

This tool is a smart guide that helps individuals change their behaviour to reduce BC risk, following the COM-B framework, which builds on:

- **Capabilities:** The Virtual Coach gives personalised recommendations to help participants build the skills they need for a healthier lifestyle;
- **Opportunities:** The Virtual Coach suggests alternatives in terms of healthy food, drinking choices and better eating habits;
- **Motivation:** The Virtual Coach identifies what motivates each person by raising awareness about breast cancer risks linked to behaviour.

Expected Impact:

The MELIORA project aims not only to mitigate the risks but also to enhance breast cancer outcomes through sustainable behavioural changes. MELIORA engages a diverse category of stakeholders, including healthcare providers, healthy women at risk, patients, survivors, caregivers, and policymakers leveraging the power of digital tools. To do so, the MELIORA project acknowledges the pressing need for comprehensive interventions to address gaps in breast cancer care. The impact of MELIORA is characterised by the development of tailored assessments to measure the efficacy, acceptability, feasibility, cost-effectiveness, and scalability of its interventions. MELIORA adopts digital tools and the involvement of all the main actors at different levels to develop tailored behavioural interventions leading to sustainable behavioural changes and trustworthy and explainable models.

Consortium Partners:



MELIORA

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State-of-the-art and challenges:

Breast Cancer stands as the most frequently diagnosed cancer in women, making it the leading cause of global cancer incidence. In 2020 alone, breast cancer emerged as the most frequently diagnosed cancer in women worldwide, it amounted to 11.7%. By 2040, the number of newly diagnosed breast cancer is projected to grow by over 40%.

Over the past three decades, observational studies have highlighted how a good percentage of breast cancer cases can be linked to modifiable risk factors, presenting a window of opportunity for prevention. Factors such as excess body weight, physical inactivity, and alcohol intake are identified as key contributors. Adhering to a healthy and physically active lifestyle, maintaining a normal weight, and limiting alcohol consumption, are crucial steps in mitigating the risk of developing breast cancer and improving post-diagnosis outcomes.

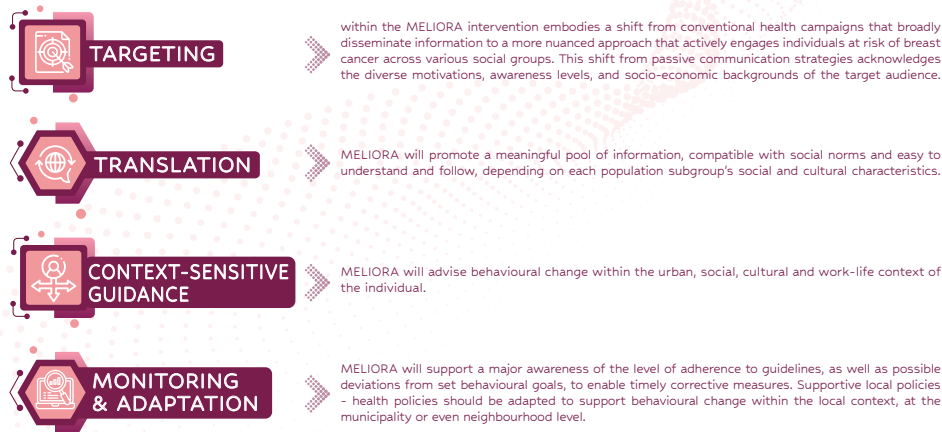
Despite established nutrition guidelines for breast cancer prevention exist, and although evidence suggests reduced cancer risk and enhanced survival rates with greater adherence, there is a significant gap in engaging people in preventive behaviours. Studies indicate poor awareness and confidence in cancer prevention skills.

Many cancer risk behaviours are formed early in life and persist into adulthood. Efforts towards cancer prevention, encompassing nutrition, physical activity, and broader behavioural changes, encounter significant barriers. These challenges span various dimensions, including awareness of recommendations, the possibility of having access to healthy food, the ability to perform physical activity, and having adequate health knowledge of the risks and opportunities.

