



D1.11 Open Data Research Pilot (ODRP)

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Executive Summary

The Open Research Data Pilot initiated by the European Commission aims to facilitate open access and reuse of research data produced within Horizon 2020 projects.

The e-VITA project has followed this path and provides open research data to the scientific community via www.zenodo.org. Each dataset contains an own DOI, so that the datasets can be searched, and are findable by researchers in the EU and Japan, and worldwide.

All datasets in the e-VITA ODRP repository are from sensors (indoor, outdoor) as well as from standardized assessments during the proof of concept study of the project. This study included 140 participants from Germany, France; Italy and Japan.

The repository also includes some publications (white paper and policy briefs), but all other publications of the project are made OA by other means, e.g. gold open access in journals and green open access repositories from the partners.

1 Introduction

The Open Research Data Pilot initiated by the European Commission aims to facilitate open access and reuse of research data produced within Horizon 2020 projects.¹ The Pilot encompasses two main components: the development of a Data Management Plan and the provision of open access to research data.

In the context of the e-VITA project the current deliverable describes how the data generated in the e-VITA project has been made available in an open access data repository. The Data Management Plan is described in deliverable D1.14.

The datasets generated by the e-VITA project have been deposited in the Zenodo repository.² Zenodo is an OpenAIRE³ and CERN collaboration that allows researchers to deposit publications and data and provides tools to link them through persistent identifiers and data citations (www.zenodo.org).

¹ https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/oa-pilot/h2020-infograph-open-research-data_en.pdf

² <https://zenodo.org/>

³ <https://www.openaire.eu/>

2 Data Summary and e-VITA Project Objectives

2.1 Overall objectives of the e-VITA project

The following are the objectives defined for the e-VITA project. The data management plan and the open data research pilot are based on these objectives:

Objective 1: Develop a set of standards and norms for interoperability of advanced IoT, NLP and AI based smart living technology in Europe and Japan.

Objective 2: Develop an advanced intercultural virtual coach with seamless integration of smart living technologies, advanced AI and tailored dialogue interaction.

Objective 3: Enable smart living support and tailored AHA interventions for physical, cognitive, emotional, and social wellbeing of older adults in real-life settings in Europe & Japan.

Objective 4: Propose and design practice-based ICT tools to empower older adults to experience ageing as a positive process and meaningful period of life.

Objective 5: Conduct a proof-of-concept study to assess user acceptance in real-life environments from different countries and cultural backgrounds (EU/JP).

Objective 6: Explore the feasibility of a new ecosystem for disruptive innovations of AHA coaching and incubation of SMEs and NGOs in Europe and Japan.

2.2 Data Summary of the e-VITA project

The e-VITA project relies on a considerable amount of data collection for the iterative and participatory design of the virtual coach. This involves a mix of quantitative, qualitative and sensor data. It is the case that not all end-users are concerned with all types of data collection. This was decided on an independent case, as each usage is voluntary. By this, most of the users denied, to use the speech data corpora and emotional datasets because of privacy, and thus the published datasets are 1) sensor data, and 2) assessment data from the questionnaires and individual measures.

All data in the e-VITA open data research pilot have been collected from the proof of concept study (POC) in Europe and Japan, whereby European Datasets always includes data from the study centers in Germany, France and Italy.

All processed data in the e-VITA project has been used only to reach the objectives and expected outcomes of the project.

3 Overview of the e-VITA project open data repository

The e-VITA Research Data Repository can be accessed at the following link:

<https://zenodo.org/communities/e-vita/>

The e-VITA Research Data Repository comprises the following dataset types:

1. Sensor-Service Data
2. Quantitative Research Data

The datasets consist of two main groups:

- Data generated by the European project partners
- Data generated by the Japanese partners.

For more detail on the dataset types, pls. see the annex, and the deliverable D1.14 Final Data Management Plan.

For ease of storage, datasets of the same type are grouped in a zip file. Each zip file is assigned a unique Digital Object Identifier (DOI) and given a name to make it more findable. Other information such as keywords and descriptions are added to the file within the Zenodo repository.

Note that project publications are not included in the e-VITA Research Data Repository as publications have their own DOI assigned at the time of publication. Publications from the e-VITA project can be found at ECAS and in www.zenodo.org

The different dataset types are described in more detail in the annex of this deliverable. All numbers are consistent with deliverable D1.14 (final DMP). In here, only a summary of the datasets is provided:

1) Sensor Data

Health datasets related to the heart: Heart rate/heart rate variability, respiratory rate, oxygen saturation, bpm (HR), sphygmus, diastolic blood pressure, systolic blood pressure, before measure activity.

Health datasets related to the body composition: Body fat rate, body fat, weight, height.

Datasets related to the physical activities: Steps, energy consumption (calories), distance, altitude.

Datasets related to sleep: Light sleep time, Deep sleep time, REM sleep time, sleep efficiency, sleep latency, total sleep time, time in bed, fall asleep time, awake time.

2) Quantitative Assessment Data

EQ5D, eHEALS, GDS, MOCA, UCLA, SPPB, SUS, UEQ, ATDPA-5.

4 Conclusion and Outlook

The e-VITA project has provided open research data to the scientific community via www.zenodo.org.

Each dataset contains an own DOI, so that the datasets can be searched, and are findable by researchers in the EU and Japan, and worldwide.

The repository will be used also after the project ends, in order to upload more data which will become available after the project end, and also by continued studies from the consortium members.

5 Annexes

5.1 Annex 1 - Sensor and Device Data

ID Name	9. Cardiovascular
Description	Health datasets related to the heart: heart rate/heart rate variability respiratory rate oxygen saturation bpm sphygmus diastolic pressure systolic pressure before measure activity
DOI	Dataset EU: 10.5281/zenodo.10877382 - Dataset JP: 10.5281/zenodo.10881889

ID Name	10. Body composition
Description	Health datasets related to the body composition: body fat rate body fat weight height
DOI	Dataset EU: no data - Dataset JP: 10.5281/zenodo.10886796

ID Name	12. Activities
Description	Datasets related to the physical activities: Steps energy consumption (calories) distance altitude
DOI	Dataset EU: 10.5281/zenodo.10886958 - Dataset JP: 10.5281/zenodo.10886900

ID Name	13. Sleep Indicators (smart band)
Description	Datasets related to sleep: Light sleep time Deep sleep time REM sleep time sleep efficiency sleep latency total sleep time time in bed fall asleep time awake time wake up count
DOI	Dataset EU: 10.5281/zenodo.10887076 - Dataset JP: 10.5281/zenodo.10886993

5.2 Annex 2 - Quantitative Research Data

ID Name	23. EQ 5D (European Quality of Life 5 dimensions)
Description	Quality of life Likert-Scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890457

ID Name	24. eHEALS scale (eHEALTH literacy)
Description	E-Health literacy Likert-Scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890430

ID Name	25. Short Physical Performance Battery
Description	Physical activity classification Time + Scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890468

ID Name	27. MoCA
Description	Cognitive function Time + Scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890475

ID Name	29. UCLA Loneliness Scale
Description	Loneliness Likert-Scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890491

ID Name	30. GDS
Description	Geriatric depression scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890503

ID Name	33. SUS
Description	System usability scale
DOI	10.5281/zenodo.10890509

ID Name	35. UEQ
Description	User experience questionnaire Likert-Scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890731

ID Name	36. ATDPA-5
Description	Assistive technology device predisposition assessment Likert-Scale
DOI	Dataset EU & JP: 10.5281/zenodo.10890419