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List of definitions & abbreviations

Abbreviation	Definition
ASSC	Autonomous Smart Sensing Card
DCP	Dissemination and Communication Plan
ESS	Electronic Smart Systems
IoT	Internet of Things
KPI	Key Performance Indicator
PV	Photo Voltaic

Executive Summary

The aim of communication and dissemination in AMANDA is to help achieve the overall vision and goals of the project. Impact creation in various areas of the project is foreseen and communication and dissemination play an important role in supporting and maximising this impact.

This Deliverable presents the strategy on how communication (promoting the action and its results) and dissemination (sharing the results) can help achieve the goals. This involves activities at project as well as at partner level. It is a central guideline document for the AMANDA Consortium in communicating and disseminating AMANDA to external stakeholders as well as for sharing and coordinating activities internally.

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1 Introduction

The aim of communication and dissemination in AMANDA is to help achieve the overall goals of the project and maximise the project's impact through a strategic approach as outlined by this document.

The task is to promote (communication) and share (dissemination) the AMANDA results effectively to a wide range of stakeholders who have an interest in, are concerned about or are affected by applications within AMANDA's key markets:

- Building automation
- Smart cities
- Wearables
- Industrial IoT
- Health and condition monitoring
- Education (Teaching of IoT concepts)

The distinction between the terms communication and dissemination is presented in the AMANDA Grant Agreement where the obligations are listed. The dissemination obligations concern the obligation to publicly disclose the results from the project and is often related to the scientific activities of making research results known. Unless it goes against their legitimate interests, each beneficiary must, as soon as possible, disseminate its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium).

The communication obligations are extended to promoting not only the results but also the project to a wider audience, thereby going beyond the project's own community. The beneficiaries must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner.

A third, important goal is related to the exploitation of the results of which the dissemination strategy is a prerequisite for the exploitation plans developed during and after the project (Oskar Vujičić). The exploitation plans and an initial report of the AMANDA exploitation activities are presented in **Deliverable D7.5 – Exploitation Report v1**. The purpose of this Deliverable is to establish a common strategic approach to communication, dissemination and collaboration in AMANDA, aligning and coordinating activities taking place at project and partner level. The specific objectives are to:

- Identify relevant target groups and key stakeholders for dissemination activities
- Determine how project resources will be involved in order to reach an optimal dissemination level in all geographical areas relevant to the project
- Plan dissemination meetings or events, such as workshops, conferences and fairs as well as organize participation of partners
- Identify key indicators to evaluate project dissemination strategies and achievements

The Deliverable is part of **WP7 - Exploitation and Dissemination** and specifically **Task T7.1 - Dissemination & Exploitation Planning & Review**. It follows an iterative approach with four versions delivered throughout the lifetime of the project; preliminary dissemination and communication plan (M3), v1 update (M12), v2 update (M18) and final v3 update (M36).

There is a significant overlap between communication and dissemination in terms of target groups, messages, channels and plans, the terms are therefore coined at places and a single plan covering both terms is presented.

This document mainly covers and specifies general activities planned at project level, indicating the responsibilities and activities of individual partners

Since this document is part of a continuous process, being revised throughout the project, it is therefore subject to change and the Consortium will revise the efforts regularly and provide status and updates in the periodic management reports. The Deliverable is structured to move from a general perspective to a detailed plan of action.

2 Analysis

This Section provides the framework for communication and dissemination in AMANDA, and analyses its role and function. Additionally, it highlights the project's main vision, goals and areas of impact and the ways communication and dissemination can help fulfil its objectives. Then, to gain a deeper understanding on the targets of communication and dissemination, stakeholders have been identified and analysed further to establish their roles, interests and communication needs. The Section is concluded by an analysis of the Strengths, Weaknesses, Opportunities and Threats (SWOT) related to communication and dissemination of AMANDA for strategic planning.

2.1 Project vision and goals

The aim of the AMANDA project is to develop a unique Autonomous Smart Sensing Card, essentially a self-powered thin credit card able to monitor air quality, temperature, humidity, image, long range tracing that can easily be deployed in smart indoor (e.g. smart buildings) or outdoor (e.g. smart cities) environments, on-the body (wearables) or on operating machineries (Industrial IoT). AMANDA will use the consortium's partners' expertise in the area of manufacturing infrastructures and know-how, micro- and nano-technology, new composites, architectures and firmware/software to develop innovative technologies whilst also aiming to use existing off-the-shelf technologies when available and suitable. AMANDA's vision is to overcome the current technological challenges and achieve the development of a user-friendly wearable platform. The AMANDA consortium has broken down the project's aim into the following specific objectives, as presented in Table 1:

Project objective	Description
1	To design and develop a maintenance-free, miniaturised and adaptable Autonomous Smart Sensing Card (ASSC) for multipurpose environmental sensing and asset tracking in smart living and working applications and as an educational tool for the teaching of IoT applications ; indoor, outdoor and wearable versions of the ASSC are anticipated
2	To apply high aspect ratio architectures and miniaturization-oriented design in terms of the overall size reduction to achieve a maximum of 3mm thickness depending on sensors employed
3	To ensure maintenance-free (energy autonomy) functionalities exploring energy harvesting and storage concepts for powering microsensor nodes
4	To apply multi-layer optimisation strategies for ultra-low power processing
5	To develop and integrate advanced miniaturised multi-sensing technology that will contribute significantly to the realization of next generation autonomous analytical instruments for distributed environmental sensing, asset and people tracking and monitoring
6	To enrich wireless connectivity capabilities in support of cyber-secure mesh communication as well as ultra-low power localisation and tracking
7	To incorporate build-in ASSC processing capabilities for sensor/data fusion and low power edge intelligence in support of IoT-related services
8	To validate the proposed ASSC in laboratory conditions under variable application scenarios identified from the Voice of the Customers

Table 1 AMANDA project objectives

2.2 Project impact

AMANDA has the ambitious technical aim to optimise current limitations for sensing systems autonomy in terms of energy, decision making and maintenance-free lifetime extension using miniaturized components with the ultimate goal to develop and successfully validate a cost-attractive next generation Autonomous Smart Sensing Cards. The project aims to reach an addressable global electronic smart systems market worth at \$25.96bn in 2017 and forecasted to reach \$72.39bn by the end of 2023, with a CAGR of 18.64% in the forecasted period (2018 - 2023). AMANDA has identified the following expected impacts in Table 2:

