



Project No. 101046294

Complex chemical reaction networks for breakthrough scalable reservoir computing

Deliverable 4.2

Dissemination and Exploitation including Communication Activities

WP4 – Communication, Dissemination and Exploitation

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Executive summary

Deliverable 4.2 presents the CORENET plan for dissemination and exploitation including communication activities and presents the strategy to maximise the impact of the project. In section 1 we outline the key objectives for dissemination, exploitation, and communication and in sections 2 and 3 we elaborate on the implementation framework and methods to achieve those objectives. These include the EC requirements, dissemination principles, identification of six target groups and five CORENET key messages, as well as the tools and channels for CORENET consortium to reach those stakeholders. Furthermore, section describes the specific communication and dissemination activities which will be implemented at various stages of the project, including the target groups each activity addresses, its impact and Key Performance Indicators (KPIs). Section 5 provides a summary of those activities, as well as the respective partner responsibilities. Exploitation strategy is covered in section 6 and aims to facilitate the future use of project results. Further details regarding the exploitation plan for the CORENET results will be further developed in the Exploitation Plan (D4.5). Finally, monitoring and evaluation of the planned activities are described in section 7.

CORENET plan for dissemination and exploitation and communication activities is subject to update throughout the project's duration.

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Partner short names

UAM	Universidad Autónoma de Madrid
SRU	Stichting Radboud Universiteit
CSIC	Agencia Estatal Consejo Superior de Investigaciones Científicas
SDU	Syddansk Universitet
IBM	IBM Research GmbH
accelCH	accelopment Schweiz AG

Abbreviations

AI	Artificial Intelligence
CA	Consortium Agreement
CC	Creative Commons
CRN	Complex Reaction Network
D	Deliverable
DMP	Data Management Plan
DoA	Description of Action
EC	European Commission
EIC	European Innovation Council
EP	Exploitation Plan
EU	European Union
GA	Grant Agreement
HEU	Horizon Europe
IP	Intellectual Property
KIP	Key Impact Pathways
KPI	Key Performance Indicator
M	Month
PCM	Public Communication Material
PDEC	Plan for Dissemination and Exploitation including Communication activities
RC	Reservoir Computing
RNN	Recurrent Neural Network
SERI	The State Secretariat for Education, Research and Innovation
WP	Work Package

1 Introduction

The recent technological revolution has brought changes with the high pace of development of robotics, microfluidics, integrated analytics, and AI-based integration of data, leading to the programmable synthesis of molecules using computer-controlled devices¹². This paradigm change opens new opportunities to push chemistry beyond the synthesis of molecules to the synthesis of complex reaction networks (CRNs), which in living organisms control all essential processes³.

CORENET, a 4-year project funded by Horizon Europe, with the aim to harness the potential of CRNs to create powerful chemical reservoir computing (RC) systems, started on April 2022. The long-term vision of the CORENET consortium is to use CRNs as general molecular information processing systems that can be used to sense and interact with living systems.

This deliverable - Plan for Dissemination and Exploitation including Communication activities (PDEC) - documents the CORENET ground plan for dissemination and exploitation of the project results and project-related communication activities. This document is based on the project's Description of Action (DoA) and best practices acquired by [accelopment Schweiz AG](#) (accelCH), as one of the leading companies in the EU successfully supporting international consortia in project management, [communication and dissemination](#). Activities described in the PDEC will maximise the project results and promote its visibility among the identified target groups. Besides, it will cover the exploitation part which is dedicated to the key exploitation paths of the CORENET project findings.. Coordinated by accelCH with input provided by project partners, the plan will ensure the quality and effectiveness of the proposed measures. The PDEC is designed to be flexible and easily maintained, with foreseen updates throughout the project's duration. Moreover, it will be expanded in the WP4 via D4.3 - Interim communication and dissemination activities report (M24), D4.5 - Exploitation Plan (EP) (M48) and D4.6 - Final communication and dissemination activities report (M48).



**Andrés de la
Escosura**

CORENET Coordinator

*Understanding
complex chemical
systems is a major
goal of current
science, which will
bring technological
advances in
chemistry and
materials science*

1.1 The purpose of the plan

The PDEC provides:

- Clear objectives and structured strategies of CORENET`s public communication, dissemination and exploitation activities,
- An outline of the key guidelines defined in the CORENET Grant Agreement (GA) regarding the communication, dissemination and exploitation activities,
- Analysis of the project stakeholders, including their needs, expectations and influence on the project,
- An overview of key messages conveyed to target audiences,
- A portfolio of activities planned within the communication and dissemination strategies to ensure the widest possible outreach and dissemination of project results to key target groups,
- Defined and planned CORENET exploitation measures for effective translation of research into innovation,
- Evaluation of the impact of all communication, dissemination and exploitation activities to ensure their quality and effectiveness.

1.1.1 Methodology

Communication, dissemination and exploitation are important elements that each Horizon Europe project must bring along when embarking on its Research and Innovation endeavour. PDEC is the starting point in this journey and should involve all project partners on the same level as the research does.

In this manner, CORENET consortium was jointly contributing to defining the path of the communication, dissemination and exploitation since the start of the proposal preparation phase. CORENET consortium highlighted the importance of using different approaches to maximise project activities and results outreach. In the DoA, the project partners outlined three key strategies as a foundation of the PDEC: (i) stakeholder-driven approach, (ii) data management, (iii) open science practices. The consortium has also identified stakeholders and discussed the primary areas of interest for the upcoming activities that will take place.. These actions helped to understand better the needs of both the project and the various stakeholder groups as well as served as a basis for the PDEC.

The following four-step approach was used:

- The analysis of the European Commission (EC) materials which highlight the core requirements under the new Horizon Europe framework, such as the Horizon Europe Model GA⁴, Horizon Europe factsheet on open science⁵, online manual on the EC funding & tender opportunities portal⁶, webinar presentations and recordings shared after the EC webinar session “Dissemination & Exploitation in Horizon Europe”⁷, CORENET Consortium Agreement (CA) and others.
- A broad communication and marketing literature search, which gave a better overview of the modern communication strategies, marketing theories, stakeholder management approaches, communication and dissemination tools and channels as well as their application in research projects. For instance, we considered the works of such communication and marketing scholars: P. Kotler⁸, S. Whitaker⁹, G. Armstrong and H. Meffert¹⁰.
- Application of the best practices acquired in the EU funded Research & Innovation projects, in which accelCH previously developed the communication, dissemination and exploitation

plans. The structure covers all the main aspects of the efficient communication, dissemination and exploitation process. Specifically, it outlines the key EC requirements which guide the project consortium throughout the project timeline, analysis of the target groups and messages delivered to them, multi-channel approach and tools, an activity plan and the evaluation stage for further improvements.

- Communication with project partners to ensure that all discussed points and ideas are met and included in the PDEC.

1.1.2 Communication, dissemination and exploitation objectives

Communication, dissemination and exploitation activities are integrated into the overall project implementation schedule and are crucial to spread findings and innovation to the scientific community, policymakers, media representatives, potential new collaborators and society as a whole. They contribute to increasing the impact of the project and are, thus, aligned with the project's objectives and coordinated by a dedicated Work Package (WP4).



Figure 1 Tasks highlighted in the WP4 in addition to PDEC

Understanding the concepts behind communication, dissemination and exploitation is the first step towards creating a successful and targeted action plan. Definitions highlighted in Figure 2 are described in the context of the CORENET project and in line with the EC definition⁶ of such terms and concepts.

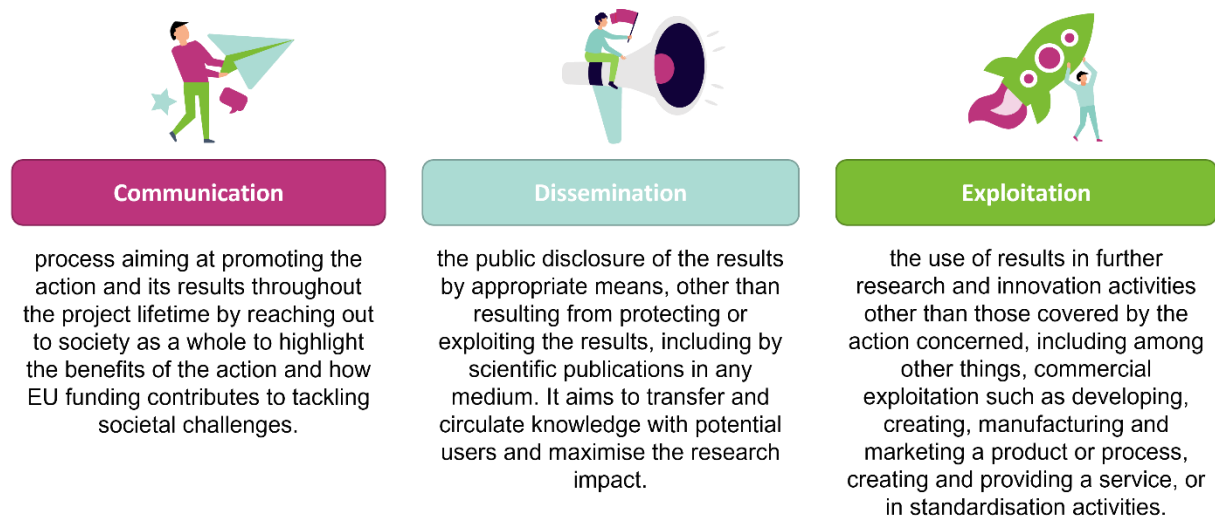


Figure 2 Definitions of communication, dissemination and exploitation

Communication, dissemination and exploitation activities take place at different stages of the project timeline. While communication starts at the very beginning of the project and promotes the project and its findings throughout its full lifespan, dissemination and exploitation occur when the first results are available, and they are not limited to the project duration. This means that some activities are more relevant at certain stages of the project and should be planned and implemented accordingly.

