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DELIVERABLE 5.11: Plans for dissemination of the results and training activities - Iteration 3

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Document abstract

This deliverable aims to define an effective long-term strategy to pursue the following objectives:

- Make the project widely known and raise awareness on the project and stimulate interest
- Disseminate the results and transfer the knowledge generated by the project to establish links with related on-going research initiatives
- Explore and assess emerging application areas to facilitate the exploitation of the project's results
- Set the foundations for further opportunities to ensure the achievement of impact during and after the end of the project

This third iteration of the deliverable encompasses all cumulative results from previous iterations prepared in previous reporting periods and covers the first half of the third reporting period, from January 1st to September 30th, 2024. It provides an update on achievements toward the project objectives and measurable indicators, detailing progress in communication and dissemination and training activities while outlining the remaining work for the project's final months.

A concluding iteration of this deliverable will be prepared at the project's end (month 54).

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101016726

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List of Abbreviations

CORDIS: Community Research and Development Information Service
HCC: Hepatocellular Carcinoma
H2020: Horizon 2020
ICT: Information and Communication Technologies
IP: Intellectual Property
KPI: Key Performance Indicator
NAFLD: Non-Alcoholic Fatty Liver Disease
QPI: Quantitative Phase Imaging
R&I: Research and Innovation
RP: Reporting Period
SME: Small and Medium-sized Enterprise
WP: Work Package

1 INTRODUCTION

In the REVEAL project, dissemination and communication activities are implemented within WP5 "Dissemination and exploitation activities" which aims to ensure that the project's new material and corresponding research advances match with market opportunities and that scientific, social and economic impacts are based on the project's results. The task directly related to this deliverable is Task 5.1 – Dissemination activities.

The objective for this deliverable is to present the dissemination strategy of the project and introduce the REVEAL Education and Training Program.

The dissemination strategy of REVEAL will rely on:

- Creating the project visual identity and publishing the public dissemination materials via a dedicated project website;
- Designing and circulation of all templates for external communication by the partners ensuring that no patentable information is disclosed;
- Keeping track of all project publications and public disclosures;
- Informing all the partners of related events and conferences and encourage participation in the most relevant ones;
- Raise awareness about the project via the use of social networks ("X" ex-Twitter, LinkedIn) to spread the project results into the outside world.

Dissemination and communication are intrinsically linked to exploitation in the sense that efficient promotion is a facilitator of the exploitation of the project results during and after the project lifetime. Moreover, dissemination and communication allow to measure the acceptance of the proposed project concepts and their reuse. References to exploitation activities – which will be the subject of specific standalone deliverables - will therefore be made in this deliverable.

This deliverable presents the status of achievements relative to project objectives and KPIs for the first half of the third reporting period, from January 1 to September 30, 2024, highlighting progress in dissemination and communication and training activities while outlining priorities for the coming months. As the third iteration, it consolidates all previous results, building a comprehensive record of the project's advancements.

This deliverable will be further updated with a final version at the end of the project (month 54) to provide a complete overview of all outcomes and impact achieved over the project's lifecycle.

2 THE PROJECT

2.1 Context

REVEAL aims to develop a revolutionary microscopy technique capable of 2D and 3D live-cell imaging. Using machine learning, the microscope will be able to perceive and interpret cellular events that may lead to malignant transformation. It will give users the opportunity to detect and collect different types of liver cells which will be subsequently analyzed at the molecular and biochemical level. The project will associate cellular phenotypes observed under the microscope with gene expression profiles, offering important knowledge on the cellular origin of liver cancer.

2.2 Objectives

REVEAL will develop the necessary tools and the first instruments that will demonstrate the feasibility and the power of this new microscopy framework. In particular, we will develop a 'cell picking neuronal microscope' that will allow us to detect and collect different subtype of liver cells that indicate the propensity for carcinogenesis and analyse them ahead of tumour manifestation. This analysis will also help us to characterize the cellular heterogeneity known to exist at the origin of liver cancer. It will provide a direct mapping between cellular phenotypes observed under microscope and gene expression present in the early stages of liver cancer. Overall, we are thus defining a novel methodology, giving a central place to neuronal microscopy in the understanding of the cellular origin of the diseases.

2.3 Partnership

The REVEAL consortium is coordinated by the Research and Technology Organisation (RTO) COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES (P01 – CEA), France.

The REVEAL consortium is composed of 7 partners and 2 linked third parties.

Academic Institutions
P3 ECOLE NORMALE SUPERIEURE DE LYON (ENS DE LYON), France. ENS DE LYON is the partner in charge of facilitating dissemination, communication activities.
P4 LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN (LMU MUENCHEN), Germany
P7 POLITECHNIKA WARSZAWSKA (WUT), Poland

Medical Center
P5 FONDAZIONE IRCCS CA' GRANDA - OSPEDALE MAGGIORE POLICLINICO (IRCCS), Italy

Research and Technology Organisation (RTO)
Centre National de la Recherche Scientifique (Linked Third Party P3.1 - CNRS), France.
Institut national de la santé et de la recherche médicale (Linked Third Party P3.2 - INSERM), France

Small and Medium Entreprises (SMEs)
P2 IPRASENSE (IPRASENSE), France
P6 ALS AUTOMATED LAB SOLUTIONS GMBH (ALS), Germany

3 DEFINITIONS

In the context of this report, we consider the following definitions from the H2020 references (EC Research & Innovation Participant Portal Glossary/Reference Terms and IPR Helpdesk).

By signing the EC Grant Agreement participants agree to:

Promote the action and its results, by providing targeted information to multiple audiences (including the media and the public), in a strategic and effective manner and possibly engaging in a two-way exchange (Article 38 of the Model Grant Agreement).

Disseminate results — as soon as possible — through appropriate means, including in scientific publications (Article 29 of the Model Grant Agreement).

Ensure open access (free of charge, online access for any user) to all peer-reviewed scientific publications relating to its results (Article 29 of the Model Grant Agreement).

Ensure 'exploitation' of the results — up to four years after the end of the project – by using them in further research activities; developing, creating or marketing a product or process; creating and providing a service, or using them in standardization activities (Article 28 of the Model Grant Agreement).

Results: "any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected".

Acknowledge EU funding in all communication, dissemination and exploitation activities (including IPR protection and standards) as well as on all equipment, infrastructure and major results financed by the action by using the wording and criteria specified in the Grant Agreement (Articles 27, 28, 29, 38rastructure and major results financed by the action by using the wording and criteria specified in the Grant Agreement (Articles 27, 28, 29, 38).

"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731077"

Figure 1:REVEAL statement to acknowledge EU funding

4 DISSEMINATION AND COMMUNICATION STRATEGY

Communication, dissemination and further exploitation must be addressed through an integrated approach that strategically plans activities to avoid ad-hoc efforts.
For that, clear objectives, defined targets, relevant messages, right media and means must be identified and implemented.

Communication, dissemination and exploitation activities are closely linked: although they can be considered separately, they often belong together since one drives the other and vice versa. What differentiates them from one another are the objectives, focus and target groups they address.

To build this integrated and strategic approach, the following steps must be implemented:

- Identification of the main objectives of the communication-dissemination-exploitation strategy and of the relevant target audiences;
- Definition of clear messages in accordance with the project objectives;
- Identification of proper communication means and tools;
- Formalization of the activity roadmap planning
- Description of the project key exploitable results and knowledge, their exploitation route and IP management.

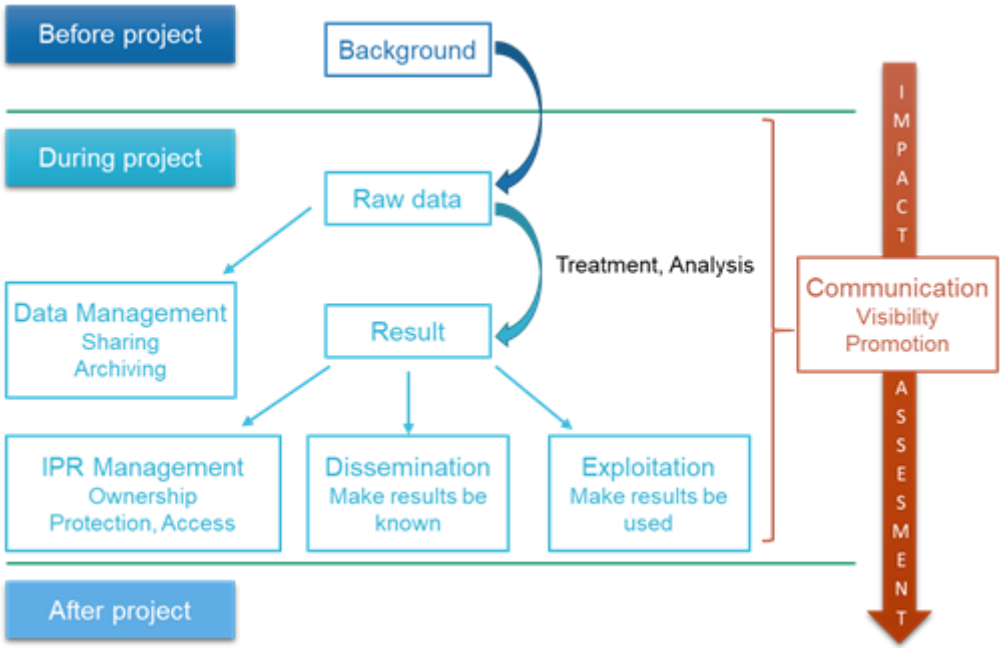


Figure 2: Processes involved in the valorisation of the project and its results

4.1 Main objectives

- Make the project's work widely known / attract civil society attention
- Generate further research
- Generate interest to the project's results to ensure exploitation routes such as selling new products or providing new services
- Raise interest for REVEAL Education and Training Programme
- Attract attendance at REVEAL stakeholder workshop

4.2 Targeted audiences

The groups of target audiences of the project for communication, dissemination and exploitation purposes are shown in the picture below.

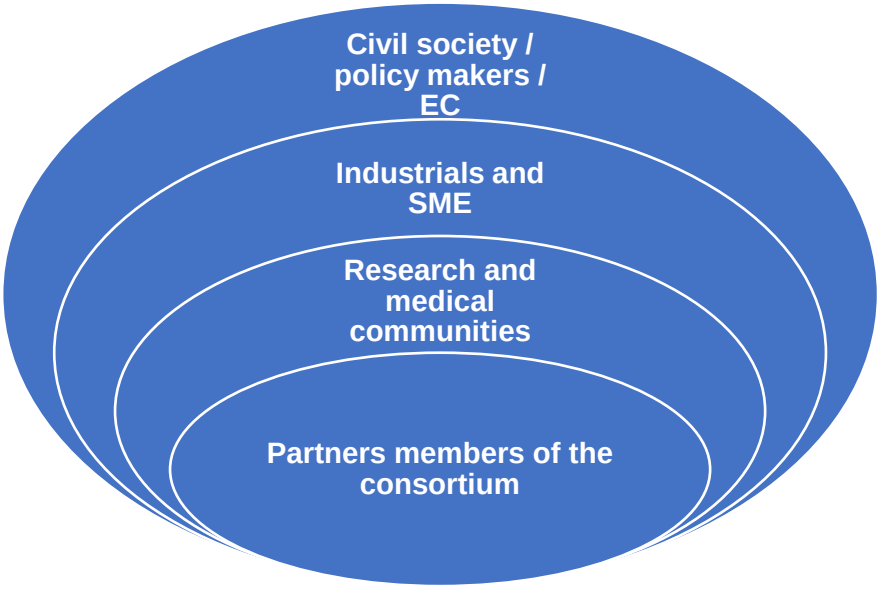


Figure 3: Scheme of targeted audiences of the REVEAL project

4.2.1 Members of the consortium

- RTOs, SMEs, Academic institutions, Medical Center
- Highly involved in the project
- Expect to create/improve and transfer specific methods and results
- Get information mainly through scientific events and papers
- Shall establish links with other R&I activities (see Table 1 below)

Table 1:Links to other R&I initiatives

Acronym / Program	Period	Title	Link with the project	Partners involved
BiOpTo/ EU Structured Funds / WUT	2016-2022	Development of optical diffraction tomography based on limited angle projections for biomedical applications.	The tomograph developed within this project will be used for validation of the results obtained at 3D microscope	WUT

			(WP3) and for delivering data for WP4	
NeuroPhase/Polish-Taiwanese Collab. Program/ WUT	2019-2021	3D/4D quantitative phase imaging for neuroscience at cellular level	The experience in monitoring of cellular changes by means of 3D QPI methods	WUT
ACTPHAST4.0/H2020/WUT	2018-2021	ACceleraTing PHotonics innovAtion for SME's: a one STop-shop-incubator	The feasibility studies on optical chip with plasmonic elements providing super-resolution far beyond the diffraction limit. Also support for dissemination and exploitation of the project outcomes (WP5) within SMEs and industry	WUT
ACTPHAST4R/H2020/WUT	2019-2022	ACceleraTing Photonics Deployment viA one STop shop Advanced Techno- logy Access for Researchers	Support for dissemination and exploitation of the project outcomes (WP5) within academia and research institutes	WUT
ATIP-Avenir	2016-2020	Molecular and epigenetic regulation of biological oscillators.	Identification of heterogeneity-inducing pathways that stem from disrupted cellular oscillators as a basis for tumorigenicity.	ENS Lyon
Circa-HCC /CLARA-Oncostarter	2019-2020	Investigating epigenetic and circadian principles underlying hepatocellular carcinoma development	Development of murine models for liver cancer	ENS Lyon
Foundation ARC	2020-2021	Role of circadian disruption in tumorigenesis and tumour progression	Identification of biological pathways in tumour development.	ENS Lyon
DFG 329628492 – SFB 1321/LMU	2018-2022	Modelling and Targeting - proteomics subtyping and circadian dynamics of pdacs to develop novel therapeutic strategies	Using proteomics and phosphoproteomics to characterize mutation specific driven metabolic signatures	LMU
SMART Microscopy/ French National Cancer Program/ CEA	2017-2020	Development of a novel smart microscope that combines two microscopy techniques into one novel optical setup – the recently developed innovative lens-free microscopy with either fluorescence or bioluminescence microscopy.	Development of a novel smart microscope that combines two microscopy techniques into one novel optical setup – the recently developed innovative *lens-free* microscopy with either fluorescence or bioluminescence microscopy.	CEA ENS Lyon
ACTCELLNEM/ French ANR Program/ CEA	2018-2021	Development of a quantitative holographic reconstruction algorithm that allows to measure the thickness of cell culture. This algorithm is used to better image and quantify the geometry of three-dimensional multicellular cell cords.	Development of a quantitative holographic reconstruction algorithm that allows to measure the thickness of cell culture. This algorithm is used to better image and quantify the geometry of three-dimensional multicellular cell cords.	CEA
LITMUS, H2020-IMI2	2015	Identification and Validation of Non-invasive Markers across the Spectrum of Nonalcoholic Fatty Liver Disease	Validated non-invasive Markers across the Spectrum of Nonalcoholic Fatty Liver Disease	IRCCS

EPIDEMIC-HCC	2016	Investigation of pathogenic variants in hepatocellular carcinoma (HCC)	Identified rare pathogenic variants in genes involved in liver disease and cancer predisposition associated with NAFLD-HCC development.	IRCCS

4.2.2 Research and medical communities

- Mainly academics
- Biology and medical community
- Main applications fields: Cell Biology research: fundamental research using cell culture such as cancer research, stem cell, cell and gene therapy; Drug screening: *In vitro* testing of drug candidates, drug effect and toxicity; Diagnostic: *in vitro* testing of cells from biopsy; Liver cancer analysis; Research in developmental, cellular and molecular biology; Lens free imaging; Imaging analysis; Cell culture observation; 2D and 3D cell population study; Characterization of murine tumour models; Characterization of 3D models of liver cancer; Measurements of different tumour-initiating cells; Characterization of proteome signatures defining specific cell populations; Characterization of previously established models of Hepatocellular Carcinoma in three-dimensional culture setting
- Expect to build new collaborative research
- Get information mainly through scientific events and papers
- Some use professional Social Media

4.2.3 Industrials and SMEs

- Industrials and SME in the sector of microscopy and medical instruments
- Expect to get feedback about project outcomes
- Expect to develop synergies with academics in order to foster new products and services creation, to meet new markets
- Get information mainly through professional social media, professional events

4.2.4 Civil society / policy makers / European Commission

- Expect to get information about main project outcomes, and especially about their possible concrete applications
- Get information mainly through Mass Media, Social Media, websites.