Project impact	Description
1	European Technology leadership in ESS performances (functionalities, size, reliability, manufacturability, cost...)
2	Improving ESS manufacturing capabilities in Europe
3	Increasing ESS Market penetration in emerging digital economy sectors
4	Creating new opportunities for digitisation in traditional sectors and improving user acceptance of IoT and energy harvesting technologies
5	Attract a substantial number of new users, from industry (in particular SMEs and mid-caps) and academia, to advanced technologies
6	Increased industrial investments and open innovation marketplace for ESS technologies
7	Increased cooperation and synergy across electronic technology areas, promoting joint, multi-disciplinary initiatives
8	Stimulating the involvement of industry in longer term research and innovation activities
9	Penetration of ESS technologies into newly identified use cases and applications that rely on sensing data fusion and enhanced autonomy/lifetime

Table 2 AMANDA expected impacts

2.3 Communication and Dissemination Objectives

Communication and dissemination in AMANDA should pave the way for an effective and competitive exploitation of AMANDA results for the individual partner organisations. However, it should also support the grand narrative of European innovation.

As outlined in the EC communication guide, AMANDA should demonstrate how it contributes to a European Innovation Union and account for public spending by providing proof that it adds value by:

- Showing how European collaboration has achieved more than would have otherwise been possible
- Showing how the outcomes are relevant to our everyday lives
- Making better use of the results

These public obligations are reflected in the project's agreement with the European Commission whereby the project must engage the public and ensure that knowledge and results are made available for those who would like to use it.

The communication objective in AMANDA is thus to promote the project and its results for maximum impact, demonstrating how EU-funding contributes to tackling societal challenges.

This is achieved by providing targeted information to multiple audiences, including the media and the public in a strategic and effective manner and by engaging its stakeholders in a two-way exchange. The dissemination objective in AMANDA is to make results and knowledge easily available to the public and stakeholder groups who have an interest in AMANDA's key applications (namely building automation, smart cities, wearables, industrial IoT, health and condition monitoring, educational IoT platform), enabling stakeholders to use the results in their own work. This is achieved by enabling open access to scientific publications, sharing open data and offering development tools.

To further maximise the impact, collaboration with support actions and other initiatives with similar strategic objectives is planned to support the take-up and growth of dynamic Smart Living ecosystems. Table 3 to Table 6 illustrate how communication and dissemination will support the achievement of the overall goals in AMANDA.

Project objective	Communication and dissemination objective
To encourage public authorities, businesses and researchers to make the most of Smart Living technologies	<ul style="list-style-type: none"> • To ensure that the stakeholders have access to information about the project, pilots and the results within their interest area. • To ensure that especially the users of the Smart Living technologies i.e. the relevant actors have the opportunity to contact and meet with the pilots • To provide demonstrations of the solution to personal/city challenges • To ensure that scientific publications and results are easily available for the research community and documented in internal assessments of impact
To provide best practice deployment	<ul style="list-style-type: none"> • To provide evidence of best practise based on the identified KPI • To ensure that the general public and the press are continuously made aware of the AMANDA vision, results and innovations • To ensure that the advisory and ethical boards in AMANDA have access to relevant information
To develop attractive business models	<ul style="list-style-type: none"> • To make the value propositions and business prospects available to the relevant stakeholders

Table 3 Goal: To foster the take-up of Smart Living technologies

Project objective	Communication and dissemination objective
To offer plug-in solutions to existing Smart Living IoT devices	<ul style="list-style-type: none"> • To ensure that the relevant stakeholders know of the possibilities of integrating the AMANDA ASSC and have access to the technology • To provide demonstrations of scalability and integration
To contribute to standardisation work	<ul style="list-style-type: none"> • To ensure that the AMANDA contributions are made available from the demonstrations
To influence other Smart Living / IoT related areas	<ul style="list-style-type: none"> • To make the AMANDA concept and results known to other IoT areas and through collaboration with

	other large-scale projects, support actions and initiatives
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Table 4 Goal: To enable open ecosystems at a large scale

Project objective	Communication and dissemination objective
To engage citizens in co-creation	<ul style="list-style-type: none"> To enable access to information, city and personal data and dialogue about city and personal challenges To provide demonstrations of solutions on how to involve the citizens
To improve trust, safety and quality of life	<ul style="list-style-type: none"> To ensure that information about the AMANDA approach to social innovation is available to city, business and personal administrations To make the evaluation results from the pilot demonstrations known to stakeholders
To stimulate tourism	<ul style="list-style-type: none"> To ensure that information about the business impact coming from the pilots is available to the tourism and cultural industries

Table 5 Goal: To gain user acceptance of the Smart Living solution

Project objective	Communication and dissemination objective
To create sustainability of the pilots	<ul style="list-style-type: none"> To ensure that the strategies and promotion actions are informed about internally in the organisations and to its external audiences
To prepare for exploitation	<ul style="list-style-type: none"> To make support material available for partners to use To make the AMANDA concept and results known to strategic networks of partners

Table 6 Goal: To create sustainable solutions

2.4 Stakeholder identification and classification

It is essential that both dissemination and communication of AMANDA project are targeted at people who are of interest to the project. Consequently, it is important that there is a continual identification of key stakeholders throughout the duration of the project.

