

The AMANDA project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No. 825464

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NEWSLETTER No.3 December 2020

AutonoMous self-powered miniAturized iNtelligent sensor for environmental sensing anD asset tracking in smArt IoT environments



WELCOME TO THE 3RD EDITION OF AMANDA NEWSLETTER!

We hope you are keeping safe and healthy during these turbulent times. The purpose of this newsletter is to keep you informed of the AMANDA project progress, recent achievements and essential activities as we seek to develop a unique Autonomous Smart Sensing Card (ASSC). In this edition, we take a look at the AMANDA activities, introduce the revised list of use cases and operational scenarios, and outline some recent news and events from the last six months of the project. We also present the impacts of the pandemic on the AMANDA activities and announce our future work. More information is available on our website at https://amanda-project.eu, and across our social media channels, LinkedIn, Twitter, YouTube.

Hope you will find the 3rd newsletter informative and look forward to keeping you up to date with AMANDA project research activities during the project lifetime.

AMANDA partners



PROJECT IN A NUTSHELL

The AMANDA project is a research project supported by the European Commission under the Horizon 2020 programme for Research and Innovation, which started in January 2019 with a duration of 36 months.

The main goal of this three-year project is to introduce, design and develop a maintenance-free, miniaturised and easily deployable Autonomous Smart Sensing Card (ASSC) for environmental sensing, as well as for asset and people tracking / monitoring in smart living and working environments. A self-powered thin card (3mm) can monitor air quality, temperature, humidity, image, magnetic field, acceleration and long-range tracing.

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 miniaturised components with the ultimate goal to develop and successfully validate a cost attractive nextgeneration ASSC.



The Consortium

















The COVID-19 pandemic spreading all over the world is having a striking impact on every sector. The situation of COVID-19 also impacted AMANDA partners. Some of our partners experience a temporary closure of their facilities and are working from home. However, everyone put exceptional effort and knowledge in the development of the ASSC and the implementation of the project. Despite some delays caused by the temporary closure of the laboratories that are being used for card components tests, the development of the other technologies is progressing very well, and as expected.

As a beneficiary of an ongoing Horizon 2020 project, we have requested an amendment for extension of the initial duration of the project up to 6 months, to ensure that all activities are carried out as stipulated in the Grant Agreement. All essential project meetings are held via videoconferencing instead of postponing them, to ensure the impact of COVID-19 on project is minimised as much as possible.

In general, the AMANDA project made good progress towards reaching most of the defined objectives. Consortium demonstrated significant progress on the design, development of the AMANDA sensors, in particular CO₂, capacitative, low-power temperature and imaging sensor. Due to the COVID-19 pandemic, the activities focused on testing were delayed, which is why the consortium requested six months of project prolongation.

The consortium developed a simulation tool for predicting the energy consumption of the ASSC system and its components. This tool will be used as part of teaching, which has a positive impact on training early career researchers through the project lifetime. We are also pleased to announce that the development of the AMANDA ASSC first unconstrained prototype has been completed.

To help tackle COVID 19 outbreak, AMANDA partners identified new use cases, scenarios, and recognised global health and medicine market as relevant to the technology developed in the project. Additional health-related scenarios include (SC05) Monitor transportation conditions of medicines/vaccines, and (SC06) Crowd counting for social distancing.



Unfortunately, we also had to postpone some dissemination activities, waiting for better times. Still, we are sure that our social media channels, project website and this newsletter will keep you informed about our activities. Our commitment is to continue to develop AMANDA ASSC and applications you need with the quality, price and functionality you require. Follow us and stay informed about the latest project developments! Contact us directly if you have any questions or want additional information about AMANDA project.

IMPROVING AMANDA ASSC MARKET FIT

AMANDA Use Cases, Scenarios - Revised List

Entering the second year of the project, the consortium defined six (6) use cases and identified nineteen (19) operational scenarios for the different versions of the AMANDA ASSC. Although a large number of various use cases and scenarios are identified, after an effective investigation of the market needs and focused requirements driven by potential end-users, the consortium revised list, and is focusing at **three (3) use cases** and **six (6) operational scenarios** to maximise expected impact, i.e. increasing ESS Market penetration in emerging digital economy sectors.

