



ICON

HORIZON-HADEA

**WP7 Dissemination, exploitation, communication
and standardisation activities**

**Deliverable D7.1 Dissemination, Exploitation and
Communication (DEC) Plan and clustering activities
report, including related material (Version 1)**

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Executive Summary

This deliverable is related to the outputs of task T7.1 “Dissemination - Communication Plan and Activities” (DCP). The task’s main objective is to maximise the impact of **ICON** results worldwide through the execution of dissemination and communication activities. This document outlines all DEC activities performed to date in accordance with the Dissemination, Exploitation, and Communication Plan (D7.8).

This deliverable includes planned networking, clustering and outreach activities and related material v1 for the period from 1st January 2025 to 30th June 2025.

1. Introduction

The **Intent and Context-aware Optical Network (ICON)** project lays the research groundwork for a new generation of optical networks, where **sensing is embedded as a core architectural feature**. ICON envisions a transformative model in which terrestrial and subsea fibre infrastructures are repurposed not only for high-speed communication but also as **global-scale sensing platforms**. These advanced capabilities will support applications in areas such as **geological disturbance detection, weather and oceanographic monitoring, and urban mobility analysis**.

To orchestrate these complex functionalities, ICON is developing an **extensible and modular intelligent sensing controller**, which integrates components such as an **intent interpreter** and a **network digital twin**. These tools enable autonomous, real-time awareness of both network state and external environmental factors. By merging **transmission optimisation** with advanced sensing, ICON introduces a new paradigm of **context-aware optical networks** that enhance performance, availability, and energy efficiency.

From January to June 2025, the ICON consortium launched strategic networking and dissemination actions to share this vision with the broader R&I ecosystem. These included participation in key conferences, clustering with other EU-funded initiatives, engaging with standardisation bodies, and producing early scientific outputs. The following sections outline the major dissemination, outreach, and collaboration activities that have been completed during this first period.

This initial version outlines the activities that have been proposed and scheduled during this reporting period, including participation in thematic events, contribution to clustering initiatives with related Horizon Europe projects, organisation of targeted stakeholder meetings, and dissemination efforts through online and offline channels. Emphasis has been placed on aligning these efforts with the project's communication strategy and long-term exploitation objectives, ensuring consistency with ICON's mission and its expected outcomes.

In addition to strategic collaborations, the ICON team has focused on developing outreach materials (both digital and print) to effectively communicate the project's goals and early findings to different target audiences, including researchers, policymakers, industry stakeholders, and the general public.

This document provides an overview of the key actions planned, their rationale, expected outcomes, and the stakeholders involved.

This document is structured as follows:

- Chapter 1 – Introduction
- Chapter 2 – Dissemination activities completed up to M6
- Chapter 3 – Conclusions

2. Dissemination activities completed up to Month 6

During the first six months of the ICON project, dissemination efforts focused on **establishing project visibility, communicating its core vision, and engaging the broader research and industrial community**. ICON's strategy in this early phase prioritised raising awareness of its **intent and context-aware optical network concept**, fostering collaboration with relevant EU initiatives, and preparing the ground for future standardisation and exploitation actions.

Activities during this period included participation in **international conferences**, **publication of early scientific results**, **launch of communication channels**, and the **initiation of clustering** with related Horizon Europe projects and technology platforms. ICON partners also took part in technical workshops, submitted proposals for upcoming events, and began interactions with **standardisation bodies** to ensure long-term alignment with evolving industry frameworks.

The following subsections provide a detailed account of the completed dissemination and outreach activities as of **Month 6 (June 2025)**, including the timeline for this initial 6 months (**Table 1**):

First 6 months	Froms 1st January to 30th June											
Dissemination Activities	Year 1											
	1	2	3	4	5	6	7	8	9	10	11	12
Website												
Newsletter												
Brochure												
Leaflet												
Workshops												
Press Releases												
Video(s)												
Articles / Newspapers												
Social Media												
International publications												
Clustering Activities												
Presentations and Posters												

Table 1: Dissemination activities roadmap from 1st of January to 30th June 2025

2.1 ICON kick-off and internal coordination

The official **kick-off meeting** of the ICON project took place on **12–13 March 2025** in **Dublin, Ireland**, hosted by **Trinity College Dublin (TCD)**, the project coordinator. Held on the TCD campus, the two-day event gathered representatives from all consortium partners for the first in-person alignment on technical objectives, work package activities, timelines, and cross-cutting actions such as dissemination, standardisation, and open science practices.

