eXperience PROJECT

The "Extended-Personal Reality" augmented recording and transmission of virtual senses of virtual senses through artificial-IntelligENCE – EXPERIENCE"

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– "Dissemination and
Communication plan and report"
WP5

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Executive Summary

The purpose of this deliverable is to provide a strategy on the dissemination and communication of the EXPERIENCE project as well as to report on all the activities that have been carried out so far in Task 5.4 (by Month 18).

The main intention is to maximalise the project's reach and positive impact throughout its lifespan. The plan starts with a short overview on the project followed by the purposes and objectives of this specific document. These include the identification of the most important stakeholder groups via a stakeholder analysis. The results of this are then used to create targeted key messages and for the identification of possible communication channels. Finally, the plan also serves as an accountability tool by listing the key performance indicators that should guide dissemination and communication activities throughout the project.

In the second part, the report provides an overview on all the activities that have been completed by the time of submission, incorporating 28 completed activities, above establishing the general online presence of the project. Second, a comprehensive list is provided with details about all 28 activities.

Acronyms and Definitions

AI	Artificial Intelligence
CEA	Commissariat a l'Energie Atomique et aux Energies Alternatives
CSEM	CSEM Centre Suisse d'Electronique et de Microtechnique SA – Recherche et Developpement
IP	Intellectual Property
KI	Karolinska Institutet
Quatech	Quatechnion
UNIPD	Universita degli Studi di Padova
UNIPI	Universita di Pisa
UNITOV	Universita degli Studi di Roma Tor Vergata
UPV	Universitat Politecnica de Valencia
VE	Virtual Environment
VR	Virtual Reality
WP	Work Package

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1. Introduction

1.1 EXPERIENCE project overview

In the 21st century, technological advancement has largely influenced our everyday life, with social interactions and communication being no exception. One of the relatively recent advancements include the creation of Virtual Reality (VR), which has already provided the basis for experiences individuals did not have access to before, e.g., recreating an ancient temple so everyone can have a virtual visit; providing the view of the first row of a sport event. Additionally, VR technology enables the so called "Virtual Reality Exposure Therapy", that allows the exposition to a threating situation all while providing a safe environment, thus showing relevance for modern healthcare.
Nevertheless, the potential of VR is far from being fully utilized. First and foremost, the creation of a virtual environment (VE) as of today requires high specialization, thus the general public is not involved in the creation of virtual spaces. Additionally, the use of VR in clinical settings is very limited, thus further exploitation regarding clinical utility could benefit both the Public and Science.

The EXPERIENCE project aims to widen the horizons regarding the areas in which VR is utilized. First and foremost, the project aims to enable everyone to create their own virtual environments just as most people are able to create photos or videos today. Second, EXPERIENCE aims to record the complex affective state of a user while in a virtual environment. This information can be used to share an 'extended-personal reality' recreating this emotional state in another user who chooses to relive the experience. This will enable extended social interactions and a new kind of social media. To reach this goal, the consortium behind the EXPERIENCE project will work on four main pillars: (1) creating the technological foundations; (2) establishing the scientific foundation for the recording and rendering of experiences; (3) creating the scientific foundation for the transmission/sharing of an EXPERIENCE; and (4) applying the framework in the clinical setting for both diagnostic and treatment purposes.

1.2 Purpose of dissemination and communication plan

The purpose of this document is to provide a strategy on the dissemination and communication of the EXPERIENCE project with the intention to maximalise its reach and positive impact during and after the project period. Among the main aims is the identification of the most important stakeholder groups, the possible communication channels, and relevant key messages of the project. As detailed under Work Package 5, the leader of *WP5 - Project Exploitation, Dissemination and Market Innovation* is Quatechnion, but all partner institutions have allocated resources for *Task 5.4 Dissemination and Communication*, with the leading role of this task assigned to Karolinska Institute. As a consequence, the dissemination and communication plan is mainly prepared by Karolinska Institutet, but as it concerns all consortium members, it should be formed, approved and adhered to by all.

2. Dissemination and communication plan

2.1 Objectives

The main objectives of the dissemination and communication plan include the above-mentioned stakeholder analysis with the intention to identify potential stakeholder groups. The identification of the most relevant stakeholder groups will facilitate the selection of possible communication channels and creation of key messages tailored to each group.

Additionally, the plan will also provide a list of possible dissemination activities to spread knowledge about and stemming from the project; thus raise awareness about the project in general. Additionally, it will establish general procedures and guidelines for the dissemination activities conducted by all consortium members. A common framework for the dissemination and communication activities will also foster a unified representation and provide a reference point across the consortium.

Furthermore, the plan will detail a system to evaluate the impact of dissemination activities by proposing Key Performance Indicators per period and the whole project. These will further support the function of the plan as an accountability tool by monitoring each consortium members contribution to the dissemination activities. Regular and comprehensive reports on the dissemination activities carried out during the prior period will provide insight into the progress for the European Commission.

The list of the main objectives based on the above is as follow:
- Stakeholder analysis
    - Identify the main stakeholder groups
    - Describe the main interests of these groups and their potential influence
- Describe dissemination activities
    - Identification of possible communication channels
    - Key messages tailored to each stakeholder group
- Establish general procedures and guidelines
- Define Key Performance Indicators
- Provide an accountability tool

2.2 Audience – stakeholder analysis

To map potential audience a stakeholder analysis was carried out which identified the major stakeholder groups as summarized in Table 1.

Table 1: Results of the stakeholder analysis.

