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D8.2 – Initial dissemination, communication and exploitation plan

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Abstract:	This document provides information on how the project has targeted the main stakeholders through various channels, such as the SmartCHANGE.eu website, social media, events, and webinars, etc. The document also reports on quantitative and qualitative measures demonstrating the impact of the project, and presents preliminary exploitation planning measures.
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Executive summary

The overall goal of the SmartCHANGE project is to develop trustworthy, AI-based decision-support tools that will help health professionals and citizens reduce long-term risk of non-communicable diseases (NCDs), by accurately assessing the risk of children and youth, including those with difficult-to-detect risks, and promoting delivery of optimised risk-lowering strategies. This document provides information on how the project plans to target the main stakeholders through various channels, such as the SmartCHANGE.eu website, social media, events, and webinars, etc. The document also reports on quantitative and qualitative measures of the impact of the project, and presents preliminary exploitation planning measures.

As a preliminary activity, the main stakeholder groups, primary and secondary, have been identified and described. The **primary stakeholder groups** are those who constitute the principal focus of the work in SmartCHANGE: children and youth; researchers and academia; policy makers; educators; and families. In addition to the primary stakeholder groups described above, there are **secondary groups** of stakeholders who are either directly or indirectly interested or affected by SmartCHANGE results: these include small and medium enterprises, including vertical industries; national and international institutions; and standards developing organisations.

Communication of project activities and results includes branding materials, a rich and informative website, strong social media presence, newsletters, and periodic press releases. **Dissemination** of results occurs in the form of research publications, new media and multimedia (e.g., training materials, and events, both third-party and those organised by SmartCHANGE).

Exploitation will occur along three primary dimensions: academic, commercial, and social. In addition, a second orthogonal dimension is foreseen: individual exploitation by single consortium members; and joint exploitation by groups of consortium members to achieve a specific exploitation objective (e.g., in the case of the four proof of concept case studies which form an important basis for both dissemination and exploitation). In addition, other factors are taken into account in exploitation planning, including regulatory issues; technical and architectural issues; and IPR related considerations.

A **conclusions** section presents a series of next steps to render the roadmap for communications, dissemination, and exploitation concrete for the first eighteen months of the project.

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List of abbreviations

Abbreviation	Definition
AI	Artificial Intelligence
CDSS	Clinical Decision Support System
CEB	Common Exploitation Booster
CEN	European Committee for Standardisation
CENELEC	European Committee for Electrotechnical Standardisation
CoRR	Computing Research Repository
CTA	Call to Action
CVD	Cardiovascular disease
DSME	Digital SME Alliance
ECAI	European Conference on Artificial Intelligence
EFESME	European Federation for Elevator Small and Medium-sized Enterprises
EMA	European Medicines Agency
ESBA	European Small Business Alliance
EOSC	European Open Science Cloud
FAIR	Findable, Accessible, Interoperable, Reusable
FHIR	Fast Healthcare Interoperability Resources
FRAND	Fair, Reasonable, and Non-Discriminatory
GDPR	General Data Protection Regulation
HL7	Health Level 7
ICT	Information and Communications Technology

IJCAI	International Joint Conferences on Artificial Intelligence	
IP	Intellectual Property	
IPR	Intellectual Property Rights	
ITC	International Trade Centre	
KER	Key Exploitable Result	
KPI	Key Performance Indicator	
NCD	Non-Communicable Disease	
ODbL	Open Database License	
OSS	Open-source software	
PoC	Proof of Concept	
ROL	Results Ownership List	
SELP	Societal, ethical, legal and privacy	
SBS-SME	Small Business Standards	
SME	Small to Medium Enterprise	
SMEunited	European Association of Craft, Small and Medium-Sized	
STL	Successful Technology Licensing	
WHO	World Health Organization	
WIPO	World Intellectual Property Organisation	

1 Introduction

Over the last few decades, public health authorities in developed countries have witnessed a substantial shift from communicable to non-communicable chronic diseases (NCDs). Indeed, mortality estimates from the World Health Organization (WHO) indicate that more than 70% of deaths worldwide, including up to 90% of deaths in the European region, are ascribed to NCDs.[1] The total cost of NCDs was estimated at 5.5 trillion € in 2010, and this amount is projected to rise to more than 12 trillion € by 2030.[2] Therefore, cost-effective and resource-efficient long-term management of NCDs is one of the greatest challenges Europe is facing today, impacting citizens, health professionals, and society more broadly.

The overall goal of the SmartCHANGE project is to develop trustworthy, AI-based decision-support tools that will help health professionals and citizens reduce long-term risk of NCDs, by accurately assessing the risk of children and youth, including those with difficult-to-detect risks, and promoting delivery of optimised risk-lowering strategies. The specific objectives of SmartCHANGE are the following:

- Build **accurate models** for predicting the risk of lifetime NCDs;
- Make the risk-prediction models and AI tools **trustworthy**;
- **Develop tools** for both health professionals and citizens that help improve citizens' health by using the predictive models;
- **Engage users** – health professionals, educators, children, and families – in requirements elicitation and participatory design from the start;
- Investigate the feasibility and usability of SmartCHANGE tools through **proof-of-concept** studies in four different real-world healthcare scenarios in **four countries**;
- **Develop recommendations** for the implementation of the proposed solution and similar AI-based solutions;
- Develop an **exploitation and sustainability plan** for the SmartCHANGE solution and its key elements.

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[1] World Health Organization. Mortality and global health estimates. Global Health Estimates: Life expectancy and leading causes of death and disability. https://www.who.int/data/gho/data/themes/mortality-andglobal-health-estimates. Published 2019.

[2] Bloom DE, Cafiero ET, Jané-Llopis E, et al. *The Global Economic Burden of Non-Communicable Diseases*. Geneva; 2011.

2 Dissemination, communication, and exploitation objectives

Each of the objectives described in the previous section must be supported by robust and comprehensive communications, dissemination, and exploitation measures in order to be achieved. The objective of this plan is to identify and specify a first set of these measures, beginning with a process of identification of the primary stakeholders involved (Section 3). Figure 1 provides a high-level overview of the relationships and interaction of SmartCHANGE with the primary stakeholders. At the top is the SmartCHANGE AI platform, with privacy-secured data storage and the prediction models. This feeds into the risk prediction and recommendation tools given to the healthcare professionals, one of the most important primary stakeholders. In turn, the health professionals employ the tools to interact with families, another primary stakeholder. The expected impact is to increase awareness among children and youth from 5 to 25 years of age. All of this activity is bound together by a participatory design approach.
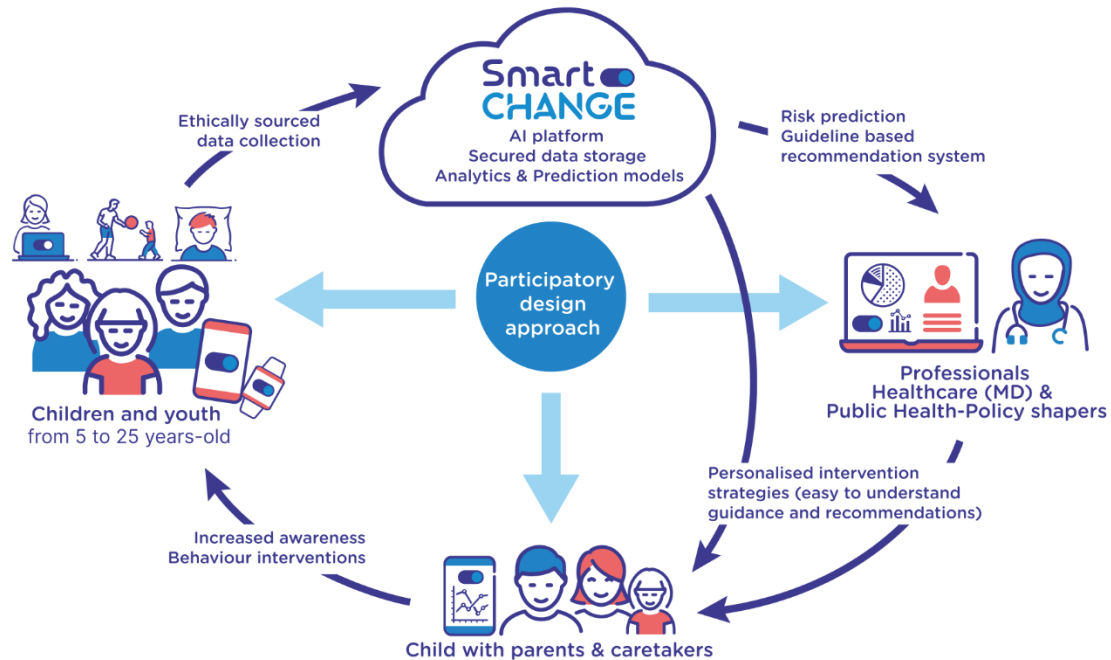
Figure 1: Relationships between project results and stakeholders

Based on these activities, the planning for communications, dissemination, and exploitation is then elaborated (Sections 4 and 5), with reference to the guidelines[3] provided by the Commission, as illustrated in Table 1.

