

## TECHNICAL ANNEX

### 1. EXCELLENCE IN S&T AND NETWORKING

#### A. Main challenge

The increasing complexity of societal health problems is driven by the intricate and interrelated nature of social determinants of health and the multifaceted impacts of globalization. Addressing these challenges effectively requires a holistic, integrated approach that considers the broad spectrum of factors influencing health outcomes (Butterworth et al., 2023; Faerron Guzmán, 2022; Hilton & Johnston, 2022; Reising et al., 2022; Richardson et al., 2014). Integrated physical activity programs are particularly vital because they simultaneously address multiple determinants (Curtin et al., 2025; Estabrooks et al., 2019; Gallaway & Hongu, 2016; Klisch et al., 2024), including physical, mental, and social health, thereby contributing to more resilient and healthier populations.

The main challenge facing integrative physical activity research lies in achieving effective communication and collaboration between multiple disciplines. This issue is multifaceted, covering scientific, technological, and societal dimensions:

1) the complexity of interdisciplinary relationships complicates the research process. Integrative projects require cooperation among experts from different scientific domains (Rich, Smith, & Giles, 2024; Phillips, Allen, Fenemor, Bowden, & Young, 2010), each with distinct methodologies, objectives, and epistemological perspectives.

2) communication barriers pose a significant obstacle. The use of varying terminologies such as multidisciplinary, interdisciplinary, transdisciplinary, and cross-disciplinary often leads to confusion (Bouffard & Spencer-Cavaliere, 2016), misunderstanding, and inconsistent application within research collaborations.

3) coordination and integration across disciplines demand structured frameworks that enable coherent planning, data sharing, and synthesis of knowledge. Examples from environmental modeling demonstrate the potential of such frameworks in facilitating cross-disciplinary integration (Kragt, Robson, & Macleod, 2013).

4) cultural and epistemological differences between disciplines can affect how data are interpreted and applied (Bouffard & Spencer-Cavaliere, 2016; Phillips et al., 2010), while ethical and practical considerations including funding allocation, data management, and project logistics further complicate collaborative efforts (Rich et al., 2024; Schaller, Dejonghe, Tetz, & Exner, 2019).

5) a technological perspective, the increasing reliance on advanced measurement and analytic tools, such as accelerometer-based monitoring systems, introduces new challenges related to data processing, interoperability, and methodological adaptation (Troiano, McClain, Brychta, & Chen, 2014).

6) building trust, mutual respect, and shared understanding among researchers (Phillips et al., 2010) is essential for sustainable collaboration. This requires continuous capacity building and targeted training to equip researchers with the communication, coordination, and integrative analysis skills (Rich et al., 2024; Jakubiak, Kwiatkowska, Fedorenko, Ille, & Jakubiak, 2025) necessary for successful interdisciplinary work.

The primary challenge in integrative recreational physical activity research is overcoming communication barriers and enhancing coordination across disciplines. This issue is both relevant and timely, as the increasing complexity of societal health problems requires holistic, cross-sectoral approaches underpinned by collaborative frameworks, technological innovation, and continuous professional development. Interdisciplinary research in physical activity and health must address these critical challenges to develop comprehensive solutions to global health issues.

These challenges are particularly relevant and timely due to several converging factors:

- 1) global health trends: the global rise of non-communicable diseases (NCDs) and sedentary lifestyles highlights the urgent need for effective, evidence-based interdisciplinary strategies that promote physical activity and overall well-being (Bird et al., 2022; Bouffard & Spencer-Cavaliere, 2016; Jakubiak et al., 2025; Plotnikoff & Karunamuni, 2011, Guskiewicz, 2008).

Integrative research can support the development of policies and programs that align with these global health initiatives, making the challenges particularly relevant.

- 2) technological advancements: rapid technological innovation - especially in wearable devices, digital health monitoring, and data analytics requires new collaborative approaches to optimize data use and integration (Shah et al., 2023; Troiano et al., 2014; Rich et al., 2024;).
- 3) policy and public health implications: translating interdisciplinary research findings into actionable policy and public health interventions is essential for achieving sustainable health outcomes and addressing societal inequalities in access to physical activity opportunities (Mitchell et al., 2024; Mabry et al., 2020; Phillips et al., 2010; Kaczynski & Henderson, 2007; Khunnikom et al., 2025; Kragt et al., 2013; Rowe et al., 2013; Sallis et al., 2004; Schaller et al., 2019; Speake et al., 2016; Stępień-Słodkowska & Siedziako, 2024).

The principal challenge and aim of this COST Action are to **establish an interdisciplinary European network to investigate, conceptualize, design, promote, and integrate Integrative Recreational Physical Activities programs, which merge sport, health, education sciences, digital technologies concerning AI, culture, and social innovation for building inclusive, sustainable, and health-enhancing society.** The following secondary aims will support this:

