SYCLOPS

Deliverable 6.3 – Communication, Networking and Dissemination Plan and Activities M12

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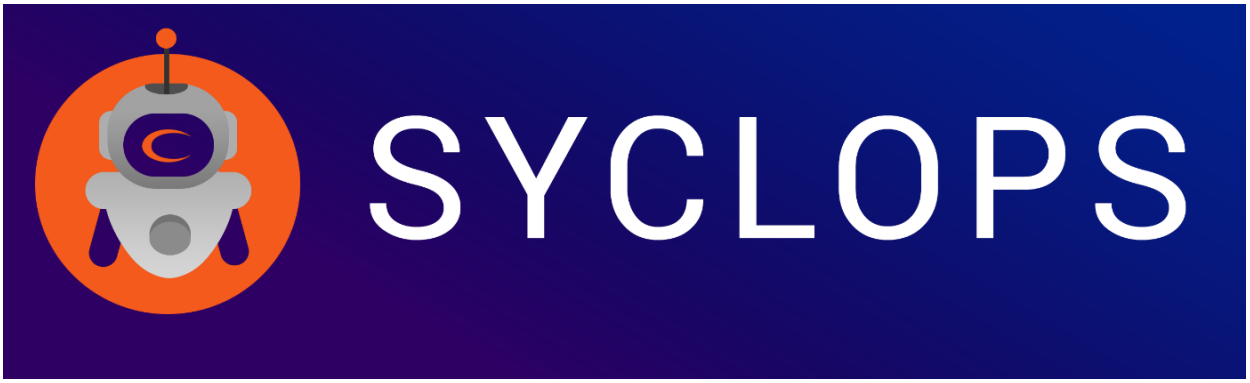

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D6.3 – Communication, Networking and Dissemination Plan and Activities M12

Executive Summary: This deliverable is the M12 progress update of the Communication, Networking and Dissemination Plan and Activities, with all progress measured against the plan submitted in the D6.1 deliverable.

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Disclaimer

The SYCLOPS consortium consists of the following partners:

No.	Partner Organisation Name	Partner Organisation Short Name	Country
1	EURECOM	EUR	FR
2	INESC ID - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, INVESTIGACAO E DESENVOLVIMENTO EM LISBOA	INESC	PT
3	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG	UHEI	DE
4	ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE	CERN	CH
5	HIRO MICRODATACENTERS B.V.	HIRO	NL
6	ACCELOM	ACC	FR
7	CODASIP S R O	CSIP	CZ
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Statement of Originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Table of Contents

List of Tables

Executive Summary

In deliverable D6.1, we had outlined the preliminary version of our Communication, Networking, and Dissemination Plan that included a variety of measures and activities to identify the consortium members' roles, analyse stakeholders' needs, build a community around SYCLOPS, and establish and maintain an effective communication and dissemination. This deliverable is the M12 progress update of the Communication, Networking and Dissemination Plan and Activities, with all progress measured against the plan submitted in the 6.1 deliverable.

In the first year, our goal was to build awareness on the project and to convey the vision to enable better solutions for AI/data mining for extremely large and diverse data by democratizing AI acceleration using open standards. This will enable a healthy, competitive, innovation driven ecosystem for Europe and beyond. Good progress has been made towards this goal as evidenced by the dissemination/communication KPIs achieved and activities carried out until M12. As we transition to the second phase of the project, we have also identified several plans to accelerate our dissemination and communication activities.

1 Introduction

This is the M12 Update of the Communication, Networking and Dissemination Plan and Activities deliverable. This is part of WP6, and relates specifically to Objective 5 of the SYCLOPS Project which is outlined below,

Obj 5 (Exploitation, Dissemination, Standardization): To foster an open, innovative European ecosystem for accelerated AI and analytics by leading and feeding back to standardization efforts and communicating project outcomes via already well-established dissemination channels and developer communities.

