

**HORIZON
2020**

Robots in assisted living environments: Unobtrusive, efficient, reliable and modular solutions for independent ageing

Risultati

Informazioni relative al progetto

RADIO

ID dell'accordo di sovvenzione: 643892

[Sito web del progetto](#)

DOI

[10.3030/643892](#)

Progetto chiuso

Data della firma CE

26 Marzo 2015

Data di avvio

1 Aprile 2015

Data di completamento

31 Marzo 2018

Finanziato da

SOCIETAL CHALLENGES - Health, demographic change and well-being

Costo totale

€ 3 805 625,00

Contributo UE

€ 3 805 625,00

Coordinato da

"NATIONAL CENTER FOR
SCIENTIFIC RESEARCH
""DEMOKRITOS""



Greece

CORDIS fornisce collegamenti ai risultati finali pubblici e alle pubblicazioni dei progetti ORIZZONTE.

I link ai risultati e alle pubblicazioni dei progetti del 7° PQ, così come i link ad alcuni tipi di risultati specifici come dataset e software, sono recuperati dinamicamente da [OpenAIRE](#).

Risultati finali

Documents, reports (43)

[Early detection methods & relevant system requirements II](#)

FSL is main responsible for delivery, with contributions from FHAG and FZ. The first version of the report (M1) will detail the profile and number of participants and how long they will work with the consortium. Based on this definition of the end user target group, the second version (M3) will set the criteria for choosing relevant system requirements. A detailed list of these requirements will be included in this report, where each item of the list is justified based on the aforementioned criteria. The final version of the report (M18) refines and updates these criteria and requirements, based on subsequent research. These deliverables are prepared within Task 2.1 and satisfy Objective 1.

[Conceptual architecture for sensing methods and sensor data sharing II](#)

S&C is main responsible for delivery, with contributions from NCSR-D, TWG, RUB, and AVN. Architecture document, pertaining to the information dependencies and interoperability between RADIO components for satisfying the medical information requirements set in WP2. The initial and intermediate versions (M6/M18) are used to drive development in Task 3.2; for M19 until M24 this is a living document, updated to record adjustments necessitated as development in Task 3.2 progresses. The final version (M24) documents the architecture and interfacing of the final data analysis methods (D3.5). These deliverables are prepared within Task 3.1 and satisfy Objective 3.4.

[Network robustness and efficiency methods I](#)

TWG is main responsible for delivery, with contributions from S&C and AVN. Methods for improving network robustness and communication efficiency. The scope of delivery comprises (a) the report that documents the methods and (b) the prototype implementations that will be integrated into deliverables D3.9 and D3.10. These deliverables are prepared within Task 3.3 and satisfy Objective 3.2.

[User evaluation report II](#)

FZ is main responsible for delivery, with contributions from FHAG. This deliverable will report the finding of User evaluation in terms of usability of the system and improvement in quality of life. The report must mention in details the measured variables, the analysis methods used, the results, and a brief summary discussing the main findings and their implications. These deliverables are prepared within Task 6.4 and satisfies Objective 6.4.

[Dissemination and communication plan II](#)

NCSR-D is main responsible for delivery, with contributions from all partners. The report: a) establishes procedures for uploading content by the partners and describes the kinds of content that will be uploaded throughout the project, b) plans in detail the T7.2 activities. These deliverables are prepared within Task 7.2 and satisfies Objectives 7.1, 7.2, 7.3.

[Medical evaluation report I](#)

FHAG is main responsible for delivery, with contributions from FSL. This report documents the medical evaluation process performed on nursing home residents and elderly people living in the community participating on the RADIO project. Outcomes will be a detailed document for the operational medical evaluation plan as well as the medical and scientific evaluation final report. This deliverable will report the medical results of the project and it will be delivered in three stages. These deliverables are prepared within Task 6.5 and satisfies Objective 6.5.

[User evaluation report III](#)

FZ is main responsible for delivery, with contributions from FHAG. This deliverable will report the finding of User evaluation in terms of usability of the system and improvement in quality of life. The report must mention in details the measured variables, the analysis methods used, the results, and a brief summary discussing the main findings and their implications. These deliverables are prepared within Task 6.4 and satisfies Objective 6.4.

[ADL and mood recognition methods II](#)

R-PU. NCSR-D is main responsible for delivery, with contributions from TWG, RUB, and AVN. Methods for ADL and mood recognition from visual and acoustic data. The scope of delivery comprises (a) the report that documents the methods and (b) the prototype implementations that will be integrated into deliverables D3.9 and D3.10. These deliverables are prepared within Task 3.2 and satisfy Objective 3.1.