Table 1 – Communication, Dissemination and Exploitation Activities

Communication: Where dissemination and exploitation efforts are aimed at potential users, the overall communication activities reach out to a broader audience and concern both results and project activities. This happens by means of communication campaigns via the SmartCHANGE website, press releases, newsletters, and the use of social media channels.

Dissemination: The purpose of dissemination is to communicate outputs and results of the programme and funded projects to potential users to promote the accessibility, uptake and use of the research outputs. Dissemination serves the purpose of recognising exploitable outputs and their users. In the SmartCHANGE project, dissemination happens via various types of physical and online webinars, engagement events, and meetings, and through online open access, and scientific papers.

Exploitation: This is the uptake or use of outputs derived from the projects like the usage of services such as databases, or guidelines, applications, and business models. In the SmartCHANGE project, exploitation will take place along different dimensions such as research, social, and commercial.

An official interim release of the document [D8.3], reflecting progress to date and plans for the second reporting period, will occur in M24.

A final release of the document [D8.4] will occur at M48, consolidating and summarizing the overall results of the related campaigns described herein.

Note also that, in the case of exploitation, a further deliverable [D8.5] will be released in M30, dedicated specifically to exploitation; the final version of that deliverable [D8.6] will be delivered in M48.

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[3] https://rea.ec.europa.eu/publications/communication-dissemination-exploitation-what-difference-and-why-they-all-matter_en

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3   Target stakeholders

Target stakeholder definition and segmentation is crucial to ensure effective impact and select the most appropriate messaging tools and communication channels, for seeking and consolidating synergies with all relevant initiatives, community gatekeepers and multipliers.

SmartCHANGE is adopting a proactive approach of participatory design with stakeholders. Interaction with each group will have different levels of priority, activities and outputs. The **primary stakeholder groups** are those who are the principal focus of the work in SmartCHANGE, and are illustrated in Figure 2.
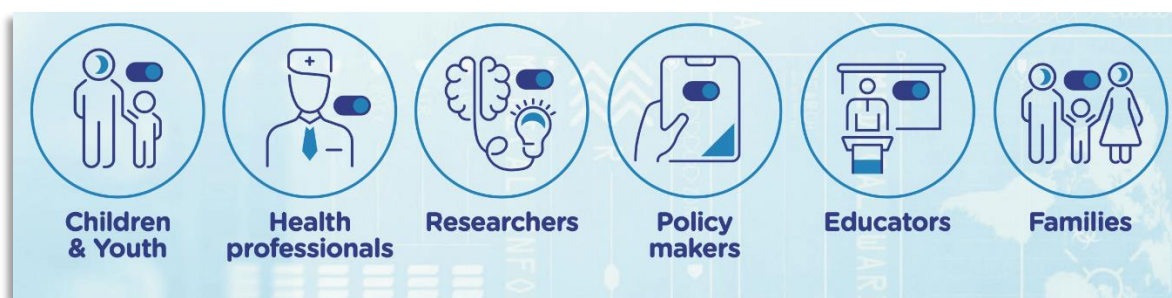
Figure 2: Primary SmartCHANGE target stakeholder groups

These stakeholder groups are fluid in their segmentation boundaries and may include refinements in both directions. For example, the educator stakeholder group may be refined into secondary school educators and primary school educators. In contrast, families, children and youth may be considered as part of a larger stakeholder group encompassing citizens and civil society. Over the course of the project, the boundaries of these groups will be refined and/or expanded as understanding is deepened of both the results and the appropriate directions to take for successful achievement of the project objectives.

3.1   Children and youth

Children and youth are the most direct recipients of the benefits of SmartCHANGE. Already during the early stages of the project, it was recognised that a distinction had to be made between two sub-groups: children aged 6 to 10; and youth from 11 to 19. Although they share characteristics, it was determined that there are important differences that will determine different types of engagement activities. For example, young children are generally entrusted entirely to the care of parents and are consulted through them; youths

are "half-adults" and may be consulted through health professionals in their secondary schools.

Take-up among children and youth may be slowed down by the traditional reluctance of children and youth to accept "changes that are good for them." They will need to be convinced that changes are good as well as fun and interesting – each according to the strategies associated with the particular age group. See also Table 2.

Table 2 – KERs and value proposition for children and youth

VALUE PROPOSITION: a possibility to develop good health habits at an early age, while having fun with the app(s).

SmartCHANGE KERs: app (primarily mobile app)

Other SmartCHANGE materials: outreach and engagement of related stakeholders such as families and educators.

3.2 Health professionals

Health professionals are another target stakeholder group that benefits directly from the SmartCHANGE results. This group may be also subdivided into appropriate subgroups for engagement activities, such as medical professionals, public health officials, and sports professionals. Depending on the context, these could span over a wide range of profiles: family medicine specialist, paediatrician, exercise specialist, psychologist, dietitian, physiotherapist, school nurse, physical education teacher, and so forth.

Yet there is much uncertainty even among health professionals about appropriate levels of different types of behaviours, and the tools developed by SmartCHANGE can help to provide clarity and guidance, enhanced by the SmartCHANGE collection of tools and a set of recommendations.

Take-up among health professionals may be inhibited by a known reluctance to accept black-box models of decision support tools for risk prediction, especially when legislative concerns exist. The health professionals will need the tools of SmartCHANGE to help explain to them how the decisions of the tools are reached. See also Table 3.

Table 3 – KERs and value proposition for health professionals

VALUE PROPOSITION: providing guidance and clarity in recommending lifestyle improvements in the major target stakeholder categories of children and youth.

SmartCHANGE KERs: apps (both mobile and desktop); best practices.

Other SmartCHANGE materials: outreach and engagement to related stakeholders such as families and educators.

3.3 Researchers and academia

SmartCHANGE promises to produce numerous advances beyond the state of the art in several key areas. These include more intelligent data pre-processing and harmonization tools; robust risk prediction models; privacy-preserving federated learning; new clinical approaches to public health improvement; and explainable AI through visual analytics. The results of SmartCHANGE will be disseminated to appropriate subgroups of researchers working in the various areas of interest, using a variety of channels ranging from journals to workshops and conferences (see Section 4.2.1).

Take-up among researchers will depend to a great degree on the quality, timeliness, and availability of the results, including datasets. See also Table 4.

Table 4 – KERs and value proposition for researchers and academia

VALUE PROPOSITION: Valuable additions to the state of the art in the SmartCHANGE focus areas; valuable datasets for further research.

SmartCHANGE KERs: all, in various degrees and from different points of view.

Other SmartCHANGE materials: engagement toward research-oriented events and organisations.

3.4 Policy makers

The primary subgroup among policymakers, of course, is the *health-related* subgroup of policymakers; therefore, the health-related partners of SmartCHANGE will most likely take the lead in addressing policy makers when appropriate.

However, SmartCHANGE may well touch upon other areas relevant to policy making, such as those related to regulatory, privacy, and security topics. In such cases, other consortium partners (such as those dealing with legal and ethical issues) may get involved in addressing policymakers – for example, to amend a current policy or piece of legislation.

Take-up among policymakers is never simple, and requires special engagement instruments, such as policy briefs containing concise actionable recommendations. Engaging with policymakers at all levels (EU-wide, national, and local) is another effective way to translate such recommendations quickly into clinical practice. In fact, the proof-of-concept studies will be primarily targeted at local and regional governments. See also Table 5.

Table 5 – KERs and value proposition for policymakers

VALUE PROPOSITION: providing effective recommendations for new approaches to clinical practice; providing aggregated risk estimates to help profile entire populations for use in preventive healthcare policy, etc.; help in expanding current adult programmes into youth programmes.

SmartCHANGE KERs: all, potentially including datasets.

Other SmartCHANGE materials: outreach and engagement to related stakeholders including educators.

3.5 Educators

Educators are an important primary stakeholder, who will play an important role in amplifying dissemination and take-up of SmartCHANGE results. In this case, careful segmenting of the target stakeholder group will be necessary, as mentioned earlier. Educators in the primary school area need to engage the children in more relaxed, playful contexts; whereas educators in secondary school may engage the adolescents in different ways, such as competitions or fairs. Furthermore, there may be different educator subgroups still to be identified – for example, during the implementation and evolution of the four proof-of-concept studies, which will involve communities in four countries.

Take-up among educators will depend on the quality and clarity of the materials and best practices provided to them by the SmartCHANGE consortium. See also Table 6.

Table 6 – KERs and value proposition for educators

VALUE PROPOSITION: providing materials for educating children and youth toward healthier lifestyles, which is generally one of the primary obligations within the educational system.

SmartCHANGE KERs: all are potentially relevant, but especially the apps and best practices.

Other SmartCHANGE materials: outreach and engagement to related stakeholders including families and children, as well as health professionals and policymakers to some extent.

3.6 Families

As noted earlier, families are a primary stakeholder group that could be usefully segmented in numerous ways. Certainly, a central subgroup is constituted by parents responsible for the health of their children. The target group might also be usefully expanded toward general society for some kinds of outreach. Families will likewise be important in participatory design over the duration of the project. They will provide a core of early adopters.