Hence, CORENET communication, dissemination and exploitation objectives are defined as following:

Communication objectives

- ✓ Increase the visibility of the CORENET project
- ✓ Reach various target groups and explain the rationale of the project
- ✓ Convey knowledge about systems chemistry, metabolomics, microfluidics, and AI
- ✓ Inform key actors about the project activities and results throughout the whole project timeline
- ✓ Generate interest towards the project objectives and main goal

Dissemination objectives

- ✓ Transfer knowledge and results to enable others to use and take up results
- ✓ Share knowledge on the scientific and technical basis of chemical RC in microfluidic and analytical devices
- ✓ Contribute to strengthening European R&I capacity
- ✓ Enhance partner's reputation and visibility at local, national and international levels
- ✓ Ensure collaboration for follow-up R&I initiatives

Exploitation objectives

- ✓ Contribute to the effective use of project results
- ✓ Turn project results into concrete value and impact on society
- ✓ Ensure that exploitation of the project results meets the open access principles

2 Implementation framework

2.1 EC requirements

As described above, communication, dissemination and exploitation activities cover different aspects and objectives in PDEC. Nevertheless, they all focus on circulating knowledge and innovation to create value within the target groups in the EU. Importantly, all activities are formed based on the legal requirements defined by the EC in the GA; some of them are described in the following section.

2.1.1 Funding acknowledgment

CORENET is a project funded under the European Innovation Council (EIC) and must comply with the rules defined in the GA, Article 18 “Specific rules for carrying out the Action”, section “**Specific rules for EIC actions**”, which states that communication and dissemination activities as well as infrastructure, equipment or major results funded under EIC actions must display the following special logo:



Figure 3 EIC logo

Article 17, section 17.3 “Quality of information — Disclaimer” says that any communication or dissemination activity related to the action must use factually accurate information. All project-related public information, be it printed or electronic (presentations, films, posters, flyers, articles, books and all other forms of publications) as well as content on websites should – as far as possible – include the CORENET logo as well as the EIC logo in a prominent and appropriate position and always acknowledge the funding:

“Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Innovation Council and SMEs Executive Agency (EISMEA). Neither the European Union nor the granting authority can be held responsible for them.”

Besides, associated partners from Switzerland must follow the Subsidy Contract signed with Swiss State Secretariat for Education, Research and Innovation (SERI). Based on section 4.8 Confidentiality and Disclosure, in addition to the EIC logo, **SERI logo and the following funding acknowledgment must be included in the CORENET research results or other scientific findings which involve Swiss partners:**

“Funded by the European Union and supported by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract numbers 22.00017 and 22.00034. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Innovation Council and SMEs Executive Agency (EISMEA). Neither the European Union nor the granting authority can be held responsible for them.”



Figure 4 SERI logo

SERI contract number for Swiss partners	
accelCH 22.00017	IBM 22.00034
Acknowledgement stated in the contract	
<i>This work was supported by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 22.00017</i>	<i>This work was supported by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 22.00034</i>

Importantly, before engaging in a communication or dissemination activity **expected to have a major media impact, the beneficiaries must inform the granting authority** (Article 17, section 17.1 “Communication — Dissemination — Promoting the action”).

To facilitate the process of following the requirements in the GA, accelCH prepared the communication guidelines for CORENET partners, including the correct format of the acknowledgement, which is available to all partners through [accelCLOUD](#).

2.1.2 Dissemination and exploitation rules

There are key EC requirements associated with dissemination and exploitation and communication within the EU projects under the Horizon Europe programme. These are based on the GA, in particular Articles 16 and 17 – “Intellectual Property Rights (IPR) – Background and Results – Access Rights and Rights of Use” and “Communication, Dissemination and Visibility”, respectively, as well as Annex 5 “Specific Rules”.

Dissemination rules

- ✓ The beneficiaries **must disseminate their results as soon as feasible**, in a publicly available format, subject to any restrictions due to the protection of intellectual property, security rules or legitimate interests.
- ✓ A beneficiary that intends to disseminate its results **must give at least 15 days advance notice** to the other beneficiaries (unless agreed otherwise), together with sufficient information on the results it will disseminate.
- ✓ Any **other beneficiary may object within (unless agreed otherwise) 15 days of receiving notification**, if it can show that

Exploitation rules

- ✓ Beneficiaries which have received funding under the grant must — **up to four years after the end of the action — use their best efforts to exploit their results** directly or to have them exploited indirectly by another entity, in particular through transfer or licensing.
- ✓ If, despite a beneficiary’s best efforts, **the results are not exploited within one year after the end of the action**, the beneficiaries must (unless otherwise agreed in writing with the granting authority) **use the Horizon Results Platform** to find interested parties to exploit the results.

its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the results may not be disseminated unless appropriate steps are taken to safeguard those interests.

- ✓ If results are incorporated in a standard, the beneficiaries must (unless otherwise agreed with the granting authority or unless it is impossible) ask the standardisation body to include the funding statement (see Article 17) in (information related to) the standard.

Annex 5 expands the information described in the Article 17 and states the following in terms of the PDEC:

- Unless excluded by the call conditions, the **beneficiaries must provide and regularly update** a plan for the exploitation and dissemination of results including communication activities.

2.1.3 Communication principles

Within the accelCLOUD folder Communication and Dissemination, an area for Public Communication Material (PCM) was created to serve as the repository for various public usable materials, such as photos, diagrams, graphics, visuals and video materials.

All the materials in the repository should meet the following criteria:

- Released by the author(s)
- Approved by partners according to the approval process outlined below
- Provide Creative Commons (CC) license

No material should be uploaded into the PCM if the above-mentioned points are not fulfilled.

Approval process

To ensure that information within public material is correct and can be made public, an approval process for documents is essential. Different partners will be involved in the approval process depending on the input and feedback needed. Members who should always be involved include:

Coordinator, Andrés de la Escosura

Administrative project manager, Andreia Cruz

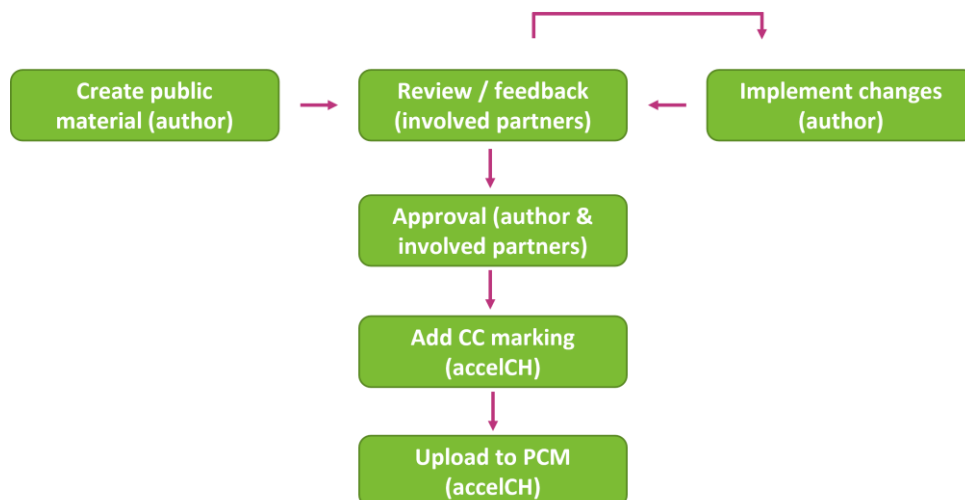


Figure 5 Approval process

Copyright

In accordance with the CORENET Grant Agreement Article 16, Section 16.2 ‘Ownership of results’, the granting authority does not obtain ownership of the results produced under the action. The copyright of material created for CORENET belongs to the beneficiary who created the material.

Consent to use as-is

By uploading any material into the PCM, the author states that the material is intended for public communication activities and can be used by all other consortium members as long as the content is not changed without the prior consent of the respective author.

Consent to modify content

By default, the author does not authorise modifications to his/her material. However, members may change, modify and adapt certain materials within the PCM. For example, to make adaptations to a poster to fit a user group’s interest.

Consent can be given within the PCM in the comments section of each document:

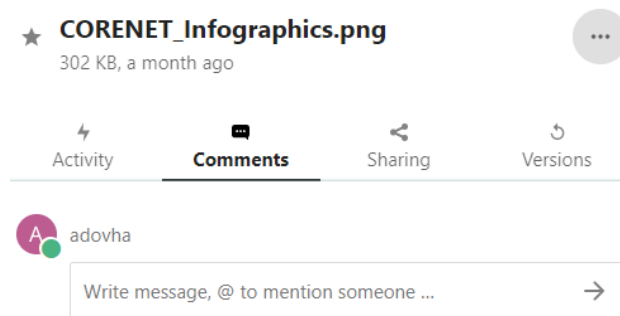





Figure 6 Section with the comments

If no consent information is given in the description, it needs to be assumed that the author does not want changes without their prior consent.

Protection rules – Creative Commons

The CORENET consortium allows the usage of material under the [Creative Commons license](#) BY-NC-ND 4.0¹¹. CC BY-NC-ND includes the following elements:

- BY  – Credit must be given to the creator
- NC  – Only non-commercial uses of the work are permitted
- ND  – No derivatives or adaptations of the work are permitted

A CC license needs to be added to all images, printed or web-based publications before uploading to the PCM.

2.2 Dissemination principles

The aim of the dissemination activities is to promote research results as widely as possible to the people that can make the best use of them. accelCH will provide the list of resources and opportunities for project partners to disseminate their results and ensure open access to scientific publications, according to the EC requirements.

2.2.1 Open science strategy

According to the [EU's Open Science policy](#)¹², open science practices are implemented as an integral part of the proposed methodology. As defined, "open science is an approach based on open cooperative work and systematic sharing of knowledge and tools as early and widely as possible in the process." Thus, CORENET consortium is committed to share knowledge and data as early as possible in the research process with all relevant actors to diffuse the latest knowledge and maximise the impact of the project. Our practices will include:

- a. **Open data sharing:** supporting the [8 ambitions of the EU's open science policy](#) and align with the EC data management rules, all efforts will be made to ensure open sharing of research data, following provisions set in the Data Management Plan (DMP).
- b. **Open-source and open methodology:** Most of Watson ML Tools used at IBM are based on open-source and combined with IBM software for code-based and visual data science (e.g., PyTorch, TensorFlow and scikit-learn). IBM puts tremendous efforts into explainable AI and developed processes and methods that allow human users to comprehend and trust the results and output created by AI algorithms, including its expected impact and potential biases. This is, for instance, such an add-on to open-source ML algorithms. The tools developed at SDU will be integrated into their own open-source generative chemistry framework, all sources will be released on GitHub and a live server will be provided to the community for easy testing. Open-source libraries for state-of-the-art graph canonicalisation are already available in-house, as well as specialised open-source libraries like xtb for semiempirical quantum mechanical approaches or DeepChem (an open-source toolchain for the use of deep-learning in materials science, quantum chemistry, and biology), as well as highly efficient and flexible core libraries as provided by boost or mkl. Thus, all tools developed in WP3 will build on existing open-source software and will be made freely available via GitHub.
- c. **Open Access to publications:** in line with the Horizon Europe guidelines, all efforts will be made to ensure the sharing of results via open access peer-reviewed publications, preferentially following the gold open access route. All publications will be deposited in a trusted repository, such as [Zenodo](#) and other approved repositories based on the Open Research Europe article¹³, and will be shared via the project website and through the partners' networks.

