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House Style

	Red RGB	Green RGB	Blue RGB	HEX
UPSIDE				
Pink	247	181	192	#F7B5C0
Grey	161	161	161	#A1A1A1
Blue	41	171	226	#29ABE2
THE USE OF THE EU EMBLEM IN THE CONTEXT OF EU PROGRAMMES 2021-2027 LINK In addition to the obligations set out in Article 17, communication and dissemination activities as well as infrastructure, equipment or major results funded under EIC actions must also display the following special logo: European Innovation Council				
EU corporate blue	0	51	153	#003399
Yellow	255	204	0	#FFCC00

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V1.0	Feedback reviewers, elaboration on exploitation and finalization	27-02-2023

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Abbreviations

WP : Work Package

DMP: Data Management Plan

MDD: Major Depressive Disorder

EIC: European Innovation Council

CMOS: Complementary metal oxide semiconductor

GA: Grant Agreement

CA: Consortium Agreements

EEG: Electroencephalogram

DoA: Description of Action

FAIR: Findability, Accessibility, Interoperability, and Reusability

SME: Small Medium Enterprise

eFUS: epidural focused ultrasound

ECT: Electroconvulsive therapy

tRMS: repetitive Transcranial Magnetic Stimulation

DBS: deep brain stimulation

tFUS: transcranial focused ultrasound

C&D: Communication and Dissemination

EC: European Commission

EU: European Union

KER: Key Exploitable Results

Executive Summary

UPSIDE's deliverable D7.3 describes the strategy, procedures and tool for dissemination communication and exploitation of the project results and focuses on the public engagement. This plan will be released at M6 and fine-tuned with the progress of the project. As part of this plan an overview of different communication channels to be used are also included. Final report on dissemination, communication and exploitation will be released at the end of the project M48 (D7.5). In addition, with periodic reporting update on the communication and dissemination activities will be consolidated as well.

1. Introduction

The communication and dissemination plan of UPSIDE defines the strategy for achieving greater impact by maximizing the outreach of the project's results and increasing project's visibility. In order to do so, this plan seeks to ensure that the relevant project's results would reach out effectively the relevant stakeholders and the wider audience. Moving forward, the exploitation strategy indicates the basis for the intellectual property strategy and exploitation activities, and it summarises the UPSIDE partners' strategy and concrete actions related to the protection, dissemination and exploitation of the project results. As defined in established terminology of Horizon Europe, results generated under a project could be any tangible or intangible output, more particularly data, knowledge or information whatever its form or nature, whether it can be protected or not.

To develop the above-mentioned strategies, below principle have been kept in mind based also on definitions and obligations of beneficiaries participating in Horizon Europe:

- Communication plan ensures that all parties and general audience have the latest updates on projects' goals, activities and results seeking to achieve greater engagement and awareness but also to promote European collaboration;
- Dissemination plan shares research findings or products to those who will use the information in practice (scientific community, relevant stakeholders, commercial and civil players etc.) to maximize result's impact and allow further advancement for a common good;
- Exploitation plan shall set the boundaries for taking action further after UPSIDE for using results for commercial purposes, to tackle societal problems or in policymaking.

1.1 The Work Package 7: Communication, Dissemination and Exploitation (copied from DoA page 11)

To ensure that the above obligations will be fulfilled, WP7 in UPSIDE implements the dissemination and communication strategy to maximize UPSIDE's economic and societal impact. In detail below tasks have been defined in it:

- *Task 7.1* Dissemination, communication, exploitation: Dissemination activities: monitoring and promoting the publication of the scientific achievements throughout the project to the relevant key targets. Communication activities: the creation of the project internal (for members to share non-public related documents) and external website, social media accounts (Twitter, LinkedIn) and project newsletter; broadcasting of results to the Focused Ultrasound Foundation's newsletters, social media accounts, and webinars. Exploitation activities: management of exploitation strategy; participation in the Focused Ultrasound Foundation's bi-annual consortium symposium and connect to users, customers, industry, and investors; participation in EIC Portfolio exploitation activities (matchmaking events, fairs, etc).
- Task 7.2 Engaging industrial stakeholders: Prepare a coherent picture of the realized therapy solution (number of potential treatments, cost, cost savings compared to conventional therapies, required

development/time to market entry, [approval/technical/other] risks, supply chain), legal boundary conditions (licenses, etc.) and preparing a 'pitch' catalogue. Identifying relevant industry partners.

- *Task 7.3* Dissemination to patient and clinician focus group. As the first step to translate the preclinical findings of UPSIDE to depressed patients, UF partner will organize focus groups with therapy-resistant MDD patients and with clinicians involved in their management. The device, preclinical findings and related procedures will be presented and stakeholder viewpoints regarding acceptability and feasibility will be assessed by qualitative interviews. This will help to gain insight into requirements for the clinical use, potential obstacles and limitations and will help to design future clinical trials. The future clinical development of the device will start with a proof-of-concept trial which will apply external focused at different locations in healthy and depressed humans with concomitant high-resolution EEG recordings to determine if stimulation has a measurable effect on recordings and to pre-select suitable locations for stimulation. This trial will be performed outside of the current application.
- *Task 7.4* Data management plan (Lead: TU Delft) The project will be executed within the Open Research Data pilot. Conform the requirements the data management plan will be developed using the following principle "as open as possible, as closed as necessary". We will follow the requirements of the Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. Research documents, such as in-depth interview transcripts, containing opinions of identifiable persons, consequently, will not be available as open data.

2. Communication and public engagement

Communication and public engagement are critical for the successful adoption of UPSIDE's research results. In this context communication activities of UPSIDE aims to maximise the project's impact via effective promotion of its findings and conclusions.