Take-up among families will depend on the skill of the consortium in providing convincing, compelling materials to persuade them to participate in SmartCHANGE and use its results. See also Table 7.

Table 7 – KERs and value proposition for families

VALUE PROPOSITION: a help for parents in leading their children toward healthier lifestyles.

SmartCHANGE KERs: primarily the apps, but also best practices developed in the proof-of-concept studies.

Other SmartCHANGE materials: outreach and engagement to related stakeholders which will include health professionals and educators.

3.7 Secondary target stakeholder groups

In addition to the primary stakeholder groups described above, there are secondary groups of stakeholders who are either directly or indirectly interested or affected by SmartCHANGE results.

3.7.1 Small and medium enterprises, vertical industries and startups

A relevant secondary stakeholder group is represented by the industrial ecosystem surrounding the SmartCHANGE project; indeed, SmartCHANGE represents a huge opportunity for SMEs, large enterprises and startups to innovate their offer in the healthcare market in the field of primary prevention. This may occur in several ways, from innovative applications created by startups to augmented functionalities in existing products, including those of SMEs and larger companies.

Furthermore, its unique technologies and tools confirm the potential to drive new business opportunities not only for the partners involved in the project, but also for a broader ecosystem of larger enterprises, SMEs and startups in the HealthTech and healthcare ICT domains. In particular, the open architecture of the platform, based on international standards and compliant with national and European, legal and security frameworks, could be further exploited by external parties and stakeholders, being used as background technologies in current workflows or even extended for future usage within other project outcomes.

Take-up in commercial contexts requires a promotion of the ecosystem since the beginning of the project, by means of targeted dissemination and collaboration activities among the target stakeholders. Nevertheless, it could be inhibited by lack of awareness of the results, lack of financing, and lack of convincing market data (see also Table 8).

Table 8 – KERs and value proposition for SMEs, Vertical & Industries and startups

VALUE PROPOSITION: provide technologies, architectures, algorithms, datasets, toolkits for input to innovative new products and enhance existing ones**.**

SmartCHANGE KERs: all, particularly the apps.

Other SmartCHANGE materials: outreach and engagement to related stakeholders, who are all relevant from different perspectives.

Table 9 outlines a first group of stakeholders in this category identified during the proposal-writing stage, to be continually broadened through promotional and outreach campaigns.

Table 9 – Preliminary contacts for SMEs, verticals and industries, startups

Companies, SMEs, and related associations: European Small Business Alliance (ESBA), European Digital SME Alliance (DSME), European Association of Craft, Small and Medium-Sized (SMEunited),

European Federation for Elevator Small and Medium-sized Enterprises (EFESME), SME Europe, Small Business Standards (SBS-SME), StartUp Europe Partnership.

Vertical Industries: Companies making smartwatches, companies making game consoles. Further target industries/companies to be identified over the course of the project.

3.7.2   National and international institutions and networks

There are numerous institutional stakeholders at the international and national levels relevant to SmartCHANGE. SmartCHANGE researchers have a large scientific network, whereby prominent examples include the *International Society of Behavioural Nutrition and Physical Activity*. As the project progresses – and in particular the foundational proof-of-concept case studies – the relevant institutions and networks will be identified for outreach and dissemination purposes. Research-oriented institutions and networks are relevant to events and publications; whereas health-oriented institutions and networks are relevant to recommendations and best practices developed and adopted in the project.

3.7.3   Standard development organisations & certification bodies

For the widest adoption/impact, SmartCHANGE will seek synergies with relevant standardisation bodies. Since the project has a relatively long duration of 48 months, the standardisation landscape could evolve and change; and the proper channels to address standardisation activities may well also depend on the specific results emerging from the research and development activities of SmartCHANGE. Therefore, standardisation in the areas of interest of SmartCHANGE will be monitored as the project progresses to identify the relevant opportunities.

Nevertheless, at this early stage of the project it is already possible to identify potential areas of interest to standardisation, together with the involved consortium partners:

- Health Level Seven (HL7) to use and develop specific HL7 Extensions (UPRC)
- EMA/CEN/CENELEC: to describe AI as a medical device through a whitepaper, including relevant prototype implementations for real world data (VUB, JSI, TUE, USI)
- OpenML community to integrate AI methods and models used in the project in the community, as a means of boosting their use as de facto analytics standards (TUE – Joaquin Vanschoren from TUE is the founder and key contributor of OpenML, JSI, USI)

4 Communication and Dissemination Activities

The SmartCHANGE communication strategy is a **SMART** (Specific, Measurable, Achievable, Relevant and Time-bound) and KPI-driven approach to drive our community building and stakeholder engagement. A multichannel communication and dissemination strategy will be adopted, as described in the following sections.

4.1 SmartCHANGE project communication

This communication strategy addresses all stakeholders (see Section 3) and pursues the objective of properly positioning the project among the different groups.

4.1.1 Branding and communication kit

The design of the project branding was initiated during the proposal phase. The logo (Figure 3) uses the switch iconography to represent the positive change in lifestyle and health that users will undergo after integrating the application into their routine, and uses a young and dynamic font to better interface with the project's relatively young stakeholders (**children and youth**).


Figure 3: SmartCHANGE logo

4.1.2 Website

The SmartCHANGE website will serve as the centralised hub for project activities and results in a user-centric structure. It will host updated news and events related to the project, as well as information about critical issues for stakeholders, the newsletter subscription, and any community engagement tools. As such, it will relevant also to stakeholders such as

policy makers, **educators**, **researchers**, and **families**. It will additionally function as the gateway to the SmartCHANGE WebApp for **health professionals**, which is expected to be one of the main KERs of the project.

The first version of the SmartCHANGE website (Figure 4) was launched on M1 at the Kick-off Meeting (23-24 May 2023), providing information about the project, its assets, its planned proof-of-concept studies, and the newsletter subscription.
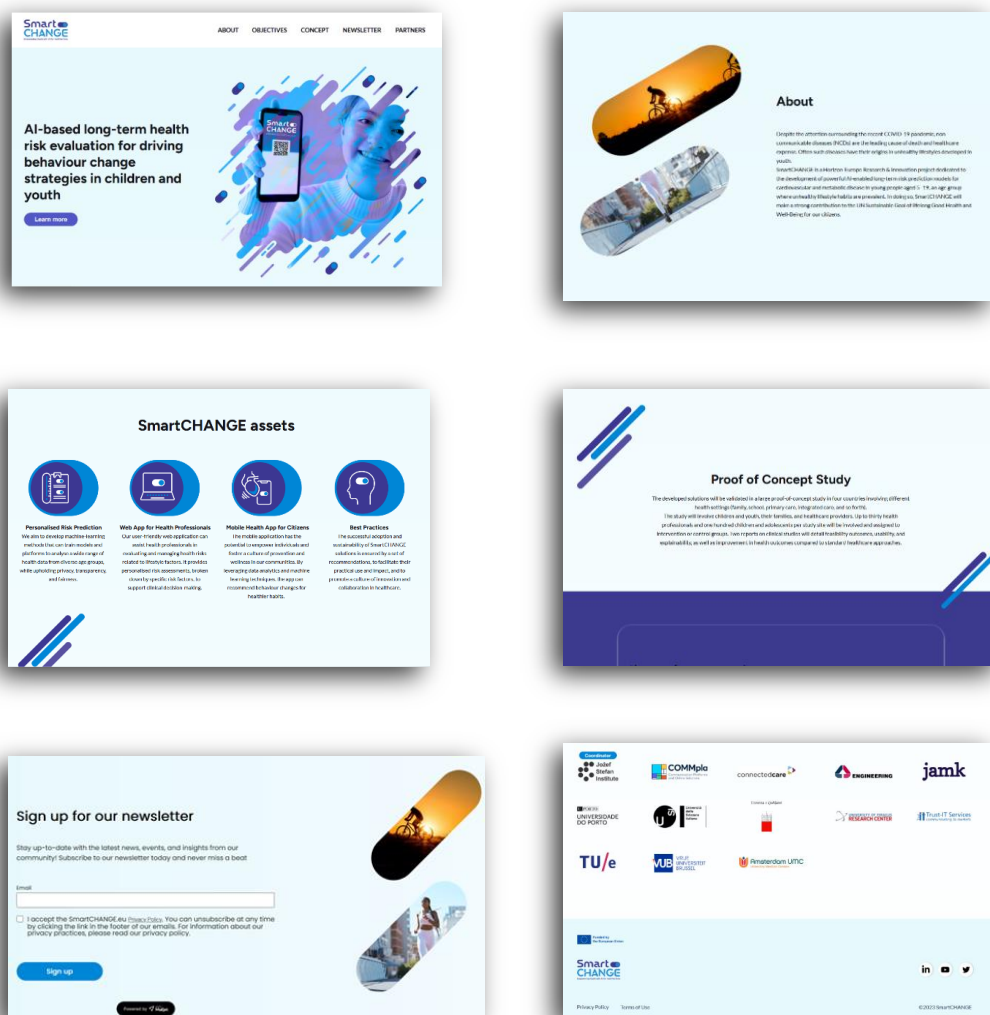
Figure 4: The first website homepage presented at the kick-off meeting

The second version of the SmartCHANGE website (Figure 5), which brought a revamp of the main page and the addition of new pages, was launched in M6 (October 2023). Aside from a partial restructuring of information in the homepage (removal of objectives and proof of

concept, addition of a What's New slider and Quote slider), this version presents the following new pages:

1) **About** (general overview of the project mission and methods), with submenus Partners, Videos (embedded from the SmartCHANGE YouTube channel + others), Communication Kit (featuring the necessary graphical elements for third-party dissemination)
2) **Objectives**, which presents (in text format, currently) the primary expected impacts from the successful realisation of the project operations
3) **Proof of Concept**, which presents visually and textually the information concerning the 4 studies to be conducted later in the project
4) **News**, which presents in chronological order of posting the news pieces which are relevant for the SmartCHANGE community
5) **Events**, which will showcase in chronological order of event dates the SmartCHANGE and Third-party events which hare relevant for the stakeholder community
6) **Contact**, which provides users with a contact form to get in touch with the project.

