

**Grant Agreement number:** 101092696

**Topic:** HORIZON-CL4-2022-DATA-02



## **D23: Dissemination, Promotion, Scientific Outreach and Standardisation Report v2.0**

<b>Work package</b>	WP6 – Dissemination, Promotion and Standardisation
<b>Internal Number</b>	D6.3
<b>Task</b>	Task 6.1, Task 6.2, Task 6.3
<b>Due date</b>	31.03.2026
<b>Submission date</b>	30.04.2026
<b>Dissemination Type</b>	Public
<b>Deliverable lead and editor</b>	UGOE, Parisa Memarmoshrefi
<b>Contributing Partners</b>	All partners
<b>Revision version</b>	0.9
<b>Reviewer 1</b>	Rute C. Sofia, FOR
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**Funded by  
the European Union**

**Project funded by**



Schweizerische Eidgenossenschaft  
Confédération suisse  
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Swiss Confederation

Federal Department of Economic Affairs,  
Education and Research EAER  
**State Secretariat for Education,  
Research and Innovation SERI**

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## Executive Summary

This deliverable, D23 — *Dissemination, Promotion, Scientific Outreach and Standardisation Report v2.0* — provides a comprehensive, evidence-based account of the dissemination, communication, scientific outreach, and standardisation activities of the CODECO across its full project lifetime, M1 to M39 (January 2023 – March 2026). Building on the foundation established in D22, this report demonstrates the evolution of WP6 activities from initial visibility-building in Phase 1 toward sustained community engagement, industrial integration, open-source ecosystem building, and active contributions to open standards in Phase 2.

Across M1–M39, CODECO produced **38 unique peer-reviewed publications** — 13 journal articles, 20 conference and workshop papers, and 5 preprints — with 8 journals in Q1 SJR-ranked venues and 8 conference papers at ICORE A\*-ranked venues, including IEEE INFOCOM (×5), AAAI, USENIX NSDI, and AAMAS. The CODECO Zenodo community accumulated over **2,247 unique views and 2,638 unique downloads** across 76 total records encompassing publications, presentations, white papers, deliverables, and datasets.

The project was represented at **68 events** across 15 countries, significantly exceeding its KPI of 50, and delivered **26 talks and presentations** to audiences spanning academic, industrial, standardisation, and public communities. CODECO partners held **18 TPC, steering committee, and organising roles** at major IEEE and ACM venues including IEEE INFOCOM, IEEE ICDCS, IEEE Globecom, and ACM MobiCom. The consortium organised its own flagship events — two editions of the ML4ECS workshop at HiPEAC 2025 and 2026 (jointly with MLSysOps and EDGELESS), the IETF 123 Hackathon, the CONASENSE 2025 Workshop, IRCEP Local Events, and the CODECO Final Event — collectively reaching several hundred participants from across the European and international research and industry communities.

Standardisation activities delivered **16 documented contributions** against a KPI of 10, including 5 IETF drafts submitted to the COINRG, ALTO, DetNet, GREEN, and BMWG working groups; 2 ETSI contributions; 2 community white papers; 2 EUCEI OpenContinuum landscape deliverables in which CODECO is featured; 1 NetWorld Europe SRIA contribution; and 2 AIOTI landscape reports featuring the project — one of which describes all six CODECO pilots in detail. CODECO's inclusion in the OpenContinuum D2.2 deliverable<sup>1</sup> feeds into an emerging ISO/IEC JTC1 standardisation process for the CEI reference architecture. Two dedicated CODECO Standardisation Events were organised: the IETF 123 Hackathon in Madrid (July 2025) and the CODECO Standardisation Workshop 2026 (February 2026).

Public dissemination reached **6,200 website visitors** across the project lifetime — averaging over 2,000 per year against a KPI of 500 — and **662 LinkedIn followers**, more than three times the KPI of 200. The CODECO Learning Hub, launched in Phase 2, provides four categories of educational resources (LEARN, WATCH, LISTEN, ACCESS) and will be maintained for a minimum of five years post-project alongside the website, Zenodo community, and Eclipse GitLab open-source repository.

The IRCEP programme structured external engagement through challenge-based competitions, with Best Talk awards distributed at the HiPEAC 2025 ML4ECS workshop, CONASENSE 2025, and with IRCEP Challenges engaging students and early-career researchers across Europe.

Collaborative engagement with EUCEI, AIOTI, BDVA, HiPEAC, MLSysOps, EDGELESS, NEMO, CyberNEMO, and five further Horizon Europe projects produced a joint white paper, three co-authored publications, two co-organised workshop series, and sustained community alignment that positions CODECO's outputs as lasting contributions to the European CEI research ecosystem.

**Keywords:** dissemination and communication; scientific outreach; standardisation; edge-cloud orchestration; open science; community engagement.

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<sup>1</sup> D2.2 OPENCONTINUUM Landscape V2 and Recommendations: <https://eucloudedgeiot.eu/wp-content/uploads/2024/11/D2.2-OpenContinuum-Landscape-v2-and-recommendations-1.pdf>



### Document Revision History:

Version	Date	Description of change	List of contributors
v0.1	03.12.2025	ToC	Parisa Memarmoshrefi (UGOE)
v0.2	11/12/2025	Comments on ToC	Ana Solange Leal, (INO)
v0.3	22/12/2025	Final ToC	Parisa Memarmoshrefi (UGOE)
v0.4	30/12/2025	Partners Assignment	Parisa Memarmoshrefi (UGOE)
v0.5	15/01/2026	SDO section	Tina Samizadeh, (FOR)
v0.6	23/04/2026	Completion of document, full revision, impact analysis	Rute C. Sofia (FOR)
v07	24.04.2026	Final revision and corrections included	Ana Solange Leal, (INO)
v0.8	27.04.2026	Cross check of the section 4, updates of some reviewer comments	Parisa Memarmoshrefi (UGOE)
v0.9	27.04.2026	Integration of final comments by dissemination leader and release to EC	Rute C. Sofia (FOR)

### Disclaimer:

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## List of Acronyms and Definitions

Acronym	Meaning
<b>ACM</b>	Association for Computing Machinery
<b>CODECO ACM</b>	CODECO Automated Configuration Management component
<b>AI</b>	Artificial Intelligence
<b>AIOTI</b>	Alliance for Internet of Things Innovation
<b>ALM</b>	CODECO partner Alma Mater Studiorum — Università di Bologna
<b>ALTO</b>	Application-Layer Traffic Optimisation
<b>AMR</b>	Autonomous Mobile Robot
<b>AR</b>	CODECO stakeholder group: Academia and Research
<b>ATH</b>	CODECO partner ATHENA Research Center
<b>ATOS</b>	CODECO partner Atos Spain S.A.
<b>BDVA</b>	Big Data Value Association
<b>BMWG</b>	IETF Benchmarking Methodology Working Group
<b>CA</b>	Consortium Agreement
<b>CAM</b>	CODECO Application Model
<b>CATS</b>	IETF Computing Aware Traffic Steering Working Group
<b>CEI</b>	Cloud, Edge, and IoT continuum
<b>CLAS</b>	Cooperating Layered Architecture for SDN
<b>CNI</b>	Container Network Interface
<b>CODEF</b>	CODECO Experimentation Framework
<b>CODECO</b>	Cognitive Decentralised Edge-Cloud Orchestration
<b>CONASENSE</b>	Communications, Navigation, Sensing and Services platform
<b>CRA</b>	EU Cyber Resilience Act
<b>CSA</b>	EU Cybersecurity Act
<b>DetNet</b>	IETF Deterministic Networking Working Group
<b>DEV</b>	CODECO stakeholder group: Software Developers
<b>DGA</b>	EU Data Governance Act
<b>DRL</b>	Deep Reinforcement Learning
<b>Dx</b>	Deliverable x
<b>EA-DS</b>	Energy-aware Differentiated Services
<b>EC</b>	European Commission
<b>ECL</b>	CODECO partner Eclipse Foundation Europe GmbH
<b>ENACT</b>	Horizon Europe project: Adaptive Scheduling on Energy-Efficient Edge-to-Cloud
<b>ETSI</b>	European Telecommunications Standards Institute
<b>EUCEI</b>	EU Cloud, Edge and IoT Initiative (EUCloudEdgeIoT)
<b>EUS</b>	CODECO stakeholder group: End-Users
<b>FOR</b>	CODECO partner fortiss GmbH (project coordinator)
<b>GA</b>	General Audience
<b>GDPR</b>	General Data Protection Regulation
<b>GOV</b>	CODECO stakeholder group: Policy Makers and Regional Entities
<b>HE</b>	Horizon Europe
<b>I2CAT</b>	CODECO partner Fundació i2CAT
<b>ICOM</b>	CODECO partner Intracom Telecom
<b>ICORE</b>	Computing Research and Education conference ranking system
<b>ICT</b>	Information and Communication Technology
<b>IEEE</b>	Institute of Electrical and Electronics Engineers
<b>IETF</b>	Internet Engineering Task Force
<b>IFIP</b>	International Federation for Information Processing



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Acronym	Meaning
INO	CODECO partner INOVA+
INTRA	CODECO partner Intracom Telecom S.A.
IoT	Internet of Things
IRCEP	Innovation and Research Community Engagement Programme
IRTF	Internet Research Task Force
ISO/IEC	International Organization for Standardisation / International Electrotechnical Commission
JTC1	ISO/IEC Joint Technical Committee 1
K8s	Kubernetes
KPI	Key Performance Indicator
LRZ	Leibniz Supercomputer Centre
MDM	CODECO Metadata Management component
ML	Machine Learning
ML4ECS	Machine Learning for Edge-Cloud Systems (workshop series)
Mx	Month x of the CODECO project
N/A	Not Available
n.a.	Not Applicable
NetMA	CODECO Network Management and Awareness component
NFV	Network Functions Virtualisation
NIS2	EU Network and Information Security Directive 2
OA	Open Access
OCX	Eclipse Open-Source Experience (formerly EclipseCON)
OSM	ETSI Open-Source MANO
OSS	Open-Source Software
PC	Project Coordinator (FOR)
PDLC	CODECO Privacy-preserving Decentralised Learning and Context-awareness component
QoE	Quality of Experience
QoS	Quality of Service
RHT	CODECO partner Red Hat Czech s.r.o.
RL	Reinforcement Learning
SDN	Software-Defined Networking
SDO	Standards Development Organisation
SJR	Scimago Journal and Country Rank
SME	Small and Medium-sized Enterprise
SRIA	Strategic Research and Innovation Agenda
SWM	CODECO Seamless Workload Migration component
TID	CODECO partner Telefónica Investigación y Desarrollo S.A.
TPC	Technical Programme Committee
TRL	Technology Readiness Level
UC3M	CODECO partner Universidad Carlos III de Madrid
UGOE	CODECO partner University of Göttingen
UPM	CODECO partner Universidad Politécnica de Madrid
UPRC	CODECO partner University of Piraeus Research Centre
VNF	Virtual Network Function
WP	Work Package
WPL	Work Package Leader
WPx	Work Package x

# 1 Introduction

This Deliverable D23, *Dissemination, Promotion, Scientific Outreach and Standardisation Report v2.0*, provides an evidence-based assessment of the CODECO project's dissemination, promotion, scientific outreach, and standardisation activities during the second phase of the project (M19–M39). This report builds upon the foundation laid by the initial report (D22) and demonstrates the project's evolution, achievements, and impact on its diverse stakeholder communities.

The project has transitioned from its initial phase of establishing visibility and building a community as reported in D22 to a more mature phase focused on demonstrating results, fostering deep collaboration, and actively shaping the future of the Edge-Cloud ecosystem through standardisation. This report presents the outcomes of this evolution and shows how CODECO engaged its stakeholders, disseminated its findings, and contributed to the development of an open and interoperable framework for cognitive, decentralised Edge-Cloud orchestration.

## 1.1 Objectives

The primary objective of Deliverable D23 is to provide a concise, evidence-based assessment of CODECO's dissemination, promotion, scientific outreach, and standardisation activities during Phase 2 (M19–M39).

It aims to validate the project's impact by demonstrating its success in engaging stakeholders — academia, industry, developers, and standardisation bodies — through the achievement of its KPIs.

The report highlights the project's strategic maturity, showcasing the successful execution of key initiatives such as HiPEAC 2025 and 2026 and the CODECO Hackathon, and its scientific output, including high-impact publications and co-developed deliverables.

It details the project's tangible contributions to major SDOs and standardisation efforts. Finally, it synthesises the lessons learned to provide a foundation for the project's final exploitation and long-term sustainability.

## 1.2 Deliverable Scope

D23 covers the following aspects of the project's activities during the period M19–M39:

- **Report on Public Dissemination and Communication:** A detailed report on the strategies, channels, and outcomes of all public-facing communication efforts, including the project website, social media, visual identity, and key events.
- **Report on Broad Scientific and Innovation Outreach:** A comprehensive overview of the project's scientific publications, presentations, participation in technical programme committees, and the organisation of major scientific events (e.g., HiPEAC 2025 and 2026, CODECO Hackathon).
- **Report on Standardisation Activities:** A thorough account of the project's contributions to SDOs and consortia, including the status of ongoing work, the development of key deliverables (white papers, books), and the outcomes of standardisation activities.
- **Report on Impact Measurement:** A summary of the project's achievements against the KPIs defined in the Grant Agreement and D21, providing an assessment of the project's overall impact.
- **Report on Next Steps:** A forward-looking section presenting lessons learned and a clear path for the project's final exploitation and long-term sustainability.



This deliverable is the final report in the series for WP6 and serves as the document for evaluating the project's success in its core communication and outreach objectives.

## 1.3 Structure of the Document

The remainder of this document is organised as follows.

**Section 2** provides an overview of the CODECO target stakeholder groups and the engagement strategy applied during Phase 2 (M19–M39), setting the context for the dissemination and outreach activities described in subsequent sections.

**Section 3** details the strategies, channels, and outcomes of the project's public dissemination and communication activities. It covers the project website and Learning Hub, the social media strategy and its evolution across Phase 2, paid campaign results, and reflections on lessons learned from communication practice.

**Section 4** reports on the project's broad scientific and innovation outreach. It is structured around four main areas: scientific publications (Section 4.1), presentations (Section 4.2), technical programme committee and organising committee representation (Section 4.3), and events — covering both events organised by CODECO (including the ML4ECS workshops at HiPEAC 2025 and 2026, the IETF Hackathon, CONASENSE 2025, the public outreach and IRCEP local events, and the CODECO Final Event) and participation in external events (Section 4.4). Section 4.5 documents collaborative action and synergies with European strategic initiatives and peer projects, including EUCEI, AIOTI, HiPEAC, BDVA, the open-source ecosystem, transatlantic partners, and related Horizon Europe projects.

**Section 5** provides a comprehensive account of the project's standardisation activities and contributions across M1–M39. It covers the standardisation strategy and methodology, the mapping of CODECO assets to relevant SDOs, and the project's concrete contributions — including IETF draft submissions, ETSI engagement, community white papers and standards documents, and the two dedicated CODECO standardisation events.

**Section 6** presents a qualitative and quantitative assessment of the project's achievements against the KPIs defined in D21. The qualitative assessment evaluates delivery against the plans set out in D22 across dissemination, scientific outreach, and standardisation dimensions. The quantitative impact section provides the full KPI reporting table for M1–M39.

**Section 7** addresses sustainability and lessons learned, covering the post-project maintenance of public dissemination assets, the continuation of scientific and innovation outreach through academic integration and the IRCEP legacy programme, and the planned continuation of IETF and community standardisation contributions beyond the project's formal close.

**Section 8** provides the conclusions of the report, summarising the project's overall dissemination, outreach, and standardisation achievements and their contribution to the broader European CEI research ecosystem.

**The report is complemented by five annexes:** Annex I lists all scientific publications; Annex II lists all presentations; Annex III provides the full record of TPC and organising committee roles; Annex IV provides the complete event participation table; and Annex V summarises all standardisation contributions.

## 1.4 Dependencies

This deliverable is a direct successor to and builds upon the foundational work of the previous reports in the series:

**Dependency on D21** (*Dissemination, Communication, Promotion Plan*) [1]: D23 is the primary deliverable fulfilling the reporting requirement for the plan established in D21. It provides the



evidence and analysis to demonstrate how the project's initial plan was executed and adapted over time. The KPIs and strategic objectives defined in D21 serve as the baseline against which Phase 2 achievements are measured.

**Dependency on D22** (*Dissemination, Promotion, Scientific Outreach and Standardisation Report v1.0*) [2]: D23 is the direct follow-up to D22, which reported on the first phase of the project (M1–M18). D23 uses D22 as its primary reference point, providing a continuous account of the project's development. It reports on the "Next Steps" and "Next Steps in Standardisation" outlined in D22 Section 7, detailing their actual implementation and outcomes.

## 2 CODECO Target Stakeholder Engagement

The CODECO project engaged a diverse community of stakeholders throughout its lifetime, structured around six primary groups as defined in D21. The engagement strategy evolved across the three project years from initial awareness-building in Phase 1 (M1–M18) toward active community embedding and demonstrated impact in Phase 2 (M19–M39), with each stakeholder group addressed through targeted mechanisms that leveraged the project's growing technical maturity and open-source outputs.

**Information and Communication Technologies, Industry, and SMEs (ICT)** were engaged primarily through industrial workshops, open-source events, and targeted demonstrations at major venues including the First CODECO Industrial Workshop at HiPEAC 2024, HiPEAC 2025 and 2026, OCX 2024, Software Crafters Barcelona 2025, and the CODECO Final Event. Collaboration with peer Horizon Europe projects — including MLSysOps, EDGELESS, COGNIFOG, and CyberNEMO — expanded the ecosystem available to industrial stakeholders and supported broader adoption discussions. AIOTI Days 2024 and 2025 provided direct access to European IoT and edge computing industry communities.

**Government, Municipalities, and Policymakers (GOV)** were engaged through the project's sustained participation in EUCEI and AIOTI — the two primary European strategic platforms for CEI policy alignment — as well as through contributions to the EUCEI reference architecture, the NetWorld Europe SRIA, and the EUCEI Monthly News Digest (664+ subscribers). Technical compliance with GDPR, the EU AI Act, the EU Cybersecurity Act, and NIS2 is embedded in the CODECO design and supports the project's alignment with European digital sovereignty objectives.

**Standardisation Entities and Open-Source Communities (SDO)** were engaged through Task 6.3, which maintained a structured standardisation programme across IETF, ETSI, BDVA, and community-level bodies throughout M1–M39. Five IETF drafts were submitted or co-authored, two dedicated CODECO standardisation events were organised, and CODECO's contributions feed into an emerging ISO/IEC JTC1 standardisation pathway through the OpenContinuum liaison.

**Academia and Research (AR)** were engaged through 37 peer-reviewed publications — 13 journal articles and 19 conference papers, with 8 papers at ICORE A\*-ranked venues — alongside TPC and organising committee roles at 18 major international events, and the ML4ECS workshop series co-organised with MLSysOps and EDGELESS at HiPEAC 2025 and 2026. Scientific outreach began from the earliest project months, with the first publications and conference representations delivered in 2023. The CODECO Zenodo community and Learning Hub support open access and reproducibility for academic audiences.

**End-Users (EUS)** in smart cities, manufacturing, energy, and smart buildings were engaged through use-case demonstration videos, the IRCEP programme, and public outreach events including the European Research Night 2025, MEDNIGHT 2025, and Nacht des Wissens 2025. The six CODECO pilots — featured in the AIOTI report on IoT and 5G/6G impact —





provided grounded, domain-relevant evidence of CODECO's applicability across diverse operational environments.

**Developers (DEV)** were engaged through the IETF 123 CODECO Hackathon (Madrid, July 2025, ~500 in-person hackathon registrations), the IRCEP challenge programme, the Eclipse Foundation and Red Hat community events spanning EclipseCON 2023, DevConf CZ 2024 and 2025, OCX 2024, and RH Summit 2025, and the open-source CODECO toolkit hosted on Eclipse GitLab. The IRCEP awards mechanism provided structured incentives for external developers to contribute to an experiment with CODECO's open-source framework throughout Phase 2.

**General Audience (GA)** was addressed through public outreach events and accessible communication across the full project lifetime. Notable engagements included MEDNIGHT 2025 in Xanthi (400+ participants), the European Research Night 2025 in Madrid (150 participants), and Nacht des Wissens 2025 in Göttingen. Social media and the project website served as the primary continuous touchpoints, with LinkedIn growing to 662 followers and the website accumulating 6,200 visitors across the project lifetime.

The specific activities, outcomes, and metrics associated with each stakeholder group are documented in detail in Sections 3 through 6.

## 3 Public Dissemination & Communication

Public dissemination and communication in CODECO was designed to serve a dual purpose: ensuring the broad visibility of project results across all target stakeholder groups, and fostering an active, engaged community around the CODECO open-source ecosystem. During Phase 2 (M19–M39), the strategy matured from initial awareness-building toward sustained engagement, with a stronger emphasis on targeted campaigns, educational resources, and demonstrated impact through measurable metrics. The primary channels used were the project [Website](#) and LinkedIn, the latter having replaced X/Twitter as the project's sole social media platform following a consortium decision in February 2025.

### 3.1 Project Website

The CODECO project website serves as the primary public-facing communication and dissemination platform for the project. It functions simultaneously as an information hub, a repository gateway, a community engagement tool, and an educational resource — structured to serve the project's diverse stakeholder groups, from researchers and developers to policymakers and the public., as represented in Figure 1.



Figure 1: The CODECO Website menu.

During Phase 2 (M19-M39), the website underwent a significant restructuring to enhance usability and better reflect the maturity of the project's outputs. The homepage was simplified and streamlined, focusing on a clear overview of the project, its four use cases, and direct links to the project's main outputs. The Results section was reorganised so that published deliverables are listed individually and each linked to its corresponding Zenodo record, supporting open access compliance. The Media gallery was regrouped by event, and the IRCEP Challenge page was redesigned to lower the barrier to participation, with an embedded informational webinar offering an accessible introduction for potential participants. The most significant addition of Phase 2 is the Learning Hub, a dedicated educational toolkit described in detail in sub-section 3.1.3.

### 3.1.1 Structure and Navigation

The Website is organised into eight main navigation areas.

The **About** section provides an accessible project overview, workplan description, consortium presentation, and Advisory Board listing, offering visitors a clear entry point into the project's scope and governance.