The Communication, Networking and Dissemination Plan was outlined in D6.1, with a list of KPIs and Objectives outlined for both Dissemination and Communication. This M12 update will cover the progress made since submission of this deliverable on the 31st March 2023, with reference to the identified KPIs and Objectives.

The rest of this document is organized as follows. Section 2 of this report will examine the Dissemination KPIs and Strategy, while Section 3 will focus on the Communication KPIs and Objectives.

2 Dissemination

Dissemination aims to share scientific results, contribute to the wider academic ecosystem, advance technologies and maximise the impact of the project on society. In D6.1 deliverable, we outlined the following objectives of dissemination in SYCLOPS.

- D.O.1: Ensure maximum visibility of the project in the target audiences via appropriate key messages.
- D.O.2: Diffuse the scientific and technological knowledge generated in the project within and beyond the project's consortium in a timely manner.
- D.O.3: Establish liaisons with other projects and initiatives for knowledge and innovation transfer.
- D.O.4: Engage the targeted audiences to get feedback and validate results.
- D.O.5: Attract potential users/clients and stimulate the appropriate market segments to support the project's exploitation strategy.
- D.O.6: Encourage the development of further outcomes in new initiatives.

In D6.1 deliverable, we also outlined the list of dissemination mechanisms that are planned to achieve the aforementioned objectives as listed below.

- D.M.1: Organization of project events
- D.M.2: Conference/workshop participation
- D.M.3: Scientific publications
- D.M.4: Community Building, Stakeholder Engagement
- D.M.5: Synergies with projects
- D.M.6: Internal dissemination
- D.M.7: Standardization contributions

2.1 Dissemination Strategy

In the D6.1 deliverable, we also outlined a Dissemination Plan and Strategy. The dissemination activities of SYCLOPS will be divided into four phases:

1. Raise Awareness (M1 – M12): This phase includes the creation of awareness about the project by using various channels such as social media platforms, project website, flyer, banner, posters.
2. Inform and Interact (M12 – M24): This phase includes the provision of detailed information about the project to the identified - stakeholders through webinars, workshops, or other interactive sessions such as roundtables and panels.
3. Promote (M24 – M36): This phase includes the promotion of SYCLOPS benefits to potential users through targeted campaigns such as email campaigns or publications on websites, as well as engaging with stakeholders (e.g. workshops, high-level roundtables) to spread awareness about the project's objectives, benefits and outcomes.
4. Post-Project Communication: This phase includes communications and updates on the progress made during and after the project implementation such as evaluation reports or success stories related to SYCLOPS's contribution towards AI acceleration market on both an Industry level and Policy level.

We are currently in M12 of this plan, and hence at the completion of the “Raise Awareness” phase. During this phase when the project is being ramped up, all dissemination mechanisms D.M.1 to D.M.7 are expected to have a low intensity with the primary goal of maximizing visibility of project launch across target audiences (D.O 1) and establishing liaison with other relevant projects (D.O 3). We have taken several steps towards meeting both these objectives. Here, we provide an update with respect to each dissemination mechanism

2.1.1 D.M.1 Project Events

We have made good progress with respect to project events. So far, we have hosted two events. The first is a computing hackathon workshop led by CERN where the SYCLOPS-related cross-architecture open acceleration techniques were advertised as a way to accelerate computing for CMS (one of Large Hadron Collider experiments). This workshop was primarily attended by around 30 CMS scientists and research engineers who were made aware of our work on various SYCL tools and libraries in SYCLOPS including Cling and SYCL-ROOT. The second workshop is the “oneAPI Iberian Tour” on software development tools covering CPU/GPU computing. In addition to an overview of SYCL and libraries, this workshop also covered profiling tools and models that are covered in SYCLOPS (like the Cache-Aware Roofline Model) for measuring and identifying performance hotspots.

As the project develops and our research advances, we will be hosting more workshops to disseminate the results of the project. Similarly, we expect demo events to be held in the next two years as our solutions are developed.