Figure 5: Overview of the new pages present in the updated version of the website

Future plans for the website involve consultation with the relevant partners to design a more interactive Proof of Concept and Objectives page, showcasing the information in a more user-centric display, as well as harmonising the web application with the project website and connecting the two via a highlighted gateway (see also Table 10).

Table 10: Website KPI monitoring

Action line	KPI to monitor	M6	M48
Website	Project website: overall sessions	50	500 per month

4.1.3 Social media

The social media strategy is built on a multi-media communication effort, targeting communication of the overall project as well as key results, promoting engagement in project events and activities, and promotion of the adoption of the SmartCHANGE web application and mobile application. The social media activity (Figure 6) will primarily revolve around the project's LinkedIn, X (formerly known as Twitter), and YouTube channels, which will allow for outreach to community members and interested people. Through periodic and frequent activity, the communication team will provide a smooth interaction cycle between project and stakeholders, through news posts, articles, publications, informational posts, events, and announcements. Additionally, project partners will amplify communication efforts through their own channels—both through social media and through any relevant networks.
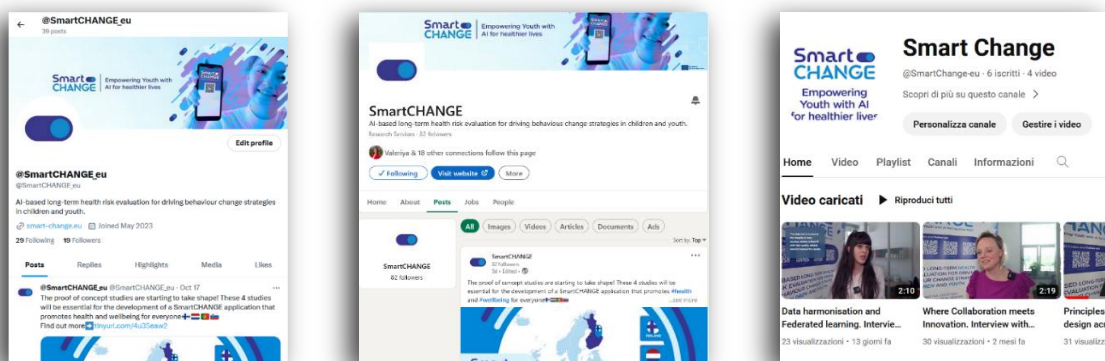
Figure 6: SmartCHANGE social media cover pages

As of October 2023, SmartCHANGE has over 100 social media followers, most of them from LinkedIn. The YouTube channel will be promoted through the website and the other social media through embeds, whereas the X/Twitter situation is more complex due to the inherent ongoing issues on the platform, nevertheless outreach efforts will increase through the use of interactions and hashtags, and as a whole the growth of the community is expected to increase significantly in 2024 as the project starts producing results (Table 11).

Table 11 - social media KPI monitoring

Action line	KPI to monitor	M6	M48
Social media	Overall SmartCHANGE community (Number of contacts including registered users, social media, event participants, etc)	100	3000

As mentioned, the appropriate hashtags and handles are related to core issues relevant to the project, such as machine learning/AI, health, youth, and data. This will increase the chance of reaching people who are not yet connected to the project but which may be interested. An initial list of relevant hashtags and tagged handles to use and follow (respectively) across social media channels is provided in Table 12.

Table 12 - Preliminary set of hashtags and handles

Category	Project-specific	Stakeholders
Hashtags	#datasets #XAI #ExplainableAI #AI #MachineLearning #FederatedLearning #GDPR #AIACT #health #wellness #prevention #youth #children	
Handles	@AIPOD_eu @aiprognosis @TRUSTroke_EU @WHO_Europe @WorldHealthSmt @EU_Health	@EUScienceInnov @apre_it @EU_opendata @EULawDataPubs @jmirpub

Additionally, there is a KPI specifically for the production of Promotional Videos for the project.

Table 13 - Video-related KPI monitoring

Action line	KPI to monitor	M6	M48
YouTube	Promotional Videos	4	15

4.1.4 Newsletters

SmartCHANGE Newsletters will include details and CTAs about upcoming and past events, as well as relevant opportunities and information for the community. Its content will revolve around the periodic milestones and major updates of the other work packages, featuring partner inputs and articles from the SmartCHANGE website.

A newsletter contact form has been implemented on the website since M1, to start building up a community database of interested people. The collection of these contacts complies with the GDPR and the project's Privacy Policy.

At the time of writing, the SmartCHANGE newsletter has 27 registered recipients. The project will also take into account the open-rate and clickthrough-rate of each newsletter, to verify the success of the dissemination activity. The newsletter *per se* does not have a dedicated KPI; it is however included indirectly in the Community KPI, as registered users count toward the goal of 3000 community members.

4.1.5 Press releases

Press releases will be produced and distributed to media contacts and to partners for their own dissemination whenever SmartCHANGE produces content that is newsworthy. The first press release on the outcomes of the kick-off meeting was already published in M1 (English for the website version, although a Slovenian and a Finnish version were also produced by the local partners) and distributed throughout available channels. The Press Releases do not have a KPI, but they remain a valuable tool with which to reach otherwise-inaccessible audiences.

4.2 SmartCHANGE results dissemination

Dissemination of results will mainly focus on supporting uptake of SmartCHANGE and knowledge-sharing through clustering with peer projects and drawing on a partner's role in the EC's Horizon Results Booster. Uptake comes hand in hand with fostering good lifestyle practices with Healthy Lifestyle Tours across EU countries in diverse formats and targeting different age groups, citizens and healthcare professionals.

Professional networks like LinkedIn will be used to build on a solid community of healthcare practitioners for engagement and educational purposes. Using a hands-on interactive approach, such as sports centres, science playgrounds and adventure clubs, competitions will be launched in conjunction to choose lifestyle champions, with Instagram – set up at a later stage, by M12 - as a key additional channel for showcasing good practices in the real world and opportunities to learn about using SmartCHANGE with multi-station measuring points and an exercise station with movement tasks.

4.2.1 Dissemination of research outputs

Research outputs will form a significant portion of SmartCHANGE dissemination results. The main dissemination channels to the researchers and the academia will of course be conference and journal publications. For computer-science research related to risk prediction, we will aim at pure AI (e.g., IJCAI, ECAI …, although we will also select less ambitious targets) and applied conferences (e.g., AI in medicine). To broaden the awareness of our work, we may also present at health conferences – in this we will be guided by and will work with our health partners. Regarding journals, there are many high-impact options that combine AI and health, so we will likely focus on these (from the most ambitious such as Nature Machine Intelligence to more realistic but still good such as Frontiers in Public Health).

In order to better engage with the scientific community interested in research on AI for health, or – more narrowly – risk prediction, we plan to organise one or more workshops at major conferences; another option is also to organise a conference as a part of the Information Society conference annually organised by JSI.

A good way to achieve visibility in the scientific community is also to provide useful tools and data to other scientists. For all the AI methods we implement, we will carefully consider whether they are interesting beyond the use in SmartCHANGE, or can be made so with a reasonable amount of effort (this is sure to be true for at least some). We will also consider

whether they can be shared with the community without endangering exploitation of the results (very likely true). If the answers to both of these questions are positive, we will share the code in established repositories (e.g., GitHub). We will also collect at least one major dataset in the project, and the parts of it that can be shared without privacy issues will also be published in an established repository (e.g., Zenodo) and described in a paper (e.g., in Nature Scientific Data). A summary of available instruments for research-oriented dissemination in SmartCHANGE includes the following.

Open and early access publications. Open access to all peer-reviewed scientific publications of the project will be provided. Selected publications will be made available with the highest standard (gold open access). Other publications will be made open in the project's website and other repositories such as OpenAIRE's Zenodo.org. At least three articles will be published on the Open Research Europe platform, including an overview article at the beginning of the project and a concluding article providing a summary of the project's main results. For early access to project results, reputable repositories such as CoRR will be used. **Horizon Results Platform**. Last but not least, a result template for each relevant output will be filled and shared via the EC Horizon Results Platform portal, making project results more visible to the European audience, as well as assisting SmartCHANGE in defining sustainability and exploitation opportunities for the results.