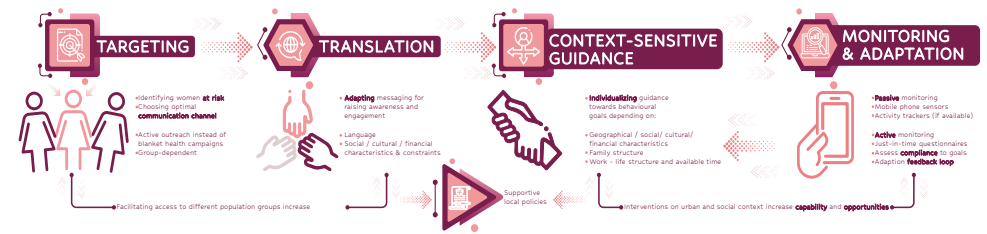
Mission and Vision:

MELIORA, an EU-funded initiative, is dedicated to transforming breast cancer risk reduction through innovative strategies. Focused on Multimodal Engagement and sustainable Lifestyle Interventions optimised by Artificial Intelligence, MELIORA aims to bring about effective and cost-efficient behavioural changes to significantly reduce the risk of breast cancer. In line with the nutritional guidelines, MELIORA's vision is to encourage adherence to healthier sustainable lifestyles by addressing barriers such as lack of awareness, skills (such as digital and health literacy) and socio-demographic factors.

MELIORA will promote sustainable behavioural change in women towards reducing breast cancer risk by developing and implementing a novel intervention addressing five barriers:



MELIORA will develop specifically tailored studies spanning six piloting centres, encompassing both urban and rural areas and engaging 2080 participants from three different groups: healthy women at risk of breast cancer and their families, breast cancer patients, and breast cancer survivors in four European countries: Greece, Lithuania, Spain, and Sweden. MELIORA studies will accompany patients and survivors throughout the cancer treatment fostering the improvement of behavioural lifestyles.



Our values:

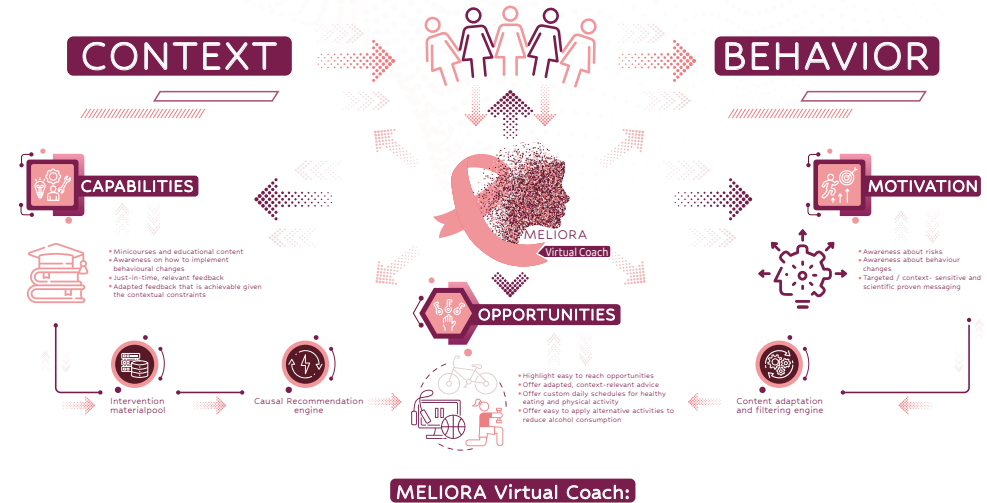
- Inclusivity
- Innovation
- Awareness
- Patient-centred approach

Approach and Methods:

MELIORA employs a holistic approach to address the multifaceted challenges posed by breast cancer. Intervention material will be implemented in real-world settings through various studies targeted at diverse social groups. Particularly, these intervention studies will evaluate nutritional, physical, and alcohol consumption improvements fostering sustainable behaviour change.

MELIORA will strategically leverage cutting-edge digital tools to provide a tailored and interactive user experience enhancing engagement and efficacy. This approach will promote a constructive shift in health-related behaviours across diverse health contexts.

The core point for maintaining participant engagement and facilitating interventions is the Virtual Coach.



In the context of this project, the MELIORA Virtual Coach will be developed to keep participants engaged and guided. Initial behavioural assessment sessions will be conducted (including daily and weekly reporting of key behavioural parameters i.e. dietary behaviours, alcohol consumption, physical activity and sedentary behaviours) using the Virtual Coach. Afterward, participants will receive a mix of information materials, personalised guidance, and feedback.