BIO-STREAMS

D7.1 Impact creation and assessment plan

Dissemination, Communication & Exploitation

Revision: v.1.0

Work package	7
Task	7.1
Due date	30/09/2023
Submission date	30/09/2023
Deliverable lead	MARTEL
Version	1.0
Authors	Ivan Santos (MARTEL)
Reviewers	Kristina Leipuviene (SSOL), Valentin Popescu (MARTEL), Eleftheria Vellidou (ICCS), Ioannis Kakkos (ICCS)

Abstract	This deliverable outlines BIO-STREAMS comprehensive strategy for Communication, Dissemination, and Exploitation. It presents a multi-pronged approach for effective engagement with stakeholders, dissemination of project outcomes, and maximization of exploitable results. The deliverable provides a roadmap to raise awareness, promote adoption of BIO-STREAMS' innovations, and ensure its sustained impact in the healthcare sector.
Keywords	Communication strategy, Dissemination plan, Exploitation strategy, Stakeholder engagement, Healthcare, Data, Nutrition, Obesity, Children, Knowledge exchange, Sustainable impact

DOCUMENT REVISION HISTORY

Version	Date	Description of change	List of contributor(s)
v0.1	25/08/2023	ToC	Ivan Santos (MARTEL)
v.02	08/09/2023	Content for communication and dissemination	Ivan Santos (MARTEL)
v.03	19/09/2023	Content for Community Engagement, Networking & Joint Activities	Rosa Doran (NUCLIO)
v.04	14/09/2023	Content for Scale-Up & Sustainability	Iliana Korma (UKEMED)
v.05	11/09/2023	Content for Impact Assessment	Danai Kyrkou (VILABS)
v0.4	22/09/2023	Integration of the contributions from partners	Ivan Santos (MARTEL)
v0.5	24/09/2023	Comments from internal reviewers	Kristina Leipuviene (SMARTSOL), Valentin Popescu (MARTEL)
v0.6	24/09/2023	Integration of internal reviewers' edits	Ivan Santos (MARTEL)
v0.7	25/09/2023	Preparation of the final version	Miguel Alarcon (MARTEL), Ivan Santos (MARTEL)
v0.8	27/09/2023	Reviewer comments from coordinator	Eleftheria Vellidou (ICCS), Ioannis Kakkos (ICCS)
v0.9	29/09/2023	Integration of reviewers' edits	Ivan Santos (MARTEL), Valentin Popescu (MARTEL)
V1.0	30/09/2023	Final Version	Ivan Santos (MARTEL)

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Nature of the deliverable:	R*	
Dissemination Level		
PU	*Public, fully open, e.g., web*	x
SEN	*Sensitive, limited under the conditions of the Grant Agreement*	
Classified R-UE/ EU-R	*EU RESTRICTED under the Commission Decision No2015/ 444*	
Classified C-UE/ EU-C	*EU CONFIDENTIAL under the Commission Decision No2015/ 444*	
Classified S-UE/ EU-S	*EU SECRET under the Commission Decision No2015/ 444*	

EXECUTIVE SUMMARY

Deliverable 7.1 presents a comprehensive blueprint of BIO-STREAMS Communication, Dissemination, and Exploitation strategy and plan. The mission of BIO-STREAMS is to address the growing epidemic of underage obesity in the European Union. The project combines data-driven research, prevention measures and community participation to provide a holistic approach to reducing obesity rates among children and adolescents.

The project's ultimate goal is to contribute to the optimal use (and re-use) of health data (e.g. biological, demographic, epigenetic, etc.) to generate metadata/knowledge and provide new evidences, methodologies and tools for:

- creating and deploying the BIO-STREAMS Biobank that will act as a scientific platform for research in obesity and better diagnostic and therapeutic approaches;

- understanding the transition from metabolically healthy to unhealthy, preventing underage obesity;

- designing better strategies to educate & empower young citizens for weight self-management;

- coordinating authorities & policy makers to develop cross-sectoral solutions for health promotion & underage obesity prevention.

The communication and dissemination strategy of BIO-STREAMS is underpinned by the active engagement of all consortium partners, delivering tailored messaging for target audiences, using multiple communication channels and tools, ensuring timely and consistent communication, creating synergies with related initiatives, and conducting regular monitoring and evaluation.

The exploitation strategy outlines the project's approach to using its results in further research activities, or for the development, creation, and marketing of a product or process, or in creating and providing a service, or in standardization activities. The exploitation plan is centred on Section 3.

The exploitation plan involves identifying potential valuable and exploitable results, explaining the types of results and potential users, discussing how the use of BIO-STREAMS results could be carried out, and seeking expert advice on the most appropriate routes for the expected results and how to deploy them. The plan also includes an exploitation management process, which involves consultation activities between partners, coordinators, and key external stakeholders to develop a comprehensive exploitation plan.

The document further outlines initial guidelines for exploitation, suggesting broad approaches for industrial and academic partners. The goal of these guidelines is to guide each partner's exploitation strategy, ensuring that project results are effectively used and deliver maximum impact. It concludes with a detailed table of contents, providing an overview of the document's structure and key sections.

Overall, Deliverable 7.1 provides a robust and comprehensive framework for BIO-STREAMS Communication, Dissemination, and Exploitation activities, ensuring that the project's results are effectively disseminated, reach the intended audiences, and deliver the maximum possible impact.

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Abbreviations

AI	Artificial Intelligence
CDE	Communication, Dissemination and Exploitation
DMP	Data Management Plan
DOA	Description of Action
EC	European Commission
EU	European Union
GA	Grant Agreement
IKPI	Impact KPI
IP	Internet Protocol
IPR	Intellectual Property Rights
SDO	Standard Development Organizations
WP	Work Package

1   INTRODUCTION

This report presents Deliverable 7.1, outlining a comprehensive strategy and plan for Communication, Dissemination, and Exploitation of the BIO-STREAMS project. The project focuses on advancing the understanding of current childhood obesity rates across the European Union, with the objective to reduce them through a combination of prevention measures, community activation, and data-driven approaches. BIO-STREAMS seeks to facilitate the development of new data banks, services, and policies, ultimately aiming at better healthcare outcomes, efficient resource management, and stronger public-private-people partnerships. This document provides detailed insights into the project's strategic approach to communicating and disseminating its research findings and innovations, as well as its plan for exploitation of project outcomes. The report serves as a key reference for all consortium partners and stakeholders involved in the project.

1.1   Purpose of the document

The purpose of this document is to detail the strategy and action plan for the effective Communication, Dissemination, and Exploitation (CDE) of the BIO-STREAMS project's outcomes. This involves outlining the methods for engaging diverse stakeholders, publicising project achievements, and promoting the application of BIO-STREAMS's research findings, innovations, and best practices in the healthcare sector. Moreover, it provides guidelines for all consortium partners to ensure that communication and dissemination activities are coherent, consistent, and aligned with the project's overall objectives. This document also lays out the strategy for the exploitation of project outcomes, ensuring the sustainability and impact of BIO-STREAMS beyond the project's lifespan. It serves as a guiding framework for the consortium partners to effectively contribute to, and benefit from, the project's CDE activities.

1.2   Structure of the document

This document is structured into three main sections for clarity and ease of reference:

- **Introduction:** This section provides an overview of the document, outlining its purpose and structure.

- **Communication and Dissemination Strategy and Plan:** This section forms the heart of the document, detailing the mission of BIO-STREAMS, the principles and components that underpin the Communication and Dissemination Strategy, the key target stakeholders, the tools and measures to be used, and the approach for impact assessment. It also addresses potential synergies with other external initiatives and projects.

- **Exploitation Strategy and Plan:** This final section explains the process of maximising the use and benefits of the project's results beyond the project's lifecycle. It provides an initial set of guidelines for exploitation and lays out a detailed strategy for the consortium partners to follow, including impact.

2 COMMUNICATION AND DISSEMINATION STRATEGY AND PLAN

2.1 Mission of BIO-STREAMS

BIO-STREAMS, a new Horizon Europe Research and Innovation project, is designed to address the growing epidemic of underage obesity in the European Union. The project combines data-driven research, prevention measures and community participation to provide a holistic approach to reducing obesity rates among children and adolescents.

To address this urgent issue, the BIO-STREAMS project has mobilised a diverse group of partners to design, create, and deploy a holistic solution, based on the following key components, with the collaboration of 7 hospitals in 6 EU countries and 5 school sites in 5 EU countries:

- **The first EU Childhood/Adolescence Obesity Biobank (BIO-STREAMS Biobank):** This is the first EU-wide centre for sharing data related to child and adolescent obesity, aiming to standardize data collection and expand the data network across countries.

- **BIO-STREAMS Platform**: This is an integrated digital platform offering personalized risk assessments, tailored prevention programs, a marketplace of mobile tools, including the ActiveHealth App and a knowledge hub, all aimed at addressing childhood obesity effectively.

- **An EU Community Network on Childhood/Adolescence Obesity (BIO-STREAMS Community Network)**: Coordinated via the BIO-STREAMS Platform, this network facilitates evidence-based knowledge communication to stakeholders, dissemination of best practices and weight-neutral approaches, community engagement campaigns for healthier environments and long-term behavioural change, and citizen access to local obesity professionals via the BIO-STREAMS Associative Catalogue.

2.2 Grounding BIO-STREAMS Communication and Dissemination Strategy

The communication and dissemination strategy for the BIO-STREAMS project is grounded in the need to effectively engage with diverse stakeholders, disseminate project outcomes, and promote the adoption of BIO-STREAMS's research findings, innovations, and best practices in the healthcare, nutrition and prevention sector. This section outlines the key principles and components that underpin the strategy, ensuring its successful implementation and impact.

- **Active participation of all partners**. The BIO-STREAMS communication and dissemination strategy is based on the active involvement of all consortium partners, each with their individual communication plans established at the beginning of the project. This collaborative approach ensures that each partner contributes their unique expertise and perspective to the dissemination activities, reaching a broader range of stakeholders and maximizing the project's impact.

- **Tailored messaging for target audiences**. Recognizing the diverse interests and needs of the target audience groups, the communication and dissemination strategy is designed to deliver tailored messages that resonate with each group. By clearly outlining the potential benefits and relevance of the BIO-STREAMS project to each target audience, the strategy aims to generate interest, engagement, and adoption of the project's outcomes.

- **Strategic use of multiple channels and tools**. The BIO-STREAMS communication and dissemination strategy employs a combination of online and offline channels, including social media, website, webinars, workshops, conferences, scientific publications, press releases, and media outreach. This multi-channel approach ensures that the project's messages reach the widest possible audience and caters to different communication preferences. In addition, the use of various communication tools, such as infographics, videos, presentations, and whitepapers, enables the delivery of complex information in accessible and engaging formats.

- **Timely and consistent communication**. The BIO-STREAMS communication and dissemination strategy emphasizes the importance of timely and consistent communication throughout the project's lifecycle. By maintaining an active presence on chosen communication channels and regularly sharing project updates, milestones, and results, the strategy aims to keep stakeholders informed and engaged. Regular communication also enables the project team to gather feedback, respond to inquiries, and adapt the strategy as needed.

- **Synergies with related initiatives and projects**. To maximize the impact of the BIO-STREAMS project, the communication and dissemination strategy seeks to create synergies with other relevant initiatives, projects, and organizations in the healthcare and technology sectors. By collaborating with these external stakeholders, BIO-STREAMS can leverage their networks, knowledge, and resources to amplify its reach and influence. This approach also facilitates the exchange of best practices, lessons learned, and innovative ideas between BIO-STREAMS and the wider community.

- **Monitoring and evaluation**. The BIO-STREAMS communication and dissemination strategy includes a robust monitoring and evaluation framework to track the progress and effectiveness of the dissemination activities. Key performance indicators, such as website traffic, social media engagement, and event attendance, are used to measure the success of the strategy and inform any necessary adjustments. Regular reporting and reviews ensure that the strategy remains aligned with the project's objectives and delivers the desired impact.

2.3 Objectives of the Communication and Dissemination Strategy

The primary objectives of the dissemination and communication strategy for BIO-STREAMS are:

- To **raise awareness and interest** in the project among the target audience groups.
- To **effectively communicate the project's results**, benefits, and potential applications.
- To **engage with relevant stakeholders** and create opportunities for collaboration and knowledge exchange.
- To promote the **adoption of BIO-STREAMS's research findings**, innovations, and best practices in the healthcare sector.

2.4 BIO-STREAMS target stakeholders

The success of the BIO-STREAMS project relies on effectively engaging a diverse range of stakeholders. These stakeholders can benefit from the project's outcomes and contribute to its overall impact. This section provides an overview of the target stakeholders, the benefits of reaching them, key messages for each group, channels to reach them, and measures for engagement.

Table 1: Target audience for BIO-STREAMS project

Target audience	Rationale for reaching them	Expected impact
Health Professionals	Access to a vast, harmonised database for making informed clinical decisions.	Improved diagnostic and therapeutic approaches; more personalized care.
Researchers	Opportunity for in-depth obesity-related research and innovation.	Breakthroughs in understanding and treating obesity; innovative solutions and methodologies.
Policymakers/ Authorities	Data-driven insights for effective health policy formulation.	Creation of informed, evidence-based policies for obesity prevention and health promotion.
Schools	Equip educational institutions with tools and resources for healthy lifestyle promotion.	Healthier school environments; increased teacher and student awareness about obesity and its prevention.
Citizens/General Public	Empowerment through personalized risk-assessment and healthy-living tools.	Improved health literacy, better self-management of weight, and increased adoption of healthy lifestyles.
Children & Adolescents	Direct beneficiaries of obesity prevention efforts.	Decreased prevalence of childhood obesity, better health outcomes, and well-being.
Parents	Central role in influencing children's lifestyles and habits.	Adoption of family-centric healthy practices; increased knowledge about obesity prevention.
Standardisation Bodies	Standardisation can enhance the credibility and acceptance of BIO-STREAMS.	Recognition and potential standardization of the BIO-STREAMS results
Tech Developers & Entrepreneurs	Opportunity to develop and market health-centric tools and apps.	Informed decision-making, increased collaboration, and synergized efforts in addressing obesity challenges.

Table 2: Key messages for each target audience

Target Audience	Key messages	Channels
Health professionals	BIO-STREAMS aims to reduce children/students obesity rates in EU. BIO-STREAMS hopes to improve health outcomes and quality of life through early address of eating disorders.	Medical journals, conferences, webinars
Researchers	Collaboration with BIO-STREAMS could lead to groundbreaking discoveries and significant scientific advancements.	Academic journals, research conferences
Policy makers & authorities	Supporting BIO-STREAMS could drive policy changes aimed at reducing obesity rates across European countries.	Government meetings, policy forums
Schools	BIO-STREAMS project can help kids stay healthy.	School newsletters, parent-teacher meetings, educational conferences
Citizens/General public	Stay informed and healthy with BIO-STREAMS. BIO-STREAMS has the potential to improve public health.	Social media, local news
Parents and families	BIO-STREAMS project can help kids stay healthy.	Parent-teacher meetings, educational conferences
Tech Developers & Entrepreneurs	Create health solutions with BIO-STREAMS	Demos, tech conferences, workshops

Target Audience(s)	Communication Channels	Key Messages
• Citizens • General public • Schools, students, teachers • Youth/community centres • Healthcare professionals • Academic/Research institutes • Children/Adolescent obesity organisations • NGOs • Technology providers, SMEs, start-ups • Food industry • Policy makers • Regulatory bodies	• Website • Social media • Mainstream media • Webinars/Seminars • Medical journals • Academic conferences • Peer-reviewed journals • Direct collaboration • Policy briefs • Events and presentations	• Obesity impact on young adults • Empowering schools, children and parents • Eating habits • Health data management • Prevention & healthy living interventions • Community building and mobilisation

Figure 1: Summary of the communication and dissemination activities

As communication is a two-way process, it's also important to listen to the needs and feedback from each of these target audiences to refine and improve the BIO-STREAMS communication and dissemination activities.