Key sessions during the kick-off included:

- Overview of the ICON vision and technical architecture
- WP-specific deep dives and synchronisation of interdependencies
- Strategic planning for stakeholder engagement and clustering
- Communication and dissemination planning for the first 12 months

The meeting also included a tour of relevant TCD research labs and informal networking moments to build team cohesion and launch the project's collaborative spirit. The kick-off marked a strong start for ICON, ensuring that all partners were fully aligned and equipped to move forward with coordinated efforts across the technical and dissemination dimensions.

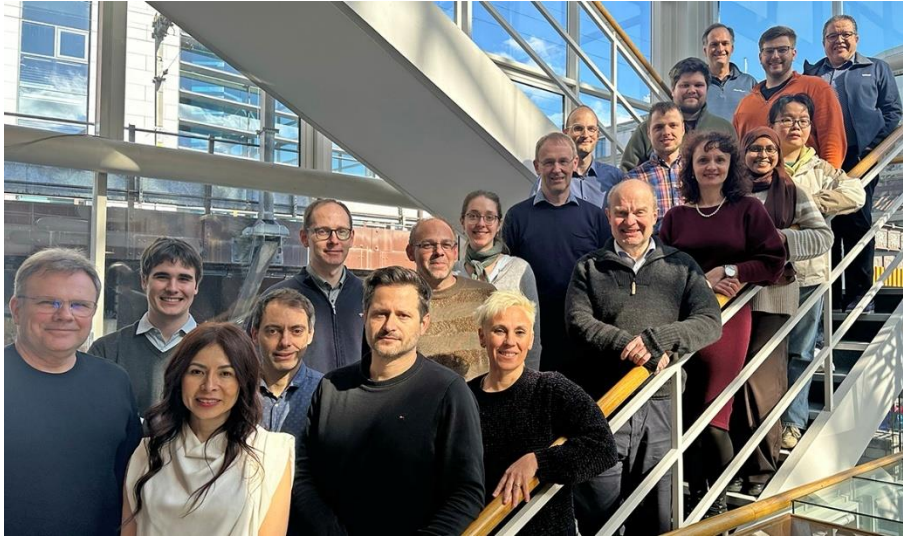


Figure 1: Consortium group photo

Looking ahead, the next **in-person consortium meeting** is scheduled for **2-3 October 2025** in **Copenhagen, Denmark**, and will be hosted by **Danmarks Tekniske Universitet (DTU)**. This second consortium meeting will serve as a key checkpoint for progress review, clustering updates, and strategic alignment as the project enters its next phase of implementation.

2.2 Participation in scientific and industry events

This section outlines the key events attended by the ICON consortium up to M6, highlighting presentations, workshops, and collaborative initiatives that have helped to advance the project's objectives and strengthen its impact.

Engagement in scientific and industry events is a crucial component of the ICON project's dissemination and networking strategy. These platforms provide invaluable opportunities for the consortium to share research progress, gather feedback from experts, and build partnerships with other key stakeholders in the optical communications and networking fields.

During the reporting period, ICON partners actively participated in leading international conferences and symposia, presenting pioneering work on intent-and context-aware optical networks. Such involvement has not only enhanced the project's visibility but also facilitated meaningful exchanges with the broader research community, industry leaders, and standardisation bodies.

Event	Date	Location	Partner	Activity	Key Highlight
ONDM 2025	6-9 May 2025	Italy	TN, TCD, ADTRAN	Organisation of a workshop on Optical communication and sensing together with INGR	Workshop title: Optical communication and sensing roadmap
SubOptic 2025	1-5 June 2025	Lisbon	TN	Presentation of paper on SoP sensing across multiple cables.	Accepted for publication and presented.

HOMTech training school	2 – 4 June	Germany	FAU, DTU	5 th training school of HOMTech doctoral network	Workshop: “HOMTech – PhD School on Entrepreneurship and Innovation”
2nd Irish Workshop on Fibre Sensing	26 June 2025	Dublin, Ireland	TCD	Co-organisation and participation in a workshop attended by academic and industrial organisations interested in the application of fibre sensing	Presentation of the ICON concept
ICTON	6–10 July	Spain	TCD, BUT, DTU	Submission of one invited article, preparation of a joint paper for submission to a conference within the first six months.	Accepted for publication
ECOC	28 Sep - 2 Oct.	Denmark	BUT, DTU, ADTRAN	Preparation of a joint paper for submission to a conference within the first six months.	Under review

Table 2: Summary of events 1st January to 30th June

2.3 Clustering with Horizon Europe projects

Clustering activities will play a strategic role in enhancing the impact and visibility of the ICON project within the broader Horizon Europe research and innovation ecosystem. By establishing synergies with related projects, ICON will actively contribute to knowledge exchange, mutual learning, and the advancement of shared objectives across thematic areas such as Context-Aware Network Automation, Optical and Photonic Network Innovations, etc.