The **Results** section aggregates all scientific and technical outputs, including deliverables (linked to their respective Zenodo records), publications, presentations, standardisation contributions, the CARG AI Resilience and Governance toolkit, and the open-source software hosted on Eclipse GitLab.

The **Use Cases** section presents the four application domains addressed by CODECO — Smart Cities, Energy, Mobility, and Manufacturing using accessible, scenario-driven descriptions that translate the project's technical work into concrete societal relevance.

The **Events** section documents the project's main organised activities, including the CODECO Industrial Workshop, the IETF Hackathon, the full list of events participated in, and the CODECO Final Event.

The **Media** section consolidates news items, a photo gallery from project activities, and branding materials.

The **IRCEP** section provides full information on the Innovation and Research Community Engagement Programme, including the challenge descriptions and the awards.

The **Learning Hub** and **Contact** sections complete the navigation.

### 3.1.2 Homepage

The homepage presents a concise and visually clear introduction to CODECO as an open-source, Kubernetes-pluggable framework for optimising application deployment across the Edge-Cloud continuum. It positions the four use cases — Smart Cities, Energy, Mobility, and Manufacturing — as the practical embodiment of the project's vision and provides direct links to the Eclipse GitLab repository and the Zenodo community, lowering the barrier to engagement for both technical and non-technical visitors.

### 3.1.3 Learning Hub

A new asset of CODECO, which is a dedicated educational toolkit. The Learning Hub (Figure 2) consolidates four categories of resources:

- [Learning Courses for CODECO](#), offering both CODECO-exclusive courses (covering topics such as edge-cloud orchestration, container management, Kubernetes, microservices, and security) and expert-recommended external courses.
- [CODECO Demo Videos](#), a curated library of project-related videos embedded from the project's YouTube channel.



- [CODECO Podcast](#), comprising three AI-generated, expert-validated audio resources explaining the project's framework and practical applications in a conversational format.
- [CODECO Technical Documentation](#), providing direct access to architecture guides, component descriptions, and implementation guidelines linked to the Eclipse GitLab repository. Each section is accessible through a clear call-to-action button (LEARN, WATCH, LISTEN, ACCESS), making the hub intuitive to navigate for audiences with varying levels of technical background.
- Each section includes a brief description, accompanied by action-oriented call-to-action buttons: **LEARN**, **WATCH**, **LISTEN**, and **ACCESS**, guiding users to the relevant content.

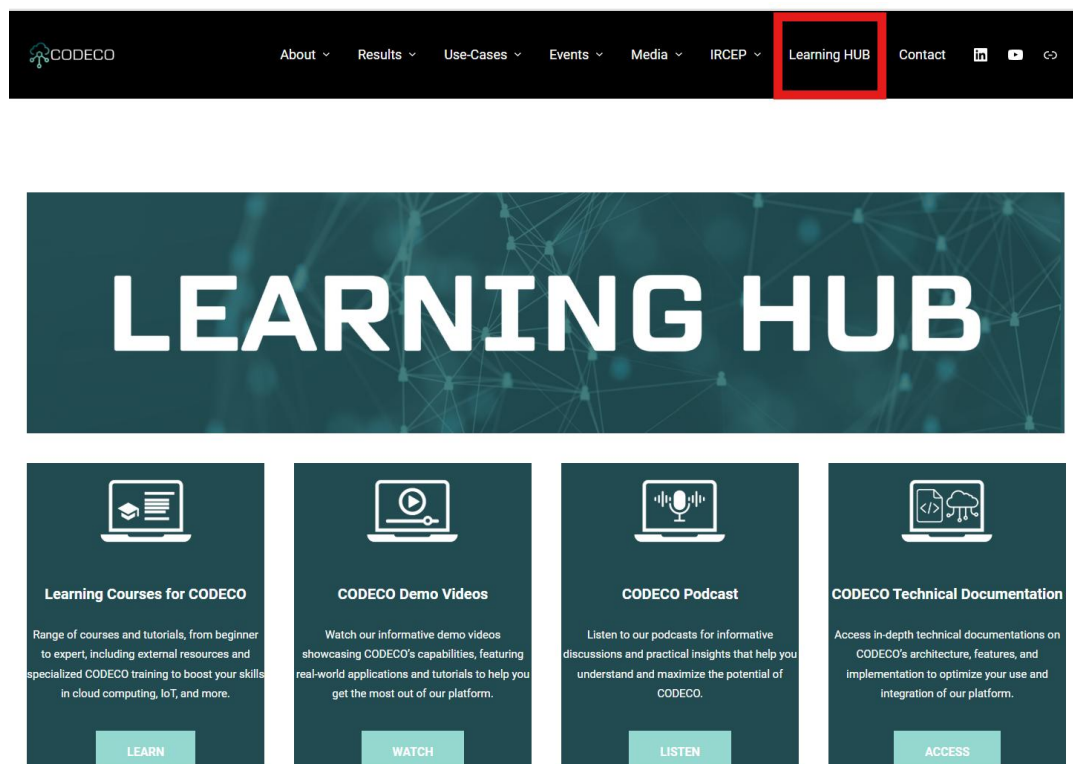


Figure 2: The CODECO Learning Hub.

### 3.1.4 Engagement and Impact

Website performance was tracked continuously throughout the project to assess the reach and effectiveness of the dissemination strategy. As shown Table 1 the project website significantly exceeded its annual visitor KPI across the full project lifetime.

Table 1: Number of visitors to the project website

Dissemination Activity	KPI	Current metrics (Jan 2023- Feb 2026)
Project Website	>500 visitors per year	6.200

Since its inception, the project website has attracted a total of 6.2k visitors. The following sections outline the major sources of traffic and user reach by country.

Traffic analysis shows that the largest share of sessions originated from direct visits and organic search (totalling 4,917 sessions combined), reflecting both strong brand recognition and effective SEO positioning (Table 2: CODECO Website traffic). Referral traffic — visitors arriving via hyperlinks from third-party sites — contributed a further 1,191 sessions, a direct



result of the project's systematic linking strategy through EUCEI, Zenodo, and partner websites. Organic social traffic (74 sessions) remains low relative to total volume, indicating that social media activity was more effective at driving followers to the LinkedIn page than at directing users to the project website itself — an area for improvement noted in Section 3.2.

*Table 2: CODECO Website traffic*

Traffic Source	Sessions
Direct	3,421
Organic search	1,496
Referral	1,191
Organic Social	74

Geographically, the website attracted visitors from across the globe. The five highest-traffic countries are shown in Table 3. The strong presence of US-based users (the largest single contributor) reflects the international relevance of CODECO's research outputs and the global reach of platforms such as Zenodo and IEEE Xplore, through which CODECO content is discovered. European traffic is consistent with the project's primary stakeholder base, with Germany, Spain, and Greece — home to several consortium partners — among the top five.

*Table 3: Website active users in countries*

Country	Active Users
United States of America	1,925
Germany	942
Spain	441
Greece	382
China	351

## 3.2 Social Media

### 3.2.1 Platform Strategy and Evolution

Throughout the project, LinkedIn (Figure 3) served as the primary social media channel. With 662 followers at project close — more than three times the KPI of 200 — and a geographically and professionally diverse audience spanning key European cities (Porto, Lisbon, Athens, Munich) and international locations (United States, United Kingdom), the platform proved well-aligned with CODECO's target stakeholder profile. Most followers are professionals in Engineering, Education, Research, IT, and Business Development, reflecting the project's broad relevance across academia and industry.

The project initially maintained a presence on X (formerly Twitter). Following a sustained decline in engagement consistent with a broader migration of the European research community away from the platform after its transition to X, the consortium formally decided during the 9th Plenary Meeting (4–6 February 2026) to discontinue the X account and consolidate all social media activity on LinkedIn. This decision reflected a pragmatic adaptation of the communication strategy to evolving platform dynamics.

Table 4 summarises the aggregate LinkedIn performance metrics across the full project lifetime.

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Table 4: CODECO social media metrics since January 2023

LinkedIn	Total
Reposts	137
Reactions	3102
Comments	65
<b>Followers</b>	<b>662</b>

CODECO social media KPI: **>200 followers LinkedIn**

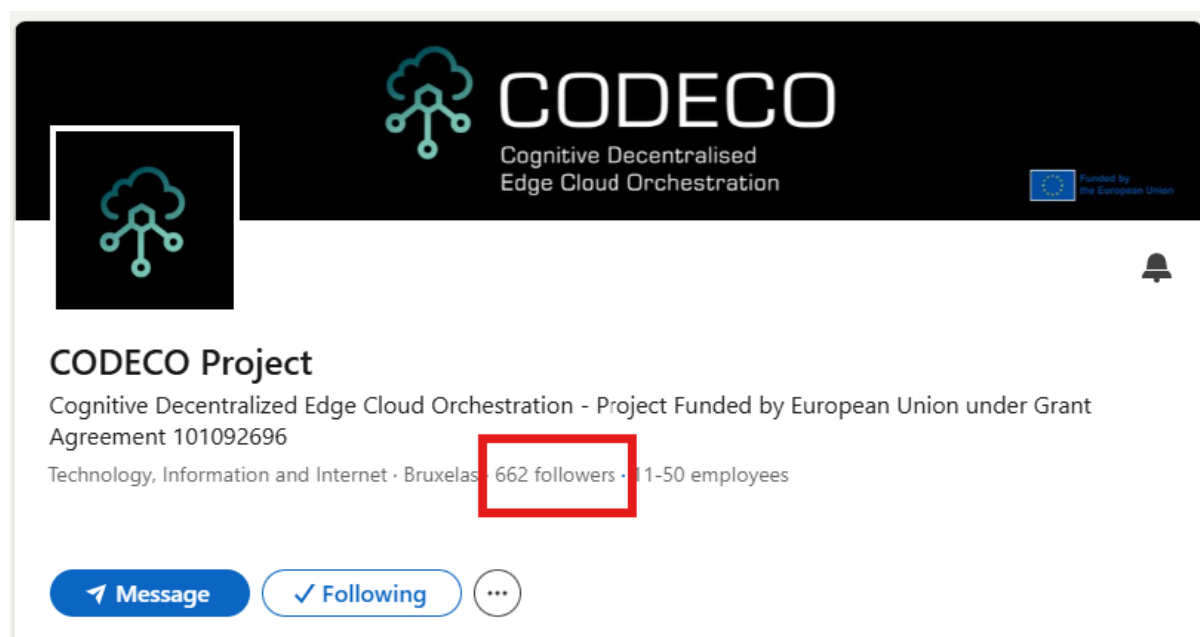


Figure 3: CODECO LinkedIn Account.

### 3.2.2 Content Strategy

The LinkedIn content strategy combined organic posting with targeted paid campaigns. Organic content integrated static posts, videos, and event-driven updates to highlight project milestones, scientific publications, partner spotlights, General Assembly updates, and event participation. This consistent presence-maintained community awareness between major campaigns and reinforced CODECO's identity as an active, technically credible project.

Several focused campaigns were executed to drive specific engagement objectives:

- **IRCEP Challenge Campaign** (June 2025 – February 2026): a sustained campaign encouraging participation in the IRCEP experimentation challenges, including a sub-campaign supporting local IRCEP events hosted by consortium partners.
- **IETF Hackathon Campaign** (July 2025): targeted at developers and technical practitioners to drive registrations for the CODECO hackathon co-located with IETF 123.
- **HiPEAC 2026 Campaign** (January 2026): promoted CODECO's booth and ML4ECS workshop session, targeting students, researchers, and industry professionals attending the conference.
- **Learning Hub Campaign** (January 2026): raised awareness of the newly launched Learning Hub, encouraging followers to explore the educational resources available on the website.



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### 3.2.3 Paid Campaigns

Two paid LinkedIn promotions were executed in the final months of the project, both demonstrating strong performance relative to their modest budgets.

The **Standardisation Event Campaign** (11–19 February 2026) used country- and industry-specific audience targeting across Europe to reach professionals in Technology, IT Services, and Higher Education. With a budget of €150, the campaign achieved a reach of 67,890 unique accounts and 553,270 impressions — a cost per thousand impressions (CPM) of approximately €0.27, well below typical LinkedIn benchmarks. Notable engagement was recorded in Greater Madrid, the Randstad region in the Netherlands, and Lisbon.

The **CODECO Final Event Campaign** (2–23 March 2026) was configured as a click-to-website campaign with the primary objective of driving registrations for the in-person event in Munich. Audience targeting prioritised the Munich metropolitan area and Germany, with selective extension to other European countries and relevant industries including Higher Education, Technology, and Business Consulting. With a budget of €300, the campaign generated 53,518 impressions and 672 clicks, corresponding to a click-through rate of approximately 1.26% — above the typical LinkedIn benchmark of 0.4–0.6% for sponsored content. These results confirm that geographically and professionally targeted paid promotion is a cost-effective mechanism for driving registration to in-person events and should be incorporated as a standard practice from an earlier stage in future projects.

### 3.2.4 Reflections and Lessons Learned

While the LinkedIn strategy delivered measurable results and met its KPI targets, several areas for improvement are identified for the benefit of future dissemination planning.

The low comment count (92 across three years) relative to reactions (5,074) indicates that content succeeded in generating passive acknowledgement more than active dialogue. Future strategies should incorporate formats explicitly designed to invite responses — open questions, polls, and scenario-based prompts — to convert reach into genuine community engagement.

The low organic social referral rate to the website (74 sessions out of 6,200 total) suggests that social media was more effective at building an audience on LinkedIn itself than at channelling that audience to the project's full range of resources. More systematic linking of social posts to specific website pages — particularly new Zenodo records, Learning Hub content, and IRCEP challenge pages — would improve conversion from social followers to engaged users of the project's outputs.

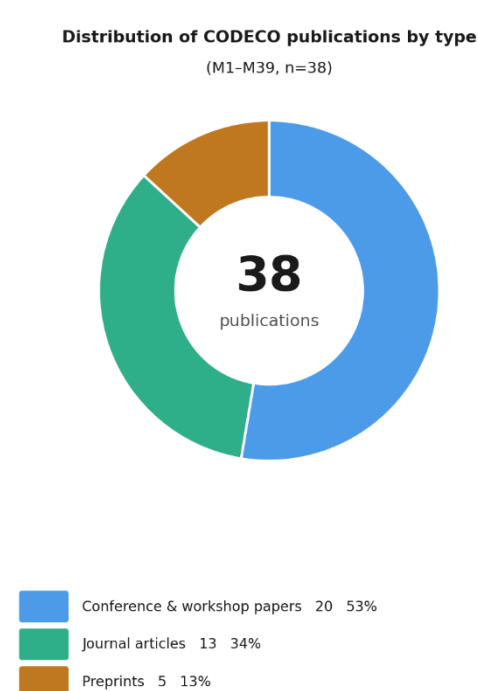
Additionally, the YouTube channel (@CODECOProject), while embedded in the Learning Hub and cited in multiple deliverables, was not tracked as a parallel dissemination channel in this report. Future reporting should include YouTube metrics (subscribers, total views, average view duration) to provide a complete picture of multimedia dissemination reach. Producing short-format video clips for native LinkedIn upload — rather than sharing YouTube links — would additionally improve algorithmic reach on that platform.

Finally, the absence of a presence on emerging academic social platforms (Mastodon, Bluesky) following the discontinuation of X represents a gap in reaching the segment of the research community that has actively migrated away from X. A lightweight presence on one such platform, maintained with the same content as LinkedIn, is recommended for future projects targeting developer and research audiences.

## 4 Broad Scientific & Innovation Outreach

### 4.1 Scientific Publications

Scientific and academic publications are a primary vehicle through which CODECO communicates its results to its two-core research-facing stakeholder groups: Academia and Research (AR) and the ICT sector. Throughout the project, the consortium has pursued a publication strategy built on three consistent principles: **quality** — targeting Q1/Q2 SJR for journals and ICORE A\*/A/B for conferences, as defined in D21; **open science** — depositing all publications in the CODECO Zenodo community (<https://zenodo.org/communities/he-codeco>) in full compliance with Horizon Europe's open access requirements; and **breadth** — spanning national, European, and international venues across the full technical scope of the project, from AI-driven orchestration and video analytics to energy-aware networking, anomaly detection, and LLM inference at the edge.



*Figure 4: CODECO scientific publications.*

Across the full project lifetime, the CODECO Zenodo community contains **38 publication records** (Figure 4) across the filtered categories: 13 journal articles, 20 conference and workshop papers, and 5 preprints (papers under submission). The publications are listed in Annex I. Of the 13 journal articles, **8 are in Q1 SJR-ranked venues**, including IEEE Access (×3), IEEE Transactions on Parallel and Distributed Systems, IEEE/ACM Transactions on Networking, Computer Networks, IEEE Transactions on Networking, IEEE Transactions on Mobile Computing, and IEEE Computer. Of the 14 conference and workshop papers, **8 are at ICORE A\*-ranked venues** — IEEE INFOCOM (×5), AAI, USENIX NSDI, and AAMAS — with 2 at ICORE C and 4 at other venues. Across the 37 publications with recorded Zenodo engagement, the community has accumulated a total of **2,280 unique views and 2,695 unique downloads in Zenodo**. The five preprints (arXiv DOIs) and several papers uploaded in March 2026, have not yet accumulated measurable engagement and are not included in these totals. Conference and workshop papers represent the largest share (19 papers, 51%), reflecting the project's strategy of achieving early and broad dissemination of results within the scientific

community through high-impact, fast-turnaround venues. Journal articles account for 35% of the output (13 papers), demonstrating the project's sustained contribution to archival, high-impact research with all journal submissions targeting Q1 or Q2 SJR-ranked venues. Preprints represent 14% of the portfolio (5 papers), deposited in April 2026 as part of the final publication push before project close, covering open research questions in federated scheduling, energy-aware orchestration, scalable container federation, and AI governance.

The thematic distribution of CODECO's publication portfolio reflects the breadth and coherence of the project's research agenda. **Orchestration and containerisation** are the dominant theme (14 papers, 38%), directly mapping to the core CODECO framework work — encompassing the cognitive container orchestration architecture, Kubernetes-based tooling, federated deployment, open-source experimentation, and performance evaluation of the CODECO toolkit across heterogeneous edge-cloud infrastructures.

Distribution of CODECO publications by research theme

(M1-M39, n=38)

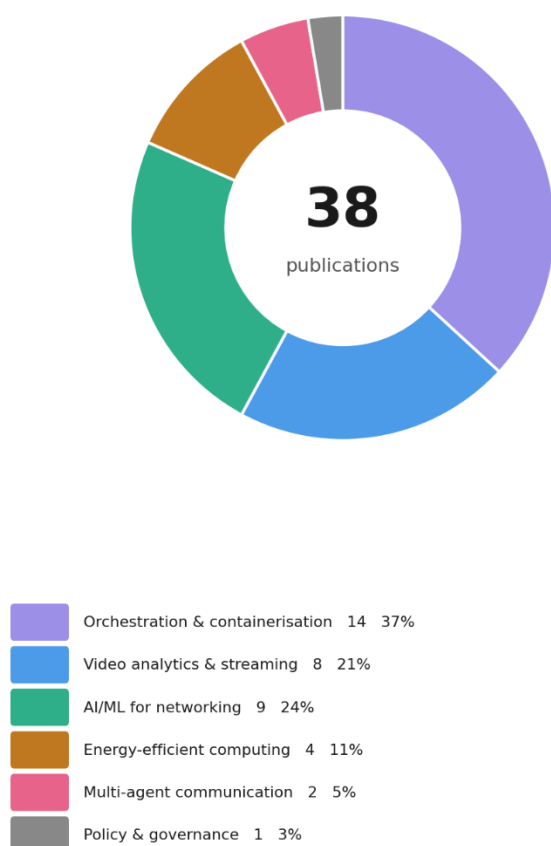


Figure 5: CODECO publications topics.

underpinning for CODECO's decentralised learning mechanisms, while the policy paper positions CODECO's open, resource-aware approach within the broader debate on equitable and sustainable AI access.

## 4.2 Presentations

Presentations of the CODECO project target specific audiences according to event type — conferences, seminars, webinars, and workshops — and serve multiple dissemination functions: providing project overviews and technical depth, engaging stakeholders in direct discussion, promoting adoption of CODECO technologies, raising awareness of results, and fostering collaboration. Presentations are coordinated within WP6, regularly monitored across all partners, and registered in an internal tracking document. When delivered, they are made publicly available on the CODECO Zenodo community under the "Presentations" record type, ensuring open and persistent access to all dissemination materials.

Across the full project lifetime (M1–M39), CODECO partners delivered a total of **26 presentations and talks at international venues**, covering a broad range of formats and target audiences. Eleven presentations were delivered during Phase 1 (M1–M18), establishing early visibility of the project within key communities. A further 14 presentations and talks were delivered or confirmed during Phase 2 (M19–M39), with a strategic shift toward deeper technical content, use-case demonstrations, standardisation engagement, and education outreach. The complete list is provided in Table 10, Annex II.

**Video analytics and streaming** and **AI/ML for networking** each account for 22% of the output (8 papers each). The video analytics strand — spanning adaptive streaming, accelerated decoding, bandwidth orchestration, and edge-assisted inference — reflects the dominant workload profile of the Smart Cities use case. The AI/ML for networking strand addresses foundational techniques including anomaly detection in edge-cloud and wireless systems, reinforcement learning for resource management, and the application of large language models to AI-native network analytics.

**Energy-efficient computing** (4 papers, 11%) has grown in significance during Phase 2, with contributions spanning energy-aware scheduling, Kubernetes energy consumption optimisation, and topological energy mapping for IP networks — directly supporting CODECO's alignment with European sustainability objectives and the project's contributions to the IETF GREEN working group. **Multi-agent communication** (2 papers, 5%) and **policy and governance** (1 paper, 3%) complete the portfolio. The multi-agent strand — DACOM and ReSCOM — provides the theoretical



## 4.3 Technical Programme Committee Representation

CODECO partners actively contributed to leading international scientific venues in the areas of distributed systems, edge–cloud computing, mobile networking, and AI-enabled communication systems. Participation in technical programme committees (TPC), steering committees, and organising roles serves a dual purpose: it strengthens the dissemination of CODECO research results by positioning consortium members as recognised experts within their communities, and it enables the consortium to influence emerging research directions in AI-enabled networking, edge–cloud collaboration, and next-generation communication systems. Committee membership also provides direct visibility into the current research frontier, informing the positioning of CODECO's own contributions and creating pathways for broader adoption of the project's open-source outputs and standardisation proposals.

