a full day online event will be organized. Target values remain the same	Average number of participants per edition	At least 250 participants per edition	Attendance proof, presented material, photos, animation of social media channels, event's reports
Participation to physical or remote events (as many major events are moving online) and presentations	Number of external events partners attended to promote EU-IoT efforts	At least 20 events and presentations	Attendance proof, presented material, photos, animation of social media channels, events' reports

Webinars (<i>at least 4 by the end of the project</i>)	Average number of participants per webinar	~ 25-30 participants	Attendance proof, video-streaming, presented material, animation of social media channels
Educational workshops (<i>or e-workshops in case of travel restrictions/distancing measures</i>) involving industry and academia	Number of workshops engaging experts in support of WP5 activities	4 with at least 30-40 people at each event	Presentations, informative and promotional material, reports, photos, videos
Expert workshops involving invited experts	Number of workshops engaging invited experts on topics relevant to WP2 & WP3	4 workshops, 20-30 people per workshop	Presentations, informative and promotional material, reports, photos, videos
EU-IoT Hackathon	Average number of participants	At least 50 participants	Attendance proof, material presented, photos, event report, software developed

Table 3: Communication KPIs and target values

4.5 Dissemination and Communication Deliverables and Milestones

Dissemination and communication deliverables and milestones have the overall aim to support the objectives in Section 1 of this strategy, namely communication and dissemination activities of upcoming ICT-56 RIAs, while promoting the EU-IoT tools and actions at the service of the community; promote “Human-centred IoT”; communicate the overall NGIoT strategy and plans; support contributions to and adoption of open-source, pre-normative and standards and facilitate the creation of partnerships and liaisons.

Deliverables and milestones specific to this aim include the following tasks:

- **Task 4.1** Communication and marketing strategy for cross programme coordination (*Lead: Martel*)
- **Task 4.2** Dissemination and communication in action (*Lead Martel, Contributors: ALL**)
- **Task 4.3** Impact assessment, exploitation and sustainability (*Lead Fortiss, Contributors: ALL**)
- **Task 5.2** Progress monitoring and quality assurance (*Lead Martel*)

#	Description	Month	Partner
D4.1	Marketing and Communication Strategy and Plan	M 04 (Jan/Feb 2021)	Martel
D4.2	Brand Toolkit and Guidelines	M 04 (Jan/Feb 2021)	Martel
D4.3	Dissemination and Communication Report	M 18, M 30	Martel
D4.4	Impact assessment - Methodological framework	M 12	Fortiss
D4.5	Guidelines for IoT collaboration sustainability	M 24, M 30	Fortiss
D5.2	Progress monitoring and quality assurance	M 01, M 30	Martel

Figure 11: Dissemination and communication deliverables

#	Milestone	Due Date
MS1	EU-IoT project kick off	M 01
MS 2	Outreach strategy & brand toolkit	M 04
MS 6	Exploitation action plan	M 24

Figure 12: Dissemination and communication milestones

4.6 Guidelines for IoT Collaboration Sustainability

Two sets of guidelines will be produced for IoT collaboration sustainability as follows:

D5.6. Guidelines for IoT collaboration sustainability Version 1 (R, PU, M24, FOR): This deliverable will provide guidelines which will ground the creation of an action plan for exploitation of valuable assets within the IoT ecosystem and the development of sustainable collaborations.

D5.7. Guidelines for IoT collaboration sustainability Version 2 (R, PU, M30, FOR): This deliverable will provide guidelines which will ground the creation of an action plan for exploitation of valuable assets within the IoT ecosystem and the development of sustainable collaborations.

5 CONCLUSIONS AND NEXT STEPS

The EU-IoT Marketing and Communications Strategy gives the rationale, strategy and concrete steps to increase the visibility of the NGIoT initiative, promote its main outcomes, increase its impact, and engage all target stakeholders at a pan-European level by facilitating the creation of partnerships and liaisons across a number of relevant research, innovation and policy-driven communities.

The strategy has outlined how to implement dissemination and communication activities among NGIoT projects, ongoing ICT-56 RIAs and related initiatives (e.g., AIOTI, SNS partnership, GAIA-X, etc.), and support contributions to and adoption of open-source, particularly in areas such as edge and human interface projects as well as pre-normative and standards and security.

This MARCOM Strategy is designed as a living document containing strategic guidelines for the promotion of “Human-centred IoT” which may be adapted through the evolving requirements of the entire community, in line with the strategic guidance of the EU-IoT Expert Group, the Advisory Board, the Coordination Board and the Communications Task Force.