Categories	Main stakeholders
Industry Decision-Makers	<ul style="list-style-type: none"> High-level decision makers from manufacturing companies in sectors such as telecom operators and IoT equipment manufacturers Professional organizations such as Intelligent Manufacturing Systems (IMS), and the European Factories of the Future Research Association (EFFRA)
Research Community	<ul style="list-style-type: none"> Academic researchers focused on the development of sensors, energy harvesting, batteries, communications and low-power micro-electronics Global IoT Research groups such as European Research Cluster on the Internet of Things (IERC)

	<ul style="list-style-type: none"> • Industry R&D department interested in integrated hardware and software for e.g. smart cities and industry applications, wireless communication, cyber security and events analytics activities • Industrial system designers & developers
End users	<ul style="list-style-type: none"> • Service providers in the areas of smart cities, smart homes and smart workplaces (and other AMANDA taker markets) • Telecom Operators • Local authorities (for smart city applications) • SMEs (focusing on stationary and mobile environmental monitoring applications)
Facilitators	<ul style="list-style-type: none"> • Industry groups focusing on energy harvesting (such Power Sources Manufacturing Association) • Wireless communications groups such as European Wireless Infrastructure Association (EWIA) • Cyber-security industry groups such as European Cyber Security Organisation (ECSO) • EU Institutions (European Commission, European Science Foundation, MEPs) • National public authorities (industrial committees, ministry and regional councils) • EU initiatives such as the Digital Innovation Hubs (DIH) • Standardisation Bodies such as the European Telecommunications Standards Institute (ETSI)
EU citizens	<ul style="list-style-type: none"> • Individuals and civil society

Table 7 Description of stakeholders

2.5 SWOT

A SWOT analysis for the AMANDA ASSC is shown in Table 8. A competitive analysis has highlighted the following threats:

- IoT sensor platforms based on low-power technology: in Europe (Dndiio, Hologram, Sensfix) and worldwide (ANALOG DEVICES, Samsara)
- Smart city solutions: in Europe (Gelumen and Telensa) and worldwide (LOSANT and Soofa)
- Solutions for efficient use of public service facilities: in Europe (Smartsite and Zenodys) and worldwide (Sunflower labs)
- Smart buildings solutions: in Europe (ZULI and Watty)
- Integrated solutions with smart meters and smart sensors: in Europe (KONUX)
- Real time monitoring of power distribution and asset location: in Europe (Power tags)
- Monitoring of water consumption/quality: in Europe (NCSR)
- Monitoring of gas emissions and air quality: in Europe (ChemiSense, Samsung and eLichens) and worldwide (Wuhan, Cubic, Optoelectronics Co Ltd and Birdi)
- Blockchain hardware & software solutions: in Europe (Dajie) and worldwide (FILAMENT)
- Small footprint, ultra-low power/next-generation batteries: in Europe (LPE, Bamomas and Oxis energy) and worldwide (TEXAS INSTRUMENTS and Widetronix)
- Wearable IoT optimized products: in Europe (VOC Electronics) and worldwide (Silicon labs)

Strengths	Weaknesses
<ul style="list-style-type: none"> ✓ Experience in low-power and energy harvesting is available ✓ Combination of innovative sensors (sensor fusion), self-power features form factor not considered or achieved previously at such integration and functionality levels gives a clear position advantage for the consortium. ✓ Previous positive interactions between most of the members from the consortium ✓ World-class efficiency and performance of the 1st generations of components (sensors, Energy harvesting, power management and storage) brought into the project ✓ Good tools for analysis of energy requirements ✓ Good contacts with the low-power semiconductor and sensor industry ✓ Use of energy harvesting is especially important for IoT devices ✓ Personnel highly qualified in this area of activities with great complementarity of the technical skills ✓ Stable economic and financial situation of the partners. Resources already in place for a prompt and efficient project start. ✓ Deep knowledge of the market strategies for the individual components. ✓ Good initial understanding of the potential exploitation routes for the integrated ASSC ✓ Expertise in procedures and methods for protecting intellectual propriety ✓ The consortium is the owner of specific innovative technologies ✓ Positive results from past and ongoing research activities and projects as well as success stories 	<ul style="list-style-type: none"> ▪ Cost of technology is currently higher than competitors which limits it to small sizes ▪ The minimal operation voltage is defined by ADUCM355 (used for CO₂ sensor) and it is 2.8V. It is bit higher than other components in the architecture (2.2V) ▪ Novel sensor technologies. Thus, production processes need to be developed for future commercial production of the novel sensors ▪ The coverage of European countries with LPWAN is not (yet) consistent ▪ Very limited space on the smartcard for future extensions ▪ Lack of standardization across EU countries regarding low-power wireless connectivity makes it more difficult to explain to end-users and deploy in the field (no single wireless protocol solution) ▪ Complexity of the ASSC integration will require multiple iterations that will be challenging to solve within the project timeline ▪ Sensor/data fusion needs to be clarified with further end-user input during the first phase of project ▪ Lack of the awareness among stakeholders and difficulties to understand similar solutions ▪ Slow diffusion of knowledge among potential stakeholders due functional dis-aggregation of the actors in the chain
Opportunities	Threats
<ul style="list-style-type: none"> ❖ Power consumption of IoT sensors and sizes is reducing year after year (compatibility with energy harvesting increasing) ❖ Society is positive towards the use of alternative and renewable energy sources (no batteries, less waste) ❖ Small is beautiful. A smart card format is attractive (easy to carry and install) 	<ul style="list-style-type: none"> ○ Emerging technologies such as Perovskites, DSSCs, organic PV if stability issues are solved ○ Some mobile phone manufacturers have been interested in adding environment sensors

<ul style="list-style-type: none"> ❖ Long range communications add a degree of independence to the system ❖ Sensor fusion will open-up new application opportunities for AMANDA ❖ Air quality sensing in smart sensing is growing due to importance of monitoring and controlling pollution levels ❖ The modularity aspect of the ASSC will offer platform flexibility and further reach. ❖ Business to Business initial market could transition to Business-to-Consumer market upon identification of suitable application(s). 	<ul style="list-style-type: none"> ○ System integrators or other competitors looking into similar concepts for miniaturisation ○ Changes in the regulations landscape (for example privacy laws) could make the deployment of IoT sensing and tracking devices more difficult than anticipated. ○ Obstacles to fast entry into the market such as lack of knowledge and the time needed to overcome technical and technological barriers
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Table 8 SWOT analysis for the AMANDA ASSC

3 Strategy

This Section describes the aim of communication and dissemination and how AMANDA plans to achieve the goals stated in Section 2.1. It contains a stakeholder prioritisation, the key messages and which platforms AMANDA plans to use.

3.1 Aim and Approach

As mentioned, the goal of communication and dissemination in AMANDA is to help achieve the overall vision and goals of the project set out in Section 2.1 for maximum impact. This is performed by a threefold approach; making results and knowledge available (dissemination); promoting results and the project in general (communication) and engage stakeholders (collaboration, demonstration and user engagement). Key objectives include ensuring easy access to information and results for all stakeholders, engaging with stakeholders and providing demonstrations and developer tools.