2.1.2 D.M.2 Conference/workshop attendance

On the academic front, we have made good progress with conference attendance across Europe (ISC, IWOCL, HIPEAC, EUROPAR), and we have been active in disseminating information about the SYCLOPS Project at these via invited talks/keynotes, tutorials, and panel participations. In addition, we have given several online talks about the SYCLOPS project at key non-academic dissemination venues that are open to a broader more general audience, including the BDVA DSSC event, Intel oneAPI DevSummit for AI (https://www.oneapi.io/events/oneapi-devsummit-for-ai-2023/) to name a few. As our research activities produce more results, we expect this activity to continue at a steady state in the next few years.

2.1.3 D.M.3 Publications

In the first year of the project, we had three peer-reviewed publications in prestigious conferences and journals. As it is still early in the project, active research is being pursued on several aspects of the SYCLOPS stack, and we expect to see increased output in the upcoming years as the project develops and we reach more conclusions in our ongoing research. We already have three more manuscripts under submission and review at various venues at this time frame.

2.1.4 D.M.4 Community

We have already identified and engaged with three key industry communities. First, on the SYCL front, we have engaged with the oneAPI community by attending oneAPI meetups and presenting on the SYCLOPS Project. Our partner INESC-ID has also presented a popular webinar that spans the use of SYCL performance profiling and modelling tools for achieving efficient cross-architecture acceleration.

Second, on the RISC-V front, our partner CSIP has fully engaged with the RISC-V community by presenting SYCLOPS and in addition, participating in several activities RISC-V international (participation in SAFETY-SIG, AUTO-SIG, DSP-SIG, and chairing Security Model Task Group, Former Code Size Task Group).

Third, on the application front, our partner ACCELOM has engaged with the bio banking and bioinformatics communities in India through their ongoing collaboration with Sapien Biosciences. In internal online events organized by Sapien, information about project SYCLOPS and its goals for accelerating computational genomics have been shared with clinicians and bioinformaticians.

2.1.5 D.M.5 Project Synergy

Synergy has been identified with three other Horison Europe projects, namely AERO, RISER, and VITAMIN-V which all focus on various aspects of a RISC-V-based cloud ecosystem. Preliminary discussions have already been carried out with the technical coordinators of these projects and we have agreed to potentially share access to open hardware and software stacks that will be developed in either projects. There will also be internal dissemination events that will be planned across all projects where periodic updates can be shared. As an example, we are presenting the goals and vision of the SYCLOPS project at the CompContinuum workshop at HiPEAC 2024 together with AERO, RISER, and VITAMIN-V. We will continue to look for other opportunities for synergy with other projects in the ecosystem.

2.1.6 D.M.6 Internal Dissemination

The first year general assembly meeting was held at EURECOM on September 4th, 2023. We had an active two-day discussion of various aspects of SYCLOPS and identified several further opportunities for cross-partner collaboration. In order to disseminate research results rapidly between consortium members and to promote and foster collaboration, we have adopted a radically different structure for our plenary meetings where the entire consortium meets on a monthly basis. In addition to administrative updates and overall progress tracking, each plenary meeting has a “Research Highlight” section, where one partner presents their work in elaborate detail with demos and training sessions when appropriate.

2.1.7 D.M.6 Standardization Contributions

In the first year, we have worked on contributing to standardization efforts on three fronts: (i) edge hardware design, (ii) SYCL and oneAPI, and (iii) RISC-V.