At the time of writing, the main activities are to validate and consolidate the MARCOM strategy, define and refine plans, especially for the next 3-6 months, and share with the community through the upcoming inaugural meetings of the EU-IoT Coordination Board and Communications Task Force. These activities will be accompanied by a revamp of the NGI Portal. In the upcoming semester, an equally intense period of activity is anticipated, as outlined in the communications phases of this document, with the organisation of the EU-IoT Forum as a flagship event.

APPENDIX A – NGIOT KEY STAKEHOLDERS

Organisations and entities engaged in the current NGIoT Communications Strategy. This list will be dynamically expanded during the implementation of the EU-IoT engagement activities and collaboration with the rest initiatives in the NGIoT landscape.

NGIoT Initiatives

Name	url	Description
Next Generation Internet (NGI)	https://www.ngi.eu/	The Next Generation Internet (NGI) initiative, launched by the European Commission in the autumn of 2016, aims to shape the future internet as an interoperable platform ecosystem that embodies the values that Europe holds dear: openness, inclusivity, transparency, privacy, cooperation, and protection of data. The NGI will drive this technological revolution and ensure the progressive adoption of advanced concepts and methodologies spanning the domains of artificial intelligence, Internet of Things, interactive technologies and more, while contributing to making the future internet more human-centric.
European Large Scale Pilots Programme (LSP)	https://european-iot-pilots.eu/	The IoT European Large-Scale Pilots Programme includes the innovation consortia that are collaborating to foster the deployment of IoT solutions in Europe through integration of advanced IoT technologies across the value chain, demonstration of multiple IoT applications at scale and in a usage context, and as close as possible to operational conditions.
IoT European Security and Privacy Projects (IoT ESP)	https://www.ngiot.eu/community/iot-esp-projects/	The aim of this cluster is to share experiences on approaches and tools for risk assessment and threat analysis in IoT domain from cluster's project members perspective and based on that contribute to standards, offering a joint position of the group of IoT security related and practical oriented projects, co-founded by EU.

IoT European Research Cluster	http://www.internet-of-things-research.eu/	The aim of European Research Cluster on the Internet of Things is to address the large potential for IoT-based capabilities in Europe and to coordinate the convergence of ongoing activities.
Alliance for Internet of Things Innovation (AIOTI)	https://aioti.eu/	AIOTI aims to strengthen the dialogue and interaction among Internet of Things (IoT) players in Europe, and to contribute to the creation of a dynamic European IoT ecosystem to speed up the take up of IoT.
Open & Agile Smart Cities (OASC)	https://oascities.org/	The vision of OASC initiative is to create an open smart city market based on the needs of cities and communities.
The Internet of Things Council	www.theinternetofthings.eu	The Council is a formidable, unique network of talents encompassing all skills, experiences and trades, from entrepreneurship to philosophy, public sector and private sector, and it brings together people who beyond their specific knowledge share the same passion of tinkering with technology to put it at the service of individuals, communities, society, and the whole planet.
IoT Forum	https://iotforum.org/	The IoT Forum is a member based organization which aims to promote international dialogue and cooperation on the Internet of Things; Organize events and conferences, such as the IoT Week; Develop activities and synergies with and among its members.
IoT-European Platforms Initiative (IoT-EPI)	https://iot-epi.eu/	The IoT-European Platforms Initiative (IoT-EPI) was formed to build a vibrant and sustainable IoT-ecosystem in Europe, maximising the opportunities for platform development, interoperability and information sharing. Seven leading research and innovation projects make their technology accessible to 3rd parties. In addition, strong support & funding structure (open calls,

		workshops) fosters further collaboration.
AGILE - an Adaptive & Modular Gateway for the IoT	http://agile-iot.eu/	AGILE is a modular hardware and software gateway for the Internet of Things with support for protocol interoperability, device and data management, IoT apps execution, and external Cloud communication, featuring diverse pilot activities, Open Calls & Community building.
Big Data Value Association (BDVA)	http://www.bdva.eu/about	The Big Data Value Association (BDVA) is an industry-driven international not-for-profit organisation with 200 members all over Europe and a well-balanced composition of large, small, and medium-sized industries as well as research and user organizations. BDVA is the private counterpart to the EU Commission to implement the Big Data Value PPP program.
FIWARE Foundation	https://www.fiware.org/foundation/	The FIWARE Foundation is the legal independent body providing shared resources to help achieving the FIWARE mission by promoting, augmenting, protecting, and validating the FIWARE technologies as well as the activities of the FIWARE community, empowering its members including end users, developers and rest of stakeholders in the entire ecosystem.
IoT-LAB	https://www.iot-lab.info/	IoT-LAB provides a very large scale infrastructure suitable for testing small wireless sensor devices and heterogeneous communicating objects.
oneM2M	http://www.onem2m.org	The purpose and goal of oneM2M is to develop technical specifications which address the need for a common M2M Service Layer that can be readily embedded within various hardware and software, and relied upon to connect the myriad of devices in the field with M2M