SECTOR		STAKEHOLDER	POSITION (a)	INTEREST (b)	POWER (c)
1	Govern-mental	European Commission	Supporter	High	High
2		European/national level policy makers: health authorities responsible for guidance and advice in mental health	Supporter	High	High
3		Public health agencies	Supporter	Moderate	Low
4	Research	eHealth research community	Supporter	High	High
5		Mental health research community	Supporter	Moderate	Low-moderate
6		Researchers in cognitive neuroscience and social sciences	Supporter	Moderate	Low-moderate
7		Ethics Committee	Supporter & opponent	High	High
8	Healthcare	European, national and local non-profit mental health/health organizations (Charitable bodies)	Supporter	Low	Low
9		Healthcare providers	Supporter	High	Low
10		Mental health professionals	Supporter & opponent	High - low	Low
11		Pharmaceutical companies	Opponent	Low	High
12		Patient groups	Supporter	High	Moderate
13	Digital	eHealth industry	Supporter	High	High
14		VR industry companies	Supporter & opponent	High	Moderate
15		Social media platforms	Supporter & opponent	High	Moderate
16		Digital entertainment sector	Supporter	Low	Low
17		Transport sector	Supporter	Moderate-high	Low
18		Training industry	Supporter	Moderate-high	Low
19		General public	Supporter & opponent	High - low	Moderate

Position

The potential relation that the stakeholder group will have towards the EXPERIENCE project categorized as either supporter (those who agree with the implementation), opponent (those who disagree with the implementation), or neutral (assumed to have no clear stance on the implementation).

Interest

The assumed level of interest the members of the stakeholder group have in the EXPERIENCE project considering the possible advantages and disadvantages the project delivers for the stakeholder group, in line with the magnitude of the effect the project has on the stakeholder group.

Power

Power refers to the ability of the stakeholder to impact the implementation of the research project, to their support or opposition for the trial, and to the implementation of EXPERIENCE in a clinical setting if proven to be effective.

Governmental sector

1) The EXPERIENCE project is funded by the *European Commission*'s Horizon 2020 Research and Development programme. The European Commission strongly supports good quality research and is committed to increase healthcare quality and access which is planned to be a result of the project.

2) *European/national level policy makers* are assumed to look favourably on the project as the knowledge acquired will foster scientific advancement and the final product can be used for diagnostic and treatment purposes for certain mental health disorders. If proven effective this will serve a public need.

3) *Public health agencies,* like policy makers, could benefit from the mental health aspect of the project by incorporating the investigated processes of EXPERIENCE into diagnostic and treatment portfolios. Additionally, the project also entails efforts to advance biomedical signal/image processing which would be useful in the healthcare sector.

Research sector

4) *eHealth research community* are expected to support the EXPERIENCE project, given that its findings will increase the current knowledge regarding numerous relevant fields, including microelectronics and healthcare wearables with physiological sensors, advanced biomedical signal/image processing, the application of AI and VR technology for diagnostic and treatment purposes.

5) *Mental health research community* can be specifically interested in the diagnostic and treatment pillar of the project with aims to tackle affective disorders. Additionally, the VR nature of the project related to mental health has promise for increased knowledge regarding time perceptions, cognitive and affective neuroscience.

6) *Researchers in cognitive neuroscience and social sciences* might be interested since the scientific pillar of the project will yield theoretical knowledge related to their respective fields (e.g., affective, and cognitive neuroscience, neuromodulation). Furthermore, the usage of VR, microelectronics and healthcare wearables might also introduce new measurement opportunities for relevant constructs.

7) The *Ethics Committee* has a high interest in the project since it aims at recording and transmitting cognitive and emotional states, and as such, influence the mental state of others. Additionally, the indirect collection of data during social media usage, especially about behavioural measures has been increasingly discussed from an ethical perspective.

Healthcare sector

8) *European, national and local non-profit mental health/health organizations* (Charitable bodies) as well can benefit from the mental health aspects of the projects, especially

regarding diagnostic and treatment opportunities. And indirectly benefit from the advancement of theoretical and practical knowledge.

9) *Healthcare providers* (public and private clinical centres) might support EXPERIENCE as an adjunct to usual diagnosis and treatment. In case EXPERIENCE will be proven highly successful and thus would be suitable to replace certain services currently provided by public and private clinical centres, those could oppose the widespread use of EXPERIENCE – if it would become a competitor.

10) *Mental health professionals* who use the EXPERIENCE VR technology to treat users with depression, anxiety or anorexia can be presumed to support the project, as EXPERIENCE is expected to enhance the solutions currently available to these users. However, they could be hesitant to accept the EXPERIENCE technology as a valid substitute or addition to therapy, as it requires a certain amount of skill to adequately administer a possible exposure therapy.

11) *Pharmaceutical companies* might view the EXPERIENCE project as a competitor, if it is proven effective for treatment of affective disorders. But they might as well support the project due to increased diagnostic efficiency which would also serve a better optimised medication of patients.

12) *Patient groups* with depression, anxiety and/or anorexia can be regarded as supporters of the project as it has promise for increased diagnostic and treatment opportunities for affective disorders. Some users might be hesitant to use a new technology instead of an established process.

Digital sector

13) *eHealth industry sectors* might be supporters of the EXPERIENCE project, if its technology shows to improve users' health and wellbeing significantly. However, they might also view EXPERIENCE as a competitor.

14) Existing *VR industry sector companies* might view the new king of social media introduced by the EXPERIENCE project as a competitor to existing platform. They might also be interested in enhancing their own product on the basis of EXPERIENCE, or eventually buying it out.

15) *Social media platforms* will be interested in the project, as the innovative VR technology will make it possible for users to share their experiences with an added layer of personal information. However, they might oppose it since the new kind of social media EXPERIENCE proposes might be viewed as a competitor to existing platforms.

16) *Digital entertainment industry* might be interested as a means of enhancing user experience. The usage of neuromodulation, time perception and affective modulation might be of special interest to influence users experience to a higher degree. Specifically, the gaming and adult entertainment industries might find it relevant.

Other sectors

17) The *transport industry* might utilize the specific technology regarding time perception manipulation in VR as a means of simulating traffic scenarios and even accidents as a form of education.

18) The *training industry* in general might benefit from the gained knowledge and application in VR. If the affective state of the participants will be successfully influenced, simulations could better mimic real-life scenarios not only in terms of visual experience but also emotional states. This aspect could be especially useful during the training phases of high stress situations, or when emotions are considerable, e.g., police, first aid or military scenarios.