2.5   Communication phases

BIO-STREAMS activities will encompass both offline and online communications, maintaining a strong digital presence, actively participating in and organizing events, engaging with other research and innovation projects within the domain, and establishing connections with relevant stakeholders and other EU research and innovation initiatives. The core structure of the proposed plan is organized into four stages.

● **Year 1 - Awareness creation and communication foundation (M01-M12):** This phase involves designing the communication strategy and plan, which includes refining target groups, selecting appropriate tools, and initiating community-building activities to inform all relevant stakeholders about BIO-STREAMS' scope and objectives. Key deliverables for this phase include the creation of the BIO-STREAMS website, the Communication and Dissemination Strategy and Plan, a dedicated calendar of events, a project introduction flyer and brochure, a slide-based project presentation, a project video and the establishment of dedicated social media channels. Additionally, the consortium will participate in at least one conference or event presenting the BIO-STREAMS concept and circulate two editions of the e-newsletter.

Table 3: Communication activities identified for Year 1

Activity	Description
BIO-STREAMS website	A website containing project information, updates, and resources (up and running from M3)
Social media channels	Dedicated channels on platforms like Twitter (X), LinkedIn and YouTube to share updates and engage followers (delivered)
Newsletter #1 and #2	A bi-annual newsletter to share project updates and news with subscribers (M6 the first one, under preparation).
Calendar of events	A calendar outlining key project events and milestones
Project poster	A visually compelling infographic highlighting BIO-STREAMS' goals, objectives, and potential impact on obesity rates in children across Europe.
Project brochure	A comprehensive guide providing in-depth information about BIO-STREAMS' approach, technology, and intended outcomes, packaged in a reader-friendly format.
Project press release	An official statement detailing BIO-STREAMS' scope and objectives, aimed at media and public attention.
Project presentation materials	A set of PowerPoint slides, infographics, and speaker notes that succinctly present the BIO-STREAMS project, its rationale, methods, and expected benefits to various audiences in conferences, meetings, and other formal settings (on going)
Project flyer	A catchy, in-a-nutshell-type overview of BIO-STREAMS' goals, processes, and potential impact for easy distribution at events.
First project video	A video will be produced to showcase BIO-STREAMS project and its expected outcome (in synergy with the other cluster projects).

These activities will help build awareness and establish a strong communication foundation for the BIO-STREAMS project during the first phase.

- **Year 2 – Sharing innovations to tackle children obesity (M13-M24)**: Proactively connect with target stakeholders, spark interest in BIO-STREAMS's activities and results, and establish a robust foundation for planned dissemination efforts. This phase also includes supporting the project's promotion, showcasing its activities, organising and attending events, and highlighting project use cases. Furthermore, it aims to strengthen collaboration with other H2020 or HE initiatives. Key activities in this phase include project's website update, additional newsletters, updated posters and brochure, animation of social media channels, a new press release, and presentation of the project in 3 international conferences, as well as the organisation of the first workshop organization.

Table 4: Communication activities identified for Year 2

Activity	Description
BIO-STREAMS website updates	The website will be updated to provide the latest information about the project and its outcomes.
Social media channels	The dedicated channels on platforms like Twitter (X) and LinkedIn will be continuously animated to share updates and engage followers. As the partners publish research papers, BIO-STREAMS will open an account on ResearchGate.
Newsletter #3 and #4	A bi-annual newsletter to share project updates and news with subscribers.
Calendar of events	A calendar outlining key project events and milestones will be updated.
Project poster update	A visually compelling infographic highlighting BIO-STREAMS's goals, processes, and potential impact on reducing obesity rates in children.
Project brochure	A comprehensive guide providing in-depth information about BIO-STREAMS's approach, technology, and intended outcomes, packaged in a reader-friendly format.
Project press release #2	An official statement detailing BIO-STREAMS' innovative solutions (featuring the BioBank and the BIO-STREAMS platform) aimed at media and public attention.
International conferences	BIO-STREAMS partners will take part in three international conferences to present BIO-STREAMS project.
X2 Project videos	To be published on YouTube and distributed across BIO-STREAMS' social media channels and partners'.
Workshop #1	BIO-STREAMS will organise the first workshop to present, discuss and share the work done up to that point and collect relevant feedback. The topic of the workshop will be defined at a later stage, but it will be linked to the evolution of the project, such as mobile app development, or specific milestones in the project.

- **Year 3 - Demonstrating progress and disseminating research findings (M24-M36)**: Actively engage with and support the adoption and implementation of the concepts, technologies, and tools provided by BIO-STREAMS through targeted promotional activities, showcasing use cases, publishing additional scientific papers, creating and distributing promotional materials, and ensuring open access to project results via the project website and open platforms. Participate in selected events, exhibitions, workshops, and exploitation activities while extending connections with relevant initiatives. As technologies develop and trials progress throughout the project's lifespan, standardization efforts will likely intensify. Prepare promotional materials in various formats, publish research findings, and enhance synergies with relevant research and innovation projects and initiatives. Share news items on the website and social media, including papers, technical reports, additional e-newsletter editions, interviews, video clips, and event participation.

Engage in BIO-STREAMS-based conferences, workshops, and tutorials, and contribute articles related to BIO-STREAMS results at high-profile conferences and in magazines.

Table 5: Communication activities identified for Year 3

Activity	Description
Project website update	Regular updates are made on the website to reflect the project's progress and share important announcements.
Social media channels	The dedicated channels will be continuously animated to share updates and engage followers.
Newsletter #5 and #6	The periodic newsletter shares highlights from the project's journey, including new findings and upcoming events.
Project poster update	The project's visual summary is updated to provide an engaging and up-to-date snapshot of the research progress.
Project brochure	The digital brochure is updated to offer a comprehensive overview of the project's status, findings, and future direction.
Presentation of project individual research results in international conferences	Individual research results are presented at three international conferences, amplifying the project's reach within the global scientific community.
Overall project presentation in international conferences	The broader project scope, goals, and achievements are presented at two international conferences to stimulate further research and collaboration.
Presentation of project individual research results in open access journals	Key research findings are published in two open access journals, ensuring widespread accessibility of the knowledge generated by the project.
Workshop #2	BIO-STREAMS will organise the second workshop to present, discuss and share the work done up to that point and collect relevant feedback.
Interactive face-to-face networking EU event	To foster direct engagement and knowledge exchange between project representatives and key stakeholders.

- **Year 4 - Championing change in reducing children obesity: BIO-STREAMS's sustainable impact (M36-M48):** During this phase, the project embarks on its most decisive phase as it aims to widely disseminate its findings and realize its full potential for impact. To begin with, the project website serves as the central hub of information. It undergoes a significant update to reflect the latest findings and achievements of BIO-STREAMS. An updated digital brochure is also made available for download from the website, featuring comprehensive and accessible information about the project's current status and results. The project flyer is also revised to reflect such updates. The project's newsletters, released periodically, continue to provide subscribers with an insider's look at the project's progress, including any exciting breakthroughs in the research, forthcoming events, and expert insights. The social media channels stay active and engaging, featuring posts about the latest updates, event announcements, and bite-sized pieces of educational content about underage obesity and the project's role in combating it.

Press releases are issued to major news outlets, detailing the project's successes and impacts on tackling obesity rates and health policy. This is done not just to keep the public informed but also to attract the attention of policymakers and other key stakeholders. Two major international conferences provide platforms for BIO-STREAMS's team to present their results, demonstrating the project's scientific merit and societal benefits. These presentations aim to engage a broader scientific community, thereby stimulating further research in the field and possible collaborations. The project's individual research results are also submitted to two open access journals, ensuring that the knowledge generated from the project is widely accessible. An interactive workshop is organized, allowing interested parties to engage with the project on a more personal level. This third workshop is designed to present the project's findings, discuss the future directions, and get valuable feedback from the attendees. A special demonstration at an EU-focused event highlights the potential impact of BIO-STREAMS on EU health policy programs. The team also showcases the project at various technical and academic events, presenting the technological advances made during the project and discussing the potential for their broader application.

Table 6: Communication activities identified for Year 4

Activity	Description
Project website update	The website undergoes updates, reflecting the latest findings and achievements of the project.
Social media channels	The dedicated channels on platforms like Twitter (X) and LinkedIn will be continuously animated to share updates and engage followers.
Newsletter update #7 and #8	Periodic newsletters provide an insider look at the project's progress, sharing exciting breakthroughs, event announcements, and expert insights.
Project poster update	The project's visual representation is updated to reflect the latest research findings and milestones.
Project brochure	An updated digital brochure is available, containing comprehensive and accessible information about the current status and results of the project.
Project social media update	Active and engaging posts are made about latest updates, event announcements, and informative content about the project and its development, partners and policy.
Project press release #4	An official statement detailing BIO-STREAMS' innovative solutions, progress and outcomes, aimed at media and public attention.
Press release update	Press releases are issued to major news outlets, informing about project successes and impacts.
Project flyer update	An update on the basic overview of BIO-STREAMS' goals, process, and potential impact on reducing underage obesity, for easy distribution at events – now showing achieved goals and ongoing ones.
Presentation of project results in international conferences	BIO-STREAMS partners present the project's findings at two major international conferences, engaging a broader scientific community and stimulating further research in the field.

Presentation of project individual research results in open access journals	Individual research results are submitted to two open access journals, ensuring the knowledge generated is widely accessible
Workshop #3	An interactive workshop is organized to present the project's findings, discuss future directions, and gather feedback from attendees.
EU-focused event demonstration	A special demonstration at an EU-focused event highlights the potential impact of BIO-STREAMS on EU health policy programs.
Technical/academic events demonstration	The team showcases the project at various technical and academic events, presenting technological advances and societal impact made during the project and discussing their potential broader application.
Interactive face-to-face networking EU event	To foster direct engagement and knowledge exchange between project representatives and key stakeholders.

This is a general overview of the communication and dissemination activities of the BIO-STREAMS project. Each partner has their own plan, outlined below.

Table 7: Individual plans for communication and dissemination

Partner	Communication and dissemination activities
ICCS	ICCS will utilise multiple channels to promote communication and dissemination of BIO-STREAMS activities, updates and outcomes to relevant audience, including the following: • ICCS's social media accounts • The website of the Biomedical Engineering Laboratory (BEL) that is involved in the project as part of ICCS. • Existing liaisons with public & private entities with clinical, technical and other expertise within other relevant EU / national projects and local activities that ICCS and BEL are a part of • BIO-STREAMS website and social media accounts • Journal publications, international conferences will also promote dissemination of BIO-STREAMS activities Participation in events, conferences, symposia, exhibitions
NetCompany-Intrasoft	INTRA will implement a dissemination & communication plan that encompasses diverse activities aimed at spreading the clinical and technical knowledge generated within BIO-STREAMS framework. Dissemination activities: • Journal publications • International conferences • Workshops • EU-focused events • Technical/Academic events Communication Activities:

	- INTRA's social media posts - INTRA's website blog/news posts - Press releases/ newsletters - Traditional media - Interactive face-to-face networking Networking with policy makers
MARTEL GMBH	MARTEL will contribute to broadly communicate and disseminate the project's outcomes leveraging on its website, social media, newsletter and broad outreach within the ICT context. It will also promote BIO-STREAMS achievements across various communities MARTEL is involved in.
TECREANDO	TECREANDO will leverage its online presence, including the official website, blog posts, and dedicated project sections and will actively share updates, articles, and news on TECREANDO's social media platforms.
SMARTSOL SIA	SIA will communicate and disseminate the project results internally, to its employees, and externally, through publications in its digital channels (website, newsletters, social media channels).
I2GROW	BIO-STREAMS communication and dissemination activities by I2G will undergo as follow: Via social media: LinkedIn and Twitter (at least twice per year) I2Grow website: section, "R&D Projects", the BIO-STREAMS page presents the project, the role and activities performed by i2Grow and relevant news of the project.
ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON	NKUA will disseminate the project results internally, to its employees, and externally, through publications in its digital channels (website, newsletters, and social media channels).
Komiteen for Sundhedsoplysning	DCHE will use website, social media, and both international and local events and conferences to share insights related to biobanks, health data, medtech, future health, and public health promotion. This will reach a wide community of both public health professionals (all the Danish HCP organisations), policy makers – Danish, Nordic and European - and an extended group of digital health networks, including the ECHAlliance, Nordic Health 2030 Movement, European Health Futures Forum and more.
SPHYNX TECHNOLOGY	SPHYNX TECHNOLOGY will ensure dissemination and communication by utilising its online network, consisting of its official website, newsletters, and other digital platforms.
BLOKS ZDRAVNI I SOTSIALNI GRIZHI EOOD	BLOKS will adopt approaches for communication and dissemination that include regular updates and project highlights on its official website, utilizing social media platforms to engage a wider audience and keep them informed, and collaborating with other partners to present project findings and advancements.

D.TSAKALIDIS-G.DOMALIS OE	NVCR will focus on showcasing project updates and milestones on the website, active participation in related conferences, seminars, and workshops, regularly engaging with its digital audience through blog posts, articles, and social media updates.
CSCY	CSCY's communication and dissemination strategy will be based on highlighting project updates on the CSCY website and through e-newsletters, regular engagement on social media platforms
KAROLINSKA INSTITUTET	KI will adopt an approach that highlights project achievements and news on the KI website, engages the academic community through scholarly publications and conference presentations, and actively updates on KI's social media accounts to engage a broader audience.
AINIGMA TECHNOLOGIES	AINIGMA will make full use of its website, social media channels, newsletter, and extensive outreach efforts to ensure effective communication and widespread dissemination of the project's outcomes.
CHAROKOPEIO PANEPISTIMIO	HUA will ensure effective communication by showcasing project results and findings on the official website and social media channels.
NUCLIO	NUCLIO will encompass displaying project updates and milestones on NUCLIO's main website and sharing news and achievements on NUCLIO's social media platforms.
FUNDACIO HOSPITAL UNIVERSITARI VALL D'HEBRON	VHIR will incorporate project updates and highlights into its website and will also utilize its robust social media presence to engage and inform a broad spectrum of healthcare professionals, patients, and the general public.
CHUL	BIO-STREAMS communication and dissemination activities will be organized by CHUL's Communication Service as following: • Via social medias: LinkedIn and Facebook (at least twice per year) • Folder in CHUL's Newsletter. • Press action: presentation of BIO-STREAMS in Belgian press (alone or with other European projects) A webpage dedicated to the project on CHUL's official website
ESHA	For ESHA, the strategy will be to project spotlights and updates on the ESHA website, engaging with education professionals and organizations through conferences and seminars, and actively updating the community through social media channels.
WHITE LABEL CONSULTANCY APS	WLC will shares insights and project advancements on social media.
PANEPISTIMIO IOANNINON	UOI, regarding the BIO-STREAMS communication and dissemination activities will: • actively participate in various workshops and events to disseminate project outcomes.