Edge hardware standards. HIRO is working towards creating an edge datacenter hardware architecture standard with the following features:

- Based on an industrial form factor (COM-Express for the 1st gen EMDC and Com HPC for the 2nd gen EMDC) that is well supported by European OEM’s and widely used by European Embedded and Industrial PC Industry;
- Can easily be customized and scaled to local demand, by allowing any mix and any quantity of CPU, GPU, FPGA, XPU connected over a dual fabric (Ethernet, PCIe) switching;
- Scalable to local demand: from portable EMDC’s of 1.8kW, 3.8kW, 5.6kW (wall mount) to mobile container based EMDC’s from 150kW/ rack and multiple racks;
- Compact as it is up to 5x times smaller footprint then OCP server based rack designs;
- Has a PUE of 1.03 through its innovative gravity driven phase change cooling

The prototypes of the first generation EMDC developed in the ECSEL JU BRAINE project (2020-2023) are installed and being tested in Eindhoven, Pisa and Budapest with use cases from Smart hospitals, Smart City, Smart factory. An improved 1st gen EMDC will be installed in Greece, in the intelligent Energy grid for the ACES project (2023-2026). HIRO is also actively involved in the European EU CloudEdgeIoT CSA activity of defining a standard software stack of cloud services. In the projects Glaciation (2022-2024), ACES (2023-2025), VERGE (2023-2025), SHIFT2DC (2023-2025), NEXTGEN (2024-2028) the powerful edge software stack with services to manage big data and AI training through dataspaces will be further developed in line with the CloudEdgeIot cloud stack standardisation.

SYCL standardization. On the SYCL front, CPLAY has been contributing the SYCL specification standardization effort. In particular, work done by CPLAY on SYCL support for RISC-V (specifically vector extensions) raised new issues with the specification for which clarifications were sought (for example https://github.com/KhronosGroup/SYCL-Docs/issues/463). Further, CPLAY is a key member of the recently formed Unified Acceleration Foundation, which includes members such as Intel, Samsung, Fujitstu, Arm, Google and more. This Foundation has a focus on standardizing and maintaining several libraries for the DPC++ implementation of SYCL, which is used for oneAPI. One of the central missions for the Foundation is to build and expand open source projects for accelerated computing, and so this provides a good opportunity for SYCLOPS to engage with the UXL Foundation and the key industry members that are a part of it.

RISC-V standardization. On the RISC-V front, Codaip has recently introduced CHERI, or Capability Hardware Enhanced RISC Instructions (CHERI) technology, in CSIP's industry-first commercially available RISC-V Application CPU (https://codasip.com/press-release/2023/10/31/codasip-delivers-processor-security-to-actively-prevent-cyberattacks/.) CHERI extends RISC-V ISA with new architectural features to enable fine-grained memory protection and highly scalable software compartmentalization. Using Codasip Studio, CSIP added built-in fine-grained memory protection to its 700 processor family by extending the RISC-V ISA with CHERI-based custom instructions. Following the introduction of CHERI in their CPU, CSIP has led the formation an industry alliance to standardize and promote this security technology that would be essential to AI/ML security. As a founding member of RISC-V International, CSIP chairs and actively contributes to Security Model Group, CHERI-SIG, and Functionality-Safety-SIG to drive this standardization.

2.2 Dissemination KPIs

In the D6.1 deliverable, the following KPIs were identified for dissemination. A new column (KPI Results at M12) has been added to the table based on the status at M12. To note, these KPIs are set for the lifetime of the project and so we do not expect to have completed these at this stage in the project's lifespan.

Table 1: Dissemination KPIs

Activity	KPI Targets	KPI Results at M12
D1 – Project Events	**2** workshops organized, **3** demo events	**2, 0**
D2 – Conferences	**20** events attended, presented **in 10** events, **2** project demo booths	**7, 7, 0**
D3 – Publications	At least **10** papers/articles in conferences, journals,	**3**

	and magazines	
D4 – Community	**5** industry communities informed, **2** webinars	**3, 1**
D5 – Project Synergy	**3** projects with synergies, **3** joint activities	**1, 0**
D6 – Internal Dissemination	**10** internal partner events, **4** training sessions	**1 general assembly + multiple Research highlight plenaries with tutorials and deep dives.**

2.3 Future Dissemination Planning

So far, we outlined the dissemination activities carried out until M12. The table below shows the upcoming dissemination phase of the project, together with their relevant dissemination objectives.