19) *General public* will likely be supportive of the project, as the innovative VR technology will offer them a means of communication with a new level of information transfer. Sharing extended-personal realities might be of interest, especially if presented as a new kind of social media. Some might not be interested, but the wide or strong opposition of the technology does not seem to be a threat.

2.3 Messages

Table 2: Key messages per stakeholder groups.

Target group	Key messages
European commission	EXPERIENCE supports the technological advancement of a greater population by making VR technology more accessible. Technological and scientific advancement is expected in several and interdisciplinary areas, including wearable physiological monitoring, interpretable AI engine, cognitive disentanglement of space and time and neuromodulation.
European/national level policy makers	EXPERIENCE supports the technological advancement of a greater population by making VR technology more accessible. With regards to clinical scenarios, EXPERIENCE is expected to improve screening and treatment of affective disorders, reducing their financial burden on the long-term.
Public Health Agencies	EXPERIENCE work on the development of enhanced wearable physiological monitoring as well as neuromodulation. If the affective computing framework is proven effective the emotional state of experiences would become modifiable, which could be useful for the treatment of affective disorders. Parallelly, EXPERIENCE also has a dedicated section dedicated for the diagnosis of affective disorders based on behavioural data stemming from virtual environment. This type of diagnosis enhances objectivity and hopeful diagnostic efficiency.
eHealth research community	EXPERIENCE is highly engaged with biofeedback and has a separate pillar dedicated to the clinical usability of the product. The promise of behavioural data stemming from virtual environments to diagnose affective disorders will be investigated within the projects. And treatment opportunities through the virtual environment will also be explored.
Mental health research community	The EXPERINECE project will work on the diagnosis of affective behaviour based behavioural measures, which if proven effective has a promise for increased objectivity and efficiency. The project also aims to enhance treatment of affective disorder by applying neuromodulation. Additionally, the project also works with the recording and transmission of personal experiences which might support our understanding of the human experience in general.
Mental health professionals	EXPERIENCE is aimed at supporting the screening of affective disorders (depression, anxiety, anorexia nervosa) based on objective behavioural markers. EXPERIENCE - if proven effective – can be used in the treatment of affective disorders.
eHealth and mental health research community	The technological a theoretical framework of EXPERIENCE provides an advancement in knowledge on multiple fronts and supports the creation of extended personal realities.

	The EXPERIENCE project contributes to the advancement of knowledge regarding both the diagnosis and treatment of mental health disorders in a virtual environment using objective behavioural measures.
Public and private clinical centres	EXPERIENCE will facilitate diagnosis and treatment of affective disorders (depression, anxiety, anorexia nervosa).
Patient groups	There will be new, and enhanced diagnostic and treatment opportunities for mental disorders, including depression, anxiety and anorexia nervosa.
eHealth industry	The EXPERIENCE systems if proven effective will enhance the diagnosis of affective disorders and provide novel treatment opportunities.
VR industry companies	EXPERIENCE will make virtual environment more accessible by allowing laypeople to create their own environments.
Social media platforms	EXPERIENCE will provide a new kind of social media with extended personal realities that will facilitate an increased social connection between individuals.
Digital entertainment sector	EXPERIENCE will contribute to the recording and transmission of experiences, including time perception and emotional states. Therefore, manipulation of emotional states and time perception should be improved.
Transport sector	EXPERIENCE and the scientific knowledge stemming for it regarding the manipulation of time perception can be useful for the simulation of experiments.
Training industry	Via the transmission of experiences, training situations can be enhanced by also simulating the emotional states of an environments or situation. The system could be especially useful for the simulation high stress situation (e.g., during police, military training) in a safe environment.
General public	The final product available to the general public facilitates enhanced social interaction and supports the foundation of a new kind of social media. More people will be able to experience virtual reality and create their own virtual environments without the need for any scientific/technological specialization.
Potential investors	The technology, and specifically the VR industry shows a growing trend and holds value for potential return on investment. Virtual reality based social media is relatively a new, but existing concept. Thus, the early market provides great promise for EXPERIENCE becoming a pioneer solution.

2.4 Channels

Project logo and visual entity
A project logo has already been created as have templates for deliverables and presentations. The goal with a common visual representation is to ensure the visual identity of the project, which should also help with increasing the visibility of connections between the separate parts of the projects as well as between the consortium members (see D5.20 for further details).

Project website
Aligned with the above detailed visual identity a project website has already been published. The website provides an overview of the EXPERIENCE projects, detailing its main objectives and the contributing institutions. Additionally, a section is dedicated to showcase the cross-project collaborations with projects SONICOM, TOUCHLESS, CAROUSEL and GuestXR. Two subpages are dedicated disseminations activities, whereas the "News" page covers recent media appearances of EXPEREINCE, and the "Publications" subpage lists all the scientific publications and activities related to the project. And finally, there is a dedicated part of the website only available for personnel working on the EXPERIENCE project, and only via an approval-based application. The 'Reserved area' serves as a common database for documents that concern all member institutions but are not open to the public (see D5.20 for further details).

Reports and deliverables
The deliverables detailed within the project have the primary purpose to provide information towards relevant EU bodies. Additional reports will be prepared to spread information among EU and national level stakeholders who are not associated with the project by default.

Scientific activities
The scientific dissemination will mainly concern the results and conclusions of the project. Several formats can be utilized, including articles in scientific journals, post and oral presentations on national and international conferences and congresses. Additionally, existing networks of the partners with international associations, such as the European Psychiatric Association (EPA) and the World Psychiatric Association (WPA) can be utilized via presentations during their workshops and symposia.

General media coverage
Television, radio, newspapers and journals will be utilized to spread knowledge about the EXPERIENCE project, especially concerning communication a national level. This will provide accessibility on the native languages of the respective countries.

