

OUTPUT FACT SHEET

Tools

Version 2

Project index number and acronym	CE1581 niCE-life
Output number and title	Output O.T3.3
Responsible partner (PP name and number)	STU PP4
Project website	https://www.interreg-central.eu/Content.Node/niCE-life.html
Delivery date	31/01/2022

Summary description of the key features of the tool (developed and/or implemented) and of its transnational added value

AP-NURSE is a simple and modular monitoring tool designed for patients suffering from Alzheimer's and Parkinson's disease for home and medical application encompassing ambient sensors, which can monitor activity patterns, gas, temperature and other aspects. Its aim is to simplify the work of caregivers or nurses by monitoring basic interactions of the patient with the environment during night or job duties and provide fast alert about possible dangers and support independent living of frail elderly.

The main goal of the tool is to increase the quality of the caregiving services by utilizing smart assistance. Monitoring of the patient's living environment may minimize the consequences of harmful events by fast notification of the caregiving personnel, can provide continual data for a health progress evaluation and may decrease the level of stress of the caregiving personnel.

The AP-NURSE monitoring tool was designed by the Slovak University of Technology in Bratislava (hereinafter STU or PP4) in WP T2 based on the needs of caregivers and patients collected in WP T1. The pilot testing was held in the Social Care Home (SCH), a part of the Alzheimer's Centre located in Warsaw, Poland. The Alzheimer's Centre has been operating in its current form since 1 June 2011.

In the centre the AP1, AP2, AP4 and AP6 version of AP-NURSE were installed involving all platforms, i.e. AP-NURSE HOME, AP-NURSE CARE M5stack and AP-NURSE CARE Waspote.

NUTS region(s) where the tool has been developed and/or implemented (relevant NUTS level)

The AP-NURSE tool has been primarily developed at the Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and Information Technology (SK010 NUTS level 3).

The tool was tested and implemented in Social Home Center in Warsaw (PL127 NUTS level 3).

Expected impact and benefits of the tool for the concerned territories and target groups

The expected benefits resulting from applying the tool are explained by the conclusion from testing.

The participation of STU team in the Interreg niCE-life project stimulated the technical development which has brought the relevant results able to improve the quality of life of the elderly vulnerable population.

Based on the feedback from caregivers:

- The system passed the acceptance indicator.
- The AP-NURSE system passed also the usability indicator.
- The AP1-W and AP4-W devices are reliable, the AP1-H and AP1-M devices have limited performance and the AP2-M, AP4-M, AP4-W and AP6-H versions are not reliable.
- The AP1 and AP4 platforms have a very good rate of false alarms, below 2 %, therefore these versions passed the accuracy indicator. The AP2 versions failed the accuracy indicator.
- The AP1 and AP4 versions of the AP-NURSE system passed also the applicability indicator.

Till these days the development of the tool did not lead to an uptake at policy or institutional level.

Sustainability of the tool and its transferability to other territories and stakeholders

The devices, used in the pilot testing, are still operated at the implemented centers together with the necessary software. Due to the unallocated funds available after the project end, the possible repairs or maintenance of the equipment in case of failure will be not available. However, if the acquired experience from the testing is positive, future projects may be proposed willing to bring advanced AP-NURSE tools to the market thus allowing their use in other EU territories. The results from pilot testing will be publicly accessible, thus may significantly contribute to the development of such devices by other research and technical groups worldwide. Lessons learned from the development are mainly related to the different insights of technicians and care-giving personnel to the functionality of the tool under development, crisis management of tool development activities during pandemic and overall understanding of needs of frail elderly.

**References to relevant deliverables and web-links
If applicable, pictures or images to be provided as annex**

The summary of the pilot action in D.T3.4.6, summaries the procedure and results of the whole testing procedure of AP-NURSE devices in Social Care Home Warsaw, as part of Output O.T3.3 - Pilot testing of AP-NURSE - persons suffering from Alzheimer´s disease in Social Care Home in Warsaw”. It starts with the findings of D.T3.4.1 - design of the pilot action and continues with parts from D.T3.4.2 - Engagement of test persons and consideration of legal aspects, D.T3.4.3 - Briefing and training of test persons, home care givers and nurses and D.T3.4.4 - Installation and testing of technical devices and applications. In the last technical part of this report, the findings of D.T3.4.5 - Collection and analysis of data from test and support persons. The conclusion of this report serves also as a conclusion of the whole pilot.