

The European Project SMILING: Self Mobility Improvement in the Elderly by counteracting falls

F. Marcellini¹, M. Bulgheroni², S. Bar-Haim³, I. Melzer⁴, C. Bula⁵, D. Carus⁶, L. Chiari⁷, D. Šimšik⁸, J. Penders⁹, K. Aminian¹⁰, P. Pavlov¹¹

¹INRCA: Italian National Institute on Ageing, Italy

²ABACUS: Ab.Acus Srl, Italy

³SOM: Step of Mind, Israel

⁴MISHAN: Mishan, Israel

⁵CHUV: Centre Hospitalier Universitaire Vaudois, Switzerland

⁶BDM-USTRAITH: Strathclyde University, United Kingdom

⁷UNIBO: Alma Mater Studiorum, University of Bologna, Dept. of Electronics, Computer Sciences and Systems

⁸TUKE: Technical University of Košice, Slovakia

⁹IMEC-NL: STICHTING IMEC-NL, The Netherlands

¹⁰EPFL: Ecole Polytechnique Fédérale de Lausanne, Switzerland

¹¹GCKOSICE: Geriatric Centre of St. Lucas in Kosice, Slovakia

Introduction. The European project SMILING (FP7, ICT, GA 215493, EC funded 2.250.000) started on 1st January 2008. Eleven research centers, universities and companies of 5 European countries (IT, CH, UK, NL, SK,) and Israel are involved in it. The SMILING project aims to counteract falls in old age. On the basis of the chaos theory, SMILING will develop a wearable computer-controlled device.

Materials and methods. Prototypes of the system were built to be validated in 4 European countries (IT, NL, CH, SK). The study design, a randomized controlled cross-over trial, is carried on about 96 elderly: the subjects, divided into two groups, will perform 8 weeks of training, 4 with SMILING system in activity and 4 with SMILING system not working, as control. The progress is evaluated 3 times, through questionnaires on physical-psychological functioning, acceptance of technology and gait analysis parameters. **Results.** Currently, the validation is running. The results are about the recruited subjects in Israel (27) and Italy (27). Those subjects matched these criteria: age \geq 65 years, ability to walk at least 20 meters independently, one or more falls in the previous year, no visual and hearing impairments, Tinetti's POMA score between 22-26, positive evaluation at Codex examination, 4-items Geriatric Depression Scale score = 0. The baseline results of the Israeli and Italian elderly are on the following tests: POMA, Narrow-base walking test, Short Physical Performance Battery, Home safety check-list, SF-12, Falls Efficacy Scale International, 6-Minute Walking Test. **Conclusion.** The SMILING validation is running. It is expected to validate the system from the technological and clinical side.

References

For information on the SMILING project and references: www.smiling-project.eu.

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