Open-source software (OSS). As noted earlier, most of the developments of the academic partners will be made available as OSS, published for example in GitHub. The open-source strategy foresees offering OSS results in a business-friendly way, thus SmartCHANGE commits to selecting a business-friendly license (MPL/LGPL).

Open and FAIR data. The project will maintain a public data management plan [D1.2] addressing what data will be collected, how will it be documented, stored, preserved and shared. The datasets will be anonymised and made available as open data in various FAIR repositories (e.g., European Open Science Cloud (EOSC), re3data.org, DataHub). When appropriate, the data will be standardised according to the HL7 FHIR and OMOP formats for interoperability with third parties. Each represented item will be enriched by unique persistent identifiers enabling their findability in a global market. The project will consider open-source data licenses, such as ODbL, to enable data access for research and preserve IPR for exploitation. The project will also share its AI models and data-analysis flows in open repositories (e.g., OpenML), and plans to offer at least one service in EOSC.

Trial registration. The proof-of-concept study will be registered in an open-access repository (EU Clinical Trials Register). Amendments to the protocol and study results will be updated during the project.

4.2.2 Principal project assets for dissemination and exploitation

Communication and dissemination efforts will be put in place to support the pre-release and release of the SmartCHANGE.eu results. The two main SmartCHANGE final results are:

- Web app for health professionals
- Mobile health app for citizens

The **web app for health professionals** will be developed based on a participatory design approach. The application, by integrating a CDSS and complex suites of trustworthy AI tools, will support health professionals to better identify high-risk children, highlight paramount CVD risk factors given personal characteristics and behaviours (i.e., unhealthy lifestyles), and provide guidance for delivering personalised prevention strategies.

The **mobile health app for citizens** will provide insight into the current status of a child, actual risks, and behaviour change strategies that can be applied by families. Moreover, the mobile app will provide access to advice given by professionals.

These two principal results will not only be the subject of dissemination, but also *exploitation* activities, which are described elsewhere in this document (see Section 5).

In addition to these two principal project results, there will be other project results more strictly related to dissemination and communications – in particular, the **new computational methods** in this area that will be developed, and which will be the subject of publications and other dissemination activities such as webinars and trainings. In this context, **open-source software** will be produced (such as data harmonization software) that will become a sustainable asset, both in terms of dissemination and exploitation. The exact nature of the software artifacts to be produced will emerge only over the course of the research and development activities, of course, but will be tracked and communicated to appropriate target stakeholders.

If appropriate, any new **datasets** that may emerge from the R&D in SmartCHANGE could also become the subject of dissemination (and/or exploitation) activities (although the extent to which new datasets will be produced is not yet known at this stage of the project).

Other dissemination activities will arise from the results of the **proof-of-concept** case studies, in which **best practices** emerging from the experiences in those case studies will be consolidated and documented for various target audiences, including clinicians, health workers, families, and the broader public. These are likely to be disseminated through targeted events, webinars, and trainings.

4.2.3   New media and multimedia (educational material)

Given the nature of the project and the interest in producing narrative storytelling to be shared and distributed to target communities, writing, editorial pieces including reports, articles blogs and short readings will be the preferred channel to vehiculate SmartCHANGE activities. That said, video and written interviews, video pills, animations and GIFs and digital branding materials will be implemented in a timely manner, when relevant to promote the project outputs, targeting specific audiences and promoted on social media and via newsletters.

4.3 Events

The organisation of events, workshops and webinars will draw on extensive experience in the consortium and – crucial to encouraging a dialogue among the stakeholders – raise awareness towards the general public and facilitate the adoption of the SmartCHANGE results, while paving the way for future exploitation and sustainability. The event strategy includes the organisation of 10 workshops plus 8 training sessions and participation to third party events (up to 20).

The aim is to solidly position the project inside the international AI and health ecosystem, with a clear dissemination plan.

4.3.1   SmartCHANGE events

A series of targeted events will be organised throughout the SmartCHANGE project with specific objectives, stakeholder audience and expected outputs in mind. The plan of organising workshops and other events, while addressing all the key stakeholders, paves the way to benefit the dissemination of the project results and reach specific goals:

- widen the user base
- create impact and project results' sustainability
- promote innovation

WP8 will ensure that each event will have dedicated support in a three-phase cycle of *before* (agenda set-up, speaker engagement, web pages, registration procedure), its promotion across target stakeholders (ensuring social media promotion & visibility, DEM and press campaigns), *during* (logistics support, live social media posting), and *after* (coordination of post-event reporting and summary, publication, promotion) the event and the other materials. All the events can be held in a virtual format (in case it may not be possible to attend in person). The first event (Table 14) was the face-to-face consortium **Kick-Off Meeting**, in Ljubljana (Slovenia).

Table 14 - SmartCHANGE Kick-off meeting

Event title	Time	WP related	Objective	Target audience
SmartCHANGE Kick-Off meeting (f2f)	May 23-24, 2023 (delivered)	WP1 Leading/ All	Kick-off project work; network: discuss planning, implementation and project management mechanisms; discuss project outputs and structures; align on timelines and collaboration	Project partners, European Commission

Further events will be organised as results emerge and, especially, as the proof-of-concept studies move forward.

As already mentioned in Section 4.2, the **Healthy Lifestyle Tours** will be organised in order to increase awareness of the importance of health lifestyle, the link between lifestyle and NCDs, and the ability to predict these. They will ideally be held as physical events, so the workshop series will be carried out at a few science museums in proof-of-concept study partner countries. The series will be organised according to the different phases of the project and will span different formats accordingly.

Professional and policy-maker workshops. Interactive workshops will target not only citizens, but also health professionals. The consortium will demonstrate the use of the SmartCHANGE application, explain its background, and show how it can help them in their work. As with citizens, the consortium will leverage testimonials, experiences and lessons learned from the participatory design and the proof-of-concept studies.

4.3.2 Third-party events

The consortium partners have extensive professional networks, which involve not only third-party events organised by members of those networks, but also third-party events organised by associations in which the consortium members themselves participate, as well as events organised by the host institutions of the members. As the project evolves, consortium members will be able to arrange for presentations and workshops associated with these events.

As a concrete example, the university of partner VUB organises every year a HELT Symposium (*Health Law and Technology*). Considering the relatively long duration of the SmartCHANGE project, partner VUB could propose a small side presentation for HELT 2024 (a "third-party" participation activity) and a larger slot for HELT 2025 – which could then be considered as a true SmartCHANGE-organised event.

As a further example, consortium partner ENG is a member of EHTEL[4], which organises numerous periodic events, and may have the opportunity to arrange for presentations and working slots within appropriate events organised by this entity.

4.3.3 Open consultations, surveys, and interviews

As part of the kick-off event, WP8 conducted a series of interviews with selected representative of other Work Packages, balancing roles, partners, and gender representation. These interviews have been turned into promotional and informative videos that are being gradually and periodically published on the project's YouTube channel. A total of nine interviews were organised, including one with the Project Coordinator, Mitja Luštrek of JSI, which was used for a send-off video for internal sharing only.

Such activities will continue over the duration of the project. As the health-related activities progress, suitable surveys and interviews will be carried out to accompany the activities.

4.4 Synergies, clustering, and collaboration

Collecting inputs from broader stakeholders already engaged in activities similar to those performed by the SmartCHANGE project and bringing together experts in health, policy, and implementation, who are actively involved in synergy, represents a strategic approach. This

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[4] https://ehtel.eu/

method deviates from operating in isolation, favouring the orchestration of clustering events and activities. This approach is powerful and effective, serving the purpose of maximising knowledge and the project's impact.

Open Innovation. SmartCHANGE will promote open innovation via collaborations with partners' academic/business networks, projects from Horizon Europe / Horizon 2020 clusters, and parties across domains (e.g., data spaces, health), to adapt and extend their systems, sharing knowledge and practices.

Citizen science and education. Through participatory design and dissemination, SmartCHANGE will hold a dialogue with citizens, health professionals and other interested parties that shape the development of the proposed solutions, and educate the stakeholders about the results, AI, NCD risk and healthy lifestyle in general.

SmartCHANGE has been identifying organisations, initiatives and associations, amongst others, from different stakeholder types, to promote a structured dialogue to align and cluster common opportunities and goals. The synergies to be established as a result of this initial work will be aimed at increasing health literacy and awareness, providing better access to critical information by health professionals, provide interactive spaces to support dissemination of SmartCHANGE KERs, as well as and to explore future opportunities for exploitation of the SmartCHANGE results.

All the consortium partners will be proactively involved in this effort in all of its phases, helping to identify potential liaisons, or facilitating contact with different organisations to create multiple, mutually beneficial relations which could take various forms such as organisation of joint events, acting as multipliers on dissemination and communication activities of interest to both, or authorship of joint papers/articles/news pieces and contribution to SmartCHANGE documents and adoption of SmartCHANGE results.

The clustering activities will serve these high-level objectives:

- Drive joint dissemination via synergy formations
- Organise co-hosted events
- Publication of success stories
- Co-creation of policy briefs
- Engagement with the EC on priorities

A preliminary list of initiatives SmartCHANGE may contact to discuss joint activities is provided in Table 15.