[Guidelines for RADIO configuration and deployment](#)

S&C is main responsible for delivery, with contributions from TWG, RUB, and ROBOTNIK. This document clarifies and documents dependencies and overlaps between the functionalities of the various components developed within RADIO as well as commercially available components that have been integrated into the pilot deployments. Without delving into the technical reasons behind such dependencies and overlaps (reported in D4.1), this document provides guidelines that distil experience gained during the project so that designers of specific RADIO configurations and deployments can take full advantage of the system's modularity and extendibility. This material will be made available on a Creative Commons license that allows its usage by anybody for preparing educational material or any other commercial or freely available resources. This deliverable is prepared within Task 7.5 and satisfies Objective 7.6.

[Guidelines for balancing between medical requirements and obtrusiveness II](#)

FHAG is main responsible for delivery, with contributions from FSL and FZ. This report must integrate the findings of the previous deliverables; define the trade-off between medical requirements, and ethical/privacy demands (M9). Based on these a final medical requirements description must be enlisted (M18). These deliverables are prepared within Task 2.3 and satisfy Objective 3.

[Early detection methods & relevant system requirements I](#)

FSL is main responsible for delivery, with contributions from FHAG and FZ. The first version of the report (M1) will detail the profile and number of participants and how long they will work with the consortium. Based on this definition of the end user target group, the second version (M3) will set the criteria for choosing relevant system requirements. A detailed list of these requirements will be included in this report, where each item of the list is justified based on the aforementioned criteria. The final version of the report (M18) refines and updates these criteria and requirements, based on subsequent research. These deliverables are prepared within Task 2.1 and satisfy Objective 1.

[Actual & perceived privacy considerations and ethical requirements I](#)

FZ is main responsible for delivery, with contributions from NCSR-D, FSL and FHAG. The report must include an updated literature review containing the sociological, ethical and gender-related projections on medical data collection (M3). It will further describe the impact of these considerations in the design of RADIO and set the privacy and ethical framework of the system, taking into account the target group. (M18) These deliverables are prepared within Task 2.2 and satisfy Objective 2.

[Dissemination and communication plan III](#)

NCSR-D is main responsible for delivery, with contributions from all partners. The report: a) establishes procedures for uploading content by the partners and describes the kinds of content that will be uploaded throughout the project, b) plans in detail the T7.2 activities. These deliverables are prepared within Task 7.2 and satisfies Objectives 7.1, 7.2, 7.3.

[ADL and mood recognition methods I](#)

R-PU. NCSR-D is main responsible for delivery, with contributions from TWG, RUB, and AVN. Methods for ADL and mood recognition from visual and acoustic data. The scope of delivery comprises (a) the report that documents the methods and (b) the prototype implementations that will be integrated into deliverables D3.9 and D3.10. These deliverables are prepared within Task 3.2 and satisfy Objective 3.1.

[Piloting plan I](#)

FZ is main responsible for delivery, with contributions from FSL and FHAG. This report documents the criteria to be used for subject selection and the procedures followed for deploying the RADIO system and executing the pilot. It also describes the data that will be collected, the procedures for making parallel human observations for estimating the accuracy of the data, and the policies for data retention and analysis. This report also includes the original text of the consent forms signed by the subjects and their English language translations. These deliverables are prepared within Task 6.1 and satisfies Objective 6.1.

[Project fact sheet II](#)

NCSR-D is main responsible for delivery, with contributions from all partners. A brief project Fact Sheet suitable for Web publishing. The Fact Sheet will outline the project's rationale and objectives, specify its technical baseline and intended target groups and application domains, and present intermediate and final outputs. The Fact Sheet will be used by the Commission for its own dissemination and awareness activities throughout the project lifecycle, and will be published on EC and EC sponsored websites. The Fact Sheet will be maintained and updated until the end of the project. These deliverables are prepared within Task 7.2 and satisfies Objective 7.1, 7.2, 7.3.

[Large-scale and privacy-preserving data fusion and interpretation II](#)

NCSR-D is main responsible for delivery, with contributions from TWG, RUB, and S&C. This deliverable will focus on all related data management processes concerning both technical related controls to protect against respective privacy/security issues and attacks as well as data management procedures aiming to defend the RADIO platform against soft issues such as information misuse, unauthorized access, accidental error etc. These deliverables are prepared within Tasks 5.3 and 5.4 and satisfies Objectives 5.5 and 5.6.

[Architecture of the RADIO ecosystem I](#)

NCSR-D is main responsible for delivery, with contributions from TWG, RUB, and S&C. Architecture and interfaces for efficient and privacy-preserving data exchange between RADIO deployments, the formal and informal care-givers' applications, and medical care institutions that operate across a wide area. These deliverables are prepared within Task 5.1 and satisfies Objective 5.1 and 5.2.