A specific activity (D4.4 Video series "60 seconds CORENET") is dedicated to creating publicly available videos of each publication generated by the project.

2.2.2 Fair principles

[Open Research Europe](#) endorses the FAIR Data Principles¹⁴, alongside an Open Data policy¹⁵, as a framework to promote the broadest reuse of research data, following the respective Horizon Europe policy.

According to the FAIR principles, data must be **Findable**, which specifies that data must be hosted by a stable and recognised open repository and assigned a globally unique persistent identifier, such as DOI; **Accessible** applies to data defined by the presence of a user license, such as Creative Commons Attribution International Public License ([CC BY](#)) or Creative Commons Public Domain Dedication

([CC0 license](#)); **Interoperable** – allow data exchange and reuse between researchers and institutions by using standardised metadata and methodologies; and **Reusable** – should be clear to humans and machines alike as well as come with a clear and accessible licence to regulate reuse¹⁶.

FAIR data principles will be respected by all consortium members.

2.2.3 Dissemination repositories

By leveraging FAIR data, CORENET partners will benefit all the stakeholders, increase the visibility of the project and the number of citations, as well as boost collaboration between different research groups and universities. The list of the approved and certified repositories from the Open Data policy¹² article was selected and evaluated with partners to meet the consortium needs and the GA requirements:

Table 1 Repositories

Repository name	Data type	Used by
General data, research materials and supporting documents		
Zenodo	Any type	All partners
Biblios-e Archivo	Scientific and academic materials from the university	UAM
Software & source code		
GitHub	Latest source code	SRU
Zenodo	Archived source code	All partners
Chemical and macromolecular structures		
MetaboLights	Experimental metabolomics data	CSIC
DigitalCSIC	Any type	CSIC





Data Management Plan (DMP) will include further descriptions of datasets and standards applied to data and metadata, as well as details of planned curation and preservation will be presented in the DMP (D5.2, M6).



2.3 Stakeholders

Stakeholders are individuals or groups who have an interest in the research project, or who affect or are affected by its outcomes¹⁷. Engagement with stakeholders is essential hence it raises not only the awareness of the project activities but also brings knowledge and expertise from different perspectives to the research.

2.3.1 Stakeholders' identification

CORENET consortium defined a stakeholder-driven approach as one of the core strategies in the communication, dissemination and exploitation activities. Thus, a stakeholder analysis is performed to determine each stakeholder's interest, influence, and participation in a project. We have identified and mapped six key stakeholder's groups based on their field of expertise and relationship with the CORENET project. Table 2 Stakeholders

Group	Key actors	Needs and Expectations
 <p>Scientific community</p>	Universities, research institutes and organisations	Scientific collaboration, new knowledge, and innovations
	Researchers with an expertise in systems chemistry, systems/synthetic biology, and computational science	Achieve substantial scientific goals, make the most use of their knowledge and expertise, expand their research community and collaborate towards common goal
	EU R&I initiatives	Establish European wide scientific network, further exploit project findings
 <p>Industry</p>	Representatives of the material science, nanotechnology companies, analytical instrument providers	Potential business opportunities, innovations brought to the market
	AI/Machine Learning and data science providers	Information about project results, knowledge and further exploitation opportunities in their focus area of interest
 <p>Media representatives</p>	Individuals from radio or television station, newspaper, newsmagazine, periodical, or news agency	Information about the projects, updates about activities, events and the role of the partners. News which can catch the attention of wide audience
	Online magazines and journals	Content for the magazines and journals, publications, project activities and achievements
 <p>Students</p>	Secondary school students and undergraduates	Knowledge about R&I projects, general overview of the activities and tasks researchers have
	PhD students and Young researchers	Information about the research activities, opportunities to contribute to research and collaborate with experts

<p>Policymakers</p> 	<p>Local municipalities and on the European level</p>	<p>Recommendations, guidelines, potential political and societal exploitation opportunities</p>
<p>General public</p> 	<p>Citizens in Europe, such as families, employers and working population</p>	<p>Information about R&I projects, project activities and the impact on societal level</p>

More than just identifying stakeholders in the project, it is essential to manage them. Hence, different amounts of attention and frequency of communication, depending on their levels of interest and power to influence the project should be considered and analysed. To do so, we created the stakeholder map proposed in Figure 7 to categorise CORENET stakeholders in terms of their interest and influence in the project. Stakeholder mapping allows us to efficiently engage with stakeholders over the course of the project by meeting their specific needs.

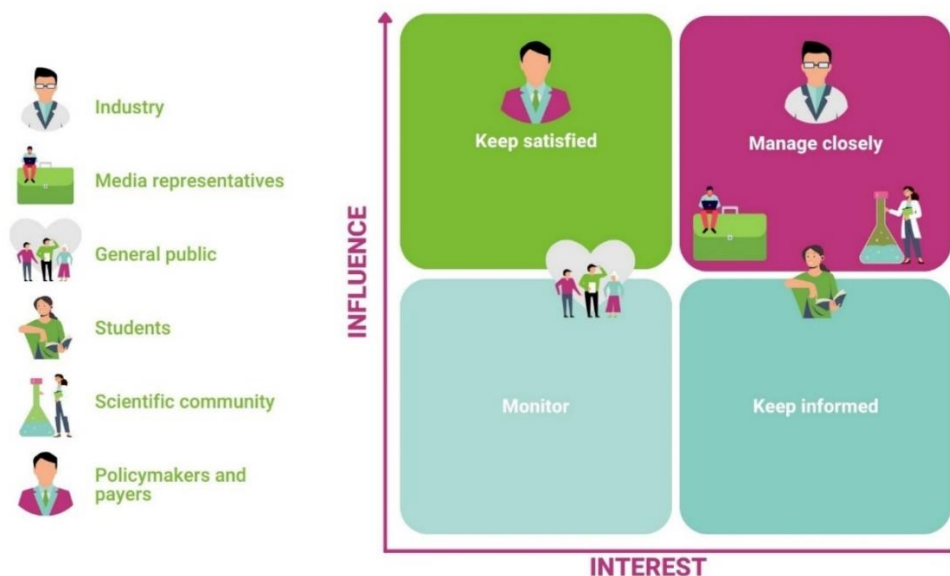


Figure 7 CORENET stakeholders interest/influence matrix

2.3.2 Terminology and messages

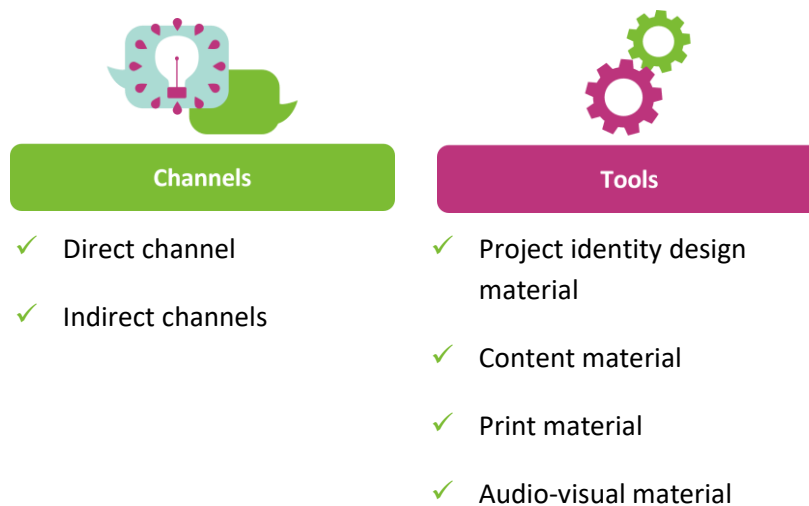
Providing clear and consistent communication while working on a complex project with varied stakeholders is crucial¹⁸. Key messages of CORENET are the main points to achieving common understanding and clarity among different target groups. Considering the various interests, stakeholders have towards the project, we defined the common language and messages that are tailored to the needs and expectations of the CORENET main actors. All communication and

dissemination activities within the CORENET project, will be developed around these *five* key messages:

- The main goal of CORENET is to harness the potential of CRNs to create powerful chemical RC systems.
- RC based on reaction networks can be used as an enabling technology to study complex molecular systems.
- The science-to-technology breakthrough of CORENET is the substitution of artificial RNNs by CRNs as the material dynamical reservoir in RC.
- CORENET brings together a highly interdisciplinary team and world-leading expertise in systems chemistry, reaction networks, microfluidics, analytics, and AI.
- CORENET is a Horizon Europe research and innovation action funded by the European Union.

3 Methods

The next step in the PDEC is to identify the methods, which refer to tools and channels used as a part of the communication, dissemination, and exploitation strategies to get a message across. To enhance the project’s publicity, CORENET’s approach includes the visual identity, communication tools for both direct and indirect communication channels as well as content, print and audio-visual materials prepared and distributed to all project partners.



3.1 Multi-channel approach

There are many ways to establish the communication with audience. Communication channels enhance the experience between the defined stakeholder groups and the project, increase its visibility, generate interest, and boost cooperation. They create a so-called bridge between the project and the target audience.

CORENET consortium will employ different communication channels depending on the message sent and its purpose.