The ICON consortium will engage in collaborative efforts with other Horizon Europe projects through joint workshops, co-organised sessions, shared dissemination materials, and cross-promotion of results. These clustering initiatives will foster dialogue on common challenges, harmonised approaches, and explore possibilities for joint exploitation of outcomes, standardisation, and policy alignment.

Such collaborative networks will not only reinforce ICON’s scientific and technological foundations but also position it as a key contributor to Europe’s digital and innovation agenda. Within the first 6 months of the project, the partners focused on identifying synergies between ICON and “SoFiN – Software enabled Fibre optic multisensing Network”, a project funded under the HORIZON-CL4-2022-DIGITAL-EMERGING-01-03 - Advanced multi-sensing systems call. In addition, the consortium also established links with the project “SENSEI: Smart European Networks for Sensing the Environment and Internet quality”, funded through the same Horizon Europe call as ICON. One of the SENSEI partners (Open Fibre) delivered a talk during the “Optical communication and sensing roadmap” workshop co-organised by ICON during ONDM 2025 conference.

2.4 Stakeholders’ engagement and community outreach

Stakeholder engagement and community outreach are at the heart of the ICON project’s strategy to ensure the relevance, adoption, and long-term impact of its outcomes. From the early stages, ICON plans to actively involve a wide spectrum of stakeholders — including industry representatives, policymakers, academic researchers, SMEs, standardisation bodies, and end-users — to gather feedback, raise awareness, and build trust around the project’s technologies and vision.

Through targeted workshops, surveys, webinars, public events, and collaborative platforms, the consortium will create open and inclusive channels of dialogue. These interactions will not only inform the project’s development with real-world insights but also help foster a vibrant innovation ecosystem around ICON’s thematic focus.

In parallel, community outreach activities will aim to make ICON accessible to broader audiences, including students, educators, and the general public. This has been initiated through engaging communication materials, social media campaigns, newsletters, and participation in public science and technology events. In the early stages of the project, such dissemination activities are carried out as open workshops and lab visits, which are held as individual events or part of the existing courses covering optical communications and sensing. As an example, during the Fibre Optical Communications course held in TalTech in the spring semester of 2024/2025 study year, lectures and lab activities covering relevant research topics such as network design, lifecycle management, telemetry collection and sharing, and sensing technologies and applications were advertised for a broader audience. This included representatives of governmental and academic institutions, local telecommunications operators, infrastructure owners, building companies, etc. For advertisement, LinkedIn and TalTech's homepage were used alongside local technology newspapers. As a result of this campaign, in addition to 10 students who had elected the course as part of their study, approximately 40 people from industry joined the lectures online or on site at TalTech. Such opportunities to extend reach towards broader audiences through courses and open lectures will be further exploited during the project timeframe.

These outreach activities will be performed more frequently from month 12 onwards and will be reported in the next dissemination report.

2.5 ICON project workshops

Workshops will serve as a vital mechanism for the ICON project to foster collaboration, facilitate knowledge exchange, and engage key stakeholders throughout the project lifecycle. These events will bring together consortium members, external experts, industry actors, policymakers, and academic researchers to explore project developments, co-create solutions, and align on technical and strategic directions.

ICON workshops will cover a wide range of themes relevant to the project's objectives — from technical deep dives and use case discussions to standardisation dialogues and policy alignment sessions. By creating interactive and participatory spaces, these workshops will enable critical feedback, foster cross-disciplinary dialogue, and strengthen the overall coherence and impact of project outcomes.

As part of the participation in scientific events, ICON partners prepared a workshop “**Optical communication and sensing roadmap**” at the ONDM 2025, and the partners in charge were TN, the coordinator TCD and ADTRAN. In addition, the ICON concept was presented during the **2nd Irish Workshop on Fibre Sensing**, which was jointly organised by HEAnet and TCD on the 26th of June in Dublin.