Social media
Two social media profiles have been set up dedicated to EXPERIENCE - on Facebook and Twitter. These are continuously updated with the recent advancements of the project and often host information regarding other media appearances of the project. All partners should be involved in keeping the social media sites up-to-date, and all members are encouraged to post information regarding the achievements of the project as a whole, and respective to their own unit. These posts than have already been shared via the dedicated EXPERIENCE profiles and can be shared in the future too – this should utilize the non-overlapping follower base of the profiles and as such support a wider reach for all accounts.

Newsletter
A newsletter will be distributed by email to major stakeholder groups and will be made available for download from the EXPERIENCE website. The newsletter will be published quarterly once the project gets to a stage when new prototypes and results become.

Consortium member networks
The existing network of all consortium members can be utilized, e.g., by introducing the project in internal meeting; sharing updates related to the project on the partners social media sites, websites and other media profiles.

Cross-project collaborations
We hope that in case the partner projects have their dissemination activities, they can dedicate some time to mention EXPERIENCE as their collaborative project. This opportunity is routinely taken during disseminations related to EXPEREINCE, as audience members of one project might find other projects work interesting too due to the shared aspects.

Demonstration event and workshops
A series of workshops will be held with the idea to share knowledge about the EXPERIENCE project and its results. These workshops will facilitate the connection between various stakeholder groups and the project and will provide opportunity for continuous feedback from the relevant stakeholders.
At the end of the project a demonstration event is planned to showcase the final project.

Table 3: Key communication channels and connected activities per stakeholder groups.

Target group	Communication channels and activities
European commission	• The deliverables defined in the Consortium Agreement will provide a thorough overview of all activities within the project.
Mental health professionals	• Personal networks of the consortium members will be utilized. • National and international scientific journal publications, conference presentations, workshop and seminar attendance will reach a wide range of professionals.
Scientific community	• Project results will be published on the project's and partners' websites that are publicly available. • Results of the project will be made available in reports, publications in national and international scientific journals, posters and presentations in major national and international conferences.
Industry stakeholders	• Attendance and exhibition at key conferences and industry events (e.g., AAL Forum) will widen the network involved reached by the project. • Newsletters will be available for individuals who wish to receive regular updates. • Press releases in relevant journals will also ensure a wider reach among industry stakeholders.
General public	• To reach the public national and local media will be utilized in the form of press releases and radio interviews. • Leaflets will be designed to provide an overview on the project. • Profiles for the project have already been created on social media networks, which are free and accessible to the public. • Additionally, gadgets, such as backpack and pens have already been produced with the logo of the EXPERIENCE project.

2.5 Timing

Table 4: timing of activities.

Activities	Indicators	Timing
Attendance of scientific and industry conferences	10	During to whole lifespan of the project (4.5 years)
Presentation at conferences (oral & poster formats)	5	During to whole lifespan of the project (4.5 years)
Press releases in national and local media	~ 3 per year At least 12 in total	During to whole lifespan of the project (4.5 years)
Publishing in scientific journals	10	During to whole lifespan of the project (4.5 years)
Social media network reach	250	During to whole lifespan of the project (4.5 years)
Newsletters	Quarterly	Once the project produces prototypes and/or results.
Stakeholder workshops	4	During to whole lifespan of the project (4.5 years)
Demonstration event	1	At the end of the project
Total audience reached	~ 500 people per year At least 2000 in total	During to whole lifespan of the project (4.5 years)

2.6 Accountabilities

Roles and responsibilities

All members of the consortium will acknowledge and communicate the funding of the Horizon 2020 program and the European Commission on all dissemination activities related to EXPERIENCE.

All consortium members will take part in the dissemination activities and will take primary responsibility for the activities in their country. When more than one institution is from the same country, the decision about the primary role regarding that country should be settled between the respective institutions.

All consortium members should report any dissemination activity carried out by them or on their behalf with regards to EXPERIENCE via the dedicated form.

Table 5. Task 5.4: Person-per-month resources for dissemination across the consortium.

Partner	Person month
1 – UNIPI	7.00
2 – CSEM	0.50
3 – UPV	1.00
4 – UNITOV	0.50
5 – CEA	4.00
6 – UNIPD	2.00
7 – KI	14.00
8 - Quatechnion	2.00
Total	**31.00**

2.7 Dissemination and exploitation

Users are crucial to the EXPERIENCE project; thus, communication and dissemination activities hold great importance. Beyond the content relevant for the general public and the public sector, EXPERIENCE also contributes to the advancement of knowledge in numerous areas which will be shared with the scientific community and mental health professionals to maximize exploitation.

The importance of exploitation is acknowledged by the consortium, with Work Package 5 (WP5) specifically dedicated to *Project Exploitation, Dissemination and Market Innovation,* with the leader of the work package being Quatechnion. WP5 includes a Market Opportunity Report by Month 18, which is meant to provide an overview on relevant markets, which than can be used as a basis for the exploitation plan and business models concerned about commercialization possibilities. A Task (T5.3) and multiple deliverables are dedicated to Intellectual Property (IP) rights to ensure appropriate access and usage rights for all consortium members. To support the effective and appropriate management of IP, an IP registry will be established by Month 18 and updated on a regular basis by Month 36 and Month 54. Finally, cross-project collaborations will also be utilized to ensure a wider reach for all projects involved. Cross-project events will facilitate collaboration, which are reported on in Task 5.5.

Various forms of exploitation activities will be used during the lifetime of the EXPERIENCE project:
- Organization, planning, execution and administration of all dissemination activities; creating objectives; having an accountability tool for all consortium members.
- Analysing the market for competitive and complementary products/services; identifying the niche EXPERIENCE is targeting; continuously monitoring relevant best practices.
- Creating and validating market and business models; and preparing commercialization
- Guide and review partner level communication, dissemination and exploitation activities.
- Coordinate joint/consortium-level dissemination activities.
- Establish a network with the relevant stakeholder groups.

3.   Dissemination and communication activities report

The second part of this deliverable details dissemination and communication activities carried out in relation to the EXPERINCE project during the first 18 months (M1-M18), by all of the consortium members.

