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### PROJECT SPEC SHEET (EN)

## SmILE – SMART IMPLANTS FOR LIFE ENRICHMENT

#### Project n°:

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#### Project Overview

Non-Communicable Diseases (NCDs), e.g., osteoporosis, osteoarthritis, joint & ligament wear, frailty fractures, and associated complications in the elderly, are a severe threat, frequently leading to a permanent decline of the patient's general health and autonomy. NCD prevention is highly relevant to reducing the need for long-term care. The economic burden is expected to increase by 65% from 2020 to 2040, with a strong negative impact on patients' quality of life. SmILE will provide a cross-sectoral, early risk detection methodology by holistic analysis of elderly patients' health data. Co-creation with end-users and consideration of diverse needs, mental and physical abilities, living and socio-economic conditions, as well as the life situation of older people, are implemented. This includes training and an enhanced stream of information to patients and other stakeholders. It will offer an AI-based patient analysis, incl. integration of smart wearables and medical devices, incl. implants, to support monitoring of general health status. Our approach will disrupt the cycle of frailty by minimizing physical decline and the risk of re-fractures. To enhance the AI functions, new data sources will be established by instrumenting medical devices, mainly implants, to augment them into monitoring and actively

supporting devices. SMILE will: (1) develop an integrated platform to collect, centralize, manage, analyze and share multimorbid geriatric patient data using technology such as AI & machine learning; (2) establish a pan-European bottom-up model of good governance of health data being patient-centered and patient-controlled in line with current regulations; and (3) establish a solution driven by the needs of citizens and patients of old age. SMILE will establish a new approach to outcome monitoring, providing patient-centered, personalized, and integrated treatment for elderly NCD patients to improve quality of life, enable real empowerment, and alleviate the financial burden in an aging society.



Countries: Germany, Portugal, Sweden, Czechia, Spain, Croatia, Belgium, Luxembourg, Austria, Italy, Switzerland.

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## Photos, videos and other dissemination materials

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Website: <https://www.horizon-smile.eu/>