[Conceptual architecture for sensing methods and sensor data sharing I](#)

S&C is main responsible for delivery, with contributions from NCSR-D, TWG, RUB, and AVN. Architecture document, pertaining to the information dependencies and interoperability between RADIO components for satisfying the medical information requirements set in WP2. The initial and intermediate versions (M6/M18) are used to drive development in Task 3.2; for M19 until M24 this is a living document, updated to record adjustments necessitated as

development in Task 3.2 progresses. The final version (M24) documents the architecture and interfacing of the final data analysis methods (D3.5). These deliverables are prepared within Task 3.1 and satisfy Objective 3.4.

[Network robustness and efficiency methods II](#)

TWG is main responsible for delivery, with contributions from S&C and AVN. Methods for improving network robustness and communication efficiency. The scope of delivery comprises (a) the report that documents the methods and (b) the prototype implementations that will be integrated into deliverables D3.9 and D3.10. These deliverables are prepared within Task 3.3 and satisfy Objective 3.2.

[Architecture for extending smart homes with robotic platforms I](#)

RUB is main responsible for delivery, with contributions from TWG, S&C and AVN. Architecture document, pertaining to RADIO device interconnection and interfacing; specifications on interfacing the different domains; and on fast and energy efficient data processing in the distributed RADIO environment. The initial and intermediate versions (M6/M18) are used to drive development in Tasks 4.2 and 4.3; for M19 until M30 this is a living document, updated to record adjustments necessitated as development in Task 4.2 progresses. The final version (M30) documents the architecture and interfacing of the final hardware components (D4.5) and robotic platform (D4.7). These deliverables are prepared within Task 4.1 and satisfy WP Objectives 4.3 and 4.4.

[Actual & perceived privacy considerations and ethical requirements II](#)

FZ is main responsible for delivery, with contributions from NCSR-D, FSL and FHAG. The report must include an updated literature review containing the sociological, ethical and gender-related projections on medical data collection (M3). It will further describe the impact of these considerations in the design of RADIO and set the privacy and ethical framework of the system, taking into account the target group. (M18) These deliverables are prepared within Task 2.2 and satisfy Objective 2.

[Medical evaluation report II](#)

FHAG is main responsible for delivery, with contributions from FSL. This report documents the medical evaluation process performed on nursing home residents and elderly people living in the community participating on the RADIO project. Outcomes will be a detailed document for the operational medical evaluation plan as well as the medical and scientific evaluation final report. This deliverable will report the medical results of the project and it will be delivered in three stages. These deliverables are prepared within Task 6.5 and satisfies Objective 6.5.

[Early detection methods & relevant system requirements III](#)

FSL is main responsible for delivery, with contributions from FHAG and FZ. The first version of the report (M1) will detail the profile and number of participants and how long they will work with the consortium. Based on this definition of the end user target group, the second version (M3) will set the criteria for choosing relevant system requirements. A detailed list of these requirements will be included in this report, where each item of the list is justified based on the aforementioned criteria. The final version of the report (M18) refines and updates these criteria and requirements, based on subsequent research. These deliverables are prepared within Task 2.1 and satisfy Objective 1.

[Dissemination and communication plan I](#)

NCSR-D is main responsible for delivery, with contributions from all partners. The report: a) establishes procedures for uploading content by the partners and describes the kinds of content that will be uploaded throughout the project, b) plans in detail the T7.2 activities. These deliverables are prepared within Task 7.2 and satisfies Objectives 7.1, 7.2, 7.3.

[User evaluation report I](#)

FZ is main responsible for delivery, with contributions from FHAG. This deliverable will report the finding of User evaluation in terms of usability of the system and improvement in quality of life. The report must mention in details the measured variables, the analysis methods used, the results, and a brief summary discussing the main findings and their implications. These deliverables are prepared within Task 6.4 and satisfies Objective 6.4.

[Architecture of the RADIO ecosystem II](#)

NCSR-D is main responsible for delivery, with contributions from TWG, RUB, and S&C. Architecture and interfaces for efficient and privacy-preserving data exchange between RADIO deployments, the formal and informal care-givers' applications, and medical care institutions that operate across a wide area. These deliverables are prepared within Task 5.1 and satisfies Objective 5.1 and 5.2.

[Project fact sheet IV](#)

NCSR-D is main responsible for delivery, with contributions from all partners. A brief project Fact Sheet suitable for Web publishing. The Fact Sheet will outline the project's rationale and objectives, specify its technical baseline and intended target groups and application domains, and present intermediate and final outputs. The Fact Sheet will be used by the Commission for its own dissemination and awareness activities throughout the project lifecycle, and will be published on EC and EC sponsored websites. The Fact Sheet will be maintained and updated until the end of the project. These deliverables are prepared within Task 7.2 and satisfies Objective 7.1, 7.2, 7.3.

[Piloting plan II](#)

FZ is main responsible for delivery, with contributions from FSL and FHAG. This report documents the criteria to be used for subject selection and the procedures followed for deploying the RADIO system and executing the pilot. It also describes the data that will be collected, the procedures for making parallel human observations for estimating the accuracy of the data, and the policies for data retention and analysis. This report also includes the original text of the consent forms signed by the subjects and their English language translations. These deliverables are prepared within Task 6.1 and satisfies Objective 6.1.