The strategy is to increase progressively the communication and dissemination activities as demonstration results are obtained, moving from initially assuring wide awareness of the AMANDA project to creating favourable conditions for wider uptake towards the end of the project. A three-phase yearly approach will be used:

- “Phase 1 – Preliminary Project Promotion phase” aims at:
 - Agreeing upon the communication strategy and future activities;
 - Creating initial awareness in the markets related with the Project’s objectives and scope.
- “Phase 2 – “Project Commercialisation phase” aims at:
 - Create more “targeted awareness” regarding AMANDA technologies with key players and potential users;
 - Inform the target market about the technological benefits of AMANDA.
- “Phase 3 – Business Strategy phase” aims at:
 - Maximizing target market and industry awareness regarding the AMANDA device;
 - Thus contributing to ensure the project sustainability and full exploitation.

The process is illustrated in Figure 1 below.

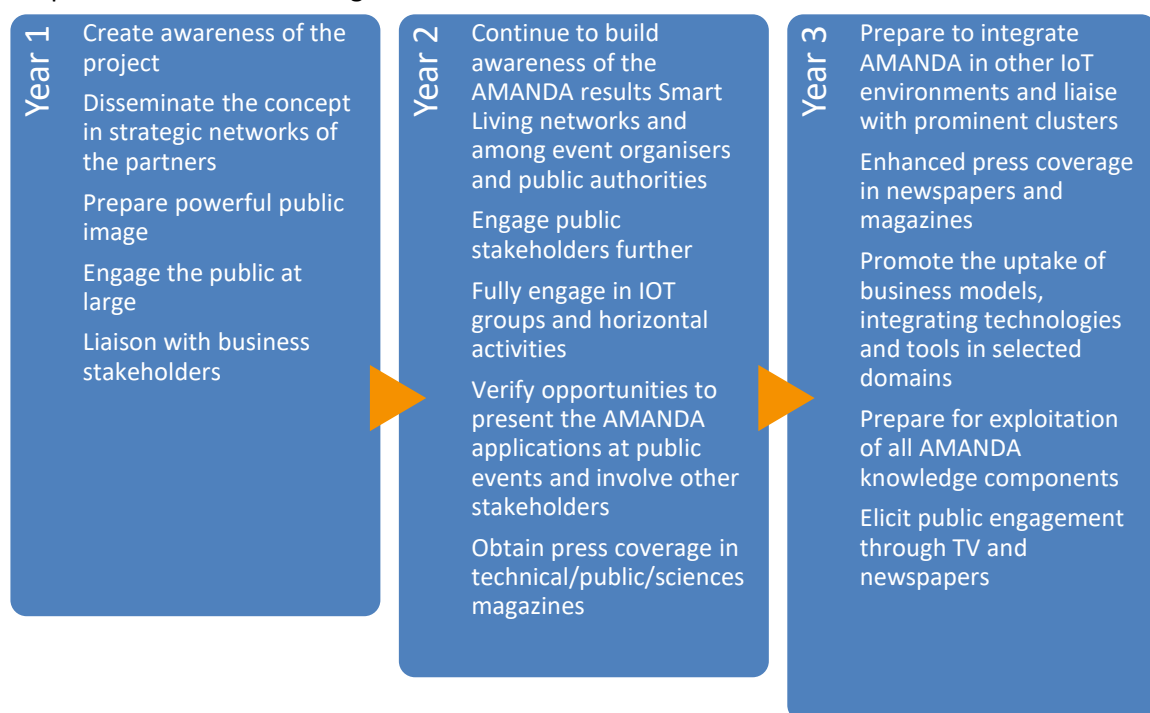


Figure 1 Stages of activities

3.2 Stakeholder prioritisation

The target impact for each of the identified stakeholders is given in Table 9. Key stakeholders of the AMANDA target audience have been allocated priority level in terms of project collaterals, Table 10.

Impact	Main Target Stakeholders				
	ESS manufacturing sector	Research Community	End users	Facilitators	EU citizens
IMPACT 1: European Technology leadership in ESS performances (functionalities, size, reliability, manufacturability, cost...)	X	X	X	X	X
IMPACT 2: Improving ESS manufacturing capabilities in Europe	X		X	X	
IMPACT 3: Increasing ESS Market penetration in emerging digital economy sectors	X		X	X	X
IMPACT 4: Creating new opportunities for digitisation in traditional sectors and improving user acceptance			X		X
IMPACT 5: Attract a substantial number of new users, from industry (in particular SMEs and mid-caps) and academia, to advanced technologies	X	X	X		X
IMPACT 6: Increased industrial investments and open innovation marketplace for ESS technologies	X	X		X	
IMPACT 7: Increased cooperation and synergy across electronic technology areas, promoting joint, multi-disciplinary initiatives		X	X	X	
IMPACT 8: Stimulating the involvement of indus-		X		X	

try in longer term re- search and innovation ac- tivities					
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Table 9 Impact for identified stakeholders

Communication & Dissemination Supports and Channels	Main Target Stakeholders				
	ESS manu- facturing sector	Research Commu- nity	End users	Facilita- tors	EU citizens
Project Documentation					
Leaflet	X	X	X	X	X
Poster	O	X	X	O	X
Reference PPT presen- tation	X	X	X	X	O
Project Publications					
Project newsletter	X	X	X	O	X
Articles and proceed- ings	O	X	X	O	O
Project deliverables	X	X	X	X	O
Open access reposi- tory	X	X	O	O	O
Project video / demo	X	O	X	X	X
Online Presence					
Project website	X	X	X	X	X
Related websites	Depending on specific website				
LinkedIn	X	O	X	X	X
Twitter/Facebook	X	O	X	X	X
YouTube	X	O	X	X	X
Events					
Presentation & feed- back sessions	X	X	O	O	X
Training sessions	O	X	X	O	O
External events	Depending on specific event				
Key					
X	Main target				
O	Secondary target				

Table 10 Priority collaterals list for targeted stakeholders

In addition to the more generic stakeholders detailed in Tables 9 and 10 a specific group of end user stakeholders will be identified based upon the five use cases that the AMANDA consortium will concentrate its efforts. This will be carried out in M13-M15 and a detailed plan to gain their engagement formed for each specific stakeholder group communicated within the consortium will be presented and be included in Deliverable D7.6, version 2 of this report. Further to this, certain individual stakeholders who are thought to be key to the dissemination of the results of the AMANDA project will be targeted specifically be they academic, industrial or governmental in origin. The primary use cases along with the card version they are associated with, are detailed in Table 11. The use cases were selected through the consolidation of the use cases presented in **Deliverables D1.3 – Voice-of-the Customer completed** and **D1.7 – Architecture design of the AMANDA system delivered (for both breadboard and integrates miniaturised system)**.