Focus points of communication strategy of UPSIDE is (1) to describe the communication foundation and share information in a clear and concise manner to inform society about the innovations in the area of brain interfaces & their impact as well as the activities and results of UPSIDE; (2) to set the framework for the communication and engagement events participation. The communication channels and tools of UPSIDE consolidates the means of communication that have already been set up and will be used throughout the project to promote those strategies.

The Communication and public engagement plan describes the various types of communication in the UPSIDE project:

- Website (internal and public) & (social) media channels
- Newsletters
- Communication and engagement events
- Lunch presentations

2.1. Website and (social) media channels

2.1.1. UPSIDE Internal website

A project internal communication platform in TEAMS was set up to act as repository for all working documents, reports, project documentation and also to facilitate quick discussions between project members via chatting for the day to day developments. Project partners can access TEAMS via LINK. Every member of the consortium has access to the UPSIDE platform. In case of problems, please contact Project Coordinator Eva Kassotaki (e.kassotaki@tudelft.nl). All members have rights to read/download/edit and upload documents.

In addition, in accordance with the Data Management Plan of UPSIDE, when it comes to technical data sharing between partners for facilitation of the system level integration of the technical solution, a project internal communication platform SurfDrive will be set up to act as repository for validated data that can be useful towards achieving UPSIDE solution & archiving of FAIR data with reproducibility potential.

However, the TEAMS's internal website will be serving as the main communication channel within UPSIDE consortium in exchanging files and storing documents for regular usage.

2.1.2. UPSIDE public website

A public website has been created in UPSIDE as part of Task 7.1: Deliverable D7.2 (M2) and is accessible via Upside CMS – Focused Ultrasound Personalized Therapy for the Treatment of Depression (project-upside.eu). This website will disseminate the most important project's outputs. Such as publications, public deliverables & demonstrations, newsletters and videos. In additions it will promote project's

portfolio activities and collaborations of UPSIDE's sister projects granted under the same topic of HORIZON-EIC-2021-PATHFINDERCHALLENGES-01-02 - Tools to measure and stimulate activity in Brain Tissue

In this context the UPSIDE website showcases the project and its identity to the public and will provide news on the progress, activities and events related to the project. The website provides accessibility also to the various communication tools and media entries in UPSIDE (LinkedIn and Twitter). Subsequently, UPSIDE website will contribute to the overall perception of the project and its corporate profile.

2.1.3. UPSIDE Twitter

Web-based presence has been established for USPIDE in Twitter to ensure maximum resonance to the project. The main purpose of the use of the Twitter account is to facilitate virtual presence in participation of events, synergies and key consideration through the developments of project's results through the use of relevant hashtags in order to communicate and engage general public. The Twitter account is used to share news links and keep people interested in the news of the project. At the same time it serves for searching for news and topics related to UPSIDE and stay updated on the topic of measuring and stimulating activity in brain tissue.

Additionally, FUSF and other partners further disseminates key highlights through their corporate Twitter channels on a frequent basis.

The UPSIDE Twitter profile is accessible via: UPSIDE Project EU (@UpsideProjectEU) / Twitter

The following hashtags should be used in the posts:

#UpsideProjectEU

#HorizonEU

#EUeic

#eicPathfinder

#EU_EISMEA

#innovation

Furthermore, guidelines for social media usage for EU-funded projects can be found here:

soc-med-guide_en.pdf (europa.eu)

Recommendations for partners:

- Follow the page from your professional and personal accounts
- Retweet posts from your professional and personal accounts
- Tag @ UpsideProjectEU in your posts and comments
- Use your company page to boost the spread of UPSIDE posts

- To achieve higher visibility, you can also tag relevant EU bodies in appropriate discussions, re-tweets and tweets

2.1.4. UPSIDE LinkedIn

In addition, the platform LinkedIn has two functions for UPSIDE. On one hand, a private UPSIDE group has been created to exchange relevant information between members and upside partners. The aim is to build up and foster a stakeholder community. One the other hand, a company account has been created to disseminate content such as articles and events to the public. This LinkedIn page aims to reach wider audiences. All project partners and individuals interested in being aware of the news can follow the page. In it, articles and news are published, as well as updates on the project.

Additionally, FUSF and all the partners further disseminates key highlights through their LinkedIn channels on a very frequent basis.

The UPSIDE LinkedIn profile is accessible via: UPSIDE Project EU | LinkedIn & its company page via https://www.linkedin.com/company/upsideprojecteu

Recommendations for partners:

- Follow the LinkedIn company page with your personal profile
- Like and share posts coming from UPSIDE

2.1.5. Zenodo

Within UPSIDE, the open access papers to be published will be uploaded to Zenodo that it is compliant with the best effort and FAIR requirements for data management from the EC as well. More information about overview of Zenodo as an open access repository can be found in this EU case study.

2.2. Newsletters

Newsletter and press release about the project's developments will be published via the project website and LinkedIn page.

The newsletter contains updates and original contents on project activities and on the topic of ''Tools to measure & stimulate activity in brain tissue'' in research and academia in total. The newsletter targets researchers but also to industrial stakeholders in the field of implantable devices, brain-machine interfaces, focused ultrasound neuromodulator and psychiatry. The UPSIDE press release at the same time is useful for disseminating the most recent contents produced within the project; keeping a constant watch over the project and its progress; fostering new contacts and interactions with the stakeholders.

As defined in the DoA, it is expected to have 1 press release and 1 newsletter per year within UPSIDE. In addition, as FUSF publishes a newsletter every two weeks, that channel will be used also as communication channel when relevant to communicate progress of the project.

In order to generate materials for the newsletters pro-actively, it has been agreed within UPSIDE project that with every deliverable to be produced for the project, 2 overview simple power point slides will be generated as well.