- To foster **effective communication and collaboration between interdisciplinary experts in the multiple research areas: sport science, education, health care, sport and physical exercise psychology, health psychology, culture, theology, technology, and policy**, to promote a holistic approach to engagement recreational physical activities to last beyond the time of Action, via Seminars, Short Terms Scientific Missions, reviews, qualitative and quantitative research, writing support of the peer reviewed articles, Summer Schools and International Conferences.
- To **co-creation of updated Integrative Recreative Physical Activity measurement and assessment to meet actual challenges regarding diverse populations and contexts - cultural sensitivity and relevance, methodological limitations, population-specific challenges, environmental and social contexts, technical (devices-based methods) and practical issues.**
- To **evaluate existing methodological approaches and interdisciplinary collaboration in assessing the effectiveness of Integrative Recreative Physical Activity programs** to identify effective standardized methodologies, robust data, and strategies to enhance participant engagement and adherence.
- To **evaluate on a cross-national basis the state of Integrative Recreative Physical Activity promotion research, practice and policy** regarding the motivational profiles for engaging in recreational physical activity (RPA) vary across different countries and cultural contexts, the socioeconomic disparities in RPA promotion, the cultural factors such as collectivism, religiosity, and gender norms that significantly influence physical activity behaviours, the social group dynamics, the policy implementation and evaluation, the global and national policies, the cross-national comparisons and the inclusive practices.
- To **co-create a comprehensive approach to innovative Integrative Recreative Physical Activity Program development, design and implementation** that considers the needs of the target population, incorporates innovative elements, and emphasizes evaluation and sustainability that effectively promotes physical activity and enhances overall well-being in the community.
- To **co-create a handbook of interventions and web-based resources for use alongside new Integrative Recreative Physical Activity Program implementation and measures** at a practical level by different groups - practitioners, community leads, clinicians and programme managers across different target groups (children/youth, adults, older adults, people with chronic disease, people with disabilities, workplaces, schools, and disadvantaged communities).
- to **translate research findings into an evidence-based and well-considered policy advisory document** that identifies key issues and effective strategies, offering practical recommendations to inform decision-making by policymakers and guide societal actions toward Integrative Recreative Physical Activity Program implementation improved health and wellbeing.
- to **strengthen practitioners' and Early Career Investigators' (ECIs) experience** by providing access to a collaborative and innovative research network.
- to **sustain interdisciplinary collaborations beyond the project through two years of Training Workshops** and by leveraging established networks to pursue future EU-funded initiatives, such as Horizon 2020.

## B. Objectives

### B.1. Research coordination objectives

The main coordination objective of this Action is to coordinate an interdisciplinary European network that shares, evaluates, and advances research on Integrative Recreational Physical Activity programs, combining sport, health, education, AI-driven technologies, culture, and social innovation to foster an inclusive, sustainable, and health-promoting society. The Action initiative includes the following objectives:

- Establishment of an interdisciplinary European network for Integrative Recreational Physical Activities (IRPA) to foster, share and support a knowledge base and research advances through the cross-collaboration and integration of Working Groups:
  - **WG1: Integrative Recreative Physical Activity Measurement, Assessment, Methodological Approaches and Interdisciplinary Collaboration**
  - **WG2: Integrative Recreative Physical Activity promotion and Translation Research into Practice: Policies and Practices**
  - **WG3: Innovative Integrative Recreative Physical Activity Program Development, Design and Implementation**
  - **WG4: Integrative Recreative Physical Activity, Wellbeing and Enhancement of Inclusiveness and Equity: Cultural and Epistemological Differences**
  - **WG5: Social media, AI impact to Integrative Recreative Physical Activity promotion and dissemination**
- Support researchers and practitioners in co-creation of updated Integrative Recreative Physical Activity measurement and assessment to meet actual challenges regarding diverse populations and contexts - cultural sensitivity and relevance, methodological limitations, population-specific challenges, environmental and social contexts, technical (devices-based methods) and practical issues.
- Support researchers and practitioners in evaluation existing methodological approaches and interdisciplinary collaboration in assessing the effectiveness of Integrative Recreative Physical Activity programs to identify effective standardized methodologies, robust data, and strategies to enhance participant engagement and adherence.
- Coordinate data collection from a cross-national basis the state of Integrative Recreative Physical Activity promotion research, practice and policy regarding the motivational profiles for engaging in recreational physical activity (RPA) vary across different countries and cultural contexts, the socioeconomic disparities in RPA promotion, the cultural factors such as collectivism, religiosity, and gender norms that significantly influence physical activity behaviours, the social group dynamics, the policy implementation and evaluation, the global and national policies, the cross-national comparisons and the inclusive practices.
- Support researchers and practitioners to co-create a comprehensive approach to innovative Integrative Recreative Physical Activity Program development, design and implementation that considers the needs of the target population, incorporates innovative elements, and emphasizes evaluation and sustainability that effectively promotes physical activity and enhances overall well-being in the community.
- The collaborative collection and assessment of a handbook of interventions and web-based resources for use alongside new Integrative Recreative Physical Activity Program implementation and measures at a practical level by different groups - practitioners, community leads, clinicians and programme managers across different target groups (children/youth, adults, older adults, people with chronic disease, people with disabilities, workplaces, schools, and disadvantaged communities).
- Define issues and challenges facing, local, national and EU authorities in Integrative Recreative Physical Activity programmes promotion.
- Guidance researchers on translation research findings into an evidence-based and well-considered policy advisory document that identifies key issues and effective strategies, offering practical recommendations to inform decision-making by policymakers and guide societal actions toward Integrative Recreative Physical Activity Program implementation improved health and wellbeing.