- contribute to knowledge sharing.
- enable the project to reach a wider audience, including healthcare professionals, IT experts, and researchers, who are interested in the big data analysis field.
- publish and present the project outcomes in various academic journals and conference proceedings, ensuring that the research findings are accessible to a broader community.
- promote the scope and the outcomes of the project via the website of Medlab and LinkedIn account.

2.6 Communication and dissemination tools and measures

2.6.1 BIO-STREAMS's brand identity

As an EU-funded Research and Innovation project, it is crucial for BIO-STREAMS to establish a clear project brand identity to make a significant impact with the dissemination of its work and achievements.

A brand identity ensures consistent appearance across all outlets (electronic and printed visual media) and shapes the perception of those who come into contact with the brand. The recognition and perception of a brand are highly influenced by its visual presentation. A project's visual identity is the overall look of its communications, achieved by consistently using particular visual elements to create distinction, such as specific fonts, colours, and graphic elements.

The visual identity and guidelines for BIO-STREAMS have been finalised since the early stage of the project to secure a strong and unique brand. This identity will be incorporated into all promotional and dissemination materials produced during the project and will be used by all project partners in their communication activities.

Main version

Clear zone

Icon version (for social media outlets)

Minimum size

10 mm
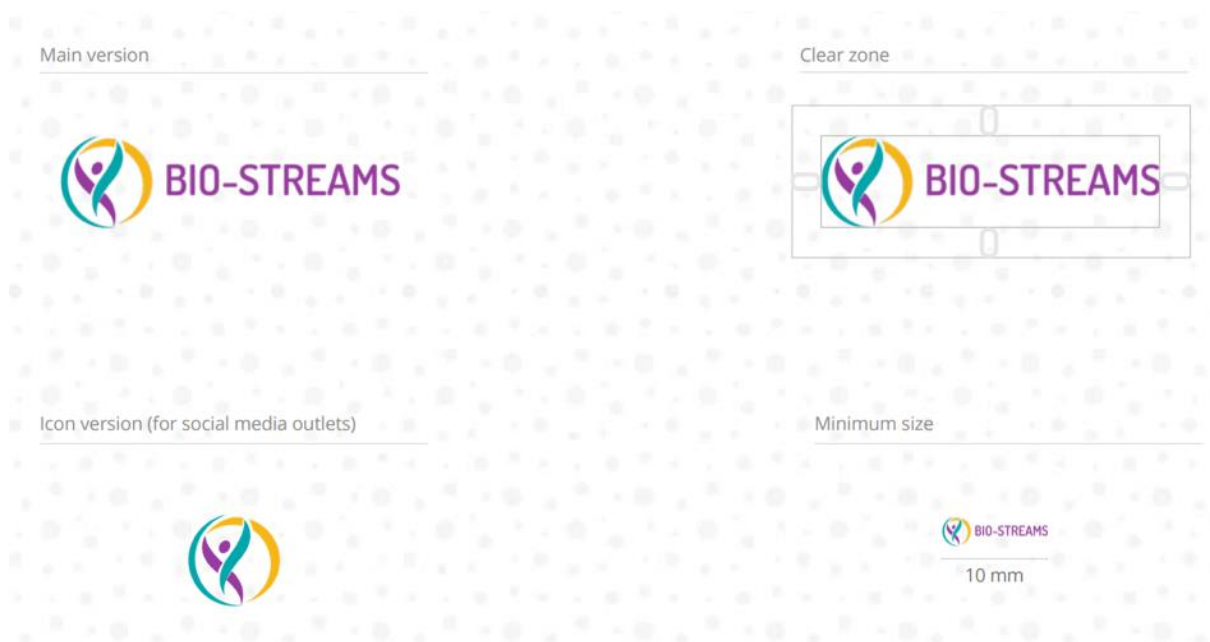
Figure 2: BIO-STREAMS logo

The main logo is also provided in the variations depicted here below, to allow readability over dark backgrounds or for black and white printing purposes.
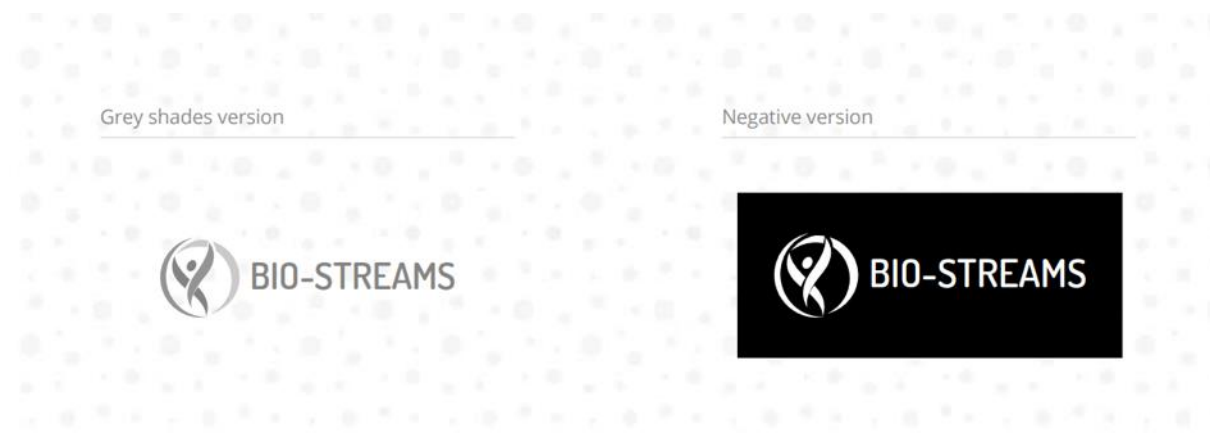
Figure 3: BIO-STREAMS logo variations

The guidelines of the brand identity are composed of visual elements such as the fonts, colour palette and templates for documents and presentations. The main palette of the corporate colours is composed of two colours based on the logo colour scheme. Two additional greyscale colours complete the full BIO-STREAMS colour palette.

Figure 4: BIO-STREAMS palette of corporate colours

A general "Brand Guidelines" document has been developed and distributed to the partners since the beginning of the project to ensure a consistent look and feel in all of BIO-STREAMS' communication activities. This is the base of a solid identity and facilitates the recognition of BIO-STREAMS wherever is presented. All dissemination materials refer to the project name, the project's website and Horizon Europe with associated graphic elements in line with the European Commission's guidelines.

A **PowerPoint presentation template** was created to be used by the partners to create their presentations for all external and internal events, meetings, etc., based on a common look and feel. The template has already been used by many partners at different events and workshops.

EC acknowledgement

As an EU funded project, BIO-STREAMS will clearly show the acknowledgement to the EU fund in all Dissemination & Communication materials (e.g., flyers, posters, brochures, video, website, etc). Below you will find examples of the elements to show in different positions.

Figure 5: EC acknowledgement for BIO-STREAMS communication tools

2.6.2 Online tools and channels

2.6.2.1 Website

The BIO-STREAMS website is a fully functional site that offers comprehensive information on BIO-STREAMS's aims and objectives, with easy access and a user-friendly interface for retrieving information and any public material generated within the project, as well as materials gathered via various work package activities about ongoing projects and relevant initiatives.

The BIO-STREAMS website serves as the entry point for the public and stakeholders (existing and newcomers) to the activities, services, material, and information that BIO-STREAMS is planning to create, collect, and share. Web design experts within the project consortium conceived its design and structure to promote the outcomes to the relevant target groups. The design of the website, developed on the WordPress platform, is strongly brand-oriented to consolidate the image of the BIO-STREAMS identity.

The dissemination material produced within the project and for interaction with social networks will use the website as a reference, ensuring consistent communication and an easy-to-recognize image/brand. To support multimodal access, it adopts responsive design principles aimed at providing an optimal viewing experience: the interface adapts the layout to the viewing environment using fluid, proportion-based grids. The website will be publicly accessible from the first month of the project, with further updates applied promptly as necessary.

The BIO-STREAMS project's website has shown a marked increase in visitor engagement, with the total visits reaching a total of 357 for the given range period. The average visit duration is averaging 6 minutes and 11 seconds per visit, showing that visitors are spending more time engaging with our content. In terms of activity, each visit involves around 5.3 actions, such as page views, downloads (press release), outlinks and internal site searches. The total page views have reached 1,805 with 1,013 unique page views.

Co-funded by the European Union
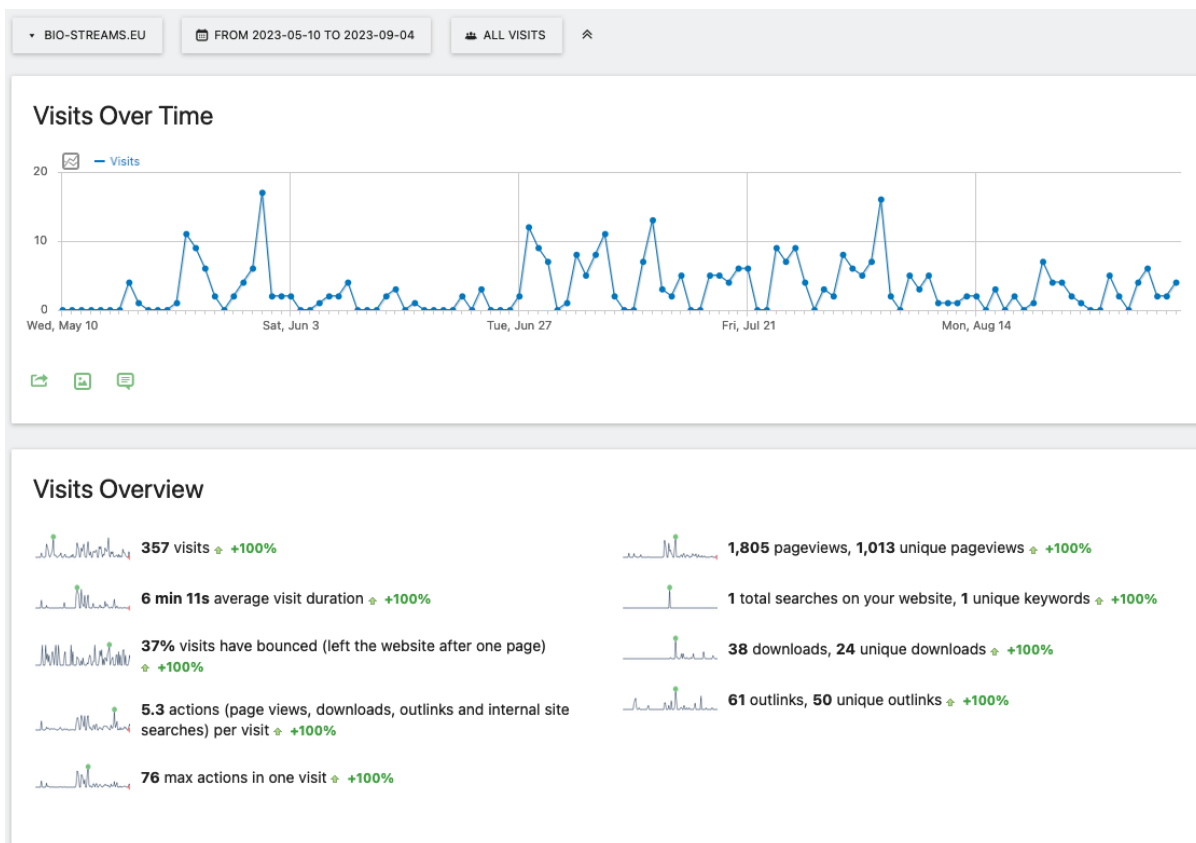
Figure 6: BIO-STREAMS's website Matomo analytics visitors' overview

2.6.2.2 Social media channels

BIO-STREAMS has established various social media channels to facilitate communication and dissemination of the project's activities and outcomes. The project has an active presence on popular social media platforms such as Twitter (X) and LinkedIn. The social media channels are linked to the BIO-STREAMS website and will be used to promote the project's activities and outputs regularly. In addition, BIO-STREAMS plans to create a YouTube channel to release videos related to the project in year 2. The following is a brief overview of the social media channels created for BIO-STREAMS:

LinkedIn

The BIO-STREAMS LinkedIn channel is a professional social media account designed to showcase the project's activities, progress and outcomes. It provides an opportunity for the project partners to connect with stakeholders and other professionals in the field of healthcare, nutrition and related fields. The channel will be regularly updated with news, project updates, publications, events, and other relevant information with tailored promotional materials. Using LinkedIn can have several positive outcomes for the BIO-STREAMS project, including:

- Building a professional network: LinkedIn is a valuable tool for building connections and expanding the project's network with healthcare professionals, educators, policymakers, and other relevant stakeholders.

- Showcasing project achievements: Through regular updates and sharing of project progress and outcomes, the BIO-STREAMS LinkedIn channel can effectively promote the project and its achievements to a wide audience.

- Opportunities for collaboration: LinkedIn can facilitate collaboration with other professionals and organizations working in the same field, which can lead to joint projects, sharing of knowledge, and other mutually beneficial outcomes.

Overall, the BIO-STREAMS LinkedIn channel is an important tool for communicating and disseminating the project's outcomes and achievements to a wider audience and building valuable connections within the industry.

At the time of writing this deliverable (August 2023) the numbers of followers of the LinkedIn page is low, but the communication team and the partners envisage some activities that could potentially increase the number of followers for the BIO-STREAMS LinkedIn page:

- Partners' presentation campaign: Introduce the consortium members to the general public with dedicated cards, quotes and interviews.

- Share valuable content: Share informative and engaging content related to the BIO-STREAMS project on a regular basis. This could include updates on project developments, relevant news articles, and insights from project team members.

- Use relevant hashtags: Incorporate relevant hashtags in your LinkedIn posts to increase visibility and reach. Some examples of relevant hashtags for the BIO-STREAMS project might include #healthcare, #children, #obesity, #eHealth #DigitalHealth, #data

- Encourage project members to engage: Encourage all project partners to engage with the BIO-STREAMS LinkedIn page by sharing posts, commenting on updates, and inviting their connections to follow the page.

- Promote the page on other channels: Promote the BIO-STREAMS LinkedIn page on other communication channels, such as the project website, email newsletters, and other social media platforms.

- Leverage LinkedIn Groups: Join relevant LinkedIn groups related to the project's industry and share content from the BIO-STREAMS page within those groups. This can help to increase visibility and attract new followers who are interested in the project's topic.

- Engage with other pages and accounts: Engage with other LinkedIn pages and accounts related to the project's topic by commenting on their posts and sharing their content. This can help to establish the BIO-STREAMS page as a thought leader in the industry and attract new followers who are interested in the project's topic.

Figure 7: BIO-STREAMS LinkedIn channel

X (Formerly Twitter)

The BIO-STREAMS Twitter (X) channel is a social media account created to promote the project's activities, outcomes and to engage with the target audience. Twitter is a popular social media platform that allows users to send and read short messages called "tweets". BIO-STREAMS' Twitter channel aims to provide regular updates about the project's progress, share relevant news and articles related to the project's topics, and encourage engagement with the project's followers. BIO-STREAMS's Twitter account, **@BioStreams_EU,** was set up in May 2023 (M1). At the time of writing, it has **38 followers,** and it has already reported on the project's kick-off meeting, online events, presentations and relevant initiatives driven by partners.