4.3 Dissemination and Communication plan - Key messages

This section presents the key messages towards the different target audiences, ensuring coherence between communication, dissemination, and further exploitation activities. In order to evaluate the quality of the communication, dissemination and exploitation actions, a set of KPIs and target values have been provided.

This section presents the key messages towards the different target audiences, ensuring coherence between communication, dissemination and further exploitation activities. In order to evaluate the quality of the communication, dissemination and exploitation actions, a set of KPIs and target values have been provided.

Table 2: REVEAL Key messages

Target audience / stakeholder	Audience / stakeholder description	Objective	Message	Dissemination channels / platforms	KPIs for measuring the effectiveness of the approach and minimum target value	Result expected
Research community	Specifically, researchers & engineers specialized in biology, biophotonic and cross thematic	To establish links with related on-going research initiatives To build new collaborative research activities	The project offers great opportunities to train, lead research activities to higher levels and to collaborate with the research community	Publications at international conferences	15 Publications	Transfer and adoption of results, design of new collaborative research proposals, stimulation of new research collaboration and training provided to students.
				Publications in international journals	10 Publications	
				Dedicated seminars organised on demand	2 training sessions /year	
Medical community	Hospital, clinicians and specialists	To facilitate transfer and adoption of results, To design new collaborative research proposals, To stimulate new research collaboration and train students.	The project offers great opportunities to gain new scientific knowledge, Implement and develop up-to-date approaches for biomedical research develop new collaborations with research partners	1 Workshop 2 brokerage events	15 Publications 4 seminars	Better acceptance and adoption of REVEAL results
Industrials including SMEs	Industry actors in the sectors of Microscopy, Medical instruments…	To match the project new material and corresponding research advances with market opportunities	The outcomes of the project will provide great opportunities for business	Social networks 1 Demonstration Workshop 2 Brokerage events	100 new followers per year in social networks 3 new letters of interest to join the project Advisory Board	Feedback during workshop activities, increase acceptance of the applications developed, and adoption from potential users.

Other stakeholders	Civil society; Public agencies; Policy makers	Develop synergies to foster commonly accepted solutions	The outcomes of the project will provide opportunities to improve knowledge about many concrete applications of REVEAL results	REVEAL Website	Number of visits: 4000 50 updates	Attract attention and generate interest through continuous promotion of main achievements
				REVEAL social media (LinkedIn & "X")	At least 400 followers ("X"); 50 updates – (LinkedIn & "X")	

4.4 Best practices while implementing Communication and Dissemination activities

- **Website, Social Media and communication in general**

On a monthly basis: The partners are encouraged to send new contents: information, results, pictures or any relevant material to be published on the Website and Social Networks.

Before each consortium meeting: The partners are requested to fill in a monitoring tool in order to track past and future communication and dissemination activities.

- **Events to be organized by the partners**

2 months before the event:

• The partners are asked to create the event flyer/schedule/registration form and to promote the event on their organization website.

• An announcement about the event is published on the REVEAL Website and the Social Media.

1 month before the event:

• The same announcement about the event is published again on the Social Media.

1 week before the event:

• A final reminder about the event is published on the Social Media.

• The partners organizing the event are reminded to take photographs during the event.

During the event:

• The organizing partners' communication departments are encouraged to facilitate uptakes of the events (photos, articles, and interviews) to promote the REVEAL project on their own websites.

• A reference to these materials is made on the REVEAL website and the Social Media

Within one month after the event:

• The organizing partners are asked to send contents of the event to be published on the Website and the Social Media.

- **International events to be attended by the partners**

2 months before the event:

• The partners are asked if they intend to participate to events

• The partners are reminded to promote the REVEAL project (using promotion tools such as the flyer, poster) and its outcomes (during lectures and specific poster sessions).

On the month of the event:

• The news about the participation of the REVEAL project partner(s) to the event is published in the Website and the Social Media,

• The partner(s) is/are reminded to take pictures at the event

Within one month after the event:

• The partner(s) is/are asked to send contents such as photos or any other materials) and reports on the participation to the event on the Website and the Social Media.

5 DISSEMINATION AND COMMUNICATION ACTIVITIES

5.1 Dissemination and Communication tools

5.1.1 Visual identity, logo, flyer, roll-up banner, templates

The REVEAL visual identity including the logo were designed and created at the beginning of the project.

Figure 5: REVEAL visual Identity

Figure 4: REVEAL logo

During the first year of the project templates (WORD, PPT) were produced for project meeting presentations and deliverables.

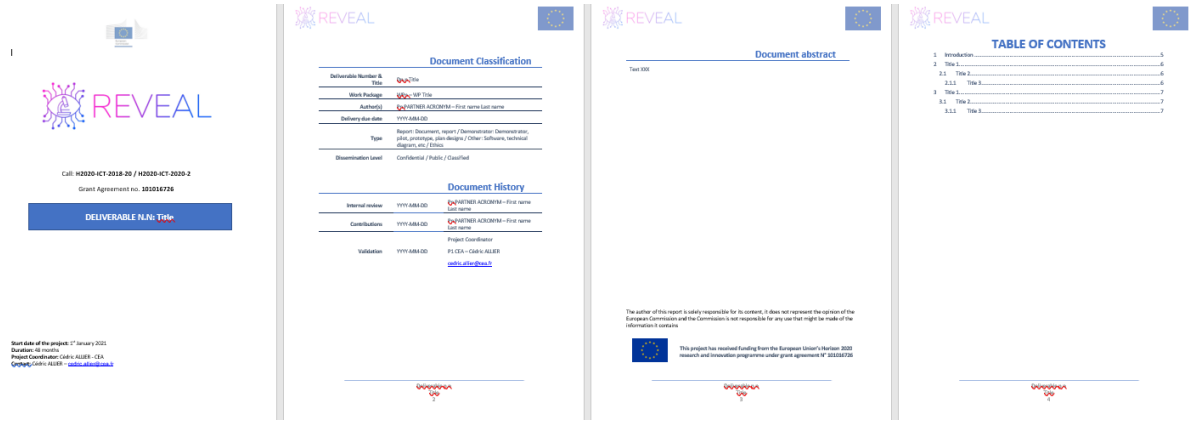


Figure 6: REVEAL template deliverable

Figure 7: REVEAL template presentation

A general leaflet introducing the project was designed and created in the last months of the first reporting period.

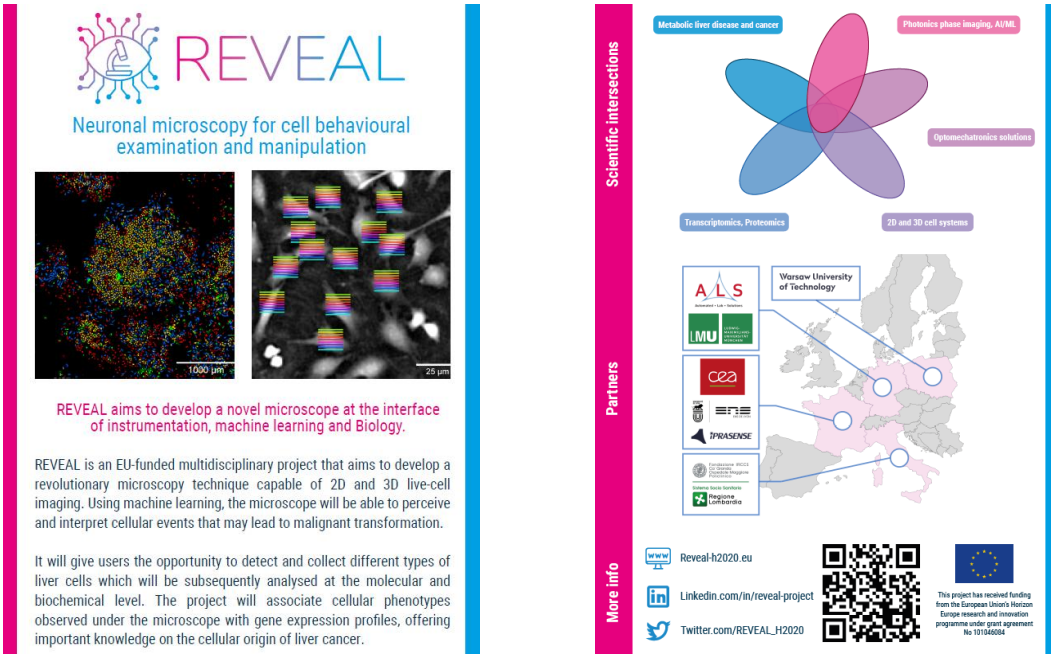


Figure 8: REVEAL General Flyer

5.1.2 Project website

The REVEAL website is a key tool for external one-way communication. It was launched at month 3 (March 2021) and is continuously fed to keep the audience informed and ensure interest of already attracted visitors.

Indicators related to the website activities are regularly checked. They include for example the following criteria: number of sessions, number of users and new users, average session duration, number of documents downloaded, geographical distribution of the users.
More information is available in the deliverable 5.1 Project Website (submitted to the Commission in period 1).

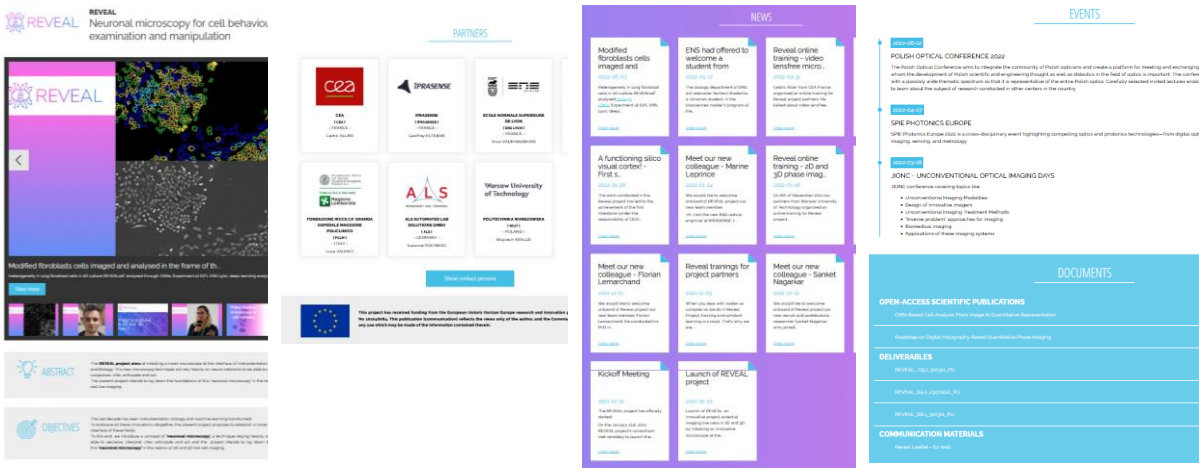


Figure 9: REVEAL project website

5.1.3 Reference to the project on each partner's website

To optimize the communication on the project, all partners have been encouraged (at least academic ones in this project) to refer to the REVEAL network on their own websites at the beginning of the project.

Table 3: Reference to the project on each partner's website

Partner	Website URL	Mention of the REVEAL Project
CEA	https://www.leti-cea.com/cea-tech/leti/english/Pages/Leti/Projects%20supported/REVEAL.aspx	YES
IPRASENSE	https://www.iprasense.com/aboutus	YES
END DE LYON	http://www.ens-lyon.fr/en/research/research-projects/horizon-2020-funded-projects/h2020-project-reveal	YES
LMU	https://www.imp.med.uni-muenchen.de/research-groups/robles/lab-news/index.html	YES
IRCCS	https://www.policlinico.mi.it/	YES
ALS	https://www.als-jena.com/research-projects.html	YES
WUT	https://mchtr.pw.edu.pl/www_mchtr_eng/Research-and-science/Projects	YES

5.1.4 REVEAL Social Media

The REVEAL Social Media, "X" and LinkedIn, are key tools for external one-way communication. They were launched at month 3 (March 2021) and are continuously fed to keep the audience informed and ensure interest of already attracted visitors.

More information is available in the deliverable 5.1 Project website and social network account.
To optimize the communication on the project, all partners have been encouraged to make reference to the REVEAL network from their own social media at the beginning of the project.

5.1.4.1 "X"

https://twitter.com/REVEAL_H2020

The REVEAL "X" account is used to serve communication, dissemination and exploitation objectives: announcements, short comments, or news may be posted, if possible, with media attachments (photos, images, videos …).
The "X" account can be fed continuously, which requires involvement of all partners to send regularly contents and material to the WP5 leader.
KPIs related to "X" are regularly checked. They include for example the following criteria:
number of posts, number of followers, number of profile visits, number of impressions and engagements.