Table 2: Dissemination phases

Dissemination Mechanism	~~**SYCLOPS Ph. I to Ph. II: Raise Awareness (M1-M12)**~~	**SYCLOPS Ph. II to III: Inform & Interact (M12-M24)**	**SYCLOPS Ph. III to IV: Promote (M24-M36)**
D1. Organization of Project Events	~~D0. 1, 3 Activities' Intensity: Low~~ ~~Target Audience: ALL~~	D.O. 1, 2, 3, 4 Activities' Intensity: High Target Audience: ALL	D.O. 2, 3, 4, 5, 6 Activities' Intensity: High Target Audience: ALL
D2. Conferences, Workshops Participation			
D3. Scientific Publications			
D4. Community Building, Stakeholder Engagement			
D5. Synergies with Projects			
D6. Internal Dissemination in Partner's Networks			
D7. Standardization Contributions			

Over the next 12 months, we will continue to focus on maximizing visibility of the project (D.O.1), and build on our established liaisons with other projects for knowledge and innovation transfer (D.O.3). In addition, as our partners start producing more results, we expect a significant increase in scientific dissemination. We will continue our internal and external dissemination methods to ensure that technological knowledge generated in the project is disseminated within and beyond the project's consortium in a timely manner (D.O.2). As the open-source software/hardware results of SYCLOPS mature, we will engage targeted audiences to test and demo our solutions and solicit feedback to validate results (D.O.4). These activities will be reflected in the M24 update with more progress toward meeting the KPIs shown in Section 2.2.

3 Communication

Through effective communication, we aim to engage with wider audiences to generate interest in the project. This should attract potential users, developers and contributors while also generating demand for the SYCLOPS Project by effectively conveying the problem statement, and successes of the SYCLOPS Project in solving this problem.

In D6.1, we identified the following communication objectives:

- C.O.1: Create project awareness among potential adopters/users in the general public
- C.O.2: Convey the project's concept, goals, results through key messages in communication material
- C.O.3: Activate a community of users, collect feedback
- C.O.4: Prepare for the exploitation of the project's results
- C.O.5: Targeted dissemination of the project's results
- C.O.6: Foster adoption of the project's results in industry and society

In D6.1, we also outlined a list of communication mechanisms that we will use to achieve the aforementioned objectives.

- C.M.1: Project website
- C.M.2: Social media presence
- C.M.3: Project blog
- C.M.4: Traditional media
- C.M.5: Communication material

3.1 Communication Strategy

Similar to dissemination, communication in SYCLOPS also follows the four-phased approach: (i) Raise Awareness (M1-M12), (ii) Inform and interact (M12-M24), (iii) Promote (M24-M36), and (iv) post-project communication. At M12, we are in the first phase of communication. At this stage, the target is to use communication mechanisms to primarily target objectives C.O.1 through C.O.4. Below, we described our activities in the first-year of the project for each communication mechanism.

3.1.1 C.M.1: Project Website

We have created the SYCLOPS website (https://www.syclops.org) and ensured a responsive, intuitive design that allows visitors to quickly find the latest updates of the project.

In January 2024, we have completed the implementation of GDPR-compliant Google Analytics to track visitors to the website. More specifically, we have created a GDPR conformant cookie policy that will allow us to track various website metrics. We will be using this as a measure of success against our planned KPIs in future deliverables. We will also continue to emphasize our activity on social channels and in collaboration with our consortium partners to drive traffic to the website.

3.1.2 3.1.1 C.M.2: Social Media Presence

We maintain the SYCLOPS Project social channels – across X (formerly Twitter), YouTube and LinkedIn. Overall, we have had good engagement and this is evidenced by the fact that we are well on the way to meeting relevant KPIs as shown in Section 3.2. We will be increasing activity across all these channels from Q1 2024, aiming to share more regular progress updates from partners and give notice of events and conferences that we will attend. We will also share and disseminate the published papers, relevant to SYCLOPS.