Use Case	Incorporated Scenario 1	Incorporated Scenario 2
UC1 Environment monitoring and reporting	SC01 Environment and thermal comfort monitoring	SC02 Fire detection
UC2 Assets tracking and occupancy monitoring	SC03 Continuous occupancy monitoring in a parking lot	SC04 Asset and people localisation with access control
UC3 Mitigating the effects of the current pandemic	SC05 Monitor transportation conditions of medicines / vaccines	SC06 Crowd counting for social distancing

Click here to see a detailed description of each operational scenario and potential applications where AMANDA ASSC has the potential for future innovation on the market.

Project Videos Available on YouTube

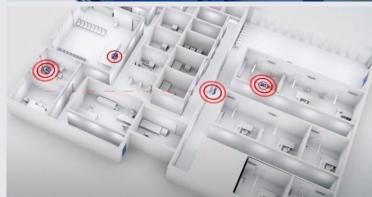
The AMANDA project will soon enter its third year of implementation, which is the crucial commercialisation and business strategy phase, so the aim of creating the first video was to help achieve goals of the project, to explain benefits for stakeholders, and impact to society in general. The projects often have compelling stories to tell. But reaching out to a broad nonspecialist audience is not always an easy task. Therefore, a full two-minute video per each use case or scenario explaining technology, components of the AMANDA ASSC will present how the developed ASSC could be beneficial due to its extreme innovative features.

Check out AMANDA project YouTube channel and videos released so far.









AMANDA project has joined the 5E Digital Showcase and now it's one step closer to become the next Electronics innovator. The Digital Showcase (EU funded H2020 project 5E) is an online platform which aims to increase the visibility of innovative European electronics products, in particular products whose innovative character builds on Nano-Electronics, Flexible & Wearable Electronics and Electronic Smart Systems.

AMANDA in 5E Digital Showcase is creating new opportunities in term of visibility, promotion, networking to European actors, from industry and academia to advanced technologies.



The initiative represents an integral part of the Mesap Innovation Cluster activities to support companies to increase their visibility and impact not only on a territorial level but also internationally. In addition, the seven partners forming the 5E consortium will support AMANDA as an Innovator of the European Electronics Ecosystem and will help to spread awareness about the project and its innovations.





BEST PAPER

in category

Video Presentation

is awarded to

Marcel Meli

Low Light Energy Autonomous LoRaWAN Node



















Best Paper Award in Video Category, IDAACS-SWS 2020

From 17 to 18 September 2020, ZHAW - Zurich University of Applied Sciences, a partner of the AMANDA project, participated in the 5th International Symposium on Smart and Wireless Systems.

Prof. Dr Marcel Meli from ZHAW presented two papers entitled "Low Power LoRaWAN node based on FRAM Microcontroller" and "Low Light Energy Autonomous LoRaWAN Node". We are delighted to announce that the article "Low Light Energy Autonomous LoRaWAN Node" won the best paper award in the video presentation category. Presentation of the paper on "Low Light Energy Autonomous LoRaWAN Node" is available here.

The AMANDA project held its 1st Periodic Review Meeting on the 8 September 2020. Due to COVID-19 pandemic, the review meeting was held online, and was successfully concluded. The comments received from the European Commission Project Officer and project reviewers are constructive and will undoubtedly contribute to the quality and progress of the project. The Project Officer particularly highlighted the good progress in sensor development multi-sensorial optimisation, energy autonomy booster, but also noted significant results linked to dissemination and communication activities, as well as the excellent quality of the submitted deliverables.

Despite the relatively minor delays that have occurred, it was concluded that the project is still well on track towards developing a state-of-the-art 100% autonomous smart multisensory card. Three weeks later, the consortium gathered at the 4th plenary meeting to discuss outcomes from the 1st Project Periodic Review meeting. During the two-day Plenary Meeting, AMANDA partners exchanged views on progress of the project so far. Partners performed analyses for the use cases and operational scenarios to narrow down the final list. Furthermore, there was a discussion of a possible extension of the project due to a pandemic that delayed some of the project activities, like testing components in laboratories etc.