- Promote, reinforce, and expand the network of researchers, academics, and practitioners in the areas of sport science, education, health care, sport and physical exercise psychology, health psychology, culture, theology, technology, and policy via: 1) the continuous guidance of research progress and collaborations, through meetings of the Management Committee and working groups; 2) meetings at a peer-to-peer level based on membership of the Working Groups between researchers, recreative physical activity practitioners, local and national authorities, industry and community groups; 3) foster STSMs between participating WG hosts with a focus on supporting ECIs; 4) Seminars, Summer Schools and International Conferences (widening recognition of the Action) annually for participating ECIs, practitioners, researchers and other stakeholders on the working group action areas hosted by WG leaders; 5) training sessions for practitioners, ECIs and Ph.D. students during the final project year and for two academic years after the project end date based on the findings and practices delivered by the action.
- These objectives have been designed to align with the SMART principles of being specific, measurable, achievable, relevant, and time bound.

## **B.2. Research capacity building objectives**

Promoting capacity in enhancing interdisciplinary expertise sustainable Integrative Physical Recreation programs implementation, fostering collaborative and evidence-based research, building digital and AI competencies, promoting inclusive and sustainable Integrative Physical Recreation programs, and strengthening networking and knowledge exchanging across European institutions. The Action initiative includes the following research capacity building objectives:

- Promoting gender, age and multicultural balance in the Action.
- Enhanced training opportunities for early career researchers (ECIs) through visits, workshops and active responsibility for the organisation of seminars, summer schools, conferences and forums as well as their direct participation/involvement.
- Providing access to a website and online repository of information, to build capacities of Action members, stakeholders and partners.
- Contribute to building capacities of stakeholders and peers by drafting and publishing of e-newsletters (tri-annually) over the life of the project.
- Supporting the drafting and publication of cross-national peer reviewed papers, to enhance ECIs capacity and further publicise the action at an international level.
- Cooperating with e-industry, community support, security and sporting organisation partners, to provide direction and focus for research, science, academic partners, including ECI hosting, information gathering missions, strategizing and assessment collaborations.
- Increasing awareness of the issues across disciplinary boundaries, both within and outside of academia, by promoting continued exchange and development of knowledge, practice and policy guidance via:
  - Seminars (tri-annually) throughout the first 2 years of the action to augment knowledge of the stakeholders and foster further discussion, networking and collaboration.
  - Interdisciplinary seminars at modular Master's, Doctoral level for students in participating academic and research institutions, e.g. partner institution.
  - Hosting 14 STSMs from within and across the WGs, promoting collaborative learning, for example, ECIs in WGs.
  - Workshops, Summer Schools and International Conferences based on the workgroups attended by all stakeholders to identify and tackle individual challenges within these areas and how they relate to holistic approaches.
  - Public workshops and outreach activities for practitioners, policy makers, and regional authorities.
  - Focused training sessions for practitioners, with further sessions (2 per year) held for 2 years after the project ends.

## **C. State-of-the-art**

This proposed Action will capitalize on existing European networks to achieve its objectives more efficiently and comprehensively by building upon the evidence, best practices, and expertise developed through prior initiatives promoting integrative recreational physical activity implementation. Notable among these are:

- *International Physical Activity and the Environment Network (IPEN)* is a global research initiative aimed at understanding the relationship between the built environment and physical activity. The network includes studies from 12 countries on five continents. It conducts large-scale, cross-sectional studies across multiple countries to gather evidence on how different environmental attributes influence physical activity levels and related health outcomes.
- *Physical Activity through Sustainable Transport Approaches (PASTA)* network is a European research initiative aimed at promoting active mobility, such as walking and cycling, to integrate physical activity into daily life. The network includes seven European countries. This initiative addresses the significant public health issue of physical inactivity, which is a major risk factor for non-communicable diseases.
- *HEPA Europe* network is a collaborative initiative aimed at promoting health-enhancing physical activity (HEPA) across Europe. Founded in May 2005 in Gerlev, Denmark, the network seeks to strengthen and support efforts to increase participation in physical activity and improve conditions favorable to a healthy lifestyle. The network includes 32 countries, establishing collaborations with the World Health Organization (WHO), the European Union (EU), Agita Mundo, and other regional networks.
- *REPOPA* network stands for Research into Policy to Enhance Physical Activity, is an interdisciplinary project aimed at improving physical activity policymaking across six European countries with diverse policy systems and networks of researchers and policymakers. The project employs a formative evaluation approach to enhance collaboration, communication, and networking among team members and external stakeholders.
- *Physically Active Learning (PAL) Hub* is bringing together projects that integrate physical activity into educational settings. Its goal is to strengthen the connection between education and movement, making learning environments more dynamic, engaging, and inclusive through movement-based approaches. PAL a pedagogical approach that integrates physical activity and movement into the delivery of academic content. The primary goal of PAL is to reduce sedentary behaviour among students and enhance both physical and academic outcomes. PAL aims to improve students' focus, concentration, and engagement during lessons, thereby increasing time-on-task (TOT) and potentially boosting academic performance.
- *Sport, Integration and Mental health through Physically Active Learning (SIMPAL) Project* uses sport and Physically Active Learning (PAL) to support the inclusion, well-being, and trauma recovery of Ukrainian refugee children. By integrating movement into education, the project creates more engaging and supportive learning environments that help children adapt and thrive. SIMPAL is an 18-month pilot project co-founded by the European Union and led by ISCA.
- Main Erasmus+ projects related to recreational physical activity: *MY WAY* project focuses on post-stroke rehabilitation through physical activity; *EUFITMOS* aims to monitor and encourage youth fitness across Europe; *SPORT4H* promotes workplace physical activity to improve health among employees; *No Limits Sport for Gifted Children* addresses the needs of gifted youth in sports; *SACREE Sport & Autism* seeks to make sports more accessible for autistic individuals; *Dancing with Health* uses dance to improve the well-being of breast cancer survivors.
- Horizon Europe, the EU's key funding program for research and innovation, includes several projects that emphasize social inclusion and overall well-being through sport and physical recreation: *ReSport* project focus on social inclusion and equal opportunities in sports for young people with disabilities; *Blanquerna Inclusion Project* is facilitating social inclusion in the sports system; *Professional and Personal Experience through Lifelong Learning and Regular Sport* is encouraging voluntary participation in sports to improve health; *In Common Sports Project* is focus on understanding motives for exercise among older adults.