[User evaluation report IV](#)

FZ is main responsible for delivery, with contributions from FHAG. This deliverable will report the finding of User evaluation in terms of usability of the system and improvement in quality of life. The report must mention in details the measured variables, the analysis methods used, the results, and a brief summary discussing the main findings and their implications. These deliverables are prepared within Task 6.4 and satisfies Objective 6.4.

[Architecture for extending smart homes with robotic platforms III](#)

R-PU. RUB is main responsible for delivery, with contributions from TWG, S&C and AVN. Architecture document, pertaining to RADIO device interconnection and interfacing; specifications on interfacing the different domains; and on fast and energy efficient data processing in the distributed RADIO environment. The initial and intermediate versions (M6/M18) are used to drive development in Tasks 4.2 and 4.3; for M19 until M30 this is a living document, updated to record adjustments necessitated as development in Task 4.2 progresses. The final version (M30) documents the architecture and interfacing of the final hardware components (D4.5) and robotic platform (D4.7). These deliverables are prepared within Task 4.1 and satisfy WP Objectives 4.3 and 4.4.

[Conceptual architecture for sensing methods and sensor data sharing III](#)

S&C is main responsible for delivery, with contributions from NCSR-D, TWG, RUB, and AVN. Architecture document, pertaining to the information dependencies and interoperability between RADIO components for satisfying the medical information requirements set in WP2. The initial and intermediate versions (M6/M18) are used to drive development in Task 3.2; for M19 until M24 this is a living document, updated to record adjustments necessitated as development in Task 3.2 progresses. The final version (M24) documents the architecture and interfacing of the final data analysis methods (D3.5). These deliverables are prepared within Task 3.1 and satisfy Objective 3.4.

[Architecture of the RADIO ecosystem III](#)

NCSR-D is main responsible for delivery, with contributions from TWG, RUB, and S&C. Architecture and interfaces for efficient and privacy-preserving data

exchange between RADIO deployments, the formal and informal care-givers' applications, and medical care institutions that operate across a wide area. These deliverables are prepared within Task 5.1 and satisfies Objective 5.1 and 5.2.

[Social network analysis component](#)

NCSR-D is main responsible for delivery, with contributions from RUB. Methods for mood and behaviour recognition from social network interactions. The scope of delivery comprises (a) the report that documents the methods and (b) the prototype implementations that will be integrated into deliverable D3.10. This deliverable is prepared within Task 3.4 and satisfies Objective 3.1.

[Piloting plan III](#)

FZ is main responsible for delivery, with contributions from FSL and FHAG. This report documents the criteria to be used for subject selection and the procedures followed for deploying the RADIO system and executing the pilot. It also describes the data that will be collected, the procedures for making parallel human observations for estimating the accuracy of the data, and the policies for data retention and analysis. This report also includes the original text of the consent forms signed by the subjects and their English language translations. These deliverables are prepared within Task 6.1 and satisfies Objective 6.1.

[Piloting plan IV](#)

FZ is main responsible for delivery, with contributions from FSL and FHAG. This report documents the criteria to be used for subject selection and the procedures followed for deploying the RADIO system and executing the pilot. It also describes the data that will be collected, the procedures for making parallel human observations for estimating the accuracy of the data, and the policies for data retention and analysis. This report also includes the original text of the consent forms signed by the subjects and their English language translations. These deliverables are prepared within Task 6.1 and satisfies Objective 6.1.

[Project fact sheet I](#)

NCSR-D is main responsible for delivery, with contributions from all partners. A brief project Fact Sheet suitable for Web publishing. The Fact Sheet will outline the project's rationale and objectives, specify its technical baseline and intended target groups and application domains, and present intermediate and final outputs. The Fact Sheet will be used by the Commission for its own dissemination and awareness activities throughout the project lifecycle, and will be published on EC and EC sponsored websites. The Fact Sheet will be maintained and updated until the end of the project. These deliverables are prepared within Task 7.2 and satisfies Objective 7.1, 7.2, 7.3.

[Medical evaluation report III](#)

FHAG is main responsible for delivery, with contributions from FSL. This report documents the medical evaluation process performed on nursing home residents and elderly people living in the community participating on the RADIO project. Outcomes will be a detailed document for the operational medical evaluation plan as well as the medical and scientific evaluation final report. This deliverable will report the medical results of the project and it will be delivered in three stages. These deliverables are prepared within Task 6.5 and satisfies Objective 6.5.