Table 3 CORENET communication channels

Channel	Medium	Use
Websites	<ul style="list-style-type: none"> • Corenet-horizon.eu* 	<ul style="list-style-type: none"> • Publish news/articles, provide key information about the project, disseminate project results
	<ul style="list-style-type: none"> • Cordis 	<ul style="list-style-type: none"> • Disseminate project results, reach an audience outside of the CORENET communication channels
	<ul style="list-style-type: none"> • IBM, UAM, SDU, CSIC 	<ul style="list-style-type: none"> • Increase the outreach, publish press releases and key information about the project

<p>Social Media</p>	<ul style="list-style-type: none"> • Twitter* • YouTube* • @Huckgroup, @UAM_Madrid, @SyddanskUni, @CSIC, @IBMResearch, @Radboud_Uni • @EUeic, @HorizonEU 	<ul style="list-style-type: none"> • The CORENET Twitter account is used to inform the general public and researchers about project-related information. Tweets are also used to additionally attract the attention of younger users, the general public and media. Besides, we will retweet the relevant information and events from other accounts • The YouTube increases the visibility of the research teams and the scientific results • Project partners Twitter accounts are tagged in the posts to increase the outreach and visibility of the project • Share information about the activities implemented by project partners institutions
<p>Conferences and exhibitions</p>	<ul style="list-style-type: none"> • Table 5 List of conferences 	<ul style="list-style-type: none"> • Information relevant for the CORENET partners and target groups is retweeted and shared from European Innovation Council and Horizon Europe Twitter accounts • Participation at external events such as conferences, exhibitions, symposiums etc. will be used as a platform to facilitate knowledge sharing and personal interaction with the target groups, especially the scientific community to benefit from the knowledge of others and to disseminate on behalf of the CORENET project
<p>Internal meetings*</p>	<ul style="list-style-type: none"> • Consortium meetings (1-2 meetings per year), WP leader meetings, teleconference communication 	<ul style="list-style-type: none"> • Internal communication is central to ensure meaningful teamwork and exchange of the information between all project partners. In addition to the meetings, other internal communication channels are applied, such as emails, documents, calls, internal presentations, webinars, etc
<p>Presentations and webinars*</p>	<ul style="list-style-type: none"> • Night of Researchers, • SRU's Bachelor Open Days, • ThinkLab at IBM, • TecDay • IT-camp for girls 	<ul style="list-style-type: none"> • Events planned include Open Science and Innovation Days (Section 4.2.5), webinar "CORENET hour" (Section 4.1.5), Girls growing up in science (Section 4.2.6). The focus of the presentations and webinars would be to spread knowledge to young generations but also to engage with various stakeholder groups,

- [TecDays](#)
 - [The Late Night Conference](#)
 - Section 4.2.1
 - Scientific knowledge and research findings will be distributed through the scientific peer-reviewed journals, focused on scientific community, students, and policymakers
 - Section 4.2.2
 - Share scientific findings in an interesting and understandable way with general public and students
- Scientific journals
- Popular science contribution

*CORENET project channels

3.2 Project-specific tools

The consortium will make use of various tools, including articles in scientific journals, news items, presentations, and press releases. These are considered as the more traditional and commonly used tools to maximise the project’s publicity, in particular within the research community. To generate a greater impact on different audiences, the CORENET consortium will produce a variety of different materials to influence its target groups, some examples are:

Table 4 CORENET communication tools

Project identity	Print material	Content material	Audio-visual material
<ul style="list-style-type: none"> • Logo • Templates 	<ul style="list-style-type: none"> • Brochures • Poster 	<ul style="list-style-type: none"> • Website content • Social media • Press releases • News items/articles 	<ul style="list-style-type: none"> • Videos • Infographics • Factsheet
See Section 3.2	See Section 4.1.4	See Section 4.1.3	See Section 4.1.5

The communication and dissemination tools follow the CORENET DoA and the needs and expectations expressed by the consortium and target audiences.

Most tools are suitable for all target groups, however, the decision of choosing one instead of the other depends on the conveyed message, stakeholder group and the desired outcome of the activity. For example, the video series “60 seconds CORENET” (D4.4) which is targeted more at the scientific community, policymakers and industry will use a different language and focus as video interviews created for the general public. Nevertheless, producing a video is a valid tool for both groups.

In addition, different communication and dissemination materials are developed following the visual guidelines set by the project’s corporate identity outlined below. All materials will be created in English, the official working language of the project. However, to address specific partners’ needs, materials could be adapted and translated to the local language. accelCH supports CORENET consortium at all the stages of the project and ensures complete understanding and the highest possible impact of the created materials.

As the CORENET project progresses, the focus of the communication activities will change from general project information, especially targeting the scientific audience, towards wider dissemination and material facilitating potential future exploitation, especially targeting the CORENET user groups.

Project identity

Coherent and consistent communication is essential for the effective dissemination and public engagement activities. All partners are expected to follow the design guidelines, which include the CORENET logo, visual identity colours, typography, templates, and the above-mentioned funding acknowledgement.

CORENET Logo



Figure 8 CORENET logo in colour (on the left) and in the grey scale (on the right)

Visual identity colours

Colours are derived from the CORENET logo:



RGB R124 G188 B52

HEX #7CBC34

CMYK 34,0,72,26



RGB R172 G219 B 212

HEX #ACDBD4

CMYK 21,0,3,14

Additional colours for use:



HEX #BC347C

RGB R188 G52 B124

CMYK 0,72,34,26

HEX #767171



RGB R118 G113 B113

CMYK 0,4,4,54



HEX #95D053

RGB R149 G208 B83

CMYK 28,0,60,18

HEX #87CCC0



RGB R135 G204 B192

CMYK 34,0,6,20

Typography

For all communication material and documents, the font “Calibri” or “Arial” will be used. The font sizes are predetermined as follows:

In Word documents:	In PowerPoint documents:
<ul style="list-style-type: none"> Document header (cover): 24 pt Sub header (cover): 18 pt General header: 16 pt Sub header: 14 pt Text: 11 pt Footer: 9 pt 	<ul style="list-style-type: none"> Presentation header (cover): 40 pt Sub header (cover): 32 pt General header: 20 pt, bold Text: 16 pt

For communication materials in print and digital the “Source Sans Pro” font should be used as a primary font for headings and text. As a secondary font, only for “body text” “Monsterrat” font can be used.

Templates

Communication and dissemination materials for CORENET are created by accelCH and reviewed by all project partners to support the official communication of the project and keep it in a consistent and recognisable way. Based on the project's visual identity, some key templates for the most common types of documents were developed:

- Deliverable template
- Meeting minutes template
- Meeting agenda template
- PowerPoint presentation template

As mentioned before, accelCLOUD serves as the main platform to store and share documentation within the project.. If there is a need for further templates, accelCH will provide solutions suitable for the CORENET consortium.




4 Activities and implementation

4.1 Communication

To support the project communication and address the needs and expectations of all the stakeholder groups, various activities will take place throughout the project duration. The activities described below address the main aims of communication within the context of EU funded projects, which are: a) to reach out to society as a whole and in particular to some specific audiences; and b) to demonstrate how EU funding contributes to tackling societal challenges.

4.1.1 Project website

The CORENET website (<https://corenet-horizon.eu/>) was launched on 12th May 2022 and is a key communication channel to raise awareness of the project's achievements. It works as the central online portal to disseminate the project results to the scientific community and communicate outcomes to the general public and wider non-expert audiences.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ General public ✓ Scientific community ✓ Industry ✓ Students ✓ Media representatives ✓ Policymakers 	<ul style="list-style-type: none"> ✓ Increase awareness of the CORENET project and its research areas ✓ Highlight the work of the consortium partners ✓ Document the progress of the project ✓ Recruit new researchers in various areas through the open positions' page ✓ Support the visual identity of the project ✓ Increase the project's impact and support the open science policy by making public reports and publications accessible 	<ul style="list-style-type: none"> ✓ approx. 20 new (unique) users per month

As the hub for CORENET, the project website provides information for all stakeholder groups such as: the work plan of the project, open research positions key achievements, events, etc. Besides, on M5 a new “Media” page was added to the website. The page contains various communication tools, such as infographic, press release, factsheet and videos to spread information about the CORENET project. Additional information on the project website is available in Deliverable 4.1 “CORENET website”.

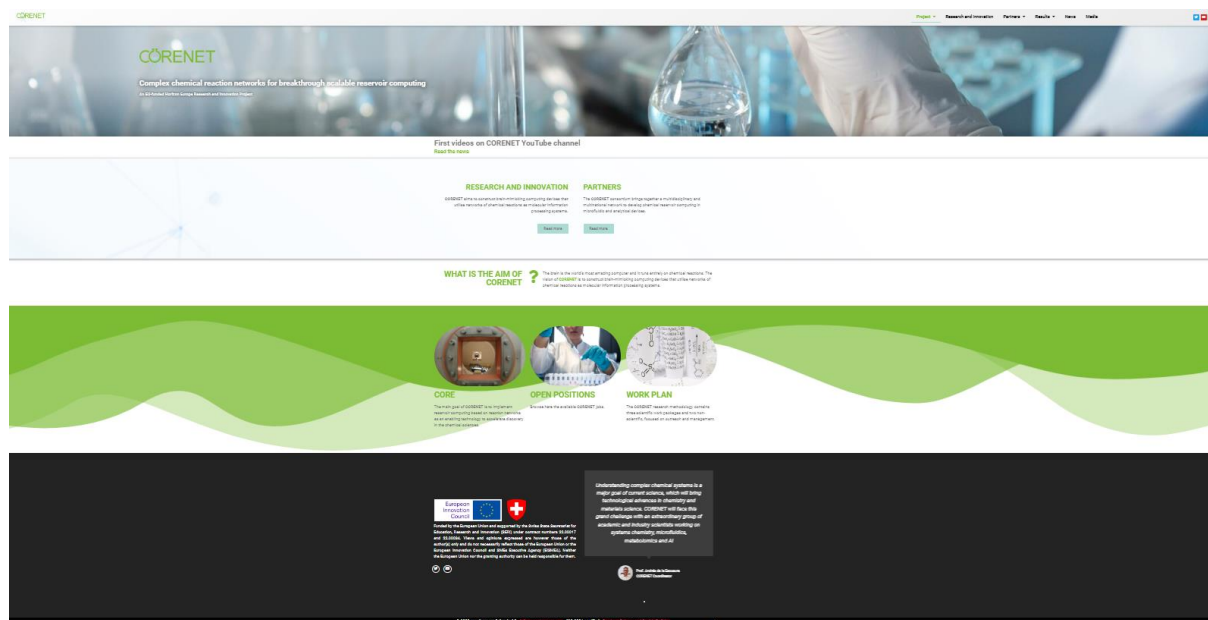


Figure 9 [Homepage](#) view of the website

The review of the project website performance was made on 12th September 2022, 4 months since the website launch. Within that time, CORENET website was visited by 108 “New users” (visitors who have never been to the website before). 45 users were listed into the “Returning users” category (visitors who initiated another session on the website within the selected period). The most viewed page among the users is the [Homepage](#) of the CORENET project, which received more than 250 views, including repeated views of a page or screen.