3.1.3 C.M.3: Project Blog

As we are at the initial stages of the project, we have published three blogs so far. Our project launch blog was very well received and amplified not only by project partners, but also as blogs on key consortia websites including SYCL.tech and Khronos.org. We expect this number to increase substantially in the upcoming year as the research of our consortium progresses and reaches conclusions. We will continue to create blogs reflecting these outcomes and use our channels to amplify communication. We are also finalizing the creation of a series of "Technical deep dive" blogs, where each project partner will provide a much deeper introduction about their expertise and solutions, and highlight how their fit in the overall SYCLOPS hardware—software stack. We are piggy backing on the "Research Highlights" part of the plenary meetings mentioned in Section 2.1.6 to track progress updates from consortium members in a timely fashion and turn it into informative blogs that will be shared on the project website.

3.1.4 C.M.4: Traditional Media

We had a very successful project launch, with a press release that gained 650 impressions on LinkedIn and over 8,000 on X (formerly Twitter). SYCLOPS was also covered by news articles, tech articles, and state-of-the-union addresses in conferences. SYCLOPS communication team has also joined forces with Intel's communication team in order to expand target audience to include members of the oneAPI ecosystem. This collaboration has already led to two Intel Innovator success stories. As we move on from M12, we will be looking for opportunities to publish more press releases regarding notable results from the SYCLOPS Project.

3.1.5 C.M.5: Communication Material

The SYCLOPS logo and brand has been established across our social channels and website. Looking ahead to Q1 2024, we will be preparing a factsheet, brochure and promotional video hosted on our YouTube. The factsheets and brochures can be taken to events that we attend, while we will embed the video on our website to act as a high-level introduction to the project and raise awareness.

3.2 Communication KPIs

In D6.1, the following KPIs were identified to measure the success of each communication activity over the lifetime of the project,

Table 3: Communication KPIs

Activity	KPI Targets	KPI Progress at M12
C1 – Website	**5000** unique visitors, **1** min. average visit duration, **10000** page views	To be updated after Google Analytics refresh
C2 – Social Media	**500** accumulative followers, **250** interactions	**121, 166**
C3 – Blog	**50** posts, **100** interactions	**3, 167**

C4 – Media	**3** press releases	**1**
C5 – Materials	**5** project factsheets/brochures and banners, **9** eNewsletters, **2** videos, **5** blog posts in EC mechanism	**1 project brochure**

While it might appear that we are lagging in terms of the C1, C3 and C5 KPIs, we would like to mention that this is expected and that we have clear plans to rectify this. First, for the C1 KPI, for our website, we have implemented Google Analytics in January 2024 to have effective tracking of visitors as mentioned earlier. We will regularly highlight this website across our socials and use QR codes on brochures to generate traffic to the site. For C3 KPI, we have set ourselves an aggressive target of 50 blog posts. In the first year of the project, most of the technology is still under research and active development. Thus, the number of blog posts has been limited. As our research starts producing more outcome, we expect to publish many more blogs that are technical in the next two years. An important point we would like to highlight is that the high-quality nature of our blogs is visible in the number of interactions we have seen which have already surpassed our expected goal KPI. For C5, we are working on putting together a high-level overview video introducing SYCLOPS next year. We will also be making project factsheets/brochures about research results and software frameworks developed in SYCLOPS that will be taken to events attended by consortium members.

4 Conclusion

This document constitutes the M12 update of the Communication, Networking and Dissemination Plan and Activities and outlines activities conducted so far to ensure that the project's development and results are effectively communicated to all relevant stakeholders. The first year of the project marks the "Raise Awareness" phase of our three-phased dissemination and communication plan. Thus, our KPIs are broadly where we would expect them to be at this stage in the project. We will now move to the "Inform and Interact" phase of the project. We expect communication and dissemination activities to accelerate using all mechanisms listed in D6.1 and in this document.