These networks and projects highlight the program's commitment to enhancing social inclusion and well-being through sport and physical recreation. They address various target groups, including youth with disabilities, older adults, and the general population, promoting inclusive practices and improving health outcomes through innovative and collaborative approaches.

#### **D. Rationale for choosing networking to address the main challenge**

A pan-European Integrative Recreational Physical Activity network is the most appropriate approach to tackle the main challenge - achieving effective communication and collaboration between multiple disciplines in the IRPA programs promotion for health, inclusion, and wellbeing across the lifespan, covering scientific, technological, and societal dimensions, because it ensures integration, enhances

collaboration, addresses complex challenges, provides sustainability, and offers capacity building. These advantages are crucial for long-term success and impact, which a research project alone may not achieve promotion for health, inclusion, and wellbeing across the lifespan.

A pan-European Integrative Recreational Physical Activity network is the most appropriate mechanism to address the identified challenges, as it enables integration of diverse infrastructures and expertise into a cohesive, transnational system. By fostering cross-border collaboration and resource sharing, the network can effectively tackle large-scale, complex issues related to the promotion of integrative recreational physical activity across the lifespan. It provides a sustainable framework for long-term cooperation, facilitates knowledge exchange, and supports continuous capacity building and training opportunities for professionals and researchers. In contrast, a research project typically focuses on narrowly defined objectives and research questions, with collaboration confined to project partners and limited integration across disciplines or countries. Research projects are time-bound, often lack mechanisms for sustained cooperation beyond the funding period, and generally do not prioritize broader capacity building or systemic development.

### **E. Critical mass of the network**

The INTEGRAPA Action brings together a diverse and complementary consortium of researchers, practitioners, and policy makers to address the complex challenge of promoting health, inclusion, and wellbeing through integrative recreational physical activities. The network already represents more than 7 COST Member Countries, covering fields such as health and sport sciences, psychology, social inclusion, education, public health, and digital and social innovation, providing the critical mass and expertise required for a multidimensional approach. The strength of the Action's lies in its interdisciplinarity. Expertise within the network spans five interrelated domains: 1) Health, Sport and Exercise Sciences - focussing on physiological, preventive, and rehabilitative aspects of recreative physical activity; 2) Social and Behavioural Sciences - examining motivation, participation, and inclusion across diverse social contexts; 3) Public Health and Policy Studies - linking research with community-based interventions and policy implementation; 4) Digital Health and Data analytics: integrating wearable technologies, accelerometer-based methods, AI, and data-driven monitoring; Community and Cultural Studies - ensuring cultural sensitivity and ethical inclusiveness in applied contexts. By combining these fields, the Action bridges traditional research boundaries and creates a collaborative platform for evidence-based and integrative solutions. Inspired by successful models of interdisciplinary structuring in research, INTEGRAPA will apply systems-thinking frameworks to connect health sciences with social, digital and cultural dimensions of wellbeing.

The Action will operate through five interconnected Working Groups with objectives to conceptual frameworks and terminology harmonisation of integrative recreational physical activities, evidence synthesis and methodological integration, digital, technological and social innovation in recreational physical activity promotion, implementation, policy translation, and community impact evaluation. This structure ensures that conceptual development, empirical research, technology, and policy translation advance in synergy.

The critical mass of the network is defined not only by the number of participating institutions but also by their diversity and complementarity. Academic partners contribute to methodological innovation and scientific rigour. Cooperation with Health and sports organisations provides access to real-world intervention contexts. Collaboration with Local authorities and NGOs facilitates implementation, outreach, and evaluation. Together, these collaborations form a multi-sectoral ecosystem capable of bridging research, practice, and policy essential for addressing the societal dimensions of health promotion and inclusion. The Action follows a coordination model that combines central governance with regional flexibility. Each Working Group functions as a "hub" connecting thematic nodes of national expertise, ensuring balanced participation and efficient knowledge transfer.

If not yet fully achieved at the proposal stage, INTEGRAPA includes a clear and credible plan to expand the network during the first two years:

- Mapping and Targeted Recruitment (1. year): Identify gaps in disciplinary and sectoral representation and invite experts from under-represented fields such as behavioural economics, gerontology, and technology ethics.
- Strategic Expansion (2. year): Engage new partners from industry, local authorities, and community organisations to strengthen the practical impact of the research.
- Consolidation and Long-Term Sustainability (3. and 4. year): Institutionalise partnerships through joint research proposals (e.g. Horizon Europe) and create an open-access repository of interdisciplinary resources.