2.3. Plan for communication and engagement events

In below table, key events where UPSIDE is planned to participate are summarized. This list is only preliminary at this stage (M6). The UPSIDE partners have a wide active network in academia and industry to stay informed and actively participate to communication and engagement events. As a strategy in place, the expected five scientific articles to be submitted to leading journals such as Brain Stimulation, Biological Psychiatry, and The Journal of Neuroscience, and the data and overall project will be presented at one yearly conference/symposium, organized by, for example, the Focused Ultrasound Foundation, the Society for Neuroscience, the International Neuromodulation Society, or the Society of Biological Psychiatry.

The status update for those activities will be presented in Periodic Report as well. For the shake of recording within consortium and internal alignment within partners UPSIDE dissemination & Communication Activities overview.xlsx is to be maintained from each partner during the course of the project & material is to be stored in Communication & Dissemination activities for facilitating social media & website feed.

Communication Channel	Activity	Description of event	Date	Status
On-site conference	Focused Ultrasound Symposium	Focused ultrasound for epilepsy - discussion panel	October 2022	completed
On-site conference	Bioelectronic Medicine Forum	Learning about focused ultrasound for inflammation	October 2022	completed
On-site event and workshop	European Innovation Council Summit 2022	Portfolio of actions - Medtech event	7 & 8 December 2022	completed
On-site conference	Neuromodulation in Psychiatry Symposium	Showcasing UPSIDE to the psychiatry community	10 Feb 2023	completed
On-site conference	7th Annual Brain Stimulation and Imaging Meeting	Brain interfaces discussion	2 & 3 June 2023	exploring
Webinar	FUSD Webinar Focused Ultrasound for Psychiatric Disorders	Focused Ultrasound for Psychiatric Disorders	During the course of the project	exploring to be planned during the duration of UPSIDE if event will go on
On-site conference	International Symposium on Circuits and Systems	IEEE conference with various panels on biomedical circuits and systems. TUD will present work related to UPSIDE.	May 2023	To attend
On-site conference	Biomedical Circuits and Systems Conference	IEEE leading conference on circuits and systems for biomedical applications.	October 2023	To attend

		Likely, TUD will present work related to UPSIDE.		
On-site exhibitor	MD&M West 2024	MD&M West in Anaheim, California, is one of the largest international marketplaces for medical technology design and manufacturing.	February 2024	To attend
On-site conference	IEEE-IUS international ultrasound symposium	International ultrasound symposium	2020-2026 annual re-occurring	exploring

Table 1: Participation Events UPSIDE (M6) outline

2.4. Lunch Presentations

From March 2023 on, within UPSIDE will be organizing Lunch presentations where all partner's organizations members will be invited. During those, PhD and Postdoc researchers from the TU Delft, the University of Ghent and the University of Freiburg will present in more depth what they are working on related to UPSIDE in order to promote knowledge exchange and brainstorming for a more in-depth research discussion and open access dissemination. This set-up will support inclusion of young researchers and key stakeholders towards achieving synergetic communication and dissemination targeted for UPSIDE. We are exploring the option of opening those presentation for technical team members from partners Newronika and Silicongate to present their in-depth status of works later.

Preliminary topics and names that the PhD and Postdoc researchers work on are illustrated in the following table to outline the scope of the lunch presentation. Schedule and exact topic will be updated further for the during the course of the project:

Beneficiary's Institution name	Topic
TU Delft	Masoumeh Aqamolaei and Hassan Rivandi - Ultrasound neuromodulation integrated circuits
TU Delft	Eshani Sarkar - Piezoelectric transducer microfabrication
TU Delft	Hoda Yassin - Electrical neural recording integrated circuits
UGhent	Linta Sohail - Organic bioelectronics
UF	Lidia Miguel Telega - Neurobiology - depression
UGhent	Sofia Drakopoulou - Organic bioelectronics
UF	Lisa Ratz - Neurobiology - depression
TU Delft	Postdoc WP1 - Brain interfaces

Table 2: UPSIDE Lunch presentation key topics

2.5. Communication framework

In principle, the Grant Agreement and the Consortium Agreement set the framework of the main obligations that relate to communication and dissemination. If there is a change in the Grant Agreement or the Consortium Agreement that modify these parts, the communication framework will need to be updated accordingly.

2.5.1. Visual Identity

Having a clear and effective visual identity serves as a quality standard and will help to achieve a uniform communication system to be used by UPSIDE project partners. The UPSIDE logo is a graphic symbol used to visually identify the project. It contains the Acronym of the project and the human brain illustration.

Logo on white background

Logo on dark background

Colours

Below colours are used within the logo of UPSIDE, while the blue one described within the visual identity is not within the logo, but is standardized for the visuals of the project and used throughout dissemination material (website, templates, etc.)

Pink: R247 G181 B192 #F7B5C0

Grey: R161 G161 B161 #A1A1A1

Blue: R41 G171 B226 #29ABE2

2.5.2. Obligation to acknowledge EU-funding

Unless the Commission requests or agrees otherwise or unless it is impossible, any dissemination of results (in any form, including electronic one) must:

- Display the EU emblem (when displayed together with another logo, the EU emblem must have appropriate prominence, based on obligations set out in Article 17
- In addition, communication and dissemination activities as well as infrastructure, equipment or major results funded under EIC actions must also display the following special logo:

European Innovation Council

- Include the following text (Disclaimer):

This project has received funding the Europe European Union's Horizon Europe EIC-PATHFINDER progamme under grant agreement No. 101070931. Views and opinions expressed in this document are however those of the author(s) only and do not necessarily reflect those of the European Union or the granting authority. Neither the European Union nor the granting authority can be held responsible for them.

- Include the project logo. The project logo is available on the MS Teams UPSIDE channel under Dissemination Logo and House-style.