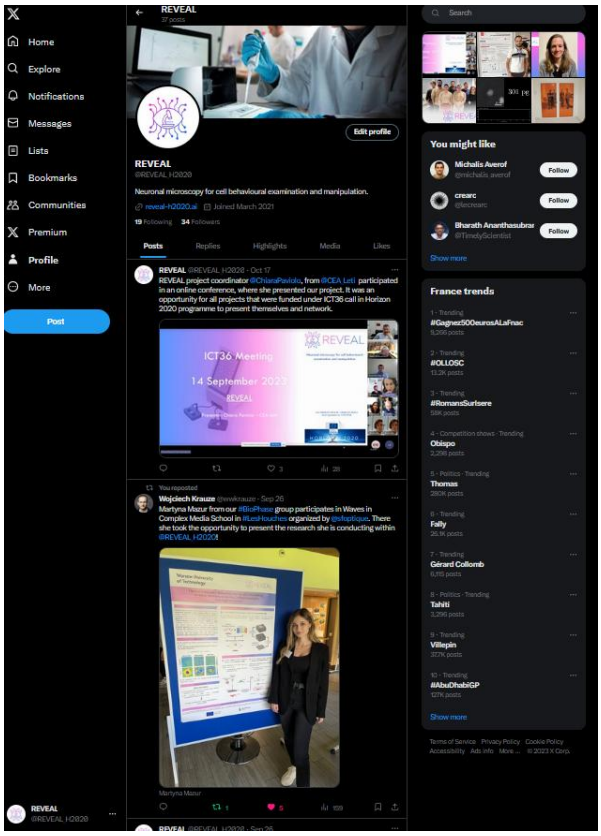


Figure 10: REVEAL "X" profile

5.1.4.2 LinkedIn

A LinkedIn personal page (personal profile) was created during the first reporting period, in March 2021.

At the end of 2022, it was decided to create a corporate LinkedIn (company profile) to continue to share news and updates about the REVEAL project, as well as to provide information about the project's goals, objectives, and impact.

https://www.linkedin.com/company/reveal-project

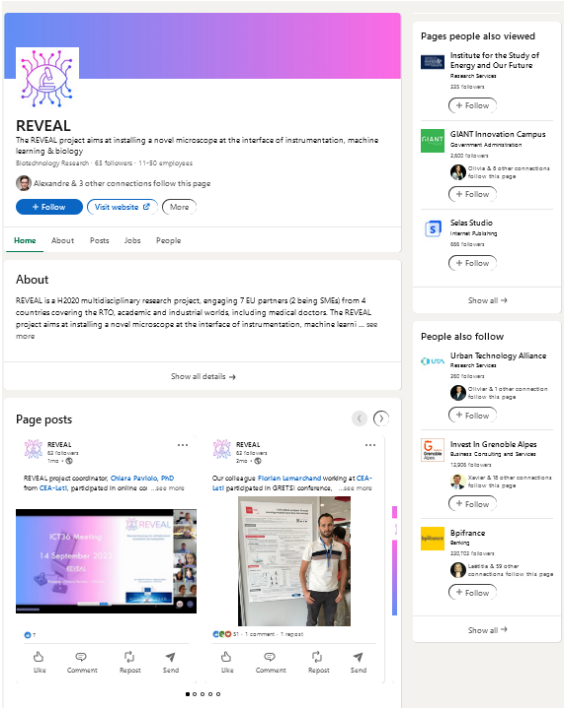


Figure 11: New REVEAL LinkedIn profile

Some specific benefits of using a corporate LinkedIn page are listed below:

- **Increased visibility:** A corporate LinkedIn page is more likely to be seen by potential followers than a personal profile. This is because corporate pages are ranked higher in search results and are featured more prominently on LinkedIn's homepage.
- **Enhanced credibility:** A corporate LinkedIn page gives the project a more professional and credible image.
- **More features and functionality:** Corporate LinkedIn pages offer a number of features and functionality that are not available on personal profiles. For example, corporate pages can have multiple administrators, can create and manage showcase pages, and can access LinkedIn analytics.
- **Better targeting:** Corporate LinkedIn pages allow to target our content to specific audiences (for example, other researchers and organizations working in the same fields of research and involved in the Horizon 2020 and now Horizon Europe programs).

The specific KPIs tracked from REVEAL LinkedIn page are:

- Number of articles/posts
- Number of followers
- Number of views,
- Number of likes.

5.1.4.3 YouTube

A REVEAL YouTube channel was created in January 2022.
The specific KPIs tracked from REVEAL YouTube channel are:

- Number of subscribers
- Number of views

5.1.4.4 Electronic social media and Interviews

The REVEAL consortium will make use of official EU-H2020 services and "instruments" of publicity to promote the main project achievements:

- "Top stories" publication in CORDIS /projects and results;
- Interviews are planned at EU Horizon Magazine (horizon-magazine.eu),
- Blogposts in Digital agenda for Europe (ec.europa.eu/digital-agenda) with a simultaneous posting in the beneficiaries organisation social media to maximize impact.
- ZENODO - an open access repository for all fields of science which is recommended by the Open Access Infrastructure for Research in Europe (OpenAIRE) – will be used to publicize the project outputs such as conference proceedings, presentations and publications. https://zenodo.org/communities/reveal-microscope /

5.1.5 Videos

Three videos are planned during the life of the project:

- A first video introducing the project's goals;
- A second one presenting the results achieved by the project;
- A third video, presenting the project's achievements.

5.2 Dissemination and Communication means

5.2.1 Events

The organisation and participation to events is an important measure to ensure up-take and exploitation of the REVEAL project results, as well as achieve the communication and dissemination objectives. Possible synergies with other consortia will be considered as much as possible in order to increase readiness awareness of the REVEAL technologies and get feedback from experts in the community that may help eventually to build a consolidated and complementary vision for EU industrial biophotonic sector.

5.2.2 Events to be organized by the project consortium

Seminars, workshops, demonstration workshops, brokerage events

The REVEAL project is committed to organise several events:

- Seminars on demand for the research community
- Workshops and brokerage events for the medical community
- Brokerage events for Industry and SMEs
- Demonstration workshop (the event will be held together with the LETI days conference).

REVEAL Education and Training Programme will be organised at the first stage of the project for students, workers and researchers participating in project to reach best practices and knowledge of technologies related to REVEAL. In this context, on-line trainings and "hands-on" workshops will be held for REVEAL partners to better understand the related technologies and support quicker technology transfer between the partners. The trainings will be focused on 3 main parts associated with the tasks given in the project description: (1) medical aspects of the project: understanding

hepatocellular carcinoma and culturing of liver organoids, (2) biological aspects of the project: understanding genomics and proteomics, (3) aspects associated with quantitative phase imaging of bio-samples in 2D and 3D. The presentations will be given "on-line" which will enable broad audience to attend the training (including students and PhD students working for project partners). The sessions will be recorded and made available in REVEAL communication channels. The hands-on part will be carried out on-site.
In the second stage of the REVEAL project (M24-54) the education and training programme will be focused on the outside users of the REVEAL technologies. For these courses, the consortium will provide open access to project's publications, and will organise on-line training with specific focus on the principles of operation and applications of REVEAL.

5.2.3 Participation to international events

To promote the REVEAL project and its results, and make them widely known, the participation to international events such as conferences, congresses and symposia are important points to serve communication, dissemination and exploitation objectives.

Below is a non-exhaustive list of events where REVEAL partners could promote the project and disseminate its results.

Dedicated to scientific community and industry

- Photonics West and Photonics Europe Symposia organized by The International Society for Optical Engineering (SPIE)
- Focus on Microscopy (FOM)
- American Association for Cancer Research (AACR)
- European Association for the Study of the Liver (EASL)
- International Society for Stem Cell Research (ISSCR)
- Biomedical Optics Congress & Conference on Digital Holography and 3D Imaging organized annually by The Optical Society (OSA)
- European Biological Rhythms society
- Society for Research in Biological Rhythms
- European Molecular Biology Organization (EMBO) Symposia

Dedicated to General Public

- Annual Festival of Science in Lyon
- Pint of Science

5.2.4 Other means to disseminate and communicate about REVEAL Project

- European Digital Innovation Hubs (EIDH)
- Digital innovation hub for photonics, https://www.photonhub.eu/
- Research societies such as EASL (European association for the study of the liver)
- International, European and French Societies for study of biological rhythms such as, SRBR, EBRS, SFC.
- Standardization bodies (e.g. JPEG PLENO for holographic data compression).

An updated general roadmap of the communication-dissemination activities is to be found in Annex 1 to this deliverable.

6 MONITORING AND ASSESSMENT OF THE DISSEMINATION, COMMUNICATION ACTIVITIES

6.1 Main Dissemination and Communication activities to date

6.1.1 Website and Social Media

Website and Social Media in the first and second reporting periods (RP1 – RP2 – RP3)
This section presents an update of the statistical data from the project website and the social media selected for the project ("X" and LinkedIn). This analysis covers the periods from:

of March 2021 to 30th of June 2022;

1st of July 2022 to 31st of December 2023;

1st of January 2024 to 30th of September 2024.

Website frequentation and returning visitors - period covering 3-3-2021-30-6-2022 (RP1)
At the end of RP1 (month 18), the website frequentation reached a total of 632 users, with an average of 40 users per month and 990 views in total. 86% of the users were new visitors, while 14% of them were returning visitors. In RP1, 3 news were published on the website.

Figure 12: Website frequentation in RP1 - 3-3-2021 – 30-6-2022

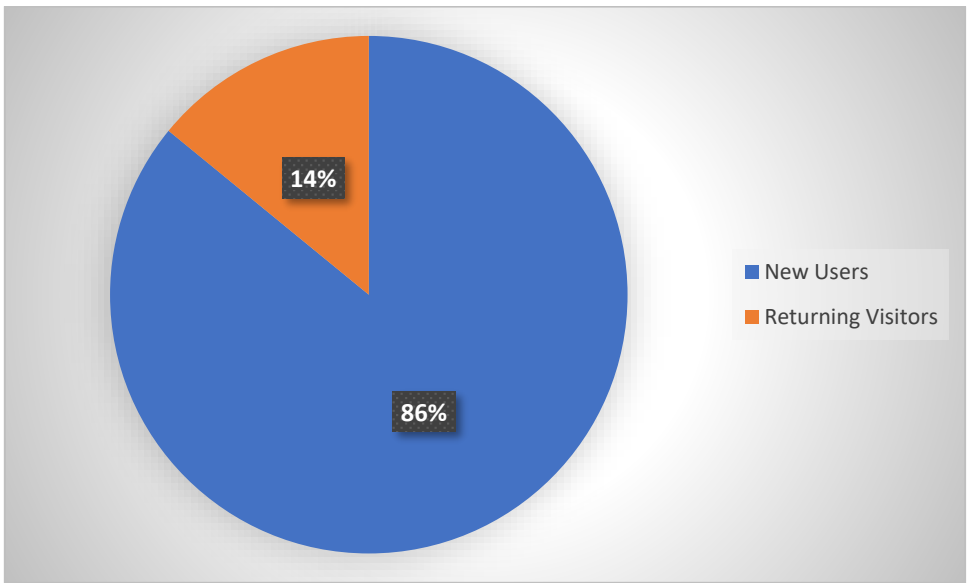


Figure 13: New and returning website visitors in RP1 - 3-3-2021 – 30-6-2022

Website frequentation and returning visitors - period covering 1-7-2022-31-12-2023 (RP2)

At the end of RP2 (month 36) the website frequentation reached a total of 1 148 users with an average of 67 users per month and a total of 1371 views. 91% of the users were new visitors and 9% were returning visitors. In RP2, 61 news were published on the website.