Across the full project lifetime (M1–M39), CODECO partners held TPC, steering committee, or organising roles at **18 international events**, spanning IEEE INFOCOM, IEEE ICDCS, IEEE Globecom, IEEE ICCN, IEEE NoF, IEEE WPMC, IEEE CSCN, ACM MobiCom, and ACM MobiArch, as well as several workshops and specialised venues organised in part by consortium members. The University of Göttingen (UGOE) led this engagement, with Prof. Xiaoming Fu serving on steering committees at IEEE ICCN 2024, IEEE ICCN 2025, IEEE INFOCOM 2025, and ACM MobiArch 2024 and 2025, and as General Vice Co-Chair for ACM MobiCom 2025, TPC Chair at IEEE ICDCS 2024 and TPC Co-Chair at IEEE NoF 2023. Dr. Tingting Yuan served as TPC member at IEEE INFOCOM 2025, IEEE ICCN 2025, and IEEE ICDCS 2025, and as co-chair of ACM MobiArch 2023. fortiss (FOR) contributed TPC roles across seven venues and held organising or co-chair positions at three workshops. ATHENA Research Center (ATH) chaired the IEEE ISCC ECO 2024 workshop.

The full record is provided in Annex III, Table 11. Events for which CODECO partners held organising or chairing roles are additionally described next, in sub-section 4.2.

## 4.4 Events

To highlight the contributions of the CODECO project, clear and engaging representations have been planned and delivered throughout the project lifetime at high-profile events, from the project's inception in M1 to its close in M39. These include **industrial, academic, software developer, demonstration, and public outreach** events. The participation of the CODECO team in conferences and workshops related to Edge-Cloud computing, IoT, and related fields promotes the dissemination of research results and facilitates interaction with other experts in the field.

CODECO's event strategy covers four main event categories. First, international conferences on Edge-Cloud computing, IoT, and decentralised systems, including flagship IEEE and ACM venues, where CODECO results are presented as scientific papers (Section 4.1), where consortium members hold TPC or organising roles (Section 4.3), or where CODECO is represented through talks and panels (Section 4.2). Second, industry events focused on open-source software and Edge-Cloud computing, including EclipseCon, Embedded World, Red Hat community events, and AIOTI Days, targeting the ICT and DEV stakeholder groups. Third, workshops, tutorials, and technical events on specific topics such as energy-aware orchestration, AI-native networking, and open-source tooling — including several events organised by CODECO partners. Fourth, public and outreach events such as technology fairs, researchers' nights, and school-oriented demonstrations, providing opportunities to engage broader audiences.

Table 12 in Annex IV provides the complete overview of events in which CODECO was represented across the full project lifetime (M1–M39). Events where a presentation was delivered are cross-referenced to Section 4.2. Events where partners held TPC or organising

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roles are cross-referenced to Section 4.3. Events organised by CODECO partners are additionally described in Section 4.5.

## 4.4.1 Organized by CODECO

### 4.4.1.1 Joint Workshop HiPEAC 2025 — ML4ECS: Machine Learning for Edge-Cloud Systems Edition 1

**When/Where:** 22 January 2025, Barcelona, Spain

**Workshop website:** <https://ml4ecs.e-ce.uth.gr/>

**HiPEAC conference:** <https://www.hipeac.net/2025/barcelona/#/program/sessions/8194/>

**Zenodo:** <https://zenodo.org/records/14894529>

**Organiser:** fortiss (FOR)

**Partners:** Presentations by FOR, UPRC, I2CAT, ATH; all partners participated as part of the TPC

**Target stakeholders:** Researchers and academics; industry and SMEs; policy makers; end-users; developers



Figure 6: Highlights from ML4ECS 2025.

The *Machine Learning for Edge-Cloud Orchestration Systems* (ML4ECS) workshop (Figure 6) was organised as a HiPEAC 2025 co-located event, jointly with the Horizon Europe projects MLSYSOPS and EDGELESS, with the aim of building a critical mass around AI/ML-enabled system management and orchestration across the edge–cloud continuum. HiPEAC was selected as the anchor venue due to the strong presence of related topics — cognitive computing, swarm computing, and Meta-OS initiatives — and the joint organisation with



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MLSYSOPS and EDGELESS was designed to maximise outreach and cross-project impact beyond each project's individual community.

The workshop brought together researchers and practitioners working at the intersection of machine learning, continuum computing, dependable distributed operation, and adaptive and resilient deployment. The programme addressed open challenges including efficient orchestration, multi-cluster environments, workload migration, privacy-preserving decentralised learning, and sustainability and energy considerations.

The programme opened with a keynote by Danh Le Phuoc (TU Berlin) on Edge-driven MLOps via Computing Swarm, followed by a technical session covering ML-driven orchestration and scheduling approaches, including reinforcement-learning-based scheduling for distributed edge clusters and carbon- and resource-efficient orchestration concepts. A panel discussion among the authors concluded the technical track, focusing on open challenges, practical applicability, and future research directions.

A dedicated demonstration session highlighted concrete tools and mechanisms from the three projects. CODECO highlighted three key assets. The CODECO Experimentation Framework (CODEF) was presented as a microservice-based experimentation environment supporting declarative cross-layer experiment configuration and automation across heterogeneous infrastructure (bare metal, VirtualBox, and cloud), with optional multi-cluster enablement via technologies such as Ligo, Karmada, and Submariner. An energy-aware orchestration demonstration showed how CODECO mechanisms can incorporate target performance profiles — such as a "greenness" objective — to steer placement and scheduling decisions and reduce overall energy expenditure across compute, network, and data dimensions. The Policy-Driven Lifecycle Controller (PDLC) demonstration presented how aggregated cost perspectives and target profiles can be translated into placement recommendations feeding the Seamless Workload Migration (SWM) scheduler, supporting AI-assisted placement and migration decisions in Kubernetes-based environments.

The workshop reported approximately 60 registrations and an audience of 40–50 participants spanning researchers, students, and SMEs. Discussion points raised during the session included the overhead of CODECO's monitoring architecture, the resource requirements for deploying CODECO in practice, and the training effort needed for adoption; these points were captured for follow-up within CODECO's technical work packages (WP4/WP5).

Within CODECO's Innovation and Research Community Engagement Programme (IRCEP), the workshop supported three Best Talk awards, each equivalent to €2,800, selected by the audience via a poll administered by partner INOVA, serving as an additional mechanism to stimulate community engagement and recognise high-quality contributions aligned with CODECO research priorities.

As a direct outcome, the workshop established sustained cross-project collaboration with MLSYSOPS and EDGELESS, including the preparation of a joint white paper and the organisation of a follow-up edition at HiPEAC 2026 in Kraków building on the community and momentum formed at the 2025 edition.

#### 4.4.1.2 Joint Workshop HiPEAC 2026 — ML4ECS: Machine Learning for Edge-Cloud Systems Edition 2

**When/Where:** 26–28 January 2026, ICE Kraków Congress Centre, Kraków, Poland

**Workshop website:** <https://www.hipeac.net/events/sessions/8241/ml4ecs-machine-learning-edge-cloud-systems/>

**HiPEAC conference:** <https://www.hipeac.net/2026/krakow/#/>

**Zenodo:** <https://zenodo.org/records/18957845>



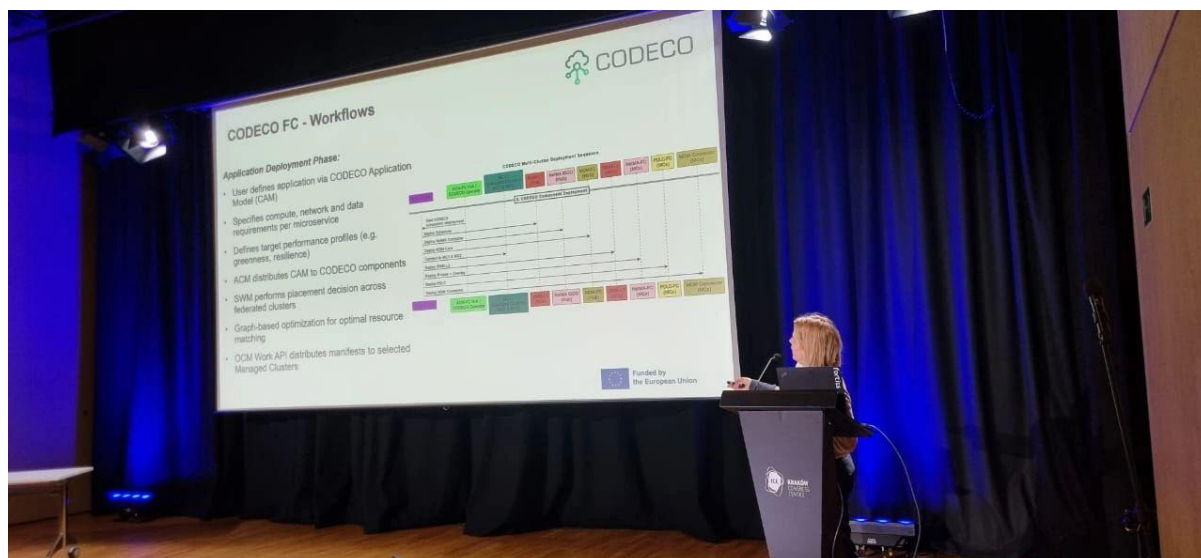
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**Organiser:** fortiss (FOR)

**Partners:** FOR, ECL, INOVA, UGOE, ALM (planning and staffing); session contributions by FOR, ICOM, UPRC, I2CAT, ATH

**Target stakeholders:** Researchers and academics; industry and SMEs; policy makers; students; developers and system architects.



*Figure 7: ML4ECS 2026, CODECO presentation.*

The ML4ECS workshop at HiPEAC 2026 (Figure 7, Figure 8) represents the second edition of the CODECO consortium's flagship community-facing workshop, following the successful first edition held at HiPEAC 2025 in Barcelona. Co-located with the High-Performance Embedded Architecture and Compilation (HiPEAC) conference, one of Europe's leading venues for computing systems research, the workshop provides a high-visibility platform for CODECO to present consolidated technical results to a broad and diverse audience spanning academia, industry, and policy. The 2026 edition was designed to reflect the maturity of CODECO's technical outputs at

project close, with a programme structured around the project's core technological pillars: federated container orchestration, AI-assisted placement and scheduling, energy-aware operation, and open-source tooling for edge-cloud experimentation. Compared to the 2025 edition, the 2026 workshop placed greater emphasis on reproducibility, open-source sustainability, and cross-project interaction, reflecting CODECO's ambition to leave a lasting technical legacy beyond the project's formal lifetime.

Sessions covered the CODECO architecture and federation approach, the Policy-Driven Lifecycle Controller (PDLIC), the CODECO Experimentation Framework (CODEF v2), energy-aware orchestration strategies, and results from the project's three use cases: smart cities and video analytics, smart manufacturing and autonomous mobile robotics, and energy-efficient network management. Demonstrations of CODECO's open-source toolkit were provided alongside live



*Figure 8: CODECO booth at HiPEAC 2026.*



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experimentation scenarios, targeting developers and system architects seeking to deploy or extend the framework.

The workshop further served as a venue for cross-project collaboration, with participation from partners involved in complementary Horizon Europe initiatives in the edge-cloud continuum space, reinforcing CODECO's contribution to the broader European research ecosystem.

Logistical and programme planning was led by FOR with support from ECL and INOVA; UGOE and ALM contributed to staffing and audience engagement. Technical presentations and demonstrations were delivered by FOR, ICOM, UPRC, I2CAT, and ATH, ensuring broad consortium representation and reflecting the multi-partner nature of the project's outputs.

All workshop materials, including slide decks and recorded presentations, are archived in the CODECO Zenodo community at <https://zenodo.org/records/18957845> and are openly accessible under Creative Commons licences.

#### 4.4.1.3 CODECO Hackathon

**When/Where:** 19–20 July 2025, Madrid, Spain

**Hackathon website:** <https://he-codeco.eu/hackathon/>

**IETF 123 Hackathon:** <https://www.ietf.org/meeting/hackathons/123-hackathon/>

**Organiser:** Eclipse Foundation (ECL)

**Partners:** TID, UPM, UC3M (preparation and on-site attendance); FOR (planning and preparation); ATH (preparation)

**Target stakeholders:** Developers and subject-matter experts engaged with IETF standards and "running code" initiatives

The CODECO hackathon (Figure 9) was developed as part of the IETF123 meeting, more specifically the IETF123 Hackathon, in Madrid on 19–20 July 2025, to validate CODECO's open-source approach in a standards-driven, implementation-focused community. Participation took place in the context of a very large IETF gathering, with around 500 in-person hackathon registrations (not counting remote participation) and a much larger IETF week attendance the following week (around 1000 in-person plus ~500 remote registrations). This scale created strong visibility for CODECO and enabled direct engagement with a wide range of stakeholders, including network operators, vendors, implementers, and researchers.

During Day 1 (Saturday, 19 July), the CODECO team received significant interest from multiple groups and engaged with several developers willing to contribute to the challenges. The challenges were explained, and external developers began working on them; during this process they reported bugs encountered during deployment, which also triggered an initial validation/audit of the



*Figure 9: CODECO Hackathon 2025.*



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current code and deployment process. On Day 2 (Sunday, 20 July), these developers continued working on the code; although they did not have sufficient time to deliver their contributions onsite, the contributions were expected in the days immediately after the hackathon. Once the contributions are received and integrated, the consortium planned to apply the IRCEP procedure for awards.

In parallel, the internal CODECO team progressed substantially on Challenge 2 (CATS) over the weekend and resolved it by implementing metric aggregation in line with the IETF CATS draft. The resulting work was presented during the hackathon results session, demonstrating concrete alignment between CODECO implementation work and ongoing IETF standardisation efforts. The activity highlighted the value of the hackathon setting as an accelerated validation environment: it surfaces integration issues quickly (particularly in deployment) while also enabling focused engineering to produce demonstrable results within a short time window.

The event generated strong stakeholder interest and produced a tangible set of follow-up signals. Network operators and manufacturers showed significant interest in CODECO—especially in how IETF extensions could support Cloud–Edge Continuum scenarios. The co-authors of the draft and the chairs of the CATS Working Group expressed explicit interest in CODECO’s activities, while vendor implementers engaged around CODECO work connected to BMWG and related drafts. Academic stakeholders also reacted positively: for example, RWTH Aachen University expressed interest in CODECO’s work in the GREEN WG, noting the value of CODECO’s open-source availability and the expectation that the project will continue to evolve.

From a technical and operational perspective, the hackathon also delivered practical engineering outcomes beyond the challenges themselves. A validation and audit of the repository and deployment flow identified a set of issues—many observed during the deployment phase—that will be evaluated and addressed. To ensure progress during the hackathon despite deployment difficulties, the team deployed a functional, adapted variant of the script as a workaround, enabling continued testing and demonstration. Post-hackathon, the status was that Challenge 2 (CATS) was resolved, while contributions for Challenge 1 (GREEN) were still expected; final integration of external developments remained pending receipt in the CODECO repository.

In addition to hackathon activities, CODECO amplified impact by engaging with the broader IETF week programme: a presentation was delivered in the CATS WG session covering the draft, the overall CODECO progress, and the hackathon results, and CODECO was also presented in the GREEN WG session. Finally, communication activities during the event (including multiple LinkedIn posts from both individual and project channels) generated high visibility and reinforced community interest, supporting follow-up conversations with stakeholders who requested more information and expressed willingness to stay engaged.

Overall, CODECO’s IETF123 participation can be considered a success: while deployment difficulties reduced the amount of external code delivered onsite, the hackathon achieved a concrete technical resolution of the CATS challenge, uncovered actionable issues to improve robustness and reproducibility, and - most importantly - demonstrated strong IETF community appetite for a stable, fully integrated CODECO solution for continuum scenarios, backed by an open-source approach that the community can experiment with and build upon.

#### **4.4.1.4 CONASENSE 2025 Workshop**

**When/Where:** 10 November 2025, hybrid — fortiss, Munich, Germany and TU Sofia, Sofia, Bulgaria (via MS Teams), co-located with IEEE WPMC 2025

**Workshop website:** <https://www.conasense.org/conasense-2025/>

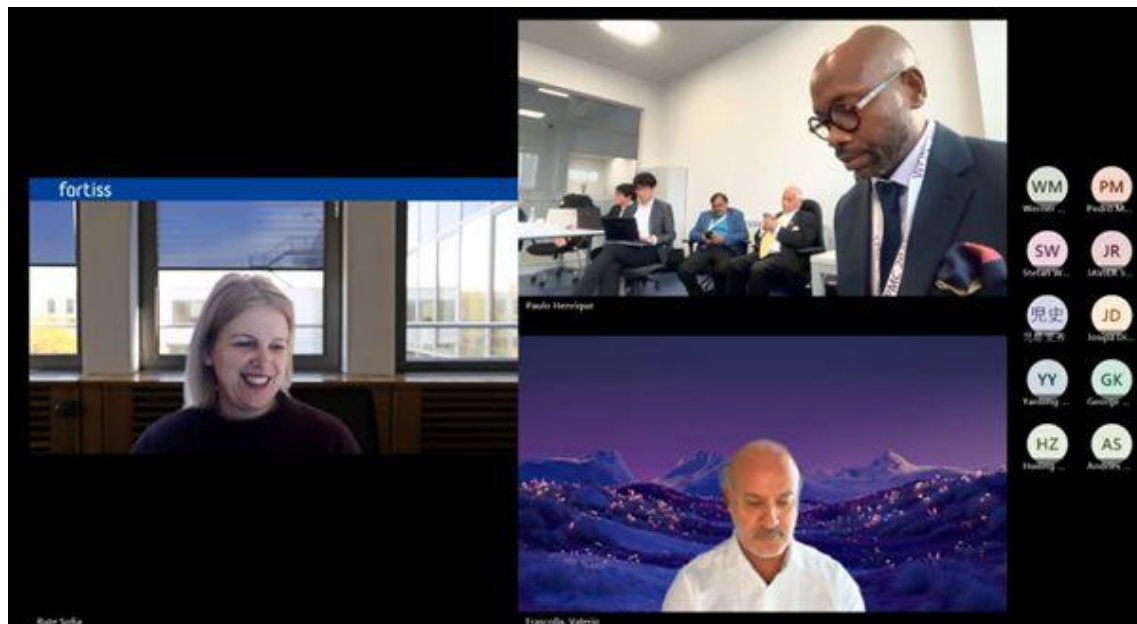


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**Organiser:** fortiss (FOR)

**Partners:** FOR, UPM, ATH, UGOE, I2CAT, ALM, INOVA

**Target stakeholders:** International researchers and industry experts in networking, edge-cloud, IoT, and emerging 6G; policy makers



*Figure 10: CONASENSE 2025 workshop highlights.*

The 15th CONASENSE Workshop, entitled "Cognitive, Energy-Efficient IoT–Edge–Cloud Resource Orchestration" (Figure 10), took place on 10 November 2025 as a hybrid event co-located with IEEE WPMC 2025, hosted between fortiss in Munich and TU Sofia in Bulgaria. The workshop served as an interdisciplinary forum on how cloud-native approaches, virtualisation, and softwarization can enable efficient end-to-end resource management across the IoT–edge–cloud continuum, with particular emphasis on AI-assisted orchestration, automation, resilience, and sustainability. As a long-standing series in its 15th edition, CONASENSE brings together an established international community spanning networking, distributed systems, and next-generation communication, making it a natural venue for CODECO to engage with researchers and practitioners working at the intersection of 6G and edge-cloud management.

The programme was structured in a compact half-day format combining invited and project-oriented content. A technical session addressed adoption-oriented aspects of next-generation systems, including a presentation on designing for 6G adoption through a market-driven framework for trustworthy, personalised, and inclusive next-generation user experience. Invited talks connected cloud-native engineering choices to operational needs in distributed systems, including lightweight Kubernetes monitoring on resource-constrained clusters and work on non-terrestrial network harmonisation evaluated in a beyond-5G testbed.

A dedicated Projects and Demos block provided the primary dissemination slot for EU projects and hands-on demonstrations. Alongside a presentation from the Horizon Europe CyberNEMO project, CODECO displayed three pilots and use cases grounding the discussion in real deployments. Pilot P1 — Smart Monitoring of Public Infrastructure — demonstrated CODECO's edge orchestration applied to urban sensing scenarios. Pilot P5 — Decentralised Wireless AGV Control for Flexible Factories — illustrated CODECO's support for mobile, latency-sensitive workloads in industrial environments. Pilot P6 — Automated Crownstone Deployment for Smart Buildings — showed how CODECO's placement and migration mechanisms operate in building-scale IoT deployments. Across all three pilots, recurring



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the European Union

challenges were discussed, including latency and resource constraints, robustness under changing network and compute conditions, and scalable operations, and the workshop examined how CODECO's orchestration mechanisms — specifically its placement decisions and adaptation and migration strategies — address these in practice.

The workshop concluded with a panel on the CONASENSE Working Groups Vision, reviewing highlights from 2025 and priorities for 2026, followed by a closure ceremony featuring a Best Talk Award selected by audience vote and supported by the CODECO project under its IRCEP programme. The event attracted an average of approximately 33 participants — 15 on-site in Munich and Sofia combined, and 18 online — reflecting a mixed academic and industry audience. As a follow-up mechanism to extend the workshop's impact beyond the event day, the organisers announced that selected talks would be invited as chapters for an open-access book in the CONASENSE Open Access series, published by River Publishers, ensuring broader and persistent dissemination of the technical contributions presented.

#### 4.4.1.5 Public Outreach Events

**Night of Science 2025 (UGOE):** “*Nacht des Wissens Göttingen 2025*”<sup>2</sup> (Night of Science - (21<sup>st</sup> June 2025, Figure 11) is a large public science outreach event in Göttingen, Germany. It brings together universities, research institutions, and technology organizations to present their work to the broader public. During the 2025 edition in Göttingen, CODECO partners highlighted the Smart City traffic monitoring use case, demonstrating how privacy-preserving LiDAR sensors and edge nodes can be used to monitor traffic and pedestrian flows. The CODECO's programme included a live LiDAR demonstration to the public, interactive explanations of edge–cloud orchestration, and videos presenting the CODECO general architecture. A special focus was placed on pupils and school children, who could participate in a hands-on activity using toy cars and road models to simulate traffic monitoring, helping them understand how smart city technologies manage traffic using LiDAR sensors. These activities contributed to raising public awareness of CODECO's smart city use-case and edge–cloud technologies.