		application servers worldwide.
ERTICO – ITS Europe	http://ertico.com	ERTICO's final goal is to create safer, smarter and cleaner transport services and networks for the benefit of all. To achieve societal and political goals, strengthen the competitiveness of the industry and optimise services for the user, ERTICO puts together the interests of public and private stakeholders across Europe.
TM Forum	https://www.tmforum.org/	TM Forum is the global industry association that drives collaboration and collective problem-solving to maximize the business success of communication and digital service providers and their ecosystem of suppliers.
OrganiCity	https://organicity.eu	OrganiCity is a service for experimentation, which explores how citizens, businesses and city authorities can work together to create digital solutions to urban challenges.
European Innovation Partnership in Active and Healthy Ageing through Europe (EIP-AHA)	https://ec.europa.eu/eip/ageing/home_en	The European Innovation Partnership in Active and Healthy Ageing (EIP on AHA) is an initiative launched by the European Commission to foster innovation and digital transformation in the field of active and healthy ageing.
5G PPP	https://5g-ppp.eu/	The 5G Infrastructure Public Private Partnership (5G PPP) is a joint initiative between the European Commission and European ICT industry (ICT manufacturers, telecommunications operators, service providers, SMEs and researcher Institutions). The 5G PPP will deliver solutions, architectures, technologies and standards for the ubiquitous next generation communication infrastructures of the coming decade.

European Innovation Partnership on Smart Cities and Communities (EIP-SCC)	https://eu-smartcities.eu/	The European Innovation Partnership on Smart Cities and Communities (EIP-SCC) is a major market-changing undertaking supported by the European Commission bringing together cities, industries, SMEs, investors, researchers and other smart city actors.
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Liased projects

Name	url	Description
Privacy Flag	https://privacyflag.eu/	The Privacy Flag project is a European research project on personal data protection.
INTER-IoT	http://www.inter-iot-project.eu/	INTER-IoT aim is to design, implement and test a framework that will allow interoperability among different Internet of Things (IoT) platforms.
bloTope	https://biotope-project.eu/	The bloTope project lays the foundation for creating open innovation ecosystems by providing a platform that enables companies to easily create new IoT systems and to rapidly harness available information using advanced Systems-of-Systems (SoS) capabilities for Connected Smart Objects – with minimal investment.
symbloTe	https://www.symbiote-h2020.eu/	symbloTe comes to remedy the fragmented environment across various IoT domains by providing an abstraction layer for a “unified view” on various platforms and their resources so that platform resources are transparent to application designers and developers.
TagItSmart!	https://www.tagitsmart.eu/	The overall objective of TagItSmart! is to create a set of tools and enabling technologies integrated into a platform with open interfaces enabling users across the value chain to fully exploit the power of condition-dependent FunCodes to connect mass-market products with the digital world across multiple application sectors.
VICINITY	https://www.vicinity2020.eu/vicinity/	VICINITY presents a virtual neighborhood concept, which is a decentralized, bottom-up and cross-domain approach that resembles a social network, where users can configure their set ups, integrate standards according to the services they want to use and fully

		control their desired level of privacy.
OrganiCity	www.organicity.eu	OrganiCity is a service for experimentation that explores how business, citizens and city authorities can work together to create digital solutions to urban challenges.
EXCITING	www.euchina-iot5g.eu	EXCITING, The EU-China Study on IoT and 5G, analyses the research and innovation ecosystem for IoT and 5G in China and compares it with the European model. The main purpose of the EU-China Study on IoT and 5G (EXCITING) is to support the creation of favourable conditions for cooperation between the European and Chinese research and innovation ecosystems, mainly related to the key strategic domains of Internet of Things (IoT) and 5G.
F-Interop	www.f-interop.eu	F-Interop is a three years European research project. It is researching and developing online interoperability and performance test tools supporting emerging IoT-related technologies from standardization to market. It intends to support researchers, product development by SME, and standardization processes.
ANASTACIA	www.anastacia-h2020.eu	The ANASTACIA project is addressing cyber-security concerns by researching, developing and demonstrating a holistic solution enabling trust and security by-design for Cyber Physical Systems (CPS) based on IoT and Cloud architectures.
Orchestra Cities	www.orchestracities.com	Orchestra Cities aims to deliver a data and IoT-driven solution that allows the collaborative creation of Smart Cities involving different stakeholders through Open APIs and Open Data, embedding key added value hallmarks.
FLAME	https://www.ict-flame.eu/	FLAME outlines the main platform benefits as part of the initial work needed to develop and deploy a Future Media Internet delivery platform starting in 2018. The main target is to provide a significant leap forward for media delivery supporting personalized, interactive, mobile and localized (PIML) workflows.
SmartSDK	www.smartsdk.eu	SmartSDK is the FIWARE's "cookbook" for developing smart applications in the Smart City, Smart Healthcare, and Smart Security

