



**Health, demographic change and wellbeing**  
**Personalising health and care: Advancing active and healthy ageing**  
**H2020-PHC-19-2014**  
**Research and Innovation Action**



***Deliverable 9.2***  
***Second Annual Dissemination Report***

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## List of Acronyms

ASP - Azienda Pubblica Servizi alla Persona di Siena

CPSN – CyberPhysical Social Network

DALI - Devices for Assisted Living. FP7 project under Grant Agreement n. 288917.

DoA – Description of Action

FriWalk – Friendly Walker

FriTab – Friendly Tablet

HCI – Human Computer Interaction

HMO – Health Maintenance Organization

ICT – Information and Communications Technology

RAI – Radio Televisione Italiana

Y1 – First year of the project

P2 – Second period of the project



# 1 Executive Summary

The present document is a deliverable of ACANTO, “D9.2: Second Annual Dissemination Report” which is the result of activities carried out in Task 9.1 - “Dissemination” and Task 9.3 - “Communication activities.” During the second period of the project (note: although in the DoA, D9.2 is specified to report dissemination on the second year, however, it has been decided to extend the reporting until M27 thus this document reports dissemination activities in the period M13-M27). These tasks aim to organise a number of targeted dissemination activities to ensure that the project outcomes are widely known thereby maximizing project impact. Task 9.1 is mainly focused on scientific results of the project, while Task 9.3 aims at promoting the project ideas and results to multiple and carefully chosen audiences, and together they ensure that the project research and practical results are well-known to the appropriate target communities, via appropriate methods.

The first version of the dissemination plan, “D9.1: First Annual Dissemination Report” was due for month 12 and a minor revision was delivered during P2 following a request from the first review. The present version corresponds to the dissemination and communication activities carried out during P2 of the project. Even though, according to DoA, the present deliverable should cover the dissemination activities carried out until M24, the consortium has considered desirable to include the work done until M27 for a more balanced distribution among dissemination reporting deliverables until the end of the project. It contains some adjustments to tune the dissemination to the project findings and maximize impact to the main stakeholders and to the general public.

The objectives of this document are as follows.

- revisit the dissemination approach within ACANTO during period 2
- provide the tuning of the strategic plan for ACANTO’s dissemination in P2
- describe dissemination tools and channels used in P2
- report the dissemination activities executed during P2

## 2 Introduction

Deliverable 9.2 main objective is to comprehensively report all dissemination activities accomplished by the consortium. The dissemination plan for the ACANTO project, that was presented in D9.1, is also included in this document to provide context for ACANTO’s results. Henceforth, the present deliverable presents:

- Dissemination strategy, updated as a result of the feedback and insights obtained in Y1.
- Revisited target audiences and dissemination methods, which are chosen for ACANTO.
- Key dissemination messages spread during the period.
- Dissemination activities, which took place during the second period, including new materials produced for the purpose of dissemination.
- Periodic dissemination assessment.

### 2.1 Structure of the document

This deliverable revisits the dissemination strategy of ACANTO presented in D9.1. At the same time this document serves as report for the dissemination activities executed during the second period.

The deliverable follows the same structure as D9.1 including two main sections:

- *Dissemination strategy*: recapitulates the strategic dissemination plan envisioned by the consortium members. Crucial aspects such as target audiences, key messages

to be spread out, communication lines, etc. are updated according to the second period objectives and achievements.

- *Dissemination tools*: Section 4 is split into two subsections: dissemination materials 0 and dissemination activities 4.2. Subsection 4.1 updates means and materials that consortium members have used to give support to dissemination and communication activities during period 2. Subsection 4.2 in turn summarises the dissemination activities during the second period such as: presentations of the project to target audiences at conferences, workshops and other events, presentation of the project in scientific magazines, participation in scientific conferences etc.

### 3 Dissemination strategy

#### 3.1 Dissemination approach

As explained in D9.1, the main steps that constitute the dissemination approach of ACANTO are presented in the following figure.

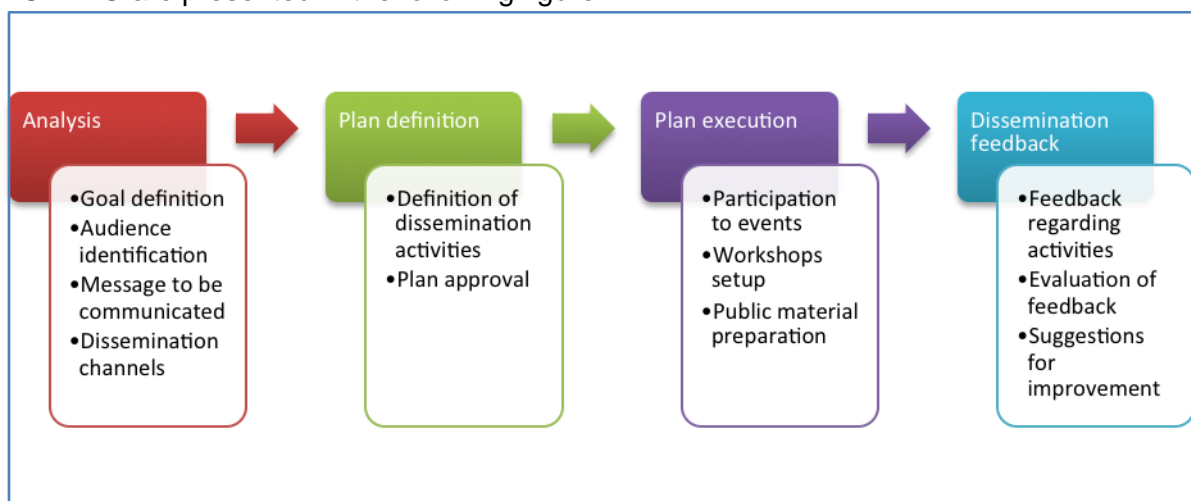


Figure 1. ACANTO dissemination steps

The following paragraphs explain in more detail the activities involved in each step.

#### Dissemination Analysis

- *Goal definition*: In order to establish a successful dissemination plan the definition of the consortium goals must be carried out. This involves the detailed description of the consortium dissemination objectives and the mission.
- *Audience identification*: After the goals have been defined it is important to identify the audience that should be targeted for dissemination activities. This is highly important since it will guide the selection of the appropriate means to communicate with the audience. There are different types of audience or groups of interest that could be interested in the developments of ACANTO.
- *Message to be communicated*: The messages to be communicated are closely related to the project's goal and objectives. They should be designed taking into account the different groups of interest identified and the phase of the project and they have been enriched during the second period of the project.
- *Dissemination channels*: Dissemination activities will focus on the use of websites, social media, publication of papers, newsletters, and face-to-face contacts through meetings and targeted dissemination events, conferences and exhibitions. These events should be public and timely advertised to convey a large audience.



## Revised Dissemination Plan Definition

Following the first phase of analysis, the consortium approved the Dissemination Plan proposed. The approval phase is required for both the initial and revised versions of the plan. The dissemination plan consists of a set of dissemination activities planned for specific dates, target specific audience, communicating some message(s) that contribute to the project objectives.

## Dissemination Plan Execution

The dissemination plan activities are implemented during the execution phase. For each dissemination activity a main leader (key-partner) is identified for leading the preparation and execution of the activity. From the beginning of the project dissemination phase, and in coordination with the exploitation objectives, all project partners contribute to the execution of the activities depending on their field of expertise and interests.

## Dissemination Feedback

The partner(s) that have performed the activity should provide dissemination activity feedback. The success of dissemination activities should be determined in relation to every objective.

The dissemination elements (goals, audience, messages etc.) previously identified are monitored and updated regularly using the feedback obtained in the dissemination activities themselves. The impact of the activities is maximized in this way.

## 3.2 *Dissemination objectives*

Dissemination objectives devised during Y1 remains essentially unaltered. The unfolding of development activities during period 2 has increased the emphasis in the **scientific objectives** which have made it possible to produce more than twice as many publications in period 2. Opportunities for **engaging potential users**, for **public awareness** and for addressing **decision makers** have been pursued whenever possible (see section 4 more details).

The following list, coming from year 1, summarizes the dissemination objectives of the project:

- To **spread the project results** to the international **research community** by publishing scientific and technical papers, but also by participating in conferences, workshops and by issuing technical and business publications thus **raising awareness** of the potential benefits to Europe from the technology developed in this project.
- To **engage potential users and stakeholders** for capturing needs, assessing potential acceptability of proposed technologies and for **informing** the community of current walker's users and potential users of assistive-wheeled devices.
- To stimulate **technology transfer** between consortium members.
- To **seek-out and engage** complementary research initiatives of other Framework Program-funded consortia and on-going research within the European Union.
- To **promote** ACANTO's results to the **general public and policy makers**.
- To ensure that the effects of ACANTO will be sustained after the project by **maximizing the exploitation opportunities** of the ACANTO solution throughout

and beyond its development; and by ensuring the continuation of the consortium cooperation by **establishing close professional links** between partners and by creating and maintaining permanent communication channels.

### 3.3 Target audiences

ACANTO's dissemination main target audiences as well as main motivations remain essentially the same. However, this table has been updated according to new target audiences that the consortium has come across during P2 customer discovery activities carried out as part of the exploitation activities. Additionally some changes in the motivations have been made according to new developments and new objectives of the project itself.