New Project Posters and Leaflet

The AMANDA posters have been designed as an important tool for general project visibility. This is the second version of the poster that send a more precise and more specific message. For this reason, the consortium agreed to prepare two posters that interact. One is commercial presenting six (6) operational scenarios, and the other one explains some technical aspects of the project, in particular ASSC layout and its components.

Download here the commercial poster, and here the technical one.

First project leaflet is also published with the primary objective to provide audiences with an attractive and written project overview; it contains project summary, ASSC architecture, use cases, and operational scenarios. Click here to download the project leaflet!



INTERVIEW: POCKET COMPUTER AS A TOOL AGAINST CORONAVIRUS

Dr Dimitrios Tzovaras, the director at CERTH/ITI and Dr Charis Kouzinopoulos, researcher and project manager at CERTH/ITI, gave an interview in the Athenian/Macedonian News Agency, the Greek National News Agency, on the AMANDA project progress and explained how it is related to the mitigation of the effects of COVID-19. In a very interesting interview, the partners of the AMANDA project, as well as the objectives were presented. Dr Tzovaras emphasised that AMANDA ASSC is a product, the like of which does not exist in the market.



It will be essentially the first system, miniaturised and adaptable Autonomous Smart Sensing Card for multipurpose environmental sensing and asset tracking in smart living and working applications. Click here to read more of the interview with Dr Dimitrios Tzovaras and Dr Charis Kouzinopoulos.

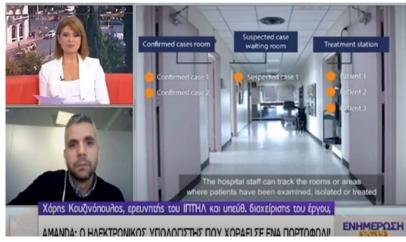
AMANDA in Exclusive Interviews on the Greek National Television

On 30 September, and 1 October 2020, Dr Kouzinopoulos, researcher and project manager at CERTH/ITI, in five-minute interviews on the Greek National Television (ERT3, ERT1) highlighted significant achievements in the development of the AMANDA Autonomous Smart Sensing Card in the first 20 months of project implementation.

Another point of the interview was to showcase how AMANDA ASSC can be relevant to mass medical and health needs. The period of the COVID-19 pandemic taught us that we have to deal with new challenges, and such difficulties opened up new opportunities for project expansion, i.e. the introduction of operational scenarios showing how the AMANDA ASSC may help mitigate current and future epidemics. Watch the full interview in ERT3 and ERT1 on the official YouTube channel of the AMANDA project.

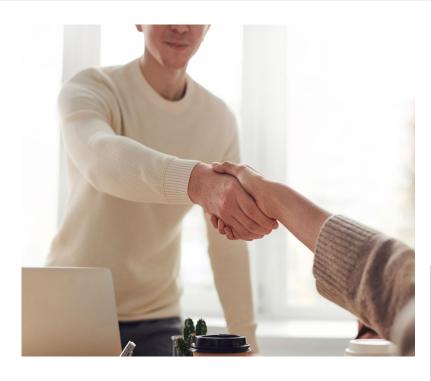






UNDERSTANDING STAKEHOLDER NEEDS

Engagement with stakeholders is crucial to the success and sustainability of the AMANDA project. To increase scientific and commercial impacts of the AMANDA project, the consortium is in the process of setting up an external stakeholder group. The goal of this group is to enable an easy communication channel for the AMANDA consortium to its external stakeholders but also the other way around. Members of the stakeholder group can opt-in to receive a combination of AMANDA collaterals. technical spec sheet, partner contact details, the bi-yearly newsletter and/ or a list of AMANDA specific scientific publications written by AMANDA partners.



Stakeholders also act as multipliers in the dissemination of AMANDA results. Recognising this, we have contacted journals relevant to AMANDA, and are open to introducing our project in workshops and webinars organised by stakeholders. Our partners are sincerely open to further engagement with interested parties, so we are inviting you to contact us at amanda@amanda-project.eu, to join our stakeholder group and achieve successful collaboration.

Wishing You great success in achieving your dreams and goals!





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