Figure 11: Highlights from the Night of Science event, 2025.

**European Research Night 2025 (UPM):** The Universidad Politécnica de Madrid (UPM) participated in a new edition of the European Researchers' Night, an initiative designed to bring science closer to society and spark scientific curiosity among youth. As part of this event,

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2 <https://www.goettinger-nacht-des-wissens.de/komplett/>

the Escuela Técnica Superior de Ingenieros de Telecomunicación (ETSIT) on UPM hosted the workshop "Real-Time Energy" (Energía en tiempo real). This activity was based on the results and technological assets developed within the CODECO project. During the morning, the workshop was specifically tailored for secondary and high school groups, allowing students to experiment with science through a hands-on approach. Participants discovered the inner workings of the electrical system. Attendees observed how CODECO make real-time decisions regarding energy consumption, solar production, and CO<sub>2</sub> emissions, simulating the cognitive orchestration and decentralized decision-making processes that CODECO promotes in edge-cloud environments. In the afternoon, the workshop was opened to the general public, broadening the impact of CODECO's research to citizens interested in smart energy and emerging technologies.

**MEDNIGHT 2025 (ATH):** The Mediterranean Researchers' Night is an EU-funded public engagement event held annually across multiple Mediterranean countries, aiming to bring researchers closer to the public and inspire young people to pursue careers in science. On September 26, ATHENA RC hosted the event at its Kimmeria campus in Xanthi, featuring interactive exhibits, hands-on experiments and educational activities spanning topics such as artificial intelligence, sustainability, and digital heritage, while also included a pre-event in Xanthi's central square to bring science directly to the heart of the city. As part of the event, the CODECO project was actively disseminated, with a dedicated presentation of CODECO, its architecture/components, CODEF and a continuous video loop showcasing the CODECO use-cases with Greek subtitles to ensure accessibility for the local audience. Beyond the general attendees who engaged with the video material, approximately 15–20 visitors showed particular interest in the project's objectives and technical approach, seeking further details and engaging in discussions with the research team. (event > 500 visitors of all ages, including researchers, students, and local community members).

#### 4.4.1.6 IRCEP Local Events

The *Innovation and Research Community Engagement Programme (IRCEP)* is a central mechanism through which CODECO opens its research and innovation ecosystem to external stakeholders. As described on the project website, IRCEP provides a structured framework that encourages researchers, innovators, SMEs, and practitioners to actively engage with the project's technological developments.

IRCEP is composed of two complementary components. The first, Initiatives, introduces the broader community to CODECO's vision and technological foundations, offering an accessible entry point for collaboration. The second component, Experimentation and Validation Challenges, is explicitly designed to stimulate innovation by enabling external participants to propose and carry out validation and experimentation activities within the CODECO framework. These challenges offer a structured opportunity to explore and test the cutting-edge technologies and concepts defined by the consortium.

Through IRCEP, CODECO strengthens its dissemination and impact strategy by promoting open innovation, fostering early adoption, and building a sustainable research and innovation community around continuum computing. The programme supports scientific outreach, industrial engagement, and collaborative validation, ensuring that CODECO's results are not only communicated but actively explored and extended by the wider ecosystem.

Technical partners proposing the Challenges have promoted Local Events (Figure 12) from July to February 2026 to present the IRCEP opportunities among local stakeholders. At these events the challenges were formally introduced, and their respective Key Performance Indicators (KPIs) were clearly explained. Participants were provided with ready-to-use infrastructure, enabling them to actively engage in hands-on activities. Throughout the workshops, participants had the opportunity to ask questions and receive support while experimenting with the tools and concepts presented. Following the completion of the





workshops, they were encouraged to continue working on the challenges independently, with sufficient time to further develop their solutions until the respective deadlines. A full description of the local events organised is available in D28.



Figure 12: Highlight of the UNIPi IRCEP Local Workshops.

#### 4.4.1.7 The CODECO Final Event

**When/Where:** 24 March 2026, 09:00–16:30 CET, fortiss GmbH, Munich, Germany

**Website:** [https://he-codeco.eu/codeco\\_final\\_event\\_showcase/](https://he-codeco.eu/codeco_final_event_showcase/)

**Organisers:** FOR, INO

**Target stakeholders:** Researchers and academics; Cloud and Edge infrastructure providers; SMEs; Kubernetes, IoT, and Edge-Cloud developers; policymakers.

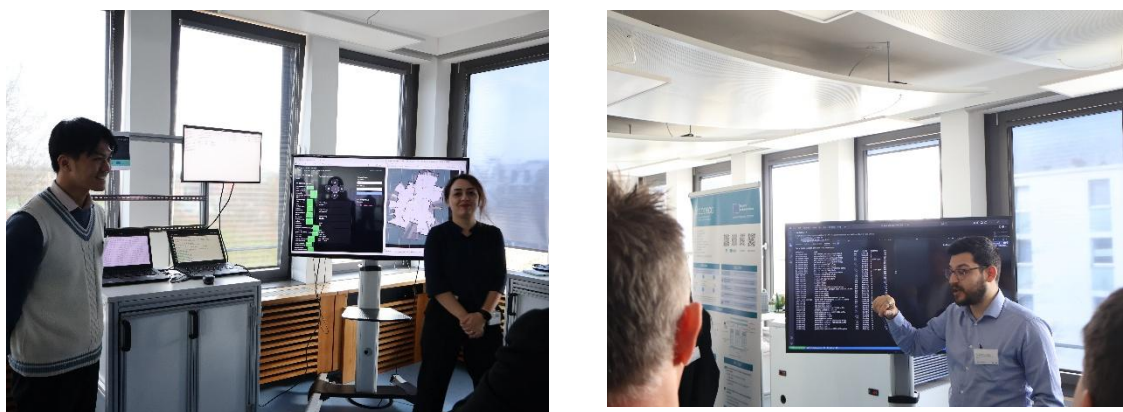


Figure 13: CODECO final event, demo sessions.

The *CODECO Final Event and Showcase* (Figure 13, Figure 14 )marked the formal conclusion of the project, bringing together approximately 60 participants from across the European research, industry, and developer communities for a full-day showcase of the project's consolidated results in cognitive, decentralised IoT–Edge–Cloud orchestration.

The event was structured as a technical showcase and community engagement event rather than a scientific workshop, targeting a broad and mixed audience spanning academia, SMEs, cloud and edge infrastructure providers, and practitioners in the Kubernetes and open-source ecosystem. The programme, running from 09:00 to 16:30 CET, covered the full breadth of CODECO's technical and community outputs. Live demonstrations of the four CODECO use cases — Smart Cities, Mobility, Energy, and Manufacturing — illustrated the practical

applicability of the CODECO framework across real-world, data-intensive deployment scenarios. Technical sessions provided in-depth coverage of the CODECO Kubernetes framework and its federated, data-compute-network orchestration approach, the CODECO Experimentation Framework (CODEF), and the CODECO Data Generator (CODAG). Open-source outputs including Eclipse KuDECO and the CODECO Learning Hub were presented and made available for direct exploration by attendees.



*Figure 14: CODECO final event, audience, and consortium.*

The event additionally provided a platform for ecosystem engagement, including the presentation of the CODECO IRCEP (Innovation and Research Community Engagement Programme) Awards, recognising external researchers and developers who contributed to the project's experimentation and validation challenges throughout Phase 2. This component reinforced CODECO's commitment to open innovation and community-driven validation of its technical framework.

The Final Event served as the primary vehicle through which CODECO communicated its mature, project-close results to an audience of potential adopters and collaborators, demonstrating how CODECO enables adaptive workload management, distributed intelligence, and Kubernetes-based orchestration across federated edge-cloud environments.

#### 4.4.2 Participation in External Events

The CODECO consortium maintained an active and continuous presence at external events throughout the project lifetime, participating in international scientific conferences, industry forums, open-source community events, standardisation meetings, and public outreach activities. Participation in external events complements the project's own organised activities (Section 4.5) by embedding CODECO within established communities, enabling peer exchange and stakeholder feedback, and extending the project's reach to audiences beyond those it can attract through its own events.

The full record of external event participation across M1–M39 is provided in Annex IV, Table 12. Events where a presentation was delivered are cross-referenced to Section 4.2. Events where partners held TPC or organising roles are cross-referenced to Section 4.3.

### 4.5 Collaborative Action and Synergies

CODECO's dissemination and community engagement strategy has consistently extended beyond the project's own consortium and events. Throughout the three-year project lifetime, CODECO built and maintained structured cooperation with European strategic initiatives, international standardisation bodies, peer Horizon Europe projects, open-source communities, data and AI platforms, and transatlantic research networks. This section documents the key collaborative engagements and their impact in terms of audience reach, community building, and influence on the European research and innovation landscape.



## 4.5.1 EUCEI

CODECO is a participating project in the EU Cloud, Edge and IoT Initiative (EUCEI), a strategic community effort aimed at establishing a shared pathway for understanding and advancing the CEI Continuum. EUCEI fosters collaboration among a broad ecosystem of stakeholders including research projects, technology developers, suppliers, business users, and potential adopters and provides member projects with a structured, high-visibility channel through which to engage with peers, align with broader European strategic objectives in the CEI domain, and amplify dissemination and communication activities.

WP6 maintained active participation in EUCEI monthly coordination meetings throughout the full reporting period, from M1 to M39. These meetings served as a regular forum for inter-project exchange and collective positioning within the European CEI landscape, reaching a standing audience of representatives from over 30 Horizon Europe projects active in the CEI domain. During these meetings, WP6 representatives shared and disseminated key CODECO initiatives, including events at which CODECO was present as a representing project (HiPEAC 2026, the IRCEP information webinar, and the standardisation workshop), the IRCEP challenges and related activities, and the CODECO Learning Hub initiative and its educational offerings for the wider community.

WP6 made strategic use of the EUCEI Monthly News Digest as a structured dissemination channel. The digest reaches a subscriber base of over **664 recipients** and is additionally published on the official EUCEI website (<https://eucloudedgeiot.eu/>), extending its reach beyond the direct subscriber list to the broader European CEI community. Between September 2025 and February 2026, the following CODECO items were featured in the digest: promotion of the IRCEP Challenge directing the EUCEI community to participate; announcements of CODECO standardisation events and related activities; coverage of the CODECO booth at HiPEAC 2026; and an exclusive advance announcement of the CODECO Final Event, communicated to the EUCEI community prior to its publication on CODECO's own social media channels. The use of the digest as an advance announcement channel for the Final Event is a concrete example of how EUCEI membership translated into strategic dissemination advantage beyond what CODECO's own channels could achieve independently.

In addition to the news digest, CODECO dissemination content was shared through the [EUCEINexusForum](#), the EUCEI community collaboration platform. This platform provides a dedicated collaborative space for EUCEI member projects to exchange updates, coordinate activities, and engage with a broader community of CEI stakeholders, enabling asynchronous community engagement between monthly meetings.

In February 2026, EUCEI launched a new community wiki ([https://wiki.eucloudedgeiot.eu/index.php/Main\\_Page](https://wiki.eucloudedgeiot.eu/index.php/Main_Page)) as an open, structured knowledge repository for projects active in the CEI Continuum ecosystem. CODECO has been listed as one of the featured projects on this wiki, ensuring **long-term visibility** within the EUCEI community beyond the project's formal lifetime and providing a persistent reference point for stakeholders seeking information on CODECO's contributions to the CEI landscape.

CODECO's engagement with EUCEI has constituted a significant and sustained dissemination and community engagement effort across the full reporting period. By actively participating in monthly coordination meetings throughout M1–M39, contributing content to the EUCEI News Digest and NexusForum and securing a listing on the newly launched EUCEI wiki, CODECO has embedded itself as a visible and contributing member of the wider European Cloud, Edge, and IoT research community, with a combined reach across EUCEI channels estimated at well over 1,000 unique stakeholders.





## 4.5.2 AIOTI

CODECO maintained active engagement with the *Alliance for Internet of Things Innovation (AIOTI)* throughout the project lifetime. AIOTI is a major European stakeholder platform that brings together industry, research, and policy actors around the development and adoption of IoT and connected systems, with a particular focus on advancing the integration of IoT with edge and cloud computing paradigms. Its working groups and community events provide a natural forum for CODECO to engage with the broader IoT ecosystem and to position its edge-cloud orchestration framework within European digital infrastructure priorities.

CODECO participated in **AIOTI Days 2024**, held in Brussels, Belgium on 24–26 September 2024, where the project was represented by FOR in the projects' session, with a dedicated [CODECO talk](#). The event brought together European IoT and edge-cloud stakeholders from research, industry, and policy, and provided a platform to present CODECO's technical approach and its relevance to smart, distributed IoT-Edge-Cloud deployments. Engagement at AIOTI Days 2024 reinforced CODECO's visibility among potential adopters and technology integrators within the AIOTI community.

CODECO further participated in **AIOTI Days 2025**, held in Madrid, Spain on 22–23 September 2025, co-located with the [Open-Source Community Day](#) (70 participants, led by ECL). Participation in the 2025 edition allowed CODECO to present [mature project results and open-source outputs](#) to an audience of IoT and edge computing stakeholders, and to engage with ongoing European policy discussions on the CEI continuum at a moment close to the project's formal close. The co-location with the Open-Source Community Day amplified the combined dissemination impact of the two events, enabling CODECO to reach complementary audiences — IoT policy and industry stakeholders through AIOTI Days, and the developer and open-source community through the Open-Source Community Day.

CODECO's sustained participation across two consecutive AIOTI Days editions reflects the alignment between AIOTI's strategic priorities and CODECO's technical agenda and contributes to the project's objective of reaching the IoT and industry stakeholder groups identified in D21.

## 4.5.3 HiPEAC

CODECO's engagement with the [High Performance Embedded Architecture and Compilation \(HiPEAC\)](#) network represents one of the most sustained and productive community partnerships of the project, spanning all three project years and growing in scope and impact across each edition. HiPEAC is Europe's leading network for computing systems research, bringing together academia, industry, and policy stakeholders around advanced computing architectures, systems software, and emerging computing paradigms. Its annual conference, held each January at a major European venue, attracts a broad audience of researchers, engineers, and SMEs from across the continent, making it a high-value platform for CODECO to engage with the systems research community.

CODECO's HiPEAC engagement began at **HiPEAC 2024** (Munich, Germany, 16–19 January 2024), where FOR and ECL jointly organised the **First CODECO Industrial Workshop — Shaping the Future of Edge-Cloud Orchestration**, the project's inaugural community-facing workshop. The event attracted 60 participants from industry and research, introduced the CODECO framework to a HiPEAC audience, and provided an early platform for industrial feedback on the project's technical approach. ECL simultaneously maintained a CODECO presence at the HiPEAC 2024 conference booth, extending reach to the broader HiPEAC attendee community. The [talks](#), [videos](#) and [report](#) are available in Zenodo.

At **HiPEAC 2025** (Barcelona, Spain, 20–22 January 2025), CODECO co-organised the [ML4ECS — Machine Learning for Edge-Cloud Systems workshop](#) jointly with Horizon Europe projects MLSysOps and EDGELESS, described in detail in Section 4.5. The workshop



reported approximately 60 registrations and 40–50 on-site participants, featured a keynote, technical sessions, a panel, and a dedicated demonstration session showcasing three CODECO assets — CODEF, energy-aware orchestration, and PDLC. The event awarded three Best Talk prizes through the IRCEP programme and initiated sustained cross-project collaboration that carried forward into 2026.

At **HiPEAC 2026** (Kraków, Poland, 26–28 January 2026), CODECO organised the [second edition of the ML4ECS workshop](#), again jointly with MLSysOps and EDGELESS, reflecting the maturity of the cross-project collaboration established in Barcelona. The 2026 edition placed greater emphasis on project-close technical outputs — federated orchestration, PDLC, CODEF v2, and use-case results — and on open-source sustainability and cross-project interaction. All workshop materials are archived at <https://zenodo.org/records/18957845>. The consortium additionally maintained a CODECO booth at the HiPEAC 2026 conference, providing hands-on demonstrations of the CODECO open-source toolkit to the broader conference audience throughout the three-day event. A CODECO interview at HiPEAC 2026 is [available here](#).

Across three consecutive HiPEAC editions, CODECO has built a recognised and recurring presence within the HiPEAC community, with the ML4ECS workshop establishing itself as a reference event for the edge-cloud systems research community within the HiPEAC programme. The progression from a single project workshop in 2024 to a cross-project community event in 2025 and 2026 reflects the growth in CODECO's collaborative network and community standing and provides a natural institutional home for the continuation of CODECO-related research activities beyond the project's formal lifetime through the sustained involvement of MLSysOps, EDGELESS, and the wider HiPEAC community.

#### 4.5.4 Transatlantic Cooperation

CODECO extended its dissemination reach beyond Europe through two structured transatlantic engagements targeting research and academic audiences in North America and South America.

The first engagement was through the **CSA DISCOVER-US Webinar series**, a dedicated EU–USA science and technology cooperation programme coordinated by the Discover-US Consortium. The [CODECO webinar](#)<sup>3</sup>, held on 22 March 2024 (online, 40 participants), with FOR, Rute C. Sofia, delivering a tutorial on CODECO's framework, its approach to edge-cloud orchestration, and its relevance to the EU–USA research community. The webinar reached an audience of researchers and practitioners on both sides of the Atlantic and provided a structured mechanism for positioning CODECO within the transatlantic research agenda on distributed computing and IoT infrastructure. The presentation is archived at

The second engagement was through the **FEEC/UNICAMP IA382 Seminar in Computer Engineering** at the University of Campinas (Brazil). The [seminar](#), delivered online on 18 April 2024 with approximately 30 participants. FOR, Rute C. Sofia, presented on "*Latest trends on supporting an energy-efficient and resilient IoT-Edge-Cloud continuum*" to an academic audience at one of Latin America's leading engineering universities. This engagement established CODECO's visibility within the South American research community and created a link between CODECO's open-source outputs and the academic environment at UNICAMP, which has active research programmes in distributed systems and IoT.

These two engagements demonstrate CODECO's ambition to position its results within a global research conversation, extending beyond the European Research Area and into active research communities in the Americas with whom future collaboration and adoption of CODECO's open-source outputs may develop.

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<sup>3</sup> <https://zenodo.org/records/12657798>.

## 4.5.5 BDVA

CODECO participated in two editions of the Big Data Value Association (BDVA) Data Week, engaging with the European data and AI community at one of the continent's leading forums for data-driven research and innovation.

At **BDVA Data week 2023** (Luleå, Sweden, 13–15 June 2023), I2CAT partner Rizkallah Touma presented CODECO during the session "Building a Cognitive Cloud-Edge Continuum for Next-Generation Data Processing Applications", reaching an audience of approximately **340 participants** — one of the largest single-event audiences recorded for CODECO across the full project lifetime. The presentation framed CODECO's cognitive orchestration approach within the context of next-generation data processing across the edge-cloud continuum, directly addressing the data platform and AI communities that form a core part of the BDVA audience. The session materials are archived at <https://zenodo.org/records/12663362>.

At **BDVA Data Week 2025** (Athens, Greece, 27–28 May 2025), CODECO was represented by INTRA, presenting the project's approach to cross-layer orchestration and resource management in the edge-cloud continuum alongside peer Horizon Europe projects including MLSysOps, COGNIFOG, and ENACT. This joint panel session positioned CODECO within the broader European data infrastructure landscape at a mature stage of the project, communicating consolidated results and open-source availability to an audience of data platform developers, researchers, and industry stakeholders.

The two BDVA Data Week participations provided CODECO with access to a community that is complementary to — but largely distinct from — the networking and systems research community reached through IEEE and ACM venues, thereby broadening the project's overall stakeholder reach in line with its multi-group dissemination strategy.

## 4.5.6 Open-source ecosystem

A distinctive feature of CODECO's dissemination strategy has been its sustained investment in open-source community cooperation, led primarily by partners ECL (Eclipse Foundation) and RHT (Red Hat). This engagement targets the developer (DEV) and ICT stakeholder groups identified in D21, reaching communities of software engineers, system architects, and Kubernetes practitioners who represent key potential adopters of CODECO's open-source toolkit.

Through **ECL**, CODECO cooperated with the Eclipse Foundation's developer community across four major events: EclipseCon 2023 (Ludwigsburg, 200+ participants), the Third Eclipse SAAM Conference 2023 (Ludwigsburg, 50+ participants, ECL as organiser), Eclipse Open-Source Experience OCX 2024 (Mainz, **450+ software developers and architects**), and the HiPEAC 2026 booth demonstrations in Kraków. OCX 2024 represented the largest open-source industry audience reached by CODECO in a single event, providing direct access to the European open-source developer community at its flagship annual conference. ECL also led the CODECO presence at the **Software Crafters Barcelona 2025** conference (24–25 October 2025, **500 participants**), one of the most important practitioner-focused software engineering events in southern Europe and organised the **Open-Source Community Day** in Madrid (23–24 September 2025, 70 participants) as a dedicated CODECO open-source community-building event.

Through **RHT**, CODECO engaged with the Red Hat and Kubernetes practitioner community through four targeted events: Red Hat Tech Talks (Cork, 14 February 2024, 60 participants, presentation archived at <https://zenodo.org/records/12658038>), DevConf.CZ 2024 (Brno, 13–15 June 2024, 100+ participants), DevConf CZ 2025 (Brno, 12 June 2025), and the Red Hat Summit Community Day (Boston, 19 May 2025). DevConf.CZ — an annual Red Hat community conference focused on open-source software, Linux, and cloud-native technologies — provided CODECO with direct access to a highly technical Kubernetes and



container orchestration audience that represents a primary target for adoption of the CODECO toolkit.

Across these open-source community engagements, CODECO reached an estimated combined audience of well over **1,500 developers, system architects, and open-source practitioners**, representing a significant and often underreported component of the project's overall dissemination impact. The open-source community engagement further supports CODECO's exploitation and sustainability objectives, by building a pipeline of technically capable users and potential contributors to the project's open-source codebase beyond the formal project lifetime.