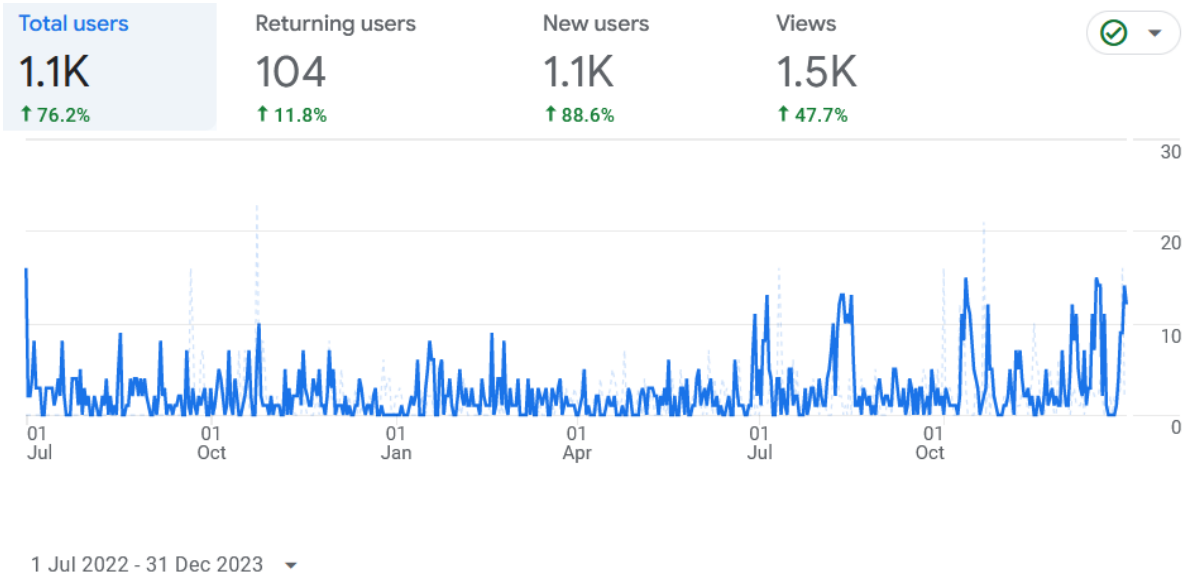


Figure 14: Website frequentation in RP2 - 1-7-2022 – 31-12-2023

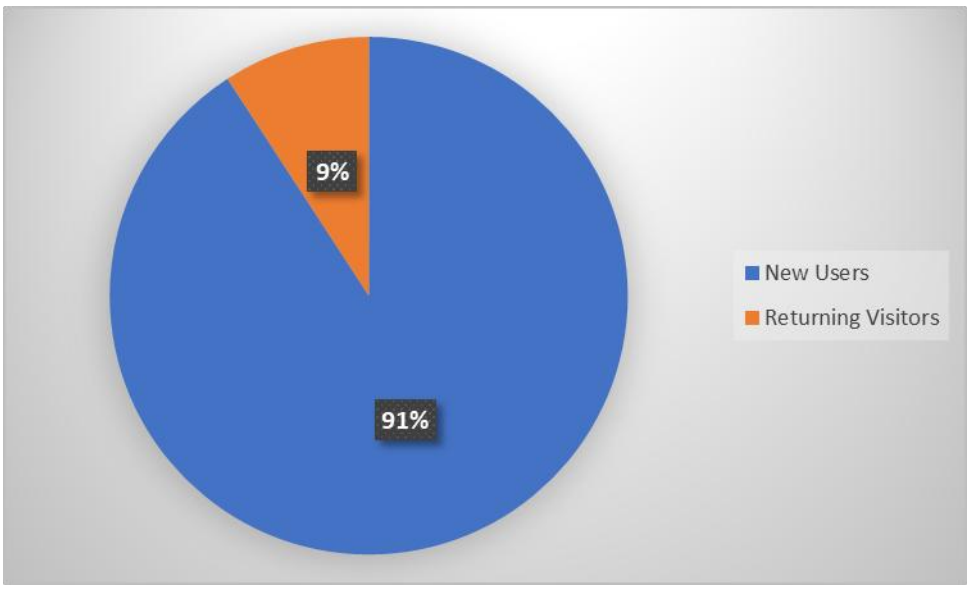
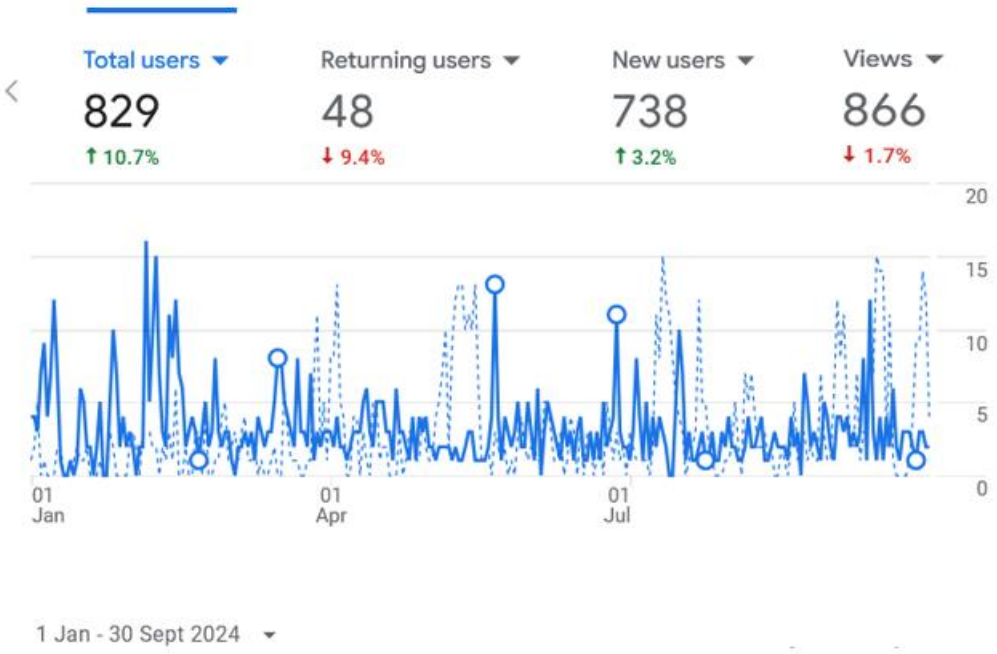
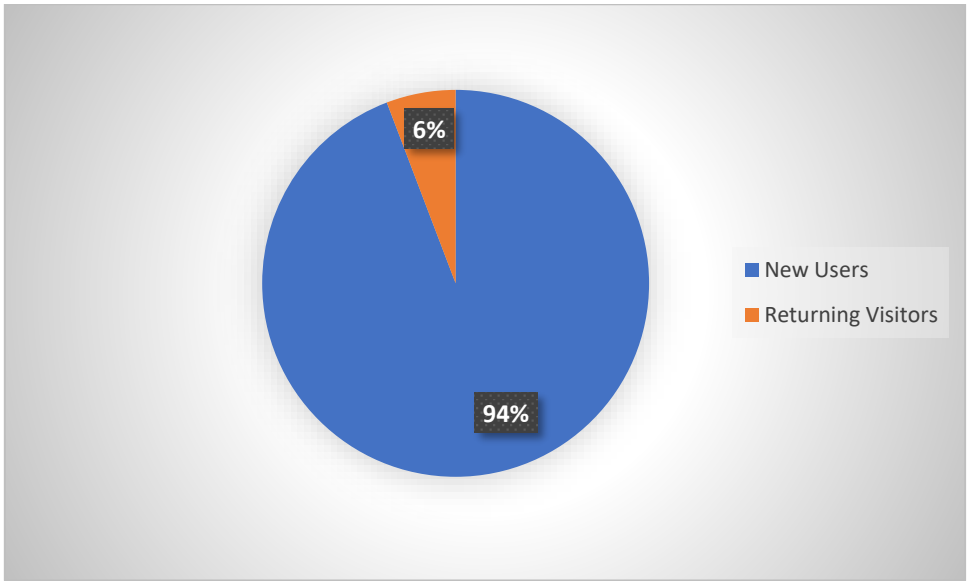


Figure 15: New and returning website visitors in RP2 - 1-7-2021 – 31-12-2023

Website frequentation and returning visitors - period covering 1-1-2024-30-09-2024 (RP3)

In the first phase of the third reporting period (month 45), the website attracted a total of 829 users, with an average of 67 users per month and a total of 866 views. Of these users, 94% were new visitors, while 6% were returning visitors. During this period, 8 news articles were published on the website.





Website KPI achievements

KPI achievements are measured (in aggregate) against the target indicated under section 4.3.

KPI - Website	Target value	Actual RP1 (M18)	Actual RP2 (M36)	Actual RP3 (M45)
Nber of visits to the website	4000	632	1780	2609
Website update	50	3	64	72

Website Traffic acquisition

***Period covering 3-3-2021-30-6-2022* (RP1)**

As shown in Figure 16; the main traffic sources were "Direct" - 300 users - (mostly when traffic is generated by a direct URL entry of the website) and "Organic Search" – 204 users- (traffic that comes from natural results from search engines recognised by Google (Google, Bing, Yahoo...). The next traffic source was "Organic social" – 33 users - (traffic to the website generated by any social media activity without a paid promotion. It uses free social media tools to build and engage with an online following). This was followed by "Referral"- 23 users - (traffic to the website generated through referral sites (excluding social networks). The last traffic source "Organic video" -1 user- (traffic to the website generated by channels by which users arrive at the website via non-ad links on video sites (here in the REVEAL project, YouTube).

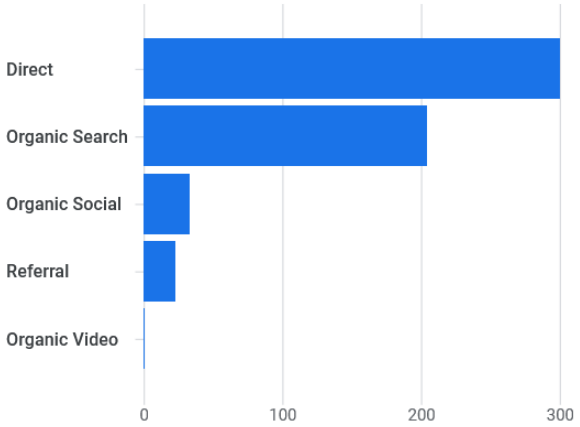


Figure 16: Website traffic acquisition - 3-3-2021 - 30-6-2022 (RP1)

Period covering 1-7-2022-31-12-2023 (RP2)

Figure 17 shows that over the period stretching from 1-7-2022-31-12-2023 (RP2), entering a URL (Direct – 698) was the most popular way for users to enter the website followed by Organic Search (322), i.e., by entering the appropriate terms in a search engine. The least popular were searches through other websites (Referral – 61) and Organic Social where less 20 users used that option. Finally, it has to be noted that 4% (49 users) of the web page traffic was unassigned.

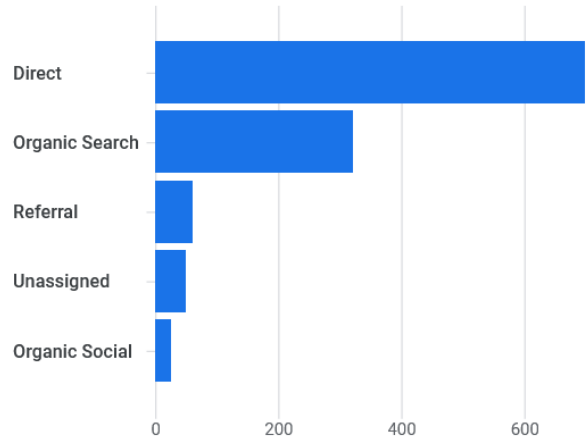


Figure 17: Website traffic acquisition - 1-7-2022-31-12-2023 (RP2)

Period covering 1-1-2024-30-09-2024 (RP3)

Figure 18 shows that during the period from 01-01-2024 to 30-09-2024 (RP3), entering a URL directly (Direct – 612) was the most popular way for users to access the website, followed by Organic Search (202), where users entered relevant terms in a search engine. Notably, 87 users in the web traffic data were unassigned. The least popular sources were referrals from other websites (23) and Organic Social, with fewer than 20 users using that option.

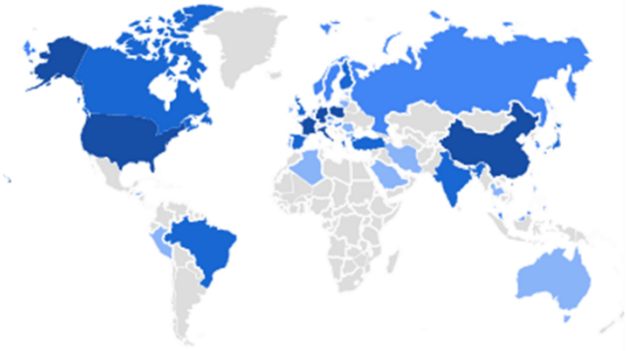
Direct	612
Organic Search	202
Unassigned	87
Referral	23
Organic Social	16

Figure 18: Website traffic acquisition - 1-1-2024-30-09-2024 (RP3)

Website visitor's geographical distribution

***Period covering 3-3-2021-30-6-2022* (RP1)**

Figure 19 shows that over the period stretching from 3-3-2021-30-6-2022 (RP1), most visitors to the website were from China (130) followed by France (121) and the US (69). This suggests the global impact the REVEAL project has had, and its website has been visited by people from all over the world. In Europe, we could observe that - after France – most of the website visitors were from EU countries where the REVEAL partners are located: Germany (60); Poland (54); Italy (36).

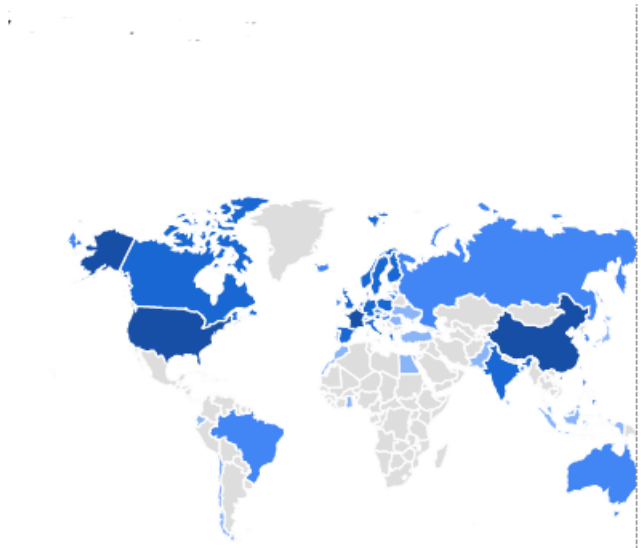


1	China	130
2	France	121
3	United States	69
4	Germany	60
5	Poland	54
6	Italy	36
7	Canada	19
8	India	17
9	United Kingdom	17
10	Spain	14

Figure 19: Website visitor's geographical distribution – 3-3-2021-30-6-2022

***Period covering 1-7-2022-31-12-2023* (RP2)**

Figure 20 showcases a ranking of the top ten countries worldwide for REVEAL website visits. The largest number of users was registered in the US (396), followed by France (168) and China (141) and then other EU countries where REVEAL partner organisations are located: Poland (81), Germany (63), Italy (53), but also Canada (65), Belgium (16) and the Netherlands (16), and India (15).

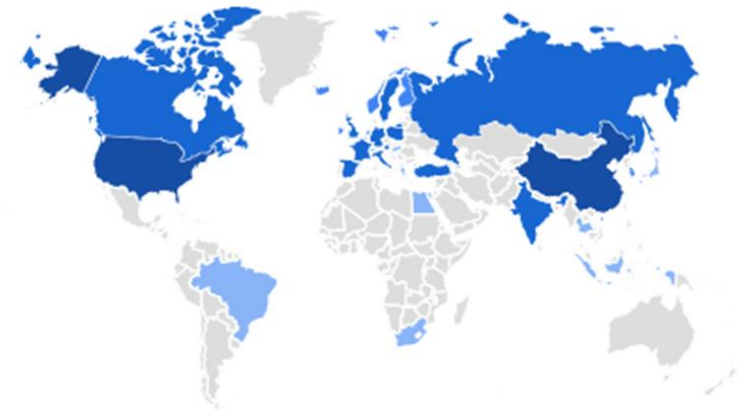


1	United States	396
2	France	168
3	China	141
4	Poland	81
5	Canada	65
6	Germany	63
7	Italy	53
8	Belgium	16
9	Netherlands	16
10	India	15

Figure 20: Website visitor's geographical distribution – 1-7-2022-31-12-2023 (RP2)

***Period covering* 1-1-2024-30-09-2024 (RP3)**

Figure 21 displays a ranking of the top ten countries worldwide for REVEAL website visits. The highest number of users was recorded in the US (439), followed by China (101), France (74), and Canada (47). Other EU countries with REVEAL partner organizations, such as Poland (21), Germany (37), and Italy (16), had fewer visitors, as did the UK (10), India (9), and Belgium (8).