First, the section provides an overview on all the activities that have been completed by the time of submission. Second, a comprehensive list is provided with details about all the activities. Third, under 'Prospective endeavours' a short stand is taken regarding future communication activities with reference made to a deliverable intended to provide a common framework for all dissemination and communication activities throughout the whole lifetime of the EXPERIENCE project.

3.1   Overview of completed activities

By Month 18 the public website of the project was made available, designed in accordance with the visual identity of the project. It also portrays the project logo and lists the publications produced by the consortium related to the project.

Upon the website, there are 28 completed dissemination and communication activities specifically related to the project (excluding the mandatory deliverables/reports). The distribution of these activities between the consortium members is visualized in Figure 1, with the majority of the activities attributed to the coordinator of the project, UNIPI. The communication so far has mainly targeted the general population and the scientific community, as also indicated by the type of activities, as showcased in Figure 2. The consortium has mainly produced press releases on a national level (5) and established an online presence via both advertisements on websites (5) and generating social media content (5). There have already been 4 scientific articles published in international, peer-reviewed journals related to the EXPERIENCE project.

Not included in the graphs, but also relevant is the mutual reference to each other's projects with EU 'sister projects', SONICOM, CAROUSEL, TOUCHLESS, and GuestXR (SECTG) as this kind of cross-project collaboration also support visibility of projects involved.
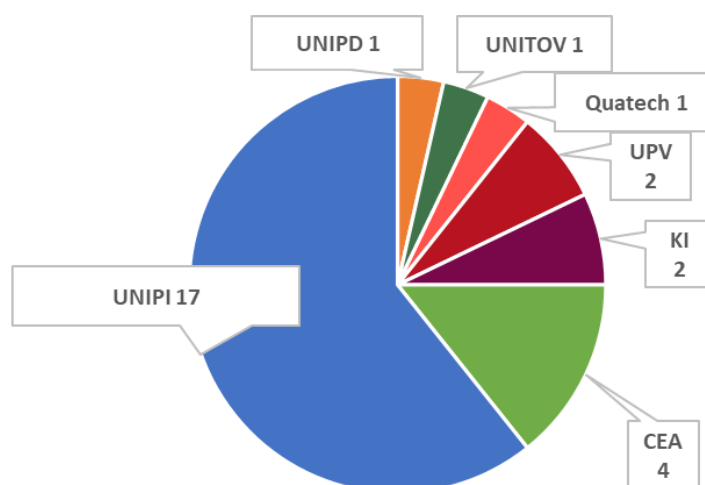

Figure 1: Distribution of completed dissemination and communication activities between the members of the consortium by Month 18.
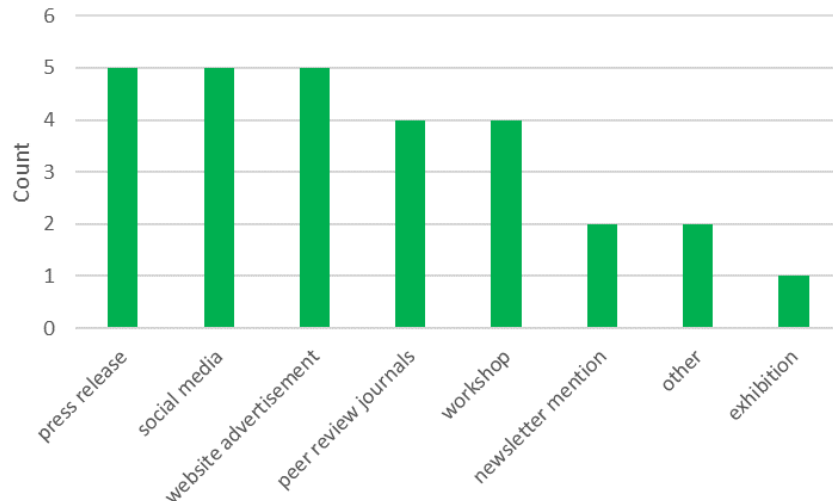
Figure 2: Number of dissemination and communication activities by activity type, completed by Month 18.

Not included in the graphs, but also relevant, is the cross-referencing of all projects with the EU 'sister projects', SONICOM, CAROUSEL, TOUCHLESS, and GuestXR (SECTG). This kind of cross-project collaboration with presenting all related projects on all project websites is believed to support increased visibility for all.

3.2 Dissemination and Communication Activities M1-M18

Table 6. Expenditure in M1-M18 for the dissemination and communication activities.

Total Funding Amount	4,801.50 €

Table 7. Categories of the dissemination and communication activities.

Communication activities linked to the project for each of the following categories	
Organisation of a Workshop	1
Press release	5
Flyer	1
Social Media	2
Participation to a Workshop	3
Participation in activities organised jointly with other EU project(s)	13
Other	3

Table 8. Estimated number of persons reached by the dissemination and communication activities.

Estimated number of persons reached in each of the following categories	
Scientific Community (Higher Education, Research)	5000
Industry	100
General Public	10000
Media	1000
Investors	1

3.3 Detailed list of all activities

Table 9: Detailed list of all dissemination and communication activities carried out by Month 18.

