



SUSTAIN Deliverable

D8.10 – 2nd update plan for dissemination and exploitation of results including communication activities

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Abstract
<p>This Deliverable is the third plan for dissemination and exploitation of results, whereas the initial version, D8.2, was submitted in M6. The “Detailed plan for dissemination and exploitation of results including communication activities” presents the SUSTAIN project dissemination activities.</p>

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1 Dissemination and Exploitation

1.1 Communication and Dissemination

1.1.1 Dissemination and exploitation of results

The SUST(AI)N team maintains a rolling dissemination and exploitation plan which are to be included in all periodic reports and the final report. A detailed plan for dissemination and exploitation including all communication activities was provided after the project start and this Deliverable is an update of the 2nd version.

The Plan for dissemination of project result and related objectives are listed in the table below. The progress relating to the plan is detailed in connection to each point.

The following outputs have been generated in the frame of the SUST(AI)N project at academic venues:

M1-M12 :

Venue	paper title	Open access
Journal of the Acoustical Society of America 154 (5), 3454-3465	A two-dimensional angular interpolation based on radial basis functions for high frame rate ultrafast imaging	(Q1 journal, green open access)
ACM EWSN - Int. Workshop on Machine Learning for Autonomic System Operation in the Device-Edge-Cloud Continuum (MLSysOps)	FedEdge: Federated Learning with Docker and Kubernetes for Scalable and Efficient Edge Computing	Green Open access
adjunct proceedings of the 2023 ACM International Symposium on Wearable Computing	Unsupervised Diffusion Model for Sensor-based Human Activity Recognition	Green Open access
2023 IEEE 97th Vehicular Technology Conference (VTC2023-Spring)	Fast converging Federated Learning with Non-IID Data	Green Open access
2023 IEEE 32nd International Symposium on Industrial Electronics (ISIE)	Accurate RF-sensing of complex gestures using RFID with variable phase-profiles	Green Open access
IEEE Internet of Things Journal	Wigesture: Meta-motion based continuous gesture recognition with wi-fi	Green Open access
Sensors volume 23, Issue 9.	Systematic Experimental Evaluation of Sub-milliwatt PV Cells for Indoor Applications	Green Open access

M13-M24 :

Venue	paper title	Open access
SenSys 2024	Fast-Inf: Ultra-Fast Embedded Intelligence on the Batteryless Edge	Green Open access
GECCO 2024 conference	NEvoFed: A Decentralized Approach to Federated Neuroevolution of Heterogeneous Neural Networks	Green Open access
journal Neural Computing and Applications	Quality–diversity optimization of decision trees for interpretable reinforcement learning	Green Open access
journal Applied Soft Computing	A population-based approach for multi-agent interpretable reinforcement learning	Green Open access
EWSN 2024 Conference	Memory-efficient Energy-adaptive Inference of Pre-Trained Models on Batteryless Embedded Systems	Green Open access
EnsSys 2023 Workshop	Enabling Efficient Intermittent Computing on Brand New Microcontrollers via Tracking Programmable Voltage Thresholds	Green Open access
ACACES 2022 summer school	Leaf-Weight Virtualization of Fast Feedforward Networks	Poster (non-indexed)
IEEE Sensors Journal	Angle-agnostic frequency sensign integrated into 5G-NR	Green Open Access
IEEE ETFA	RFID-based Human Activity Recognition Using Multimodal Convolutional Neural Networks	Green Open Access
IEEE ETFA	Environment and Person-independent Gesture Recognition with Non-static RFID Tags Leveraging Adaptive Signal Segmentation	Green Open Access
IEEE Sensors Journal	A Paradigm Shift from an Experimental-Based to a Simulation-Based Framework Using Motion-Capture Driven MIMO Radar Data Synthesis	Green Open Access
Elsevier Computer Communications	Direction-agnostic gesture recognition system using commercial WiFi devices	Green Open Access
arXiv prepring	Awareness in robotics: An early perspective from the viewpoint of the EIC Pathfinder Challenge” Awareness Inside”	Green Open Access
Demo at the ACM IoT conference	An Application Programming Interface for Android to support dedicated 5G network slicing	Green Open Access
Poster at the ACM IoT conference	Towards Green Edge Intelligence	Green Open Access
ACM Ubicomp adjunct	Unsupervised Diffusion Model for Sensor-based Human Activity Recognition	Green Open Access

A Summer school on Communications Engineering and Data Science has been conducted in Aalto in 2023. Aalto and UPC participated. Local SUST(AI)N organizers: Prof. Stephan Sigg, Sahar Golipoor, Dariush Salami. Industry participation: Nokia-Bell-Labs. Presentations on radio sensing as well as on machine learning and artificial intelligence.