1	United States	439
2	China	101
3	France	74
4	Canada	47
5	Germany	37
6	Poland	21
7	Italy	16
8	United Kingdom	10
9	India	9
10	Belgium	8

Figure 21: Website visitor's geographical distribution – 1-1-2024-30-09-2024 (RP3)

YouTube
In the period stretching from 3-3-2021 to 30-6-2022, 3 videos were published and generated in total 186 views and 1 like.

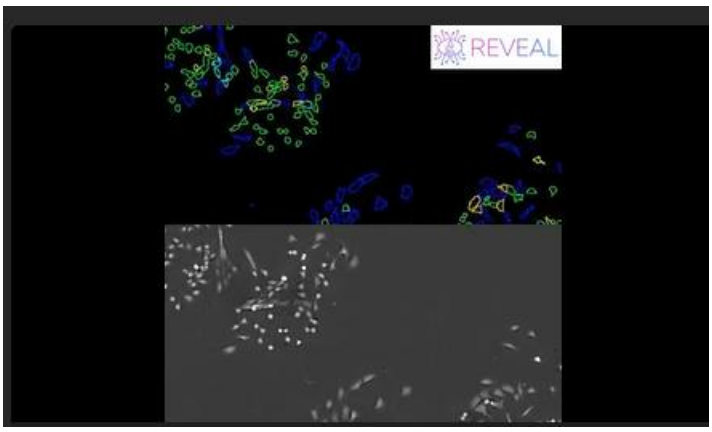


Figure 22: Modified fibroblasts cells imaged and analysed in the frame of the Reveal project

Description:
The experiment took place at IGFL ENS Lyon; Deep learning analysis was made at CEA Leti Grenoble.

Figure 23: Video lensfree microscopy of cell cultures - from 2D to 3D and from computational to neuronal

Description
This training is on lensfree microscopy of cell cultures - from 2D to 3D and from computational to neuronal.

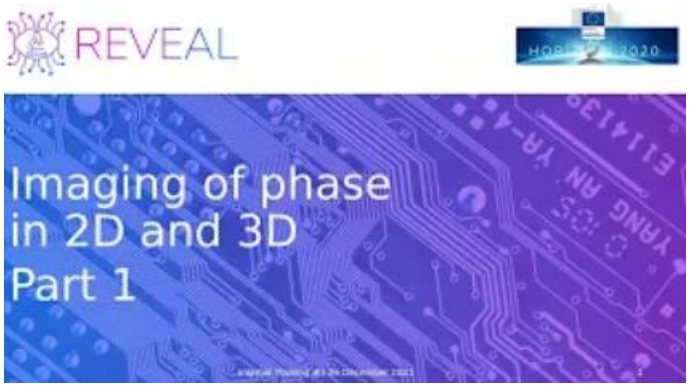


Figure 24: 2D and 3D phase imaging of biological samples - Reveal trainings

Description
This training presents basic information about phase microscopy and phase tomography of biological cells.

Social Media - period covering 3-3-2021-30-6-2022 (RP1)

"X"
In the period stretching from 3-3-2021 to 30-6-2022, the following results were obtained:

- Number of tweets: 17
- Number of re-tweets from project partners professional "X" accounts: 3
- Number of followers: 20
- Number of impressions: 1660
- Number of likes: 74

LinkedIn
In the period stretching from 3-3-2021 to 30-6-2022, the following results were obtained:

- Number of articles/posts: 13
- Number of followers: 47
- Number of views: 7963
- Number of likes: 183

The consortium members also communicated about REVEAL via their own LinkedIn accounts. For example, P3.1 INSERM made three posts which garnered over 6000 impressions (number of times a post has been viewed by the network) alone.

Social Media - period covering 1-7-2022-31-12-2023 (RP2)

"X"
In the period stretching from 1-7-2022 to 31-12-2023, the following results were obtained:

- Number of tweets: 9
- Number of re-tweets: 3
- Number of followers: 34
- Number of impressions: 1456
- Number of likes: 147

LinkedIn

In the period stretching from 1-7-2022 to 31-12-2023, the following results were obtained:

- Number of articles/posts: 9
- Number of followers: 76
- Number of views: 2616
- Number of likes: 212

YouTube

In the period stretching from 1-7-2022 to 31-12-2023, filmed interviews have been conducted and are currently being edited at the time this report is being finalized.

Social Media - period covering 1-1-2024-30-09-2024 (RP3)

"X"

In the period stretching from 1-1-2024 to 30-09-2024, the following results were obtained:

- Number of tweets: 9
- Number of re-tweets: 7
- Number of followers: 37
- Number of impressions: 741
- Number of likes: 14

LinkedIn

In the period stretching from 1-1-2024 to 30-09-2024, the following results were obtained:

- Number of articles/posts: 9
- Number of followers: 76
- Number of views: 4459
- Number of likes: 111

YouTube

In the period stretching from 1-1-2024 to 30-9-2024, 3 videos were published and generated in total 56 views and 1 like.

Figure 25: Spotlight Video Interviews with Project Leader CEA and Partner Organizations IRCCS and LMU – 1-1-2024-30-9-2024

6.1.2 Scientific publications

In the first and second reporting periods and first phase of the third reporting period, the REVEAL partners published 51 papers of which: 47 articles in journals, 4 publications in conference

proceedings/workshops. Out of the 51 publications, 4 were in Green open access and 43 in Gold open access.

Table 4: List of Scientific Publications Produced in Periods 1 and 2 and the First Half of Period 3

Type	Title	Year of publication	Authors	DOI or Link	Green or Gold Open Access
Article in Journal	Roadmap on Digital Holography-Based Quantitative Phase Imaging	2021	Vinoth Balasubramani, Małgorzata Kujawinska, Cédric Allier, Vijayakumar Anand, Chau-Jern Cheng, Christian Depeursinge, Nathaniel Hai, Saulius Juodkazis, Jeroen Kalkman, Arkadiusz Ku´s, Moosung Lee, Pierre J. Magistretti, Pierre Marquet, Soon Hock Ng, Joseph Rosen, Yong Keun Park, Michał Ziemczonok	https://doi.org/10.3390/jimaging7120252	Green open access
Article in a journal	A genetic hypothesis for burnt-out steatohepatitis	2021	Valenti L, Romeo S, Pajvani U.	10.1111/liv.15103	Gold open access
Article in a journal	Age-dependent impact of the major common genetic risk factor for COVID-19 on severity and mortality	2021	Nakanishi T, Pigazzini S, Degenhardt F, Cordioli M, Butler-Laporte G, Maya-Miles D, Nafría-Jiménez B, Bouysran Y, Niemi M, Palom A, Ellinghaus D, Khan A, Martínez-Bueno M, Rolker S, Amitano S, Tato LR; FinnGen, The COVID-19 Host Genetics Initiative; Fava F, Spinner CD, Prati D, Bernardo D, Garcia F, Darcis G, Fernández-Cadenas I, Holter JC, Banales J, Frithiof R, Kiryluk K, Duga S, Asselta R, Pereira AC, Romero-Gómez M, Bujanda L, Hov JR, Migeotte I, Renieri A, Planas AM, Ludwig KU, Buti M, Rahmouni S, Alarcón-Riquelme ME, Schulte EC, Franke A, Karlsen TH, Valenti L, Zeberg H, Richards JB, Ganna A.	10.1172/JCI152386	Gold open access
Article in a journal	To Be or Not to Be: The Quest for Patatin-Like Phospholipase Domain Containing 3 p.I148M Function	2021	Valenti LVC, Cherubini A.	10.1002/hep.32096	Gold open access
Article in a journal	Genetic risk scores and personalization of care in fatty liver disease	2021	Bianco C, Tavaglione F, Romeo S, Valenti L.	10.1016/j.coph.2021.08.014	Gold open access

Article in a journal	Definition of Healthy Ranges for Alanine Aminotransferase Levels: A 2021 Update	2021	Valenti L, Pelusi S, Bianco C, Ceriotti F, Berzuini A, Iogna Prat L, Trotti R, Malvestiti F, D'Ambrosio R, Lampertico P, Colli A, Colombo M, Tsochatzis EA, Fraquelli M, Prati D.	10.1002/hep4.1794	Gold open access
Article in a journal	Insights into Nonalcoholic Fatty-Liver Disease Heterogeneity	2021	Arrese M, Arab JP, Barrera F, Kaufmann B, Valenti L, Feldstein AE.	10.1055/s-0041-1730927	Gold open access
Article in a journal	Reply to: "Ceruloplasmin variants might have different effects in different iron overload disorders"	2021	Corradini E, Valenti LV.	10.1016/j.jhep.2021.07.007	Gold open access
Article in a journal	Genetic predisposition similarities between NASH and ASH: Identification of new therapeutic targets	2021	Bianco C, Casirati E, Malvestiti F, Valenti L.	10.1016/j.jhepr.2021.100284	Gold open access
Article in a journal	Reply to: "Polygenic risk score: A promising predictor for hepatocellular carcinoma in the population with non-alcoholic fatty liver disease"	2021	Jamialahmadi O, Bianco C, Pelusi S, Romeo S, Valenti L.	10.1016/j.jhep.2021.02.030	Gold open access
Article in a journal	A pdcd1 role in the genetic predisposition to nafld-hcc?	2021	Eldafashi N, Darlay R, Shukla R, McCain MV, Watson R, Liu YL, McStraw N, Fathy M, Fawzy MA, Zaki MYW, Daly AK, Maurício JP, Burt AD, Haugk B, Cordell HJ, Bianco C, Dufour JF, Valenti L, Anstee QM, Reeves HL.	10.3390/cancers13061412	Gold open access
Article in a journal	PNPLA3 as a therapeutic target for fatty liver disease: the evidence to date	2021	Cherubini A, Casirati E, Tomasi M, Valenti L.	10.1080/14728222.2021.2018418	Gold open access

Article in a journal	Trends and risk factors of SARS-CoV-2 infection in asymptomatic blood donors.	2021	Valenti L, Pelusi S, Cherubini A, Bianco C, Ronzoni L, Uceda Renteria S, Coluccio E, Berzuini A, Lombardi A, Terranova L, Malvestiti F, Lamorte G, Erba E, Oggioni M, Ceriotti F, Prati D.	10.1111/trf.16693	Gold open access
Article in Journal	Numerical refractive index correction for the stitching procedure in tomographic quantitative phase imaging	2022	Piotr Stępień, Michał Ziemczonok, Małgorzata Kujawińska, Maria Baczewska, Luca Valenti, Alessandro Cherubini, Elia Casirati, and Wojciech Krauze	https://doi.org/10.1364/BOE.466403	Gold open access
Article in Journal	CNN-Based Cell Analysis: From Image to Quantitative Representation	2022	Cédric Allier; Lionel Hervé; Chiara Paviolo; Ondrej Mandula; Olivier Cioni; William Pierré1;Francesca Andriani; Kiran Padmanabhan; Sophie Morales	10.3389/fphy.2021.776805	Green open access
Article in Journal	3D time-lapse imaging of a mouse embryo using intensity diffraction tomography embedded inside a deep learning framework	2022	William Pierré, Lionel Hervé, Chiara Paviolo, Ondrej Mandula, Vincent Remondiere, Sophie Morales, Sergei Grudinin, Pierre F. Ray, Magali Dhellemmes, Christophe Arnoult, and Cédric Allier	10.1364/ao.453910	-
Article in journal	Detailed stratified GWAS analysis for severe COVID-19 in four European populations	2022	Luca Valenti, Alessandro Cherubini, Rossana Carpani	https://academic.oup.com/hmg/article/31/23/3945/6644888?login=true	Gold open access
Article in a journal	Reduced circulating FABP2 in patients with moderate to severe COVID-19 may indicate enterocyte functional change rather than cell death	2022	Assante G, Tourna A, Carpani R, Ferrari F, Prati D, Peyvandi F, Blasi F, Bandera A, Le Guennec A, Chokshi S, Patel VC, Cox IJ, Valenti L, Youngson NA.	10.1038/s41598-022-23282-x	Gold open access
Article in a journal	Clinical and genetic determinants of the fatty liver–coagulation balance interplay in individuals with metabolic dysfunction	2022	Valenti L, Tripodi A, La Mura V, Pelusi S, Bianco C, Scalambrino E, Margarita S, Malvestiti F, Ronzoni L, Clerici M, D'Ambrosio R, Fraquelli M, Carpani R, Prati D, Peyvandi F.	10.1016/j.jhepr.2022.100598	Gold open access

Article in a journal	Numerical refractive index correction for the stitching procedure in tomographic quantitative phase imaging	2022	Stępień P, Ziemczonok M, Kujawińska M, Baczewska M, Valenti L, Cherubini A, Casirati E, Krauze W.	10.1364/BOE.466403	Gold open access
Article in a journal	Reply to: "Lack of hepatic autophagy promotes severity of liver injury but not steatosis": ATG7 genetic variants behave as fatty liver disease progression modifiers	2022	Baselli G, Romeo S, Valenti L.	10.1016/j.jhep.2022.07.026	Gold open access
Article in a journal	Rare ATG7 genetic variants predispose patients to severe fatty liver disease	2022	Baselli GA, Jamialahmadi O, Pelusi S, Ciociola E, Malvestiti F, Saracino M, Santoro L, Cherubini A, Dongiovanni P, Maggioni M, Bianco C, Tavaglione F, Cespiati A, Mancina RM, D'Ambrosio R, Vaira V, Petta S, Miele L, Vespasiani-Gentilucci U, Federico A, Pihlajamaki J, Bugianesi E, Fracanzani AL, Reeves HL, Soardo G, Prati D, Romeo S, Valenti LV	10.1016/j.jhep.2022.03.031	Gold open access
Article in a journal	The rs429358 Locus in Apolipoprotein E Is Associated With Hepatocellular Carcinoma in Patients With Cirrhosis	2022	Innes H, Nischalke HD, Guha IN, Weiss KH, Irving W, Gotthardt D, Barnes E, Fischer J, Ansari MA, Rosendahl J, Lin SK, Marot A, Pedergnana V, Casper M, Benselin J, Lammert F, McLauchlan J, Lutz PL, Hamill V, Mueller S, Morling JR, Semmler G, Eyer F, von Felden J, Link A, Vogel A, Marquardt JU, Sulk S, Trebicka J, Valenti L, Datz C, Reiberger T, Schafmayer C, Berg T, Deltenre P, Hampe J, Stickel F, Buch S.	10.1002/hep4.1886	Gold open access
Article in a journal	Dysmetabolism, Diabetes and Clinical Outcomes in Patients Cured of Chronic Hepatitis C: A Real-Life Cohort Study	2022	Valenti L, Pelusi S, Aghemo A, Gritti S, Pasulo L, Bianco C, Iegri C, Cologni G, Degasperi E, D'Ambrosio R, Del Poggio P, Soria A, Puoti M, Carderi I, Pigozzi MG, Carriero C, Spinetti A, Zuccaro V, Memoli M, Giorgini A, Viganò M, Rumi MG, Re T, Spinelli O, Colombo MC, Quirino T, Menzaghi B, Lorini G, Pan A, D'Arminio Monforte A, Buscarini E, Autolitano A, Bonfanti P, Terreni N, Aimo G, Mendeni M, Prati D, Lampertico P, Colombo M, Fagiuoli S; NAVIGATORE-Lombardia Network.	10.1002/hep4.1851	Gold open access