The main outcomes of using Twitter for BIO-STREAMS are:

- Increasing visibility and awareness of the project: Twitter provides a quick and easy way to share information about the project with a wider audience. By regularly tweeting about the project's activities and outcomes, BIO-STREAMS can increase its visibility and attract more followers.

- Building a community around the project: Twitter allows for easy communication and interaction with the project's followers. By engaging with them and responding to their comments and questions, BIO-STREAMS can build a community of stakeholders who are interested in the project's topics.

- Sharing relevant news and articles: Twitter provides a platform for BIO-STREAMS to share news and articles related to the project's topics. This can help to establish the project as a thought leader in the field and attract more followers who are interested in the same topics.

- Driving traffic to the project website: By including links to the project website in tweets, BIO-STREAMS can drive more traffic to the website and increase the chances of visitors engaging with the project's content and becoming more interested in the project.

As a Horizon Europe project, BIO-STREAMS also follows the official Twitter account of the Horizon Europe programme @HorizonEU and @EU_HaDEA, joining the community of projects on social media. In compliance with the EC guidelines, we will tag @HorizonEU and @EU_Commission and @EU_HaDEA in our posts whenever we announce important news that clearly demonstrate the real impact of our research.

We will also use relevant hashtags, to expand the visibility of our communication and generate interactions of BIO-STREAMS's addressed topics. In addition, we will use other hashtags and accounts based on the content of the posts, including hashtags relevant to the project partners' organizations and representatives, hashtags of initiatives and events related to the project and the content, accounts of important participants in events, accounts of the Project Officer of the EC, and more.

To increase the reach and engagement of our Twitter channel, we will also implement the following activities:

- Regularly post updates, news, and insights related to the project.

- Engage with other relevant Twitter accounts and participate in relevant Twitter chats and conversations.

- Use multimedia content such as images, videos, and infographics to make our posts more engaging and visually appealing.

- Share updates and posts from other related accounts to foster a sense of community and collaboration within the field.

- Promote the Twitter channel on other project communication channels, such as the website and newsletter, to encourage more followers.

Figure 8: BIO-STREAMS Twitter (X) channel

ResearchGate

After publishing the first scientific papers, BIO-STREAMS will also have a ResearchGate account. ResearchGate is an online network where researchers can share papers, ask and answer questions, and find collaborators. It serves as a crucial platform for academics and professionals across various disciplines and sectors. Having a BIO-STREAMS project page on ResearchGate offers the following advantages:

Enhancing Research Accessibility: BIO-STREAMS's presence on ResearchGate can significantly improve the project's visibility within the scientific community. By sharing research papers, articles, findings, and technical reports associated with the project, BIO-STREAMS can ensure that its research is easily accessible to those interested in the field.

Collaboration Opportunities: ResearchGate facilitates professional networking and promotes the formation of research collaborations. By being active on ResearchGate, BIO-STREAMS can identify and connect with individuals, research groups, and organizations with overlapping research interests, potentially leading to fruitful collaborations.

Engaging with the Scientific Community: ResearchGate allows BIO-STREAMS to engage directly with the scientific community. It provides an opportunity for the project's researchers to participate in discussions, answer questions, and provide insights related to their research area, thereby establishing a positive rapport within the academic community.

Keeping Up With Recent Developments: Having a ResearchGate account also ensures that BIO-STREAMS can stay abreast of the latest research trends, updates, and advancements in the field. This can contribute to the ongoing refinement of the project's research methodology and focus.

Feedback and Improvement: Through ResearchGate, BIO-STREAMS's research output can receive feedback from other researchers worldwide. This feedback can be instrumental in refining the project's research and enhancing its quality and impact.

Overall, a BIO-STREAMS ResearchGate account aligns well with the project's emphasis on high-quality research and collaboration, contributing significantly to its scientific outreach strategy.

Table 8: Social media accounts of the BIO-STREAMS consortium partners

Partner	Twitter (X)	LinkedIn	Facebook
MARTEL	@Martel_Innovate	Martel Innovate	Martel Innovate
ESHA	@SchoolHeadsESHA	School Heads Europe	ESHA
NUCLIO	@NUCLIO	NUCLIO	NUCLIO
EASO	@EASOobesity	EASO	EASO Obesity Community
VILABS	@vilabs_eu	ViLabs	ViLabs
HUA	@Harokopio_	Harokopio	Harokopio University
UKCM	@UKCMaribor	UKC Maribor	UKC Maribor
UNI	@Uni Systems	UNISYSTEMS	UniSystems Official
NVCR	@Novelcore_eu	Novelcore	-

Netcompany-Intrasoft SA	@NetCo_Intra	Netcompany-Intrasoft	Netcompany-Intrasoft SA
The Danish Committee for Health Education	@KomSundDK	Komiteen for Sundhedsoplysning	Komiteen for Sundhedsoplysning
EONGENETICS	-	EonGenetics	EonGenetics
SIA	-	SmartSol, SIA	-
NKUA	@uoaofficial	Ethnikon kai Kapodistriakon Panepistimion Athinon	Πανεπιστήμιο Αθηνών - University of Athens
UGL	-	UKEMED Global	-
Smartsol SIA	-	SmartSol, SIA	-
TCR	-	Tecreando BV	-
i2G	@grow_i2	i2Grow	-
UM	@DsplabFeriUm	Faculty of Electrical Engineering and Computer Science, University of Maribor	DSPLab
ICCS - NTUA	@IccsNtua	ICCS - NTUA	Institute of Communications and Computer Systems

Table 9: List of the EU related Twitter and LinkedIn accounts

Organisation	Twitter account (X)	LinkedIn account
Directorate-General for Health and Food Safety (DG Sante)	@EU_Health	-
Horizon Europe programme	@HorizonEU	
Joint Research Centre (JRC)	@EUScienceInnov	EU Science, Research and Innovation
European Health and Digital Executive Agency (HaDEA)	@EU_HaDEA	European Health and Digital Executive Agency (HaDEA)
European Institute of Innovation and Technology EIT Health	@EITHealth	EIT Health

2.6.2.3 Newsletter

Regular updates about the BIO-STREAMS project's activities and progress will be shared with the public through our dedicated news channel hosted on the BIO-STREAMS website. Our team will issue a newsletter every 6 months and, if needed, newsflashes to keep our audience updated on the latest developments, major outcomes, and dissemination activities.

The newsletters will also include information about upcoming events and how to get in touch with the project and connected initiatives. The newsletter will be a collaborative effort with project partners contributing information and ensuring the content is accurate. All newsletters will be available on the project website, and a mailing list is being created based on subscription. The BIO-STREAMS team will use GDPR-compliant and European-based solutions with a double opt-in feature to ensure data privacy. Interested visitors can already subscribe to the newsletter through the registration functionality available on the BIO-STREAMS website.

The first newsletter will be released in early October 2023 and will be published also on the project website.

2.6.3 Offline tools and channels

2.6.3.1 Publications

Publications and research reports by BIO-STREAMS, its partners and third parties will be featured, while links will be provided with leading literature resources. Target publication journals/magazines include the European Journal of Nutrition, Public Health Nutrition, Nutrients, Obesity, Pediatric Obesity, Obesity Research and Clinical Practice, Journal of Education, Health and Sport, Journal of Clinical Medicine, IEEE Engineering in Medicine and Biology Magazine, the Lancet Journal, Journal of Informatics, Obesity Research & Clinical Practice (ORCP), Social Science & Medicine, Journal Of Clinical Endocrinology and Metabolism, Clinical Endocrinology, European Journal of Endocrinology, Biopreservation and Biobanking.

According to article 17.3 of the Grant Agreement, any communication or dissemination activity related to the action must use factually accurate information. Moreover, it must indicate the following disclaimer (translated into local languages where appropriate):

"Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them."

In addition, the partners must ensure open access to peer-reviewed scientific publications relating to their results. All publication must acknowledge the Horizon Europe funding, grant project, name, acronym and number.

2.6.3.2 Press releases

As a Horizon Europe project, BIO-STREAMS will develop press releases to highlight major project achievements such as the organization of significant events and the implementation of key project activities. These press releases will be disseminated in both national and European media outlets to increase the project's visibility. Each partner will be responsible for engaging with their local media to ensure wider coverage of the press release. All published press releases will also be available on the project website.

BIO-STREAMS's first press release (1/4) was issued in June 2023. The release was distributed throughout Europe, with particular focus on the consortium partner countries. The press release has garnered significant attention and has been featured across multiple media outlets. Indeed, the English version has been translated into the multiple languages and will be distributed to media outlets in respective countries.

This broad coverage is a proof of the project's relevance and potential impact.

2.6.3.3 Events

BIO-STREAMS's participation in events serves several critical purposes, all aiming to enhance the project's impact, visibility, and collaborative potential. Whether it's international conferences, workshops, or technical demonstrations, each event participation is a strategic step in achieving the project's overall objectives.

- **Promotion and visibility**: Attending events provides a platform to showcase the project's work, progress, and results, enhancing BIO-STREAMS's visibility within its field. This can lead to increased recognition, driving interest among potential collaborators, funders, and beneficiaries.

- **Knowledge exchange**: Events allow the BIO-STREAMS team to learn from and share insights with experts, peers, and stakeholders. This mutual exchange of knowledge can contribute to the refinement of the project's methodology, objectives, and outcomes, ensuring they remain aligned with current trends and best practices in the field.

- **Networking and collaboration**: Events bring together diverse groups of individuals and organizations. For BIO-STREAMS, these provide excellent networking opportunities, potentially leading to collaborations that can enrich the project and extend its impact.

- **Dissemination of findings**: Through presentations and discussions, BIO-STREAMS can disseminate its findings and innovations to a broader audience, contributing to the knowledge base of the field and promoting the application of its research outcomes.

- **Engagement and dialogue**: By participating in events, BIO-STREAMS fosters a dialogue with stakeholders, beneficiaries, and the public. This interaction can enhance understanding of the project's relevance and potential impact, encouraging broader engagement and support.

- **Feedback and improvement**: Feedback received during events can provide invaluable insights for improving the project. This feedback, whether it comes from peer discussions or formal reviews, can lead to adaptations and enhancements in the project's subsequent stages.

By actively participating in a range of events, BIO-STREAMS continues to contribute to and benefit from the vibrant, global dialogue surrounding its research field. The Consortium has already identified some key events to participate towards awareness, promotion and attraction of stakeholders.

Table 10: Health related events

Targeted events	Date	Link
Smart Bear Day	26 July 2023	https://www.smart-bear.eu/general-meeting-and-information-day/
European Health Forum Gastein	26 – 29 Sept 2023	https://www.ehfg.org/

UEG (United European Gastroenterology) week	14 – 15 Oct 2023	https://ueg.eu/week
ESHA 2023	24-27 Oct 2023	https://esha2023dubrovnik.com/
EHiN	7 – 8 Nov 2023	https://ehin.no/2023/
European Public Health Conference	8 – 11 Nov 2023	https://ephconference.eu/
ISPOR Europe 2023	12-15 Nov 2023	https://www.ispor.org/conferences-education/conferences/upcoming-conferences/ispor-europe-2023
Self-Care Week Europe	13 – 19 Nov 2023	https://www.scie.eu/scwe
International Conference on Health Informatics	21 – 23 Feb 2024	https://healthinf.scitevents.org/Home.aspx
World Health Day	7 Apr 2024	https://www.who.int/campaigns/world-health-day
EAU Congress 2024	5 – 8 Apr 2024	https://eaucongress.uroweb.org/announcing-eau24/
34th Medical Informatics Europe Conference (#MIE2024) – Athens, Greece, 25 to 28 August 2024	25 – 28 Aug 2024	https://efmi.org/conferences-journals/mie-confererence/
European Public Health WEEK	12 – 15 Nov 2024	https://ephconference.eu/future-conferences-24
NOT	21-25 Jan 2025	https://www.not-online.nl/

Since the beginning of the project, several partners already took part in some events:

An example by ICCS is shown below:

- **SMART BEAR INFO DAY event** (Online) on 26 July 2023 (<u>AI, STANDARDS AND INTEROPERABILITY FOR HEALTHCARE</u>)
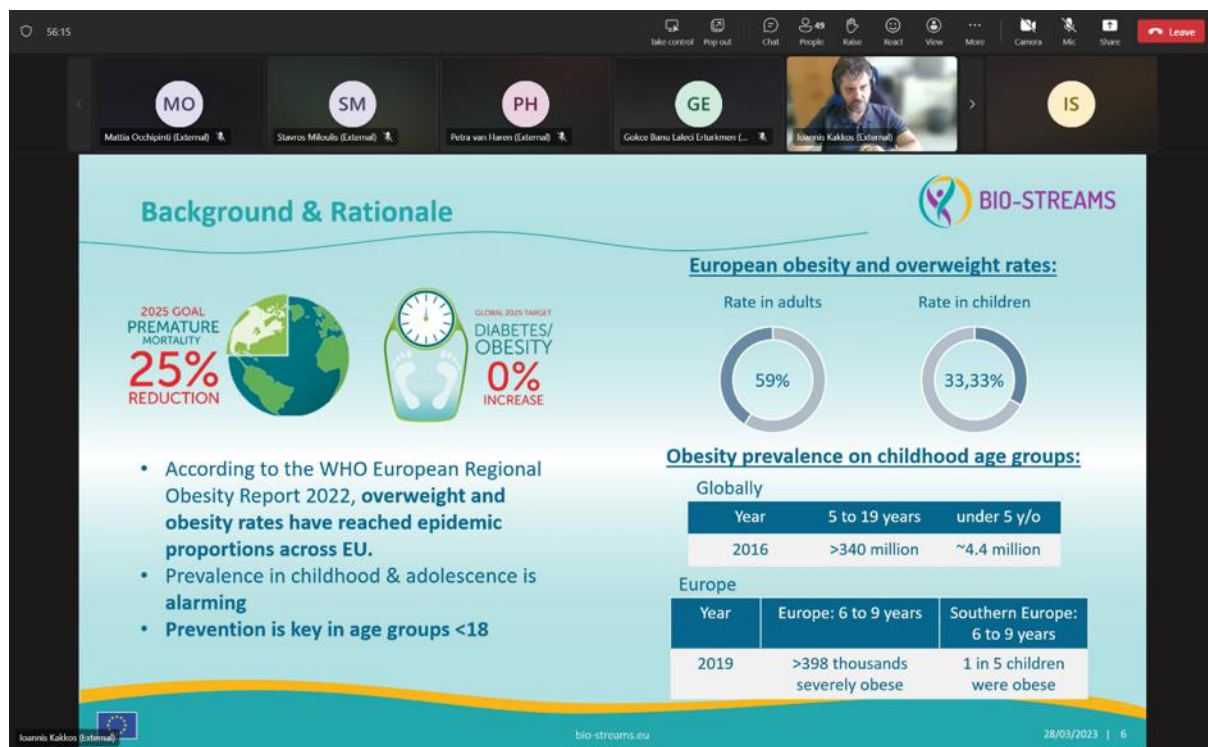
Figure 9: Consortium partners' participation in events

2.6.3.4 Promotional materials

A comprehensive set of communication and promotional mechanisms and tools will be established early on to properly support all the impact creation activities, tailored to the specific BIO-STREAMS' objectives and targeted stakeholders.

