ANNEX A

PUBLIC SELECTION BASED ON QUALIFICATIONS AND INTERVIEW FOR THE AWARDING OF NO. 1 EARLY STAGE GRANT LASTING 12 MONTHS FOR CONDUCTING RESEARCH PURSUANT TO ART. 22 OF LAW NO. 240/2010 AT THE DEPARTMENT OF MANAGEMENT, ECONOMICS AND QUANTITATIVE METHODS (SC 09/G1 SYSTEMS AND CONTROL ENGINEERING SSD ING-INF/04 - SYSTEMS AND CONTROL ENGINEERING) TYPE B – CUP: E18B17000060009

announced with decree of the Rector Rep. no. 514/2018 of 26.07.2018 and posted on the official registry of the University on 26.07.2018

RESEARCH PROJECT

Development of technologies for the creation of a system for monitoring the elderly in the domestic environment

Research structure: Department of Management, economics and quantitative methods

Duration of the grant: 12 months

Scientific Area: 09 - Industrial and information engineering

Academic recruitment field: 09/G1 - Systems and control engineering

Academic discipline: ING-INF/04 - Systems and control engineering

Scientific Director: Prof. Fabio Previdi

The research project scheme is the following:

1) Analysis of the Requirements of the "Active Age" Scenario and Specification Definition.

In this activity we will analyze the scenario called "Active Age" which involves the development of products and services to be installed in the elderly home, in particular in the bedroom. The requirements of the products / services will be defined and a specification document will be drawn up which will be the main result of this activity.

2) Home automation communication.

Based on the results of the definition-setting activity, various home automation technologies on the market such as Nest and MyHome will be integrated into the project. Depending on the choice of protocols and standards (Z-Wawe, ZigBee, IFTTT, Lutron Clear Connect, Kidde, Bluetooth), the corresponding communication interfaces will be implemented. At the end of the activity, the list of devices on the integrated market with Smart Living 4 technology will be made available.

3) Development of Artificial Intelligence Algorithms for Data Interpretation.

Algorithms will be implemented that, observing the behaviors of caregivers, based on the parameters detected by biometric and environmental sensors, will control the Home Automation systems by sending operational signals.