[Guidelines for balancing between medical requirements and obtrusiveness I](#)

FHAG is main responsible for delivery, with contributions from FSL and FZ. This report must integrate the findings of the previous deliverables; define the trade-off between medical requirements, and ethical/privacy demands (M9). Based on these a final medical requirements description must be enlisted (M18). These deliverables are prepared within Task 2.3 and satisfy Objective 3.

[Project fact sheet III](#)

NCSR-D is main responsible for delivery, with contributions from all partners. A brief project Fact Sheet suitable for Web publishing. The Fact Sheet will outline the project's rationale and objectives, specify its technical baseline and intended target groups and application domains, and present intermediate and final outputs. The Fact Sheet will be used by the Commission for its own dissemination and awareness activities throughout the project lifecycle, and will be published on EC and EC sponsored websites. The Fact Sheet will be maintained and updated until the end of the project. These deliverables are prepared within Task 7.2 and satisfies Objective 7.1, 7.2, 7.3.

[Large-scale and privacy-preserving data fusion and interpretation I](#)

NCSR-D is main responsible for delivery, with contributions from TWG, RUB, and S&C. This deliverable will focus on all related data management processes concerning both technical related controls to protect against respective privacy/security issues and attacks as well as data management procedures aiming to defend the RADIO platform against soft issues such as information misuse, unauthorized access, accidental error etc. These deliverables are prepared within Tasks 5.3 and 5.4 and satisfies Objectives 5.5 and 5.6.

[Architecture for extending smart homes with robotic platforms II](#)

RUB is main responsible for delivery, with contributions from TWG, S&C and AVN. Architecture document, pertaining to RADIO device interconnection and interfacing; specifications on interfacing the different domains; and on fast and energy efficient data processing in the distributed RADIO environment. The initial and intermediate versions (M6/M18) are used to drive development in Tasks 4.2 and 4.3; for M19 until M30 this is a living document, updated to record adjustments necessitated as development in Task 4.2 progresses. The final version (M30) documents the architecture and interfacing of the final hardware

components (D4.5) and robotic platform (D4.7). These deliverables are prepared within Task 4.1 and satisfy WP Objectives 4.3 and 4.4.

[Guidelines for RADIO application developers](#)

NCSR-D is main responsible for delivery, with contributions from S&C. This report documents the programmatic interfaces for creating applications for the RADIO ecosystem. Without delving into the technical reasons behind architectural and interfacing decisions (reported in D5.1), this document provides training and reference material for the community. This material will be made available on a Creative Commons license that allows its usage by anybody for preparing educational material or any other commercial or freely available resources. This deliverable is prepared within Task 7.5 and satisfies Objective 7.6.

Demonstrators, pilots, prototypes (12)

[Integrated robotic platform II](#)

ROBOTNIK is main responsible for delivery, with contributions from NCSR-D, RUB, TWG. In the first version (M15) the complete design of the RADIO mobile platform will be finalized. In the final version (M30) the fully functional robot prototype will be delivered. These deliverables are prepared within Task 4.3 and satisfy WP Objective 4.2.

[Integrated smart home with robotic platform extensions I](#)

S&C is main responsible for delivery, with contributions from TWG, RUB, and ROBOTNIK. The prototype will include a set of software packages running in its corresponding hardware device within the RADIO system (robot and smart home system gateway) demonstrating RADIO capabilities at home level. These deliverables are prepared within Task 4.4 and satisfy WP Objective 4.5.

[Integrated RADIO prototype II](#)

S&C is main responsible for delivery, with contributions from NCSR-D. RADIO ecosystems including hardware and software parts will be delivered in two outputs. A preliminary version will be delivered in M24 for intermediate deployment. Feedback from Task 6.3 will retrofit on-going integration towards the final and fully functional version that will cover final deployment in Task 6.3. These deliverables are prepared within Task 5.5 and satisfies Objective 5.7.

[Integrated smart home with robotic platform extensions II](#)

S&C is main responsible for delivery, with contributions from TWG, RUB, and ROBOTNIK. The prototype will include a set of software packages running in its corresponding hardware device within the RADIO system (robot and smart home

system gateway) demonstrating RADIO capabilities at home level. These deliverables are prepared within Task 4.4 and satisfy WP Objective 4.5.

[Integrated data analysis system I](#)

TWG is main responsible for delivery, with contributions from NCSR-D and S&C. This deliverable consists of (a) the integrated data analysis prototype that integrates the prototypes D3.2, D3.3, D3.4; and (b) a report setting requirements on the data provided by the sensor hardware and on the transfer, security, privacy and authentication characteristics of the communication protocols. These deliverables are prepared within Task 3.5 and satisfy Objectives 3.3 and 3.5.

[Integrated robotic platform I](#)

ROBOTNIK is main responsible for delivery, with contributions from NCSR-D, RUB, TWG. In the first version (M15) the complete design of the RADIO mobile platform will be finalized. In the final version (M30) the fully functional robot prototype will be delivered. These deliverables are prepared within Task 4.3 and satisfy WP Objective 4.2.