Promo materials, both online and offline, will be produced for communication and dissemination purposes, presenting the project and its achievements, e.g., slides, posters, roll-ups, press releases, news, flyers, multimedia content, videos, photo galleries and giveaways.

2.7   Community engagement

One of the pillars of BIO-STREAMS (Pillar 1.5) is the behavioural interventions for obesity prevention and the promotion of healthy living. The successful implementation of this pillar requires the organization of activities and awareness campaigns in children/adolescents' environments. These interventions will target a change in perception of the meaning of obesity promoting the focus on well-being and healthy lifestyles rather than on weight and appearance. The vision of the community efforts is that the best way to materialise this pillar's mission is to engage and involve all relevant actors in the perception of the concept and to become co-creators of the desired change. The project will be piloted in 5 countries, namely Greece, Netherlands, Portugal, Denmark and Slovenia. The community building and engagement efforts will last throughout the duration of the project.

One of the objectives of WP7 is the creation of a community of stakeholders, with a potential to positively impact the implementation and outcomes of the project. The main goal of this

community is to support the project development, promote the exchange of best-practices and act as a discussion space to push for new ideas and innovative solutions. It also aims to open the project to collaboration with other existing initiatives and inprint the first steps for the sustainability of the project's initiatives and use of main results.

The community engagement activities will also support the design and deployment of awareness-raising following the requirements established within T6.1. The effort will also support the organization of the workshops, while integrating the design thinking methodology, that aims to target patients and students acquiring information about their cultural and social background, their needs and perceptions and other factors that might be relevant for the BIO-STREAMS research efforts.

In order to achieve the foreseen goals a series of workshops, events, participation in external events, organization of Hackathons, webinars among other initiatives will be organized. A series of demonstration and engagement activities are also envisioned in collaboration with WP6 in the relevant sites and countries piloting BIO-STREAMS.

The actions designed to build an effective BIO-STREAMS community will have to incorporate the elements that can actively attract the attention and retain in the community all major stakeholders (Figure 12 - BIO-STREAMS Ecosystem Components). The diversity of these audiences will require tailor made design, ensuring the initial interest and retention of citizens in general, schools and their communities, obesity professionals, policy makers, food industry professionals, among others.

To guarantee that the project brings awareness to the involved community and successfully mobilizes actors in the field a series of guidelines will be created and disseminated. Engagement campaigns will involve participants in information days and actions fostering a healthier environment where behavioural changes are incentivized and promoted for all its members. With this vision in mind BIO-STREAMS will actively involve schools empowering educators and learners as change actors in their communities. This will be done through professional development opportunities and support to the creation and implementation of interdisciplinary projects, led by the students, supporting the co-creation and dissemination of strategies to prevent overweight and obesity within their schools and local communities. Communication of best practices and guidelines for families will be part of the actions integrated into these activities, following the objectives of the project (i.e., SBO.1). These actions will target a minimum of 7 EU countries.

Through ESHA's network and organized activities such as conferences, newsletters and publications, school's heads will be informed about the project and its associated opportunities to schools and invited to actively participate in the project. NUCLIO through its regular campaigns will invite educators to join the professional development opportunities and support the implementation of the BIO-STREAMS in school's settings while empowering learners to take the stand towards the fight against misinformation and the promotion of a healthy lifestyle. Other stakeholders will be invited to participate in community-based events, such as clinicians, policy makers, etc.

Throughout the school-based events the community network will be created, and most target groups will be invited to participate. From the project main target groups, the following are the ones that can be easily reached by the school-organized community events: citizens, schools and policymakers. The vision of these activities is to promote awareness and provoke a positive impact in childhood obesity prevention by providing the necessary information to parents and relevant members of the school community.

The community engagement activities will also have as aims the gathering of relevant elements that will contribute to the mapping of socio-economics factors such as parental education and employment status among other important indicators that might be related to the community perception of a health environment and its impact on children.

The successful involvement of these audiences will help identify and address health inequalities through a process of design-thinking. The expected result of these actions will be

the mapping of these inequalities and all other relevant aspects of each of the targeted communities as steps to the construction of the BIO-STREAMS Living Lab (T6.1).

Initial assessment will be followed by awareness and health-literacy building campaigns, modified based on local school/community characteristics focusing on elements like: 1) daily meal distribution (e.g., snacking frequency, late meals), 2) food choice optimisation and 3) improvement of physical activity patterns.

A study with these communities will be conducted, with the aim to promote the prevention of obesity not only through awareness campaigns but also throughout the use of new tools and services that will help make informed decisions about lifestyle choices and how this can support community-centric policies. The focus will be the promotion of healthy eating and physical activity coordinated with guidance and recommendations for health authorities. This study will be embedded in the professional development of school staff and active engagement of students where the necessary guidance and recommendations from health authorities will be provided. The study is foreseen to take place in 5 countries: Greece, Netherlands, Portugal, Denmark and Slovenia.

Following the collection of relevant information by each pilot site and the respective analysis a series of interventions will be organized namely:

School-based & Community-based Physical Activity & Nutritional Interventions materialized in the form of Health and Fitness Days where personalised activities will be designed, with support and co-creation of students and relevant members of the schools and local communities. These activities will follow the Universal Design and the principles of Inclusion, Diversity, Equity and Accessibility. Entities invited to participate in the organization of these events will be encouraged to reflect on their activities and adopt the BIO-STREAMS guidelines and suggestions in line with the promotion of a healthy lifestyle on the part of the school and local community members. These actions will be materialized om the form of the organization of multiple activities and the redesign of the nutritional offer to students and a wider healthy behaviour among members of the local community.

Health Communication & Equal Access: Following the mapping of information through the design thinking efforts, a communication strategy will be put in place, localized to the specificities of each pilot location. Information will be disseminated via the relevant social media channels and/or other relevant media.

These interventions will also target citizens in general and the project marketing strategies will benefit from the information retrieved via these interventions. Another important result of this initiatives will be the enrichment of the school's policy adoption push, foreseen with the scope of the project, encouraging the integration of nutritional education, smart food choices in school's canteens, suggestion of financially accessible choices and alternatives presentations, etc.

BIO-STREAMS hackathons will be organized where students, with support and collaboration of their teachers and other relevant stakeholders of their communities, will be invited to create an app related with healthy-living lifestyle choices and later promoted via the BIO-STREAMS Marketplace. The hackathon organization will take into consideration the differences among the various pilot sites and localization efforts will be in place to ensure equitable participation of all schools, regardless of their social economic background and initial knowledge on the production of an app.

A total of 400 children from the 5 countries are expected to participate and be directly impacted by the above-mentioned events. The design of activities will also be in line with the requirements of T6.4 for the organization of school activities where the proposed educational strategy can be tested, monitored and validated during the whole school year.

Other relevant stakeholders, such as healthcare professionals in the area related to obesity, research institutes, NGOs in the field of obesity and nutrition, food industry and technology providers representatives, etc., that might not be represented in all communities, will be invited to participate in these schools' events and if desirable and/or necessary, specific events for this audience will be organized.

2.7.1 From professional development to engagement and sustainability

The involvement of schools can be done in multiple manners. Through ESHA network schools' headmasters will be invited to actively participate and support the project. Through NUCLIO's coordination networks of educators will be activated and from these joint efforts a selection of pilot sites established. The community engagement activities, and the involvement of multiple stakeholders will be driven via a careful approach where educators are invited to participate in professional development opportunities, preferably contributing for the progression in their careers.

Within the professional development teachers will be invited to enrol their students in community driven projects where curriculum content can be delivered while enriching learners' competence profile. A refined educational toolkit will emerge from this experience in the format of a MOOC with a step-by-step guide on how to engage students, how to involve the community and jointly co-create localized and personalized solutions, addressing their habits and beliefs. Several student-centred methodologies will be integrated in this course supporting educators to independently adopt the procedures, to train their peers if necessary, and empowering students to become change agents in their localities.

2.8   Synergies, networking and joint initiatives

Dedicated efforts will focus on the establishment of partnerships with relevant ongoing initiatives and networks, engaging key players from all groups of the defined stakeholders across the relevant domains of health and cybersecurity. The ambition is to ensure awareness creation and engagement of target stakeholders into the uptake of BIO-STREAMS results.

A special focus will be given to Horizon Europe ongoing projects funded under the same topic call (HORIZON-HLTH-2022-STAYHLTH-01-05-two-stage - Prevention of obesity throughout the life course).

Projects funded under the same call:

eprObes: Preventing lifetime obesity by early risk-factor identification, prognosis and intervention

PAS GRAS: De-risking metabolic, environmental and behavioural determinants of obesity in children, adolescents and young adults

SHIFT2HEALTH: Development and evaluation of nutritional strategies to reduce and prevent obesity in shift workers

HealthyW8: Empowering healthy lifestyle behaviour through personalised intervention portfolios to prevent and control obesity during vulnerable stages of life

OBELISK: Fighting childhood obesity to stay healthy all over the life

The collaboration with these projects will happen on several levels including, but not limited to:

- Co-organisation of events.
- Exchange of information related to project achievements.

- Mutual promotion: dissemination and communication using social media and online presence tools.
- Interviews with key stakeholders.
- Invitation for participation in BIO-STREAMS events, and vice versa.
- Collaboration on other publications.

Thanks to participation of many partners to several ongoing projects, associations, initiatives and networks, targeted liaisons and synergies will be fostered to ensure BIO-STREAMS' broad outreach, fostering effective BIO-STREAMS uptake and validation. These initiatives and organisations will constitute the basis of the broader BIO-STREAMS' ecosystem. BIO-STREAMS will build synergies starting early in the project and throughout the entire implementation, following the designed dissemination and communication strategy and plan, taking advantage from partners memberships to and synergies.

2.9   Communication and dissemination impact assessment

In order to track and measure the impact of all of the dissemination and communication activities of BIO-STREAMS, the channels and the associated activities conjoined with the dissemination plan are presented below in Figure 10, which shows the KPIs as per the grant agreement. The necessary resources are already foreseen in the planned budget and resource allocation.

Channels	Target Audience	Activity/Measures	Measurable indicators & target value (M48)
Dissemination Activities			
Scientific publications	S&T community	Journal publications Conferences	≥5 peer-reviewed publications (p.132/Clinical ≥12 participations/publications Appendix)
International events/ Demonstrators	S&T, citizens/ schools, Industry, Obesity professionals, Policy makers	Workshops EU-focused events Technical/Academic events	≥2 workshops/special sessions; ≥80 attendees ≥2 demonstration ≥4 demonstrations
Communication Activities			
Electronic activities	General Public	Project website Video clips Social media	Deployed in M2; ≥5.000 accesses annually; ≥500 downloads (deliverables, data, results & materials) ≥ 10 online video clips; ≥ 8000 views 2 project accounts in Facebook & Twitter; ≥500 connections/followers; ≥150 social networks posts
	Industry, Obesity professionals	Press releases/ newsletters	≥4 press releases; ≥8 newsletters
	Academic peers & fellows	S&T communities/ research networks	2 project accounts in ResearchGate, LinkedIn; ≥100 connections/followers; ≥50 posts on social networks
Non-electronic activities	Industry, Obesity professionals, Regulators	Presentation materials	≥10 press/media kits containing detailed press releases, videos, publishable images, flyers
	General Public & relevant actors' collaborations	Traditional media Community efforts	≥1 articles/interviews to national magazines &/or newspapers per participating country ≥25 national campaigns, local activities & events
Networking/ Outreach	Academic & Research fellows, Industry	Interactive networking	≥4 training webinars jointly organised with other initiatives towards best practices & knowledge exchange
	Research peers, Industry, Regulators	Collaboration with other projects	≥6 synergies established with pertinent EU projects; ≥8 workshops jointly organised with other projects (2 per year); >4 participations in events organized by other initiatives
	Policy makers	Collaboration with Policy Makers	≥1 meeting with health policy makers per pilot country; ≥2 meetings with EU healthcare & citizen associations

Figure 10: KPIs for Work Package 7

3 SCALE UP AND SUSTAINABILITY STRATEGY AND PLAN

The primary objective of the scale-up and sustainability strategy and plan is to implement the exploitation strategy of the BIO-STREAMS project (delivered by T7.1), which encompasses specific actions aimed at transforming the project's outputs into exploitable products and services, ensuring continuity and sustainability in all areas of intervention and contribution. The target groups include potential "users" and adopters of BIO-STREAMS assets, such as public health authorities, healthcare institutions, educational providers, digital solutions/innovations providers, etc., as defined in Section 2.2 of the DOA (Description of Action). These activities comprise:

- **Exploitation and business modelling:** The primary objective is to define and execute exploitation strategies to ensure the applicability and efficiency of the developed datasets, technologies, applications, and know-how. Exploitation workshops will be organized annually and whenever possible, immediately following consortium meetings. An exploitation plan will be developed during the project, taking into account future exploitation possibilities resulting from project achievements. The final exploitation report will be available at the end of the project's runtime.

- **Contribution to standardization:** This involves planning and implementing standardization actions for BIO-STREAMS, with the aim of contributing to relevant Standard Development Organizations (SDOs) and pre-standardization interest groups, in close collaboration with existing standardization and pre-standardization groups.

- **IPR management:** This task is responsible for managing ownership and access to knowledge (IPR, data, software, etc.), which is of utmost importance to ensure the proper exploitation of the work and its outcomes for both individual project partners and the consortium as a whole.

To achieve the above objectives, the project will commence by identifying the initial guidelines for the exploitation of the BIO-STREAMS project. As already defined in the DoA (Description of Action), *exploitation refers to the use of results in further research and innovation activities beyond those covered by the action concerned, including activities such as commercial exploitation (e.g., developing, creating, manufacturing, and marketing a product or process), creating and providing a service, or engaging in standardization activities.* It is anticipated that beneficiaries will provide and regularly update a plan for the exploitation and dissemination of results, including communication activities.

The main objective is to present various sustainability and exploitation possibilities for the BIO-STREAMS project. These activities aim to disseminate the results among both internal and external communities to ensure continued exploitation after the official end of the project. The scale-up and sustainability strategy outlines the key activities that will ensure exploitation in the future. For a successful project lifecycle, careful dissemination and exploitation strategies are essential. While dissemination activities will be carried out from the initiation of the BIO-STREAMS project, the scale-up and sustainability strategy focuses on the project's results during its implementation phase and beyond, to achieve sustainability and continued exploitation after the project concludes.

Finally, the endeavour seeks to create a shared vision among all BIO-STREAMS partners-beneficiaries regarding these exploitation activities. This will be accomplished by outlining how the outcomes will be promoted to encourage the adoption and use of the products in various academic, clinical, educational and commercial environments.

3.1   Initial guidelines for exploitation

Regarding exploitation activities, the objective is to formulate a plan for the further utilization of the project results. The significant aspects of exploitation are defined in the project's anticipated outcomes:

Scientific Objectives

- Create and deploy the BIO-STREAMS Obesity Biobank, housing real datasets from various countries and granting open access to realistic synthetic datasets, thereby enabling standardised data collection & analysis.

- Develop and deploy the BIO-STREAMS Obesity Platform as a cloud-based interoperable framework, supporting the BIO-STREAMS Biobank and hosting dedicated services/tools for a) knowledge sharing and dissemination, b) risk assessment and c) lifestyle recommendations.