Use Case	Card Version	Stakeholders
UC1 - Environmental room sensing for automated room control	Indoor	Pressac , SyxthSense
UC2 – Multi-sensor indoor parking slot occupancy monitoring	Indoor/Outdoor	Penta , Smart Parking , Clear-view Intelligence , Bosch
UC3 Infrastructure, noise, weather and air quality monitoring station	Outdoor	Bradley Environmental , Ricardo , Vaisala
UC4 Identification and health of people in a working environment	Wearable	Jawbone, Strava ,
UC5 Assets and goods tracking and monitoring	Indoor/Outdoor	Safactory , Aruba

Table 11 List of Use Cases for the AMANDA ASSC

3.3 Key focus areas and messages

The previous Sections highlighted the communication and dissemination objectives related to the project goals and gave an insight at the communication needs of each stakeholder subgroup. Key target groups have been identified, enabling the project to prioritise the communication efforts and from this, we can establish the key focus areas and messages that we want to convey. The key messages can be construed according to four different focus areas:

- Solution-oriented communication. Engages cities and cultural event communities in the AMANDA demonstration results and the technical proficiency
 - The key message is to be refined in subsequent versions of this document but could include that cities and businesses can add value for all by implementing Smart Living technologies and that the technology is available and ready now
 - AMANDA demonstrates how multiple, existing and new technologies for a smarter living can be implemented at a large scale
 - Innovative applications to be refined in WP1
- Technological dissemination/communication. Engages the IoT community in the unique functionalities of the AMANDA platform in terms of interoperability, scalability, heterogeneity, and closed-loop applications
 - The key message is that current technological restrictions for smart living and wearables can be overcome
- Commercially oriented communication. Informs stakeholders, investors, entrepreneurs and potential customers about the AMANDA solutions, business models and tools

- The key message is that IoT technology can create real economic value, generating new business in various areas and settings
- Story-oriented communication. Informs the general public about the demonstrations and progress in IoT solutions for solving societal issues
 - The key message is that it is possible to embrace the new technologies and reap the societal benefits, without jeopardising data security, privacy and trust

The messages will be further detailed once the AMANDA use cases are in place and the demonstration results start emerging.

3.4 Communication and dissemination channels

The variety of target groups necessitates the use of several platforms for AMANDA to effectively inform, communicate and engage with its many audiences. To reach this wide audience, AMANDA will use a mix of traditional and online communication tools. Online tools suggestions include the project website, social media channels, social awareness platform and webinars whereas the traditional channels cover exhibitions, events, paper presentations, press interviews, TV and radio appearance as well as visits, workshops and meetings. Some are suitable for information sharing; others invite the visitor to engage.

The following Sections present a selection of potential channels to be selected for the different target groups.

3.4.1 Project website

The website is the main communication tool, suitable for addressing the various stakeholders in AMANDA who can quickly click on to their area of interest. It contains the most important information about the project and will be enriched continuously.

It is designed so that is possible to get an overview of the AMANDA story on one page, using images, videos, and lively, engaging content to engage the visitor, reflecting the vibrancy of the cultural and sport events which will be demonstration events in AMANDA.

Most of the language used is non-technical and easy to understand, with the exception of technological and regulatory matters that entail using more specialist terms. However, the aim is to make this content as easily digestible as possible to the average visitor.

3.4.2 Partner websites

Partners use their own websites to promote a general awareness of the AMANDA project, pinpoint their specific role in their own network of stakeholders and some partners will create specific pages for the project that link directly to the AMANDA website.

3.4.3 Social media platforms

To reach and engage a wide audience, information about AMANDA will be spread both on the project as well as on partners' social media sites. Posts are shared to support the flow of news and content added continuously. Some partners will use their social media channels only for special occasions.

AMANDA targets different social media channels to increase visibility, share knowledge faster, promote the results and interact with the public. By using social media, AMANDA meets people where they are, thereby gaining important insight, and AMANDA can take advantage of the networking and viral effect, making it possible to increase awareness considerably. Social media used will be Twitter, LinkedIn, YouTube and Facebook.

3.4.4 Webinars

Webinars are suitable for inviting many stakeholders into the dialogue, sharing knowledge and best practice. AMANDA aim to organise free-to-register presentations aimed at communicating the project’s aims, status and potential of the developed ASSC and disseminating the development of individual components and integration techniques. The webinars will take the form of an oral presentation backed by content and collaterals created by AMANDA, followed by a Q&A and feedback session.

3.4.5 Open data repository

As part of the AMANDA project a central Data Management Portal will be set up. Initially this is intended to allow partners in the consortium to share data on the disparate parts of the AMANDA card in unified way. The portal will be implemented through a web-based platform to enable its users to easily access and effectively manage the various data sets created throughout the development of the Project. As the project progresses the access to the repository will be extended to stakeholders external to the consortium. The Visitors user group will have access to a specific sub-set of the data and reports stored on the repository. Currently this will be available without need for registration.

The Structure of the Data Management Portal is outlined in Figure 3. The visitors to the Data Management Portal will only have access to the Client Tier that will be is the highest level of the application, with which the end user interacts via the user interface elements. The development of the application is designed in such a way that ensures the user-friendliness and quick adaptation to the end-users.