[User interfaces II](#)

S&C is main responsible for delivery, with contributions from NCSR-D and ROBOTNIK. This deliverable includes the 3 visual user interfaces as described in Task 5.2. It will also include a report mentioning any innovating methods uses in building the GUIs. A final outcome of this deliverable are the users manuals for each GUI separately. These deliverables are prepared within Task 5.2 and satisfies Objective 5.3.

[Integrated RADIO prototype I](#)

S&C is main responsible for delivery, with contributions from NCSR-D. RADIO ecosystems including hardware and software parts will be delivered in two outputs. A preliminary version will be delivered in M24 for intermediate deployment. Feedback from Task 6.3 will retrofit on-going integration towards the final and fully functional version that will cover final deployment in Task 6.3. These deliverables are prepared within Task 5.5 and satisfies Objective 5.7.

[User interfaces I](#)

S&C is main responsible for delivery, with contributions from NCSR-D and ROBOTNIK. This deliverable includes the 3 visual user interfaces as described in Task 5.2. It will also include a report mentioning any innovating methods uses in building the GUIs. A final outcome of this deliverable are the users manuals for each GUI separately. These deliverables are prepared within Task 5.2 and satisfies Objective 5.3.

[Robust and energy-efficient hardware components I](#)

AVN is main responsible for delivery, with contributions from TWG and RUB. This deliverable comprises a library of dedicated hardware components and a report presenting the design, implementation, performance, and power consumption characteristics of the components. These deliverables are prepared within Task 4.2 and satisfy WP Objective 4.1 and 4.4.

[Integrated data analysis system II](#)

TWG is main responsible for delivery, with contributions from NCSR-D and S&C. This deliverable consists of (a) the integrated data analysis prototype that integrates the prototypes D3.2, D3.3, D3.4; and (b) a report setting requirements on the data provided by the sensor hardware and on the transfer, security, privacy and authentication characteristics of the communication protocols. These deliverables are prepared within Task 3.5 and satisfy Objectives 3.3 and 3.5.

[Robust and energy-efficient hardware components II](#)

AVN is main responsible for delivery, with contributions from TWG and RUB. This deliverable comprises a library of dedicated hardware components and a report presenting the design, implementation, performance, and power consumption characteristics of the components. These deliverables are prepared within Task 4.2 and satisfy WP Objective 4.1 and 4.4.

Websites, patent fillings, videos etc. (2)

[Project Website Structure](#)

NCSR-D is main responsible for delivery, with contributions from all partners. The product of this deliverable is: a) the RADIO website informing the scientific community and the general public about the results and activities of the project, b) RADIO accounts on various social platforms. These deliverables are prepared within Task 7.2 and satisfies Objectives 7.1, 7.2, 7.3.

[Project Website](#)

NCSR-D is main responsible for delivery, with contributions from all partners. The product of this deliverable is: a) the RADIO website informing the scientific community and the general public about the results and activities of the project, b) RADIO accounts on various social platforms. These deliverables are prepared within Task 7.2 and satisfies Objectives 7.1, 7.2, 7.3.

Other (1)

[Project showcase](#)

NCSR-D is main responsible for delivery, with contributions from all partners. A package (in the form of set of documents and software components) with the main results of the project and a brief, self-explanatory description of each core contribution/outcome. The Commission will be granted the right to use the project showcase for its own dissemination and awareness activities (including Web based and electronic publications). The project showcase will feature a meaningful demonstration of the functionality of the overall RADIO system, along with relevant copyright notices and contact information, and suitable installation aids and run-time interfaces. This deliverable is prepared within Task 7.2 and satisfies Objectives 7.1, 7.2, 7.3.

Pubblicazioni

Conference proceedings (17)

[Daily Activity Recognition based on Meta-classification of Low-level Audio Events !\[\]\(666e09182d4cd268646ea700ea60dcdf_img.jpg\)](#)

Autori: Theodoros Giannakopoulos, Stasinios Konstantopoulos

Pubblicato in: Proceedings of the 3rd International Conference on Information and Communication Technologies for Ageing Well and e-Health, Numero 28-29 April 2017, 2017, Pagina/e 220-227, ISBN 978-989-758-251-6

Editore: SCITEPRESS - Science and Technology Publications

DOI: 10.5220/0006372502200227

Detecting and Measuring Human Walking in Laser Scans

Autori: Zamani, K., Stavrinou, G. and Konstantopoulos, S.