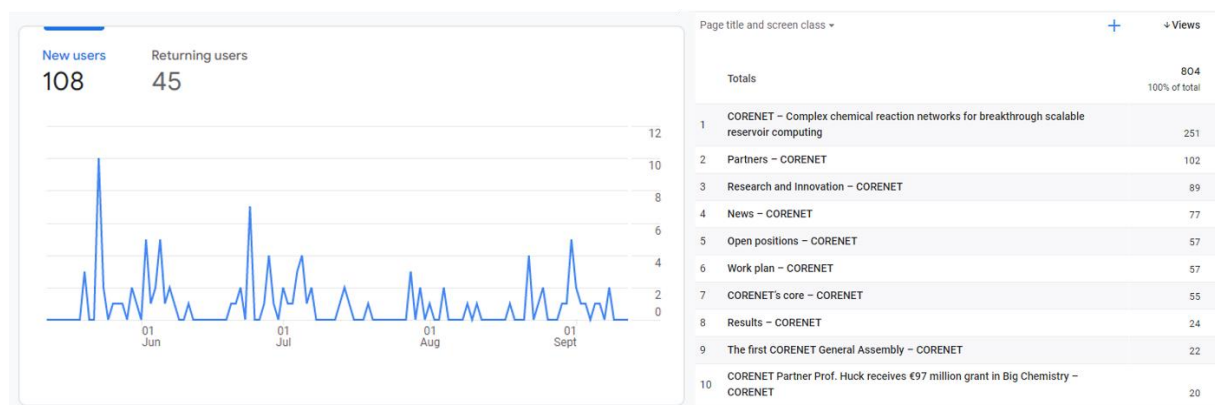


Figure 10 Insights from Google analytics

4.1.2 Social media

Via social media channels, we aim to create “CORENET community” to enhance the visibility and the achieved results in the project:

Twitter

Twitter is used to share information about recent updates and news as well as establish meaningful connections with target audiences. It is especially useful for reaching out to the general public, policymakers, the scientific community, civil society, media representatives and young researchers.

Partners are encouraged to use Twitter handler @CORENET_EU and hashtags, such as #CORENET and #HorizonEU to increase the outreach of the project and raise awareness of how EU funding contributes to respond to current challenges and boosts innovations. For specific social media campaigns, hashtags would be created and shared among the partners.

To smaximise the impact of the project on Twitter, images are created and added to posts to make them more appealing and informative.



Figure 11 Screenshots of Twitter account

YouTube

YouTube promotes educational content and serve as a source to store all the webinars (e.g., webinar “CORENET hour”) and interviews created with project partners. D4.4 - Video series “60 seconds CORENET” will be created and published on the YouTube channel of the CORENET project.



Target audience



Key objectives



KPI

Twitter

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> ✓ General public ✓ Scientific community ✓ Industry ✓ Students ✓ Media representatives ✓ Policymakers | <ul style="list-style-type: none"> ✓ Engage with stakeholders on the daily basis ✓ Promote the project and the main updates on the events, research activities and results ✓ Increase the outreach of the CORENET website ✓ Broaden the reach of communication activities ✓ Support visual identity of the project | <ul style="list-style-type: none"> ✓ min. 20 shares/comments for posts per month |
|---|---|---|

YouTube

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> ✓ General public ✓ Scientific community ✓ Students | <ul style="list-style-type: none"> ✓ Knowledge sharing ✓ Promotion of interviews with project partners ✓ Enhance collaboration through creation and sharing of the educational video about CORENET project, D4.4 | <ul style="list-style-type: none"> ✓ min. 20 views per video |
|--|---|---|




4.1.3 Content materials

Content materials are part of the content marketing which is focused on creating, publishing, and distributing content for a target audience online¹⁹. To transmit the message as wide as possible, various content materials such as press releases, new items/articles, infographics and others are developed throughout the project:

Press releases

The first press release was published online on M5 by accelCH after the revision of CORENET partners. The press release was prepared in English and conveyed the key information about the CORENET project, such as the duration of the project, funding, consortium members, key challenges and the long-term vision of the project. It can be used directly by partners on their websites or serve as a basis for online articles and journals. The first press release can be reviewed on [CORENET Media page](#), where all other communication materials are displayed.

To strengthen the exploitation activities, a second press release will be created towards the end of the project. The focus will be made on the key CORENET achievements made during the project duration.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ General public ✓ Scientific community ✓ Students ✓ Media representatives ✓ Policymakers ✓ Industry 	<ul style="list-style-type: none"> ✓ Deploy vital information to key stakeholders ✓ Knowledge sharing ✓ Increase engagement with the audience 	<ul style="list-style-type: none"> ✓ 5 features per CORENET press release ✓ 2 press releases on CORENET website published

News items/articles

Short news articles on the events, project activities and findings are published on the project website in its [news section](#).


 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ General public ✓ Scientific community ✓ Students ✓ Media representatives 	<ul style="list-style-type: none"> ✓ Convey information about key events happening ✓ Contribute to dissemination and exploitation activities ✓ Knowledge sharing 	<ul style="list-style-type: none"> ✓ min. 1 article per month

4.1.4 Print materials

Throughout the project duration, accelCH will create various materials based on the project’s visual identity. In such a way, partners can distribute these in print and online. A poster and brochure could be used during the consortium meetings and external events by partners to better convey the information about the project and boost its visibility. Consequently, the consortium will engage with various target groups and bring their attention to other CORENET communication and dissemination channels, such as website and social media platforms.

Poster

Posters may be presented during the conferences and other external events. The poster will summarise information about CORENET research concisely and attractively to generate interest in the project and discussion.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ General public ✓ Scientific community ✓ Students ✓ Media representatives ✓ Policymakers 	<ul style="list-style-type: none"> ✓ Knowledge sharing in an explicit way ✓ Engage with audience during offline events ✓ Reach audience outside of the online channels 	<ul style="list-style-type: none"> ✓ 1 poster created ✓ Presented during min. 3 events

Brochure

On M6 accelCH created a multi-page brochure to offer the partners a tool they can distribute manually during events, conferences or meetings. Besides, partners will make use of it during future dissemination events, such as “Girls growing up in science” and “Open science and Innovation Days”. PhD students involved in the CORENET project will be able to share the information with their peers.

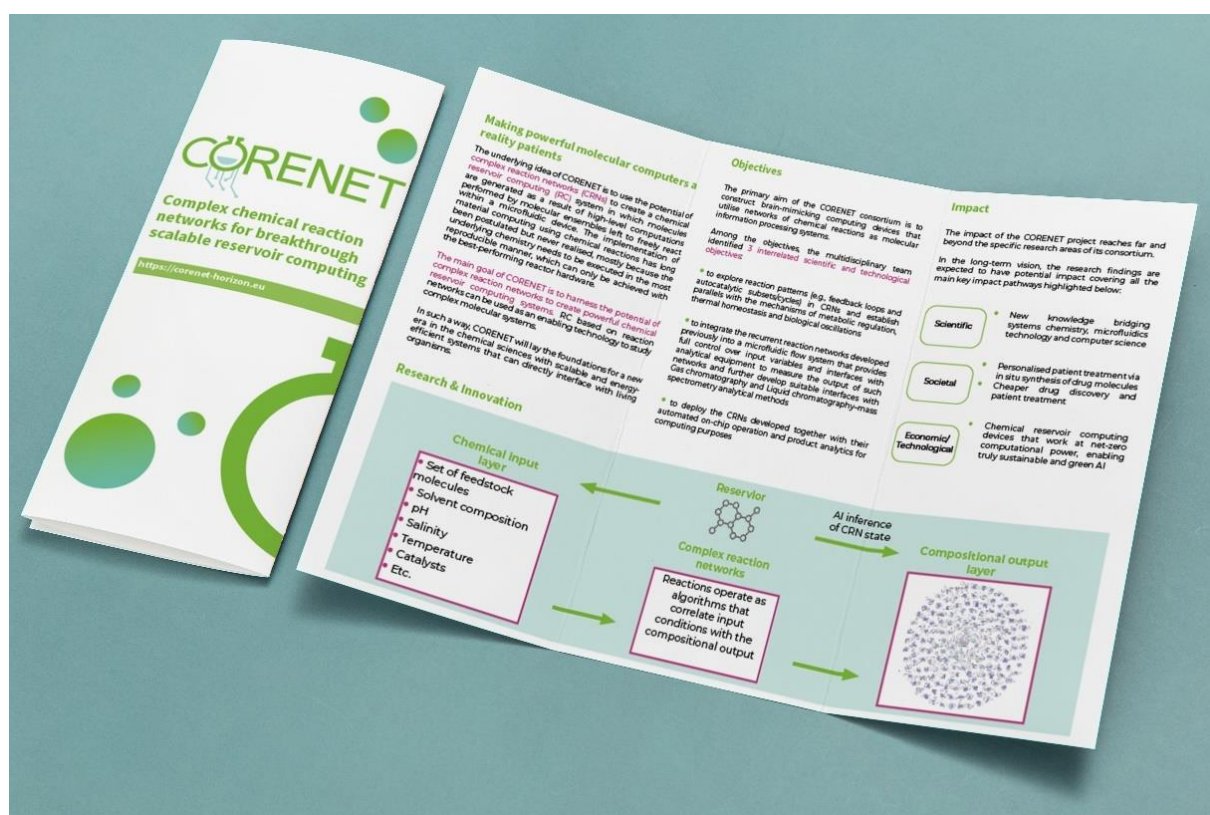


Figure 12 CORENET brochure

4.1.5 Audio-visual material

Videos presenting partners

During in-person meetings, series of videos with project partners will be recorded to feature researchers involved in the project and will be made available on the [CORENET YouTube channel](#), [Media page](#) and [Twitter account](#). Two short videos of [Prof. Andrés de la Escosura](#) and [Prof. Daniel Merkle](#) were recorded during the General Assembly in May 2022 and are now available online.