The Action will use collaborative online platforms for shared research design, data management, and communication, ensuring transparent governance and ongoing engagement.

Meaningful engagement is ensured through co-creation and shared responsibility:

- Joint research protocols and shared deliverables guarantee that members contribute substantively to the results.
- Annual synergy meetings and interdisciplinary workshops promote methodological coherence and innovation.
- Transparent evaluation metrics (e.g. co-authorships, participation reports, task outputs) ensure accountability and recognition.

Through these mechanisms, the Action fosters a cohesive community capable of tackling the epistemological, methodological, and technological challenges of integrative physical activity research. The INTEGRAPA network combines the critical mass, interdisciplinary range, and functional structure required to address the main challenge — advancing integrative recreational physical activities for health and wellbeing across the lifespan. Its diversity, governance model, and credible growth plan ensure both scientific excellence and practical impact. By fostering collaboration across health sciences, social research, technology, and policy, the Action will create a sustainable European platform for innovation and knowledge integration.

## 2. IMPACT

### A. Impact related to objectives

INTEGRAPA Action aims to generate scientific, societal, and policy impacts by promoting coordinated, inclusive, and innovative approaches to physical activity and wellbeing in Europe. INTEGRAPA will advance interdisciplinary research by integrating knowledge from sport science, psychology, education, health promotion, digital, and social innovation. The Action will develop shared methodologies and data standards, improving the comparability and quality of evidence throughout Europe.

It will also promote methodological innovation by harmonising data collection and fostering open-access data sharing. This collaboration will establish a European benchmark for integrative research on recreational physical activity and will support future transnational initiatives.

Short-term impact: creation of interdisciplinary research tools and networks.

Medium-term impact: co-authored scientific publications and harmonised data frameworks.

Long-term impact: establishment of a European research paradigm for integrative recreational physical activity, integrative health, and wellness.

The Action addresses key challenges related to physical inactivity, social exclusion, and health inequalities. The Action co-creates community-based, inclusive interventions promoting physical activity across the lifespan, particularly for vulnerable populations.

Through participation in local authorities, NGOs and EU agencies, INTEGRAPA will produce evidence-based policy recommendations aligned with EU health, inclusion and sustainability goals. Participatory approaches will empower communities, enhance social cohesion, and ensure that interventions are culturally and contextually relevant.

Short-term impact: increased public awareness and engagement.

Medium-term impact: integration of INTEGRAPA outputs into local and national health policies.

Long-term impact: measurable improvement in physical activity levels, inclusion, and wellbeing. INTEGRAPA will strengthen European research capacity through training schools, short-term scientific missions, and joint workshops that connect researchers from diverse disciplines and regions. An open-access digital platform will host methodologies, case studies, and policy briefs, ensuring long-term accessibility and collaboration.

By coordinating fragmented research efforts, the Action will create a sustainable, transdisciplinary network that continues beyond the COST framework, reinforcing Europe's leadership in inclusive health and wellbeing research.

### B. Involvement of stakeholders

INTEGRAPA Action will actively engage a diverse range of stakeholders to ensure relevance, effectiveness, and sustainability. Beneficiaries and end-users will be directly involved through surveys, focus groups, and participatory workshops, providing essential feedback to shape the Action's activities

and outcomes. Local authorities and policymakers will be involved through consultation meetings and co-design sessions, lending regulatory support, legitimacy, and facilitating implementation integrative recreational physical activity programs. Non-governmental organisations and civil society actors will participate as partners in outreach, technical input, and joint activities, leveraging their networks and expertise. The private sector and industry partners will contribute resources, technical expertise and innovative solutions through formal agreements and collaborative initiatives. Finally, academic and research institutions will support evidence-based evaluation, methodological guidance, and impact assessment of the integrative recreational physical activity programs. Each stakeholder brings unique added value, including expertise, credibility, networks, and practical insights, while potential challenges such as differing priorities, limited capacity, or engagement barriers will be addressed through regular communication, tailored engagement strategies, and co-creation approaches to foster sustained participation and mutual benefit throughout the project.

### C. Communication, dissemination and valorisation

The INTEGRAPA Action will implement a comprehensive communication and dissemination strategy to ensure that its results reach and engage all relevant audiences - the research community, policymakers, practitioners, civil society, and industry. The plan aligns with COST's Open Science and knowledge - sharing principles, focusing on transparency, accessibility, and impact.

Communication, dissemination, and valorisation activities will operate on three interconnected levels:

- 1) Scientific dissemination: sharing research outputs and methodologies.
- 2) Policy dialogue – informing evidence-based decision-making.
- 3) Societal engagement – translating results into accessible, community-level benefits.

Communication activities will enhance visibility and engagement throughout the Action's lifecycle. A dedicated website and social media channels will serve as open-access portals for updates, event announcements, and resources. Regular newsletters, press releases, and digital storytelling campaigns will highlight achievements, training opportunities, and success stories. A visual identity and communication toolkit (logos, templates, infographics) will ensure consistent and professional outreach across partners. Hybrid events will facilitate participation from Inclusiveness Target Countries and non-academic stakeholders.