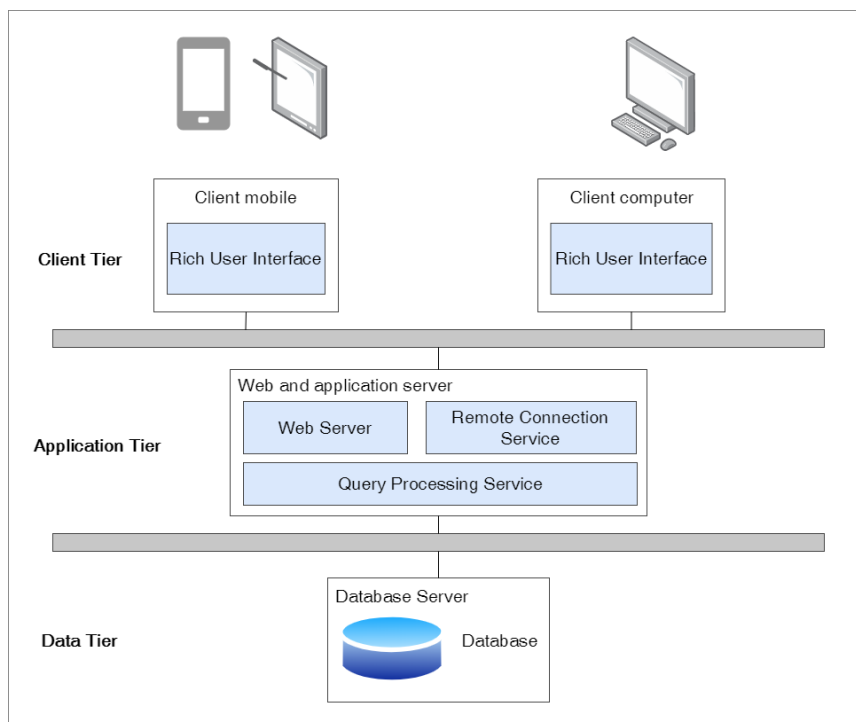


Figure 2 Data Management Portal Architecture

These measures will allow the maximum benefit to be gained from the results produced within the AMANDA project, spreading the advances made to a wider audience. A more detailed description of the open data repository is provided in Section 3.1 of Deliverable D8.2.

3.4.6 Scientific journals and conferences

Scientific journals and conferences (either academic or trade shows) are important dissemination channels for sharing the AMANDA results to academic and industrial communities, creating knowledge impact and enabling stakeholders to use the results in their own work. The channels will mainly be used by the academic partners in AMANDA (technological dissemination). The first submissions to conferences and leading technical journals already took place once substantial scientific results emerged from the project. A target list for additional journals and conference are shown in Table 12:

Event	Location	Date
Smart Home Expo	Birmingham, UK	17-18 March 2020
Connected World Summit	tbc	October 2020 (tbc)
International Conference on Smart Cities, Systems, Devices and Technologies (SMART)	tbc	May 2020 (tbc)
International Conference on Smart Cities and Green ICT Systems (SmartGreens)	Prague, Czech Republic	2-4 May 2020
European Conference on Smart Objects, Systems and Technologies (Smart Sys-Tech)	tbc	June 2020 (tbc)
IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)	Valencia, Spain	29 June to 2 July 2020
IEEE Advanced Information Networking and Applications (AINA)	Casserta, Italy	15-17 April 2020
IEEE International Conference on Systems, Man, and Cybernetics (SMC)	tbc	October 2020 (tbc)
IEEE Globecom	Tapei, Taiwan	7-11 December 2020
Publication	Publisher	Impact factor
Journal of Future Generation Computer Systems	Elsevier	5.768
Journal of Network and Computer Applications	Elsevier	5.273
IEEE Internet of Things Journal	IEEE	1.396

EURASIP Journal on Wireless Communications and Networking	Springer	1.592
Journal on Security and Communication Networks	Wiley	1.376
International Journal of Distributed Sensor Networks	Sage	1.614
Elsevier Computer Networks	Elsevier	3.03
Elsevier Computer Communications	Elsevier	2.766
IEEE Communications Magazine	IEEE	4.460
International Journal of Distributed Sensor Networks	Sage	1.614
Journal of IOT Applications for smart city	Elsevier	2.766

Table 12 Targeted events and publications

3.4.7 Events

To effectively ensure the visibility of the project and establish important liaisons, AMANDA partners will organise and/or attend several events, ranging from conferences, exhibitions to workshops and meetings, targeting different stakeholders.

AMANDA will organise workshop sessions at relevant conferences to demonstrate European advances in IoT platforms and inviting leading scholars as key speakers. Such events will demonstrate both the collaborative aspect of the program (by involving AMANDA partners in same space) and outward-looking, innovative approach by aiming to align the AMANDA approach with state-of-the art developments in the areas of lower-power electronics, sensors, energy harvesting and manufacturing.

Partners will also participate in a limited number of specialised international and national exhibitions to highlight the offerings of AMANDA.

3.4.8 Networks

Partners will all use their local and national networks to communicate and disseminate AMANDA and the particular value propositions which are relevant to their field of operation. They will also engage in various EU and international networks, as well as in clusters of EU and joint programme projects addressing the field.

3.4.9 Other channels

Besides the listed channels, AMANDA will also communicate with stakeholders through mails, meetings, distributing important news, sending press releases, inviting to engage as well as doing presentations. Partners will target relevant online newsrooms with articles and contributions as well as offer interviews.

Relevant EC channels such as newsrooms and blogs will be targeted and contributions made to the coordinated dissemination portal as part of the collaboration with support actions and other large-scale pilots.

4 Plan and Execution

This Section presents the overall communication and dissemination plans for AMANDA, executing the messages through the chosen channels by using different forms and will be refined in subsequent versions. Dissemination activities will be carried out both:

- Collectively by all partners of sub-groups of the whole consortium
- Individually by each partner

The key collective activities will include:

- Development and maintenance of the project website
- Production of project documentation and printing costs
- Organisation of presentation / feedback sessions
- Networking with relevant Digital Innovation Hubs (DIH) and other innovation support structures in the target areas of IoT (ESS CSA)

In addition to collaborative activities, each partner will take charge of planning and executing activities related to their own ecosystem as shown in Table 13.