3. Dissemination strategy and plan

Dissemination within UPSIDE refers to sharing research findings with stakeholders and wider audiences and is essential for uptake, and use of research findings for the success and sustainability of practice-based research networks in the long term.

Specifically, UPSIDE's dissemination plan explains:

- Why—the purpose of dissemination
- What—the message to be disseminated
- To whom—the audience
- How—the method
- When—the timing

To support our dissemination, exploitation and communication strategy, UPSIDE installed an Advisory Board consisting of prominent international stakeholders in the field of implantable devices, brain-machine interfaces, focused ultrasound neuromodulator and psychiatry. We are also finalizing at this moment the inclusion of a Neurologist additional female member in our Advisory Board to improve gender balance and strengthen the complementary multidisciplinary expertise of our Advisory Board members. The UPSIDE Advisory Board will meet once a year combined also, when possible, with General Assembly meetings and critical project milestones. At the same time, feedback on project developments will be given from the Advisory Board members as needed.

3.1. Objective (Why)

The main objective of the UPSIDE dissemination strategy is to ensure that the project's outputs are disseminated among the scientific (Biomedical CMOS circuits and systems, organic bioelectronics, brain-computer interfaces, neurobiology) and medical (neurology, neurosurgery, psychiatry) communities (Task 7.1).

3.2. Dissemination Content (What)

The UPSIDE project's main message consists of informing the general public, depression patients (Task 7.3), physicians and industrial stakeholders of the importance of researching a novel therapy for the treatment of depression, specifically aimed at about 100 million patients worldwide who no longer respond to pharmaceutical drugs and other established procedures.

The following paragraph provides a general overview of the project and can be used by all partners for dissemination activities.

General Description Project

UPSIDE aims to research a minimally-invasive personalized therapy for Major Depressive Disorder (MDD) by means of focused ultrasound. Major depressive disorder is the leading cause of disability worldwide, affecting 300 million people with a lifetime prevalence of 15%. Furthermore, approximately one third of

all MDD patients fail to respond to currently established treatments based on medication and psychotherapy, thus falling into the category of Treatment-Resistant Depression (TRD) patients.

Our objective is to research and validate in vivo a hybrid neurotechnology consisting of an epidural focused ultrasound (eFUS) stimulator employing three-dimensional beamforming, and a high-density epidural EEG recording system. Epidural deployment of these devices will be enabled by novel methods for massive integration and miniaturization of high-performing piezoelectric ultrasound materials and high-fidelity organic bioelectronic materials with high energy-efficient complementary metal-oxide semiconductor (CMOS) technology in a biocompatible manner.

The UPSIDE project will result in a demonstrator which will allow, for the first time, network stimulation and simultaneous biomarker readout in behavioral experiments with animal models featuring depression-like symptoms. This technological breakthrough will pave the way towards a personalized treatment for TRD.

Electroconvulsive therapy (ECT), repetitive Transcranial Magnetic Stimulation (tRMS), Vagus nerve stimulation, deep brain stimulation (DBS) and transcranial focused ultrasound (tFUS) are not practical for repetitive treatments (tFUS), still show poor spatial resolution (ECT, tRMS) or low network coverage (VNS, DBS), with average remission rates in clinical trials still lower than 30%. Apart from the existing stimulation hurdles, reliable biomarkers for depression are needed as a diagnostic tool, and, in the case of neuromodulation therapies, to determine the stimulation efficacy and allow for personalized treatment.

In addition, especially for targeting Therapy-resistant MDD patients as part of the focus groups to be created as part of Task 7.3. simpler layman material will be created as part of the invitation and dissemination for the focus group.

Taglines:

We aim to use different taglines for different communication channels and purposes. These taglines can be modified for the target audience they are used for. The main tagline for UPSIDE project is:

UPSIDE aims to research a minimally-invasive personalized therapy for Major Depressive Disorder by means of focused ultrasound

3.3. Target Audiences and Key Stakeholders (To whom)

According to the Dissemination and Communication Strategy argued in chapter 1, the following groups of stakeholders were identified:

Target group 1: Project partners.

Target group 2: The scientific community working on the field of Biomedical CMOS circuits and systems, organic bioelectronics, brain-computer interfaces and neurobiology with the potential to lead to new scientific knowledge (task 7.1 TUD).

Target group 3: Small and Medium Enterprises (SMEs) aiming at creating and testing implantable devices, brain-machine interfaces or focused ultrasound neuromodulation. The definition of an SME is described in https://single-market-economy.ec.europa.eu/smes/sme-definition_en

Target group 4: Industrial stakeholders in the field of circuit design, microsystem integration, ultrasound technology, semiconductors and neural interfaces that could further adapt and develop the UPSIDE findings by demonstrating a coherent picture of the realized therapy solution of UPSIDE, its requirements, boundaries and potential against conventional therapies. (Task 7.2 MST).

Target group 5: The medical community in the field of neurology, neurosurgery and psychiatry to raise awareness about the challenge of minimally invasive brain interfaces and our solution for achieving wide brain coverage, high spatial resolution from an epidural brain interface, and its effectiveness in monitoring and treating depressive-like symptom.

Target group 6: Therapy-resistant MDD patients as are the end users of the UPSIDE solution to be able to evaluate the requirements and potential of a clinical application. (Task 7.3 UF)

Dissemination activities: monitoring and promoting the publication of the scientific achievements throughout the project to the relevant key targets.