Type of audience	Category	Motivation
<b>End Users:</b>  	<i>Older adults</i>	Older adults, in particular, but not only, those under care of nursing homes, are the main target of the ACANTO project and so ACANTO is specifically designed for them with the aim of promoting independent and healthier living.
	<i>Older adults suffering from functional decline or rehabilitating after a hip fracture</i>	Older adults can benefit from the realisation of an exercise program using the FriWalk, regaining a proper functional state and improving independent living. Patients will appreciate to be monitored by a health professional.
<b>Formal Caregivers</b>  	<i>Health professionals, both in the Hospital and in Day Centres or Nursing Homes.</i>	The use of the FriWalk can help health professionals to diagnose and monitor the functional state of patients remotely. With a little training, non-specialists can carry out a diagnosis of the functional state of the patient using the FriWalk.
<b>Informal caregivers</b>  	<i>Family members, friends, neighbours</i>	The use of the FriWalk can enhance the quality of life of their loved ones.
<b>Institutions</b>  	<b>Public Hospitals.</b> <i>Hospital Managers and Head of Services (i.e. Head of the Geriatrics Service)</i>	More robust, independent patients will reduce the number of medical visits and hospitalizations, thus cutting hospital costs. Providing non-specialists – i.e. trained nurses, occupational therapists, etc. – with tools to diagnose the functional state of patients could optimize specialists' (i.e. geriatrician) time, hence saving money for the hospital (the average wage/hour of the specialist is significantly larger than the average wage/hour of nurses or occupational therapists). Moreover, the Hospital and its Services can benefit from the use of innovative solutions such as the FriWalk, improving their brand as a state-of-the-art hospital.
	<b>Nursing homes, Day Centres, Gyms, carers organizations, charities (e.g., Hospice Siena c/o Ospedale di Comunità Campansi)</b>	Nursing Homes and Day Centres can improve the health status of their clients, hence reducing medical visits and hospitalization, providing their patients with exercise programs using the FriWalk.
	<b>Orthopaedic aids stores and Medical suppliers</b>	ACANTO team is showing the FriWalk to this audience to have feedback regarding their interest in having this product in their portfolios. For now, their feedback has been positive as this




Type of audience	Category	Motivation
	<b>Museums, Shopping Centres and other social spaces</b>	<p>technology is emerging and it would benefit their companies.</p> <p>Engaging senior citizens in local cultural life is one of the ACANTO objectives. One of the potential uses of the project technology is to improve user's experience in museums. ACANTO product/services may help to convert museums into more age-friendly spaces, thereby facilitating the participation of older adults in their exhibitions and activities.</p> <p>ACANTO will also provide services tailored to the specific needs of a large and important base of customers/users (retired older adults). Users of the FriTab and social network would receive recommendations to visit social spaces with friends and may receive discounts or promotions via their FriTabs to encourage visits. The visit to the social space would be assisted by the FriWalk which will give physical support and navigation instructions to the user. The latter is particularly important in large shopping centres or museums.</p>
<b>Facilitators</b> 	<b>Policy makers:</b> Regional Health Ministry, City Council,...	Policy makers can perceive an opportunity to provide better care to older adults thereby reducing hospitalization costs.
<b>Relevant industries involved:</b> 	<i>Engineering firms, Sensor manufacturers, SW designers, Companies involved in bringing ICT to healthcare</i>	Many industries could have an interest in the results of our work. Most of them could be in the area of health care including manufacturers of support devices, or biomedical devices. The same level of interest could also exist in other seemingly unrelated market segment. To name a few, our results in dynamic motion planning have application to autonomous vehicles, such as drones and self-driving cars, being currently developed by many companies. Likewise, our results on emotion monitoring could also resonate in other markets, such as safety in driving or customer's monitoring in malls or shopping centres.
<b>Academics and Scientific Community</b> 		<p>The ability of the FriWalk to accurately assess the functional status of older adults can be presented in journals and conferences in the field of geriatrics.</p> <p>We are advancing the state of the art in applications of formal verification and dynamic motion planning to cyber-physical systems and assisted living. Our results are therefore of interest to academics working in these fields (researchers, project leaders and policy makers in universities and ICT institutions).</p>

Table 1: Target Audiences

### 3.4 Key messages

ACANTO's consortium maintains from the very beginning of the project a common list of key dissemination messages. This list helps every partner, in their joint or individual dissemination activities, send a common vision of the project and its more important potential results and derived benefits for society, industry and research community.

Table 2 below shows ACANTO key messages adapted to the different target audiences and to the dissemination means. The table shows only the new messages identified during period 2 thus excluding the ten messages already identified during year 1 which remain still valid (that is the reason to start numbering period 2 messages in number 11). Note that an increasing amount of key messages targeted to engineers and the technical audiences have emerged as a result of the technical innovations developed during the second period.

Nº	Message Subject	Description/Abstract	Channels	Target Audience
11	The Friwalk as a therapeutic tool is mainly useful for the Acute Unit and the Orthogeriatrics Unit	Its primary endpoints are to mitigate functional deterioration while hospitalization and to recover functional performance earlier after hospitalization	Workshops, Media (Radio, Press releases, etc.), Web, Social Networks	Health professionals – i.e. research foundations, Policy makers
12	Walker 2.0: Medical Assistant and Personal Trainer in One	Detect early signs of health risks (including the risk of falling) based on user's behavior in particular the user's gait pattern. The walker functions as a personal trainer, motivating elderly people to be more active. Patients and medical professionals stand to benefit.	News Article (Web)	General Public
13	Replacing walkways in clinical setups by gait analysis on the move	A walkway creates an unnatural situation. The patient is being observed and feels like she is walking on a catwalk, which alters her normal gait pattern because naturally everyone tries to do her best. In addition, a walkway is costly and limited to a few meters in length. FriWalk is less expensive than a walkway and offers higher data diversity. Much like a 24-hour EKG, the patient can use FriWalk for longer distances. This allows doctors to identify phenomena that may only occur after longer periods of strain.	News Article (Web)	General Public
14	ATOS participation in ACANTO project to provide breakthrough solutions in the eInclusion market	Using robots to increase the number of older adults who engage in a regular and sustained physical activity	Atos Research & Innovation 2016 booklet: <a href="http://bit.ly/ATOSbooklet">http://bit.ly/ATOSbooklet</a>	Customers
15	How Social Networks can support Active Ageing	Personalized recommendation system for older people to motive active personal lifestyles	EIT Health Summit and other meetings	Stakeholders (partners, customers, end-users)
16	ACANTO project is an example of research in healthcare from a human perspective	The FriWalk has been developed around the actual needs of the older adults. Functional decline while hospitalization is a major problem and can lead to potential disability, which has devastating consequences for both the patients and the healthcare systems. Tacking functional decline during hospitalization is crucial to maintain quality of life	In person through a public presentation in the Hospital dependencies	Older adults, clinical professionals and general public
17	The ACANTO project is developing new effective guidance systems for intelligent walkers	The FriWalk offers different ways in which the user can be guided inside the environment following a given path: it can use electromechanical brakes, front steering wheels, haptic interfaces, or a combination thereof. All the solutions provided do not use expensive sensing hardware, hence allowing a very low market price. In ACANTO, we also proposed a comparison of two solutions based on tactile or acoustic stimuli, respectively, that suggest a direction of motion that the user is supposed to take on her own will.	Website, academic, and event dissemination	Academics, public authorities, engineers

Nº	Message Subject	Description/Abstract	Channels	Target Audience
18	ACANTO team is working on new efficient algorithms for wheeled vehicles indoor localisation	Indoor positioning often requires detecting and recognizing ad-hoc landmarks or anchor points with known coordinates and/or a given orientation within a given reference frame. A tradeoff exists between number of landmarks and deployment cost. ACANTO approach minimizes the number of landmarks required.	Website, academic, and event dissemination	Academics, engineers
19	Efficient, intelligent, adaptive dynamic motion planning for assisted living	Motion planning for service robots used for human assistance in complex environments is a challenging task with multifaceted requirements. On the one hand, the generated path has to avoid obstacles and still to be perceived as comfortable by the user. Solution is decomposed in generation of waypoints from source to destination and path generation connecting the waypoints. This second part, developed during period 2, takes into account different dimensions of the user's comfort.	Website, academic, and event dissemination	Academics, engineers
20	Older adults like the idea of a system that can help them navigate museums and shopping centres	In deliverable 1.7, older adults are reported who explain why they would value the ACANTO system. They offer specific recommendations for useful features (such as autonomous movement of the FriWalk) and show	Deliverable	Academics

**Table 2. ACANTO new key messages identified during period 2**

### 3.5 Main communication lines

Communication lines remain essentially identical during period 2:

- Deliverables
- Project progress information
- Workshop results, conferences and journals
- Event information and presentations
- Information related to other relevant projects/initiatives.

Table 3 gives an update of communication channel activities during period 2.