Article in a journal	Is there an 'ideal' diet for patients with NAFLD?	2022	Pugliese N, Plaz Torres MC, Petta S, Valenti L, Giannini EG, Aghemo A.	10.1111/eci.13659	Gold open access
Publication in Conference proceedings/Workshop	Multiscale and multipurpose phantoms for 2D/3D quantitative phase imaging	2023	Michał Ziemczonok, Małgorzata Kujawińska	http://dx.doi.org/10.1117/12.2649720	-
Article in Journal	Volumetric segmentation of biological cells and subcellular structures for optical diffraction tomography images	2023	Martyna Mazur, Wojciech Krauze	https://doi.org/10.1364/BOE.498275	Gold open access
Article in Journal	Phase unwrapping using deep learning in holographic tomography	2023	Michał Gontarz, Vibekananda Dutta, Małgorzata Kujawińska, Wojciech Krauze	https://doi.org/10.1364/OE.486984	Gold open access
Publication in Conference proceedings/Workshop	Deep learning-based phase unwrapping for holographic tomography	2023	Michał Gontarz, Vibekananda Dutta, Małgorzata Kujawińska	https://doi.org/10.1117/12.2673675	-
Publication in Conference proceedings/Workshop	Cell culture analysis through learning-enabled lens-free microscopy	2023	Florian Lemarchand, Chiara Paviolo, Lionel Hervé, Lamya Ghenim, Kiran Padmanabhan, Cédric Allier	https://cea.hal.science/cea-04272535/	-
Article in journal	Circulating interlukin-32 and altered blood pressure control in individuals with metabolic dysfunction	2023	Luca Valenti, Alessandro Cherubini	https://www.mdpi.com/1422-0067/24/8/7465	Gold open access

Article in journal	The genetics of portal hypertension: recent developments and the road ahead	2023	Luca Valenti	https://onlinelibrary.wiley.com/doi/10.1111/liv.15732	Gold open access
Article in journal	Interaction between estrogen receptor-α and PNPLA3 p.I148M variant drives fatty liver disease susceptibility in women	2023	Luca Valenti, Alessandro Cherubini, Laura Cerami, Rossana Carpani	https://www.nature.com/articles/s41591-023-02553-8	Gold open access
Article in a journal	Impact of PNPLA3 rs738409 Polymorphism on the Development of Liver-Related Events in Patients With Nonalcoholic Fatty Liver Disease	2023	Rosso C, Caviglia GP, Birolo G, Armandi A, Pennisi G, Pelusi S, Younes R, Liguori A, Perez-Diaz-Del-Campo N, Nicolosi A, Govaere O, Castelnuovo G, Olivero A, Abate ML, Ribaldone DG, Fariselli P, Valenti L, Miele L, Petta S, Romero-Gomez M, Anstee QM, Bugianesi E.	10.1016/j.cgh.2023.04.024	Gold open access
Article in a journal	Metabolic dysfunction outperforms ultrasonographic steatosis to stratify hepatocellular carcinoma risk in patients with advanced hepatitis C cured with direct-acting antivirals	2023	Pelusi S, Bianco C, Colombo M, Cologni G, Del Poggio P, Pugliese N, Prati D, Pigozzi MG, D'Ambrosio R, Lampertico P, Fagiuoli S, Valenti L; NAVIGATORE-Lombardia Network.	10.1111/liv.15577	Gold open access
Article in a journal	Adverse effect of PNPLA3 p.I148M genetic variant on kidney function in middle-aged individuals with metabolic dysfunction	2023	Mantovani A, Pelusi S, Margarita S, Malvestiti F, Dell'Alma M, Bianco C, Ronzoni L, Prati D, Targher G, Valenti L.	10.1111/apt.17477	Gold open access
Article in a journal	Circulating indian hedgehog is a marker of the hepatocyte-TAZ pathway in experimental NASH and is elevated in humans with NASH	2023	Moore MP, Wang X, Shi H, Meroni M, Cherubini A, Ronzoni L, Parks EJ, Ibdah JA, Rector RS, Valenti L, Dongiovanni P, Tabas I.	10.1016/j.jhepr.2023.100716	Gold open access

Article in Journal	Prevalence and Determinants of Liver Disease in Relatives of Italian Patients With Advanced MASLD	2024	Luca Valenti, Rossana Carpani	https://www.sciencedirect.com/science/article/pii/S1542356524000466?via%3Dihub	Gold open access
Article in journal	Estrogen–ER-α axis induces PNPLA3 p.I148M protein variant to promote steatotic liver disease susceptibility in women	2024	Luca Valenti, Alessandro Cherubini	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10788875/	Gold open access
Article in a journal	Predictors of controlled attenuation parameter in metabolic dysfunction.	2024	Bianco C, Pelusi S, Margarita S, Tavaglione F, Jamialahmadi O, Malvestiti F, Periti G, Rondena J, Tomasi M, Carpani R, Ronzoni L, Vidali M, Ceriotti F, Fraquelli M, Vespasiani-Gentilucci U, Romeo S, Prati D, Valenti L.	10.1002/ctm2.1524	Gold open access
Article in a journal	Elevated plasma hepcidin concentrations are associated with an increased risk of mortality and nonfatal cardiovascular events in patients with type 2 diabetes: a prospective study	2024	Mantovani A, Busti F, Borella N, Scoccia E, Pecoraro B, Sani E, Morandin R, Csermely A, Piasentin D, Grespan E, Castagna A, Bilson J, Byrne CD, Valenti L, Girelli D, Targher G.	10.1186/s12933-024-02377-x	Gold open access
Article in a journal	Hepatic estrogen receptor alpha drives masculinization in post-menopausal women with metabolic dysfunction-associated steatotic liver disease.	2024	Meda C, Benedusi V, Cherubini A, Valenti L, Maggi A, Della Torre S.	10.1016/j.jhepr.2024.101143	Gold open access
Article in a journal	Estrogen receptor alpha in the female liver: Dr. Jekyll and Mr. Hyde	2024	Della Torre S, Cherubini A, Valenti L.	10.1016/j.jhep.2024.04.032	Gold open access

Article in a journal	The first MASH drug therapy on the horizon: Current perspectives of resmetirom	2024	Petta S, Targher G, Romeo S, Pajvani UB, Zheng MH, Aghemo A, Valenti LVC.	10.1111/liv.15930	Gold open access
Article in a journal	Genetics of Metabolic Dysfunction-associated Steatotic Liver Disease: The State of Art Update	2024	Sookoian S, Rotman Y, Valenti L.	10.1016/j.cgh.2024.05.052	Gold open access
Article in a journal	The contribution of genetics and epigenetics to MAFLD susceptibility	2024	Moretti V, Romeo S, Valenti L.	10.1007/s12072-024-10667-5	Gold open access
Article in a journal	SIRT5 rs12216101 T>G variant is associated with liver damage and mitochondrial dysfunction in patients with non-alcoholic fatty liver disease	2024	Salomone F, Pipitone RM, Longo M, Malvestiti F, Amorini AM, Distefano A, Casirati E, Ciociola E, Iraci N, Leggio L, Zito R, Vicario N, Saoca C, Pennisi G, Cabibi D, Lazzarino G, Fracanzani AL, Dongiovanni P, Valenti L, Petta S, Volti GL, Grimaudo S.	10.1016/j.jhep.2023.09.020	Gold open access
Article in a journal	Detecting abnormal cell behaviors from dry mass time series	2024	R. Bailly R., M. Malfante, C. Allier, C. Paviolo, L. Ghenim, K. Padmanabhan, S. Bardin, and J. Mars	10.1038/s41598-024-57684-w	Gold open access
Article in a journal	A CNN-based approach for 3D artefact correction of intensity diffraction tomography images	2024	W. Pierré, M. Briard, G.Godefroy, S. Desissaire, M. Dhellemmes, E. del Llano, C. Loeuillet, P. F. Ray, C. Arnoult, C. Allier, L. Hervé, and C. Paviolo	10.1364/OE.523289	Gold open access

Publication in Conference proceedings/Workshop	Missing Cone Problem Correction with Deep Learning Based Segmentation	2024	Michał Gontarz, Wojciech Krauze, Vibekananda Dutta, and Małgorzata Kujawińska	10.1364/DH.2024.M2A.4	Gold open access
Article in a journal	qtOCT: quantitative transmission optical coherence tomography	2024	Wojciech Krauze, Martyna Mazur, Arkadiusz Kuś	https://doi.org/10.48550/arXiv.2405.14315	Green open access

KPI Achievements

KPI achievements are measured (in aggregate) against the target indicated under chapter 4.

KPI's	Target	Achieved at M18	Achieved at M36	Achieved at M45
Number of publications in international journal	10 publications in international journal	20 publications in international journals	34 publications in international journals	46 publications in international journals

There are 7 scientific papers under preparation or consideration at project month 46.

Table 5: List of scientific publications under preparation/consideration

Type	Title	Authors	Green or Gold Open Access	WP
Article in Journal	Paper on 3D phantom	WUT+ENS+CEA	TBD	WP3
Article in Journal	Paper on 2D phantom	WUT + CEA	TBD	WP1
Article in Journal	Novel phase retrieval method based on hybrid ODT-OCT approach for analysis of thick biological samples	WUT	TBD	WP3
Article in Journal	Characterization of mouse models of HCC	ENS	TBD	WP4
Article in Journal	ONP Transcriptome analysis of liver tissues	ENS	TBD	WP4
Article in Journal	Multiplicative Update Rule for Positive problems	CEA	TBD	-

Article in Journal	Paper on the automatic tomography imaging system	CEA + ENS	TBD	-
Article in Journal	Paper on imaging rhythms in organoids	ENS	TBD	-

6.1.3 Events organized by the project consortium

Period covering 1-7-2022-31-12-2023 (RP2)

IGFL 10-year anniversary event

The IGFL at ENS LYON celebrated its 10-year anniversary with an international symposium in March 2023. This program was orchestrated by Kiran Padmanabhan, included renowned speakers from the fields of evolution, development and physiology from Harvard, Biozentrum Basel and Oxford and Cambridge Universities. Moreover, it attracted over 200 scientific attendees over the course of 2 days including a public lecture (open to the large public) from Nipam Patel, the Director of the Marine Biological Laboratories at Woods Hole (open to 400 attendees).
The event obtained financial support by both SME's involved in REVEAL project, Sartorius Global ALS and IPRASENSE. The logos of all the public and private sponsors were displayed on the special website created for the event. To note, SARTORIUS (Susanne Freyberg and colleagues) and IPRASENSE (Geoffrey Esteban and colleagues) were the only private entities that sponsored the event. In addition to presenting the REVEAL project to a wide audience (Marie Fackeure and Kiran Padmanabhan, ENS LYON), both SME's were able to present their companies to the attendees at a dedicated stand and Kiran Padmanabhan presented the CellCelector from SARTORIUS ALS and the Cytonote from IPRASENSE as part of a powerpoint presentation thanking the sponsors to all the attendees.

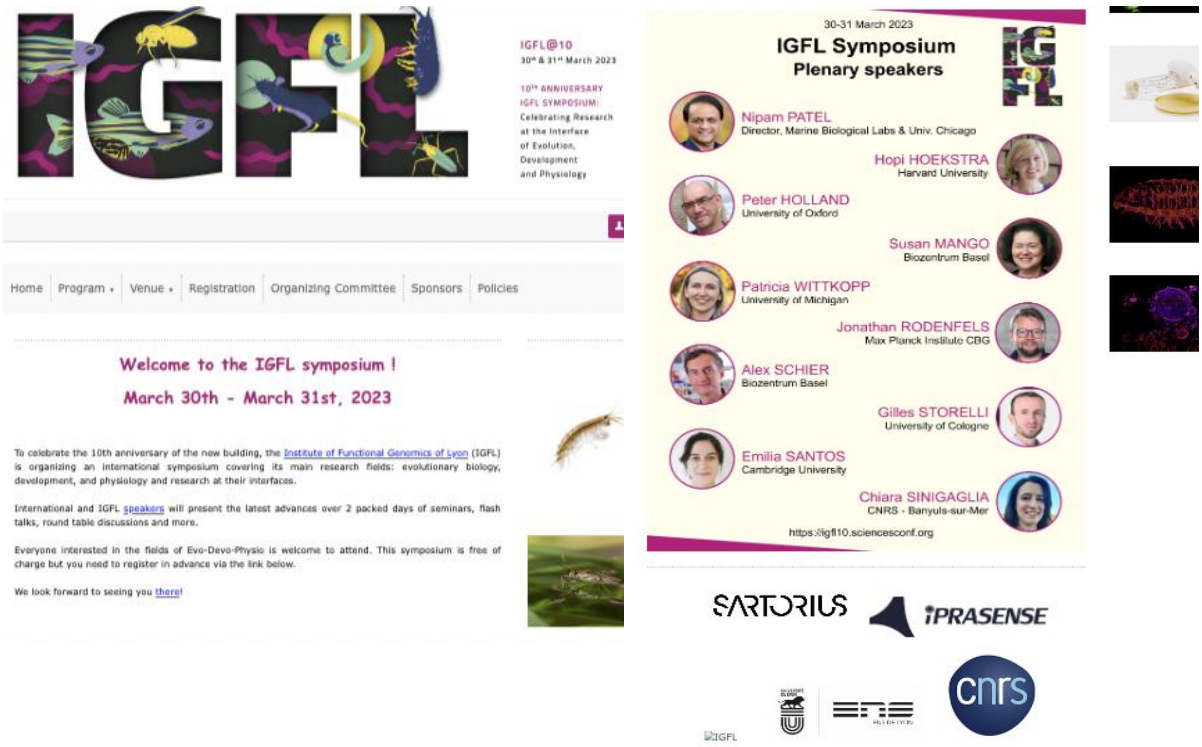


Figure 26: Screen shot of the IGFL@10 symposium website highlighting the speakers and sponsors

First Half of the Period covering 1-1-2024-30-09-2024 (RP3)

In Period 3, the REVEAL project was showcased at CEA Leti Innovation Days (June 25–27, 2024) in Grenoble, France. On this occasion, Chiara Paviolo delivered an invited talk titled "Non-conventional Optical Imaging Coupled with Proteomic and Genomic Analysis in Cancerology.