		domains.
To-Euro-5G	https://5g-ppp.eu/to-euro-5g/	The To-Euro-5G project has a prime objective to support the activities of the European 5G Initiative during the second phase of the 5G PPP from June 2017 to June 2019.
NGI4ALL	www.ngi.eu/	The main goal of the NGI4ALL project is to support the Next Generation Internet (NGI) initiative to become a dynamic, collaborative, and participatory innovation ecosystem capable of more effectively supporting and coordinating activities across the whole R&D landscape.

LSP Projects

Name	url	Description
actiVage	http://www.activageproject.eu/	The main objective is to build the first European IoT ecosystem across 9 Deployment Sites (DS) in seven European countries, reusing and scaling up underlying open and proprietary IoT platforms, technologies and standards, and integrating new interfaces needed to provide interoperability across these heterogeneous platforms, that will enable the deployment and operation at large scale of Active & Healthy Ageing IoT based solutions and services, supporting and extending the independent living of older adults in their living environments, and responding to real needs of caregivers, service providers and public authorities.
SynchroniCity	www.synchronicity-iot.eu	SynchroniCity aims at providing enablers for integrating heterogeneous IoT components into SynchroniCity, together with a market place for compliant IoT products and solutions, in order to simplify the adoption and integration by smart cities and apps developers.
U4IoT	www.u4iot.eu	U4IoT (User Engagement for Large Scale Pilots in the Internet of Things) brings together 9 partners from 5 European countries. The objectives are to develop toolkit for LSPs end-user engagement and adoption, including online resources, privacy-compliant crowdsourcing tools, guidelines and an innovative privacy game for personal data protection risk assessment and awareness, online training modules.
CREATE-IoT	www.create-iot.eu	As partner in CREATE-IoT, Mandat International is responsible for key contributions to

		standardisation roadmap for the IoT LSP programme.
AUTOPILOT	http://autopilot-project.eu	The AUTOPILOT consortium represents all relevant areas of the IoT eco-system. Thanks to AUTOPILOT, the IoT eco-system will involve vehicles, road infrastructure and surrounding objects in the IoT, with particular attention to safety critical aspects of automated driving.
IoF2020	https://www.iof2020.eu	The project Internet of Food & Farm 2020 (IoF2020) explores the potential of IoT-technologies for the European food and farming industry.
MONICA	https://www.monica-project.eu/	The MONICA project is a large-scale demonstration of new and existing IoT applications for a smarter living. The demonstration involves six major cities in Europe: Lyon, Bonn, Leeds, Turin, Copenhagen and Hamburg. Focus is on one of the key aspects of European society: the cultural performances in open-air settings which create challenges in terms of crowd safety, security and noise pollution.

ESP Projects

Name	url	Description
CHARIOT	https://www.chariotproject.eu/	CHARIOT will advance state of the art by providing a design method and cognitive computing platform supporting a unified approach towards Privacy, Security and Safety (PSS) of IoT Systems, that places devices and hardware at the root of trust, in turn contributing to high security and integrity of industrial IoT.
BRAIN-IoT	http://www.brain-iot.eu/	BRAIN-IoT looks at heterogeneous IoT scenarios where instances of IoT architectures can be built dynamically combining and federating a distributed set of IoT services, IoT platforms and other enabling functionalities made available in marketplaces and accessible by means of open and standard IoT APIs and protocols.
ENACT	https://www.enact-project.eu/	The main technical objective of ENACT is to develop novel IoT platform enablers to: (1) Enable DevOps in the realm of trustworthy smart IoT systems, and enrich it with novel concepts for end-to-end security and privacy, resilience and robustness strengthening trustworthiness, taking into account the challenges related to "collaborative" actuation and actuation conflicts; (2) Facilitate the smooth integration of these to