Communication channel/media	Characteristics
E-mail	The project coordinator's e-mail address is available at the website: <a href="mailto:palopoli@disi.unitn.it">palopoli@disi.unitn.it</a>
Web	ACANTO home page ( <a href="http://www.ict-ACANTO.eu">www.ict-ACANTO.eu</a> ) has been updated with news, publications and public deliverables. It remains to be the focal point for online project information.
Twitter	@ACANTOProject ( <a href="http://www.twitter.com/ACANTOProject">www.twitter.com/ACANTOProject</a> ). The twitter account has exhibited a limited activity during period 2. Interaction in twitter is expected to increase in the last period of the project corresponding to an effort to increase the public awareness.
Facebook	Similar to the twitter account, the facebook activity has been limited. It is worth noting the publication of the following video showing the new FriWalk configuration: <a href="http://bit.ly/ACANTOvideofb">http://bit.ly/ACANTOvideofb</a>
YouTube Channel	Six videos have been published during period 2 showing technical progress of different aspects, see: <a href="http://bit.ly/ACANTOyoutube">http://bit.ly/ACANTOyoutube</a>

Communication channel/media	Characteristics
Brochure/ Infography	Flyer has remain the same. See “Appendix D: Project New Brochure” and “Appendix C: ACANTO ”
Specific presentations	Adhoc presentations have been prepared for specific workshops
News and Events	The website includes a regular update on news and events
ACANTO workshops	ACANTO has been involved in a number of workshops throughout the project, see section 4.2 for details
Other workshops and conferences	ACANTO has participated in a number of workshops and conferences, see section 4.2 for details
Online web seminars	Web seminars held during period 2 are reported in section 4.2.

Table 3. ACANTO communication channels

### 3.6 Dissemination feedback and evaluation

The mechanisms set up during the first project period to evaluate the success of the project have been used during the second period for feedback evaluation, in particular:

- Success is monitored through the same list of measurable objectives included here below.
- Dissemination activities carried out during the second period have reported on their perceived effectiveness and on the feedback received from the target audience.
- The consortium have shared their views on dissemination and the activities carried out in the period internal meetings that have taken place.

The following table, already reported in D9.1, summarizes the dissemination objectives throughout the project.

Activity	Measurable objective
Publications	<p>The number of scientific publications prepared by ACANTO partners. The target according to the DoA is:</p> <ul style="list-style-type: none"> <li>– 80 papers in top conferences</li> <li>– 25 high impact journals</li> <li>– 5 invited papers on thematic magazines</li> </ul>
Events and seminars	<p>Number of events and stated in DoA: &gt;70</p> <p>Percentage of audience that has shown interest to the project after the event.</p> <ul style="list-style-type: none"> <li>– Size of audience attending events where ACANTO will be as speaker.</li> <li>– Feedback obtained from audience (can be measured by emails received or follow-up activities).</li> <li>– Number of ACANTO leaflets distributed.</li> </ul>

Activity	Measurable objective
Social Media	<p>Twitter</p> <ul style="list-style-type: none"> <li>– Number of tweets (messages) from/to ACANTO</li> <li>– Number of followers: &gt; 1000</li> </ul> <p>Linkedin</p> <ul style="list-style-type: none"> <li>– Number of contacts: &gt; 100 contacts</li> <li>– Number of discussions</li> </ul> <p>YouTube Channel</p> <ul style="list-style-type: none"> <li>– Number of videos</li> <li>– Number of views</li> </ul>
Web Portal	<p>Number of visitors and unique visitors to the portal.</p> <ul style="list-style-type: none"> <li>– Number of page views to the portal.</li> <li>– Demographics of portal visitors (countries).</li> </ul>
Clustering (collaboration with other projects)	Number of involvements in the organization/participation in joint research forums with other national/international projects
Presence in the media	Number of articles in the press, interviews in the radio, TV, ...
Number of people asking for feedback or more information	Number of email, phone calls, private messages in social media, etc. asking for additional information

**Table 4: Measurable Dissemination Objectives and Metrics**



## 4 Update on Dissemination Tools and Material

This section describes the new dissemination material which has been produced during the second period and the dissemination activities that has been carried out.

### 4.1 *Dissemination material*

#### 4.1.1 Project logo

Period 2 has brought a brand new logo to ACANTO to identify our project in its simplest form. We believe that this new logo illustrates better what ACANTO means and it identifies the project in a way that is more recognizable and memorable.

See also Appendix A: Project Logo:



Figure 3. ACANTO logo

#### 4.1.2 Brochure and Merchandising

The ACANTO brochure designed during year 1 has been redesigned to give it a more professional look. Some merchandising has also been created to be distributed in Conferences and public events and make the ACANTO presence more attractive. The new material is included in the Appendices C and D.

### 4.2 *Dissemination activities carried out in Period 2*

#### 4.2.1 Website updates

ACANTO public website (<http://bit.ly/ACANTOWeb>, see also Appendix B: Project Website) was created during year 1 and it has continued to act as the focal point to report on line the project progress, to make public deliverables openly available and report on events organized by the project or other events in which some projects members have participated.

During P2, regular updates of the Web site have taken place. In particular, it is worth mentioning the news feed and the documentation of internal meetings and events. Other changes such as the change of logo have also been reflected in the site.



## 4.2.2 Maintaining a Social Media Presence

ACANTO's Social Media accounts, Twitter; Facebook and YouTube channel were set up during Y1 in order to enable a two-way communication with the active Web2.0 community.

Although some activity has taken place during P2 in social media, notably in Twitter and YouTube, and the connections among the social presence and the Web Portal have been maintained, however social media presence has not been a major dissemination driver during P2. Since social media presence is mainly oriented to increase public awareness, we expect to concentrate this effort in the last project period in which the availability of more project results will facilitate explaining the project benefits to the public.

It is also worth mentioning that other activities of individual partners concerning social media presence have also taken place. In this respect, we can notice the invitation to Dr Andrew McNeill (**UNAN**) to provide a blog post for University College London, Centre for Behaviour Change. The post can be accessed on line through the following URL: <http://bit.ly/BlogUCLondon>

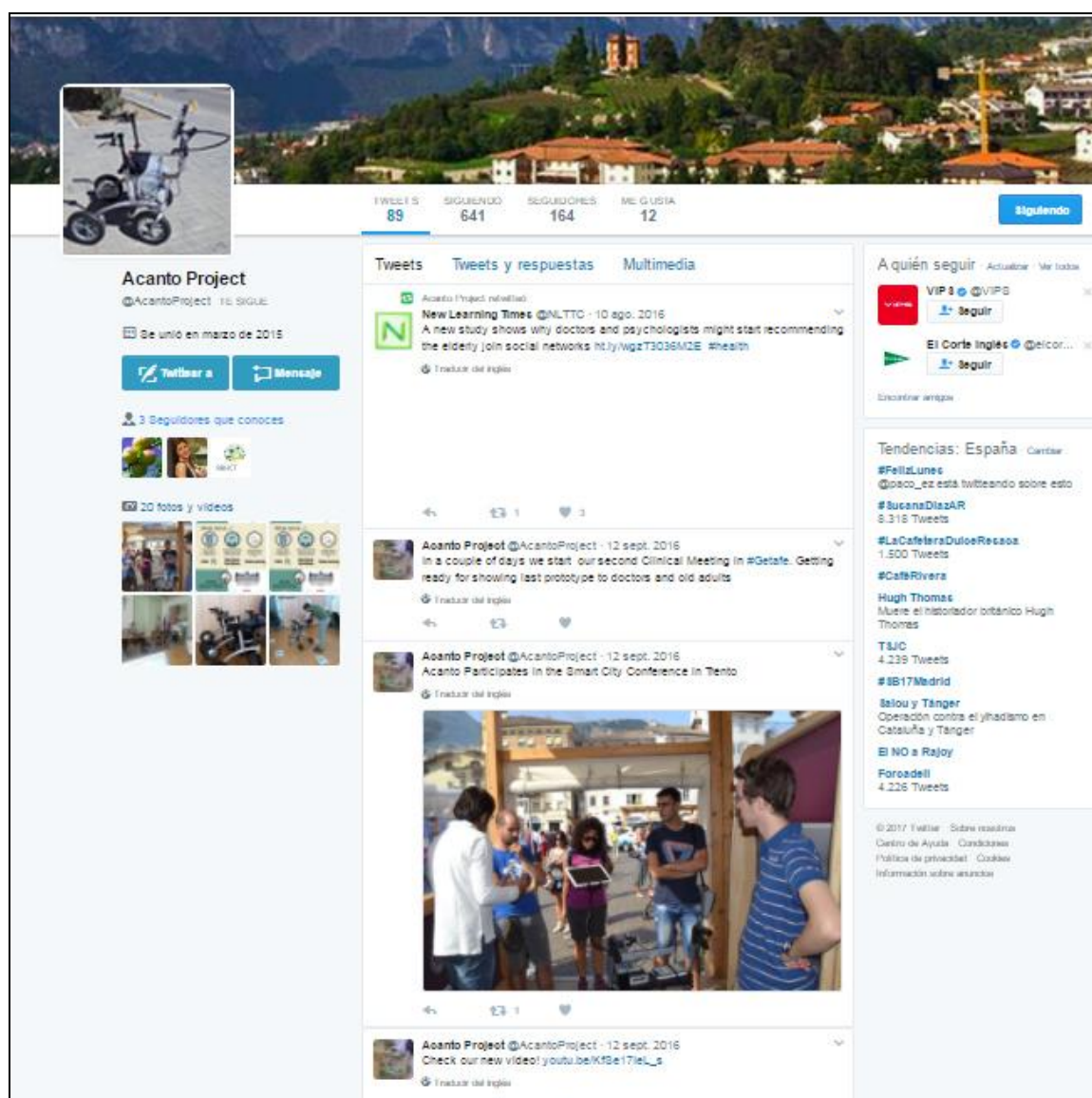


Figure 3. Snapshot of twitter account



Figure 4. Snapshot of facebook account

#### 4.2.3 Scientific publications and press releases

There has been a significant effort during the second period related to Academic Dissemination. Main dissemination activities in the scientific community have been through publications in high impact journals and international conferences specialized in topics related to the ACANTO project. The summarized list of articles and publication is presented in table 5 while a more detailed description per partner is provided below.