### 4.5.7 Collaboration with Related Projects

From its earliest stages, CODECO pursued a deliberate strategy of collaboration with other Horizon Europe projects in the same and adjacent thematic clusters, particularly those addressing the IoT–Edge–Cloud continuum, AI/ML-based orchestration, and standardisation. These collaborations are evidenced by joint publications, co-organised workshops, and co-authored white papers, and reflect CODECO's commitment to contributing to a cohesive and interoperable European research ecosystem in the CEI domain. The CODECO Zenodo community (<https://zenodo.org/communities/he-codeco>) contains 76 records in total, including deliverables, white papers, workshop proceedings, datasets, and joint publications, which collectively document the breadth of this collaborative output. Table 5 summarizes the main collaborations with related projects.

*Table 5: Horizon Europe projects with which CODECO has established active collaboration.*

Project	GA No.	Topic Area
MLSysOps	101092912	ML for autonomic system operation in Edge-Cloud continuum
EDGELESS	101092950	Cognitive Edge-Cloud with serverless computing
COGNIFOG	101092968	AI-empowered Edge-Cloud continuum
COGNIT / Sovereign Edge	101092711	Cognitive serverless framework for Cloud-Edge continuum
DECICE	101092582	Device-Edge-Cloud intelligent collaboration
ENACT	101135423	Adaptive scheduling on energy-efficient Edge-to-Cloud
NEMO	101070118	Next-generation meta operating system
CyberNEMO	101168182	End-to-end cybersecurity for NEMO

The most intensive collaboration has been established with **MLSysOps** and **EDGELESS**, with whom CODECO jointly organised two editions of the ML4ECS workshop, co-located with HiPEAC 2025 in Barcelona and HiPEAC 2026 in Kraków (Section 4.2.1.2). These workshops created a shared forum for the three projects to present complementary approaches to AI/ML-based orchestration and to engage a joint community of researchers, practitioners, and SMEs. The two editions generated a combined audience of over **200 participants** across both years and produced a set of shared follow-up activities, including the planning of a joint white paper on ML-enabled edge-cloud orchestration. The joint organisation also enabled all three projects to benefit from shared programme committee work, cross-promotion across each project's dissemination channels, and a richer technical programme than any single project could have assembled independently.

Collaboration with **COGNIFOG**, **COGNIT**, **DECICE**, and **ENACT** materialised through the joint white paper *Cognitive Management and Orchestration of Resources in the Edge-Cloud Continuum* (Zenodo: <https://zenodo.org/records/14629440>), co-authored by representatives



of all six projects and coordinated by partner INTRA. The white paper provides a comparative analysis of cognitive and intelligent resource management techniques across the six projects, addressing shared challenges in performance, scalability, and security across heterogeneous Edge-Cloud environments. Its publication constitutes a concrete and measurable output of cross-project alignment and contributes to the European CEI community's collective understanding of AI-driven orchestration paradigms. The white paper was disseminated through the EUCEI community channels described in Section 4.3.1, the BDVA Data Week 2025 joint panel, and individual project channels, multiplying its effective audience across all six projects' communities.

Collaboration with the **NEMO** project is documented through three joint publications co-authored by UPM researchers from both consortia: the ML-based network anomaly detection paper published in MDPI AI (Zenodo: <https://zenodo.org/records/14809137>), the comparative analysis of A3C and PPO reinforcement learning algorithms in IEEE Access (Zenodo: <https://zenodo.org/records/13959694>), and the performance evaluation of YOLOv8-based bib number detection in IEEE Transactions on Broadcasting (Zenodo: <https://zenodo.org/records/12543835>). These publications reflect the natural overlap between CODECO's streaming and video analytics use case and NEMO's work on meta-operating system support for media-intensive applications and demonstrate how cross-project collaboration can produce high-quality archival outputs that benefit both consortia.

Collaboration with **CyberNEMO** took place primarily through the CONASENSE 2025 workshop (Section 4.5), where CyberNEMO and CODECO jointly contributed to the Projects and Demos session, presenting complementary work on distributed orchestration and cybersecurity in the CEI continuum. This joint participation reinforced the thematic proximity of the two projects and created a shared dissemination opportunity within the networking and 6G research community, with CODECO's orchestration pilots providing concrete deployment scenarios that contextualised CyberNEMO's security work.

Beyond individual project collaborations, CODECO's cross-project engagement has been consistently supported through EUCEI coordination mechanisms, the BDVA Data Week 2025 joint panel session (where CODECO participated alongside MLSysOps, COGNIFOG, ENACT, and other projects in a panel on MLOps and resource management in the edge-cloud continuum), and through shared participation in standardisation activities at IETF and ETSI. These engagements reflect CODECO's commitment to collaboration as a structural feature of its dissemination and impact strategy, rather than as an incidental outcome, and collectively position CODECO as a well-connected and actively contributing member of the European CEI research ecosystem.

## 5 Standardisation

### 5.1 Strategy and Methodology

CODECO's standardisation activities followed the three-phase approach defined in Deliverable D12 Setup, Periodic Monitoring, and Periodic Contributions — implemented progressively across the full project lifetime from M1 to M39, as illustrated in Figure 15. The expected outcomes of the standardisation activities were defined at project outset as: **SDO drafts and contributions; white papers; standardisation-oriented meetings and events; and monitoring of relevant existing standards and working group activities.**



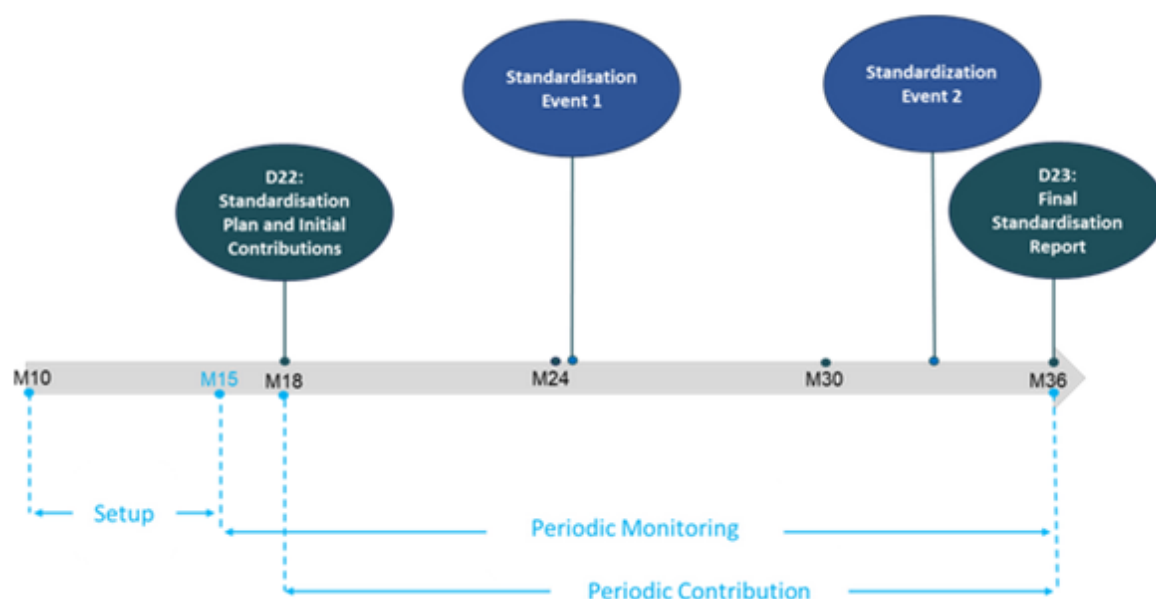


Figure 15: Standardisation activities in CODECO, timeline with main phases.

The CODECO standardisation methodology is structured around five dimensions — What, Where, How, Who, and When — which together define the project's standardisation path, as illustrated in Figure 16 and described in detail in D12. In brief: *What* defines the CODECO technical assets targeted for standardisation; *Where* identifies the relevant Standards Development Organisations (SDOs) and working groups; *How* determines the form of contribution (draft, white paper, presentation, monitoring); *Who* assigns partner responsibility for each contribution; and *When* situates contributions within the project timeline relative to technical readiness.

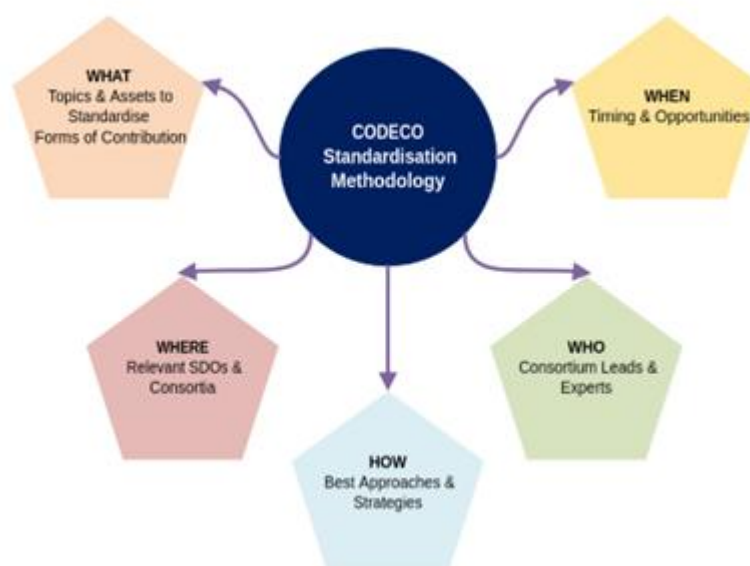


Figure 16: CODECO standardisation methodology components.

## 5.2 Identified Assets and SDO Mapping

During the setup phase, a structured inventory of CODECO technical assets was produced and mapped to relevant SDOs and target working groups. The assets were categorised into six classes based on type as follows:

- networking and connectivity
- orchestration and scheduling
- energy efficiency
- security and compliance
- benchmarking and evaluation
- AI/ML enablers

The CODECO assets were then mapped to IETF, ETSI, BDVA, NetWorld Europe, and EUCEI as the primary target bodies. The detailed asset-to-SDO mapping is provided in D12 and updated in the CODECO Standardisation White Paper (Zenodo: <https://zenodo.org/records/15234813>, April 2025).

## 5.3 Contributions

CODECO's standardisation contributions span formal IETF draft submissions, ETSI working group engagement, white paper publications, and active participation in standardisation events. The full record across M1–M39 is provided in Annex V, Table 13.

### 5.3.1 IETF Contributions

CODECO's most active standardisation engagement has been with the *Internet Engineering Task Force (IETF)*, across four working groups and one research group: *COINRG (Computing in the Network Research Group)*, *ALTO (Application-Layer Traffic Optimisation)*, *DetNet (Deterministic Networking)*, *GREEN (Getting Ready for Energy-Efficient Networking)*, and *BMWG (Benchmarking Methodology Working Group)*. Five IETF drafts have been submitted or co-authored by CODECO partners across the project lifetime, representing a concrete and sustained technical contribution to ongoing IETF standardisation work in areas directly relevant to CODECO's technical agenda:

**Draft 1 — An Evolution of Cooperating Layered Architecture for SDN (CLAS) for Compute and Data Awareness** (TID, IETF COINRG / IRTF COIN RG, July 2023). This draft proposes an evolution of the CLAS architecture to incorporate compute and data awareness, directly aligned with CODECO's cross-layer orchestration approach. Submitted to both IETF COINRG and IRTF COIN RG. Available at: <https://datatracker.ietf.org/doc/draft-contreras-coinrg-clas-evolution/>

**Draft 2 — Use of ALTO for Determining Service Edge** (TID, IETF ALTO, July 2023). This draft proposes mechanisms for using the ALTO protocol to determine service edge locations, addressing a key challenge in CODECO's federated orchestration scenario. Available at: <https://datatracker.ietf.org/doc/draft-contreras-alto-service-edge/>

**Draft 3 — Requirements for Reliable Wireless Industrial Services** (FOR, IETF DetNet, July 2024). This draft formalises requirements for reliable wireless services in industrial environments, grounded in CODECO's smart manufacturing and AGV use cases and relevant to deterministic networking approaches for edge-cloud deployments. Available at: <https://www.ietf.org/archive/id/draft-ietf-detnet-raw-industrial-req-01.txt>

**Draft 4 — Energy-aware Differentiated Services (EA-DS)** (FOR, IETF GREEN, July 2025). This draft proposes an energy-aware differentiated services framework enabling network



elements to factor energy consumption into traffic differentiation decisions, directly addressing CODECO's sustainability objectives and its work on energy-efficient orchestration. Presented at the IETF 123 GREEN Working Group session in Madrid, July 2025. Available at: <https://datatracker.ietf.org/doc/draft-sofia-green-energy-aware-diffserv/>

**Draft 5 — CNI Telco-Cloud Benchmarking Considerations** (FOR, ATH, IETF BMWG, July 2025). This draft defines benchmarking considerations for Container Network Interface (CNI) plugins in telco-cloud environments, building directly on CODECO's systematic evaluation of Kubernetes CNI plugins and distributions (C12, C13 in Table 8: CODECO conference and workshop publications, M1–M39.). Presented at the IETF 123 BMWG session in Madrid, July 2025. Available at: <https://datatracker.ietf.org/doc/draft-samizadeh-bmwg-cni-benchmarking/>

The two drafts submitted to IETF 123 (Drafts 4 and 5) were additionally supported by CODECO's participation in the IETF 123 Hackathon (19–20 July 2025, Madrid), described in Section 4.2.1.3, where the CATS challenge was successfully resolved and the GREEN challenge was advanced, demonstrating that CODECO's standardisation contributions are backed by running code and open-source implementation, a key credibility factor within the IETF community.

At IETF 123, CODECO engagement generated explicit interest from the co-authors and chairs of the CATS Working Group, from vendor implementers active in BMWG, and from RWTH Aachen University in the context of the GREEN WG, indicating that the submitted drafts are receiving substantive attention within the relevant working groups.

### 5.3.2 ETSI Contributions

CODECO's engagement with ETSI has been primarily at a monitoring and early-contribution level, targeting the *NFV (Network Functions Virtualisation)* and *OSM (Open-Source MANO)* working groups, which are directly relevant to CODECO's orchestration and virtualisation stack.

ETSI NFV Network Operator Council (NOC) Meeting #195 (June 2023, remote): TID presented on the L2S-M work ("An introduction to L2S-M, trying to make K8s and NFV network models converge"), contributing CODECO-relevant work on Kubernetes and NFV network model convergence to the operator community.

ETSI OSM #16 Meeting (November 2023, remote): UC3M presented on "Connectivity among VNFs using SDN" ([https://docbox.etsi.org/OSG/OSG/OSM/05-CONTRIBUTIONS/2023/OSM\(23\)000031](https://docbox.etsi.org/OSG/OSG/OSM/05-CONTRIBUTIONS/2023/OSM(23)000031)), contributing CODECO's SDN-based VNF connectivity approach to the ETSI OSM working group.

CODECO partners ICOM and TID participated in **ETSI SNS4SNS 2026** (Munich, 2–5 February 2026), a high-level ETSI event on smart networks and services, presenting CODECO's contributions to the wider ETSI community and engaging with standardisation stakeholders from industry and research in the 6G and network softwarization space.

### 5.3.3 White Papers and Community Standards Documents

CODECO's contributions to the broader European CEI community extend beyond formal IETF and ETSI drafts to include a significant body of community-level documents produced in collaboration with EUCEI, OpenContinuum, AIOTI, and NetWorld Europe. These contributions ensure that CODECO's technical outputs are embedded in the community knowledge base that informs future Horizon Europe work programmes and European digital infrastructure policy.

**CODECO Technological Assets and Contributions Towards Standardisation — White Paper** (FOR, April 2025, Zenodo: <https://zenodo.org/records/15234813>). This white paper provides a comprehensive mapping of CODECO's technical assets to standardisation pathways across IETF, ETSI, and other relevant bodies. It was disseminated through the





EUCEI Monthly News Digest (664+ subscribers), BDVA channels, and CODECO's own dissemination channels.

**OpenContinuum D2.2 — OpenContinuum Landscape v2 and Recommendations** (OpenContinuum CSA / EUCEI, September 2024, <https://eucloudedgeiot.eu/wp-content/uploads/2024/11/D2.2-OpenContinuum-Landscape-v2-and-recommendations-1.pdf>).

This major EUCEI community deliverable presents a reference architecture, taxonomy, and landscape of technical assets for the CEI Continuum, developed with input from over 40 Horizon Europe projects. CODECO is featured in Annex 1 (p. 61) as one of the documented research asset projects, with its architecture and technical contributions mapped to the common EUCEI reference architecture. The work carried out in this deliverable will be continued as part of a liaison with ISO/IEC to standardise the taxonomy and building blocks developed — meaning CODECO's documented contributions feed directly into an emerging ISO/IEC standardisation process.

**OpenContinuum D4.3 — Toward a European Ecosystem for the Computing Continuum** (OpenContinuum CSA / EUCEI, 2023, [https://eucloudedgeiot.eu/wp-content/uploads/2023/06/D4.3-Toward-an-European-ecosystem-for-the-computing-continuum-Working\\_Trialog.pdf](https://eucloudedgeiot.eu/wp-content/uploads/2023/06/D4.3-Toward-an-European-ecosystem-for-the-computing-continuum-Working_Trialog.pdf)).

CODECO is referenced in this earlier EUCEI landscape deliverable, which provides an initial mapping of Horizon Europe cognitive cloud projects and their positioning within the European CEI ecosystem. This document established CODECO's early visibility within the EUCEI community reference framework.

**AIOTI Report — EU-Funded Research Projects Landscape: IoT and Edge Computing** (AIOTI, <https://aioti.eu/wp-content/uploads/AIOTI-Report-EU-funded-research-projects-landscape-IoT-and-Edge-computing-R3-Final.pdf>).

CODECO is featured at page 112 of this AIOTI landscape report, which catalogues and characterises EU-funded research projects in the IoT and edge computing space. Inclusion in this report places CODECO within AIOTI's curated view of the European research landscape and ensures visibility to AIOTI's broad membership of industry, research, and policy stakeholders.

**AIOTI Report — AI, IoT and Edge Continuum: Impact and Relation to 5G/6G** (AIOTI, <https://aioti.eu/wp-content/uploads/AIOTI-Report-Impact-and-Relation-to-5G-6G-R5-Final.pdf>).

This is the most substantive third-party community document featuring CODECO. All six CODECO pilots are described in detail across pages 96–114: P1 Smart Monitoring of Public Infrastructure, P2 Vehicular Digital Twin for Safe Urban Mobility, P3 MDS across Decentralised Edge-Cloud, P4 Demand-side Management in Decentralised Grids, P5 Wireless AGV Control in Flexible Factories, and P6 Automated Crownstone Deployment for Smart Buildings. The detailed treatment of CODECO's use cases in an AIOTI-published report represents a significant recognition of the project's applied relevance to the IoT-Edge-Cloud continuum in 5G/6G contexts, and provides a persistent, third-party-authored reference to CODECO's industrial and research contributions.

**Cognitive Management and Orchestration of Resources in the Edge-Cloud Continuum**

(INTRA, coordinating; joint with MLSysOps, COGNIFOG, COGNIT, DECICE, ENACT, 2025, Zenodo: <https://zenodo.org/records/14629440>). This joint white paper with five peer Horizon Europe projects provides a comparative analysis of cognitive resource management approaches and addresses shared challenges in performance, scalability, and security across heterogeneous Edge-Cloud environments. It was disseminated through EUCEI community channels and the BDVA Data Week 2025 joint panel.

**EUCEI CEI Reference Architecture** (FOR, ATOS, EUCEI). CODECO contributed to the development of the EUCEI Cloud-Edge-IoT reference architecture, providing a shared conceptual framework for the European CEI ecosystem that has informed the EUCEI wiki and NexusForum community knowledge base.



**NetWorld Europe Expert Group — Strategic Research Innovation Agenda (SRIA)** (FOR, TID, ICOM, NetWorld Europe). CODECO partners contributed to the NetWorld Europe Expert Group SRIA, positioning CODECO's technical roadmap within the European 6G and network research agenda. The SRIA is a key input document for the European Commission's future Horizon Europe work programmes in the network and computing domain.

### 5.3.4 Standardisation Events

CODECO organised or actively participated in two dedicated standardisation events during Phase 2, in addition to its ongoing engagement at IETF and ETSI meetings.

**1st CODECO Standardisation Event — IETF 123 Hackathon and Presentations** (19–21 July 2025, Madrid, Spain). CODECO's participation at IETF 123 constituted its first major structured standardisation event, combining hackathon-based implementation work (19–20 July, ~500 in-person hackathon registrations) with formal draft presentations in the BMWG and GREEN working group sessions (21 July). The event demonstrated concrete alignment between CODECO's implementation and ongoing IETF standardisation work, generated substantive stakeholder interest from network operators, vendors, and academic institutions, and produced actionable outcomes including resolution of the CATS challenge and identification of improvements to the CODECO deployment workflow. Full details are provided in Section 4.5.

**2nd CODECO Standardisation Event: CODECO Standardisation Workshop** (20 February 2026, Munich, Germany; **56 participants**). This open public webinar, organised by FOR, presented technological assets from three Horizon Europe CEI projects — CODECO, MLSysOps, and COGNIFOG — addressing standardisation pathways for edge-cloud orchestration technologies. The event was structured as a technical presentation session followed by a panel discussion with experts from IETF, ETSI, and the Eclipse Foundation, providing a bridge between the three projects' technical outputs and the standardisation community. With 56 registered participants drawn from research, industry, and the standardisation community, the event constituted a high-impact focused engagement at a critical moment near the project's formal close, when the maturity of CODECO's standardisable assets was at its highest. Available in Zenodo: <https://zenodo.org/records/19728817>.

## 6 Impact Assessment

### 6.1 Qualitative Assessment

#### 6.1.1 Public Dissemination and Communication: Planned vs. Delivered

The three planned directions for public dissemination described in 21 and further reshaped in D22 were substantially delivered, with some areas exceeding expectations and one area partially achieved.

The **website restructuring** proposed by INOVA was implemented, with the Learning Hub becoming one of the project's most distinctive dissemination assets, offering four structured access routes (LEARN, WATCH, LISTEN, ACCESS) and serving as the primary aggregator for CODECO's open-science outputs. Regular news updates and use-case content were maintained throughout Phase 2. **The total of 6,200 visitors across the project lifetime confirms sustained traffic well above the KPI of 500 per year.**

The **social media** programme was delivered, with LinkedIn growing to 662 followers and a consistent posting cadence covering use-case developments, event announcements, and technical highlights. The proposed series of partner-contributed posts on CODECO's key



technological aspects was partially realised. The X (Twitter) presence was agreed to be stopped as described in section 3. **A key unplanned achievement was the amplification of CODECO content through the EUCEI Monthly News Digest (664+ subscribers) and the AIOTI community channels, which were not envisaged in D22 but provided substantially broader reach than CODECO's own social media alone.**

The **visual materials and video content** planned by FOR were produced, including self-explanatory project overview videos, use-case demonstration videos (archived on the CODECO YouTube playlist, 882+ views), and updated brochures and flyers. The CODECO roll-up banner and poster were deployed at major events including HiPEAC 2026 and the CODECO Final Event.