Partner	Individual Dissemination Plan
CERTH	CERTH will base its dissemination strategy on a multi-scale approach with the central axis being academia, research and industry by publishing results in widely read well-known scientific journals, making presentations at International Conferences, Workshops, Webinars and Exhibitions and seminars for specific audiences
IMEC	IMEC will: publish results on the IMEC website and at conferences; contribute to workshops; submit scientific and popular journal papers; invite interested industrial partners to IMEC Technology Forums (ITF) or IMEC-NL partner events
ZHAW	ZHAW will disseminate information within the flow of teaching activities, helping to enhance courses and providing appropriate examples at different levels. ZHAW will attend conferences, contribute in specialised journals and popular science journals and ASSC in open door promotion activities
Lightricity	Lightricity will engage with the wider scientific and industrial community through presentations, workshops and active involvement nationally (e.g. through Energy Harvesting Special Interest Group) and internationally (trade shows and industry events)
EPEAS	EPEAS disseminate the developed technology by patenting results and by integrating them to its R&D roadmap ultimately leading to the commercialisation of new products with lower power consumption and optimised integration
Microdul	Microdul will market the standard products using the sales force in Europe and Asia. The standard products will be listed on the web-site and datasheets will be made available. Demonstrators will be made for the standard products and presented to potential customers at trade shows. Where appropriate, the products will be presented in talks
Ilika	Ilika will attend IoT and solid-state battery events and will publish any significant developments, after they have been protected by patent
Penta	PENTA's plan is to implement knowledge gathered in this project to other applications of its portfolio. The plan is also to raise awareness among end

	users on the importance of AMANDA card and its benefits in environmental sensing and in people’s quality of life in general
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Table 13 Partners individual dissemination planned activities

The communication timeline will be based on the three-phase approach developed in Section 3.1 and listed below, with specific activities detailed in Figure 3.

- Year 1: Preliminary Project Promotion phase
- Year 2: Project Commercialisation phase
- Year 3: Business Strategy phase

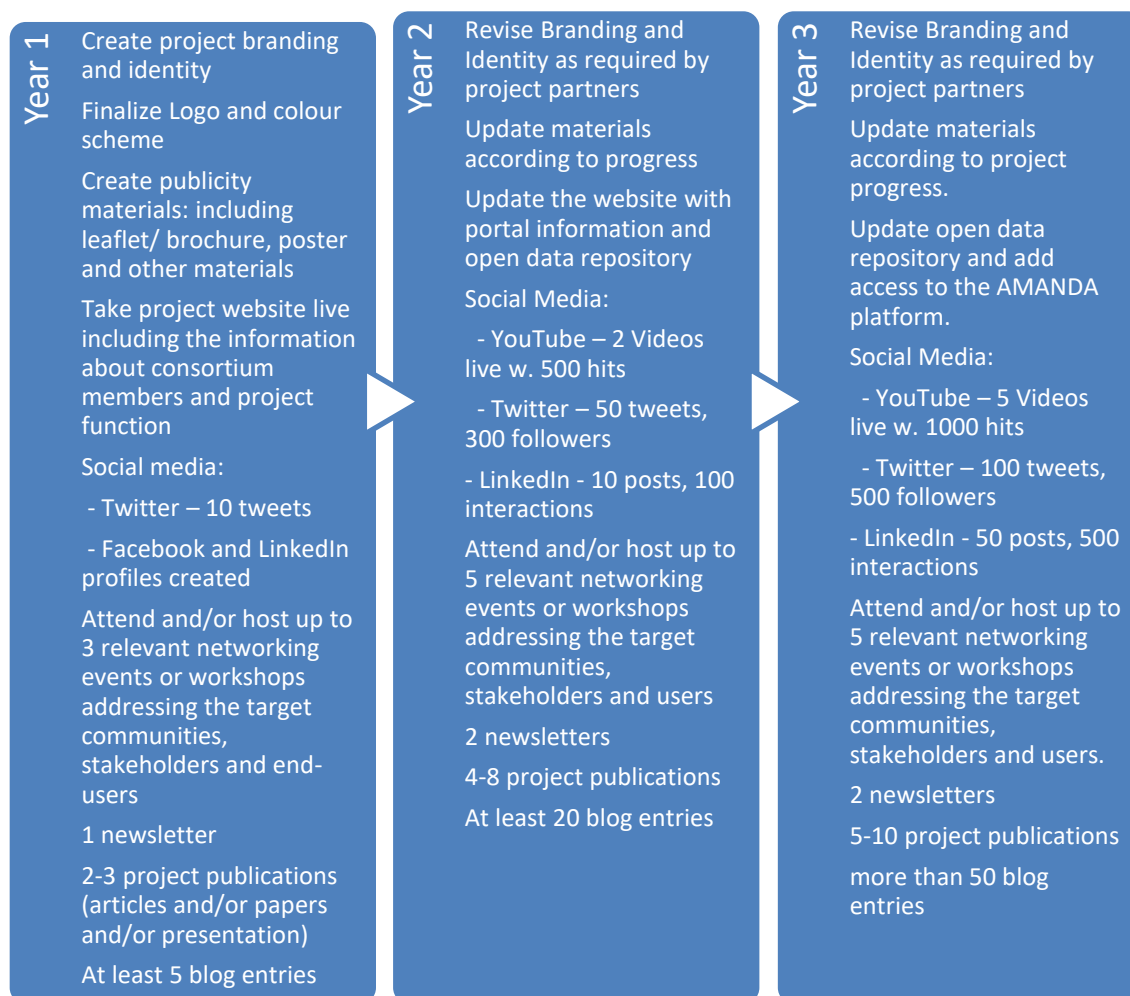


Figure 3 Communication and dissemination approach and overall plan

5 Measurement

To know whether the project meets the needs of the target groups, AMANDA uses different quantitative as well as quality methods to measure communication and dissemination and see if adjustments are needed.

The project will record and closely monitor results generated from communication and dissemination activities, assessing the efforts continuously and status and updates will be provided in the periodic management reports.

5.1 Key Performance Indicators for visibility and knowledge impact

To measure the communication and dissemination progress and impact at project level, a number of quantifiable KPIs have been established, based on an assessment of project size and reach, mix of partners and allocated resources.

Communication & Dissemination Supports and Channels	KPIs
Leaflet	1 project version + 2 technology specific (results)
Poster	1 initial version + update
Reference PPT presentation	1 initial version + update
Project newsletter	6 (semestrial issue)
Articles and proceedings	3 publications per year (in average)
Project deliverables	See list of deliverables
Open access repository	1 deposit per year
Project video / demo	1 initial version + update
Project website	1 website, monthly updated
Related websites	10+
LinkedIn	At least 1 monthly update
Twitter/Facebook	At least 1 weekly update
Presentation & feedback sessions (incl. webinars)	3
Training sessions	3
External events	30+

Table 14 List of key performance indicators for visibility and knowledge impact

5.2 Other quantitative measures

To measure the level of interest in the project and the distribution rate of material, the project will use the following methods.