Beneficiary	Activity	Lead person	Title	Organizer/Host	Event	Date (YYYY.MM.DD)	Place (country, city)	Primary stakeholders
CEA	other	Virginie van Wassenhove	Making sense of time in the human brain	Institut Jean Nicod	-	2022.01.14.	France, Paris	Scientific community
CEA	website advertisement	Virginie van Wassenhove	EXPERIENCE (Fr)	CEA, Joliot	-	2021.01.29.	Online	General public
CEA	website advertisement	Virginie van Wassenhove	EXPERIENCE (En)	CEA, Joliot	-	2021.01.29.	Online	General public
KI	website advertisement	Vladimir Carli	Extended-Personal Reality: augmented recording and transmission of virtual senses through artificial-Intelligence	KI	-	2021.01.08.	Online	General public
KI	other	Vladimir Carli	The EXPERIENCE Project	KI	Workplace meeting (arbetsplatsträffar)	2022.02.24.	Sweden, Stockholm	Scientific community
Qtech	website advertisement		Transformamos el mundo físico en digital	Quatechnion	-	2021.01.25.	Online	General public
UNIPD	exhibition	Claudio Gentli	La realtà virtuale al servizio della psicologia clinica – Progetto Experience	University of Padova	Veneto Night - La notte della ricerca	2021.09.24.	Italy, Padova	General public
UNIPI	workshop	Matteo Bianchi	Perspectives for tactile augmented reality: Motion-perception interplay and fabric-based approach	Hamburg University of Technology	Conference Eurohaptics 2022	2022.02.02.	Germany, Hamburg	Scientific community
UNIPI	workshop	Matteo Bianchi	Wearable haptics and human sensory-motor system modelling for advancing pHRI and	IEEE Robotics & Automation Society/Pennsylvania Convention Center -	4th Workshop on Integrating Multidisciplinary Approaches to	2022.05.27.	USA, Philadelphia	Scientific community

Beneficiary	Activity	Lead person	Title	Organizer/Host	Event	Date (YYYY.MM.DD)	Place (country, city)	Primary stakeholders
			human-machine interaction	IEEE Internation Conference on Robotics and Automation, ICRA 2022	Advance Physical Human-Robot Interaction Challenges of Interfacing Wearable Robots with the Human Neuromotor System.			
UNIPI	workshop	Matteo Bianchi	Workshop: The sense of touch: interplay between action and perception and underlying body representations	Justus-Liebig UniversityGießen	-	2022.10.07.	Germany, Gießen	Scientific community
UNIPI	newsletter mention		EXPERIENCE offers a new technology for transmission of senses into the virtual reality of the future	European Innovation Council	-	2021.02.04.	Online	
UNIPI	press release	Gaetano Valenza	Con il progetto EXPERIENCE la realtà virtuale entra nei social network	UNIPINEWS	-	2021.01.12.	Online	Scientific community
UNIPI	press release	Gaetano Valenza	A new virtual EXPERIENCE on social media thanks to Artificial Intelligence	FETFX	-	2021.01.27.	Online	Scientific community
UNIPI	press release	Gaetano Valenza	Vivere le vite degli altri? Si può fare, con visore e biosensori "pisani"	Il Tirreno	-	2021.02.01.	Online	General public
UNIPI	press release	Gaetano Valenza	L'università di Pisa fa entrare la realtà virtuale nei social network	La Nazione	-	2021.02.12.	Online	General public
UNIPI	press release	Gaetano Valenza	Se le emozioni si possono registrare e condividere grazie a IA e VR	ANSA	-	2021.02.18.	Online	General public

Beneficiary	Activity	Lead person	Title	Organizer/Host	Event	Date (YYYY.MM.DD)	Place (country, city)	Primary stakeholders
UNIPI	peer review journals	Alfeo Antonio L., Vincenzo Catrambone, Mario GCA Cimino, Gigliola Vaglini, and Gaetano Valenza	Recognizing motor imagery tasks from EEG oscillations through a novel ensemble-based neural network architecture	Institute of Electrical and Electronics Engineers	-	2021.06.26-30.	Online	Scientific community
UNIPI	peer review journals	Vincenzo Catrambone , Riccardo Barbieri , Herwig Wendt , Patrice Abry and Gaetano Valenza	Functional brain–heart interplay extends to the multifractal domain	PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A	-	2021.02.12	Online	Scientific community
UNIPI	peer review journals	Colleen P. Ryan, Gemma C. Bettelani, Simone Ciotti, Cesare Parise, Alessandro Moscatelli, and Matteo Bianchi	The interaction between motion and texture in the sense of touch	Journal of Neuropsychology	-	2021.09.08.	Online	Scientific community
UNIPI	peer review journals	Catrambone Vincenzo, Alireza Talebi, Riccardo Barbieri, and Gaetano Valenza	Time-resolved Brain-to-Heart Probabilistic Information Transfer Estimation Using Inhomogeneous Point-Process Models	Institute of Electrical and Electronics Engineers	-	2021.11.	Online	Scientific community
UNIPI	social media	Gaetano Valenza	-	Facebook	-	2021.02.04.	Online	General public
UNIPI	social media		-	Facebook	-	2021.02.04.	Online	General public

Beneficiary	Activity	Lead person	Title	Organizer/Host	Event	Date (YYYY.MM.DD)	Place (country, city)	Primary stakeholders
UNIPI	social media		-	Facebook	-	2021.09.29.	Online	General public
UNIPI	social media		-	Facebook	-	2021.02.03.	Online	General public
UNITOV	workshop	Nicola Toschi	The promises and Dark Sides of Artificial Intelligence in NMR, MRI and Neuroscience	UNITOV. Global Initiative on Disaster Risk Management	-	2021.02.19.	Online	Scientific community
UPV	newsletter mention	Mariano Alcañiz	-	EUROXR	-	2021	Online	Scientific community
UPV	website advertisement		EXPERIENCE	UPV, LabLeni	-	2021	Online	General public
UPV	social media		Experience WP1 Reconstruction	Youtube	-	2021.05.28.	Online	General public

3.4 Workshop on "Artificial Intelligence in NMR, MRI and Neuroscience"

In February 2021 Prof. Nicola Toschi, the EXPERIENCE project scientific co-coordinator, organised together with GIDRM (Italian Magnetic Resonance Discussion Society) a workshop on "Artificial Intelligence in NMR, MRI and Neuroscience".

The primary goal of this workshop was to bring together the diverse but overlapping communities of physicists, chemists, computer scientist, biologists, clinicians and neuroscientists to explore novel, out-of-the box angles through which trans-disciplinary challenges in NMR, MRI and neuroscience research and technology can be tackled using Artificial Intelligence.

This included proposing a vision of the most promising directions and short/mid-term future scientific, technological and regulatory synergies.