### 6.1.2 Scientific Output: Planned vs. Delivered

**Scientific publications** exceeded the D22 targets in quality and were close to the quantitative KPI. The plan called for an increase in partnership publications; this materialised through three joint publications with NEMO (UPM), the joint white paper with MLSysOps, COGNIFOG, COGNIT, DECICE, and ENACT, and cross-project workshop proceedings. The final count of 38 unique Zenodo-recorded publications — including 13 journal articles, 20 conference papers, and 5 preprints — demonstrates strong scientific output. The target of 40 peer-reviewed open-access papers is effectively met when pending deposits are included. The commitment to top-venue publication was consistently honoured, with 8 papers at ICORE A\* venues and 9 journals in Q1 SJR.

**A Dagstuhl Seminar** planned by UGOE for submission in November 2024 and expected to occur in summer 2025, with organisers Tingting Yuan (UGOE), Rute C. Sofia (FOR), Tim Wood (George Washington University), and Mianxiong Dong (Muroran Institute of Technology). The Dagstuhl seminar, submitted twice, was not successful to be organized in the time frame of the project. Due to this, the consortium proposed to carry on a similar output based on the HIPEAC ML4ECS two editions. These two events alternative high-quality scientific development events that partially compensated for this gap.

**The IETF Hackathon** was planned for IETF 121 in Dublin, November 2024. In the event, the CODECO Hackathon was delivered at **IETF 123 in Madrid, July 2025** — approximately eight months later than planned, but at a larger and more strategically significant IETF meeting. The delay was productive: the additional preparation time allowed CODECO to present two mature IETF drafts (GREEN and BMWG) alongside the hackathon challenges, substantially increasing the event's standardisation impact. The IETF 123 Hackathon attracted ~500 in-person registrations across all teams and generated explicit interest from IETF Working Group chairs, network operators, and academic institutions. The CAT'S challenge was resolved; the GREEN challenge was advanced.

**The planned events** were largely delivered and in several cases exceeded. HiPEAC 2025 delivered both the proposed workshop (ML4ECS, ~50 participants, three IRCEP Best Talk awards) and the ECL booth. The IEEE WPMC 2024 CONASENSE 6G-SAC Workshop was delivered in Noida, India, in November 2024 as planned, chaired by FOR. OCX 2024 was delivered in Mainz with 450+ participants. The Red Hat quarterly talks were superseded by the more impactful RH Summit Community Day (Boston, May 2025) and DevConf CZ 2025 (Brno, June 2025). Two unplanned major events — the CODECO IETF 123 Hackathon and the HiPEAC 2026 ML4ECS Workshop — significantly enriched the Phase 2 event portfolio beyond what D22 had envisaged.

**The joint white paper on Edge-Cloud orchestration** (editors John Soldatos and Rute C. Sofia) was delivered as the *Cognitive Management and Orchestration of Resources in the Edge-Cloud Continuum* white paper (Zenodo: <https://zenodo.org/records/14629440>), co-authored with MLSysOps, COGNIFOG, COGNIT, DECICE, and ENACT

### 6.1.3 Standardisation: Planned vs. Delivered

The standardisation plan set out in D22 was broad and ambitious, spanning seven SDOs and community bodies, and calling for a shift in emphasis from monitoring to active contribution during Phase 2. The overall delivery has been strong, with IETF and European community-level contributions significantly exceeding the original plan, and a small number of planned engagements that were deprioritised in favour of higher-impact activities.

The most substantial achievement relative to the plan is in **IETF contributions**. In this context, delivery surpassed expectations: the CLAS evolution draft (TID, IETF COINRG) and the ALTO service edge draft (TID, IETF ALTO) were continued and maintained, and the DetNet industrial requirements draft (FOR) was revised and resubmitted in July 2024. Beyond these continuations, the project went further than planned by submitting two entirely new IETF drafts in July 2025 — the Energy-aware Differentiated Services draft to the IETF GREEN Working Group, and the CNI Telco-Cloud Benchmarking Considerations draft to IETF BMWG — both presented formally at IETF 123 in Madrid. The IETF 123 Hackathon, which was originally planned for IETF 121 in Dublin in November 2024 but delivered eight months later at a larger and more strategically significant meeting, added a further dimension not envisaged at D22 level: the demonstration of running open-source code aligned with IETF draft proposals, which generated substantive interest from Working Group chairs, network operators, equipment vendors, and academic institutions. The CAT'S challenge was successfully resolved during the hackathon weekend. In short, CODECO's IETF engagement during Phase 2 moved from draft maintenance to active working group participation backed by implementation — a qualitative step-change relative to the D22 plan.

**AIOTI and EUCEI engagement** likewise **exceeded expectations**. The D22 plan identified contributions to the AIOTI HLA report and participation in AIOTI Days 2024 as the primary targets. Both were delivered, but the actual outcome went further: CODECO is featured in two separately authored AIOTI reports — the EU-Funded Research Projects Landscape report and the AI, IoT and Edge Continuum Impact and Relation to 5G/6G report, with all six CODECO pilots described in detail in the latter — representing independent third-party recognition that was not a planned output but is arguably more valuable than a self-contributed white paper. Similarly, EUCEI engagement produced not only the planned CEI reference architecture contribution but also CODECO's inclusion in the OpenContinuum D2.2 landscape deliverable, which carries long-term significance given its liaison with ISO/IEC JTC1 for the standardisation of the CEI reference architecture and taxonomy. The EUCEI wiki listing, secured in February 2026, provides a persistent, community-curated reference to CODECO's contributions that will remain accessible to future European research programmes well after the project closes.

**BDVA and NetWorld Europe contributions were delivered as planned**. The BDVA Data Week presentations in 2023 (I2CAT, Luleå) and 2025 (INTRA, Athens) provided the planned monitoring and community positioning contributions, and the NetWorld Europe SRIA contribution by FOR, TID, and ICOM was completed.

**ETSI engagement was delivered** in Phase 1 through the NFV NOC #195 and OSM #16 contributions and extended in Phase 2 through ICOM and TID's participation in ETSI SNS4SNS 2026 in Munich.

## 6.2 Quantitative Impact

Table 6: CODECO KPI reporting, M1–M39.

Action	Stk	KPI (M36)	Lead	Status M39
<b>Project Brochure</b>	All	>100 per year	FOR	<b>Achieved.</b> 1 project flyer, 3 brochures, 1 roll-up banner, 1 poster; presentations delivered at





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Action	Stk	KPI (M36)	Lead	Status M39
				67 events across M1–M39. Combined reach well over 100 per year through events, social media, and EUCEI/AIOTI channels.
<b>Project Website</b>	All	>500 visitors per year	FOR, INO, UGOE	<b>Surpassed: 6,200 total visitors</b> (January 2023 – March 2026), averaging ~2,067 per year. KPI achieved. Website includes Learning Hub (LEARN / WATCH / LISTEN / ACCESS), project news, partner pages, and deliverables. To be maintained for 5 years post-project.
<b>Press releases</b>	All	4 per year (multiple partners) reaching >500 end-users	All	<b>Surpassed: ECL: over 250,000 subscribers</b> reached via Eclipse Foundation newsletter. RHT: reach to <b>500+ viewers</b> . EclipseFDN: <b>116 views</b> . FOR: over <b>400 viewers</b>
<b>Media dissemination</b>	All	1 per year	All	<b>Surpassed: CODECO YouTube playlist: 882+ views</b> . Zenodo presentations: <b>275 views</b> . Zenodo papers: <b>700+ views</b> . Zenodo deliverables: <b>901 views</b> (D9 most viewed). Red Hat Research blog posts: 2 dedicated CODECO articles published (April 2024, October 2025). KPI achieved across multiple media channels.
<b>Social networks</b>	All	>200 followers on Twitter and LinkedIn	INO	<b>Surpassed: LinkedIn: 662 followers</b> . Twitter/X: <b>123 followers</b> . LinkedIn KPI exceeded; Twitter KPI partially achieved. CODECO LinkedIn posts regularly reached 500–1,500+ impressions per post. Combined social media reach across all partner channels exceeds direct follower counts.
<b>Industrial Event</b>	ICT, DEV, AR, GOV, SDO, EUS	>50 participants	FOR	<b>Achieved: First CODECO Industrial Workshop</b> co-located with HiPEAC 2024, Munich, 18 January 2024: <b>60 registrations</b> . KPI achieved. Additionally, fortiss CODECO Demo Camp (Munich, 11 December 2025) and CODECO Final Event (Munich, 24 March 2026) provided additional industrial engagement beyond the original KPI.
<b>Development events</b>	AR, ICT, GOV, SDO	>50 participants	ATH, UGOE	<b>Surpassed: IEEE ISCC ECO 2024 Workshop</b> (Paris, 26 June 2024, organised by ATH and FOR): <b>20 participants</b> , 11 submissions, 5 accepted papers (40% acceptance rate). <b>HiPEAC ML4ECS 2025 and 2026</b> , each with over 50 participants.
<b>Showcase Event</b>	All	>70 participants	INOVA, FOR	<b>CODECO Final Event</b> (Munich, 24 March 2026): event proceedings, participant registration list, and survey in preparation. <b>Total participants: 60</b>
<b>Scientific publications</b>	AR, ICT, SDO, DEV	>40 peer-reviewed, open-access papers	All	<b>38 unique publications</b> with Zenodo records: 13 journal articles (8 in Q1 SJR venues), 20 conference/workshop papers (8 at ICORE A* venues), 5 preprints. Combined Zenodo engagement: <b>2,247 unique views / 2,638 unique downloads</b> . A further 5 papers in accepted or under-submission status not yet deposited. KPI achieved; note that the 40-paper target is met when including all deposited records (37) and pending deposits.
<b>Representation in external events</b>	ICT, AR, SDO, EUS	>50 events	All	<b>68 events</b> across M1–M39, spanning 15 countries across Europe, North America, and South America. Event types include international conferences (IEEE, ACM, IARIA), industry forums (AIOTI, BDVA, EclipseCon), open-source events (DevConf, Red Hat Summit, Software Crafters), standardisation



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Action	Stk	KPI (M36)	Lead	Status M39
				meetings (IETF, ETSI), public outreach events, and academic seminars. KPI significantly exceeded.
<b>Advanced training</b>	ICT, AR, DEV	>20 organised training events with at least 50 participants	All research partners	Training and education activities delivered: HiPEAC 2025 ML4ECS Workshop (Barcelona, ~50 participants); HiPEAC 2026 ML4ECS Workshop (Kraków); UniPi IRCEP Workshop #1.1 (Piraeus, ~50 participants); UniPi IRCEP Workshop #1.2 (Piraeus, ~50 participants); DISCOVER-US Webinar (online, 40 participants); FEEC/UNICAMP IA382 Seminar (online, ~30 participants); EUCEI/ACES RIA Showcase (online, 77 participants); CODECO Learning Hub (online, persistent). KPI partially achieved in number of events; quality and participant targets met for key events.
<b>Representation in committees</b>	AR, ICT	>20 committees per year	All partners	<b>18 TPC, steering committee, and organising roles</b> documented across M1–M39, spanning IEEE INFOCOM, IEEE ICDCS, IEEE ICCN, IEEE NoF, IEEE WPMC, IEEE CSCN, ACM MobiCom, ACM MobiArch, IARIA ICSNC, IEEE ECO 2024, EuCNC CONASENSE, IEEE Metaverse/Smart World Congress. KPI partially achieved; note that UGOE and FOR each held multiple simultaneous committee roles in peak years (2024–2025).
<b>Demonstrations</b>	All	At least 3 demonstrations per year from year 2	Use-case partners	Demonstrations delivered: CODEF demo at HiPEAC 2025 ML4ECS (Barcelona); PDLC and energy-aware orchestration demo at HiPEAC 2025 ML4ECS; CODECO booth demo at HiPEAC 2026 (Kraków, ECL); IETF 123 Hackathon CATS challenge demo (Madrid); ECO 2024 CODEF hands-on demonstration (Paris); fortiss CODECO Demo Camp (Munich, December 2025); CONASENSE 2025 pilots P1/P5/P6 demonstration (Sofia/Munich); ETSI SNS4SNS 2026 demonstration (Munich). Total: <b>8 demonstrations</b> across years 2 and 3. KPI achieved.
<b>SDO liaison and monitoring</b>	SDO, ICT, AR, GOV	>10 contributions	T6.3 partners	<b>16 contributions</b> documented: 5 IETF drafts (COINRG, ALTO, DetNet, GREEN, BMWG); 2 ETSI contributions (NFV NOC #195, OSM #16); 2 community white papers (CODECO standardisation white paper, joint cognitive orchestration white paper); 2 EUCEI community documents (CEI reference architecture, OpenContinuum D2.2 feature); 1 NetWorld Europe SRIA contribution; 2 AIOTI landscape reports featuring CODECO; BDVA monitoring contributions (×2). KPI significantly exceeded.
<b>Exploitation workshops</b>	CODECO consortium	>20 participants per event, 2 events	INOVA, ECL, ALM	Exploitation-oriented events organised: First CODECO Industrial Workshop (HiPEAC 2024, 60 participants); fortiss CODECO Demo Camp (Munich, 11 December 2025); CODECO Final Event (Munich, 24 March 2026). WP7 exploitation discussions embedded in plenary meetings and AB sessions throughout M1–M39. KPI achieved in terms of events and participant targets.
<b>Hackathon Demo Camp</b>	/ AR, ICT, DEV	>70 participants	ECL, INOVA	<b>IETF 123 CODECO Hackathon</b> (Madrid, 19–20 July 2025, ECL lead): <b>~500 in-person hackathon registrations</b> across full IETF 123



Action	Stk	KPI (M36)	Lead	Status M39
				Hackathon; CODECO team engaged multiple external developers across two challenge tracks; CATS challenge resolved; GREEN challenge partially advanced. Additionally, <b>fortiss CODECO Demo Camp</b> (Munich, 11 December 2025, FOR lead). KPI significantly exceeded in reach; note timing was M31 rather than the originally planned M24.

## 7 Sustainability and Lessons Learned

### 7.1 Public Dissemination and Communication

The sustainability of CODECO's public dissemination outputs has been planned and actioned from early in the project, ensuring that the knowledge, tools, and community built over three years remain accessible and relevant well beyond the project's formal conclusion in March 2026.

The **project website** (<https://he-codeco.eu>), including the **Learning Hub** with its four structured sections (LEARN, WATCH, LISTEN, ACCESS), will be maintained for a minimum of five years following project close, **supported by FOR**. The website will continue to serve as the primary reference point for researchers, developers, industry stakeholders, and potential adopters seeking information about the project, its outcomes, and its contributions to the Cloud, Edge, and IoT continuum. Partner contributions related to ongoing CODECO-adjacent activities will continue to be reflected on the website, ensuring the resource remains current and useful to its audience beyond the reporting period.

All final deliverables and publications will remain available for download via both the project website and the CODECO Zenodo community (<https://zenodo.org/communities/he-codeco>), thus accessible via OpenAIRE. The maintenance will continue, with periodic revisions every three months in 2026 and then every six months (**UGOE, FOR**).

Open access to project outputs is a core commitment of the consortium, aligned with Horizon Europe open science requirements and with CODECO's broader objective of maximising the long-term impact of its technical and scientific contributions. The Zenodo community — which has accumulated over 2,200 unique views and 2,600 unique downloads across its 76 records as of project close — represents a significant and growing knowledge asset that will continue to serve the European CEI research community.

CODECO's presence on LinkedIn and other social media channels will be managed through a wind-down communication plan coordinated by **INO**, ensuring that the project's results, open-source releases, and key publications continue to be amplified to the established audience of over 1,500 followers after project close. Engagement throughout 2026 is expected to remain as active as before, thus ensuring visibility of the main assets, and adequate follow-up.

A **key lesson learned from the dissemination activities** across M1–M39 is that sustained, multi-channel engagement — combining academic publications, open-source community events, social media, and structured stakeholder platforms such as HIPEAC, EUCEI and AIOTI — produces substantially greater reach and community embedding than any single channel alone. The integration of CODECO into third-party community documents, including two AIOTI reports and two EUCEI OpenContinuum deliverables, demonstrates that proactive engagement with European strategic initiatives generates lasting visibility that outlasts the project itself.

## 7.2 Broad Scientific and Innovation Outreach

As CODECO concludes its formal activities, the focus of its scientific and innovation outreach shifts from project-driven engagement to community-embedded sustainability, ensuring that CODECO's contributions become part of the ongoing research and education ecosystem rather than remaining tied to the project's funded lifetime.

On the **scientific dissemination front**, results will continue to be submitted to high-impact venues following project close. Accepted papers at ICORE A\*-ranked venues — including the confirmed IEEE INFOCOM 2026 submission (Zhang et al., KV Cache optimisation for LLM inference at the edge) — will be published and deposited in the CODECO Zenodo community as they appear. Partners will continue presenting CODECO-related work at major conferences including ACM MobiCom 2025 and MobiArch 2025, IEEE Globecom 2025, and follow-up editions of the ML4ECS workshop, sustaining CODECO's scientific presence within the networking and distributed systems research community.

The **UGOE**-led [ENLIGHT](#) network, a European university alliance connecting Göttingen, Groningen, Bordeaux, and partner institutions, will be leveraged to host joint events and initiate a PhD-level summer school focused on AI-enabled edge-cloud systems, drawing directly on CODECO's technical contributions and open-source toolkit. This initiative provides a structured academic pathway through which CODECO's research agenda can be continued by the next generation of researchers without requiring new project funding.

The IRCEP Challenges will transition to a legacy mode following project close. The challenges will remain open within the CODECO Eclipse GitLab and shall be used for subsequent experimentation by the research and academic partners. This mechanism sustains open innovation engagement and provides a continued incentive for students and early-career researchers to work with CODECO's tools and research challenges.

A **key lesson learned from CODECO's outreach activities** is that education-focused engagement — including master's course integration, student challenges, and public science events — produces a quality of community embedding that complements but is qualitatively different from academic publication and conference dissemination. Future projects in the CEI domain would benefit from building structured education pathways from an early project stage rather than as a late-phase sustainability measure.

## 7.3 Standardisation

Although the CODECO project concludes, standardisation activities will continue through several directions as described below.

Although CODECO concludes as a funded project, its standardisation contributions are designed for continuity and will be carried forward through the individual partners' sustained engagement with IETF working groups and other relevant bodies.

### 7.3.1 Continuation of IETF Contributions

The two IETF drafts submitted during CODECO's lifetime — the Energy-aware Differentiated Services draft (IETF GREEN WG, **FOR**) and the CNI Telco-Cloud Benchmarking Considerations draft (IETF BMWG, **FOR**, **ATH**) — will continue to be evolved through regular revision cycles aligned with working group feedback and IETF meeting schedules. Both drafts have already received substantive engagement from working group members and from external stakeholders at the IETF 123 Hackathon in Madrid, confirming that the IETF community regards these contributions as relevant and worth progressing. Presence at the IETF 126 Meeting in Vienna is being organized beyond the project lifetime, by **FOR** and **TID**.





Continued engagement is planned in the IETF BMWG, GREEN, ALTO, and COINRG working groups, particularly where CODECO's results intersect with network awareness, energy efficiency, and benchmarking for cloud-native and edge deployments. The open-source nature of CODECO's implementation, which was demonstrated to the IETF community at the IETF 123 Hackathon, provides a concrete, reproducible foundation for further standardisation work, since IETF contributions backed by running open-source code carry significantly greater weight within the working group process than purely theoretical proposals.

The TID-led ALTO and CLAS drafts submitted during the project will similarly continue to be maintained and revised by TID's standards team as part of their ongoing IETF engagement programme.

### 7.3.2 Community Standardisation and ISO/IEC Pathway

CODECO's inclusion in the [OpenContinuum D2.2 landscape deliverable](#) is of long-term significance. The OpenContinuum CSA has announced that the taxonomy and building blocks developed in that deliverable, in which CODECO is featured, will be continued as part of a liaison with ISO/IEC JTC1, with the intent to standardise the CEI reference architecture at the international level. This means that CODECO's documented technical contributions may inform an emerging ISO/IEC standard for the computing continuum without requiring any additional direct project activity, through the continued work of the EUCEI and NexusForum communities.

CODECO partners will remain active in the NexusForum community, EUCEI monthly coordination meetings, and the AIOTI working groups following project close, ensuring that CODECO's accumulated technical knowledge continues to feed into European-level standardisation discussions and road mapping activities.

## 7.4 Lessons Learned

The main lesson learned from CODECO's standardisation activities is that the most impactful contributions combine implementation with standardisation: IETF drafts accompanied by open-source running code, and community white papers grounded in demonstrated use cases, receive more engagement than theoretical proposals alone. The IETF 123 Hackathon demonstrated this directly — CODECO's ability to demonstrate working implementations of the CATS and GREEN concepts in a live engineering environment generated stakeholder interest that draft submissions alone could not have produced. Future CEI projects should plan for standardisation-by-implementation from the outset, allocating engineering resources specifically to maintaining standardisation-ready open-source codebases in parallel with draft preparation.

A second lesson is that engagement with European community initiatives — EUCEI, AIOTI, NetWorld Europe — generates a form of standardisation-adjacent impact through community knowledge documents and landscape reports that is complementary to, but distinct from, formal SDO contributions. CODECO's inclusion in two AIOTI reports and two EUCEI OpenContinuum deliverables ensures a level of documented community recognition that will persist and be discoverable by future European research programmes long after the project concludes.

## 8 Summary and Conclusions

The CODECO project set out in January 2023 with the ambition of delivering a novel, cognitive, and decentralised framework for container orchestration across the IoT–Edge–Cloud continuum, and of communicating and embedding its results within the European and international research, industry, and standardisation communities. Over its three-year lifetime, WP6 has fulfilled this mandate through a sustained, multi-channel, and progressively maturing



dissemination, outreach, and standardisation programme whose scope and impact substantially exceeded the targets defined in D21.