Figure 13 *News piece* announcing the first videos on CORENET YouTube channel

Video series “60 seconds CORENET” (D4.4)

In each video of the “60 seconds CORENET” (D4.4) video series, researchers involved in the CORENET project will talk about their achievements and present their publications in journals. The video series will be shared on the CORENET YouTube channel, website and social media.

IBM lab video series

IBM will prepare the a special video series, which will show their work in the labs and give a brief overview of the tasks in which they are involved. It will introduce the general public, students and researchers from other fields to the work of CORENET, the equipment used and the way how different tasks are approached by the research group.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ Scientific community ✓ Students ✓ General ✓ Policymakers ✓ Media 	<ul style="list-style-type: none"> ✓ Broaden the reach of communication activities ✓ Provide the opportunity for early-career researchers in the consortium to gain visibility ✓ Increase the dissemination of results 	<ul style="list-style-type: none"> ✓ min. 50 views/video ✓ created min. 15 videos

Infographic

An infographic was created to highlight key facts about the CORENET project, such as the aim, current problem and the long-term vision of the project, and project partners. The focus was made on using graphical and visual appeal. The infographic is available for download on the [project website](#).




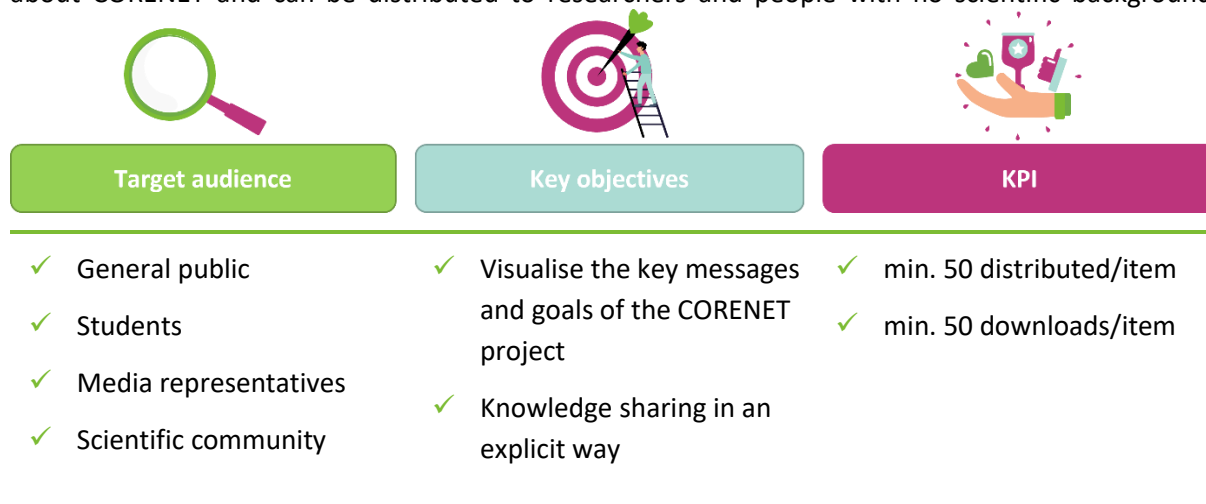
 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ General public ✓ Students ✓ Media representatives ✓ Scientific community 	<ul style="list-style-type: none"> ✓ Visualise the key messages and goals of the CORENET project ✓ Knowledge sharing in an explicit way 	<ul style="list-style-type: none"> ✓ min. 50 distributed/item ✓ min. 50 downloads/item



Figure 14 CORENET infographic

Factsheet

A multi-page factsheet is a tool to communicate about the project explicitly. It contains key information about CORENET and can be distributed to researchers and people with no scientific background.



CORENET
Project factsheet

CORENET
Complex chemical reaction networks for breakthrough scalable reservoir computing

Background

The underlying idea of CORENET is to harness the potential of complex reaction networks (CRNs) to create a chemical reservoir computing system in which molecules are generated as a result of high-level computations performed by molecular ensembles left to freely react within a microfluidic device. The implementation of material computing using chemical reactions has long been postulated but never realised, mostly because the underlying chemistry needs to be executed in the most reproducible manner, which can only be achieved with the best-performing reactor hardware.

The main goal of CORENET is to harness the potential of complex reaction networks to create powerful chemical reservoir computing systems. This molecule-based computing power enables truly sustainable AI, which speaks the language of living systems and can constantly process information about their molecular environment.

In such a way, CORENET will lay the foundations for a new era in the chemical sciences with scalable and energy-efficient systems that can directly interface with living organisms.

Objectives

The primary aim of the CORENET consortium is to construct brain-mimicking computing devices that utilise networks of chemical reactions as molecular information processing systems.

Among the objectives, the multidisciplinary team identified 3 interrelated scientific and technological objectives:

- to explore reaction patterns (e.g. feedback loops and autocatalytic subsets/cycles) in complex reaction networks and establish parallels with the mechanisms of metabolic regulation, thermal homeostasis and biological oscillations
- to integrate the recurrent reaction networks developed previously into a microfluidic flow system that provides full control over input variables and interfaces with analytical equipment to measure the output of such networks and further develop suitable interfaces with Gas chromatography and Liquid chromatography-mass spectrometry analytical methods
- to deploy the CRNs developed together with their automated on-chip operation and product analytics for computing purposes.

Project duration
01.04.2022 – 31.03.2026

Project budget
3 million euro

Project website
www.corenet-horizon.eu

Project Coordinator
Prof. Andrés de la Escosura, Universidad Autónoma de Madrid (UAM), Spain

Project Participants

- Universidad Autónoma de Madrid (UAM)
- Radboud Universiteit (SRU)
- Consejo Superior de Investigaciones Científicas (CSIC)
- Syddansk Universitet (SDU)
- IBM Research Europe – Zurich (IBM)
- accelpment Schweiz AG (accelCH)

Activities

The activities in the CORENET project are divided into specific work packages (WPs). First three WPs focus on the scientific part of the project and contain the following:

- WP1 lays the foundation of the CRNs
- WP2 enables the on-chip integration of the CRNs
- Their initial results will be required for WP3 to develop an RC system.

The two non-scientific WPs, WP4 and WP5, will run in parallel from the whole project's duration and

Impact

The impact of the CORENET project reaches far and beyond the specific research areas of its consortium. In the long-term vision, the research findings are expected to have potential impact covering all the main key impact pathways highlighted by the EC, including scientific, societal, as well as economic/technological impact.

- Scientific impact**
 - New knowledge bridging systems chemistry, microfluidics technology and computer science
- Societal impact**
 - Personalised patient treatment via in situ synthesis of drug molecules
 - Cheaper drug discovery and patient treatment
- Economic/Technological impact**
 - Chemical reservoir computing devices that work at net-zero computational power, enabling truly sustainable and green AI

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Innovation Council and the Executive Agency (EACEA). Neither the European Union nor the granting authority can be held responsible for them.

Figure 15 CORENET factsheet

4.2 Dissemination

4.2.1 Publish results in journals

All academic project partners will disseminate their specific scientific findings through publications in peer-reviewed journals depending on the domain of their expertise. The majority of these publications will be in English language in order to ensure broad usability dissemination potential.

A minimum of 15 publications will be generated from CORENET in international (peer-reviewed) journals. These publications will be prepared by the WPs leaders and partners. All peer-reviewed publications will be Open Access in line with the Horizon Europe rules.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ Scientific community ✓ Industry ✓ Students 	<ul style="list-style-type: none"> ✓ New knowledge ✓ Advancement in science ✓ Use of the project's results, recommendations and guidelines 	<ul style="list-style-type: none"> ✓ min. 15 open access publications

The list of the initially identified journals in DoA has been expanded. The final list of targeted scientific journals includes the following:

- [Chem](#)
- [J. Am. Chem. Soc.](#)
- [Anal. Chem.](#)
- [ACIE](#)
- [Biomaterials](#)
- [Trends in Cognitive Sciences](#)
- [Theoretical Computer Science](#)
- [Chemical Science](#)
- [Chemical Communications](#)
- [Science](#)
- [Nature](#)
- [Nature Materials](#)
- [Nature Chemistry](#)
- [Nature Nanotechnology](#)
- [Nature Communications](#)

4.2.2 Popular science contributions

By definition, popular science is an interpretation of science intended for a general audience²⁰. While scientific journals focus on recent scientific findings, popular science is broader. CORENET consortium is intended to publish stories in popular science journals and outlets to share the research findings and knowledge in a way that is interesting and understandable to people who are not experts.

Project partners consider the following journals and outlets for popular scientific contributions:

- [Horizon Magazine](#)
- [The Conversation](#)
- [Wired](#)
- [Nanowerk](#)
- [IEEE Spectrum](#)
- [EE Times](#)
- [BBC](#)
- [CNET](#)

Besides, partners from UAM expressed the need to target not only international journals but also the locals one, such as [Anales de Química](#).



4.2.3 Participation to international conferences and workshops

Participation to international conferences and workshops will constitute a key action in our dissemination strategy to make an impact on the scientific community. The CORENET consortium members will promote the CORENET project and related research results during their participation as well as contacting relevant industries, end-users, and similar project leaders.

With extensive knowledge and expertise in systems chemistry, metabolomics, microfluidics, and AI, CORENET researchers are committed to participate in the external events, including international forums, symposiums, research conferences and virtual events. accelCH can support partners who will be participating at a conference by creating relevant dissemination materials such as posters, brochures, and project presentations.