Scientific dissemination will focus on peer-reviewed publications, open-access repositories, and conference presentations. Joint publications will target leading journals in health promotion, sport science, and social inclusion. Open-access datasets and methodological toolkits will be hosted on the Action's platform, promoting replicability and transparency. Training and summer schools and workshops will build research capacity and encourage interdisciplinary collaboration.

To ensure policy impact, the Action will:

- Produce evidence summaries tailored to EU, national, and local decision-makers.
- Organize policy dialogues with representatives from WHO Europe, and national ministries of health and education.
- Develop practitioners' community guidelines and best-practice toolkits for NGOs, municipalities, and educational institutions to implement integrative physical activity programs.
- Partner with media outlets and civil society organizations to raise awareness of the role of integrative recreational physical activities in health, inclusion, and wellbeing.

The Action will promote the valorisation of results through collaboration with policymakers, practitioners, and technology partners.

- Exploitation plan: Openly shared frameworks, data standards, and digital tools will be adaptable for use in policy design, education, and community health initiatives.
- Intellectual Property Rights (IPR): All outputs will adhere to COST's Open Access policy; any co-developed tools or software will use permissive licenses.
- Long-term sustainability: The network will continue as a self-sustaining platform and may evolve into a European Observatory on Integrative Recreational Physical Activity.

Target Audiences: scientific community - researchers, universities, and networks in sport, health, and social sciences; policy makers: EU and national agencies, local governments, public health authorities; civil society and practitioners - NGOs, educators, coaches, and community organizers; industry and innovation sector: technology developers, fitness and wellness enterprises supporting digital health and social innovation solutions.

### 3. IMPLEMENTATION

#### A. Action Structure

The management structure goes beyond the mandatory COST roles to enhance coordination and impact. The Management Committee oversees strategic direction and resource allocation, while WG Leaders coordinate activities within each group, ensuring timely progress. The Action Chair provides overall leadership, supported by a Vice Chair who ensures continuity and facilitates inter-WG collaboration. The Science Communication Coordinator manages outreach, stakeholder engagement, and dissemination of results, amplifying the Action's visibility. The Grant Awarding Coordinator ensures efficient use of resources and compliance with COST funding regulations. This structure is designed to foster collaboration, streamline decision-making, and ensure that each WG effectively addresses its component of the main challenge, collectively achieving the Action's objectives.

- **WG1: Integrative Recreative Physical Activity Measurement, Assessment, Methodological Approaches and Interdisciplinary Collaboration.** *Objective:* to establish robust, standardized, and integrative approaches to measuring and assessing integrative recreative physical activity (developing reliable methodologies that capture the multidimensional aspects of integrative recreative physical activity, fostering interdisciplinary collaboration among experts from exercise science, public health, psychology, data science, and related fields, and creating frameworks for harmonized data collection and analysis across different populations and settings). *Tasks:* 1) compile and critically evaluate existing assessment tools and measurement approaches for integrative recreative physical activity; 2) design and validate new or improved assessment tools that are integrative, reliable, and adaptable across disciplines and populations; 3) facilitate workshops, seminars, and collaborative platforms for experts from various disciplines to co-create and refine methodological approaches; 4) develop standardized protocols and guidelines to ensure consistent data collection, analysis, and reporting across studies and countries; 5) train stakeholders and researchers in using these methods and promote best practices through publications, workshops, summer schools and international conferences.

By developing standardized and integrative measurement approaches, WG1 addresses the challenge of inconsistent or fragmented data on integrative recreative physical activity. Its work ensures that subsequent Working Groups have high-quality, comparable data for intervention design, implementation, and evaluation, directly supporting the Action's overarching goal of advancing evidence-based, effective strategies for promoting integrative recreational physical activity across diverse populations.

- **WG2: Integrative Recreative Physical Activity promotion and Translation Research into Practice: Policies and Practices.** *Objective:* to develop evidence-based interventions, facilitate adoption in diverse community and policy contexts, and bridge the gap between scientific knowledge and real-world implementation. *Tasks:* 1) review and analyse existing policies and programs to identify opportunities and barriers for promoting integrative recreative physical activity; 2) design evidence-based, scalable interventions tailored to specific populations, contexts, and settings; 3) engage policymakers, local authorities, NGOs, and practitioners to co-create solutions and ensure alignment with community needs; 4) test interventions in real-world settings to assess feasibility, acceptability, and preliminary effectiveness; 5) develop guidelines, toolkits, and implementation frameworks to support the adoption of interventions in policy and practice; 6) monitor outcomes and gather stakeholder feedback to refine policies and interventions continuously.

WG2 directly addresses the challenge of moving from measurement and evidence generation to practical application, ensuring that interventions are not only scientifically sound but also contextually appropriate and sustainable. By integrating research into policy and practice, WG2 enhances the impact of the Action, promotes behavioural change, and supports the development of long-term, evidence-based strategies for increasing recreative physical activity across populations.