- Generate a comprehensive understanding of the pathophysiology and psychosociology of childhood obesity, establishing an interpretable connection to prevention and management pathways towards long-term health outcomes.

Technical Objectives

- Establish a harmonised data model encompassing overweight and obesity comprehensively, addressing semantic enrichment and interoperability across multiple physical and digital healthcare platforms and sources.

- Formulate an appropriate regulatory framework for data preservation, analysis and sharing, ensuring (cyber) security, privacy and trust mechanisms, while also addressing individuals' rights and data ownership.

- Develop and assess Machine Learning-based tools for a) obesity risk assessment, b) personalised pathway recommendations and c) realistic data generation to facilitate knowledge interpretation and analysis for decision support.

Clinical & Implementation Objectives

- Create and implement a multi-pillar clinical protocol to coordinate data collection and evaluate key application aspects of BIO-STREAMS in clinical settings.

- Establish and implement a community-based roadmap to coordinate the cultivation of healthy environments and raise citizen awareness in school settings.

Societal & Business Objectives

- Establish a multidisciplinary network to accelerate knowledge transfer, guideline dissemination and the deployment of initiatives in relevant settings, thereby promoting policy integration into societies, enhancing health literacy and bringing citizens with professionals.

- Demonstrate BIO-STREAMS' applicability, cost-effectiveness and added value, while developing a market entry strategy.

The Exploitation strategy aims to provide guidance to the partners on how to utilize the BIO-STREAMS' products and outputs, offering suggestions on how the project can continue to thrive even after its formal completion.

3.2   Approach for developing the Exploitation Strategy

An Exploitation & Sustainability Strategy encompasses partners' ideas on how to utilize the project's products and results at local, regional, national, European and/or international levels. When referring to products and results, all tangible and intangible outputs of the BIO-STREAMS project are considered. A hybrid approach will be employed in developing this strategy. Therefore, partners will be encouraged to discuss their ideas and individual plans for exploiting the BIO-STREAMS' products and outputs from the proposal stage onward. These discussions will be instrumental in recording partners' perspectives on why they should utilize the results and articulate what benefits they could derive from doing so.

Partners will continually identify gaps in the sector/topic served by the BIO-STREAMS project and will assess what aspects to retain, what to incorporate and what to modify in relation to the project. Throughout the development of this strategy, consideration will be given to both the project's strengths and weaknesses, with the aim of aligning key strengths with opportunities to create capabilities that could evolve into competitive advantages.
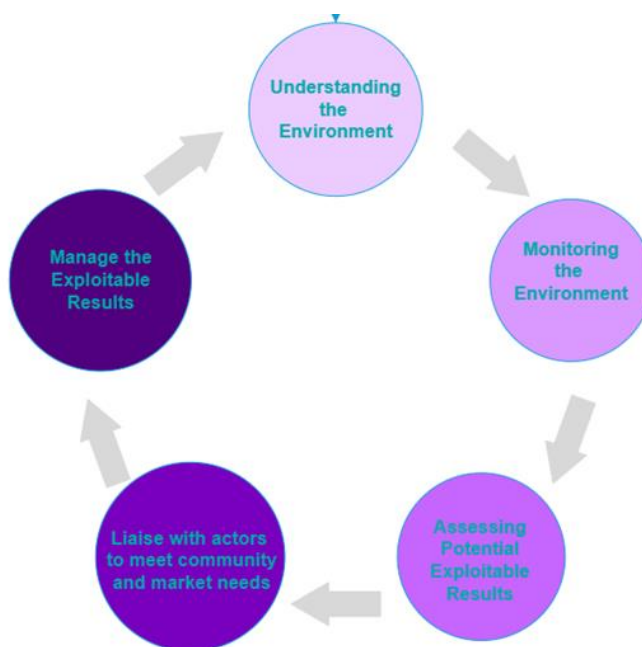
Figure 11: Schema of the BIO-STREAMS Exploitation Process

The plan will undergo continuous updates as the project progresses. Ongoing discussions will be sustained on enhancing project sustainability while introducing additional actions and activities for more effective exploitation of the project results. A proactive approach has been embraced by identifying the most promising opportunities for exploitation and subsequently planning to investigate these opportunities.

3.3   Exploitation Measures and Actions

The exploitation strategy is closely intertwined with the dissemination strategy. For the success of both strategies, the BIO-STREAMS project relies on the strength of the networks that each partner (academic, clinical, business, technical) has readily accessible. Access to these networks will initiate from the centre and expand outward, beginning with engaging those closest to the project initially and gradually broadening the scope of dissemination efforts.

Once all development work is completed, partners will shift their focus to the exploitation of project outputs by extensively promoting BIO-STREAMS and its accomplishments. This will

be accomplished through international networks of potential "users" and adopters of BIO-STREAMS assets, such as public health authorities, healthcare institutions, educational providers, digital solutions/innovations providers that all partners regularly engage with. Therefore, it is suggested that partners utilize all available communication channels to engage target groups regarding the quality, relevance, and effectiveness of BIO-STREAMS results, activities, assets and outcomes.

Exploitation involves "making use of and deriving benefit from (a result)." In the context of project results, it primarily encompasses the two processes of 'mainstreaming' and 'multiplication,' where:

Mainstreaming

Mainstreaming is the planned process of transferring the successful results of programs and initiatives to appropriate decision-makers in regulated local, regional, national or European systems; and

Multiplication

Multiplication is the planned process of convincing individual end-users to adopt and/or apply the results of programs and initiatives. This means that the consortium strives to reach policy authorities, health authorities, policymakers and education practitioners, aiming to persuade them about the value and relevance of the project results.

The implementation of the Exploitation Strategy relies on two essential sets of tools:

- **ICT-based tools:** In the context of the first set of tools, partners ensure that the results and progress of the project are available on the internet and are supported and published on various professional social networks, such as LinkedIn.

- **Networking:** Regarding the second set of tools, partners develop a network database, including key national decision-making actors in each partner country and relevant organizations from European non-participant countries. Additionally, key actors from other EU countries are included, as the partnership intends to disseminate and exploit the project and its results outside the partnership. The partners also promote and elaborate a partnership agreement on intellectual property rights concerning the project results.

As a first step, partners will be invited to create a mailing list of potential stakeholders, who could support and promote the exploitation/sustainability of BIO-STREAMS outputs.

The objective of exploitation activities is to create a plan and scenarios for further utilization of the project results. To achieve these goals, all partners of the BIO-STREAMS consortium will collaborate in formulating the Scale-up and Sustainability strategy plan. The plan is based on three key points:

- Ensure synergy between the project and local and national policy.

- Add value by identifying gaps where the results can inform national policy.

- Ensure that partners have a national role and interest in the outcomes.

For this reason, as a second step, partners will be asked to complete an Individual Exploitation Plan Questionnaire (Appendix A) based on the context and reality of their organization and their country. The project's consortium is composed of entities and organisations coming from four different categories, namely academic, clinical, business and technical sectors. Each

group category should name a representative, which will be responsible for the distribution and the collection of the Individual Exploitation Plans Questionnaires on a six-month basis. Support from the task leader will be provided if necessary.

Based on the information provided by the project partners, tables will illustrate how partners propose to exploit the deliverables and main outputs of the BIO-STREAMS project.

3.4   Exploitation Objectives

The general dissemination and exploitation objective of the project is to maximize the impact of project results by optimizing their value, strengthening their impact, and transferring them to different contexts.

The strategic approach to achieve the above-mentioned objectives is to target and act during specific cases and evolutions of the project. Three different periods have been identified throughout the project's lifetime and the expected exploitation objectives for each period are described below.

Period 1 (M1-M12) – Initial Phase: Raising awareness and establishing targeted communication tools

During the initial phase of the project, the dissemination, exploitation and communication strategy and plan will be defined. The initial target groups will be refined and dedicated tools for each group will be proposed to enhance community building activities. Furthermore, relevant stakeholders will be informed about the scope and objectives of BIO-STREAMS, leading to the establishment of new liaisons. Synergies and interaction mechanisms with other ongoing projects in the field will be explored to identify complementarities, common practices, collaboration opportunities and jointly organized activities. Consortium members will actively participate in organizing communication events and raising awareness about the project and its scope.

Period 2 (M13-M35) – Main Phase: Community outreach and dissemination of initial outcomes

As the project progresses into its main phase, significant developments will occur at both scientific and technical levels. Therefore, project members should proactively engage with the primary target stakeholders, generating interest in BIO-STREAMS activities and outputs, and fostering awareness in the ecosystems surrounding the pilot sites and related initiatives. By mapping and monitoring best practices, the consortium will facilitate knowledge sharing and exchange of project concepts and aspects. With the availability of the first clinical study outcomes and prototypes of technical solutions, it will be time to showcase project's solutions and assets and initiate policy making and intervention activities. The first standalone and/or joint events should be organized, along with activities for creating and assessing impact.

Period 3 (M36-M48) – Final Phase: Global outreach and sustainable impact

In the final stage of the project's lifecycle, the consortium should focus on the adoption and deployment of the concepts, technologies, and tools developed and tested during the previous phase. Large-scale promotional activities should be conducted in parallel with the promotion of piloting and validation activities. Further scientific publications, as well as the development and distribution of promotional materials, will be arranged.

The project results should be made accessible to the public.

Consortium members will actively attend, participate in, and organize events to foster exploitation and impact activities. During this phase, exploitation and impact activities should also be assessed and measured.

3.5   Joint Exploitation Plans

BIO-STREAMS constitutes a holistic solution that addresses all checkpoints related to:

- **Health data management** (i.collection, ii.curation, iii.de-identification, iv.harmonisation, iii.maintenance, iv.regulatory),

- **Knowledge handling** (i.access, ii.analysis, iii.transfer, iv.exploitation/reinforcement),

- **Risk assessment** (including biomarkers for metabolic outcomes),

- **Prevention & healthy-living interventions** (i.nutrition, ii.exercise, iii.psychology) and

- **Community awareness and mobilisation** (i.guideline dissemination, ii.health literacy, iii.citizen engagement, iv.stakeholder participation).

BIO-STREAMS mobilizes a diverse group of partners with clear in-project responsibilities to design, create and deploy the following components in multiple settings, involving **7 hospitals in 6 EU countries** & **5 school sites in 5 EU countries**: The first **EU Childhood/Adolescence Obesity Biobank** (**EU data space** – **BIO-STREAMS Biobank**) serving as an EU-wide data-sharing center for research and innovation, hosting **real & synthetic data** and ensuring:

- Standardized data collection, leveraging knowledge from European Core Health Indicators.

- A data model encompassing demographic, behavioural, clinical, genetic/epigenetic and cost data.

- An expandable Data Network hosting diverse datasets across countries via EU-wide local hubs.

An **Accessible Obesity Platform** (**BIO-STREAMS Platform**) that combines the above Biobank with novel services:

- A Knowledge Hub with group-specific policies (for health professionals, schools, citizens), best practices and research outcomes, regularly updated based on new data within the BIO-STREAMS Biobank

- Personalized Risk-Assessment for adverse metabolic outcomes attributed to obesity.

- A Recommendation Engine offering tailored programs for prevention and healthy living, following a **family-centric approach** and considering **micro-moments** as determinants driving behaviour and adherence.

- A Marketplace with mobile tools supporting data collection and healthy lifestyle preservation.

An **EU Community Network on Childhood/Adolescence Obesity (*BIO-STREAMS Community Network)***, coordinated via the *BIO-STREAMS* Platform, involving all stakeholders, facilitates the following:

- Evidence-based knowledge communication to stakeholders through transparent methods for analysis and reporting.

- Dissemination of best practices to the public and the removal of stigmatization through *weight-neutral approaches, shifting the focus toward preventing* **adverse metabolic outcomes** *rather than weight status.*

- Community engagement in relevant settings through campaigns that promote healthier environments and informed decisions regarding long-term behavioural changes for children/adolescents and their families.

- Citizen access to local obesity professionals via the Bio-Streams Associative Catalogue.
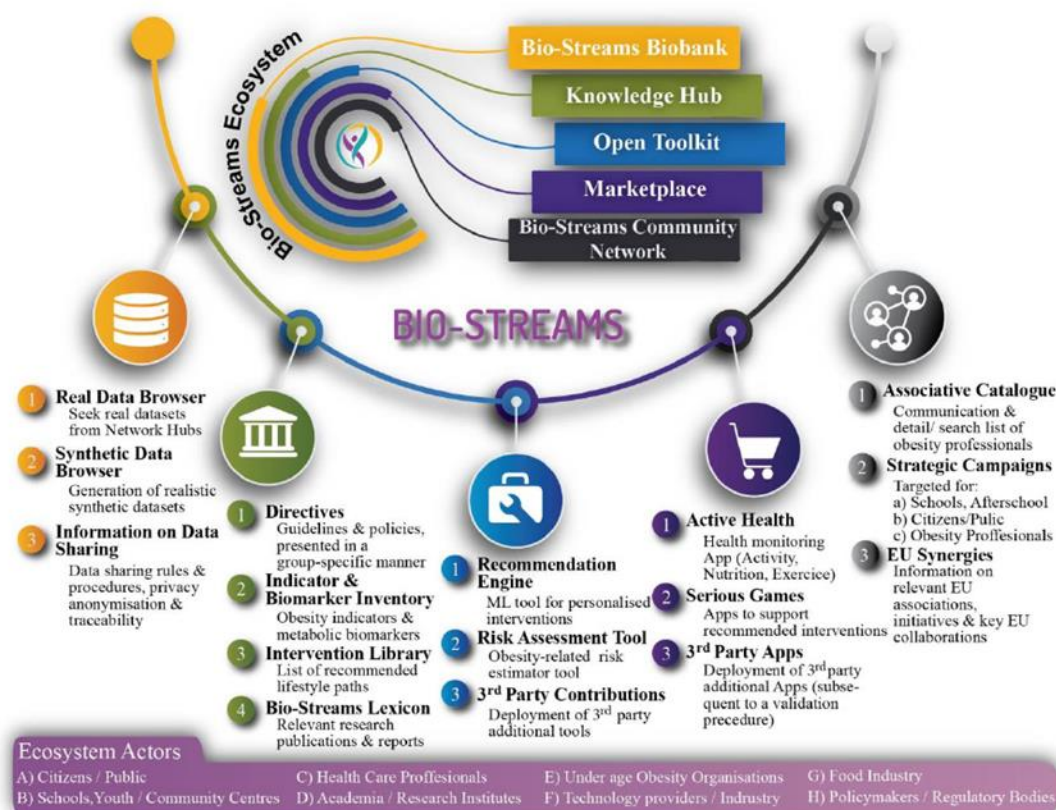
Figure 12: BIO-STREAMS Ecosystem Components

The partners of the Consortium have joint exploitation plans. Details of these plans will be identified as soon as the questionnaires are completed.