Communication and Dissemination Activity (C&D)	Target group	Objective
Communication & Dissemination Strategy (WP7)	1	Strategic framework for successful implementation of C&D activities. Will be actively highlighted and jointly updated with the whole project team
Visual identity & communication material (Task 7.1)	1	Reaching uniform deployment of project results and unified project narrative by creating project logo, one-pager, word and PPT template (including EU logo to ensure Visibility of EU funding) that will be available for all project partners through the joint project-folder.
General Assembly & Partner meetings (Task 6.2)	1	Discuss project progress to discuss C&D strategy and actions during annual GA and additional partner meetings
Advisory board meetings (Task 6.2)	1, 2, 6	Discuss progress and provide on C&D activities in semi-annual meetings with AB members and provide General Assembly with advice and tools to be actively engaged in dissemination project results.
UPSIDE Lunch presentations (Task 7.1)	1,2	Increase impact in the scientific community.
Website (Task 7.1)	1, 2, 3, 4, 5, 6	Repository for project results and communication material, central access point for local activities

Online and social media presence & Newsletters and press releases (Task 7.1)	1, 2, 3, 4, 5, 6	Developing an online community of stakeholders interested in UPSIDE developments
Focus groups (Task 7.3)	6	Assess through qualitative interviews the feasibility and accessibility of the UPSIDE preclinical device and findings to help get insight on requirements for designing future clinical trials
FUSF bi-annual consortium symposium and other leading conferences	1, 2,3,4,5	Connect to users, customers industry and investors
Scientific publications	1,2, 5	Increase impact in the scientific community.
EIC Portfolio exploitation activities (Task 6.4)	1, 2,3,4	Seek cross-fertilization opportunities towards fast uptake of the UPSIDE technology
workshops/webinars of UPSIDE	1, 2, 3, 4, 5, 6	Still exploring this as a concept and option to target specific audience based on key results of UPSIDE to be developed during the course of the project
Conference at the end of the project	1, 2, 3, 4, 5, 6	Promoting the final results of UPSIDE

Table 3: UPSIDE C&D strategy, target group and key objectives

3.4. Dissemination means in place (How)

The specific C&D activities of UPSIDE that are described in above table, brief the means employed to disseminate results to the identified target groups. At a high level the key results will be disseminated throughout the duration of the project via 15 publications in leading journals. Five of those scientific articles will be submitted to leading journals such as Brain Stimulation, Biological Psychiatry, and The Journal of Neuroscience, and the data and overall project will be presented at one yearly conference/symposium, organized by, for example, the Focused Ultrasound Foundation, the Society for Neuroscience, the International Neuromodulation Society, or the Society of Biological Psychiatry.

3.4.1. Open Science practices

The legal requirements for Open Science are set out in Article 17 and Annex 5 of the GA. The UPSIDE project will be in line with the FAIR (Accessibility, Interoperability and Reusability) principles. In particular:

- All the scientific contributions will be published with Open Access and uploaded to Zenodo. They will also become available through the project website.

- UPSIDE public deliverables will become fully available in its website, next to the automatic upload of those in CORDIS. In addition, for the sensitive deliverables and the executive summary will be published in the website.
- Social Media will be used to advertise and promote those Open Access publications.

(copy from the DoA)

This will allow the scientific community to verify the reproducibility of the produced methods and data, and, for the industrial and societal stakeholders, to get fast access to the deliverables during project. We will promote citizen science by involving citizens, civil society organizations and end users towards collaborative and open research, and obtain feedback in terms of responsible research and innovation. This will be implemented by publishing in citizen science journals (Open Citizen Science Data and Methods from Frontiers in, PLOS ONE citizen science), by publishing interviews with the researchers in the UPSIDE consortium (on the project website), and actively seeking feedback via the project social media accounts.

European Commission & EIC tools in place for dissemination

For the Dissemination and exploitation of research results European Commission has in place a Strategy, documents, tools and opportunities for disseminating and exploiting research project results. In addition, the EIC Community Platform is also a virtual place for EIC beneficiaries to find investors, coaches, and corporates to leverage potential business partnership and to promote interesting other events to the EIC Community among other services. In consultation with the Project Officer the Open Access dissemination material of this project, can also be disseminated through the EC and EIC newsletters and channels in place when relevant.

3.4.2. Dissemination Channels

Various dissemination activities ensure a good visibility of the project towards the identified target groups and the general public. These are based on a Dissemination and Communication strategy tailored to the various needs and expectations of the target groups. Ways of contacting actors differ in three main respects:

- Type of link established with each actor: from being informed to being involved;
- The number of actors being reached;
- The effectiveness in getting the outcomes of the project understood.

Communication tool	Indicator	Target end of project
Project website	N° visitors/ N° page visits	10.000
Publications	N° of publications	15
Newsletters/press release	N° newsletters/press release	4
LinkedIn	N° followers	200
Twitter	N° followers/ reach, impressions	200
Conference presentations	N° presentations	5 in consortium symposium and other leading conferences
Articles in scientific magazines	N° articles	15
Articles in magazines	N° articles	10
Videos	N° views	100

Table 4: UPSIDE Key Performance Indicators for communication tools effectiveness measurement

Network in place for dissemination activities

- The communities of IEEE circuits and systems society and the IEEE Ultrasonics, ferroelectrics and frequency control society
- The EIC Portfolio of actions
- The Open Access Government magazine
- The Neurotech NL network
- The Medical NeuroDelta community
- Focus Ultrasound Foundation network of researchers and industry partners
- Partners network of researchers and industry partners

Partner's dissemination channels

Dissemination channel	Communication format and quantity	Subscribers / Visitors / Followers (if available)	Target Audience
TU Delft Website	As news items Example: Sounds good: treating depression with ultrasound (tudelft.nl)		2
Department of Microelectronics TUD webpage	Project page		2
UGhent Website	Project page		2
UGhent social media	Sharing of posts	195,570 followers LinkedIn	2,3,4
UF Website	As news items		2
UF social media	Sharing of posts	4,409 followers LinkedIn/8,253 Followers Twitter	2,3,4
Newronica website	As news items		2,3,4