#### SIEMENS

##### Press releases

1. Wilma Mert, Walker 2.0: *Medical Assistant and Personal Trainer in One*, On-Line Magazine "Pictures of the Future," May 2016, <http://bit.ly/SieAcantoPress01>
2. *Rollator 2.0: Arzthelfer und persönlicher Trainer*, May 2016 (in German), <http://bit.ly/SieAcantoPress02>

#### UNISI

##### Research Papers and Technical Publications

1. F. Farina, D. Fontanelli, A. Garulli, A. Giannitrapani, D. Prattichizzo, *Walking ahead: the Headed Social Force Model*, Plos One, 12(1), e0169734, DOI: 10.1371/journal.pone.0169734, 2017, <http://bit.ly/UniSiAcantoArt01>
2. S. Scheggi, M. Aggravi, D. Prattichizzo, *Cooperative Navigation for Mixed Human-Robot Teams Using Haptic Feedback*, IEEE Transactions on Human-Machine Systems, PP(99): 1-12, DOI: 10.1109/THMS.2016.2608936, 2016, <http://bit.ly/UniSiAcantoPres02>

3. F. Chinello, C. Pacchierotti, N. G. Tsagarakis, D. Prattichizzo, *Design of a wearable skin stretch cutaneous device for the upper limb*, Proc. IEEE Haptics Symposium (HAPTICS), Pages 14-20, DOI: 10.1109/HAPTICS.2016.7463149, Philadelphia, PA, USA, 2016, <http://hdl.handle.net/11365/986299>
4. M. Aggravi, G. Salvietti, D. Prattichizzo, *Haptic wrist guidance using vibrations for human robot teams*, Proc. 2016 25th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), Pages 113-118, DOI: 10.1109/ROMAN.2016.7745098, New York, USA, 2016, <http://hdl.handle.net/11365/993326>
5. F. Farina, D. Fontanelli, A. Garulli, G. Giannitrapani, D. Prattichizzo, *When Helbing Meets Laumond: The Headed Social Force Model*, Proc. 2016 IEEE 55th Conference on Decision and Control (CDC), Pages 3548-3553, DOI: 10.1109/CDC.2016.7798802, Las Vegas, USA, 2016, <http://hdl.handle.net/11365/1005541>
6. M. Aggravi, S. Scheggi, D. Prattichizzo, *Evaluation of a predictive approach in steering the human locomotion via haptic feedback*, Proc. 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Pages 597-602, DOI: 10.1109/IROS.2015.7353433, Hamburg, Germany, 2015, <http://hdl.handle.net/11365/980703> (already listed in the previous dissemination report);
7. D. Fontanelli, A. Giannitrapani, L. Palopoli, D. Prattichizzo, *A passive guidance system for a robotic walking assistant using brakes*, Proc. 2015 54th IEEE Conference on Decision and Control (CDC), Pages: 829-834, DOI: 10.1109/CDC.2015.7402332, Osaka, Japan (already listed in the previous dissemination report)
8. T. Lisini Baldi, S. Scheggi, M. Aggravi, D. Prattichizzo, *Haptic Guidance in Dynamic Environments Using Optimal Reciprocal Collision Avoidance*, Submitted to IEEE Robotics and Automation Letters (RA-L);
9. M. Aggravi, D. Prattichizzo, M. Egerstedt, *Haptic Guidance of Human Actors Using Unmanned Aerial Vehicles and Vibro-Tactile Suggestions*, Submitted to IEEE Robotics and Automation Letters (RA-L).

## UNITN

The scientific publications listed here after contain the following explicit reference to ACANTO:

*This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme-Societal Challenge 1 (DG CONNECT/H) under grant agreement n°643644 "ACANTO - A CyberphysicAI social NeTwOrk using robot friends".*

## Journals

1. D. Xu, Y. Yan, E. Ricci, and N. Sebe, *Detecting Anomalous Events in Videos by Learning Deep Representations of Appearance and Motion*, Computer Vision and Image Understanding, 156:117-127, March 2017, <http://bit.ly/UniTNAcantoJou01>
2. X. Alameda-Pineda, J. Staiano, R. Subramanian, L. Batrinca, E. Ricci, B. Lepri, O. Lanz, and N. Sebe, *SALSA: A Novel Dataset for Multimodal Group Behavior Analysis*, IEEE Transactions on Pattern Analysis and Machine Intelligence, 38(8):1707-1720, August 2016, <http://bit.ly/UniTNAcantoJou02>
3. Y. Yan, E. Ricci, R. Subramanian, G. Liu, O. Lanz, and N. Sebe, *A Multi-task Learning Framework for Head Pose Estimation under Target Motion*, IEEE Transactions on Pattern Analysis and Machine Intelligence, 38(6):1070-1083,

June 2016, <http://bit.ly/UniTNAcantoJou3>

4. Francesco Farina, Daniele Fontanelli, Andrea Garulli, Antonio Giannitrapani, and Domenico Prattichizzo, *Walking Ahead: The Headed Social Force Model*. PLOS ONE, 12(1):1-23, 01 2017, <http://bit.ly/UniTNAcantoJou4>
5. Luigi Palopoli, Daniele Fontanelli, Luca Abeni, and Bernardo Villalba Frias, *An Analytical Solution for Probabilistic Guarantees of Reservation Based Soft Real-Time Systems*, IEEE Trans. on Parallel and Distributed Systems, 27(3):640-653, March 2016. <http://bit.ly/UniTNAcantoJou5>

#### Conference proceedings

1. Luca Abeni, Daniele Fontanelli, Luigi Palopoli, and Bernardo Villalba Frias, *Probabilistic Analysis of Bufferless Pipelines of Real-time Tasks*. In Proc. of the 31st Annual ACM Symposium on Applied Computing , SAC '16, pages 1751-1758, Pisa, Italy, 2016. ACM, <http://bit.ly/UniTNConfProc01>
2. Federico Moro, Antonella De Angeli, Daniele Fontanelli, Roberto Passerone, Domenico Prattichizzo, Luca Rizzon, Stefano Scheggi, Stefano Targher, and Luigi Palopoli, *Sensory stimulation for human guidance in robot walkers: A comparison between haptic and acoustic solutions*. In IEEE International Smart Cities Conference (ISC2), pages 1-6, Trento, Italy, Sept. 2016, <http://bit.ly/UniTNConfProc02>
3. Marco Andreetto, Stefano Divan, Daniele Fontanelli, and Luigi Palopoli, *Passive Robotic Walker Path Following with Bang-Bang Hybrid Control Paradigm*. In Proc. IEEE/RSJ International Conference on Intelligent Robots and System , pages 1054-1060, Daejeon, South Korea, Oct. 2016. IEEE/RSJ, <http://bit.ly/UniTNConfProc03>
4. Fabiano Zenatti, Daniele Fontanelli, Luigi Palopoli, David Macii, and Payam Nazemzadeh, *Optimal Placement of Passive Sensors for Robot Localisation*. In Proc. IEEE/RSJ International Conference on Intelligent Robots and System, pages 4586-4593, Daejeon, South Korea, Oct. 2016. IEEE/RSJ, <http://bit.ly/UniTNConfProc05>
5. Payam Nazemzadeh, Daniele Fontanelli, and David Macii, *Optimal Placement of Landmarks for Indoor Localization using Sensors with a Limited Range*
6. . In International Conference on Indoor Positioning and Indoor Navigation (IPIN), pages 1-8, Madrid, Spain, Oct. 2016. IEEE, <http://bit.ly/UniTNConfProc06>
7. Marco Andreetto, Stefano Divan, Daniele Fontanelli, and Luigi Palopoli, *Hybrid Feedback Path Following for Robotic Walkers via Bang-Bang Control Actions*. In Proc. IEEE Int. Conf. on Decision and Control (CDC), pages 4855-4860, Las Vegas, Nevada, US, Dec. 2016. IEEE, <http://bit.ly/UniTNConfProc07>
8. Francesco Farina, Daniele Fontanelli, Andrea Garulli, Antonio Giannitrapani, and Domenico Prattichizzo, *When Helbing Meets Laumond: The Headed Social Force Model*. In Proc. IEEE Int. Conf. on Decision and Control (CDC), pages 3548-3553, Las Vegas, Nevada, US, Dec. 2016. IEEE, <http://bit.ly/UniTNConfProc08>
9. Paolo Bevilacqua, Marco Frego, Enrico Bertolazzi, Daniele Fontanelli, Luigi Palopoli, and Francesco Biral, *Path Planning maximising Human Comfort for Assistive Robots*. In IEEE Conference on Control Applications (CCA), pages 1421-1427, Buenos Aires, Argentina, Sept. 2016. IEEE, <http://bit.ly/UniTNConfProc09>
10. Luca Rizzon, Federico Moro, Roberto Passerone, David Macii, Daniele Fontanelli, Payam Nazemzadeh, Michele Corrà, Luigi Palopoli, and Domenico