3.6   Exploitation Target Groups

Each partner invests significant effort in identifying the anticipated users of the project's results in their respective countries and considering their specific requirements. This encompasses all potential users, not solely those within the immediate consortium. Partners' strategies allow for ongoing consultation and engagement with users throughout the project's duration and beyond its completion. In essence, the project's target groups and the potential advantages they may derive include:

Citizens/ General public (including underage individuals)

- Risk factor assessments
- Personalized guidelines for obesity prevention
- Digital tools for behavioural change

Schools and supportive environments (youth and community centres)

- Analytics
- Tools and knowledge
- Obesity prevention guidelines

Obesity-related healthcare professionals (clinicians, nutritionists, etc)

- Access to BIO-STREAMS knowledge base
- Underage obesity indicators / biomarkers

Research fellows and academia

- Access to data
- Tools
- Analytics
- Knowledge

Children/Adolescents obesity organizations and NGOs

- Cost/benefit analysis
- Enhancement of guidelines

Technology providers, SMEs and Industry

- Access to novel
- Evidence-based technologies
- Data & know-how

Food industry

- Access to dietary and behavioural underage obesity knowledge

Policy makers and regulatory bodies

- Unify standards/ regulations for efficient childhood obesity prevention

3.7   Intellectual Property Rights (IPRs)

The BIO-STREAMS consortium acknowledges the significance of Intellectual Property Rights (IPR) as a crucial issue. Within the consortium, IPRs will be systematically identified, processed and protected, guided by the following philosophy:

The general scientific results stemming from BIO-STREAMS research are intended for public access, designed to contribute to the advancement of technology and scientific knowledge in the field of healthcare, both within Europe and in international contexts. This open accessibility is of utmost importance, as fundamental methods should be subject to extensive scrutiny, peer-review, and adaptation to gain acceptance in industries and standardization processes. Nevertheless, the consortium and/or any individual partner entity involved in the project shall diligently safeguard valuable intellectual property rights that may arise from their work in the domains of our clinical studies and the technological innovations for delivery. The management of IPRs will adhere to reasonable rules, strictly adhering to all EU regulations outlined in the Grant Agreement contract.

IPR reviews will be conducted annually within the consortium to systematically identify potential IPRs that might necessitate protection. The process of informing consortium partners about potential IPR discoveries at any point during the project will be carried out through email communication with the coordinator, with further notifications to partners as required. The consortium will employ suitable means to protect any interesting and valuable IPRs identified.

The management of IPRs within the project will be executed as follows.

3.7.1 Patents

Each consortium partner undertaking evaluations is required to inform all partners about the current IPR status when presenting activities, ideas, technologies, and specific techniques or algorithms within Work Packages that are already patented or under patent. In cases where a patent evaluation procedure has not been initiated but a partner is contemplating applying for one, they must inform all other partners to ensure the safeguarding of their IPR. Additionally, every partner should promptly inform others if, to the best of their knowledge, there is a possibility of IPR infringement resulting from solutions chosen by the consortium.

Regarding subjects generated within the scope of project activities that are eligible for patenting, authorship will encompass all those who contribute to the development of the idea, and ownership will vest with the companies or institutions they represent. This principle extends to patentable subjects generated through brainstorming sessions or during technical meetings conducted within the project's framework. A list of patents adopted or generated within the project, including their status (pending, filed, to be presented), and other relevant information, will be compiled and maintained as a reference throughout the project's duration.

3.7.2 Scientific Publications

Partners are required to promptly inform the consortium of every technical/scientific publication and/or public presentation relevant to the project's activities. These documents should explicitly reference the EU project name. A list of these documents, along with associated information, will be created and maintained as a reference throughout the project's duration.

3.7.3 Confidentiality & IPR Handling

A Consortium Agreement was established and signed by all consortium partners to define the final acceptable terms for various aspects, including:

- Disclosure and protection of background information IPR,

    Exploitation of foreground IPR,

- Confidentiality and

- Handling of disputes, payments and possible termination arrangements.

4   IMPACT ASSESSMENT STRATEGY AND PLAN

This chapter is dedicated to the impact assessment strategy and planning of the BIO-STREAMS project, that is described under T7.5 – *Impact assessment*, led by ViLabs. Impact assessment is a cross-cutting process following the progress during the whole duration of the project. The main impact of BIO-STREAMS revolves around the optimal use of health data to generate meta-data and knowledge in order to provide innovative evidence-informed methodologies and tools. This way, the project results will provide input on the understanding of the transition from metabolically healthy to unhealthy, to prevent underage obesity. Also, educational strategies on weight management will be designed, while the findings will also feed policy design and support policymakers in developing cross-sectoral solutions for health promotion and underage obesity prevention.

4.1   The impact paths

BIO-STREAMS has identified three paths to follow to maximise the impact of its results. Each path leads to an area that will be benefited by the project outcomes. The first area includes **Research and Services,** which are divided into *Scientific Prospects* and *Technological Innovations*. The scientific prospects represent the insights the project will provide into the mechanisms governing underage obesity, in relation to genetic and epigenetic factors. The technological innovations include technological solutions, educational material, and new frameworks in order to increase understanding and raise awareness around data sharing, security and AI/ML when designing policies for fighting underage obesity.

The second area includes the **Economic Prospects**. Under this path two sub-areas are included: *Digital Economy*, and *Cost-Effective Solutions*. Since the project intends to use and combine multiple data sources, a standardisation framework aligned with the EU regulations is needed. Also, a cost-effective framework to support the technologies for EU AI-based health services will be delivered. The Digital Solutions that will arise, will be clinically validated and disseminated among EU tech industry players, allowing also third-party developers to deploy relevant applications.

The last area is **Community Engagement and Social Innovation**. This area is divided into *Increase Awareness* and *Policy Development*. The focus of the first is on the interdisciplinary approaches via an obesity community network with the purpose of raising awareness and increasing health literacy, resulting in behavioural change. Likewise, a transnational network will also be established in order to support policy design by facilitating the flow of information, existing policies, and best practices on preventing underage obesity among national hubs, creating a common base.

All the above-mentioned areas are translated into specific project outcomes with specific impact KPIs (iKPIs), that will facilitate the monitoring and assessment of the project's progress and achievements. Also, they refer to specific target audiences. These interconnections are described later on.

The impact paths as described above, will lead to specific outcomes and impacts as these have been set by the project description. BIO-STREAMS has five expected outcomes, three long-term wide expected impacts, and three additional expected impacts. Each of them refers to specific target groups and will be measured with the 21 iKPIs as these have already been described in the Grant Agreement (GA). The target groups vary in terms of needs and approach including (A) Citizens (including underage individuals); (B) Schools & supportive environments (youth & community centres); (C) Obesity-related healthcare professionals (clinicians, nutritionists etc.); (D) Research institutes & academia; (E) Underage obesity organisations & NGOs; (F) Industries & technological providers; (G) Food industry; (H) Policy makers & regulatory bodies. §Section 4.1.1. provides a summary of the expected impacts and outcomes.

4.1.1 BIO-STREAMS expected outcomes & impacts

BIO-STREAMS was submitted under the call, HORIZON-HLTH-2022-STAYHLTH-01-two-stage, and the destination was directed towards the Key Strategic Orientation KSO-D *'Creating a more resilient, inclusive and democratic European society'* of Horizon Europe's Strategic Plan 2021-2024. In this regard, BIO-STREAMS has set specific outcomes and impacts that respond to the abovementioned call and destination, as these are described in section 2.1 in the GA. A summary of these expected outcomes and impacts is presented below.

BIO-STREAMS Contribution Toward the Expected Outcomes

Outcome 1: Researchers, medical intervention developers, and healthcare professionals have a better understanding of the biological pathways involved in overweight/obesity. However, challenges include a lack of meta-reviews, limited and community-specific data, and non-standardised metrics, leading to inaccurate estimates.

BIO-STREAMS aims to address these challenges by standardising and organising various biospecimens, including economic, demographic, and environmental data, from seven retrospective and prospective cohorts into a single biobank entity (BIO-STREAMS Biobank - Phase 2). This initiative will enable the exploitation of FAIR data principles and synthetic data generation, introducing new evidence on biomarkers and linking genetic, behavioural, and biological factors. Paired with data-sharing access and research materials through the BIO-STREAMS Lexicon, this will empower research efforts, facilitating the analysis of causes and risk factors for overweight/obesity at the region and community-specific population level.

Outcome 2: Educational organisations like schools, obesity professionals, academics, relevant organisations, as well as policymakers often struggle to access and implement evidence-based clinical guidelines for addressing obesity and related health issues across all age groups. Challenges include a lack of clinical knowledge, hidden contributing factors, reliance on professional judgment (especially in children), coordination issues, and policy variations between countries.

BIO-STREAMS aims to address these challenges by extracting and unifying policies from diverse EU countries and enhancing preventive strategies. It will contribute to Standards Development Organisations (SDOs) to create effective clinical and management guidelines, targeting specific audiences such as schools and healthcare professionals. Additionally, BIO-STREAMS will provide evidence-based recommendations to address prevalent obesity-related behaviours, supporting lifestyle changes and overall well-being. Collaboration with various stakeholders and the BIO-STREAMS Community Network will promote multidisciplinary approaches and preventive strategies for a healthier society.

Outcome 3: Stakeholders that work on underage obesity, such as obesity professionals, academics, technological providers, the food industry, and the policymakers, are in need of a robust outcomes framework and toolkit for monitoring overweight and obesity at the European level. However, challenges include scaling data networks across research communities, issues related to database interoperability, and the absence of a common information model. This hampers the development of effective strategies for monitoring population indicators related to overweight/obesity, including cost-effectiveness, the impact of inactions, co-morbidities, and value-based care.

BIO-STREAMS aims to address these challenges by providing information and a legal mandate for database interoperability and integration based on European research policy. It will establish a FAIR information model for biobank standardisation, semantic integration, and systematic mapping among databases, following international standards like ISO 2038769 and OpenAPIs. Additionally, BIO-STREAMS will conduct an economic evaluation, considering

direct and indirect costs, including comorbidities, and assess the socioeconomic impact of interventions for underage obesity.

Outcome 4: Obesity related Healthcare professionals and researchers, public authorities, and relevant stakeholders should implement tailored prevention campaigns to address obesity. Such practices can address the issues of the lack of personalised counselling, limited interdisciplinary teamwork, negative attitudes towards obesity, and the need for individualised approaches due to diverse preferences and populations. BIO-STREAMS aims to engage various stakeholders, including healthcare professionals, policymakers, schools, and investors, to raise awareness, especially among marginalised groups. The BIO-STREAMS Community Network will focus on secondary prevention, aligning health education with capacity-building and citizen involvement. Additionally, BIO-STREAMS will collaborate with NGOs and similar initiatives to develop strategies for primary prevention, combating exposure to obesogenic environments, and reducing stigmatisation.

Outcome 5: Parents and children are encouraged to use new tools and services to make informed decisions about preventing obesity. However, current technologies, such as mobile apps, have limitations, including low adherence, confusing input processes, socioeconomic barriers, and a lack of psychological/physical support. Many existing approaches focus on providing information rather than promoting behaviour change and motivation. Additionally, health authorities must approve applications before integration into clinical practice.

BIO-STREAMS offers a solution with a Risk Assessment tool to estimate metabolic threats, providing personalised evaluation and control measures. The Recommendation Engine tool utilises machine learning to offer evidence-based suggestions for preventing overweight/obesity, matching individuals with recommended lifestyle paths. A mobile app called ActiveHealth (following CE marking requirements) will monitor health data, clinical records, and user goals to provide a comprehensive view of physical status. BIO-STREAMS Marketplace will offer various apps and serious games to support lifestyle alteration with high individual adherence and increased motivation.

BIO-STREAMS Contribution Towards the Long-term Wider Impacts

Impact 1: BIO-STREAMS aims to empower citizens to adopt healthier lifestyles and behaviours, promoting long-lasting health and reducing disease burdens, even for older or vulnerable patients. To achieve this, BIO-STREAMS offers tools such as the Risk Assessment tool, which evaluates metabolic threats and external factors, and the Recommendation Engine, which suggests personalised interventions based on already established practices, EU strategies and policies. Furthermore, BIO-STREAMS emphasises lasting impact through constant updates of its knowledge base, including the BIO-STREAMS Lexicon for Risk Assessment and the Intervention Library for the Recommendation Engine. It also allows third-party developers to contribute relevant products, fostering ongoing interest in adopting healthier lifestyles and sustaining motivation and adherence.

Impact 2: BIO-STREAMS will support citizens to take control of their physical and mental health by providing tools and resources for self-management and interaction with healthcare providers. The ActiveHealth App allows individuals to monitor their health and set personalised goals, promoting autonomy in health decisions. Additionally, the BIO-STREAMS Associative Catalogue establishes trusted communication channels between individuals and experts, such as psychologists and nutritionists, to alleviate mental pressures, especially among minors and families. BIO-STREAMS will have a strong impact by continuously updating the ActiveHealth App with feedback from professionals and users. The Associative Catalogue will also expand its resources based on expert and citizen input, extending the reach of weight management and obesity prevention beyond regional limitations.

Impact 3: BIO-STREAMS aims to enhance citizens' trust in knowledge-based health interventions and guidance from health authorities while improving health literacy, including among young individuals, to ensure patient safety. BIO-STREAMS achieves this by disseminating information and facilitating connections between actors, policy-makers, academia, and industry through its Strategic Campaigns. These efforts help increase health literacy, reduce misconceptions, and enhance underage obesity prevention. The ActiveHealth App, will take all the necessary steps to be certified by relevant health authorities, ensuring continuous citizen engagement.

BIO-STREAMS' impact will reflect on its expandable BIO-STREAMS Community Network, allowing additional partners to join and extend the ecosystem's outreach. Close collaboration with health and regulatory authorities also positions the ActiveHealth App to be incorporated into national health programs, contributing to the gradual shift toward digital health.

BIO-STREAMS Additional Impacts: Societal – Scientific – Economic/Technological

Societal impact: BIO-STREAMS aspires to reduce health inequalities and promote healthy living through a comprehensive health-in-all policies approach, aligning with the EU Commission's priorities in nutrition, health literacy, and digital empowerment.

BIO-STREAMS plans to leverage the expertise of regulatory framework experts and collaborate with national authorities within its BIO-STREAMS Community Network. Together, they will develop guidelines and regulations for preventing underage obesity, with a specific focus on disadvantaged groups and deprived areas. BIO-STREAMS aims to have a lasting impact by expanding its policy guidelines to regions and countries beyond the EU. It seeks to establish partnerships and synergies with international organisations such as IISD, FAO, WHO, Climate Policy Info Hub, UNEP, WRI, CDP, SFS-related initiatives, and underage obesity NGOs to further its mission globally.

Scientific impact: BIO-STREAMS aims to accelerate research on childhood and adolescent obesity, enhance scientific visibility, and create opportunities for researchers globally.

To achieve this, BIO-STREAMS provides access to a valuable resource: the BIO-STREAMS Biobank, containing high-quality samples and associated health data. It supports reproducible cross-purpose studies and ensures compliance with European GDPR through secure data de-identification and synthetic data generation. The BIO-STREAMS Lexicon contains a research database with literature from underage obesity studies, facilitating information retrieval and feedback for BIO-STREAMS components.

BIO-STREAMS emphasises lasting impact through continuous updates and evaluations of data audit procedures, ensuring data harmonisation, collection, and sharing align with the latest standards. The Biobank datasets remain compliant with GDPR and FAIR regulations, while the Lexicon research database is constantly updated. A multidisciplinary committee, the BIO-STREAMS Board, determines the inclusion of new knowledge into the BIO-STREAMS Knowledge Hub.