2.6 Press releases and media outreach

Press releases and media outreach are essential tools in the ICON project's communication strategy, supporting public visibility, raising awareness of key milestones, and reaching a broad range of audiences beyond the research and technical communities. By strategically engaging with media outlets, online platforms, and institutional channels, the ICON consortium ensures that project news is communicated in a timely, accessible, and impactful manner.

In the first 6 months, there were two press releases issued to announce the funding of the ICON project, as well as a newspaper article describing the project's significance for the critical infrastructure security and resilience (see Table 2 below). These releases have been disseminated through partner networks, project websites, news platforms, and social media, amplifying their reach and engagement.

In parallel, media outreach activities have included feature articles, blog posts, and contributions to external publications and digital forums. By tailoring messages to different audiences, ICON has strengthened its public image and communicated its relevance to sectors including industry, academia, policy, and civil society.

Dissemination Activity	Month	Lead Partner	Type of activity
Press release	M4	TCD	Web article - Published on the TCD website https://www.tcd.ie/news_events/articles/2025/new-5-million-project-will-transform-fibre-optic-cables-into-active-sensors/?utm_source=chatgpt.com
Press release	M3	TCD	Published on Connect Centre Website https://connectcentre.ie/news/new-e5-million-project-will-transform-fibre-optic-cables-into-active-sensors-safeguarding-networks-from-damage/
Newspaper article	M3	TCD	https://www.independent.ie/business/technology/trinity-college-research-project-aims-to-protect-subsea-cables-around-ireland-from-being-cut/a552257917.html

Table 3: Summary of press releases/media presence between 1st January and 30th June

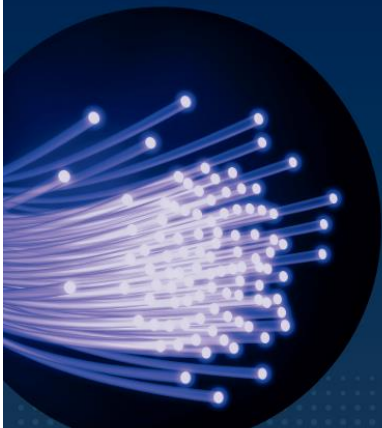
2.7 Development of outreach materials

This section outlines the types of outreach materials developed by the ICON consortium during the first 6 months of the project (1st of January up to 30th of June 2025), their purpose, distribution channels, and contribution to the project's overall communication and visibility strategy.

To support its communication, dissemination, and stakeholder engagement efforts, the ICON project has developed a comprehensive suite of outreach materials tailored to diverse audiences. These materials have played a central role in conveying the project's objectives, progress, and results in a clear, accessible, and visually engaging manner.

Outreach materials produced include project flyers, posters, slide decks, and branded templates - all designed to ensure consistency in messaging and visual identity across communication channels. These resources have been used at conferences, workshops and online platforms to effectively promote ICON's innovations and societal relevance.

Special emphasis has been placed on the clarity, inclusivity, and adaptability of materials, ensuring they are suitable for stakeholders ranging from technical experts to policymakers and the general public. Digital formats have been optimised for web and social media distribution, while printed materials have supported in-person events and exhibitions.




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TESTIMONIALS

Dr. Aleksandra Kaszubowska-Anandarajah
TCD Coordinator

"As Project Coordinator of ICON, I have the privilege to lead a strong, multidisciplinary consortium committed to redefining the role of optical networks. ICON is not just about connectivity—it's about enabling intelligent, context-aware infrastructure capable of sensing, adapting, and supporting critical services across multiple domains."

Elisa Morón
Dissemination Leader

"Our role in innovation and dissemination ensures that ICON's breakthroughs reach beyond the research community. By translating advanced fiber sensing and AI-driven control into real-world narratives, we're helping build awareness and adoption of technologies that support Europe's digital, green, and resilient transformation."

INTENT AND CONTEXT-AWARE
ICON
OPTICAL NETWORKS

 **Funded by the European Union**



About Us

ICON – Intent and Context-Aware Optical Networks
Project Duration: January 2025 – December 2027
EU Funding Programme: Horizon Europe
Grant Agreement No: 101189703
Project Coordinator: Trinity College Dublin
Consortium: 10 partners from 8 countries (Ireland, Germany, Estonia, Denmark, Czech Republic, Cyprus, Norway)

Project Overview

The ICON project is revolutionizing how we use optical networks—turning them from passive infrastructure into active, intelligent platforms. By embedding sensing capabilities and context awareness directly into fiber networks, ICON is enabling a new class of services that respond dynamically to environmental, and operational conditions.