Prattichizzo, *c-Walker: A Cyber-Physical System for Ambient Assisted Living*. In Applications in Electronics Pervading Industry, Environment and Society, pages 75-82. Springer, 2016, <http://bit.ly/UniTNConfProc10>

11. Daniele Fontanelli, David Macii, Payam Nazemzadeh, and Luigi Palopoli, *Collaborative Localization of Robotic Wheeled Walkers using Interlaced Extended Kalman Filters*. In Proc. IEEE Int. Instrumentation and Measurement Technology Conference (I2MTC), pages 1-6, Taipei, Taiwan, May 2016. IEEE. Available online, <http://bit.ly/UniTNConfProc11>

## **FORTH**

### Journals

1. K. Papoutsakis, C. Panagiotakis and A.A. Argyros, *Temporal action co-segmentation in 3D motion capture data and videos*, In *IEEE Computer Vision and Pattern Recognition (CVPR 2017)* (to appear), IEEE, Honolulu, Hawaii, USA, July 2017. [[PDF](#)] [[URL](#)] [[VIDEO](#)]
2. D. Kosmopoulos, K. Papoutsakis and A.A. Argyros, *A framework for online segmentation and classification of modeled actions performed in the context of unmodeled ones*, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)* (to appear), IEEE, July 2016. [[DOI](#)]

### Conference Proceedings

1. D. Michel, A. Qammaz and A.A. Argyros, *Markerless 3D human pose estimation and tracking based on RGBD cameras: an experimental evaluation*, In *International Conference on Pervasive Technologies Related to Assistive Environments (PETRA 2017)* (to appear), ACM, Rhodes, Greece, June 2017. [[VIDEO](#)]
2. G. Karvounas, I. Oikonomidis and A.A. Argyros, *Localizing periodicity in time series and videos*, In *British Machine Vision Conference (BMVC 2016)*, BMVA, York, UK, September 2016. [[PDF](#)] [[VIDEO](#)]
3. P. Panteleris and A.A. Argyros, *Monitoring and interpreting human motion to support clinical applications of a smart walker*, In *Workshop on Human Motion Analysis for Healthcare Applications (HMAHA 2016)*, IET, London, UK, May 2016. [[PDF](#)] [[URL](#)] [[VIDEO](#)]

## **UNAN**

### Conference Proceedings

1. McNeill, A. & Coventry, L. (2016) *"Even in a group I'll not tell them all": Understanding privacy concerns of older adults for designing online social networks*. In Markus Garschall, Theo Hamm, Dominik Hornung, Claudia Müller, Katja Neureiter, Marén Schorch, Lex van Velsen (Eds.), *International Reports on Socio-Informatics (IRSI), Proceedings of the COOP 2016 - Symposium on challenges and experiences in designing for an ageing society. Reflecting on concepts of age(ing) and communication practices*. 13(3), 78-84
2. McNeill, A., Briggs, P., Pywell, J., & Coventry, L. (2017). *Functional privacy concerns of older adults about pervasive health-monitoring systems*. In *Proceedings of PETRA 2017*. ACM. <http://doi.org/10.1145/3056540.3056559>
3. McNeill, A., Coventry, L., Pywell, J., & Briggs, P. (2017). *Privacy Considerations when Designing Social Network Systems to Support Successful Ageing*. In *Proceedings of CHI 2017*. ACM. <http://doi.org/10.1145/3025453.3025861>

No	Title	Main author(s)	Title of the journal or the conference	Number, date	Place of publication	Permanent identifiers (if available) <sup>1</sup>	Open access provided? <sup>2</sup>
1	Detecting Anomalous Events in Videos by Learning Deep Representations of Appearance and Motion	D. Xu, Y. Yan, E. Ricci, and N. Sebe	Computer Vision and Image Understanding	156:117-127, March 2017		<a href="http://www.sciencedirect.com/science/article/pii/S1077314216301618">http://www.sciencedirect.com/science/article/pii/S1077314216301618</a>	Yes
2	SALSA: A Novel Dataset for Multimodal Group Behavior Analysis	X. Alameda-Pineda, J. Staiano, R. Subramanian, L. Batrinca, E. Ricci, B. Lepri, O. Lanz, and N. Sebe,	IEEE Transactions on Pattern Analysis and Machine Intelligence	38(8):1707-1720, August 2016		<a href="http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7313015">http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7313015</a>	Yes
3	A Multi-task Learning Framework for Head Pose Estimation under Target Motion	Y. Yan, E. Ricci, R. Subramanian, G. Liu, O. Lanz, and N. Sebe	IEEE Transactions on Pattern Analysis and Machine Intelligence	38(6):1070-1083, June 2016		<a href="http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7254213">http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7254213</a>	Yes
4	Walking Ahead: The Headed Social Force Model.	Francesco Farina, Daniele Fontanelli, Andrea Garulli, Antonio Giannitrapani, and Domenico Prattichizzo.	PLOS ONE	12(1):1-23, 01 2017.		<a href="http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0169734">http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0169734</a>	Yes
5	An Analytical Solution for Probabilistic Guarantees of Reservation Based Soft Real-Time Systems	Luigi Palopoli, Daniele Fontanelli, Luca Abeni, and Bernardo Villalba Frias	IEEE Trans. on Parallel and Distributed Systems	27(3):640-653, March 2016.		<a href="http://ieeexplore.ieee.org/abstract/document/7070759/">http://ieeexplore.ieee.org/abstract/document/7070759/</a>	Yes
6	Probabilistic Analysis of Bufferless Pipelines of Real-time Tasks.	Luca Abeni, Daniele Fontanelli, Luigi Palopoli, and Bernardo Villalba Friàs.	In Proc. of the 31st Annual ACM Symposium on Applied Computing , SAC '16,	pages 1751-1758,	Pisa, Italy, 2016, ACM	<a href="http://dl.acm.org/citation.cfm?id=2851676">http://dl.acm.org/citation.cfm?id=2851676</a>	Yes

<sup>1</sup> A permanent identifier should be a persistent link to the published version full text or to the final manuscript accepted for publication (link to article in repository)

<sup>2</sup> Open Access is defined as free of charge access for anyone via Internet.

No	Title	Main author(s)	Title of the journal or the conference	Number, date	Place of publication	Permanent identifiers (if available) <sup>1</sup>	Open access provided? <sup>2</sup>
7	Sensory stimulation for human guidance in robot walkers: A comparison between haptic and acoustic solutions.	Federico Moro, Antonella De Angeli, Daniele Fontanelli, Roberto Passerone, Domenico Prattichizzo, Luca Rizzon, Stefano Scheggi, Stefano Targher, and Luigi Palopoli.	In IEEE International Smart Cities Conference (ISC2),	pages 1-6, Sept. 2016.	Trento, Italy,	<a href="http://ieeexplore.ieee.org/abstract/document/7580811/">http://ieeexplore.ieee.org/abstract/document/7580811/</a>	Yes
8	Passive Robotic Walker Path Following with Bang-Bang Hybrid Control Paradigm.	Marco Andreetto, Stefano Divan, Daniele Fontanelli, and Luigi Palopoli.	In Proc. IEEE/RSJ International Conference on Intelligent Robots and System ,	pages 1054-1060, Oct. 2016. IEEE/RSJ.	Daejeon, South Korea,	<a href="http://ieeexplore.ieee.org/abstract/document/7759179/">http://ieeexplore.ieee.org/abstract/document/7759179/</a>	Yes
9	Optimal Placement of Passive Sensors for Robot Localisation.	Fabiano Zenatti, Daniele Fontanelli, Luigi Palopoli, David Macii, and Payam Nazemzadeh.	In Proc. IEEE/RSJ International Conference on Intelligent Robots and System,	pages 4586-4593, Oct. 2016. IEEE/RSJ.	Daejeon, South Korea,	<a href="http://ieeexplore.ieee.org/abstract/document/7580811/">http://ieeexplore.ieee.org/abstract/document/7580811/</a>	Yes
10	Optimal Placement of Landmarks for Indoor Localization using Sensors with a Limited Range. pages	Payam Nazemzadeh, Daniele Fontanelli, and David Macii.	In International Conference on Indoor Positioning and Indoor Navigation (IPIN)	1-8, Oct. 2016. IEEE.	Madrid, Spain,	<a href="http://ieeexplore.ieee.org/abstract/document/7743631/">http://ieeexplore.ieee.org/abstract/document/7743631/</a>	Yes
11	Hybrid Feedback Path Following for Robotic Walkers via Bang-Bang Control Actions	Marco Andreetto, Stefano Divan, Daniele Fontanelli, and Luigi Palopoli.	In Proc. IEEE Int. Conf. on Decision and Control (CDC),	pages 4855-4860, Dec. 2016. IEEE.	Las Vegas, Nevada, US,	<a href="http://ieeexplore.ieee.org/abstract/document/7799011/">http://ieeexplore.ieee.org/abstract/document/7799011/</a>	Yes
12	When Helbing Meets Laumond: The Headed Social Force Model.	Francesco Farina, Daniele Fontanelli, Andrea Garulli, Antonio Giannitrapani, and Domenico Prattichizzo.	In Proc. IEEE Int. Conf. on Decision and Control (CDC),	pages 3548-3553, Dec. 2016. IEEE.	Las Vegas, Nevada, US,	<a href="http://ieeexplore.ieee.org/abstract/document/7798802/">http://ieeexplore.ieee.org/abstract/document/7798802/</a>	Yes
13	Path Planning maximising Human Comfort for Assistive Robots.	Paolo Bevilacqua, Marco Frego, Enrico Bertolazzi, Daniele Fontanelli, Luigi Palopoli, and Francesco Biral.	In IEEE Conference on Control Applications (CCA),	pages 1421-1427, Sept. 2016. IEEE.	Buenos Aires, Argentina,	<a href="http://ieeexplore.ieee.org/abstract/document/7588006/">http://ieeexplore.ieee.org/abstract/document/7588006/</a>	Yes
14	c-Walker: A Cyber-Physical System for Ambient Assisted Living.	Luca Rizzon, Federico Moro, Roberto Passerone, David Macii, Daniele Fontanelli, Payam Nazemzadeh, Michele Corrà, Luigi Palopoli, and Domenico Prattichizzo.	In Applications in Electronics Pervading Industry, Environment and Society,	pages 75-82. Springer, 2016.		<a href="https://link.springer.com/chapter/10.1007/978-3-319-20227-3_10">https://link.springer.com/chapter/10.1007/978-3-319-20227-3_10</a>	Yes