Pubblicato in: SETN 2018 -10th Hellenic Conference on Artificial Intelligence, 2018

Editore: ACM

[Door Detection Algorithm Development Based on Ro-botic Vision and Experimental Evaluation on Prominent Embedded Systems !\[\]\(4b7a79268f6ba26c1471d4232fffa85a_img.jpg\)](#)

Autori: Alexandros Spournias, Theodore Skandamis, Christos P. Antonopoulos, Nikolaos S. Voros

Pubblicato in: 2ND INTERNATIONAL CONFERENCE ON INTERACTIVE COLLABORATIVE ROBOTICS (ICR 2017), 2017, Pagina/e 250-259

Editore: Springer International Publishing

DOI: 10.1007/978-3-319-66471-2_27

[Computation and Communication Challenges to Deploy Robots in Assisted Living Environments !\[\]\(56549452e01ca28bdf2500ced9653143_img.jpg\)](#)

Autori: Georgios Keramidas, Christos Antonopoulos, Nikolaos S. Voros, Fynn Schwiegelshohn, Philipp Wehner, Jens Rettkowski, Diana Göhringer, Michael Hübner, Stasinos Konstantopoulos, Theodore Giannakopoulos, Vangelis Karkaletsis, Vaggelis Mariatos

Pubblicato in: Proceedings of the 2016 Design, Automation & Test in Europe Conference & Exhibition (DATE), Numero 14-18 March, 2016, Pagina/e 888-893, ISBN 978-3-9815370-7-9

Editore: Research Publishing Services

DOI: 10.3850/9783981537079_1017

[Security necessity and its impact on smart cities' wireless sensor networks](#)

Autori: K. Antonopoulos, Ch. Petropoulos, Ch. P. Antonopoulos, N. S. Voros

Pubblicato in: 2017 South Eastern European Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM), 2017, Pagina/e 1-8, ISBN 978-618-83314-0-2

Editore: IEEE

DOI: 10.23919/seeda-cecnsm.2017.8088239

[Monitoring activities of daily living using audio analysis and a raspberryPI: A use case on bathroom activity monitoring](#)

Autori: Georgios Siantikos, Theodoros Giannakopoulos, Stasinos Konstantopoulos

Pubblicato in: 2017, Pagina/e 20-32

Editore: Springer International Publishing

DOI: 10.1007/978-3-319-62704-5_2

[A Low-cost Approach for Detecting Activities of Daily Living using Audio Information: A Use Case on Bathroom Activity Monitoring](#)

Autori: Georgios Siantikos, Theodoros Giannakopoulos, Stasinos Konstantopoulos

Pubblicato in: Proceedings of the International Conference on Information and Communication Technologies for Ageing Well and e-Health, 2016, Pagina/e 26-32, ISBN 978-989-758-180-9

Editore: SCITEPRESS - Science and Technology Publications

DOI: 10.5220/0005803700260032

[A ROS framework for audio-based activity recognition](#)

Autori: Theodoros Giannakopoulos, Georgios Siantikos

Pubblicato in: Proceedings of the 9th ACM International Conference on Pervasive Technologies Related to Assistive Environments - PETRA '16, 2016, Pagina/e 1-4, ISBN 9781-450343374

Editore: ACM Press

DOI: 10.1145/2910674.2935858

[Short-term Recognition of Human Activities using Convolutional Neural Networks](#)

Autori: M.Papakostas; F. Makedon; Giannakopoulos, T.; Karkaletsis, V
Pubblicato in: International Conference on Signal-Image Technology & Internet Based Systems (SITIS 2016), 2016
Editore: IEEE
DOI: 10.5281/zenodo.376482

[A Peer-to-Peer Protocol and System Architecture for Privacy-Preserving Statistical Analysis](#)

Autori: Katerina Zamani, Angelos Charalambidis, Stasinos Konstantopoulos, Maria Dagioglou, Vangelis Karkaletsis
Pubblicato in: Proceedings of Privacy Aware Machine Learning for Health Data Science Special Session (PAML 2016), at the International Conference on Availability, Reliability, and Security (CD-ARES 2016), Salzburg, Austria, 31 August 31 - 2 September 2016., Numero LNCS 9817, 2016, Pagina/e 236-250, ISBN 978-3-319-45507-5
Editore: Springer International Publishing
DOI: 10.1007/978-3-319-45507-5_16

[FPGA based traffic sign detection for automotive camera systems](#)

Autori: Fynn Schwiegelshohn, Lars Gierke, Michael Hubner
Pubblicato in: 2015 10th International Symposium on Reconfigurable Communication-centric Systems-on-Chip (ReCoSoC), Numero 29 June -1 July, 2015, Pagina/e 1-6, ISBN 978-1-4673-7942-7
Editore: IEEE
DOI: 10.1109/ReCoSoC.2015.7238089

[A Holistic Approach for Advancing Robots in Ambient Assisted Living Environments](#)

Autori: Fynn Schwiegelshohn, Philipp Wehner, Jens Rettkowski, Diana Gohringer, Michael Hubner, Georgios Keramidas, Christos Antonopoulos, Nikolaos S. Voros
Pubblicato in: 2015 IEEE 13th International Conference on Embedded and Ubiquitous Computing, Numero 21-23 October, 2015, Pagina/e 140-147, ISBN 978-1-4673-8299-1
Editore: IEEE
DOI: 10.1109/EUC.2015.37