The EXPERIENCE project was presented as a futuristic example of how the nexus between AI and Neuroscience can lead to radically new communication and therapeutic immersive technologies.

The workshop was a success and registered more than 400 participants.

The Workshop programme is presented as Annex2.

4. Prospective endeavors

A current deliverable has been dedicated to outline the main dissemination and communication activities throughout the whole lifetime of the project.

Having the D5.7 deliverable based on a stakeholder analysis it is ensured that all relevant stakeholder groups (including the governmental, healthcare, research, and digital sectors, as well as the general public) will be reached with both the scientific and the practical outcomes of the project.

A list of potential communication channels has been provided, which includes the project logo and visual entity, project website, reports and deliverables, scientific activities, general media coverage, social media, newsletter, consortium member networks, cross-project collaborations, workshops, and demonstration events.

These channels will be used to target all stakeholder groups with their respective key messages also outlined in the D5.7 deliverable.

With regards to exploitation, D5.1 and D5.2 deliverables are also of interest, reporting on Market opportunities and Exploitation plan and business models respectively, submitted at M18 as well. These outline future possibilities for exploitation.

5. Annexes

Annex 1 – Dissemination activity report template

I. Partner information

Beneficiary

Name of the person(s) who performed the dissemination activity

II. Dissemination activity description

Name of the event where the dissemination activity was done (e.g., workshop or conference name, Hosting University, Meeting name)

Place (City, Country)

Link to Event

Organizer/Host Institution

Date

Title of Dissemination activity

Dissemination activity description

- Presentation to potential stakeholders
- Organization of a conference
- Organization of a workshop
- Press release
- Non-scientific and non-peer-reviewed publication
- Exhibition
- Flyer
- Training
- Social media
- Website
- Communication campaign (e.g., radio, TV)
- Participation to a conference
- Participation to a workshop
- Participation to an event other than a conference or a workshop
- Video/film
- Brokerage event
- Pitch event
- Trade event

- Participation in activities organized jointly with other H2020 projects
- Other

Reference (if applies)

III. Dissemination activity impact

Stakeholders/Audience type

- Scientific community (higher education research)
- Industry
- Civil society
- General public
- Policy makers
- Media
- Investors
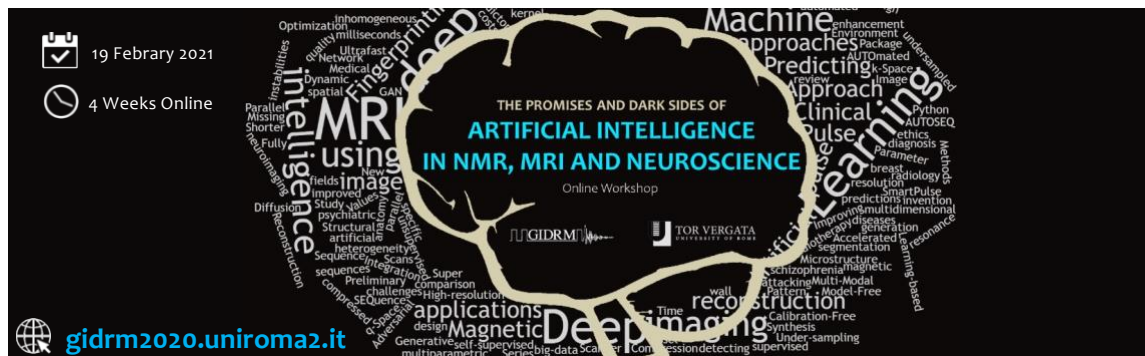- Customers
- Other

Other Stakeholder/audience type

Audience size

IV. Other

Specify the total funding amount used for this activity (in Euro)

Other Information about this activity

Annex 2 – GIDRM – University of Tor Vergata WORKSHOP

19 Febrary 2021

4 Weeks Online

gidrm2020.uniroma2.it

THE PROMISES AND DARK SIDES OF
ARTIFICIAL INTELLIGENCE IN NMR, MRI AND NEUROSCIENCE
Online Workshop

GIDRM · TOR VERGATA University of Rome

TOPICS

- Hardware and sequence design through AI
- AI for image reconstruction
- AI for image analysis and statistical inference
- Interpretability and Explainability
- Clinical Applications
- Current challenges and future perspectives

The primary goal of this workshop is to bring together the diverse but overlapping communities of physicists, chemists, computer scientist, biologists, clinicians and neuroscientists to explore novel, out-of-the box angles through which trans-disciplinary challenges in NMR, MRI and neuroscience research and technology can be tackled using Artificial Intelligence. This will include proposing a vision of the most promising directions and short/mid-term future scientific, technological and regulatory synergies.

PRATICAL INFO

Online workshop available **for 4 weeks** on a dedicated digital platform
gidrm2020.uniroma2.it
Virtual **Panel Discussion** to meet all speakers

Participants are required to register following the instructions at the GIDRM website: **www.gidrm.org**
Registration fees:
35 € for non-GIDRM members (the fee includes GIDRM 2021 subscription);
Contacts: info@gidrm2020.uniroma2.it

Local Organizing Committee
Prof. Nicola Toschi – Prof. Maria Guerrisi - Dr. Andrea Duggento
Dr. Allegra Conti – Dr. Silvia Minosse- Dr. Francesco Di Ciò
Scientific Committee
Prof. Marco Geppi - Prof. Marcello Alecci - Dr. Silvia Borsacchi - Dr. Mariapina D'Onofrio
Prof. Simonetta Geninatti Crich - Prof. Giacomo Parigi - Dr. Giuseppe Pileio
Prof. Nicola Toschi – Prof. Maria Guerrisi – Prof. Francesco G. Garaci – Prof. Roberto Floris
Dr. Federico Giove - Dr. Andrea Duggento - Dr. Allegra Conti Dr. Silvia Minosse- Dr. Francesco Di Ciò

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eXperience PROJECT

Asynchronous Workshop (accessible Jan 15th - March 31st 2020)