Newronica social media	Sharing of posts	1,889 followers LinkedIn/ 85 Followers Twitter	2,3,4
SiliconGate Website	As news items		3,4
SiliconGate social media	Sharing of posts	836 followers LinkedIn	3,4
Focused Ultrasound Foundation Website	Meet the expert feature story of FUS experts and their work		2,3,4,5,6
Focused Ultrasound Foundation newsletter	Sharing of project publications and other major project achievements; topic features, e.g., FUS for TRD	Bi-weekly, >10.000 subscribers	2,3,4,5,6
Focused Ultrasound social media	Sharing of posts	4,091 followers LinkedIn/2,477 Followers Twitter	2,3,4,5,6
MST website	Press release, news section	c. 11.000 visitors per months	3,4
MST social media	Sharing of posts	2,143 Followers LinkedIn	3,4

Table 5: UPSIDE partners dissemination channels

3.5.Timing & Frequency (When)

Timeframe for disseminating UPSIDE results and news is identified in below:

- Deliverables → as per DoA for timeline of expected deliverables upon approval from the EC
- News → as soon as available
- Publications → as soon as available
- Presentations → at least once a year through key conferences and events
- Social Media posts → at least 1 Tweet per month & 1 LinkedIn post per month
- Project newsletters → once a year
- Press release → once a year

3.6 Procedure for tracking dissemination and communication activities

3.6.1. Communication and dissemination events

All external communication and dissemination events where partners are participating taking on board outings from UPSIDE should be shared to the Scientific and Project Coordinator at TU Delft: Tiago Costa (T.M.L.daCosta@tudelft.nl) and Eva Kassotaki (e.kassotaki@tudelft.nl) providing information about:

- The date and place of the publication and/or presentation
- The content of the publication / presentation: sharing the texts, photos, videos, or any other relevant material
- Contact person in case more elaboration is needed.

To proactively communicate between partners such activities, each person related to those is asked to record the activities in the relevant Excel Overview created in TEAMS UPSIDE dissemination & Communication Activities overview.xlsx and upload related material under created folders for Communication & Dissemination activities

This information will be used in Periodic reports to the EC and in addition will be used for website and social media feeding to accommodate

3.6.2. Scientific papers

A scientific paper, book chapter, conference proceedings coming out UPSIDE should be:

- Send to the to the Scientific and Project Co-ordinator at TU Delft: Tiago Costa (T.M.L.daCosta@tudelft.nl) and Eva Kassotaki (e.kassotaki@tudelft.nl) who make sure that relevant posts are generated on project communication platforms and website if needed.
- Uploaded to the internal TEAMS project repository under to the Dissemination folder Communication & Dissemination activities → Publications
- Uploaded to Zenodo by author herself/himself.
- Communicated to the partner's internal social media team for posting on social media channels.

3.7.Dissemination rules according to the consortium agreement

Next to the leading ARTICLE 17 of the GA and ARTICLE 29 — DISSEMINATION OF RESULTS — OPEN ACCESS — VISIBILITY OF EU FUNDING from the Annotated Grant Model, the Consortium Agreement binds partners (and their early-stage researchers) to the following dissemination rules as in chapter 8.4 of it regarding dissemination specifics:

8.4.1. For the avoidance of doubt, the confidentiality obligations set out in Section 10 apply to all dissemination activities described in this Section 8.4 as far as Confidential Information is involved.

8.4.2. Dissemination of own (including jointly owned) Results

8.4.2.1. During the Project and for a period of 1 year after the end of the Project, the dissemination of own Results by one or several Parties including but not restricted to publications and presentations, shall be governed by the procedure of Article 17.4 of the Grant Agreement and its Annex 5, Section Dissemination, subject to the following provisions. Prior notice of any planned publication shall be given to the other Parties at least 45 calendar days before the publication. Any objection to the planned publication shall be made in accordance with the Grant Agreement by written notice to the Coordinator and to the Party or Parties proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted.

8.4.2.2. An objection is justified if

a) the protection of the objecting Party's Results or Background would be adversely affected, or

b) the objecting Party's legitimate interests in relation to its Results or Background would be significantly harmed, or

c) the proposed publication includes Confidential Information of the objecting Party.

The objection has to include a precise request for necessary modifications.

8.4.2.3. If an objection has been raised the involved Parties shall discuss how to overcome the justified grounds for the objection on a timely basis (for example by amendment to the planned publication and/or by protecting information before publication) and the objecting Party shall not unreasonably continue the opposition if appropriate measures are taken following the discussion.

8.4.2.4. The objecting Party can request a publication delay of not more than 90 calendar days from the time it raises such an objection. After 90 calendar days the publication is permitted, provided that the objections of the objecting Party have been addressed.

8.4.3. Dissemination of another Party's unpublished Results or Background

A Party shall not include in any dissemination activity another Party's Results or Background without obtaining the owning Party's prior written approval, unless they are already published.

8.4.4. Cooperation obligations

The Parties undertake to cooperate to allow the timely submission, examination, publication and defense of any dissertation or thesis for a degree that includes their Results or Background subject to the confidentiality and publication provisions agreed in this Consortium Agreement. The Parties hereby acknowledge that the Project is the subject of a doctoral research at some of the research institutions involved in this Project and that for this reason, (intermediate) Publication of the Results is essential to the doctoral researcher(s) involved. The Parties will therefore regularly confer about the possibility of publishing (intermediate) Project Results. However, notwithstanding a timely communication of an objection in accordance with section 8.4.2.2 above, the doctoral researcher will at all times be able to present and defend his doctoral paper (thesis) in accordance with applicable examination decrees and regulations. Upon receipt of an objection, the parties will confer on the appropriate measures to be taken to ensure proper confidentiality of the objecting Party's Confidential Information and/or Results which such Party wishes to remain confidential.