From real-time environmental monitoring to proactive fault detection and smart mobility support, ICON empowers Europe to lead in next-generation network intelligence.

OBJECTIVES

- Integrate fiber optic sensing into terrestrial and subsea networks.
- Develop AI-based control systems for intent- and context-aware network management.
- Improve energy efficiency, resilience, and scalability of communications infrastructure.
- Demonstrate real-world use cases across climate monitoring, urban mobility, and more.

Innovation Highlights

- Sensing-as-a-Service:** Fiber networks used to detect seismic activity, traffic flow, and infrastructure stress.
- Context-Aware Control:** AI models adjust network behavior based on real-time environmental data.
- Green Networking:** Energy-optimized routing and operations aligned with EU climate goals.

USE CASES

Availability Assistant

AA (availability assistant) monitors critical infrastructure protection (i.e., use fibre networks for critical infrastructure monitoring, to detect seismic activities..), network link performance, detecting failures and generating an availability map. It helps operators predict outages, integrate real-time risk data, and deploy sensing probes to maintain connectivity.

On-site network Intrusion Detector

This system detects unauthorized access in optical networks by analyzing signal changes. Upon detection, it automatically reroutes traffic via a secure path, ensuring data security and uninterrupted service.

 **Trinity College Dublin**
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

 **BRNO UNIVERSITY OF TECHNOLOGY**

 **CYRIC**  **FAU** Friedrich-Alexander-Universität Erlangen-Nürnberg

 **VPI Photonics**  **LightSensAI**

 **TAL TECH**  **tampnet**  **Adtran**  **OTU**

Image 2: ICON leaflet

INTENT AND CONTEXT-AWARE



OPTICAL NETWORKS



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KEY MESSAGE

ICON is redefining how optical networks behave — shifting from static infrastructure to dynamic, intelligent systems that understand user intent and adapt to contextual demands.

We enable:

- Intent-aware orchestration – networks that know what users need
- Context-aware adaptation – reacting in real time to dynamic conditions
- Automation & AI integration – reducing manual configuration
- Resilient, secure, and energy-efficient design

OUR VISION

ICON transforms next-gen networks by embedding:

- Artificial Intelligence for self-management
- Sustainable design from protocol to infrastructure
- Zero-trust security from edge to core
- Living Labs for rapid experimentation

IMPACT

ICON ENABLES SMARTER, GREENER, AND MORE RESILIENT OPTICAL NETWORKS—IMPROVING EFFICIENCY, REDUCING ENERGY USE, AND POWERING NEXT-GEN SERVICES LIKE SMART CITIES AND EHEALTH, WHILE ADVANCING EU DIGITAL AUTONOMY AND 6G READINESS.

USE CASES

Availability Assistant
Monitors fibre networks for risks and failures, predicts outages, and ensures resilient connectivity for critical infrastructure.

Intrusion Detection
Identifies unauthorized access in optical links and reroutes traffic in real time to maintain secure, uninterrupted service.



www.iconproject.eu



Image 3: ICON poster

2.8 Publications by ICON partners

Scientific and technical publications by ICON partners are a key vehicle for disseminating the project's research findings, methodologies, and innovations to the broader academic and professional communities. These publications reflect the consortium's commitment to excellence, transparency, and contribution to the state of the art in relevant fields.

During the project period between 1st January - 30th June 2025, TCD has published 1 article in Journal of Lightwave Technology (10.1109/JLT.2025.3567158) and submitted an extended abstract towards an invited talk to be delivered during ICTON 2025 in Spain (6-10.07.2025). In addition, other ICON partners submitted several articles to international conferences, including ICTON 2025 (accepted for publication) and ECOC 2025 (under review).

3. Conclusions

This report reflects the progress made during the initial phase of ICON. The efforts described here demonstrate the ICON consortium's commitment to openness, collaboration, and excellence. Looking ahead, the project remains focused on ensuring the sustainability, exploitation, and long-term impact of its results across research, policy, and industry domains.

As part of the project's continuous improvement and adaptive communication strategy, an updated version of this dissemination and communication report will be delivered in **M24 (D7.2)** and **M36 (D7.3)**, capturing further developments, additional activities, and updated metrics.