Table 15 – Potential synergies to be explored

Project Snapshot	Category / Topic
SLOfit	National health program (since 1987) / AI for health
CrowdHEALTH - Collective wisdom driving public health policies;	HE RIA project / AI for policy-making
BASE - Behavioural Assessment to Improve School Environment	ESP project / recommendations for education
PolicyCLOUD - Cloud for Data-Driven Policy Management	H2020 RIA project / Data for policy-making
iHELP - Personalised Health Monitoring & Decision Support	H2020 RIA project / AI for health
WellCo – Better choices for improved health and well-being	H2020 RIA project / AI for health
GACD - An alliance of Health Research Funders	International alliance / Data/funding for health
AI-POD - Harnessing The Power Of AI To Combat Obesity-Related Cardiovascular Disease	HE RIA project / AI for health
AI-PROGNOSIS - AI-based Parkinson's disease risk assessment and prognosis;	HE RIA project / AI for health
AI4HF - Trustworthy Artificial Intelligence for Personalised Risk Assessment in Chronic Heart Failure	HE RIA project / AI for health
ARTILLER - Artificial Intelligence for early detection of non-communicable disease risk in people with breast cancer	HE RIA project / AI for health
STRATIFYHF - **Artificial intelligence-based decision support system for risk stratification and early detection of heart failure in primary and secondary care**	HE RIA project / AI for health

TRUSTING - A TRUSTworthy speech-based AI monitorING system for the prediction of relapse in individuals with schizophrenia	HE RIA project / AI for health
TRUSTroke - Trustworthy AI for improvement of stroke outcomes	HE RIA project / AI for health
VASCUL-AID - Developing trustworthy AI-driven tools to predict vascular disease risk and progression	HE RIA project / AI for health

4.5 Community database

A community database will be set up for the SmartCHANGE project in a spreadsheet format. This database will be used for outreach (according to GDPR) and to keep track of all stakeholder engagement activities. For each contact, we aim to collect their name, organisation, job title and email and we will categorise them according to their stakeholder category. The number of verified and relevant contacts will be incremented thanks to web platform registration and newsletter subscriptions, contacts from social media networks, participations at events, partners' efforts and synergies and strategic collaborations. The database will be exploited by SmartCHANGE to create awareness and consolidate a loyal user base for SmartCHANGE results. The retention of this data is described in the SmartCHANGE Privacy Policy. The final aim and Key Performance Indicators (KPIs) for the community database is to reach 3000 contacts (number of contacts including registered users, social media, event participants, etc.) by the end of the project (see Table 16).

4.6 Monitoring and assessment

Evaluation of the Communication and Marketing activities will be based on several points. KPIs are tracked on a monthly basis monitoring the dissemination, communication, papers submission and presence/organisation at events. Monitoring trackers are built based on the reporting forms available on the EC funding and tenders portal entry point for participants in funded projects. By using them as a benchmark, it will smooth the reporting process and ensure that the communication and dissemination activities are properly reported.

An online visual Dashboard will also be set up to measure the online presence and the community engagement in real-time, as well as allow users to visualise trends and compare performance over time of the SmartCHANGE website and social media channels.

Instructions about how to track the activities have already been shared with SmartCHANGE partners. The communication and dissemination KPIs are listed in Table 16.

Table 16 – Communication and Dissemination KPIs

#	Communication and Dissemination measure	Reason	Target KPI
1	Organisation of conferences / workshops	Raising awareness and increasing number of adopters	Number of events organised: 10 events (physical) with 150 visitors, including two demo days for non-specialised audiences
2	Organisation of common events with affiliated projects	Strategic synergies	Number of common events organised: 4 events (physical, as part of #1)
3	Attendance to third-party conferences / workshops	Increase visibility and adoption rate of SmartCHANGE	Number of events attended: 30 events (online or physical)
4	Common activities with affiliated projects: white papers OR joint videos OR joint policy recommendation documents	Strategic synergies	4 (1 per year)
5	Number of people using the SmartCHANGE apps	Increase number of adopters from healthcare professionals and families	200 children and youth and a comparable number of family members; 20 healthcare professionals.
6	Promotional campaigns for proof-of-concept studies	Use the studies as early adopters and increase the adoption rate	Number of campaigns including press releases, newsletters, videos, social media promotion etc.: 4 (1 per country)

7	Online webinars directed to the general public	Increase visibility	4 with 80 attendees
8	Open access reports: number of scientific publications	Technical dissemination	10 journals, 20 conferences plus 5 non-scientific publications in industry magazines
9	Standardisation liaisons: common publications	Strategic synergies	3 contributions to standards / associations
10	Overall SmartCHANGE community	Community building	Number of contacts including registered users, social media, event participants, etc.: 3000
11	Project website: overall sessions	Community building	500 per month (by m48)
12	Promotional videos	Increase visibility, attract customers and adopters	15 videos

5 Exploitation: making use of SmartCHANGE results

5.1 Context of exploitation activities within overall project timeline

The SmartCHANGE project has a duration of 48 months, and the consortium has carefully planned the overall evolution of exploitation activities to optimize their efficiency and impact. It is important that exploitation-related activities begin neither too early nor too late. Within the Gantt timeline governing the overall execution of project tasks, exploitation activities (Task 8.4) are scheduled to begin in Month 18, as project results begin to take shape. Two deliverables are entirely dedicated to the relevant activities of Task 8.4:

- D8.5 *Initial exploitation and sustainability plan* (M30)
- D8.6 *Final exploitation and sustainability plan* (M48)

The purpose of this section is to present exploitation planning intended to ensure that the relevant inputs to exploitation are identified, tracked, gathered, and evaluated as appropriate during the early phases of the project (Months 1-18). In this way, exploitation activities will be able start up efficiently in M18 and achieve maximum impact over their duration.

The SmartCHANGE exploitation strategy is defined over two key dimensions.

- Academic / commercial / social
- Joint / individual

Although these two dimensions are to some extent separate and orthogonal, in practice exploitation activities will need to be planned and evaluated in both dimensions.

5.2 Academic, commercial, and social dimension

The exploitation objectives of different consortium members, both individually and collectively, vary along this dimension. Although the boundaries are not entirely distinct and disjoint, the three categories are sufficiently well-defined to analyse the three kinds of exploitation objectives that co-exist along this dimension in SmartCHANGE.

5.2.1 Social-related exploitation

A major portion of the project's resources is mobilised around the achievement of exploitation objectives in this category, which could well attain the most significant impact of the project results. The primary goal is to achieve take-up of the results in stakeholder institutions around Europe, particularly those involved in public health concerns.

The four proof-of-concept studies play a central role in the exploitation activities in this category. Four consortium partners are developing public-health related applications from different perspectives, in four EU countries (Slovenia, Finland, Netherlands, and Portugal). The exploitation objective for these four studies is to bring them into use in their respective environments. An important background resource for achieving this objective is the FitBack project, the *European Network for the Support of Development of Systems for Monitoring Physical Fitness of Children and Adolescents* at the local, regional, national and European levels. Three of the partners in SmartCHANGE are also partners in FitBack, and already have running facilities in their respective countries, with an existing user base and environment.

- **SLOfit**, the national surveillance system for somatic and motor development of children and youth in Slovenia established over 40 years ago, will provide an existing testbed for integrating the AI-enabled risk prediction assets. If successful, it will provide a channel for sustainability in that environment.
- **FitEscola** is a recently established (2016) program in Portugal for counselling and continuous monitoring of sedentary behaviour, physical and sport activity and fitness of students who attend elementary and high school. A working platform is also involved that disseminates best practices and assessments, and a user base is also existing.
- **Move!** was established in Finland in 2016 as a monitoring system for physical functional capacity. The main purpose of the system is to act as an educational tool and to encourage students to independently take care of their physical functional capacity to support their well-being. Likewise, there is an existing user base.

This provides opportunities for certain kinds of exploitation activities that would not be possible otherwise, such as the direct integration of the SmartCHANGE results into SLOfit. It will have to be decided for the other systems to what extent, and how, the relevant SmartCHANGE results will be integrated into the system.

Furthermore, each of the four studies involves potentially different target stakeholder groups, in different social-cultural environments, which could affect exploitation targets. In Portugal, the focus is on family-related stakeholders, including the related health professionals; in Finland, the focus is on schools (with health professionals such as school

nurses); in the Netherlands the environment is public health facilities; in Slovenia the stakeholder group is a full continuum of health care professionals. Likewise, the target beneficiary groups are all various subsets of the children and youth populations.

Summary of key exploitation parameters to track

- Track how existing systems (SLOfit, etc.) will be used in the PoCs and with which exploitation goals;
- For each PoC, determine the ultimate target stakeholders as the PoCs progress. These may lead to modifications or refinements to the SmartCHANGE stakeholders when the PoC are fully defined and underway, and change exploitation goals.
- Monitor which other SmartCHANGE assets (such as best practices) will ultimately be incorporated into exploitation objectives for social-related initiatives, and for which stakeholder groups.