- **WG3: Innovative Integrative Recreative Physical Activity Program Development, Design and Implementation.** *Objectives:* 1) to translate research and evidence from WG1 and WG2 into engaging, effective, and context-specific programs that promote sustained participation across

diverse populations; 2) to develop programs that integrate behavioural, social, and environmental approaches while fostering inclusivity, accessibility, and sustainability. *Tasks:* 1) design innovative and evidence-based integrative recreative physical activity programs informed by findings from WG1 (measurement and assessment) and WG2 (policy and practice translation); 2) develop detailed program protocols, materials, and activity plans tailored to different populations and community contexts; 3) pilot programs in selected communities or institutions, ensuring proper adaptation to local needs and resources; 4) collect data on participation, engagement, and outcomes; refine programs iteratively to enhance effectiveness and scalability; 5) collaborate with local authorities, NGOs, schools, and community organizations to facilitate program adoption and sustainability; 6) create toolkits, guidelines, and best practice frameworks to support replication and scaling in other settings.

WG3 directly addresses the challenge of limited practical application of evidence-based integrative recreational physical activity strategies. By developing and implementing innovative programs, WG3 ensures that research insights are translated into tangible, high-impact interventions. Its work supports the Action's overall objectives by fostering participation, promoting health, and providing scalable models that can inform policy and community practice.

- **WG4: Integrative Recreative Physical Activity, Wellbeing and Enhancement of Inclusiveness and Equity: Cultural and Epistemological Differences.** *Objective:* to identify and address barriers related to cultural, social, and epistemological differences, integrate diverse perspectives into program design and implementation, and evaluate the impact of interventions on wellbeing across heterogeneous populations. *Tasks:* 1) analyse cultural, social, and epistemological factors influencing participation in recreative physical activity; 2) develop frameworks and guidelines to ensure programs are accessible and equitable for all population groups, including marginalized or underserved communities; 3) collaborate with WG3 to incorporate inclusive practices and culturally sensitive approaches into program development and implementation; 4) design and implement measures to evaluate the effects of physical activity programs on physical, mental, and social wellbeing across diverse populations; 5) involve communities, local authorities, NGOs, and cultural experts in the co-creation of interventions and program adaptations; 6) track outcomes related to inclusiveness, equity, and wellbeing, and share best practices and lessons learned with all stakeholders to inform policy and practice.

WG4 addresses the challenge of inequitable access and engagement in integrative recreative physical activity, ensuring that interventions are relevant, respectful, and effective across cultural and social contexts. By integrating inclusiveness, equity, and wellbeing into program design and evaluation, WG4 strengthens the overall impact of the Action, promotes social cohesion, and ensures that outcomes benefit diverse communities while supporting the Action's overarching objectives.

- **WG5: Social media, AI impact to Integrative Recreative Physical Activity promotion and dissemination.** *Objectives:* to evaluate the effectiveness of digital platforms in engaging diverse audiences, develop AI-driven strategies for personalized promotion, and ensure that research findings, programs, and best practices reach relevant stakeholders efficiently. *Tasks:* 1) examine existing social media platforms, digital tools, and AI technologies used in physical activity promotion; 2) design digital campaigns and AI-based approaches for targeted, personalized, and scalable promotion of integrative recreative physical activity programs; 3) deploy social media campaigns or apps or AI recommendation systems to enhance engagement and participation; 4) track reach, engagement, and behavioural impact of digital initiatives, using data analytics and AI - driven insights; 5) facilitate rapid sharing of research findings, program guidelines, and best practices through digital channels to reach researchers, policymakers, practitioners, and the public; 6) ensure ethical use of AI and data privacy compliance in all digital interventions and dissemination efforts.

WG5 addresses the challenge of reaching diverse populations effectively and ensuring wide uptake of evidence-based integrative recreative physical activity initiatives. By integrating social media and AI-driven approaches, WG5 enhances communication, engagement, and dissemination, amplifying the impact of the Action, promoting sustained participation, and bridging the gap between research, practice, and public awareness.

## **B. Work plan (tasks, activities and timeframe)**

The proposed Action will be implemented through a coordinated and phased work plan designed to address the main challenge and ensure the achievement of its scientific, practical, and societal objectives. The Action's activities are structured around five interrelated Working Groups (WGs), each contributing distinct expertise and outputs to the overall goal of advancing integrative recreative physical activity promotion, inclusiveness, and wellbeing. The work plan spans four years, with sequential and overlapping activities to ensure coherence, integration, and timely delivery of outputs. Each phase includes clear tasks, milestones, and deliverables, complemented by continuous monitoring, evaluation, and stakeholder engagement.

**Phase 1: Preparation and Framework Development (Months 1–6):** Establish the foundational structure, methodologies, and coordination mechanisms.

**Key Tasks and Activities:** a) Launch Management Committee and Working Groups; define roles and collaboration tools; b) Conduct stakeholder mapping and needs assessment (WG1, WG2); c) Review and consolidate existing methodologies, policies, and practices related to recreative physical activity (WG1, WG2); d) Establish ethical, inclusiveness, and data management frameworks (WG4); Develop a preliminary communication and dissemination plan (WG5).

**Milestones:**

M1.1: Inception meeting and operational framework established (Month 2).

M1.2: Stakeholder mapping and baseline assessment completed (Month 6).

**Phase 2: Methodological Development and Integration (Months 7–18):** Develop standardized methodologies, assessment tools, and conceptual frameworks to guide subsequent phases.

**Key Tasks and Activities:** a) Design and validate integrated measurement and assessment tools (WG1); b) Identify and analyse existing policy frameworks for physical activity promotion (WG2); c) Develop inclusive and equity-based guidelines for program design (WG4); d) Prepare digital and AI-based communication strategies (WG5).