Marco Geppi – University of Pisa (Italy) - **Opening remarks**

Nicola Toschi – University of Rome Tor Vergata (Italy) - **Welcome and introduction to the workshop**

Andrea Duggento – University of Rome Tor Vergata (Italy) - **Focused introduction to deep learning for biomedical applications**

Hardware and sequence design through AI

Keynote Lectures

Florian Knoll – NYU Langone Health (United States) – *"Potential and potential pitfalls of AI for the diagnostic MRI pipeline"*
Jongho Lee – Seoul National University (Republic of Korea) –*"Deep Designed RF"*

Oral Communications

Manu Veliparambil Subrahmanian/Gianluigi Veglia – University of Minnesota (United States) – *"Artificial Intelligence in RF Pulse Design: from High Resolution NMR to Imaging"*
Mads Sloth Vinding – Aarhus University (Denmark) – *"Optimal and DeepControl in MRI pulse sequence"*

AI for image analysis and statistical inference

Keynote Lectures

Chen Qin - The University of Edinburgh (United Kingdom) -*"Deep Learning for Dynamic MRI Reconstruction"*
Daniel Remondini / Gastone Castellani – Bologna University (Italy) *"Artificial Intelligence in MRI: from raw data to analysis"*

Oral Communications

Guy Gaziv - Weizmann Institute of Science (Israel) – *"Self-Supervised Natural Image Reconstruction and Rich Semantic Classification from Brain Activity"*
Marco Palombo – University College London (United Kingdom) - *"Machine Learning Applications to Microstructure Imaging through Diffusion MRI"*
Tiago Azevedo – University of Cambridge (United Kingdom) - *"A Deep Graph Neural Network Architecture for rs-fMRI Data"*
Mike Germuska – Cardiff University (United Kingdom), *"Robust estimation of cerebral oxygen metabolism with machine learning"*
Giovanna Maria Dimitri – Università degli Studi di Siena (Italy)- *"Brain MRI segmentation and reconstruction. A Deep Learning perspective"*
Simeon Spasov – University of Cambridge (United Kingdom)- *"Overcoming the challenges of data paucity in deep learning for neuroimaging*

Current challenges and future perspectives

Keynote Lectures
Donatello Apollusion Gassi – Amazon Web Services (AWS),
Giuseppe Leonardo Cascella – Idea75 *"Unstructured data, ML and AI for healthcare and industry 4.0 applications"*
Roberto Basili – University of Rome Tor Vergata (Italy) *"Interpretability and Explainability in Machine Learning: lesson learnt, challenges and directions from a NLP perspective"*
Stefano Diciotti – Bologna University (Italy)- *"Current challenges and future perspectives of machine learning techniques in medical imaging"*

Oral Communications

Fabio Massimo Zanzotto – University of Rome Tor Vergata (Italy) - *"Clinician-in-the-loop AI: for a fairer model of clinical knowledge exploitation"*
Marcello Cadioli - Philips Healthcare (Italy) *"AI for MRI: An industrial perspective and outlook"*
Birgi Tamersoy – Siemens Healthcare (Italy) - *"AI for healthcare"*

AI for image reconstruction

Keynote Lectures

Andreas Maier – Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany) *"Known Operator Learning - An approach to unite machine learning, signal processing, and physics"*
Jong Chul Ye – Korea Advanced Institute of Science and Technology (Republic of Korea) - *"Unsupervised deep learning for MR reconstruction using physics-informed cycleGAN"*

Oral Communications

Vegard Antun – University of Oslo (Norway) - *"AI generated hallucinations in the sciences - On the stability accuracy trade-off in deep learning"*
Mehmet Akcakaya – University of Minnesota (United States) - *"Self-Supervised Deep Learning of MRI Reconstruction without Reference Data"*
Enhao Gong – Stanford University (United States) «tbc»

Interpretability and Explainability

Keynote Lectures
Paul Rad – The University of Texas at San Antonio (United States) - *"Explainable and Robust Deep Learning for Medical Domain"*

Oral Communications
Riccardo Guidotti – University of Pisa (Italy) – *"Explaining Explanation Methods: from LIME to DoctorXAI"*
David Schneeberger – University of Vienna (Austria) –*"Quo vadis Europe? A comparative outlook at proposed explainability regulation"*

AI for neuroscience and clinical applications

Keynote Lectures
Duygu Tosun-Turgut – San Francisco Veterans Affairs Medical Center (United States) - *"Impact of AI and deep learning on imaging of neurodegenerative diseases"*
Hugo Aerts – Harvard Medical School, Boston (United States) - *"Artificial Intelligence in Cancer Imaging"*
Federica Agosta – Vita-Salute San Raffaele University (Italy) - *"Artificial intelligence for early diagnosis and clinical decision making in neurodegenerative disorders"*
Hugo G. Schnack – UMC Utrecht (Netherlands) - *"AI for psychiatric imaging: promises and challenges"*
Maryellen L. Giger – The University of Chicago (United States) " *Machine Learning on MRI of Breast Cancer"*

Oral Communications
Allegra Conti – University of Rome Tor Vergata (Italy) - *"Dissecting the progression of multiple sclerosis through explainable ML techniques"*
Antonio Maria Chiarelli – G. D'Annunzio University (Italy) - *"A Machine Learning Framework for Assessing the Effect of Prematurity on MRI Metrics of Functional Connectivity and Regional Brain Structure"*
Patrick Bolan – University of Minnesota (United States) - *"Improving Advanced Imaging Workflows with AI"*
Tommaso Banzato – University of Padova (Italy) -*"Clinical Applications of AI in Diagnostic Imaging"*
Claudio Luchinat – University of Florence (Italy) - *"Predictive models from metabolomic data"*

Nicola Toschi – **Presentation of the EU H2020 Project "EXPERIENCE"**
GA 101017727

Live workshop Feb 19th – (8.30- 18.30 CET see detailed programme)

*Talks will be presented or reproduced in presence of the speakers
for realtime Q&A and discussion and networking. The workshop will end with a live round table.*