These measures may include the execution of appropriate non-disclosure agreements by the members of the jury, the presentation behind closed doors of the doctoral paper and/or an embargo on the public availability of the doctoral paper in the research institutions' public and scientific libraries.

8.4.5. Use of names, logos or trademarks

Nothing in this Consortium Agreement shall be construed as conferring rights to use in advertising, publicity or otherwise the name of the Parties or any of their logos or trademarks without their prior written approval.

4. Exploitation of results

Beneficiaries have the obligation to define the expected key results and their strategy for exploitation and dissemination. A list of key expected results, that might be exploited, must be included in the Plan for Dissemination and Exploitation including Communication activities with their: Description, Ownership status, Sector application and Protection measures. For UPSIDE those have been defined as KERs in the DoA.

4.1.Key Exploitable Results (KERs) based on DoA

Based on our exploitation strategy we aim to reach out to key companies across Europe through our partner's network, including major players such as Galvani Bioelectronics, companies pushing for ultrasound neuromodulation such as Carthera and FUS instruments, and specifically targeting depression, including Flow Neuroscience, Mag and More, and Nexstim to ensure that the technology developed during the course of the UPSIDE project has a highly innovative and transformative potential. In particular, the Key Exploitable Results of UPSIDE have been defined in the DoA and their exploitation plan and status (M6) is defined below.

4.1.1. Key Exploitable Results (KERs) and its exploitation plan

The below table presents the KERs of UPISDE, the project year those are expected as projects results, as well as the plan of action currently (M6) to exploit those further during the course of the project.

KER	Year	WP	Deliverable	Short Description	Lead	Measures
1	2	WP1	D1.5 (M24)	eFUS device with Ispta > 1 W/cm2, ~0.5 mm3 vol. resolution and ~1 cm3 coverage	TUD	Patent application
2	2	WP1	D1.2 (M14)	Power management unit	SG	Commercial license
3	3	WP3	D3.4 (M36)	CMOS 1024-channel recording interface integrated with IGT-arrays (eREC1024)	TUD	Patent application
4	3	WP3	D3.5 (M36)	Prototype of full EBI combining eFUS and eREC	TUD	Patent application
5	3	WP5	D5.1 (M36)	Signal decoding algorithms for depression biomarkers	NWK	Patent application

Table 6: UPSIDE KERs

Currently in year 1 of the project we are planning on having still a full internal assessment to monitor the Key Exploitable Results and it exploitation potential. In addition, we will plan on training in intellectual

property rights. To help us further with our exploitation strategy we will explore facilitating Horizon results booster as well as Horizon IP Scan througoh NWK (KER5) and Horizon Results Platform.

As part of the preliminary internal assessment of the UPSIDE KERs (M6) the below table summarizes its ownership status, sector application potential and planned protection measure.

KER	Ownership status	Sector Application	Exploitation potential	Protection measure
1	will be owned by TUD	targets the sector of ultrasonic transducers, piezoelectric systems and ultrasonic therapeutic devices	FUSF will add the submitted patent to the list of IP in the field of focused ultrasound technology	protection will be achieved by a patent application. This process will start with provisional national applications, which offer protection of one year, after which full patent applications will follow, both for Europe and USA.
2	will be owned by SG	will open a new market for the power management units	H2020 ECSEL JU project Moore4Medical potential targets for commercial licensing	commercial license
3	will be co-owned by TUD and UG	targets the sector of implantable recording neural interfaces (electrodes and recording electronics) for brain-computer interfaces, neuroscientific exploration, and closed-loop brain interfaces	NWK is an active stakeholder, IP and further agreements to be explored further	protection will be achieved by a patent application. This process will start with provisional national applications, which offer protection of one year, after which full patent applications will follow, both for Europe and USA.
4	will be co-owned by TUD and UG	targets the sectors of closed-loop brain interfaces	MST will play a vital role by actively engaging their vast network in the field of bioelectronics and active implantable devices	protection will be achieved by a patent application. This process will start with provisional national applications, which offer protection of one year, after which full patent applications will follow, both for Europe and USA.

5	will be owned by NWK	a new and vast market can open: until this day, NT for depression are still 'open-loop', without any feedback obtained from the neural activity of patients.	FUSF will support with linking with events that offer opportunities to demonstrate achievements to the FUS community and network, meet users, customers, industry and investors.	protection will be achieved by a patent application.

Table 7: UPSIDE KERs, ownership status, sector application, potential and protection measure

In the second and third year of the project, the industrial partners of the UPSIDE consortium will perform an external assessment, by executing and monitoring the market analysis relevant to the KERs. This analysis will identify competitors, stakeholders and potential new markets, to reveal market needs and maximize market entry probability. Here, our associated partners FUSF and MST will play vital role through their network.

In the final two years of the project, depending on the market analysis, the partners of UPSIDE will establish their exploitation route in more detail based on above preliminary outline and the under development internal assessment of KER of Year 1.

5. Conclusions

This report sets out the overall strategy and planned activities for the successful communication, dissemination and exploitation of UPSIDE project progress and results. As communication and dissemination is a continuous process and not a one-time effort, activities are taking place at all stages of the project. As a result, although this document set's the foundations, implementations further might need to be updated throughout the project lifespan with inclusions of the expected and actual dissemination activities based on project's developments. Accordingly, latest efforts will be published in the project website and social media platforms as outlined in Chapter 3 of this document.

In order to ensure project recognisability and successful dissemination, it is important that all partners use the visual identity of 7.3 when disseminating UPISDE project results and follow the strategies developed in this deliverable. This includes proper use of the project name, logo, colour pallet, template as well as acknowledgment of EU funding.