5.2.2 Research-related exploitation

Researchers / academics are involved in all aspects of the SmartCHANGE project, from technical to policy-related topics. There is some conceptual overlap between academic exploitation and dissemination, especially in the area of publication of research results, which also has the important objective of communicating those results to colleagues and the wider community.

Positioning within attractive research contexts. However, when exploitation is understood as resulting in sustainable impact, then the publication of research results in the new areas under investigation in SmartCHANGE can also be viewed in that way. Publication in new areas can open up new opportunities for researchers' institutions to acquire grants, and for the researchers themselves to acquire enhanced reputations and positions. Trustworthy AI is a particularly hot topic at the moment, so establishing one as an expert in this area can be particularly beneficial. Coordinator JSI has a strategic interest in this, as it wants to not only secure public grants, but also improve collaboration with the industry (case in point: Coordinator JSI submitted a Twinning proposal on co-creation of trustworthy AI solutions with the industry, where it expects to receive training on how to improve the success of its industrial projects).

Training and curricula. A particular source of sustainable research impact is the development of training materials and insertion of research results into university curricula. These types of project results are more permanent by their nature. As a specific example, Coordinator JSI plans to include topics from the project in the Ambient Intelligence course at

Jožef Stefan International Postgraduate School. A doctorate at the same school is also expected on the topic of SmartCHANGE. The consortium plans to propose a tutorial at some major conference on trustworthy AI methods for health or similar.

Reusable open-source software. In the context of SmartCHANGE it is a goal of the research and development partners to develop reusable software publicly accessible through the project code repository, with related explanation of usage written in the form of deliverables, scientific publications, and/or related documentation. This software will aim primarily in providing data harmonization techniques for healthcare data, also having the possibility to be extended to be domain-agnostic (as the project matures). Related stakeholders (i.e., students, data scientists, researchers, educators, software developers) will be able to study, understand, and reuse this knowledge or expand it with regards to their own requirements and needs, being exploitable in their own sectors and clusters. Consequently, the derived knowledge will be able to be used as: (i) lecture content (e.g., hands-on workshops) to students, (ii) training material for young scientists, (iii) reusable software for software developers, (iv) state-of-the-art knowledge and baseline technology for researchers/educators.

Summary of key exploitation parameters to track

- Whereas eight training sessions are foreseen for the SmartCHANGE research partners, these can be seen as primarily for dissemination purposes over the duration of the project. Monitor which training materials will be developed and how will they remain as permanent, sustainable results.
- Monitor whether other research artefacts (such as datasets) have the potential to become sustainable, exploitable results and with respect to which stakeholder groups.

5.2.3   Business-related exploitation

While a major portion of the SmartCHANGE resources is directed toward objectives (social, research) not strictly connected with commercial concerns, business-related exploitation of SmartCHANGE results is an important dimension with potential sustainable impact. The consortium has representation from both large and SME commercial stakeholders, each of whom has different interests in health-related markets (see also Section 5.3.1 in this regard).

The most natural channel for commercial exploitation is product-related, of course – that is, the software applications developed in the project. The results might be either incorporated

into existing products (e.g., for new features such as adding AI-enabled risk prediction) or become the basis for entirely new products.

However, depending on the commercial strategies of the companies, other categories of SmartCHANGE results could become exploitable assets, for example as services (such as consulting in participatory design).

Summary of key exploitation parameters to track

- The development and evolution of all assets – not only product-oriented applications – is to be tracked to evaluate commercial exploitation potential by the time that the exploitation activities are launched after Month 18.
- Commercial partners not only have the opportunity to follow the evolution of the SmartCHANGE assets and to evaluate alignment with their own strategic objectives, but also to influence (to a degree compatible with other objectives) the development of the assets and their own strategic objectives to achieve maximum alignment.

5.3 Individual / joint dimension

This is the second dimension along which exploitation activities will be identified, planned, and deployed. Each will imply the involvement of different related resources (such as IPR management).

5.3.1 Individual exploitation

Each individual partner is bound to identify and plan for its own exploitation of the results of SmartCHANGE, according to its interests and role in the project. For each such partner, the exploitation will occur along the appropriate dimension described earlier (academic / social / commercial).

Some partners have already developed focused exploitation objectives at this early stage of the project, of which academic (UPRC, ULI) and commercial (CCARE, ENG) examples are provided in the following.

UPRC. The University of Piraeus was founded in 1938 under the title of the "School for Industrial Studies", by the Industrialists and Tradesmen Association. Today, the following nine Departments are run by the University of Piraeus: i) Economics, ii) Business Administration, iii) Statistics and Insurance Science, iv) Financial Management and Banking, v) Industrial Management, vi) Maritime Studies, vii) Informatics, viii) Digital Systems and ix) International and European Studies. The Department of Digital Systems covers the areas of digital/network

services, broadband (wireless and optical) networks, as well as the security of digital systems. The department's research staff consists of 25 faculty members, 20 postdoctoral researchers and 75 PhD candidates, whose collective expertise covers many key areas in distributed systems and services. The University of Piraeus Research Center (UPRC) facilitates the research activities of university members in different programmes and initiatives. In this context, the Department of Digital Systems (through UPRC) has been actively involved and coordinated a significant number of: (i) EU funded R&D projects, (ii) National projects funded by the Greek Ministry of Development and the General Secretariat of Research and Technology, and (iii) Projects developed in collaboration with enterprises (both international and national). The aforementioned are considered as the UPRC's main activities, from which the corresponding financial support is being provided. The UPRC team that participates in SmartCHANGE focuses on research activities related to machine learning, interoperability, and data analytics dealing with topics such as electronic healthcare, Data Management and Analytics, and Quality of Service in service provisioning systems.

UPRC, as a non-profit academic institution, intends to be involved in challenging, real-life problems that extend its research interests to new areas and thus advance and proliferate scientific knowledge. Nonetheless, UPRC members aim at exploiting the outcomes of research projects, by developing and releasing "products" that meet a set of quality requirements such as software tested, accompanied documentation, installation guidelines and best practices. The goal of this strategy is twofold: (i) showcase through tangible results the expertise of the UPRC team and the added value that could be brought based on these results in different domains (e.g., data analytics mechanisms in healthcare), and (ii) provide the ground for spin-off companies that will further exploit these results (based on the outcomes obtained initially through their applicability in different domains as explained previously).

The exploitation plan of UPRC addresses different domains, both in terms of focus and in terms of target groups. With respect to focus, UPRC targets multi-disciplinary domains by developing research outcomes into a form that can be used in different contexts. Such contexts are mainly: smart cities (through the established collaboration with the Municipality of Piraeus), financing / banking, maritime and healthcare. Regarding target groups, UPRC (as a university) addresses researchers in the domain of software engineering and distributed computing and IT companies that aim to bring research outcomes into their business.

The advantages of UPRC's participation in SmartCHANGE are threefold (i) Education: the SmartCHANGE results will be proliferated among the attendants of the University activities, mainly among postgraduate and continuing education programs due to the advanced nature of the topics, (ii) Technology transfer to the Greek IT industry that includes a wide portfolio

of policy institutions, offering technology transfer services to companies and public bodies through joint projects, and (iii) Technology promotion in the Greek industry as part of an effort to increase the adoption of SmartCHANGE technologies. Regarding UPRC's role within the project, it contributes mainly to the data management of SmartCHANGE, and the related data harmonization techniques with respect to the ingested datasets. In this domain, it provides innovative and domain-agnostic mechanisms for proper data management, as well as its technical know-how towards the creation of enhanced data cleaning and interoperability.

ULJ. ULJ is the largest academic institution in Slovenia. Among its research groups, SLOfit group that is centrally involved in SmartCHANGE, stands out as one of the flagships due to its large international impact and wide network of global collaborators. SLOfit is Slovenian national monitoring system for physical fitness of children and youth. It has been running for more than 30 years and holds more than 9 million data points about children's growth and development. It will be used by the project, alongside other appropriate datasets, to develop AI-driven models for prediction of future cardiovascular and metabolic disease. Apart from this, SLOfit group will be involved in participatory design activities in Slovenia and will set up a proof-of concept study leveraging MySLOfit application – a digital tool owned by the SLOfit group that brings together a network of children, teachers, schools, and health care professionals in monitoring the development of children throughout schooling period.

ULJ plans to exploit the SmartCHANGE web tool for health professionals by integrating it directly to the MySLOfit web application and making it instantly available for registered users of MySLOfit. The budget for initial integration has been set aside during the proposal stage and will be used for integration of initial prototypes for use in the proof-of-concept studies. Upon delivery of the complete and final version of the SmartCHANGE web tool for health professionals it will become an integral part of the MySLOfit system, and will be offered free of charge to MySLOfit registered users. In due course, ULJ will also explore possibilities for similar integration process for the SmartCHANGE mobile app for citizens."

CCARE. CCARE is a SME specialising in health and care applications. Their strong suit is participatory design, in which they complement the health partners: the former brings expertise on conceptual design, while CCARE covers both conceptual design, mock-ups and eventually highly usable applications. Regarding exploitation, they complement ENG by focusing on citizens more than organisations.