Economic/Technological impact: BIO-STREAMS will promote EU digital autonomy and support the development of a European industrial ecosystem, strengthening European leadership in the global data economy.

To achieve this, the BIO-STREAMS Biobank offers access to various data sources and synthetic datasets, along with advanced curation methods. This enhances the productivity of health innovators and enables the development of value-oriented models to identify healthcare needs and patterns in different settings. Additionally, the BIO-STREAMS Node Bundle allows secure interlinking with new hubs, managing data heterogeneities.

BIO-STREAMS commits to long-term involvement in the EU Health Data Space by continuously updating operational specifications and services for interconnection and data

sharing within the BIO-STREAMS Biobank sources. It also ensures the BIO-STREAMS Node Bundle remains up-to-date with new security protocols and emerging technologies, all while providing support for earlier versions. This approach aligns with EU-based regulatory and operational specifications, fostering interoperability in the digital health landscape.

4.2   The BIO-STREAMS impact assessment methodology

The BIO-STREAMS impact assessment plan will assess the project's expected outcomes and contributions and the strategies to be followed toward the impact pathways and iKPIs. This will feed the evaluation of the scale and significance of the project's expected contribution to the outcomes and impact. During the project's progress the impact pathways will be *evaluated, validated* and if necessary *updated* to ensure the maximum impact creation and contribution assessing the level of achievement and relation to the iKPIs. In this vein, specific activities that involve the end-users and broader community engagement will be planned in order to engage external stakeholders in the project activities. The tools that will be utilised include both quantitative and qualitative approaches. The results of these activities will be demonstrated on the project website, under the umbrella of the "BIO-STREAMS Forum for Obesity Impact Research" which will be an e-meeting point for the project partners, a wider national stakeholders' network, and relevant international institutions and organisations.

The impact assessment cycles will follow the 5 implementation phases and the results will be reflected through relevant reports and articles, while the last report will also include a summative assessment of the project's impact accompanied by guidelines and recommendations from the entire analysis of the feedback collected incorporating key messages and outputs of the pilots' assessment activities. In this deliverable, an outline of how this impact assessment process will be conducted and monitored is presented. This process is a subject of constant update, in order to adapt to the developments and needs of the BIO-STREAMS project.

4.2.1 The impact assessment cycle

BIO-STREAMS has based its methodology on 5 Phases, each including a number of Pillars representing key outputs. Likewise, the impact assessment cycle will follow these 5 phases in order to organise an iKPI monitoring plan and ensure the smooth operation of the project. Each iKPI will be confirmed by a specific project deliverable. A reporting and monitoring plan will be in place to keep the project iKPIs on track and ensure their completion. Questionnaires will be created by ViLabs, to be distributed to the partners to facilitate the reporting process. More information about the plan is provided in section 4.2.2.

In order to create a monitoring plan for the BIO-STREAMS iKPIs, the relevant deliverables have been mapped, along with their month of submission. The table below explains which iKPIs correspond to each phase, along with these deliverables.

Table 11: iKPIs

Phases	iKPIs	Del. no	Submission
Phase 1 - *Requirements & Knowledge Extraction on Underage Overweight & Obesity:* During this first phase, BIO-STREAMS will build the knowledge foundation for the design, development and implementation of BIO-STREAMS. It includes Pillars dedicated to (1.1) existing knowledge review, (1.2) BIO-STREAMS data cohorts, (1.3) BIO-STREAMS data model, (1.4) prognostic biomarkers & (1.5) behavioural interventions	**iKPI-1 Initial biological/virtual/cost data accumulation: > 42400 individuals**	**D2.2**	**M12**
	iKPI-2 Collection of biological/virtual/cost data: > 11400 individuals	**D2.2**	**M12**
	iKPI-3 Guidelines for a federated data space (on top of those from DigitalEurope Programme70): at least 1	**D2.1**	**M12**
	iKPI-6 Efficient healthcare pathways: >10% following the EC71 & WHO72 methodologies	**D2.1**	**M12**
	iKPI-8 Publicly available architecture, code & anonymised data sources: 100% of transparency & openness of BIO-STREAMS framework	**D2.3**	**M12**
Phase 2 - *BIO-STREAMS Biobank*: In the second phase, the project builds the BIO-STREAMS Biobank as a distributed Hub Network, with Pillars addressing (2.1) data curation & harmonisation, (2.2) the required regulatory framework, (2.3) synthetic data generation, (2.4) advanced knowledge representation, (2.5) Biobank Data Hubs, and (2.6) a protocol for exploitation/evaluation	**iKPI-9 Gauge cost-effectiveness of BIO-STREAMS data utilisation VS. other sources: At least 3 data type**	**D3.1**	**M16**
	iKPI-19 Generation of high-quality synthetic data: < 0.5 Total variation distance	**D3.3**	**M21**
	iKPI-20 Compliance of the harmonised health data hubs with HL7 standards: 100% of compliance with FHIR protocol, 100% of usability of the data models	**D3.2**	**M18**
Phase 3 - *BIO-STREAMS Solution Integration*: This phase refers to the BIO-STREAMS solution integration, involving the (3.1) Knowledge Hub, (3.2) Open Toolkit and (3.3) Marketplace, followed by (3.4) Platform integration & (3.5) Biobank Hub interconnection.	**iKPI-4 Identification of prognostic biomarkers: > 15 new related insights analysed**	**D5.4**	**M44**
	iKPI-5 Adherence to suggested interventions: > 50% of individuals	**D5.4**	**M44**
	iKPI-11 Validation of the ML developed models: > 0.85 Recommendation Engine MAP@K (Mean Average Precision @ K), >85% Risk Assessment specificity	**D5.4**	**M44**

Phase 4 - *BIO-STREAMS Community Network*: Phase 4 corresponds to the BIO-STREAMS Community Network, comprising (4.1) the BIO-STREAMS Associative Catalogue and (4.2) the roadmap fostering strategic campaigns & synergies.	**iKPI-7 Establish strong links with EU-driven initiatives regarding underage obesity: > 5 NGOs, > 3similar projects & EU initiatives**	D7.5	M48
	iKPI-10 Large number of joint communication events: At least 25	D7.4	M24
	iKPI-18 Contribution to the adoption of policies/standards/ clinical guidelines: At least 5	D7.7	M48
Phase 5 - *Pilot-based Evaluation & Efficacy Validation*: This last phase includes, (5.1-5.2) the BIO-STREAMS pilot implementation & evaluation in clinical / community settings followed by (5.3) socioeconomic impact analysis, and (5.4) Health Technology Assessment	**iKPI-12 High degree of BIO-STREAMS services usability-user friendliness/acceptance: >80% score in SUS & TAM questionnaires**	D6.4	M48
	iKPI-13 Improve quality of life & well-being: > 0.5 standard deviation change (QALY index57)	D6.3	M46
	iKPI-14 High overall satisfaction with the interventions received: >7.5 score in the Questionnaire for User Interaction Satisfaction	D6.3	M46
	iKPI-15 Promoting partnerships for the BIO-STREAMS's Marketplace Apps deployment: At least 2 external partnerships	D6.4	M48
	iKPI-16 High convenience/usability of the BIO-STREAMS Associative Catalogue: End-user satisfaction >90%	D6.3	M46
	iKPI-17 Improved assessment of individuals' status in the context of a clinical intervention: At least 3 clinical partners adopt the ActiveHealth App for clinical monitoring	D6.3	M46
	iKPI-21 Identification of obesity prognostic biomarkers: At least 3 behavioural and at least 2 biological	D6.3	M46

The above table will be a point of reference for all partners. Even though the phases have separated iKPIs and deliverables, the timeline of each phase coincides with the other phases. For this reason, the timeline will follow the deliverable submission plan. A detailed timeline is presented in section 4.2.2 below.

In the process of achieving the iKPIs, multiple qualitative and quantitative tools will be used. These tools, besides the literature review, include focus groups and expert discussions,

interviews, surveys and questionnaires aligned with the engagement activities planned by the rest of the WPs and utilising the thematic online forums of the project website. The tools will be designed by the responsible partners, according to the project's needs and in line with the iKPIs. The role of the impact assessment managers is to monitor the process and acquire the results in order to ensure the iKPIs have been met.

4.2.2 Monitoring tools and timeline

KPI monitoring can be challenging since many different actors should cooperate and communicate their needs and issues to address them in a timely manner. This cooperation will be guided by T7.5. As already described above, the reporting and monitoring of the iKPIs will be structured based on the delivery month of the relevant deliverables. The monitoring plan will include interim and follow-up reporting from the responsible partners for each iKPI. The interim report will be requested 4 months before the submission of the deliverable, and the follow-up reporting will be requested upon deliverable submission.

According to Table 12, the 21 iKPIs will be confirmed by 12 deliverables that will be submitted at eight different stages of the BIO-STREAMS project. The table below presents the delivery months and the timing for the interim and follow-up reporting of the iKPI progress by the responsible partners.

Table 12: iKPIs timeline and reporting

iKPIs	Delivery month	Interim reporting	Follow up reporting
iKPI-1-2-3-6-8	M12	M8	M13
iKPI-9	M16	M12	M17
iKPI-20	M18	M14	M19
iKPI-19	M21	M17	M22
iKPI-10	M24	M16	M25
iKPI-4-5-11	M44	M40	M45
iKPI-13-14-16-17-21	M46	M42	M47
iKPI-7-12-15-18	M48	M40	-

The interim reporting 4 months before the deadline, will inform ViLabs about potential issues with the iKPIs and will also give the opportunity to the partners to discuss their needs and difficulties. Then, a follow-up report will be requested upon the submission of the deliverable in order to ensure the iKPI is on track.

To support this process, ViLabs will create two questionnaires for the interim and follow up reports respectively. These questionnaires will be distributed to the partners when it's time for their reporting. These questionnaires are still in draft form, but for the interim report the included questions will revolve around the progress that has been made so far towards the said iKPI, the challenges the partners face in achieving it, and if they believe they will achieve it according to the timeline. In the case of the follow-up report, the partners will report if they reached the iKPI and if not, what are the mitigation measures to achieve it. ViLabs will also support the partners in designing their mitigation measures and finally achieving their iKPIs.

This reporting and monitoring plan is an internal process that serves as a tool to ensure the smooth implementation of the BIO-STREAMS activities. None of the information in these reports will be reported in any deliverable, and only the plan's structure and tools are subject to publication since no deliverable includes this information in their description. This way, the

partners will feel more comfortable sharing their challenges, which will speed up the problem-solving process.

4.3   Socioeconomic Impact & Cost-effective analysis

A part of T7.5 is the implementation of a socioeconomic impact and cost-effective analysis to define the cost-variation between the actual costs and the cost of the proposed intervention. The scope of the analysis is to report on the socio-economic impact factors of underage obesity on health care and society in Europe and to evaluate the cost-effectiveness of the BIO-STREAMS interventions. Therefore, the overall objective is the generation of improved knowledge that will lead to better prevention strategies that can potentially lead to reduced costs and improved life quality.

In order to implement this analysis, a combination of efforts is needed. T7.5 should work closely with T3.2 - *Incorporation of cost-related data* and T6.6 - *BIO-STREAMS framework Assessment and cost-effectiveness*. The first task focuses on the existing literature and identifies cost-related data within the BIO-STREAMS retrospective datasets. The latter includes a cost-effectiveness analysis based on the procedure outlined in section 2.1.2. The overall clinical and social value will be evaluated with the participation of local and international stakeholders from within and outside the consortium.

In this regard, T7.5 is interlinked with these tasks as it aims to use the knowledge gained from them in order to assess to what extent the interventions developed under the BIO-STREAMS project are sustainable and cost-efficient. In parallel, it interlinks with the rest of the WP7 tasks, as it will feed the final recommendations and best practices that are to be produced at the end of the project. A more detailed presentation of the methodology that will be followed will be drafted in cooperation with all the relevant partners.

The results will be documented through relevant reports and articles (or whitepapers), while the last report will also include a summative assessment of the project's impact accompanied by guidelines and recommendations from the entire analysis of the feedback collected incorporating key messages and outputs of the pilots' assessment.

5   NEXT STEPS

The Communication and Dissemination Strategy and Plan outlined in this document provides a clear roadmap for spreading awareness and promoting the outcomes of the BIO-STREAMS project to a variety of stakeholders. It leverages a multi-faceted approach, employing different channels and tools to effectively engage with target audiences and generate interest and support for the project's objectives.

The next steps involve implementing this strategy, as work will continue on the production of promotional materials, social media coverage, planning of events, publications, and press releases. Regular monitoring and evaluation will be key to assess the effectiveness of the communication and dissemination activities and adjust the strategy as needed.

The Exploitation Strategy and Plan detailed in this document focuses on maximizing the use of BIO-STREAMS' results, both during and after the project. It provides a structured approach for identifying and leveraging key impact results (iKPIs), including technological innovations, research findings, methodologies, and networks.

The immediate next steps involve the implementation of the initial guidelines for exploitation by the project partners, grouped according to their field of activity. Following this, a survey will be conducted to gather detailed information on each partner's individual exploitation plans. This strategy will guide the partners in effectively utilizing the project's results, whether for further research, commercial applications, or other uses, thereby creating lasting impact and value from the BIO-STREAMS project.

Appendix A

Anything that is related but not core to the deliverable can go into appendix.

Individual Exploitation Plan

Questionnaire

Partner Name: …………………………………………………………………………………….

Contact person (email): …………………………………………………………………………...

QUESTIONS	
PROFILE AND MOTIVATION	**Partner profile:** Provide a brief introduction about your organization, explaining your background and your field of operation.
	Motivation to Participate in the Project and Commitment: Share why you joined the consortium and outline your role in the project.
	Means to Achieve Your Objectives: Demonstrate that you possess the necessary resources, including dedicated departments or working groups and infrastructure, to achieve the project objectives.
	Opportunity that Prompted Your Participation: Clarify whether your involvement is driven by internal needs (clinical partners), or by the genuine needs of your customers (for technical and business partners). For academic partners, indicate if BIO-STREAMS aligns with other projects or involves the reuse of existing knowledge. Mention any potential future opportunities post-project completion.
WHAT AND WHY	**Exploitable Assets and Results:** Describe the specific assets you anticipate from the project, such as components, tools, knowledge, methodologies, or skills.

	Rationale: Explain why you are interested in these assets, emphasizing the added value they provide. Describe your plans for exploiting them, whether academically, clinically, technically, or on a business level, such as offering commercial solutions, certification services, standardization, consultancy, further research and development, or positioning in the market.
	Your Value Proposition for Joint Exploitation of BIO-STREAMS: Outline what you expect from project partners, the benefits you will deliver to the consortium, and any shared components or interests with other partners.
ROADMAP WITH TIMELINE	**Roadmap:** Provide a timeline plan for using the acquired assets, including details on when, where, and to whom you plan to introduce them. For example, you might mention scheduling a presentation to the board in six months or their inclusion in your portfolio.
	Measurement: Describe how you intend to measure the impact of your planned actions.
	Positioning: If possible, offer comparisons to competitors or alternatives to your assets, along with market figures as reference points.
IPR REMARKS	**Intellectual Property Rights:** Define intellectual property rights as any and all rights associated with intangible assets owned by a person or company and protected against unauthorized use. Intangible assets encompass non-physical property, including ownership rights in intellectual property.

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