No	Title	Main author(s)	Title of the journal or the conference	Number, date	Place of publication	Permanent identifiers (if available) <sup>1</sup>	Open access provided? <sup>2</sup>
15	Collaborative Localization of Robotic Wheeled Walkers using Interlaced Extended Kalman Filters. Available online.	Daniele Fontanelli, David Macii, Payam Nazemzadeh, and Luigi Palopoli.	In Proc. IEEE Int. Instrumentation and Measurement Technology Conference (I2MTC),	pages 1-6, May 2016.	Taipei, Taiwan,	<a href="http://ieeexplore.ieee.org/abstract/document/7520443/">http://ieeexplore.ieee.org/abstract/document/7520443/</a>	Yes
16	Temporal action co-segmentation in 3D motion capture data and videos	K. Papoutsakis, C. Panagiotakis and A.A. Argyros	In IEEE Computer Vision and Pattern Recognition (CVPR 2017) IEEE, July 2017.	(to appear),	Honolulu, Hawaii, USA,	<a href="http://www.ics.forth.gr/cvrl/evaco">http://www.ics.forth.gr/cvrl/evaco</a>	Yes
17	Markerless 3D human pose estimation and tracking based on RGBD cameras: an experimental evaluation.	D. Michel, A. Qammaz and A.A. Argyros,	In International Conference on Pervasive Technologies Related to Assistive Environments (PETRA 2017), June 2017.	(to appear)	Rhodes, Greece,		No
18	Localizing periodicity in time series and videos.	G. Karvounas, I. Oikonomidis and A.A. Argyros.	In British Machine Vision Conference (BMVC 2016)	September 2016	York, UK	<a href="http://users.ics.forth.gr/~argyros/mypapers/2016_09_bmvc_periodicity.pdf">http://users.ics.forth.gr/~argyros/mypapers/2016_09_bmvc_periodicity.pdf</a>	Yes
19	A framework for online segmentation and classification of modeled actions performed in the context of unmodeled ones	D. Kosmopoulos, K. Papoutsakis and A.A. Argyros	IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), July 2016. [DOI]	(to appear)		<a href="http://doi.org/10.1109/TCSVT.2016.2589678">http://doi.org/10.1109/TCSVT.2016.2589678</a>	Yes
20	Monitoring and interpreting human motion to support clinical applications of a smart walker	P. Panteleris and A.A. Argyros,	In Workshop on Human Motion Analysis for Healthcare Applications (HMAHA 2016), IET.	May 2016	London, UK	<a href="http://users.ics.forth.gr/~argyros/mypapers/2016_05_IETWorkshop_ACANTO.pdf">http://users.ics.forth.gr/~argyros/mypapers/2016_05_IETWorkshop_ACANTO.pdf</a>	Yes
21	Navigation for Mixed Human-Robot Teams Using Haptic Feedback,	S. Scheggi, M. Aggravi, D. Prattichizzo, Cooperative	IEEE Transactions on Human-Machine Systems,	PP(99): 1-12, DOI: 10.1109/THMS.2016.2608936, 2016,		<a href="http://hdl.handle.net/11365/1005540">http://hdl.handle.net/11365/1005540</a> ;	Yes



No	Title	Main author(s)	Title of the journal or the conference	Number, date	Place of publication	Permanent identifiers (if available) <sup>1</sup>	Open access provided? <sup>2</sup>
22	Design of a wearable skin stretch cutaneous device for the upper limb,	F. Chinello, C. Pacchierotti, N. G. Tsagarakis, D. Prattichizzo,	Proc. IEEE Haptics Symposium (HAPTICS)	Pages 14-20, DOI: 10.1109/HAPTICS.2016.7463149,	Philadelphia, PA, USA, 2016	<a href="http://hdl.handle.net/11365/986299">http://hdl.handle.net/11365/986299</a>	Yes
23	Haptic wrist guidance using vibrations for human robot teams,	M. Aggravi, G. Salvietti, D. Prattichizzo,	Proc. 2016 25th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN),	Pages 113-118, DOI: 10.1109/ROMAN.2016.7745098, 2016,	New York, USA,	<a href="http://hdl.handle.net/11365/993326">http://hdl.handle.net/11365/993326</a> ;	Yes
24	Functional privacy concerns of older adults about pervasive health-monitoring systems	A. McNeill, P. Briggs, J. Pywell, and L. Coventry	Proceedings of PETRA 2017. ACM.			<a href="http://doi.org/10.1145/3056540.3056559">http://doi.org/10.1145/3056540.3056559</a>	Yes
25	Privacy Considerations when Designing Social Network Systems to Support Successful Ageing	A, McNeill, L. Coventry, J. Pywell & P. Briggs	Proceedings of CHI 2017. ACM.			<a href="http://doi.org/10.1145/3025453.3025861">http://doi.org/10.1145/3025453.3025861</a>	Yes
26	Haptic Guidance in Dynamic Environments Using Optimal Reciprocal Collision Avoidance,	T. Lisini Baldi, S. Scheggi, M. Aggravi, D. Prattichizzo,	Submitted to IEEE Robotics and Automation Letters (RA-L);				N.A.
27	Haptic Guidance of Human Actors Using Unmanned Aerial Vehicles and Vibro-Tactile Suggestions,	M. Aggravi, D. Prattichizzo, M. Egerstedt,	Submitted to IEEE Robotics and Automation Letters (RA-L).				N.A.

**Table 5: List of Scientific Publications**

#### 4.2.4 Organization and participation at target events

The ACANTO members have been involved in a number of target events during this second period. The events have included presentation of papers on Conferences and public events to which some consortium member has been invited as speaker. Although the majority of events have taken place in Europe, however it is worth mentioning the presence of ACANTO in a substantial number of Conferences in other continent, notably in the USA, Latam, but also in countries advanced with respect to elderly support as is the case of Japan.

Finally, we must highlight the patent applications of FORTH and UNISI which reflect the quality of the technical work developed during the project (see more details further below).

The following paragraphs describe the project participant's activities in more detail.

##### UNITN

UNITN have been involved in the following events and conferences.

##### Events:

*Second European Summit on Digital Innovation for Active and Healthy Ageing.* European Commissioner Gunther Oettinger, Markku Markkula President of the European Committee of the Regions and the Regional leaders representing the 74 Reference Sites of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA).

The ACANTO project has been represented with an exhibition and with some live demos during the meeting. Moreover, we have also given a brief speech at the "Speakers Corners" to explain the project in details to the attendees.