Figure 27: Chiara Paviolo delivering an invited talk at LETI Innovation Days (June 25–27, 2024).

Education and Training Programme

Period covering 1-1-2021-30-06-2022 (RP1)

In project year 1, WUT organised a series of three online training sessions (technical & biology) to allow better understanding between partners and especially newcomers to the project. Three training sessions of one hour each were provided by different partners and were focused on different topics. A fourth training session has been planned at the beginning of project year 2.

Table 6: List of internal hands-on trainings

Training session #	Partner	Topic of the training session	Date
1	IRCCS	Medical part of the project (e.g. description of the cancer analysed in the project, organoids, methods of producing samples)	7 Oct. 2021
2	ENS / LMU MUENCHEN	Genomics and proteomics	8 Nov. 2021
3	WUT	Optical phase measurements in 2D and 3D - part 1	6 Dec. 2022
4	CEA	Optical phase measurements in 2D and 3D - part 2	10 Jan. 2022

Period covering 1-7-2022-31-12-2023 (RP2)

Following internal online trainings in Period 1, organization of internal hands-on courses and cross-trainings has been done in Period 2. The purpose of these trainings was to increase competences of the partners in the area of specialization of other partners, with strong focus on practical elements. During these courses, participants consortium took active part in conducting measurements with imaging devices used in REVEAL, e.g. intensity diffraction tomography, optical diffraction tomography, lensless microscopy or confocal microscopy. 1 training was devoted to 3D printing with 2-photon polymerization. In terms of biological competences, there were courses on cell and organoid cultures, FACS and circadian clock disruption. Additionally, in Period 2 we organized the first external course in Warsaw. Next external courses will be organized in the next reporting period 3.

Details on the 9 internal hands-on trainings organized in Period 2 are shown in Table 7

Table 7: List of internal hands-on trainings

When	Title	Where	Participants
12-15.09.2022	Digital Holographic Microscopy, Holographic Tomography, 2-photon 3D printing	WUT, Warsaw, Poland	Cedric Allier, Ondrej Mandula (CEA Leti) + WUT team
5-9.12.2022	Lensless Microscopy, Holographic Tomography, Culturing cells and organoids	ENS Lyon, Lyon, France	Maria Baczewska, Michał Ziemczonok (WUT) + CEA Leti team + ENS Lyon team
9-20.01.2023	Machine learning algorithms for processing of phase images of cells	CEA Leti, Grenoble, France	Michał Gontarz (WUT) + CEA Leti team

9-20.01.2023	3D microscopy training + training on multimodal fluorescence+ phase imaging	CEA Leti, Grenoble, France	Michał Gontarz (WUT) + CEA Leti team
8.02.2023	Training on biological models/data/experiments	CEA Leti, Grenoble, France	CEA Leti, ENS Lyon
13-17.02.2023	Training on 3D organoids culture and lensless imaging	PCLM, Milano, Italy	PCLM, CEA Leti, ENS Lyon
30.05-02.06.2023	Training on 2D/3D cell culture + FACS	ENS Lyon, Lyon, France	CEA Leti, ENS Lyon
10-14.07.2023	3D tomography training	WUT, Warsaw, Poland	Kiran Padmanabhan (ENS), WUT team
13.07.2023	Training on circadian clock disruption in biological cells	WUT, Warsaw, Poland	WUT team (training was given by Kiran Padmanabhan)

Details on the external course organized in Period 2 are provided in Table 8.

Table 8: External course/training.

When	Title	Where	Participants
14.07.2023	Molecular and epigenetic regulation of biological clocks	Institute of hematology and transfusiology, Warsaw, Poland	Employees of the Institute of hematology and transfusiology. Course was given by Kiran Padmanabhan (ENS Lyon)

First Half of the Period covering 1-1-2024-30-09-2024 (RP3)

In the first half of the Period 3, WUT organized - in the context of PhotonHub Europe initiative - an external hands-on training course focused on the metrological assessment of quantitative phase imaging (QPI) systems using bio-inspired phantoms manufactured via two-photon polymerization.

Details on the hands-on training course are provided in Table 9.

Table 9: External course/training.

When	Title	Where	Participants
19-20.06.2024	True QPI – Metrology of Quantitative Phase Imaging Systems for Biomedical Applications	True_QPI Experience Centre, Warsaw, Poland	Developers and manufacturers of phase microscopy products; Laboratories and companies providing biomedical diagnostic services and farmaceutical companies introducing new medicines and utilize or plan to utilize QPI methods.

6.1.4 Participation to events

Period covering 1-7-2022-31-12-2023 (RP2)

In period 2, 58 national and international events (Congresses, Seminars, Departmental Seminars, Schools, Symposia, Workshops, Conferences, Online Conferences, Meetings, Anniversary Event) were visited by REVEAL consortium members.

Table 10: List of events visited by REVEAL consortium members in Period 2 - 1-7-2022-31-12-2023

Event Type – Title - URL	Audience (Cat., size)	Place and date	Involved partner (contribution, materials)
EBRS (European biological rhythms Society) 2022 - Congress https://www.ebrs2022.uzh.ch/en.html	>50 attendants	Zurich, Switzerland – 24-28/07/2022	ENS LYON Oral presentation promoting REVEAL– ppt slides
25th European Association for the Study of Diabetes (EASD) Oxford Workshop "Diabetes: from the Liver to the Heart"	>50 attendants	Oxford, UK - 5-8/8/2022	PCLM Oral presentation "Genetic biomarkers of Fatty Liver Disease and Polygenic Risk Scores"
European Association for the Study of Liver Disease (EASL) NAFLD Summit	>50 attendants	Dublin - 15/9/2022	PCLM Oral presentation "Personalized Medicine in 2032: how will it look like? Gene silencing by siRNA treatment"
SCI Journal Writing Prestige Online Workshop	50 attendants	Online event - 21/9/2022	PCLM Oral presentation "Tips for publishing in Liver International"
European Atherosclerosis Society (EAS) Webinar	-	Online 21/09/2022	PCLM Invited Talk "Role of APOB and MTTP mutations in Liver Disease"
EASL MASLD Summit	-	Prague, Czechia 23/09/2023	PCLM Invited Talk "Pathways in MASLD pathophysiology: beyond the usual suspects - Gene Targeting"
Webinar Liver Center	<50 attendants	Online event - 4/10/2022	PCLM Oral presentation "NAFLD Summit Recap"
Chinese society for biological rhythms seminar	50 attendants	Online Zoom event- 07/10/2022	ENS LYON Oral presentation promoting REVEAL–

			ppt slides
ISCTC, UniCaen, departmental seminar	50 attendants	Caen, France - 11/10/2022	ENS LYON Oral presentation promoting REVEAL– ppt slides
Heterogeneity in nutritional and metabolic health	>50 attendants	Online Meeting - 14/10/2022	PCLM Oral presentation "Heterogeneity of Fatty Liver Disease"
Annual Società Italiana di Medicina Interna (SIMI) meeting - Seminar "Hyperferritinemic syndromes"	-	Roma, Italy 22/10/2022	PCLM Chair and organization
NAFLD symposium, Congresso Annuale Società Italiana di Diabetologia (SID)	>50 attendants	Rimini (Italy) - 29/10/2022	PCLM Oral presentation "NAFLD: extra-hepatic malignancies"
Sleep and Chronobiology European School https://www.ebrs-online.org/events/chronobiology-events/16-events/121-chronobiology-school-2022.html	Circa 40 attendants	Munich, Germany 6-12/11/2022	LMU Talk with ppt presentation
Chromatin symposium https://epigenetics.fr/epigenetics-meeting-24-thursday-nov-17th-2023-10am-embl/	50 attendants	Grenoble, France -- 17/11/2022	ENS LYON Oral presentation promoting REVEAL– ppt slides
NAFLD o MAFLD: it is only a semantic question?" Seminar	50 attendants	Albano Laziale (Italy) 18/11/2022	PCLM Oral presentation "HCC and metabolic disorders
Spie Photonics West Quantitative Phase Imaging Conference	International, circa 100	San Francisco, USA 28/01-02/02/2023	WUT – Oral presentation of WP1 and WP3 results
32nd Meeting of the Asian-Pacific Association for the Study of the Liver (APASL)	International, >100 attendants	Taipei, (Taiwan) 16/02/2023	PCLM Oral presentation "Genomics and Epigenomics of Non-Alcoholic Fatty Liver Disease"
Indian Institute of Science Education and Research seminar	50 attendants	Pune , India - 17/02/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
Indian Institute of Science Education and Research seminar	100 attendants	Trivandrum, India - 20/02/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
EASL Studio Webinar "Genetics in adult liver disease: missed opportunities?"	-	Geneva, Switzerland 22/02/2023	PCLM Invited participation
IOS'2023: Integrated Optics-Sensors,	International, circa 130	Szczyrk, Poland,	WUT- Invited talk-

Sensing Structures and Methods Microphantoms for validation of 2D/3D quantitative phase imaging https://ios-conference.pl/index.php/pl/2-uncategorised/93-information	attendants	02/03/2023	presentation of WP1 and WP3 results (focused on 2D/3D phantoms for validation of REVEAL systems)
LMU, Munich CRC Consortium for chromatin dynamics	70 attendants	Munich, Germany - 09/03/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
55th AISF Annual Meeting	>100 attendants	Rome, Italy - 17/03/2023	PCLM Moderation of Symposium and Invited Talk "Identification of high-risk cases and novel therapeutic approaches: genomics in the real world
China Foreign Experts Program	50 attendants	Webinar 27/03/2023	PCLM Oral presentation "Genetics of Fatty Liver Disease"
"Obesity Dialogues: the Gastroenterology Perspective" Webinar	-	Online Bucharest, Romania 28/03/2023	PCLM Invited Web-Talk "New horizons for incretin therapy: from obesity to NASH"
Convegno SID Lombardia "La malattia epatica nell'ambulatorio di malattie metaboliche"	-	Cesano Maderno, Italy 16/04/2023	PCLM Invited Talk "Impatto di obesità e diabete sulla malattia epatica"
50 Years Max Planck Institute of Biochemistry https://fifty-years.biochem.mpg.de/en/	>100 attendants	Martinsried, Munich district, Germany 24-25/04/2023	LMU Talk with ppt presentation
2023 SCI Journal Writing Prestige Workshop	50 attendants	Webinar 19/05/2023	PCLM Oral presentation "Epidemiology and Genetics of Fatty Liver Disease"
Translational workshop on sleep and rhythms, NeuroFrance https://www.crnl.fr/fr/evenement/sommeil-rythmes-clinique-recherche-fondamentale	100 attendants	Bron, France - 23/05/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
91th Congress of the European Association of Atherosclerosis (EAS)	-	Mannheim, Germany 24/05/2023	PCLM Invited Talk "Epidemiology and

			Genetics of Fatty Liver Disease”
Integrated Management Approach for Cardiometabolic Diseases”, KSA Webinar	-	Online, 25/05/2023	IRCCS Invited Talk “NAFLD: liver disease risk stratification”
Bicocca Hepato-Gastro Meeting	50 attendants	Milan, Italy - 15/06/2023	PCLM Invited Talk “Genetics in NAFLD”
EASL Congress 2023	International, >100 attendants	Wien, Austria - 21-24/06/2023	PCLM Poster - NAFLD: Experimental and pathophysiology and Moderation of Sessions “NAFLD: noninvasive diagnosis”
Webinar “MAFLD: case “finding” & approccio non farmacologico” Società Italiana Medicina Interna (SIMI)	-	Online 28/06/2023	PCLM Invited Webinar “Definizione, epidemiologia e stratificazione prognostica”
Webinar “Nuove conoscenze sulle colestasi genetiche: dai meccanismi molecolari alle implicazioni per la diagnosi e la terapia” Società Italiana Medicina Interna (SIMI)	-	Online 01/07/2023	PCLM Invited Webinar “Genetica e Clinica della Colestasi Intraepatica della Gravidanza”
CBI Toulouse, departmental seminar	70 attendants	Toulouse, France - 05/07/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
Columbia University Meeting	50 attendants	New York, USA - 06/07/2023	PCLM Invited Talk “A functional interaction drives fatty liver disease susceptibility in women”
IHIT, Warsaw University, departmental seminar	30 attendants	Warsaw, Poland - 13/07/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
Convegni “Metodi di biocomputazione: Dall’imaging alla genetica”		Fondazione IRCSS Ca’ Granda Ospedale Maggiore Policlinico Milano, Italy 17/07/2023	PCLM Invited Talk “From Genomics to Precision Medicine in Hepatology”
SPIE Optical Metrology	International, circa 100	Munich,	WUT – Oral

Deep learning-based phase unwrapping for holographic tomography	attendants	Germany, 9/08/2023	presentation of results of REVEAL project
GRETSI 2023-29ème Colloque Francophone de Traitement du Signal et des Images https://gretsi.fr/colloque2023/grenoble/	>100 attendants	Grenoble, France 28/08/2023	CEA – Poster presentation of results of REVEAL project
Polish Metrology Congress https://km.wat.edu.pl/	Circa 110 attendants	Ryn, Poland 12/09/2023	WUT – invited talk presentation of results of REVEAL project (focus on metrology problems)
ICT36 online conference	Consortia members – circa 20 attendants	14/09/2023 - Online	CEA - Oral presentation of REVEAL project (goal, expertise, needs and possible interactions with the other projects' partners)
Biozentrum, departmental seminar	50 attendants	Basel, Switzerland – 18/09/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
AISF Single Topic Conference "Liver oncology: from basic science to transplantation"	>50 attendants	Padua, Italy - 28/09/2023	PCLM Invited Talk "Drivers of liver carcinogenesis - MAFLD"
Summer school: SFO Thematic School 2023: Waves in Complex Media: From Theory to Practice	Circa 80 attendants	Les Houches Physics School, Chamonix Mont Blanc Valley, France 18-29/09/2023	Martyna Mazur from WUT took part in the summer school and presented a poster.
GdR ISIS, Traitement de l'information en imagerie des milieux complexes : problèmes inverses, IA, wavefront shaping	National symposium, < 100 attendants	Paris, France 02/10/2023	CEA – Oral presentation of results of REVEAL project
EASD annual meeting	-	Hamburg, Germany 04/10/2023	PCLM Invited Talk "NAFLD and diabetes: chicken or egg? – Is NAFLD a cause or consequence of Type 2 Diabetes?"
VIII International Conference on Speckle Metrology https://www.learningconf.cn/Meeting Main/Index/SPECKLE2023	International, circa 150 attendants	Xi'an, China 19/10/23	WUT – Plenary talk presentation of results of REVEAL project
Seminar of Nanjing Univesity of	Researchers from Nanjing	Nanjing, China	WUT – Invited talk