5.2.1 Web

AMANDA monitors traffic on the website via Google Analytics. On social media, it will use the statistical tools made available from the sites. To increase visibility, posts are shared among partners.

5.2.2 Newsletters

The newsletter will be created using the email marketing platform MailChimp which offers statistical tools for viewership and subscription. Partners will distribute the newsletter to own contacts and report back on the distribution number.

5.2.3 Flyer/brochure

Partners will report on the number of flyers and information material distributed.

5.3 Impact assessment

To assess the quality of communication and dissemination, the project will use the following methods.

5.3.1 Press coverage

Partners will report back on local press coverage to indicate the effect of communication and dissemination and measure the relation between the messages and their perceptions. The result will indicate what the point of interest is and this can be used to generate more similar stories or expose a need to adjust the strategy.

5.3.2 Feedback

Feedback from events and new contacts established will be registered by partners, and any new business opportunities which come from activities are reported. Feedback can help to evaluate the quality of the outcome, reveal new or confirm stakeholder needs, measure the impact and indicate whether the strategy works or has to be revised.

5.3.3 Webinar

The webcasting system that will be used for the webinar should have a built-in statistical feature which will provide data on number of live viewers, number of archived views, from which countries they view and for how long. This data will be used to assess the success of the webinar together with the content of the online participation and feedback from participants. Communication and dissemination efforts will be classified according to level of impact: communicate to build an understanding of the goals and the benefits, communicate to build a deeper understanding of the benefits and communicate for action.

6 Communication Policy

This Deliverable is a central guideline document for communicating and disseminating AMANDA to external stakeholders which will take place at project level and at partner level. To effectively plan, share and coordinate efforts in a project with partners, AMANDA has established a set of policies in terms of internal communication, partner responsibility and obligations which are presented in this Section.

6.1 Internal communication

Strong internal communication is paramount for the achievement of the strategic goals and for making processes as efficient as possible. All partners have identified a communication representative, responsible for activities at partner level and for reporting back at a project level. The internal communication plan will be presented in a subsequent version.

6.2 Partners roles and responsibilities

All partners engage in general communication and dissemination activities at consortium level and partner level, as part of work package activities and areas of expertise. Partners will work together in locating and organising relevant activities and cooperate with stakeholders, relevant projects, clusters and initiatives. Partners are encouraged to think communication and dissemination into all AMANDA activities, bringing forward the good stories to create synergies with other partners and channel them to a wider audience.

Partners and pilot partners in particular are also encouraged to welcome the press, offering interviews, visits and demonstrations.

A table summarising the partners' strategy and plans when disseminating and communicating the project and its results will be completed in subsequent versions.

6.3 Obligations

As set out in the Grant Agreement (GA), partners are obliged to communicate and disseminate the project and its results by disclosing them to the public. Specific provisions for dissemination (dissemination restrictions) are set out in the GA and the Consortium Agreement (CA).

The following sections list the most important aspects. Partners are advised to consult the GA (Article 29 and 38) and the CA (Section 8.4) for further details.

6.3.1 Advance notice

Partners must notify other partners when they intend to disseminate AMANDA results;

- Prior notice of any planned publication shall be given to the other partners at least 45 calendar days before the publication (if not agreed otherwise). Any objection to the planned publication shall be made in accordance with the Grant Agreement within 30 calendar days after receipt of the notice (if not agreed otherwise). If no objection is made within the time limit stated above, the publication is permitted;
- A partner shall not include in any dissemination activity another partner's results or background without prior written approval
- Using other partners' names, logos or trademarks requires a prior written approval

6.3.2 Open access to scientific publications

Partners must enable open access (free of charge online access for any user) to all peer-reviewed scientific publications relating to results:

- Deposit a machine-readable electronic copy of the published version/accepted final peer-reviewed manuscript in a repository as soon as possible or on publication at the latest. Add research data needed for validation of the presented results

- Ensure open access to the deposited publication at the latest on publication if an electronic version is available for free via the publisher or within six months of publication in any other case as well as to the bibliographic metadata that identify the publication
 - Access to the publication and bibliographic metadata is available on the project website on publication or within six months of publication

The bibliographic metadata must be in a standard format and must include all of the following:

- The terms “European Union (EU)” and “Horizon 2020”;
- Management of Networked IoT Wearables – Very Large Scale Demonstration of Cultural and Security Applications, AMANDA, No 732350;
- The publication date, and length of embargo period if applicable, and
- A persistent identifier

6.3.3 Acknowledgement of funding

Acknowledgment of EU funding is obligatory in all communication and dissemination material within the framework of AMANDA (where possible).

The EU emblem (EU flag) must be displayed together with the programme. Example (EU logo must be at least 1 cm high and not smaller than other logos displayed next to it):



This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 825464.

6.3.4 AMANDA logo



6.3.5 Disclaimers

A disclaimer excluding Commission responsibility is added to any dissemination of results. Example:

The content reflects only the author's view. The Commission is not responsible for any use that may be made of the information that it contains.

A legal notice is added to project material when deemed relevant. Example:

This [document, presentation] is intended for information about the AMANDA project only. The AMANDA Consortium makes no warranties, express, implied or statutory as to the information provided in this material. Neither the European Commission nor the AMANDA Consortium are liable for any use that may be made of the information that it contains. All rights reserved. Copyright: the AMANDA Project.

6.3.6 Public Deliverables

All deliverables marked as public will be made available as downloads on the project website after they been approved by the Commission.

Dissemination and communication of results from deliverables classified as either confidential or restricted need to be approved by the Consortium or the involved partners before any release can take place.

7 Conclusions

This document presented the Dissemination and Communication Plan Report of the AMANDA project. The DCP is the strategy that details the corresponding targets, messages and best-suited tools that will be coped with during the overall project period.

In order to achieve AMADA's aim to successfully developed and commercialise an innovative sensing solution, dissemination and communication activities will include building a project identity, embracing digital communications such as website, webinar and social media, creating and distributing pushed collaterals, collaborating with related on-going initiatives and participating in events to present the project's progress.

Deliverable D7.3 - Dissemination and Communication Plan will be reviewed on an annual basis in M24 (update and review) and M36 (final review).