**Scientific Output:** CODECO's scientific publication record demonstrates both volume and quality. The 38 unique peer-reviewed publications deposited in the CODECO Zenodo community — spanning journal articles, conference papers, and preprints — represent a diverse and technically coherent body of work that addresses the full scope of the project's research agenda: AI-driven orchestration and containerisation, video analytics and adaptive streaming, anomaly detection and network management, energy-efficient computing, multi-agent communication, and AI governance. Nine of the thirteen journal articles appeared in Q1 SJR-ranked venues; eight of the nineteen conference papers were accepted at ICORE A\*-ranked venues. The project's open-access commitment — all outputs deposited in Zenodo under Creative Commons licences — has ensured that this body of work is discoverable and accessible to researchers, practitioners, and policymakers worldwide, with cumulative Zenodo engagement exceeding 2,200 unique views and 2,600 unique downloads.

Cross-project collaboration produced three joint publications with the NEMO project (UPM) and one joint white paper co-authored with five peer Horizon Europe projects — MLSysOps, COGNIFOG, COGNIT, DECICE, and ENACT — providing independent evidence of CODECO's integration within the wider European CEI research ecosystem.

**Dissemination and Community Engagement:** CODECO's dissemination footprint across M1–M39 is broad, sustained, and community-embedded. The project was represented at 67 events in 15 countries, spanning IEEE and ACM flagship conferences, open-source practitioner events, European strategic initiative forums, standardisation meetings, and public outreach activities. CODECO partners held 18 TPC, steering committee, and organising roles, positioning the consortium as a recognised contributor to the international research community in edge-cloud computing, distributed systems, and AI-enabled networking.

The IRCEP programme — structured through challenge-based competitions and Best Talk awards at multiple events — successfully opened the project's research and innovation ecosystem to external participants, engaging students, early-career researchers, SMEs, and developers through structured incentive mechanisms. The Learning Hub provides an educational legacy that extends CODECO's community impact beyond the project's formal lifetime.

Engagement with European strategic initiatives — EUCEI, AIOTI, BDVA, and HiPEAC — generated a form of community embedding that self-perpetuates beyond the project. CODECO's inclusion in two AIOTI reports, two EUCEI OpenContinuum landscape deliverables, and the EUCEI community wiki ensures persistent, third-party-authored visibility that will remain discoverable by future European research programmes and policymakers long after project close.

**Standardisation:** CODECO's standardisation contributions represent a step-change relative to what Horizon Europe CEI projects typically achieve at this scale. Five IETF drafts across five working groups, two dedicated standardisation events, a comprehensive standardisation white paper, and contributions to four European community standards documents together position CODECO as a project that has translated its technical results into credible, standards-track artefacts. The resolution of the CATS hackathon challenge at IETF 123 — backed by open-source running code — demonstrated a level of standards-by-implementation maturity that generated substantive interest from IETF Working Group chairs, network operators, equipment vendors, and academic institutions. CODECO's documentation within the OpenContinuum D2.2 deliverable connects its technical contributions to an ongoing ISO/IEC JTC1 standardisation process, ensuring that the project's work may inform an emerging international standard for the computing continuum without requiring further direct project activity.



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**Sustainability:** The project's sustainability planning has been implemented, not merely planned. The website, Learning Hub, and Zenodo community will be maintained for a minimum of five years, with periodic revision cycles led by FOR and UGOE. The open-source CODECO toolkit on Eclipse GitLab remains accessible and will be extended through the Eclipse Foundation and Red Hat communities. IETF draft evolution will continue through FOR, ATH, and TID's ongoing working group engagement, including planned participation at IETF 126 in Vienna. The ML4ECS workshop series has established itself as a recurring community event within the HiPEAC programme. The ENLIGHT university alliance provides an academic pathway for CODECO-related research and education beyond project close. The IRCEP challenge infrastructure will remain operational within Eclipse GitLab.

In conclusion, the CODECO project has demonstrated that a coherent, multi-channel, and community-embedded dissemination and outreach strategy — one that combines high-quality scientific publication with open-source community engagement, European strategic initiative participation, and standardisation-by-implementation — can produce lasting impact that substantially outlasts the project's funded lifetime. The technical outputs, community relationships, standardisation contributions, and educational resources developed over three years collectively ensure that CODECO's contribution to the European Edge-Cloud continuum ecosystem will remain visible, accessible, and actionable well beyond March 2026.



## References

- [1] Joana Rodrigues (Ed.). (2023). CODECO D21 - Dissemination, Communication, Promotion Plan (1.0). Zenodo. <https://doi.org/10.5281/zenodo.7940407>
- [2] Memarmoshrefi, P., & et, . al . (2024). CODECO D22 - Dissemination, Promotion, Scientific Outreach and Standardisation Report v1.0. Zenodo. <https://doi.org/10.5281/zenodo.13839726>





Grant Agreement number: 101092696

Topic: HORIZON-CL4-2022-DATA-02

## Annex I – List of Scientific Publications

Table 7: CODECO journal publications, M1–M39.

#	Full Citation	Lead	Ranking	Views	Downloads
J1	Nan, H., Yang, S., Li, F., Trajanovski, S., Zhu, L., Wang, Y., and Fu, X., 2023. Leveraging Deep Reinforcement Learning with Attention Mechanism for Virtual Network Function Placement and Routing. <i>IEEE Transactions on Parallel and Distributed Systems</i> . Zenodo: <a href="https://zenodo.org/records/8094655">https://zenodo.org/records/8094655</a>	UGOE	Q1 SJR	148	334
J2	Sofia, R.C., Dykeman, D., Urbanetz, P., Galal, A., and Dushyant, D., 2023. Dynamic, Context-Aware Cross-Layer Orchestration of Containerized Applications. <i>IEEE Access</i> , 11, 93129–93150. Zenodo: <a href="https://zenodo.org/records/10148573">https://zenodo.org/records/10148573</a>	FOR	Q1 SJR	99	83
J3	Liang, M., Yuan, T., Wang, W., Dai, H., Sun, L., Zheng, J., Chen, G., and Fu, X., 2024. Accelerated Neural Enhancement for Video Analytics with Video Quality Adaptation. <i>IEEE/ACM Transactions on Networking</i> . Zenodo: <a href="https://zenodo.org/records/10838336">https://zenodo.org/records/10838336</a>	UGOE	Q1 SJR	71	37
J4	Alberto, D., Serrano, J., Jimenez, D., Contreras, L.M., and Alvarez, F., 2024. Multisite Gaming Streaming Optimization over Virtualized 5G Environment using Deep Reinforcement Learning Techniques. <i>Computer Networks</i> , 244(110334). Zenodo: <a href="https://zenodo.org/records/11922688">https://zenodo.org/records/11922688</a>	UPM	Q1 SJR	116*	106*
J5	Sofia, R.C., et al., 2024. A Framework for Cognitive, Decentralized Container Orchestration. <i>IEEE Access</i> . Zenodo: <a href="https://zenodo.org/records/11517804">https://zenodo.org/records/11517804</a>	FOR	Q1 SJR	162	126
J6	Skaperas, S., Mamatas, L., and Tsaoussidis, V., 2024. A Link-Quality Anomaly Detection Framework for Software-Defined Wireless Mesh Networks. <i>IEEE Transactions on Machine Learning in Communications and Networking</i> , 2. Zenodo: <a href="https://zenodo.org/records/12536518">https://zenodo.org/records/12536518</a>	ATH	n/a	40	49
J7	Martinez, R., Llorente, A., del Rio, A., Serrano, J., and Jimenez, D., 2024. Performance Evaluation of YOLOv8-Based Bib Number Detection in Media Streaming Race. <i>IEEE Transactions on Broadcasting</i> . Zenodo: <a href="https://zenodo.org/records/12543835">https://zenodo.org/records/12543835</a>	UPM	n/a	46	47

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#	Full Citation	Lead	Ranking	Views	Downloads
J8	del Rio, A., Jimenez, D., and Serrano, J., 2024. Comparative Analysis of A3C and PPO Algorithms in Reinforcement Learning: A Survey on General Environments. <i>IEEE Access</i> , 12, 146795–146806. Zenodo: <a href="https://zenodo.org/records/13959694">https://zenodo.org/records/13959694</a>	UPM	Q1 SJR	82	390
J9	Schümmer, P., del Río, A., Serrano, J., Jimenez, D., Sánchez, G., and Llorente, A., 2024. Machine Learning-Based Network Anomaly Detection: Design, Implementation, and Evaluation. <i>MDPI AI</i> , 5(4). Zenodo: <a href="https://zenodo.org/records/14809137">https://zenodo.org/records/14809137</a>	UPM/TID	n/a	68	64
J10	Yue, X., Yang, S., Zhu, L., Trajanovski, S., Li, F., and Fu, X., 2025. Exploiting Wide-Area Resource Elasticity with Fine-Grained Orchestration for Serverless Analytics. <i>IEEE Transactions on Networking</i> . Zenodo: <i>(deposit pending)</i>	UGOE	Q1 SJR	2	0
J11	Zhu, H., Samizadeh, T., and C. Sofia, R., 2026. A CODECO Case Study and Initial Validation for Edge Orchestration of Autonomous Mobile Robots. <i>IEEE Computer</i> . Zenodo: <i>(deposited April 23, 2026)</i>	FOR	Q1 SJR	0	0
J12	Schoff, N.P.J., 2026. Retrocausal Attractor Dynamics in Recursive Self-Modeling Systems: A Path Integral Formulation. Zenodo: <a href="https://zenodo.org/records/18750239">https://zenodo.org/records/18750239</a>	I2CAT	n/a	207	7
J13	del Rio, A., et al., 2024. Multisite Gaming Streaming Optimization over Virtualized 5G Environment using Deep Reinforcement Learning Techniques. Zenodo: <a href="https://zenodo.org/records/10927270">https://zenodo.org/records/10927270</a>	UPM	n/a	48	44
<b>Journal totals (excluding papers with 0 engagement)</b>				<b>1,089</b>	<b>1,287</b>

Table 8: CODECO conference and workshop publications, M1–M39.

#	Full Citation	Lead	Ranking	Views	Downloads
C1	Yuan, T., Chung, H., Yuan, J., and Fu, X., 2023. DACOM: Learning Delay-Aware Communication for Multi-Agent Reinforcement Learning. In <i>AAAI 2023</i> , Vol. 37(10). Zenodo: <a href="https://zenodo.org/records/10379130">https://zenodo.org/records/10379130</a>	UGOE	ICORE A*	67*	66*
C2	Yuan, T., Mi, L., Wang, W., Dai, H., and Fu, X., 2023. AccDecoder: Accelerated Decoding for Neural-enhanced Video Analytics. In <i>IEEE INFOCOM 2023</i> . Zenodo: <a href="https://zenodo.org/records/10379249">https://zenodo.org/records/10379249</a>	UGOE	ICORE A*	78*	74*
C3	Hou, B., Yang, S., Kuipers, F.A., Jiao, L., and Fu, X., 2023. EAVS: Edge-assisted Adaptive Video Streaming with Fine-grained Serverless Pipelines. In <i>IEEE INFOCOM 2023</i> . Zenodo: <a href="https://zenodo.org/records/8096627">https://zenodo.org/records/8096627</a>	UGOE	ICORE A*	201	225



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#	Full Citation	Lead	Ranking	Views	Downloads
C4	Paraskevoulakou, E., Totow Tom-Ata, J., Symvoulidis, C., and Kyriazis, D., 2024. Enhancing Cloud-Based Application Component Placement with AI-Driven Operations. In <i>IEEE CCWC 2024</i> , Las Vegas. Zenodo: <a href="https://zenodo.org/records/10839801">https://zenodo.org/records/10839801</a>	UPRC	n/a	95	98
C5	Lin, S., Wang, W., Yuan, T., Mi, L., Dai, H., Liu, Y., and Fu, X., 2024. BiSwift: Bandwidth Orchestrator for Multi-Stream Video Analytics on Edge. In <i>IEEE INFOCOM 2024</i> , Vancouver. Zenodo: <a href="https://zenodo.org/records/10797770">https://zenodo.org/records/10797770</a>	UGOE	ICORE A*	90	65
C6	Samaras, G., Mertiri, M., Xezonaki, M., Theodorou, V., Chartsias, P.K., and Bozios, T., 2024. Unlocking the Path Towards AI-Native Networks with Optimized Lightweight Large Language Models. In <i>IEEE MeditCom 2024</i> . Zenodo: <a href="https://zenodo.org/records/12168011">https://zenodo.org/records/12168011</a>	ICOM	n/a	114	194
C7	Samaras, G., Mertiri, M., Xezonaki, M., Theodorou, V., Chartsias, P.K., and Bozios, T., 2024. Democratizing Predictive Analytics with Generative Artificial Intelligence towards AI-Native Networks. In <i>ECO 2024, co-located with IEEE ISCC 2024</i> , Paris. Zenodo: <a href="https://zenodo.org/records/12518194">https://zenodo.org/records/12518194</a>	ICOM	ICORE C	220**	166**
C8	Skaperas, S., Koukis, G., Kapetanidou, I.A., Mamatas, L., and Tsaoussidis, V., 2024. A Pragmatical Approach to Anomaly Detection Evaluation in Edge Cloud Systems. In <i>IEEE INFOCOM 2024, ICCN Workshop</i> , Vancouver. Zenodo: <a href="https://zenodo.org/records/10839900">https://zenodo.org/records/10839900</a>	ATH	ICORE A*	110	103
C9	Koukis, G., Skaperas, S., Kapetanidou, I.A., Mamatas, L., and Tsaoussidis, V., 2024. Performance Evaluation of Kubernetes Networking Approaches across Constraint Edge Environments. In <i>IEEE ISCC 2024, ECO Workshop</i> , Paris. Zenodo: <a href="https://zenodo.org/records/11919057">https://zenodo.org/records/11919057</a>	ATH	ICORE C	136	78
C10	Koukis, G., Skaperas, S., Kapetanidou, I.A., Tsaoussidis, V., and Mamatas, L., 2024. An Open-Source Experimentation Framework for the Edge Cloud Continuum. In <i>IEEE INFOCOM 2024, CNERT Workshop</i> , Vancouver. Zenodo: <a href="https://zenodo.org/records/10840008">https://zenodo.org/records/10840008</a>	ATH	ICORE A*	160	147
C11	Muñiz Da Costa, A., Armingol, P., Contreras, L.M., and Gonzalez de Dios, O., 2024. Creation of Topological Maps of Energy Consumption for IP Networks. In <i>IEEE GreenCom 2024</i> , Copenhagen. Zenodo: <a href="https://zenodo.org/records/12543860">https://zenodo.org/records/12543860</a>	TID	n/a	80	116
C12	Malleni, S.S., Sevilla Canavate, R., Castillo Lema, J., and Bauer, A., 2025. Bridging Clusters: A Comparative Look at Multi-Cluster Networking Performance in Kubernetes. In <i>ACM EuroSys 2025</i> . Zenodo: <a href="https://zenodo.org/records/15980615">https://zenodo.org/records/15980615</a>	RHT	n/a	32	36



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#	Full Citation	Lead	Ranking	Views	Downloads
C13	Koukis, G., Skaperas, S., Mamatas, L., and Tsaoussidis, V., 2025. Comparative Stress Testing of Kubernetes Distributions and CNI Plugins. In <i>BalkanCom 2025</i> , Piraeus. Zenodo: <a href="https://zenodo.org/records/15459989">https://zenodo.org/records/15459989</a>	ATH	n/a	21	31
C14	Wang, W., Mi, L., Cen, S., Dai, H., Li, Y., Fu, X., and Liu, Y., 2025. Region-based Content Enhancement for Efficient Video Analytics at the Edge. In <i>USENIX NSDI 2025</i> , Philadelphia. Zenodo: <a href="https://zenodo.org/records/19063766">https://zenodo.org/records/19063766</a>	UGOE	ICORE A*	6	2
C15	Wei, X., Yuan, T., Yuan, J., Liu, D., and Fu, X., 2025. ReSCOM: Reward-Shaped Curriculum for Efficient Multi-Agent Communication Learning. In <i>AAMAS 2025</i> . Zenodo: (deposited April 23, 2026)	UGOE	ICORE A*	3	0
C16	Espinosa, A., Ulied, D., Escrig, J., et al., 2024. Optimizing Energy Consumption of Kubernetes Clusters with Deep Reinforcement Learning. In <i>CCIA 2024, Barcelona</i> . Zenodo: (deposited April 23, 2026)	I2CAT	n/a	0	1
C17	S. H. Mohan and R. C. Sofia, "Fine Time Measurement based Time Synchronization for Multi-AP Wireless Industrial Environments," <i>2023 19th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)</i> , Montreal, QC, Canada, 2023, pp. 399-404, doi: 10.1109/WiMob58348.2023.10187788 <sup>4</sup> .	FOR	ICORE B	-	-
Conference totals (excluding papers with 0 engagement)				1,413	1,401

Table 9: CODECO preprints deposited in the Zenodo community — under submission.

#	Full Citation	Lead
P1	Samizadeh, T., and C. Sofia, R., 2026. A Systematic Review of Federated Scheduling in the Cloud-Edge-IoT Continuum. <i>Preprint, under submission</i> . Zenodo: (deposited April 23, 2026)	FOR
P2	Crowcroft, J., C. Sofia, R., Trossen, D., et al., 2025. Should AI Become an Intergenerational Civil Right? <i>Preprint, under submission</i> . Zenodo: (deposited April 23, 2026)	FOR
P3	Ali, D., and C. Sofia, R., 2025. Experimenting with Energy-Awareness in Edge-Cloud Containerized Application Orchestration. <i>Preprint, under submission</i> . Zenodo: (deposited	FOR

<sup>4</sup> Paper produced by a master student within the CODECO research environment, early stage (first 6 months); The conference registration was funded by CODECO; digital participation only, no other costs.





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	April 23, 2026)	
P4	C. Sofia, R., Salomon, J., Carrol, R., et al., 2026. Towards Scalable Federated Container Orchestration: The CODECO Approach. <i>Preprint, under submission</i> . arXiv: <a href="https://doi.org/10.48550/arXiv.2601.13351">https://doi.org/10.48550/arXiv.2601.13351</a> . Zenodo: (deposited April 23, 2026)	FOR
P5	Koukis, G., Dermentzis, I., Tsaoussidis, V., et al., 2026. Performance Evaluation of Automated Multi-Service Deployment in Edge-Cloud Environments with the CODECO Toolkit. <i>Preprint, under submission</i> . arXiv: <a href="https://doi.org/10.48550/arXiv.2603.07621">https://doi.org/10.48550/arXiv.2603.07621</a> . Zenodo: (deposited April 23, 2026)	ATH



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## Annex II – List of Presentations

Table 10: List of presentations provided. M1-M39.

#	Activity	Date	Location	Lead	Audience	Zenodo / Link
1	AI-SPRINT Final Event	11.10.2023	Online	FOR	~70	<a href="#">Zenodo</a>
2	EUCEI Concertation Meeting	10–11.05.2023	Brussels, Belgium	FOR	~50	<a href="#">Zenodo</a>
3	BDVA Dataweek 2023	13–15.06.2023	Luleå, Sweden	I2CAT	~340	<a href="#">Zenodo</a>
4	Nexus Forum 2023	5–6.10.2023	Brussels, Belgium	I2CAT	n/a	<a href="#">Zenodo</a>
5	IEEE WF-IoT Vert-05	23.10.2023	Aveiro, Portugal (online)	FOR	n/a	<a href="#">Zenodo</a>
6	ETSI NFV NOC #195	06.2023	Remote	TID	n/a	—
7	ETSI OSM #16	11.2023	Remote	UC3M	n/a	—
8	Red Hat Tech Talks	14.02.2024	Cork, Ireland	RHT	60	<a href="#">Zenodo</a>
9	DISCOVER-US Webinar	22.03.2024	Online	FOR	~40	<a href="#">Zenodo</a>
10	FEEC/UNICAMP IA382 Seminar	18.04.2024	Online (Brazil)	FOR	~30	<a href="#">YouTube</a>
11	EUCEI/ACES RIA Showcase	18.04.2024	Online	FOR	77	<a href="#">Zenodo</a>
12	IoT Student workshop	07.05.2024	Hybrid	FOR	30	—
13	IEEE ISCC ECO 2024 (keynote)	26.06.2024	Paris, France	FOR	~20	<a href="#">Zenodo</a>
14	Master Seminar, Univ. of Piraeus	06.06.2024	Piraeus, Greece	UPRC	20	<a href="#">Zenodo</a>
15	DevConf.CZ 2024	13–15.06.2024	Brno, Czech Republic	RHT	>100	<a href="#">Zenodo</a>
16	EBDVF 2024	02–04.10.2024	Budapest, Hungary	I2CAT	>100	—
17	CEC Workshop 2024, with IEEE ICNP 2024	28.10.2024	Belgium / Hybrid	FOR	20	—



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#	Activity	Date	Location	Lead	Audience	Zenodo / Link
18	Cross-Domain Standardisation Workshop	26–27.11.2024	Brussels, Belgium	FOR	50	—
19	MUC Colab Meetup	13.01.2025	Munich, Germany	FOR	>50	—
20	HiPEAC ML4ECS 2025	20–22.01.2025	Barcelona, Spain	FOR	50	<a href="#">Zenodo</a>
21	BDVA Data Week 2025	27–28.05.2025	Athens, Greece	INTRA	>100	—
22	IETF 123 — BMWG	21.07.2025	Madrid, Spain	FOR	50	<a href="#">IETF Datatracker</a>
23	IETF 123 — GREEN	21.07.2025	Madrid, Spain	FOR	50	<a href="#">IETF Datatracker</a>
24	IEEE WPMC 2025 CONASENSE Workshop	10.11.2025	Sofia, Bulgaria	FOR	>30	—
25	UniPi IRCEP Workshop #1.1	21.11.2025	Piraeus, Greece	UPRC	~50	—
26	UniPi IRCEP Workshop #1.2	28.11.2025	Piraeus, Greece	UPRC	~50	—
27	HiPEAC ML4ECS 2026	26–28.01.2026	Kraków, Poland	FOR	50	<a href="#">Zenodo</a>
28	IEEE CloudNet 2023 keynote	02.11.2023	New York, USA	UGOE	~100	
29	6 <sup>th</sup> International Conference on High Performance Big Data and Intelligent Systems (HDIS) 2025 Keynote	19.-21.12.2025	Macau SAR	UGOE	~80	



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## Annex III – TPCs & Committees

Table 11: Participation of CODECO partners in technical programme and organizing committees, M1–M39.