		leverage DevOps for existing and new IoT platforms and approaches (e.g., FIWARE, SOFIA, and TelluCloud).
IoT-CRAWLER	https://iotcrawler.eu/	IoTcrawler is a three-year long research project focusing on developing a “Google” for Internet of Things (IoT) devices. It aims at a paradigm change on both how IoT application can access IoT resources and on how IoT resources can make themselves discoverable.
SECUREIoT	https://secureiot.eu/	SecureIoT project focuses on delivering predictive IoT security services, which span multiple IoT platforms and networks of smart objects and are based on security building blocks at both the edge and the core of IoT systems.
SEMIoTICS	https://www.semiotics-project.eu/	SEMIoTICS main scope aims to develop a pattern-driven framework, built upon existing IoT platforms, to enable and guarantee secure and dependable actuation and semi-autonomic behaviour in IoT/IIoT applications.
SERIoT	https://seriot-project.eu/project/	SerIoT aims to provide a useful open & reference framework for real-time monitoring of the traffic exchanged through heterogeneous IoT platforms within the IoT network in order to recognize suspicious patterns, to evaluate them and finally to decide on the detection of a security leak, privacy threat and abnormal event detection, while offering parallel mitigation actions that are seamlessly exploited in the background.
SOFIE	https://www.sofie-iot.eu/	The main goal of SOFIE is to enable diversified applications from various sectors to utilize heterogeneous IoT platforms and autonomous devices across technological, organizational and administrative borders.

SDOs

Name	url	Description
Internet Engineering Task Force (IETF)	https://www.ietf.org/	The mission of the IETF is to make the Internet work better by producing high quality, relevant technical documents that influence the way people design, use, and manage the Internet.
Internet Research Task Force (IRTF)	https://irtf.org/	The Internet Research Task Force (IRTF) promotes research of importance to the evolution of the Internet by creating focused, long-term Research Groups working on topics related to Internet protocols,

		applications, architecture and technology.
World Wide Web Consortium (W3C)	https://www.w3.org/	The W3C mission is to lead the World Wide Web to its full potential by developing protocols and guidelines that ensure the long-term growth of the Web.
ITU-T	https://www.itu.int/en/ITU-T/	The Study Groups of ITU's Telecommunication Standardization Sector (ITU-T) assemble experts from around the world to develop international standards known as ITU-T Recommendations which act as defining elements in the global infrastructure of information and communication technologies (ICTs).
IoT Acceleration Consortium	https://iotlab.jp/en/index	The IoT Acceleration Lab supports creation of advanced model businesses and improvement of business environment through regulatory reform, etc.
CEN/CENELEC	https://www.cencenelec.eu	CEN/CENELEC's mission is to fulfil the needs of business, industry and commerce, service providers, public authorities and regulators, academia and research centres, European trade associations and interest groups representing environmentalists, consumers, trade unions as well as small and medium enterprises, and other public and private institutions.
ETSI	https://www.etsi.org	ETSI is the recognized regional standards body – European Standards Organization (ESO) – dealing with telecommunications, broadcasting and other electronic communications networks and services. Special groups: ETSI Smart Cities, ETSI ISG CIM group
ISO	https://www.iso.org/home.html	ISO is an independent, non-governmental international organization with a membership of 162 national standards bodies.
IEC	https://www.iec.ch/	The International Electrotechnical Commission (IEC) is the world's leading organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

Security and Privacy Initiatives

Name	url	Description
DigitalEurope	http://digitaleurope.org	DIGITALEUROPE represents the digital

		technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe.
European Digital Rights (EDRi)	https://edri.org/	<u>European Digital Rights (EDRi) is an association of civil and human rights organisations from across Europe. We defend rights and freedoms in the digital environment.</u>
European Union Agency for Network and Information Security (ENISA)	https://www.enisa.europa.eu/	The European Union Agency for Network and Information Security (ENISA) is a centre of expertise for cyber security in Europe.
Internet Privacy Engineering Network (IPEN)	https://edps.europa.eu/data-protection/ipen-internet-privacy-engineering-network_en	The purpose of IPEN is to bring together developers and data protection experts with a technical background from different areas in order to launch and support projects that build privacy into everyday tools and develop new tools which can effectively protect and enhance our privacy.
European Cyber Security Organisation (ECSO)	https://ecs-org.eu/	ECSO represents the industry-led contractual counterpart to the European Commission for the implementation of the Cyber Security contractual Public-Private Partnership (cPPP).
European Data Protection Supervisor (EDPS)	https://edps.europa.eu/	<u>The European Data Protection Supervisor (EDPS) is the European Union's (EU) independent data protection authority.</u>

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