Science and Technology https://www.scilaboratory.com/	Univesity of Science and Technology, ~50 attendants	21/10/2023	(results of REVEAL project)
6th Conference on Frontiers in Optical Imaging and Detecting Technology and Application https://b2b.csoe.org.cn/meeting/FOI2023.html	International, ~1000 attendants	Nanjing, China 22/10/2023	WUT – Invited talk, (results of REVEAL project)
Congresso annuale SIMI	-	Rimini, Italy 20-22/10/2023	PCLM Invited Talk "La diagnosi non invasiva: quale ruolo per score, biomarcatori, polimorfismi e tecniche di imaging", simposio "Il fegato organo target delle malattie cardio-metaboliche" e moderazione sessione orale epatologia
Pan India Scientific Webcast - Pearls of EASD	-	Online 27/10/2023	PCLM Invited Talk "NAFLD and diabetes: chicken or egg? – Is NAFLD a cause or consequence of Type 2 Diabetes?"
15e Colloque des Belles Souris, symposium seminar http://stemcells.free.fr/?page_id=1175	250 attendants on site 900 attendants online	Paris, France - 09/11/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
NeuroPSI, departmental seminar https://neuropsi.cnrs.fr/en/events/kiran-padmanabhan-2/	50 attendants	Paris, France - 10/11/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
CIRB, College de France, departmental seminar https://cri1149.fr/wp-content/uploads/2023/11/seminaires-et-webinaires-du-13-au-24-novembre-2023.pdf	50 attendants	Paris, France - 14/11/2023	ENS LYON Oral presentation promoting REVEAL– ppt slides
GdR-ISIS, Etat des lieux de la reconstruction tomographique	National symposium, < 100 attendants	Lyon, France 23/11/2023	CEA – Oral presentation of results of REVEAL project
Optic 2023 https://optic2023.conf.tw/site/page.aspx?pid=901&sid=1495&lang=en	International, circa 250 attendants	Tainan,Taiwan 02/12/2023	WUT – Invited talk presentation of results of REVEAL project

First Half of the Period covering 1-1-2024-30-09-2024 (RP3)

In the first half of period 3, 12 national and international events (Congress, Symposia, Conferences, Meetings) were visited by REVEAL consortium members.

Table 11: List of events visited by REVEAL consortium members in the first half of Period 3 - 1-7-2022-31-12-2023

Event Type – Title - URL	Audience (Cat., size)	Place and date	Involved partner (contribution, materials)
Optica Digital Holography and Three-Dimensional Imaging Topical Meeting International Conference	Scientific community	Pompei, Italy 3-6/06/2024	Invited talk: Neuronal microscopy for cell behavioral examination and manipulation Talk: G. Godefroy, C. Fiche, S. Desissaire, H. Lionel, T. Cantat-Moltrecht, C. Tebbakh, C. Loeuillet, C. Arnoult, E. Del Llano, P. Ray, C. Paviolo, ''Monitoring Preimplantation Embryo Development Using a 3D Holographic Video Microscope and AI-Assisted Image Analysis''
SPIE Photonics Europe International Conference	Scientific community	Strasbourg, France 8-10/04/2024	C.Paviolo, S. Desissaire, E. del Llano, M. Fackeure, J. Neri, C. Fiche, C. Loeuillet, P. F. Ray, C. Arnoult, K. Padmanabhan, and L. Hervé, "A bimodal fluorescence and phase microscope for time-lapse imaging of 3D multi-scattering objects", SPIE Photonics Europe, Unconventional Optical Imaging IV, 2024 (Talk). L. Hervé, S. Bonnet, S. Desissaire, E. del Llano, C. Loeuillet, P. F. Ray, C. Arnoult, C. Paviolo, ''3D fluorescence

			recovery by using a new algorithm implementing total variation regularization and the positivity constraint'', SPIE Photonics Europe, Unconventional Optical Imaging IV, 2024 (Poster). F. Lemarchand, A. Martin, K. Padmanabhan, C. Paviolo, C. Allier, L. Hervé, C. Paviolo, C. Allier, "Quantitative analysis of cell culture through learning-enabled lens-free microscopy", SPIE Photonics Europe, Unconventional Optical Imaging IV, 2024 (Talk). A. T. Kus, M. Ziemczonok, C. Fiche, S. Desissaire, C. Acquitter, L. Hervé, M. Fackeure, J. Neri, W. Krauze, K. Padmanabhan, C. Paviolo, ''3D-printed organoid phantoms: a tool for developing quantitative phase imaging methods for highly-scattering samples'', SPIE Photonics Europe, Unconventional Optical Imaging IV, 2024 (Talk). A. Martin, F. Lemarchand, K. Padmanabhan, L. Hervé, O. Cioni, C. Paviolo, ''Identifying heterogeneity in cell culture through machine learning-enabled lens-free microscopy'', SPIE

			Photonics Europe, Unconventional Optical Imaging IV, 2024 (Talk).
Diabete mellito tipo 2 e fegato: la NAFLD Other event	Scientific community (including students and researchers) - >50 attendants	Verona, Italy 20/01/2024	PCLM Oral presentation "NAFLD e rischio neoplastico"
CIC bioGUNE Other event	Scientific community (including students and researchers) - >50 attendants	Bilbao, Spain 25-26/01/2024	PCLM Oral presentation "A sex-genotype interaction drives fatty liver disease susceptibility in women"
MASH and Fibrosis: From Molecular Phenotypes to Precision Therapeutics. Symposia	Scientific community (including students and researchers) - >100 attendants	Banff, Canada 3-6/03/2024	PCLM Oral presentation "PNPLA3, Estrogens and SLD Progression in Women" and "PNPLA3 p.I148M Variant Affects Lipid Droplets Number and Size in Patient-derived Liver Organoids"
56th AISF Annual Meeting	Scientific community (including students and researchers) - >50 attendants	Rome, Italy 14-15/03/2024	PCLM Oral presentation "Role of rare and common variants in the diagnosis of adults with cryptogenic liver and lipid disorders"
HCC- UK Annual Conference	Scientific community (including students and researchers) - >50 attendants	Cambridge, UK 21-22/03/2024	PCLM Oral presentation "Genetic determinants of MASLD-HCC: from lipotoxicity to inflammation"
International Symposium on Rare Liver Diseases	Scientific community (including students and researchers) - >100 attendants	Santander, Spain 11-12/04/2024	PCLM Oral presentation "Integrate genomic data into clinical practice"
9th International Graz Symposium on Lipid and Membrane Biology	Scientific community (including students and researchers) - >100 attendants	Graz, Austria 18-20/04/2024	PCLM Oral presentation "Interaction between PNPLA3 I148M variant and ERalpha drives steatotic liver disease susceptibility in women"

Il presente e il futuro dell'epatologia Other event	Scientific community (including students and researchers) - >50 attendants	Taormina, Italy 3-4/05/2024	PCLM Oral presentation "Applicazioni cliniche della genetica per il paziente con malattia steatotica epatica: ruolo attuale e prospettive future"
EASL Congress 2024	Scientific community (including students and researchers) - >100 attendants	Milan, Italy 5-8/06/2024	PCLM Oral presentation "Implications to clinical research and drug development " and POSTER presentation "Liver fibrosis and Lipoprotein(a) levels in individuals with metabolic dysfunction ", "Heterozygosity for rare Apolipoprotein B variants predispose to severe metabolic associated steatotic liver disease ", "PNPLA3 p.I148M variant affects lipid droplets number and size in patient-derived liver organoids", "Impact of clonal hematopoiesis of indeterminate potential on hepatocellular carcinoma in steatotic liver disease"
AISF Monothematic Conference 2024	Scientific community (including students and researchers) - >50 attendants	Salerno, Italy 27-28/09/2024	PCLM Oral presentation "Precision medicine and risk of advanced chronic liver disease"
Society for Research on Biological Rhythms- from cell to clinic	>400	Puerto Rico, USA	ENSL Effect of circadian disruption on chromatin state
Symposium on Gene expression in health and disease	>50	Barcelona, Spain	Rhythmics ONP transcriptomes in liver

Dept. of Biotechnology, RGCB, Trivandrum, 2024	>50	Trivandrum, India	Rhythmics ONP transcriptomes in liver
Center for Integrative Genomics, University of Lausanne	>50	Lausanne, Switzerland	Circadian disruption in disease

7 CONCLUSION

Communication and dissemination activities have continued throughout the first half of the third reporting period (January 1 – September 30, 2024), following the momentum established in the first two periods. The KPIs demonstrated significant achievements in these areas, aligning well with the project's strategy and leveraging all materials and resources designed to enhance REVEAL project awareness.

Additionally, the education and training program continued during this period, highlighted by an external hands-on training course.

A final iteration of this deliverable will be prepared at the project's conclusion (month 54).

ANNEX 1 - GENERAL ROADMAP OF THE COMMUNICATION-DISSEMINATION ACTIVITIES

Table 12: REVEAL Communication and Dissemination Roadmap

Action	Date/Frequency	Objective	Target audience	Mean	Lead Partner	Results expected
YEAR 4 - 2024						
Feed REVEAL website and Social Media	M37 (Jan. 24) to M48 (Dec. 24) If possible, a post per month	Promote the project and its results	Research Community? Medical Community, Industrials & SMEs Civil society/Policy makers/EU Public agencies	News and posts about the project and its results or any other valuable information related to it	P3 ENS DE LYON	Increase project visibility through the website and Social Media; maintain frequentation and continuous interest; Ensure up-take and exploitation of the REVEAL project results;
Consortium events considered for 2024						
Online training	M37 (Jan. 24) to M48 (Dec. 24)	Principles of operation and applications of REVEAL.	Outside users of the REVEAL technologies	Video conference system	WUT	Ensure up-take and exploitation of the REVEAL project results
Dedicated seminars organised on demand	M37 (Jan. 24) to M48 (Dec. 24)	To establish links with related on-going research initiatives To build new collaborative research activities	researchers & engineers specialized in biology, biophotonic and cross thematic	Video conference system or face to face	ALL	Transfer and adoption of results, design of new collaborative research proposals, stimulation of new research collaboration and training provided to students.

Workshops and Brokerage Events	M37 (Jan. 24) to M48 (Dec. 24)	To facilitate transfer and adoption of results, To design new collaborative research proposals, To stimulate new research collaboration and train students.	Hospital, clinicians and specialists	Video conference system or face to face	ALL PARTNERS	Better acceptance and adoption of REVEAL results
YEAR 5 - 2025						
Feed REVEAL website and Social Media	M49 (Jan. 24) to M54 (Jun. 25) If possible, a post per month	Promote the project and its results	Research Community? Medical Community, Industrials & SMEs Civil society/Policy makers/EU Public agencies	News and posts about the project and its results or any other valuable information related to it	P3 ENS DE LYON	Increase project visibility through the website and Social Media; maintain frequentation and continuous interest; Ensure up-take and exploitation of the REVEAL project results;
General Flyer (update) & Roll-up banner	Whenever needed in the period	Make the project new results be known	Research Community? Medical Community, Industrials & SMEs Civil society/Policy makers/EU Public agencies	Distribution of flyers and roll-up banner display at events; Making these means available from REVEAL website and social media	P3 ENS DE LYON	Create awareness about the project and its new results Attract new visitors & followers to website and social media
Videos	Appropriate timing to define	Promote the whole project's achievements	Research Community? Medical Community, Industrials & SMEs Civil society/Policy makers/EU Public agencies	You Tube, REVEAL Website and Social Media,	P3 ENS DE LYON	Get significant number of video views Repercussion on website and Social Media frequentation

Hands-on training	2 trainings between M49 (Jan. 25) and M54 (Jun. 25)	Train users in REVEAL-associated imaging technologies	Outside users of the REVEAL technologies	Stationary training at WUT	WUT	Ensure up-take and exploitation of the REVEAL project results
International events where REVEAL project could be promoted in 2025						
ECBO	22-26 June 2025 Munich, Germany	Inform about REVEAL project and results	Research community, Industry and SME	Face to face or remotely	CEA, WUT	Ensure up-take and exploitation of the REVEAL project results; Repercussion on industrial and research cooperation
Focus on Microscopy 2025 Conference	13-16 April 2025 Taipei, Taiwan,	Inform about REVEAL project and results	Research community, Industry and SME	Face to face or remotely	WUT	Ensure up-take and exploitation of the REVEAL project results; Repercussion on industrial and research cooperation
Photonics West 2025	28-30 January 2025, San Francisco, USA	Inform about REVEAL project and results	Research community, Industry and SME	Face to face	WUT	Ensure up-take and exploitation of the REVEAL project results; Repercussion on industrial and research cooperation
Consortium events considered for 2025						
Dedicated seminars organised on demand	M49 (Jan. 25) to M54 (Jun. 25)	To establish links with related on-going research initiatives To build new collaborative research activities	researchers & engineers specialized in biology, biophotonic and cross thematic	Video conference system or face to face	ALL	Transfer and adoption of results, design of new collaborative research proposals, stimulation of new research collaboration and training provided to students.

Workshops and Brokerage Events	M49 (Jan. 25) to M54 (Jun. 25)	To facilitate transfer and adoption of results, To design new collaborative research proposals, To stimulate new research collaboration and train students.	Hospital, clinicians and specialists	Video conference system or face to face	ALL PARTNERS	Better acceptance and adoption of REVEAL results
REVEAL Demonstration Workshop	(April 25)	Inform about REVEAL project and results; Get a feedback from experts in the community; Create synergies with other consortia	Research Community? Medical Community, Industrials & SMEs Civil society/Policy makers/EU Public agencies	The event will be held at ENS Lyon	P3 ENS DE LYON	Ensure up-take and exploitation of the REVEAL project results; Repercussion on industrial and research cooperation