UPSIDE Website: https://project-upside.eu

References

Quick-Start Guide to Dissemination for Practice-Based Research Networks (ahrq.gov)

Horizon Europe – Dissemination and exploitation (europa.eu)

Communication, Dissemination and Exploitation-2021.pdf (europa.eu)

Dissemination & Exploitation - Open Access - H2020 Online Manual (europa.eu)

How to use Intellectual Property (IP) to valorise your research results (europa.eu)

How to move inventions from university to market with Dr. Davide Iannuzzi (europa.eu)

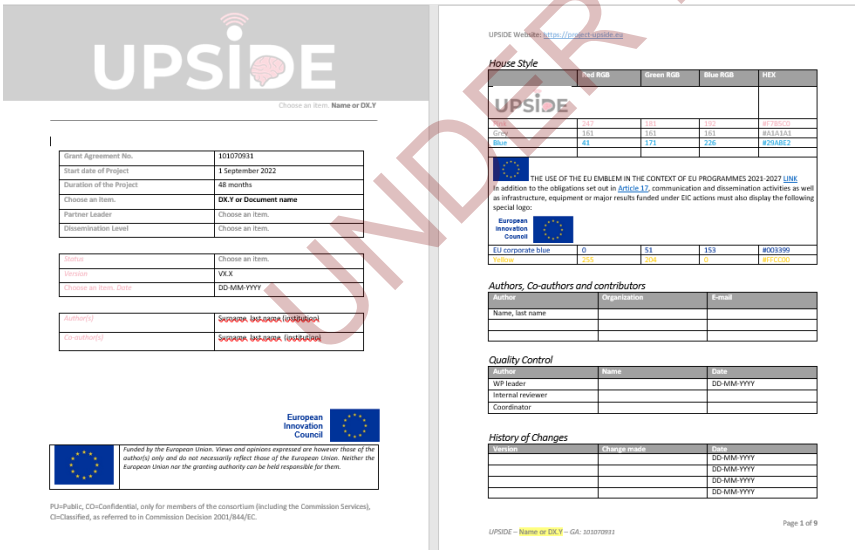
Webinar session: Dissemination & Exploitation in Horizon Europe (9 June 2021) (europa.eu)

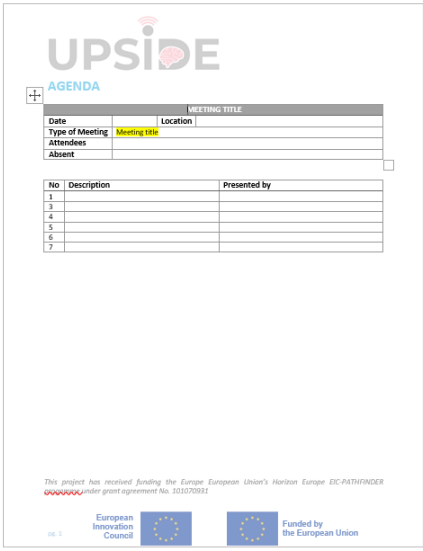
Horizon Results Booster

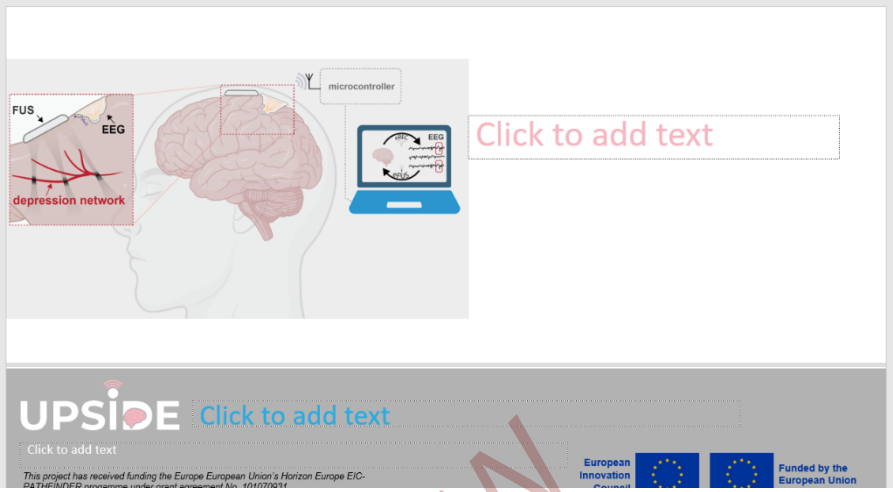
Annex 1: UPSIDE Templates

Examples of UPSIDE templates created

Screenshots

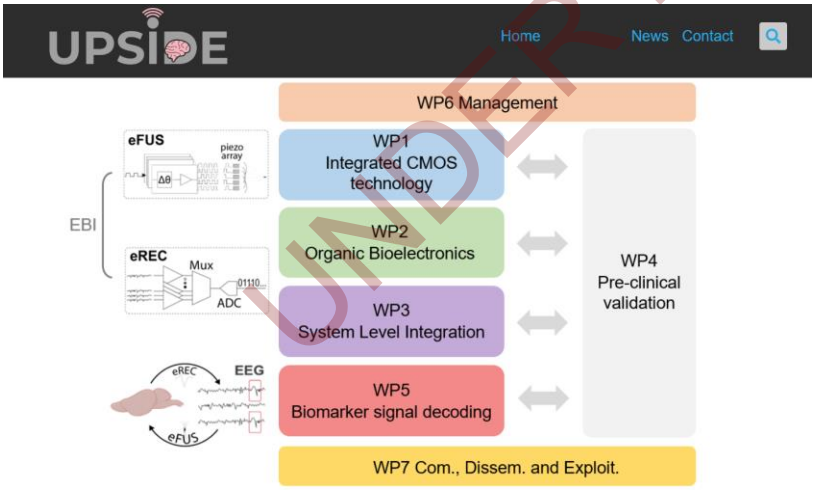






Annex 2: Website and social Media

Screenshots



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