A list of the most important and relevant for the CORENET project events will be continuously updated and shared among the project partners through the internal accelCLOUD platform:

Table 5 List of conferences

Conference Title	Date	Audience Reached
Systems Chemistry Gordon Research Conference (GRC)	26 June –1 July, 2022	Scientific community
Computational Chemistry GRC	17 – 22 July, 2022	Scientific community
The Vibe of the Future	8 September, 2022	Scientific community, Students
EuroQSAR	26 – 30 September, 2022	Scientific community
Structure and Motion Across Length Scales	14 – 19 May, 2023	Scientific community
71st ASMS Conference on Mass Spectrometry and Allied Topics	4 – 8 June, 2023	Scientific community
HPLC symposia	18 – 22 June, 2023	Scientific community
The International Symposium on Macrocyclic and Supramolecular Chemistry (ISMCS-2023)	25 – 29 June, 2023	Scientific community
IUPAC World Chemistry Congress 2023	18 – 25 August, 2023	Scientific community
EuChemS EUROANALYSIS	26 – 31 August, 2023	Scientific community

4.2.4 Webinar “CORENET hour”




Webinars “CORENET hour” will be held by CORENET project partners to engage with the audience and give an in-depth overview of the project activities and their results. The format of the webinars was defined as Q&A, where one presentation is given by a CORENET member to showcase the project’s latest results and one by an external invited speaker who will present on a related topic. To maximise the visibility of the activity and make it as accessible as possible, the webinars will be recorded and shared via a CORENET YouTube channel, website, and social media.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ Scientific community ✓ General public ✓ Students 	<ul style="list-style-type: none"> ✓ Knowledge sharing and discussion of results ✓ Exchange with external speakers and audience ✓ Broadening CORENET network 	<ul style="list-style-type: none"> ✓ min. 1 webinar/year ✓ min. 10 participants/event ✓ min. 20 registrations/event

4.2.5 Open Science and Innovation Days




In addition to the international conferences and various scientific events, project partners will engage with students on local public events, e.g., SRU's [Bachelor Open Days](#), IBM's open lab day for schools, [ThinkLab at IBM](#), [TecDay](#). CORENET aims to attract more attention of young generations to R&I projects and broaden knowledge of students about various opportunities that exist within the scientific community.

Besides, SRU has its own monthly "[The Late Night Conference](#)" which is a series of live-streamed themed lectures and interactive discussions for students of science and those with interest in science in general. The theme for the third season is "After life," which will focus on a broad range of topics, including the ones relevant for the project, such as systems chemistry.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ Students 	<ul style="list-style-type: none"> ✓ Promote CORENET project ✓ Engage with younger generations ✓ Reach audience outside of online channels 	<ul style="list-style-type: none"> ✓ 1-2 events/year ✓ with 50-100 visitors

4.2.6 Girls growing up in science

CORENET partners will present their work and hold Q&A sessions with secondary school students, with a focus on activities for girls. These will be held in-person or online by the partners independently or in collaboration with existing events, such as the [IT-camp for girls](#) or the [TecDays](#) that IBM contributes to.

 Target audience	 Key objectives	 KPI
<ul style="list-style-type: none"> ✓ Students 	<ul style="list-style-type: none"> ✓ Promote CORENET project ✓ Engage with younger generations ✓ Reach audience outside of online channels 	<ul style="list-style-type: none"> ✓ 1-2 events/year ✓ with 20-30 participants

5 Summary of Communication and Dissemination activities

Target groups:		Scientific community	Industry	Media	Students	Policymakers	General public	Responsibilities		2022			2023			2024			2025			2026								
Type	Material							Activity	Lead	Participants	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
Communication	Website	4.1.1	✓	✓	✓	✓	✓	accelCH	All partners	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Social Media	4.1.2	✓	✓	✓	✓	✓	accelCH	All partners	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Content material	4.1.3	✓	✓	✓	✓	✓	accelCH, IBM, UAM	All partners	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Press releases		✓	✓	✓	✓	✓						■																■	
	News items/articles		✓		✓	✓				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Print material	4.1.4	✓		✓	✓	✓	accelCH, IBM, UAM	All partners			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Poster		✓		✓	✓	✓							■															■	
	Brochure		✓			✓																								
	Audio-visual material	4.1.5	✓		✓	✓	✓	accelCH, IBM, UAM	All partners	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Videos presenting partners					✓								■	■															
	Video series "60 seconds CORENET" (D4.4)		✓		✓	✓	✓																							■
	IBM lab video series		✓		✓	✓		IBM	IBM																					
	Infographic		✓		✓	✓				■																				
Factsheet		✓		✓	✓																									
Dissemination	Publish in journals	4.2.1	✓	✓		✓		UAM	All partners																					
	Popular science contribution	4.2.2			✓	✓		UAM	SRU, IBM																					
	Participation to conferences	4.2.3	✓		✓	✓		All partners	All partners	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Webinar "CORENET hour"	4.2.4	✓			✓		accelCH, UAM	All partners																					
	Open Science and Innovation Days	4.2.5				✓		accelCH, UAM	IBM, SDU, SRU																					
	Girls growing up in science	4.2.6				✓		accelCH, UAM	IBM, SDU																					

■ = one time ■■■ = ongoing

Figure 16 Summary of Communication and Dissemination activities

6 Exploitation strategy

The CORENET exploitation strategy aims to facilitate the future use of project results. It provides the project consortium with general principles and key actions that should be implemented to generate the value of the research on various levels, including commercial, political, scientific, educational, and societal exploitation. The strategy is based on an initial “Intellectual property (IP) management strategy” included in the DoA and further defined in the CA. All members of the consortium have worked closely to identify and outline projects` Key Exploitable Results (KERs) linked to specific paths of exploitation. Further, exploitation perspectives and opportunities have been analysed and included to the exploitation strategy.

6.1 Intellectual Property Rights (IPRs)

According to the Article 16 of GA “Intellectual Property Rights (IPRs) — Background and Results — Access Rights and Rights of Use”, beneficiaries which have received funding under the grant must — up to four years after the end of the action — use their best efforts to exploit their results directly or to have them exploited indirectly by another entity, in particular through transfer or licensing.

The multi-disciplinary and cross-sectoral nature of CORENET requires a new approach to IP management for two reasons:

- First, in disciplines like chemistry and biotechnology, traditional IPR concepts still prevail, with patents being the most common form of IP protection, while computing and IT, especially when using open-source tools, build on knowledge-sharing to decrease development time, enable community-supported development and code review as well as platform adoption.
- Second, considering the different interests of the partners in possible future commercialisation (e.g., of the new computing device developed by our industry partner IBM or the chemistry that supports it), the quest for publications and the needs of academic partners to secure IPRs for their institutions, the CORENET IP strategy will be fully adapted to this new setting.

CORENET will hence follow a hybrid approach, allowing its partners to simultaneously support an open science philosophy while maintaining an active IP protection programme.

To support the implementation of this hybrid IP strategy, the consortium has agreed on the following ways to handle existing and new IP:

- (1) Background knowledge: in the CA, partners have identified and agreed on access rights to existing IP that is needed by other partners for the execution of their CORENET activities.
- (2) Foreground knowledge: New IP that is solely generated by one partner is owned by that partner and new IP that is jointly generated by two or more partners will be jointly owned by the generating partners and will be managed in accordance with the terms and conditions to be laid down in a Joint Ownership Agreement, a bilateral or multilateral agreement to be set up between the partners involved.

CORENET has therefore the potential to become a model for hybrid IP management in research and innovation initiatives at the interface of traditional IP management, Open Data and Open Science.

6.2 Innovation management

For the management of innovation in CORENET, accelCH's in-house developed solution, accelINNO®, will be implemented. The approach is an adaptation of the ISO 56002:2019 standard on innovation management systems, with emphasis on the limited duration of the project as well as its structure as a multi-beneficiary research initiative. The process is visualised in Figure 17 and segregated into three phases: establishment, exploration and exploitation.

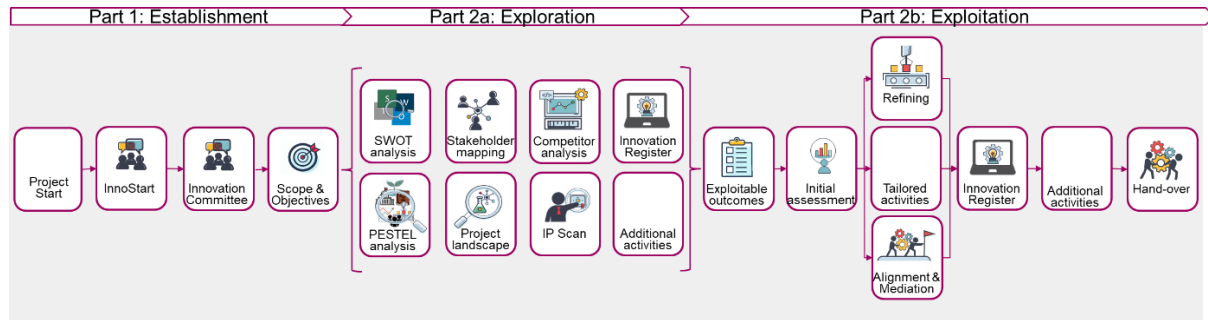


Figure 17: The three parts of the accelINNO® innovation management process, including the key activities of each phase.

In the first project year, the focus of the innovation management lies on the establishment of the system with emphasis on creating an environment favourable for innovation. This will be achieved through a training workshop on innovation and innovation management subsequent to the first general assembly meeting as well as the establishment of an Innovation Committee. The working group will meet regularly to address challenges in the development process and to evaluate additional exploitable outcomes. In the second half of the first project year, the exploration phase starts with a strong focus on the main project outcome. Part 2a consists of a set of tools that will get updated throughout the entire duration of the project. In accordance with the Stakeholder-driven approach, the stakeholder map will serve as the central tool for the evaluation and improvement of exploitable outcomes as well as the selection of further analysis. In the second project year, the analysis section will be performed on the key outcomes level. Towards the end of the project, it will shift to the individual outcomes of each partner to support the identification of follow-up projects and additional opportunities for exploitation. Part 2b: Exploitation will focus first on the identification of each innovation developed in CORENET and to record ownerships, incorporated IP and partner contribution. This collection of exploitable outcomes will get reviewed by the Innovation Committee on a regular basis and tailored activities such as competitor analysis or business modelling are going to be performed based on the evaluation, the outcome itself and the needs of the respective beneficiaries. These activities will mainly take place in the last 18 project months and serve as input for the Exploitation Plan (EP, D4.5). accelINNO® is an excel-based tool that contains details and guidelines for each step of the process as well as lists of the required resources and repositories, e.g., for the collection of exploitable outcomes. Two screenshots of the tool are demonstrated in Figure 18, providing examples for a task checklist and a repository page.