*Dates:* 5-8 December 2016

*Brochure:* The brochure is available at the event official website:

<http://ec.europa.eu/research/conferences/2016/aha-summit/index.cfm>

*Website url:* <http://ec.europa.eu/research/conferences/2016/aha-summit/index.cfm>

*Photos:* Some of the official photos of the event are reported here after (they are also available online at [http://ec.europa.eu/research/conferences/2016/aha-summit/pdf/press\\_pack.pdf#view=fit&pagemode=none](http://ec.europa.eu/research/conferences/2016/aha-summit/pdf/press_pack.pdf#view=fit&pagemode=none))





ACANTO Attendees: Daniele Fontanelli and Fabiano Zenatti, from UNITN

### Conferences:

In what follows, a list of conferences in which one or more members of the University of Trento has given a talk on ACANTO related papers:

- *31st Annual ACM Symposium on Applied Computing (SAC '16)*
  - 4-8 April 2016, Pisa, Italy. Website: <http://www.sigapp.org/sac/sac2016/src.html>
  - Participant: Luigi Palopoli
- *IEEE International Smart Cities Conference (ISC2)*
  - 12-15 September 2016, Trento, Italy. Website: <http://events.unitn.it/en/isc2-2016>
  - Participant: Daniele Fontanelli and Paolo Bevilacqua
- *IEEE/RSJ International Conference on Intelligent Robots and System (IROS2016)*
  - 9-14 October 2016, Daejeon, South Korea. Website: <http://www.iros2016.org/>
  - Participant: Daniele Fontanelli and Marco Andreetto
- *International Conference on Indoor Positioning and Indoor Navigation (IPIN)*
  - 4-7 October 2016, Alcalá de Henares (Madrid), Spain. Website: <http://www3.uah.es/ipin2016/>
  - Participant: Payam Nazemzadeh
- *IEEE Int. Conf. on Decision and Control (CDC)*
  - 12-14 December 2016, Las Vegas, Nevada, USA. Website: <http://cdc2016.ieeecss.org/>
  - Participant: Luigi Palopoli and Stefano Divan
- *IEEE Conference on Control Applications (CCA)*
  - 19-22 September 2016, Buenos Aires, Argentina. Website: <http://www.msc2016.org/>
  - Participant: Paolo Bevilacqua
- *IEEE Int. Instrumentation and Measurement Technology Conference (I2MTC)*
  - 23-26 May 2016, Taipei, Taiwan. Website: <http://2016.imtc.ieee-ims.org/>
  - Participant: Daniele Fontanelli and David Macii



Trento Smart City Conference, September 2016

## FORTH

### Conferences and Presentations:

- [\*HANDS 2016 Workshop\*](#), in conjunction with IEEE CVPR 2016. Prof Argyros gave an invited talk at the Las Vegas, USA, 1<sup>st</sup> July 2016.
- [\*SFHHMY 2016 Conference\*](#), Prof Argyros gave an invited talk on “*Visual perception of human activities in support of Human-Robot Interaction*,” Chania, Crete, April 23, 2016.
- [\*DIGIFEST 2016\*](#), Prof Argyros gave an invited talk on “*Computer Vision: Making computers see*,” at 9<sup>th</sup> April 2016.
- *MYOSENS workshop on Smart, affordable Prosthetics*, Prof Argyros gave an invited talk at the, Gottingen, Germany, 8<sup>th</sup> March 2016.
- “*Observing hands in action*,” CVSSP. Prof Argyros gave an invited talk, University of Surrey, Guilford, UK, Jan 21, 2016.

## UNAN

UNAN have been involved in the following events and conferences.

### Events:

- *Organization of Dissemination Event at NewCaste*: On the 15th December, 2016, U. Northumbria held a dissemination event and created a subsequent brochure. All participants from studies were invited and local stakeholders (museums, older adult charities). The findings were well received and promoted more discussion about the uses for the system and potential issues which participants thought should still be addressed.



- *Coop 2016*: This is the *12th International Conference on the Design of Cooperative Systems*. This is a key European conference on cooperative and collaborative computing and is affiliated to EUSSET (the European Society for Socially Embedded Technologies). The COOP conferences promote the idea that cooperative systems design requires a deep understanding of collective activities, involving both artefacts and social practices, within a context. WP1 presented two papers at this conference, including one led by U. Northumbria. Antonella De Angeli from Trento was the Chair and organiser of this conference. The following paper was presented: McNeill, A. & Coventry, L. (2016, 24th May 2016). *"Even in a group I'll not tell them all": Understanding privacy concerns of older adults for designing online social networks*
- *Chi 2017 Workshop*: U. Northumbria (WP1) will be taking part in this workshop and discussing older adults and technology with HCI participants from around the world. Our paper includes all our work, including ACANTO as our most recent. We have not acknowledged the ACANTO project, but we have mentioned it.
- *Petra 2017*: This is the *10th International Conference on Pervasive Technologies related to Assistive Environments*. This will be attended by U. Northumbria and U. Trento, and two papers (one full, one short) will be presented.

## UNISI

### Events

- *18/12/2015 Cultural event "...e Vento,"* organised, in Florence, Italy, by Poste Italiane Toscana-Umbria, Italian postal services company. Domenico Prattichizzo (UNISI) invited speaker on "La robotica al servizio della vita" (TR. The Robotics at the service of life)
- *8-11/04/2016 IEEE Haptics Symposium, Philadelphia, Pennsylvania, USA.* Presentation of the paper "F. Chinello, C. Pacchierotti, N. G. Tsagarakis, D. Prattichizzo. Design of a wearable skin stretch cutaneous device for the upper limb", UNISI attendees : Domenico Prattichizzo, Francesco Chinello, <http://2016.hapticsymposium.org/oralsessions#Session1>
- *26-31/08/2016 IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), New York City, USA.* Presentation of the paper "M. Aggravi, G. Salvietti, D. Prattichizzo. Haptic Wrist Guidance Using Vibrations for Human-Robot Teams", UNISI attendee : Marco Aggravi, [https://ras.papercept.net/conferences/conferences/ROMAN16/program/ROMAN16\\_ContentListWeb\\_2.html#sua3\\_03](https://ras.papercept.net/conferences/conferences/ROMAN16/program/ROMAN16_ContentListWeb_2.html#sua3_03)
- *12-14/12/2016 55th IEEE Conference on Decision and Control, Las Vegas, NV, USA.* Presentation of the paper "F. Farina, D. Fontanelli, A. Garulli, A. Giannitrapani, D. Prattichizzo. When Helbing Meets Laumond: The Headed Social Force Model", UNISI attendee : Francesco Farina, [https://css.paperplaza.net/conferences/conferences/CDC16/program/CDC16\\_ContentListWeb\\_2.html](https://css.paperplaza.net/conferences/conferences/CDC16/program/CDC16_ContentListWeb_2.html)

## SERMAS/HUG

- *Participation in Congress of the Spanish Society of Geriatrics and Gerontology, Barceló Hotel, Seville, 8-10 June 2016,* oral communication given. <https://www.segg.es/>

#### 4.2.5 Patent Applications

##### FORTH

- D. Michel and A.A. Argyros, *Apparatuses, methods and systems for recovering a 3-dimensional skeletal model of the human body*, United States Patent No 20160086350, Filed: 22 September, 2015, Published: 24 March, 2016. [[DOI](#)] [[PDF](#)] [[VIDEO](#)]
- D. Michel, K. Papoutsakis and A.A. Argyros, *Gesture recognition apparatuses, methods and systems for human-machine interaction*, United States Patent No 20160078289, Filed: 16 September, 2015, Published: 17 March, 2016. [[Abstract](#)] [[DOI](#)] [[PDF](#)] [[URL](#)] [[VIDEO](#)]

##### UNISI

- M. Aggravi, D. Cioncoloni, T. Lisini Baldi, M. Mohammadi, D. Prattichizzo, S. Rossi, *Sistema per guidare il passo di un soggetto*, Application No. 102016000050153 (UA2016A003488), Application date May 16, [http://www UIBM.gov.it/uibm/dati/Codice.aspx?load=info\\_uno&id=2478332&table=Invention#ancoraSearch2016](http://www UIBM.gov.it/uibm/dati/Codice.aspx?load=info_uno&id=2478332&table=Invention#ancoraSearch2016)

#### 4.2.6 Collaboration with universities and the scientific community

##### FORTH

- Prof Argyros gave a talk to high school students of Crete on “*Computer vision: making computers see*,” Computer Science Department, University of Crete, February 2, 2017.
- Prof Argyros gave an invited talk on “*Tracking human hands and hand-object interactions*,” Computer Science Department, University of Bonn, Bonn, Germany, January 23, 2017.
- Prof Argyros gave an invited talk on “*Vision-based tracking of human activities*,” Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier (LIRMM – CNRS), Montpellier, France, December 9, 2016

##### UNAN

- *Contacts with Frankfurt University of Applied Sciences* around Independent Living. In particular Prof. Barbara Klein who has been developing an International Network on Emotional and Social Robotics. She is part of I-Supported Bath Robots – I-SUPPORT (HORIZON 2020. PHC 10-2014. EU:643666) 2015-2018

#### 4.2.7 Face to face information

##### UNITN

The table below summarizes the different meeting that UNITN group has held with different stakeholders.

Person	Date	ACANTO Participants	Conclusions
Michele Lanzinger (MUSE director)	May 13th 2016	Palopoli, Fontanelli	The director has shown interest in testing ACANTO's technologies in the MUSE. Follow-up meetings were decided for technical setup.
Maria Chiara Franzoia (Member of the Trento's city council, with responsibility for social policy)	June 15th 2016	Palopoli, Fontanelli	The counselor invited us to participate in the Digital City initiative. She also helped us contact association of older adults to showcase the system and to validate the social network.
Luca Zeni (Member of the local government of the autonomous province of Trento, with responsibility for social policy and health care)	August 31st 2016	Palopoli, Mirta Alberti	Dr. Zeni has shown interest in promoting validation and experimentation activities of the FriWalk in hospitals and Hospices owned by the province. Follow-up meetings were decided to study the feasibility of the experimentation.
Sara Caliarì, Elisa Maria Casati (technical staff of the MUSE)	September 27th 2016	Palopoli, Fontanelli	We have decided to start two different collaborations. The first one aims to the validation of the social network (through Amici del Museo network). The second one is an experimentation of the walker in the premises of the MUSE.
Diego Conforti (Director of innovation of the health directorate of the autonomous province of Trento)	October 4th, 2016	Palopoli, Stefano Divan	The director was positively impressed by the walker. He suggested to organise a technical workshop as soon as the technology is mature. He proposed to take advantage of the Province funding to create a startup.
Renzo Dori, Massimiliano Vario (President and Director of a large protected residence for older adults)	October 7th 2016	Palopoli, Guidolin, Fontanelli, Fabiano Zenatti	The director and the president see important potential in the FriWalk technology. They are definitely interested in participating in the technical workshop and in the experimentation.