[Adaptive computing in real-time applications](#)

Autori: Benedikt Janssen, Fynn Schwiegelshohn, Michael Huubner
Pubblicato in: 2015 IEEE 13th International New Circuits and Systems Conference (NEWCAS), Numero 7-10 June, 2015, Pagina/e 1-4, ISBN 978-1-4799-8893-8
Editore: IEEE
DOI: 10.1109/NEWCAS.2015.7182057

[Robot navigation based on an efficient combination of an extended A* algorithm, bird's eye view and image stitching](#) 

Autori: Jens Rettkowski, David Gburek, Diana Gohringer

Pubblicato in: 2015 Conference on Design and Architectures for Signal and Image Processing (DASIP), Numero 23-25 September, 2015, Pagina/e 1-8, ISBN 978-1-4673-7738-6

Editore: IEEE

DOI: 10.1109/DASIP.2015.7367240

[Real-time pedestrian detection on a xilinx zynq using the HOG algorithm](#) 

Autori: Jens Rettkowski, Andrew Boutros, Diana Göhringer

Pubblicato in: 2015 International Conference on ReConFigurable Computing and FPGAs (ReConFig), Numero 7-9 December, 2015, Pagina/e 1-8, ISBN 978-1-4673-9406-2

Editore: IEEE

DOI: 10.1109/ReConFig.2015.7393339

[Decision Making for Affective Agents in Assistive Environments](#) 

Autori: Konstantinos Tsiakas

Pubblicato in: Doctoral Consortium Posters and Demos of Fifteenth International Conference on Intelligent Virtual Agents (IVA 2015), Numero 26-28 August 2015, 2015

Editore: IVA

DOI: 10.5281/zenodo.47806

[A multimodal adaptive dialogue manager for depressive and anxiety disorder screening - a Wizard-of-Oz experiment](#) 

Autori: Konstantinos Tsiakas, Lynette Watts, Cyril Lutterodt, Theodoros Giannakopoulos, Alexandros Papangelis, Robert Gatchel, Vangelis Karkaletsis, Fillia Makedon

Pubblicato in: Proceedings of the 8th ACM International Conference on Pervasive Technologies Related to Assistive Environments - PETRA '15, 2015, Pagina/e 1-4, ISBN 9781-450334525

Editore: ACM Press

DOI: 10.1145/2769493.2769572

Peer reviewed articles (2)

[A Data Compression Hardware Accelerator Enabling Long-Term Biosignal Monitoring Based on Ultra-Low Power IoT Platforms](#) 

Autori: Christos P. Antonopoulos, Nikolaos S. Voros

Pubblicato in: Electronics, Numero 6/3, 2017, Pagina/e 54, ISSN 2079-9292

Editore: MDPI Electronics

DOI: 10.3390/electronics6030054

[pyAudioAnalysis: An Open-Source Python Library for Audio Signal Analysis](#)

Autori: Theodoros Giannakopoulos

Pubblicato in: PLoS ONE, Vol 10, Iss 12, p e0144610 (2015), 2015, ISSN 1932-6203

Editore: Public Library of Science

DOI: 10.1371/journal.pone.0144610

Other (1)

The rostune package: Monitoring systems of distributed ROS nodes

Autori: Stavrinos, G., Konstantopoulos, S.

Pubblicato in: ROSCON Conference, Numero 9/2017, 2017

Editore: ROSCON

Book chapters (2)

[Design for a System of Multimodal Interconnected ADL Recognition Services](#)

Autori: Konstantopoulos, Stasinos; Siantikos, Georgios; Karkaletsis, Vangelis; Giannakopoulos, Theodoros

Pubblicato in: Components and Services for IoT Platforms, Numero 2017, 2017, Pagina/e 323-333, ISBN 978-3-319-42304-3

Editore: Springer

DOI: 10.1007/978-3-319-42304-3_16

[Robots in Assisted Living Environments as an Unobtrusive, Efficient, Reliable and Modular Solution for Independent Ageing: The RADIO Perspective](#)

Autori: Christos Antonopoulos, Georgios Keramidas, Nikolaos S. Voros, Michael Hübner, Diana Göhringer, Maria Dagioglou, Theodore Giannakopoulos, Stasinos Konstantopoulos, Vangelis Karkaletsis

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Editore: Springer International Publishing

DOI: 10.1007/978-3-319-16214-0_48

Set di dati

Set di dati mediante OpenAIRE (1)



[A Dataset For High-Level Activity Recognition Based On Low Level Audio Events](#) 

Autori: Theodoros Giannakopoulos; Stasinos Konstantopoulos

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