The exploitation plan for CCARE is aligned with the strategic ambition to support citizens with healthy living and optimal therapy, covering the care continuum. CCARE develops digital

interventions to facilitate behaviour change, both in a preventative setting and in a healthcare setting. The ultimate goal is to be able to strengthen the position in the market, expand the portfolio of technologies beyond the state-of-the-art, to attract new customers and exploit cooperation with public and private funding agencies.

ENG. Engineering Ingegneria Informatica SpA (ENG) is the Digital Transformation Company, leader in Italy and expanding its global footprint; with around 15,000 associates and over 70 offices spread across Europe, the United States, South America and global delivery.

The Engineering Group boasts a diversified portfolio built around proprietary solutions, best-of-breed market solutions, and managed services, and continues to expand its expertise through M&As and partnerships with leading technology players.

40+ years presence in all market segments (from Healthcare to Public Services, from Utilities to Manufacturing and many more) has allowed ENG to build deep knowledge of business needs and anticipate them by exploring constantly the evolution of technologies, especially in the field of Artificial Intelligence and Data, Cloud, Cybersecurity, Metaverse.

In relation to the company business interests, one of ENG's key objectives is to become a reference player in the e-health market, both nationally and internationally, and to expand its healthcare solutions offering and customers' portfolio.

At the national level, ENG is already playing a primary role in the digitalization of the healthcare sector, with over 25 years of experience and accounting for more than 160 customers, including healthcare providers. In the European and global context ENG goal is to penetrate the market as innovative player and step in with increasingly emerging solutions for current demands.

Within SmartCHANGE, ENG is responsible for the development of a web app for health professionals, which integrates an explainable clinical decision support system, and enable them to improve the identification of high-risk children for NCDs and deliver personalized low-risk strategies. In addition to this, ENG will be accountable for the overall SmartCHANGE architecture design and subsequent configuration, based on microservices paradigm.

As far as the exploitation plan is concerned, ENG aims to focus its exploitation activities primarily in order to enlarge its solutions' offering. Proprietary products, already present at customers' sites, will be improved based on the outcomes deriving from SmartCHANGE. To better address emerging customers' needs, they can be offered as stand-alone solutions or integrated into existing products.

Summary of key exploitation parameters to track

- Over the course of the early phases of the project, each of the individual partners will have the opportunity to refine their foreseen exploitation objectives as the respective results they are working non begin to emerge. Each partner will need to be able to provide an initial individual exploitation plan (along the lines of the early examples provided above) at Month 18, as exploitation activities begin.

5.3.2 Joint exploitation

SmartCHANGE has been conceived as a strong collaborative effort among complementary consortium partners in order to produce assets that are interdependent. Consequently, joint exploitation of its results is very much part of its strategy, with the primary objective of sustaining core, interdependent assets beyond the lifecycle of the project to enable widespread adoption. An initial strategy has been formulated at the outset of the project of creating a showcase of demos and communities of early adopters of the software applications, leveraging the four proof-of-concept use cases. As discussed earlier, the health-related partners are the major participants in this particular exploitation strategy.

Although the software applications are the primary candidates for joint exploitations, they are by no means the only project results that may become candidates for joint exploitation. Even academic partners might coalesce a joint exploitation strategy around assets such as the curated datasets.

While the business-oriented partners may individually pursue exploitation of results, it is also possible that they may collaborate on joint exploitation. It is possible as well that some partners may join together in a spinoff to commercialize key exploitable results.

In all cases of joint exploitation, management of joint intellectual property becomes a factor. The consortium will follow established best practices in this regard (Section 5.4.3).

Summary of key exploitation parameters to track

- In the early phases of the project, exploitation planning has been the clearest for the health partners, for whom the proof-of-concept studies form a basis. However, even this specific joint exploitation strategy has not yet been fleshed out with a refined set of targeted stakeholders and exploitation-related activities in each case (e.g., whether the assets will be integrated into an existing platform). This aspect will be monitored as the project evolves.
- As the early phases progress, the exploitation planning can be refined, also with help of considerations such as those in Sections 5.4.1 and 5.4.2. Likewise, other joint exploitation

opportunities among other types of partners should be tracked as they develop over the first 18 months.

- The Results Ownership List (Section 5.4.3) will be initiated as soon as appropriate in the project, so that any potential IPR associated with specific partners is captured and recorded as early as possible.

5.4 Further considerations in early phase exploitation planning

There are certain cross-cutting considerations that are of concern to all types of exploitation planning, and are discussion in these sections.

5.4.1 Regulatory and legal issues

Regulatory and legal issues are critical factors that could be quite determinant of the possible exploitation directions and the potential restrictions. Indeed, it is for this reason that an entire work package has been dedicated to this purpose: *WP2 – Societal, ethical, legal and privacy issues*. The first consideration is, of course, potential restrictions in the development and use of SmartCHANGE assets. However, there are also other considerations, such as opportunities to take advantage of new legislation to pursue new markets that open up as a result; and opportunities to influence future legislation to enhance the exploitability of SmartCHANGE assets. The first results are beginning to emerge from WP2 (see [D2.1]). It will be essential to track these results as they become available over the early phases of the project, to gauge their influence on exploitation planning.

5.4.2 Technical and architectural issues

As central assets are developed in the project (in particular, the software applications), technical and product-oriented factors should be tracked and their potential impact on the exploitation planning that is related to these assets.

A list of such characteristics whose evolution is appropriate to track includes:

- identification of the components as the architecture evolves (including the AI platform);
- ownership of the components (based upon who is doing their development);
- curation / storage of the datasets;
- auxiliary assets / tools being developed around the main products;
- identification of target stakeholders as the tools mature;
- identification of needs for documentation, guides, etc.

5.4.3   Management of intellectual property rights

To manage IPR and maintain an expanded results ownership list (ROL) as dictated by new Horizon Europe guidelines, the IPR team will: (1) Adhere to the official IPRHelpdesk.eu HEU guidelines, and the complementary guidelines of the Horizon Common Support Centre/J5 on Joint-Ownership provision, (2) Adhere to the STL IP Licensing Manual of the World Intellectual Property Organisation (WIPO) and the International Trade Centre (ITC), as endorsed and recommended by Horizon Europe guidelines, (3) Include a seasoned IP Attorney and an experienced IP Marketing specialist in the IPR team, (4) Employ the IP concepts clarified within the Common Exploitation Booster (CEB) on "Commercialising Intellectual Property: knowledge transfer tools" and its newly updated version, and (5) Adopt the Fair, Reasonable, and Non-Discriminatory (FRAND) licensing commitment towards SmartCHANGE beneficiaries, as required for licensed-copyrighted assets, which protect and improve the general public lives. Each partner in SmartCHANGE will own IPR for innovations that it should develop during the course of the project. In the case of joint development of innovations, IPR will be shared between involved partners. Access rights to background IPR that are needed by a partner to exploit their innovations from SmartCHANGE will be granted on a fair basis. In particular, it is intended that the SmartCHANGE app will be maintained also beyond project completion for at least three years for sustainability purposes.

5.5 Exploitation-related KPIs

Key performance indicators related to the three main dimensions of SmartCHANGE exploitation (health/policy; academia/research; business/commercial) have been defined in [D1.1] and are being tracked over the duration of the project.

6 Conclusions and next steps

A series of actions has been identified as further steps in the near- and mid-term. For example, at the end of each sub-section of the chapter on **exploitation** (Section 5) there appears a summary of items to be tracked up through M18.

Regarding **stakeholder** management, by M9 WP8 leader Trust-IT will contact each of the health-related partners (particularly those managing the four Proof-of-Concept case studies), in order to sharpen the descriptions of the ways in which we will reach out to their related stakeholders (e.g., how we will reach out to specific categories of medical professionals such as doctors and nurses, in relevant cases, and how we will reach out to families).

Regarding **communications** and **dissemination**, by M9 WP8 leader Trust-IT will host a meeting with the consortium to consider how to organise collaborative dissemination, especially events that must be organised and executed by multiple partners working together. Such events and similar dissemination initiatives cannot be conceived and organised in isolation, but need to be based upon a consensus of multiple partners involved.

The activities described above represent those identified during the initial phase of planning. This plan is a living document, however, to be updated and managed as the project progresses and communications, dissemination, and exploitation objectives are refined and opportunities are identified.

7 References

Although the adopted style for references in the SmartCHANGE project is the Name-Year style, an exception is made in the case of this document, since it references only relevant deliverables of the project itself, with no external references involving third-party authors. This exception is made for reasons of clarity and brevity.

The following deliverables are referenced in this document:

[D1.1] "Project Handbook". M3 (July 2023).

[D1.2] "Data Management Plan", M6 (October 2023).

[D2.1] "Benchmark of regulatory and ethical frameworks". M6 (October 2023).

[D8.1] "Project Website". M6 (October 2023).

[D8.3] "Midterm dissemination and communication report and plan". M24 (April 2025)

[D8.4] "Final dissemination and communication report and plan". M48 (April 2027)

[D8.5] "Initial exploitation and sustainability plan". M30 (October 2025)

[D8.6] "Final exploitation and sustainability plan". M48 (April 2027)

[D8.7] "Networking and clustering report". M45 (January 2027)