**Table 6: Face to Face Meetings of UNITN**

## UNISI

The following meetings with potential stakeholders (including general public) have taken place:

- *17/12/2015 Pomeriggi di Studio al Campansi - Seminario Interprofessionale - Aspetti non farmacologici del recupero funzionale dell'anziano* (TR. Interprofessional Seminar on non-pharmacological aspects of the functional rehabilitation of older people within the Afternoon of studies programme held in the Retirement Home Campansi) organised by ASP Local Public Company of Service providers for Persons, Siena, Italy. Domenico Prattichizzo (UNISI) invited speaker on "La robotica al servizio della vita" (TR. The Robotics at the service of life)
- *08/06/2016 Edison Innovation Week 2016*, Milan, Italy. Domenico Prattichizzo (UNISI) invited speaker on "Assolo - Making a new health: un robot da indossare" (TR. Making a new health: a robot to wear), <http://www.edison.it/it/IW16>
- *30/09/2016 La notte dei Ricercatori in Toscana (BRIGHT), Siena, Italy*. Interactive science shows and hands-on experiments for citizens during the European researchers night. The UNISI unit presented live demos on the topic of "La robotica indossabile: nuovo paradigma di interazione uomo-robot" (TR. The wearable robotics: a new paradigma for human-robot interaction), <http://www.bright-toscana.it/bright/>

- *16/10/2016 Maker Faire Rome, Rome, Italy.* Maker Faire Rome is the European edition of Maker Faire, organised by Innova Camera, a Special Agency of the Rome's Chamber of Commerce, and supported by the European Union together with many other international and Italian institutions. The UNISI team presented the demos of the last wearable devices during the event. Domenico Prattichizzo (UNISI) has also participated as speaker, with Giorgio Metta (Italian Institute of Technology), Celia Guimaraes (Rainews), moderator Giampaolo Colletti, to a round table on the subject "Humanoid Generation: robots in our everyday life", [http://explore.makerfairerome.eu/evento/Event\\_354](http://explore.makerfairerome.eu/evento/Event_354)

## UNAN

- *Centre for Life (www.life.org.uk) : Wed, 7th December 2016.* Discussion with the Director about potential as pilot site for ACANTO. Presented the concept. Very well received.
- *Tyne and Wear Archives and Museums (twmuseums.org.uk): 1st Feb 2017.* Spoke to director of Outreach activities. Responsible for multiple museums in the region. (Conversation minutes) Spoke about potential pilot sites and thoughts on the initial concept. We will be meeting them (TWAM) again on 25 April 2017.

## SERMAS/HUG

- *Participation in 'Humanizing health days' ("Jornadas Humanizando la Sanidad")', Hospital Universitario de Getafe, 6 de octubre de 2016,* <http://bit.ly/HumanizandoSanidaHUG2016>

### 4.2.8 Summary of dissemination activities in Period 2

The following table summarizes ACANTO most relevant measurable dissemination activities carried out during the period comprised between M13 and M27.

Activity	Outcomes of P2
Publications	<ul style="list-style-type: none"> <li>– 19 papers in top conferences</li> <li>– 12 papers in high impact journals</li> </ul>
Events and seminars	<ul style="list-style-type: none"> <li>– 17 events participation from 4 different partners</li> <li>– 6 invited talks</li> </ul>
Face to face meetings	<ul style="list-style-type: none"> <li>– Interviews and workshops with more than 60 older adults</li> <li>– Interviews with more than 10 stakeholders</li> </ul>
Social Media	<ul style="list-style-type: none"> <li>– Twitter: total 89 tweets and 164 followers</li> <li>– YouTube: 6 videos</li> </ul>
Web Portal	Activity in Web Portal has been maintained during the whole period. Regular news have highlighted dissemination activities and internal project events.
Clustering (collaboration with other projects)	4 cooperation actions with Universities have taken place during the period
Presence in the media	<ul style="list-style-type: none"> <li>– 2 online press releases oriented to general public (Austria, Germany)</li> <li>– 3 general public oriented events with Acanto participation (Italy, Spain, UK)</li> </ul>
Industrial	<ul style="list-style-type: none"> <li>– 3 patent applications</li> </ul>

Table 7: Key Performance Indicators Dissemination Actions Year 2



### ***4.3 Dissemination plan for Last Period (M27 – M42)***

Dissemination in the last project period is anticipated to follow the growing trend on dissemination activities witnessed during period 2. In effect, while period 1 concentrated in starting to build up the project awareness among the different stakeholders and the community, period 2 activities have substantially increased the scientific dissemination as a result of the availability of more technical outcomes in the project work.

In the last period, the dissemination is expected to follow the increasing impulse in scientific publications but it is also expected to grow the industrial dissemination towards maximizing the exploitation potential. The public awareness will also be tackled by increasing in particular the activities in the online social networks which have been limited during P2. Finally, more contacts are anticipated with policy makers both at local and national and at European levels as a means to amplify the impact of the project.

## 5 Conclusions

This document summarizes the dissemination project plan and the corresponding dissemination activities developed during the second project period (from February 2016 to January 2017). During the reported period, project partners have continued showing a high level of commitment regarding dissemination. Efforts are expected to be maintained during the last project period to increase the impact of the ACANTO project and contribute to its full success.

Primary conclusions/results include the following:

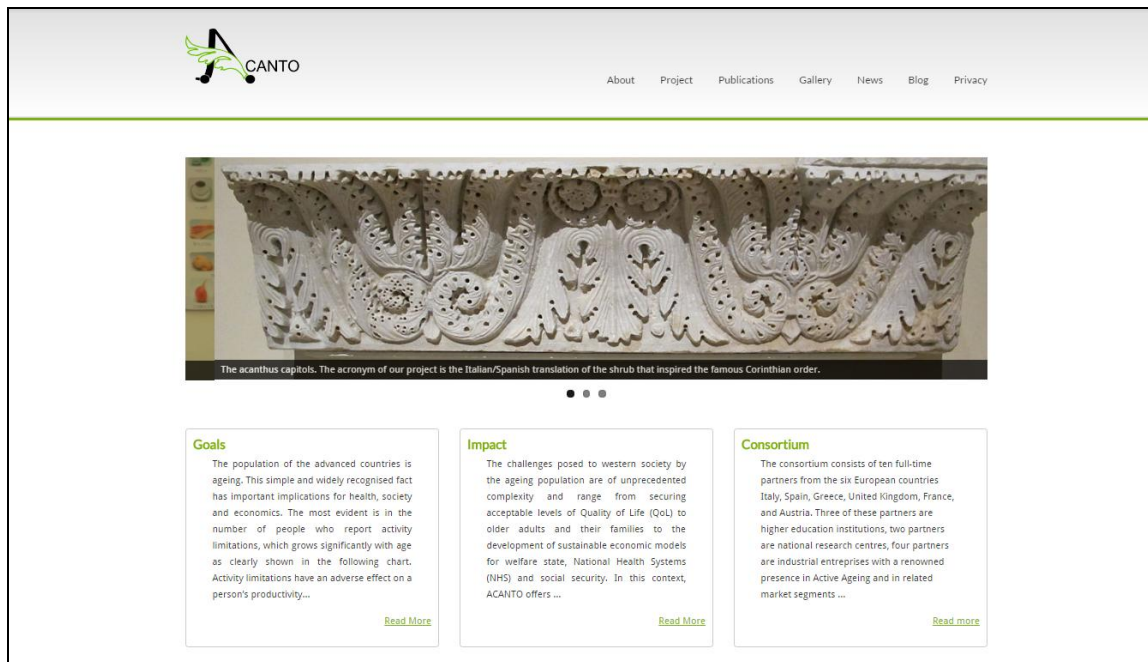
- The project dissemination plan has empowered the ACANTO consortium to put forward a wide spectrum of coordinated actions targeted to specific groups with the goal to amplify the impact of the project in the community.
- The second period of the project has witnessed a substantial increase in scientific dissemination which has doubled the number of scientific publications with respect to the first period.
- Although not the primary goal of the period 2 dissemination, a fair number of dissemination actions oriented to the public have taken place during the period in particular in the countries of the project participants. This number is expected to increase in the last period of the project.
- Some specific actions have addressed public authorities which are essential stakeholders to promote the project results throughout Europe.
- Dissemination to potential industrial partners has also started during period 2 and it is expected to be a key element to increase during the last project period.



## 6 Appendix A: Project Logo



## 7 Appendix B: Project Website



## 8 Appendix C: ACANTO Merchandising





## 9 Appendix D: Project New Brochure