**Milestones:**

M2.1: Methodological framework and assessment tools finalized (Month 12).

M2.2: Policy and inclusiveness frameworks approved by Management Committee (Month 18).

**Phase 3: Program Design, Piloting, and Implementation (Months 19–36):** Transform research insights into practical, evidence-based programs and interventions.

**Key Tasks and Activities:** a) Co-create and design innovative physical activity programs (WG3); b) Pilot test selected interventions in multiple settings (WG2, WG3); c) Integrate cultural and inclusiveness adaptations (WG4); d) Implement social media and AI-driven outreach strategies (WG5); e) Conduct mid-term evaluation and refinement of interventions (WG4).

**Milestones:**

M3.1: Pilot programs launched (Month 24).

M3.2: Interim evaluation and optimization completed (Month 30).

**Phase 4: Evaluation, Dissemination, and Sustainability (Months 37–48):** Evaluate outcomes, disseminate results, and ensure sustainability beyond the Action's duration.

**Key Tasks and Activities:** a) Conduct impact assessments on wellbeing, inclusiveness, and engagement (WG4); d) Finalize dissemination materials, publications, and policy briefs (WG5); e) Organize final Action conference and stakeholder roundtables; f) Develop sustainability and scaling-up roadmap (all WGs).

**Milestones:**

M4.1: Final evaluation report completed (Month 42).

M4.2: Final dissemination conference and policy recommendations delivered (Month 48).

## **C. Deliverables**

The proposed Action will generate a series of tangible deliverables that demonstrate progress toward its objectives, ensure transparency, and support the translation of scientific knowledge into practice. These deliverables encompass methodological outputs, policy and practice resources, training content, digital dissemination materials, and scholarly publications. The deliverables are organized across the Action's implementation phases and linked to the specific Working Groups (WGs) responsible for their achievement.

<b>Timeframe (Month)</b>	<b>Deliverable Title</b>	<b>Description of the Output</b>	<b>Lead WG(s)</b>
M1–M6	D1.1 – Comprehensive Review Report on Recreative Physical Activity Measurement and Assessment (publication)	A consolidated report summarizing existing methodologies, gaps, and recommendations for standardizing recreational physical activity measurement.	WG1
M6–M9	D1.2 – Harmonized Methodological Framework and Toolkit	Development of standardized assessment protocols, tools, and data collection guidelines for cross-national application.	WG1
M6–M12	D2.1 – Policy Mapping Report and Gap Analysis	Analytical document identifying key policy frameworks, opportunities, and barriers for integrating recreational physical activity promotion into policy agendas.	WG2
M9–M15	D2.2 – Evidence-Based Policy and Practice Guidelines	Publication of recommendations and actionable guidelines to support policymakers and practitioners in implementing research-based interventions.	WG2
M12–M18	D3.1 – Program Design Manual and Implementation Protocols	Detailed manual for developing and piloting innovative recreational physical activity programs, adaptable across contexts.	WG3
M15–M24	D3.2 – Pilot Program Evaluation Report (publication)	Analysis and documentation of pilot program outcomes, including engagement metrics, participant feedback, and recommendations for scaling.	WG3 & WG4
M18–M24	D4.1 – Inclusiveness and Equity Framework	Practical framework ensuring accessibility, cultural sensitivity, and equitable participation in physical activity programs.	WG4
M21–M30	D4.2 – Wellbeing Impact Assessment Report (publication)	Empirical evaluation of the impact of recreational physical activity programs on wellbeing indicators (physical, mental, and social).	WG4
M12–M30	D5.1 – AI-Based Dissemination and Communication Strategy	A strategic plan outlining the use of social media and AI tools for promoting, engaging, and disseminating project outcomes.	WG5
M18–M36	D5.2 – Digital Communication Toolkit and Knowledge Repository	Online repository including communication materials, infographics, social media content, and multimedia assets for knowledge dissemination.	WG5
M36–M48	D6.1 – Final Synthesis Report and Policy Briefs	Integrated report summarizing results from all WGs, with policy briefs and recommendations for long-term implementation.	All WGs (coordinated by Action Chair & MC)
M48	D6.2 – Open-Access Publications and Best Practice Compendium	Final collection of scientific publications, white papers, and best practices derived from the Action's findings.	All WGs

#### D. Gantt chart

Event	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4
Kick-off meeting	X															
MC meeting	X		X		X		X		X		X					
CG meeting	X				X				X			X				
WG1 meeting/ Seminars	X				X				X				X			
WG2 meeting/ Seminars	X				X				X				X			
WG3 meeting/ Seminars	X				X				X				X			
WG4 meeting/ Seminars	X				X				X				X			
WG5 meeting/ Seminars	X				X				X				X			
Training Session		X				X				X				X		
Short Scientific Missions			X	X	X	X	X	X	X	X	X	X	X	X		
International Conference			X	X			X	X				X	X		X	X
Summer schools					X				X				X			
Publication of integrative recreation physical activity measurement																X
Peer reviewed publications						X				X				X		
Systematic review article				X												
Workshops	X				X				X			X				

Policy																	X
Recommendations document																	
Handbook for practitioners' community																	X
Website/ updates/ news	X		X		X		X		X		X		X				