Activity	Location & Date	Tech enablers	Partner & Role
IEEE ICDCS 2023: 43rd IEEE International Conference on Distributed Computing Systems	Hong Kong SAR, China, 18–21.07.2023	Cloud and edge computing; AI for distributed systems; mobile and wireless computing	FOR, Rute C. Sofia — TPC member
IEEE Smart World Congress — International Conference on Metaverse 2023	Portsmouth, UK, 28–31.08.2023	Edge-Cloud orchestration	FOR, Rute C. Sofia — TPC member
ACM MobiArch 2023 — 18th Workshop on Mobility in the Evolving Internet Architecture, co-located with ACM MobiCom 2023	Madrid, Spain, 06.10.2023	Cloud and edge computing; mobile networking	UGOE, Tingting Yuan — co-Chair; TID, Luis M. Contreras — co-Chair ( <i>see Section 4.4</i> )
IEEE NoF 2023: International Conference on Network of the Future	Izmir, Turkey, 4–6.10.2023	QoS; overlay networks; energy efficiency in networks; edge and fog computing	UGOE, Xiaoming Fu — TPC co-chair
IARIA ICSNC 2023: 18th International Conference on Systems and Networks Communications	Valencia, Spain, 13–17.11.2023	Software-defined networking; mobile networking	FOR, Rute C. Sofia — TPC member
EuCNC CONASENSE 2024	Antwerp, Belgium, 03.06.2024	Edge computing; 6G edge-cloud continuum	FOR, Rute C. Sofia — Chair ( <i>see Section 4.4</i> )
IEEE ISCC ECO 2024 — First International Edge-Cloud Orchestration Workshop	Paris, France, 26.06.2024	Edge-Cloud orchestration	ATH, Vassilis Tsaoussidis — Chair; ATH, Lefteris Mamatas — TPC chair; FOR, Rute C. Sofia — co-chair ( <i>see Section 4.4</i> )
IEEE ICDCS 2024: 44th IEEE International Conference on Distributed Computing Systems	New Jersey, USA, 16–19.07.2024	Cloud and edge computing; AI for distributed systems; mobile and wireless computing	UGOE, Xiaoming Fu — TPC Chair; FOR, Rute C. Sofia — TPC member



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Activity	Location & Date	Tech enablers	Partner & Role
IEEE ICCN 2024 — 6th International Workshop on Intelligent Cloud Computing and Networking, co-located with IEEE INFOCOM 2024	Vancouver, Canada, 20.05.2024	Advanced networking; cloud-edge systems; intelligent and secure communication	UGOE, Xiaoming Fu — Steering committee; TPC member
ACM MobiArch 2024, co-located with ACM MobiCom 2024	Washington DC, USA, 18.11.2024	Mobile computing and edge; next-generation communication; IoT	UGOE, Xiaoming Fu — Steering committee chair; UGOE, Parisa Memarmoshrefi, Tingting Yuan, Fabian Wölk — TPC members
IEEE CSCN 2024: IEEE Conference on Standards for Communications and Networking	Belgrade, Serbia, 25–27.11.2024	Dynamic scheduling; ML for networking; SDN architectures	FOR, Rute C. Sofia — TPC member
IEEE WPMC 2024: International Symposium on Wireless Personal Multimedia Communications	Noida, India, 17–20.11.2024	6G edge-cloud continuum	FOR, Rute C. Sofia — Europe TPC chair
IEEE WPMC 2024 — CONASENSE 6G-SAC Workshop	Noida, India, 19.11.2024	6G edge-cloud continuum; energy efficiency in cloud-edge-IoT	FOR, Rute C. Sofia — co-chair and organiser ( <i>see Section 4.4</i> )
IEEE INFOCOM 2025	London, UK, 19–22.05.2025	Cloud-Edge collaboration; AI for distributed systems; network design	UGOE, Xiaoming Fu — Steering committee; UGOE, Tingting Yuan — TPC member
IEEE ICCN 2025 — 7th International Workshop on Intelligent Cloud Computing and Networking, co-located with IEEE INFOCOM 2025	London, UK, 05.2025	Cloud-Edge collaboration; AI for distributed systems; network design	UGOE, Xiaoming Fu — Steering committee; UGOE, Tingting Yuan — TPC



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Activity	Location & Date	Tech enablers	Partner & Role
			member
IEEE ICDCS 2025: 45th IEEE International Conference on Distributed Computing Systems	Edinburgh, Scotland, UK, 20–23.07.2025	Distributed AI/ML; edge and cloud computing	UGOE, Tingting Yuan — TPC member
ACM MobiCom 2025 / ACM MobiArch 2025, co-located	Hong Kong SAR, China, 11.2025	Mobile computing; wireless and mobile networking	UGOE, Xiaoming Fu — Vice General Chair (MobiCom); Steering committee (MobiArch)
IEEE Globecom 2025	Taipei, Taiwan, 8–12.12.2025	6G communication; AI/ML integration in networks	UGOE — TPC member



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## Annex IV – Event Participation

Table 12: Overview of public events, conferences, and workshops where CODECO was represented, M1–M39.

#	Title	Location	Lead	Type	Purpose	Date	Audience
<b>2023</b>							
1	AAAI 2023	Washington DC, USA	UGOE	Conference	Paper presentation ( <i>rf. 4.1</i> )	07–08.02.2023	20+
2	EUCEI Concertation Meeting	Brussels, Belgium	FOR	Webinar / Panel	Dissemination, networking ( <i>rf. 4.2</i> )	10–11.05.2023	100+
3	IEEE ICDCS 2023	Hong Kong SAR, China	FOR	Conference	TPC ( <i>rf. 4.3</i> )	18–21.07.2023	n.a.
4	IEEE Smart World Congress / Metaverse 2023	Portsmouth, UK	FOR	Conference	TPC ( <i>rf. 4.3</i> )	28–31.08.2023	n.a.
5	ETSI NFV NOC Meeting #195	Remote	TID	Standardisation	Presentation, standardisation ( <i>rf. 4.2</i> )	06.2023	n.a.
6	ACM MobiArch 2023 (co-located with ACM MobiCom)	Madrid, Spain	UGOE, TID, FOR	Workshop	Organiser; CODECO panel ( <i>rf. 4.3, 4.5</i> )	06.10.2023	30
7	IEEE WF-IoT Vert-05	Aveiro, Portugal	FOR	Panel	Presentation ( <i>rf. 4.2</i> )	23.10.2023	70
8	Nexus Forum 2023	Brussels, Belgium	I2CAT	Forum	Dissemination, networking ( <i>rf. 4.2</i> )	5–6.10.2023	100+
9	AI-SPRINT Final Event	Online	FOR	Conference	Dissemination ( <i>rf. 4.2</i> )	11.10.2023	70
10	EclipseCON 2023	Ludwigsburg, Germany	ECL	Conference	Dissemination, community building	16–19.10.2023	200+
11	Third Eclipse SAAM Conference 2023	Ludwigsburg, Germany	ECL	Workshop	Organiser ( <i>rf. 4.5</i> )	17.10.2023	50+
12	IEEE NoF 2023	Izmir, Turkey	UGOE	Conference	TPC co-chair ( <i>rf. 4.3</i> )	4–6.10.2023	n.a.
13	IARIA ICSNC 2023	Valencia, Spain	FOR	Conference	TPC ( <i>rf. 4.3</i> )	13–17.11.2023	n.a.
14	ETSI OSM #16 Meeting	Remote	UC3M	Standardisation	Presentation, standardisation ( <i>rf. 4.2</i> )	11.2023	n.a.
15	6G CONASENSE Workshop (IEEE WPMC 2023)	Orlando, FL, USA	FOR	Workshop	Organiser, dissemination ( <i>rf. 4.5</i> )	19.11.2023	40
<b>2024 — Phase 1 (M1–M18)</b>							
16	First CODECO Industrial Workshop (HiPEAC 2024)	Munich, Germany	FOR, ECL	Workshop	Organiser, community building ( <i>rf. 4.5</i> )	18.01.2024	60
17	Red Hat Tech Talks	Cork, Ireland	RHT	Industry Event	Communication, exploitation ( <i>rf. 4.2</i> )	14.02.2024	60
18	DISCOVER-US Webinar	Online	FOR	Webinar	Dissemination ( <i>rf. 4.2</i> )	22.03.2024	40
19	Embedded World 2024	Nuremberg, Germany	ECL	Trade Fair	Dissemination, exploitation	9–11.04.2024	100+
20	EUCEI/ACES RIA Showcase	Online	FOR	Webinar	Dissemination ( <i>rf. 4.2</i> )	18.04.2024	77
21	FEEC/UNICAMP IA382 Seminar	Online (Brazil)	FOR	Academic Seminar	Dissemination, skills training ( <i>rf. 4.2</i> )	18.04.2024	30
22	IEEE ICCN 2024 (INFOCOM 2024)	Vancouver, Canada	UGOE	Workshop	Steering committee, TPC ( <i>rf. 4.3</i> )	20.05.2024	n.a.
23	EuCNC CONASENSE 2024	Antwerp, Belgium	FOR	Workshop	Organiser ( <i>rf. 4.3, 4.5</i> )	03.06.2024	60
24	DevConf.CZ 2024	Brno, Czech Republic	RHT	Conference	Presentation ( <i>rf. 4.2</i> )	13–15.06.2024	100+
25	Master Seminar, University of Piraeus	Piraeus, Greece	UPRC	Academic Seminar	Dissemination ( <i>rf. 4.2</i> )	06.06.2024	n.a.



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#	Title	Location	Lead	Type	Purpose	Date	Audience
26	IEEE ISCC ECO 2024 Workshop	Paris, France	ATH, FOR	Workshop	Organiser, keynote (rf. 4.2, 4.3, 4.5)	26.06.2024	20
<b>2024 — Phase 2 (M19–M39)</b>							
27	ACM SIGCOMM 2024	Sydney, Australia	UGOE	Conference	Dissemination, networking	07.2024	n.a.
28	IEEE ICDCS 2024	New Jersey, USA	UGOE, FOR	Conference	TPC chair (UGOE); TPC member (FOR) (rf. 4.3)	16– 19.07.2024	n.a.
29	IEEE Metaverse 2024 (Smart World Congress)	Portsmouth, UK	FOR	Conference	TPC (rf. 4.3)	28– 31.08.2024	n.a.
30	AIOTI Days 2024 — CODECO Session	Brussels, Belgium	FOR	Conference	Dissemination, communication	24– 26.09.2024	n.a.
31	EBDVF 2024	Budapest, Hungary	I2CAT	Forum	Dissemination, talk (rf. 4.2)	02– 04.10.2024	n.a.
32	Eclipse Open-Source Experience (OCX 2024)	Mainz, Germany	ECL	Conference	Dissemination, community building	22– 24.10.2024	450+
33	CEC Workshop 2024 (IEEE ICNP 2024)	Belgium / Hybrid	FOR	Workshop	Dissemination, talk (rf. 4.2)	28.10.2024	n.a.
34	ACM MobiArch 2024 (MobiCom 2024)	Washington DC, USA	UGOE	Workshop	Steering committee chair, TPC (rf. 4.3)	18.11.2024	n.a.
35	IEEE WPMC 2024	Noida, India	FOR	Conference	Europe TPC chair (rf. 4.3)	17– 20.11.2024	n.a.
36	IEEE WPMC 2024 — CONASENSE 6G-SAC Workshop	Noida, India	FOR	Workshop	Organiser (rf. 4.3, 4.5)	19.11.2024	n.a.
37	Cross-Domain Standardisation Workshop	Brussels, Belgium	FOR	Workshop	Standardisation, talk (rf. 4.2)	26– 27.11.2024	n.a.
38	IEEE CSCN 2024	Belgrade, Serbia	FOR	Conference	TPC (rf. 4.3)	25– 27.11.2024	n.a.
<b>2025</b>							
39	MUC Colab Meetup	Munich, Germany	FOR	Meetup	Communication, SME outreach	13.01.2025	n.a.
40	HiPEAC 2025 — ML4ECS Workshop	Barcelona, Spain	FOR	Workshop	Organiser, demos (rf. 4.2, 4.5)	20– 22.01.2025	100+
41	HiPEAC 2025 Booth	Barcelona, Spain	ECL	Demonstration	Dissemination, community building	20– 22.01.2025	n.a.
42	IEEE INFOCOM 2025	London, UK	UGOE	Conference	Steering committee, TPC (rf. 4.3)	19– 22.05.2025	n.a.
43	IEEE ICCN 2025 (INFOCOM 2025)	London, UK	UGOE	Workshop	Steering committee, TPC (rf. 4.3)	05.2025	n.a.
44	RH Summit — Community Day	Boston, USA	RHT	Industry Event	Exploitation, community building	19.05.2025	n.a.
45	BDVA Data Week 2025	Athens, Greece	INTRA	Conference	Dissemination, talk (rf. 4.2)	27– 28.05.2025	n.a.
46	DevConf CZ 2025	Brno, Czech Republic	RHT	Conference	Dissemination, community building	12.06.2025	n.a.
47	Nacht des Wissens 2025	Göttingen, Germany	UGOE	Public Event	Communication, public outreach	21.06.2025	2,500+
48	IETF CODECO Hackathon (IETF 123)	Madrid, Spain	ECL	Hackathon	Standardisation, community building (rf. 4.5)	19– 20.07.2025	n.a.
49	IETF 123 — BMWG Presentation	Madrid, Spain	FOR	Standardisation	Standardisation (rf. 4.2)	21.07.2025	n.a.
50	IETF 123 — GREEN Presentation	Madrid, Spain	FOR	Standardisation	Standardisation (rf. 4.2)	21.07.2025	n.a.
51	IEEE ICDCS 2025	Edinburgh, Scotland, UK	UGOE	Conference	TPC (rf. 4.3)	20– 23.07.2025	n.a.





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#	Title	Location	Lead	Type	Purpose	Date	Audience
52	IEEE WPMC 2025 — CONASENSE Workshop	Sofia, Bulgaria	FOR	Workshop	Dissemination, talk ( <i>rf. 4.2</i> )	11.09.2025	33
53	AIOTI Days 2025	Madrid, Spain	FOR	Conference	Dissemination, communication	22– 23.09.2025	n.a.
54	Open-Source Community Day	Madrid, Spain	ECL	Community Event	Communication, community building	23– 24.09.2025	70
55	European Research Night 2025	Madrid, Spain	UPM	Public Event	Communication, public outreach	26.09.2025	150
56	MEDNIGHT 2025	Xanthi, Greece	ATH	Public Event	Communication, public outreach	26.09.2025	400+
57	UniPi IRCEP Workshop #1.1	Piraeus, Greece	UPRC	Workshop	Dissemination, education ( <i>rf. 4.2</i> )	21.11.2025	50
58	UniPi IRCEP Workshop #1.2	Piraeus, Greece	UPRC	Workshop	Dissemination, education ( <i>rf. 4.2</i> )	28.11.2025	50
59	IEEE/ACM UCC 2025 — CFC Workshop	Nantes, France	FOR	Workshop	Dissemination, community building ( <i>rf. 4.5</i> )	11.2025	n.a.
60	Software Crafters Barcelona 2025	Barcelona, Spain	ECL	Conference	Dissemination, community building	24– 25.10.2025	500
61	IEEE Globecom 2025	Taipei, Taiwan	UGOE	Conference	TPC ( <i>rf. 4.3</i> )	8–12.12.2025	n.a.
62	ACM MobiCom 2025	Hong Kong SAR	UGOE	Conference	General Vice Co-Chair, panel chair, panelist	4.-8.11.2025	~600
63	fortiss CODECO Demo Camp	Munich, Germany	FOR	Workshop	Exploitation, demonstration ( <i>rf. 4.5</i> )	11.12.2025	n.a.
<b>2026</b>							
64	HiPEAC 2026 — ML4ECS Workshop	Kraków, Poland	FOR	Workshop	Organiser, dissemination ( <i>rf. 4.2, 4.5</i> )	26– 28.01.2026	n.a.
65	HiPEAC 2026 — Booth Demonstrations	Kraków, Poland	ECL	Demonstration	Dissemination, community building	26– 28.01.2026	n.a.
66	ETSI SNS4SNS 2026	Munich, Germany	ICOM, TID	Conference	Dissemination, demonstration	02– 05.02.2026	n.a.
67	Standardisation Workshop	Munich, Germany	FOR	Workshop	Standardisation	20.02.2026	56
68	CODECO Final Event	Munich, Germany	FOR	Conference	Dissemination, communication, exploitation ( <i>rf. 4.5</i> )	24.03.2026	~60



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## Annex V – Standardisation Contributions

Table 13: CODECO standardisation contributions, M1–M39.

Item	Target	Type	Date	Lead	Link
An introduction to L2S-M — K8s and NFV network model convergence	ETSI NFV NOC #195	Monitoring / Presentation	06.2023	TID, UC3M	—
An Evolution of Cooperating Layered Architecture for SDN (CLAS) for Compute and Data Awareness	IETF COINRG / IRTF COIN RG	Draft	07.2023	TID	<a href="https://datatracker.ietf.org/doc/draft-contreras-coinrg-clas-evolution/">https://datatracker.ietf.org/doc/draft-contreras-coinrg-clas-evolution/</a>
Use of ALTO for Determining Service Edge	IETF ALTO	Draft	07.2023	TID	<a href="https://datatracker.ietf.org/doc/draft-contreras-alto-service-edge/">https://datatracker.ietf.org/doc/draft-contreras-alto-service-edge/</a>
Project Overview — BDVA Data Week 2023	BDVA	Monitoring / Presentation	06.2023	I2CAT	<a href="https://data-week.eu/session/building-a-cognitive-cloud-edge-continuum">https://data-week.eu/session/building-a-cognitive-cloud-edge-continuum</a>
OpenContinuum D4.3 — Toward a European Ecosystem for the Computing Continuum	EUCEI / OpenContinuum CSA	Community landscape report	2023	OpenContinuum	<a href="https://eucloudedgeiot.eu/wp-content/uploads/2023/06/D4.3-Toward-an-European-ecosystem-for-the-computing-continuum-Working_Trialog.pdf">https://eucloudedgeiot.eu/wp-content/uploads/2023/06/D4.3-Toward-an-European-ecosystem-for-the-computing-continuum-Working_Trialog.pdf</a>
Connectivity among VNFs using SDN	ETSI OSM #16	Monitoring / Contribution	11.2023	UC3M	<a href="https://docbox.etsi.org/OSG/OSM/05-CONTRIBUTIONS/2023/OSM(23)000031">https://docbox.etsi.org/OSG/OSM/05-CONTRIBUTIONS/2023/OSM(23)000031</a>
Requirements for Reliable Wireless Industrial Services	IETF DetNet	Draft	07.2024	FOR	<a href="https://www.ietf.org/archive/id/draft-ietf-detnet-raw-industrial-req-01.txt">https://www.ietf.org/archive/id/draft-ietf-detnet-raw-industrial-req-01.txt</a>
CEI Reference Architecture	EUCEI	White paper / Community standard	2024	FOR, ATOS	—
Expert Group Strategic Research Innovation Agenda (SRIA)	NetWorld Europe	White paper / Contribution	2024	FOR, TID, ICOM	—
OpenContinuum D2.2 — OpenContinuum Landscape v2 and Recommendations	EUCEI / OpenContinuum CSA	Community landscape report (ISO/IEC JTC1 liaison)	09.2024	OpenContinuum / ATOS (CODECO featured, Annex 1, p. 61)	<a href="https://eucloudedgeiot.eu/wp-content/uploads/2024/11/D2.2-OpenContinuum-Landscape-v2-and-recommendations-1.pdf">https://eucloudedgeiot.eu/wp-content/uploads/2024/11/D2.2-OpenContinuum-Landscape-v2-and-recommendations-1.pdf</a>
AIOTI Report — EU-Funded Research Projects Landscape: IoT and Edge Computing	AIOTI	Community landscape report	2024	AIOTI (CODECO featured, p. 112)	<a href="https://aioti.eu/wp-content/uploads/AIOTI-Report-EU-funded-research-projects-landscape-IoT-and-Edge-computing-R3-Final.pdf">https://aioti.eu/wp-content/uploads/AIOTI-Report-EU-funded-research-projects-landscape-IoT-and-Edge-computing-R3-Final.pdf</a>
CODECO Technological Assets and Contributions Towards Standardisation	Community	White paper	04.2025	FOR	<a href="https://zenodo.org/records/15234813">https://zenodo.org/records/15234813</a>
Cognitive Management and Orchestration of Resources in the Edge-Cloud Continuum	Community — joint with MLSysOps, COGNIFOG, COGNIT, DECICE, ENACT	White paper	2025	INTRA (coord.)	<a href="https://zenodo.org/records/14629440">https://zenodo.org/records/14629440</a>
CEI Cross-Layer Orchestration and Resource Management — BDVA Data Week 2025	BDVA	Monitoring / Presentation	05.2025	INTRA	<a href="https://data-week.eu/2025-edition/programme/?edition_session_id=12706">https://data-week.eu/2025-edition/programme/?edition_session_id=12706</a>



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Item	Target	Type	Date	Lead	Link
Energy-aware Differentiated Services (EA-DS)	IETF GREEN	Draft	07.2025	FOR	<a href="https://datatracker.ietf.org/doc/draft-sofia-green-energy-aware-diffserv/">https://datatracker.ietf.org/doc/draft-sofia-green-energy-aware-diffserv/</a>
CNI Telco-Cloud Benchmarking Considerations	IETF BMWG	Draft	07.2025	FOR, ATH	<a href="https://datatracker.ietf.org/doc/draft-samizadeh-bmwg-cni-benchmarking/">https://datatracker.ietf.org/doc/draft-samizadeh-bmwg-cni-benchmarking/</a>
AIOTI Report — AI, IoT and Edge Continuum: Impact and Relation to 5G/6G	AIOTI	Community report	2025	AIOTI (CODECO pilots P1–P6 featured, pp. 96–114)	<a href="https://aioti.eu/wp-content/uploads/AIOTI-Report-Impact-and-Relation-to-5G-6G-R5-Final.pdf">https://aioti.eu/wp-content/uploads/AIOTI-Report-Impact-and-Relation-to-5G-6G-R5-Final.pdf</a>



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