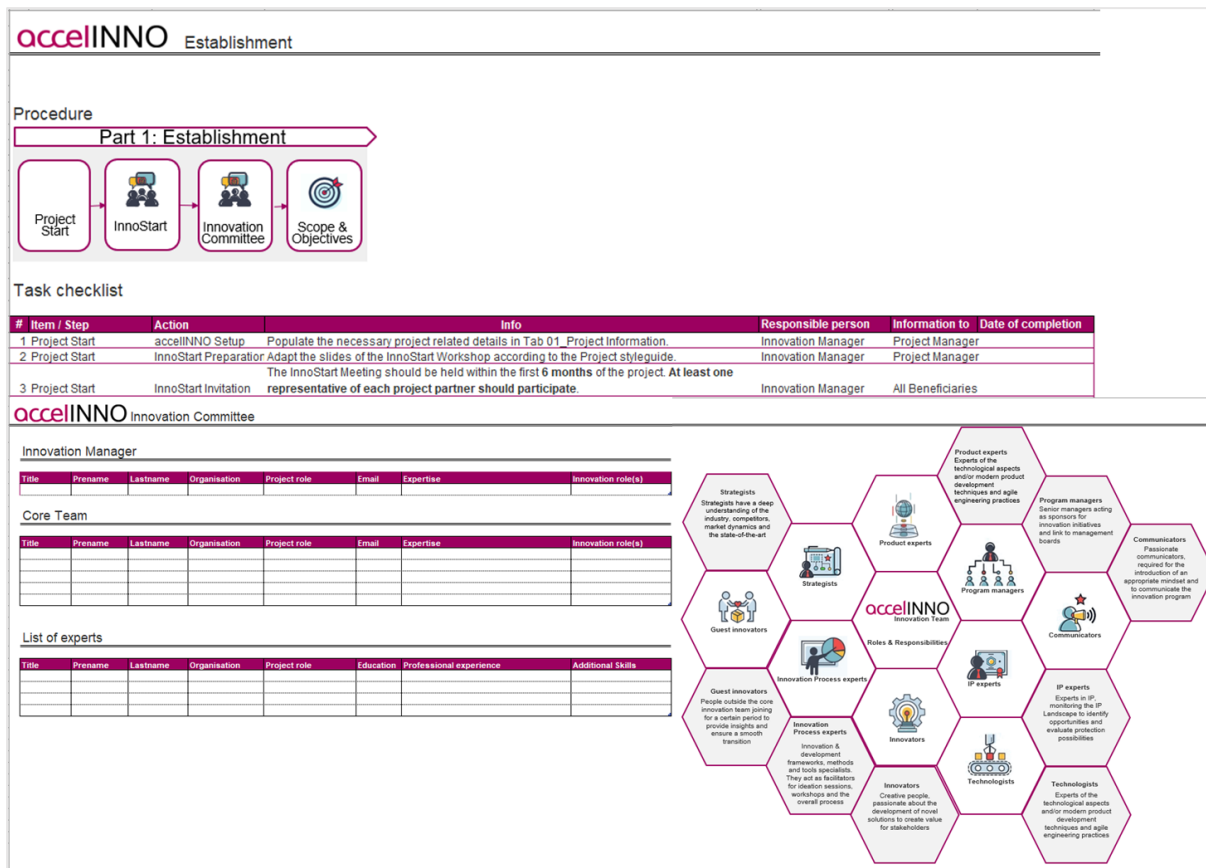


Figure 18: Screenshots of the accelINNO® excel-based tool. On top is an example of a task checklist and the bottom shows the page dedicated to the Innovation Committee.

To maximise the exploitation of new IP, Prof. Huck has been appointed as Innovation Manager due to his long-standing experience in IP protection and as co-founder of Sphere Fluidics Limited and Cytofind Diagnostics BV (now Lighthouse Biotech AG). In cooperation with accelCH, the Innovation Manager is responsible for the IP and project innovation process and will guide all consortium members, in collaboration with their local IP management support infrastructure, towards a sustainable pathway for exploitation. He will coordinate the exploitation measures ranging from the development of the EP (D4.5) and the IP and innovation review report (D5.9) to the identification of patent filing opportunities and the creation of business models geared to the specifics of complex reaction networks and open-source driven solutions. A summary of the innovation management activities is illustrated in Figure 19.

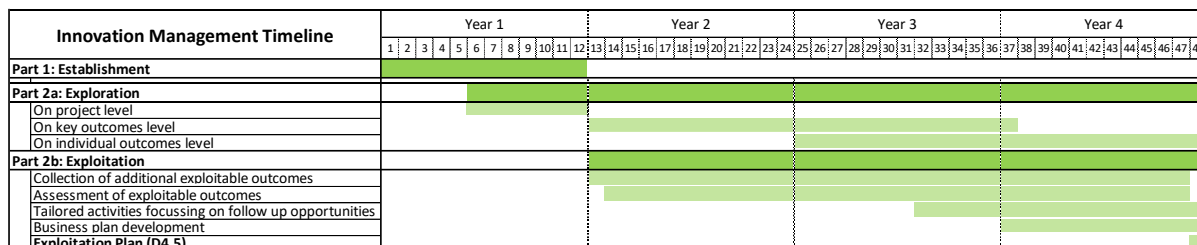


Figure 19: The timeline of the Innovation Management in CORENET in each part of the process, including key activities.

6.3 Key impact pathways (KIPs)

EC defines impact as a “wider long-term effects on society (including the environment), the economy and science, enabled by the outcomes of R&I investments.” For the Horizon Europe projects, with its impact-driven approach, there are three Key Impact Pathways (KIPs) broken down into nine storylines²¹, namely:

1. **Scientific Impact:** (1) Creating high-quality new knowledge; (2) Strengthening human capital in research and innovation; (3) Fostering diffusion of knowledge and Open source.
2. **Societal Impact:** (4) Addressing EU policy priorities and global challenges through research and innovation; (5) Delivering benefits and impact through research and innovation missions; (6) Strengthening the uptake of research and innovation in society; and
3. **Economic / Technological Impact:** (7) Generating innovation-based growth; (8) Creating more and better jobs; and (9) Leveraging investments in research and innovation.

In this respect, the impact of the CORENET project reaches far and beyond the specific research areas of its consortium. As described in the DoA, in the long-term vision, the research findings are expected to have potential impact covering all the main key impact pathways highlighted by the EC, including scientific, societal, as well as economic/technological impact:



Scientific impact

New knowledge bridging systems chemistry, microfluidics technology and computation science.



Societal impact

Personalised patient treatment via in situ synthesis of drug molecules.

More compatible, durable and reliable machine-brain interfaces.

Faster drug discovery and patient treatment.



Economic/ Technological Impact

Cheaper drug discovery and patient treatment.

Contribution to the UN’s Sustainable development goals and the key EU priorities, such as European Green Deal and the EU’s digital strategy.

Chemical reservoir computing devices that work at net-zero computational power, enabling truly sustainable and green AI.

7 Monitoring and evaluation

All activities will be monitored and evaluated to measure their overall implementation success and plan possible improvements. Key performance indicators (KPIs) are extremely important to assess the performance of those activities over time compared to defined targets. It is important that they are regularly reviewed and altered to ensure their relevance. By combining a quantitative and qualitative assessment, we provide continuous feedback and ensure that corrective measures are applied, if needed.

7.1 Assessment methods

7.1.1 Quantitative assessment

Table 6 An overview of KPIs

Activity	KPI	Method	Target	Timing
Project Website	Number of visitors	Website metrics (Google Analytics)	20 unique visitors per month, increased number of returning visitors over time increased duration of each user session	Every 6 months
	Average session duration			
Twitter	Number of followers	Twitter account metrics	30 followers min. 20 shares/comments for posts per month	Every 6 months
	Number of tweets			
	Number of comments			
	Number of shares			
YouTube	Number of videos uploaded	YouTube account metrics	min. 50 views/video created min. 15 videos	Month after the release of the video
	Number of views			
Press releases	Number of articles created	Website analytics	min. 2 press releases	2 months after
Website news/articles	Uptake by media	Google search	At least 1 article per month (min. 48 in total)	Every month
	Number of news articles published / Traffic on the news page	News entries on the website		
Study poster	Use of a poster at presentations and events	Partner feedback Number of prints	posters used in min. 3 events	Evaluation after each event
Brochure	Number of distributions	Partner feedback Number of prints	min. 50 distributed brochures	Evaluation after each event
Infographic	Number of downloads	Downloads from website Number of prints	min. 50 downloads/item	Every month
	Number of distributions			

			min. 50 distributed/item	Evaluation after each event
Factsheet	Number of downloads Number of distributions	Downloads from website Number of prints	min. 50 downloads/item min. 50 distributed/item	Every month Evaluation after each event
Publications in Journals	Number of publications Impact factor and h-index	Journals Feedback	15 peer reviewed publications min. 1 contribution to popular science journals/year	Every 3 months
Conference Participation	Audience Feedback Number of conference contributions	Feedback Number of participations	Number of contacts direct (during conference) and indirect (e.g., through website later) 35 contributions	Evaluation after each event
Webinar “CORENET hour”	Number of participants Number of registrations Feedback	Feedback Google Forms metrics	min. 1 webinar/year min. 10 participants/event min. 20 registrations/event	Evaluation after each event
Open Science and Innovation Days	Number of participants Number of events where CORENET project is presented	Number of participants and their feedback	1-2 events/year 50-100 visitors	Evaluation after each event
Girls growing up in science	Number of participants Number of registrations Feedback	Number of participants and their feedback	1-2 events/year 20-30 participants	Evaluation after the event

7.1.2 Qualitative assessment

Qualitative indicators tend to focus more on experiences and feelings. As defined in the Table 6, feedback will be evaluated in a number of activities, such as “Conference participation”, webinar “CORENET hour”, “Open Science and Innovation Days”, “Girls growing up in science” etc. The consortium will actively engage with different stakeholder groups to receive critical feedback. For instance, participants in the webinar “CORENET hour” will be asked to complete the survey after the event to share their experiences, thoughts, and feelings. Paired with quantitative data, the consortium strives to get a complete picture of the effectiveness and the quality of the implemented activities.

7.2 Reports and adjustments of planned activities

For each periodic report, PDEC will be updated with completed activities and complemented with their evaluation. Based on the qualitative and quantitative assessment, PDEC strategies for communication and dissemination will be adjusted and improved.

All communication and dissemination activities will be routinely monitored and documented in the Tracking tool, which is shared with partners on the accelCLOUD. Besides, key achievements and the assessment of implemented activities will be presented during the consortium meetings to ensure that all partners are aware of their performance and could propose ways to maximise the results.

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