The SUST(AI)N project is planning to organize a follow-up Summer school at Aalto University in the summer of 2025.

2 Communication per stakeholder group

The SUSTAIN stakeholder groups are listed below, and the update on progress is described.

2.1 General Public

To the general public, we aim to disseminate the SUST(AI)N objective, demonstrators, or videos as well as project results. Via this activity, we hope to spark interest of the general public in awareness technology, particularly for smart buildings. Particularly, the message transported is that the technology with awareness inside is feasible and customer friendly. We will further communicate to the educational community.

2.1.1 Activities conducted

We are planning to generate a video explaining the SUST(AI)N technology to the general public. Particularly, the video will comprise interviews (Q&A) with project researchers.

2.2 Companies

We target companies in building automation, localization, logistics, VR/XR/AR, AAL. TRE is be responsible to disseminate results at EU scale and through regional networks. Our core message is that awareness inside generates opportunities for industrial players. It requires planning though not necessarily extra investment.

2.2.1 Activities conducted

An article has been published in a Sustainability, Energy and New Technologies in Building and the City focused online newspaper. (<https://www.casadomo.com/2023/03/14/proyecto-sustain-dotara-conciencia-edificios-inteligentes-aplicando-procesamiento-ia>)

The sustain project further participates in the Tech2Market activities promoted by the EC. In the frame of these activities, the technology was pitched to 7 industrial players. We had follow-up discussions with three of these on further aspects and to explain some of the details of the technology. A core feedback of these activities was that it is difficult to find a single unique selling point since multiple technologies are combined. The experts have suggested to identify multiple sub-aspects of the technology that focus on a subset of the technologies. Furthermore, a clearer focus on a specific application domain has been requested. Particularly, smart living has been seen as too common and with low potential. The health and elderly domain may promise larger revenue. The experts have expressed that particularly the recognition of sentiment may become a unique selling point for the project.

2.3 Academia

Towards academia, we plan to publish at international workshops and conferences and to create interactions with relevant standardization groups and Technical Committees, (e.g., IEEE RAS TC Smart Buildings, [https:// www.ieee-ras.org/smart-building](https://www.ieee-ras.org/smart-building)).

2.3.1 Activities conducted

Academic dissemination via publications at international venues has started and is at a good level.

3 Communication

SUSTAIN participation in dissemination and public events are detailed below. The table also includes information on Summer Schools linking to SUSTAIN.

Communication effort	Date	Partners	Persons
Article in a Sustainability, Energy and New Technologies in Building and the City - focused online newspaper (https://www.casadomo.com/2023/03/14/proyecto-sustain-dotara-conciencia-edificios-inteligentes-aplicando-procesamiento-ia)	14/03/2023	UPC	Manel Gasulla
CIT UPC article (https://cit.upc.edu/en/portfolio-item/sustain-smart-building-based-on-ai-processing/)	07/07/2023	UPC	Manel Gasulla
https://cit.upc.edu/en/portfolio-item/sustain-smart-building-based-on-ai-processing/ (https://ellis.eu/units/trento and https://pressroom.unitn.it/comunicato-stampa/artificial-intelligence-trentino-unit-ellis-started)	08/09/2023	UNITN	Giovanni Iacca
other EU projects Presentation of the project in the frame of a Department Seminar at Missouri Institute for Science and Technology.	18/09/2023	Aalto	Stephan Sigg
Presentation of the Sustain project and results at the Yildiz TU GradTalks event	23/09/2023	Aalto	Stephan Sigg
Invited talk at the third RBCDSAI conference on Deployable AI organized by the Robert Bosch Center for Data Science and AI (RBCDSAI) (https://rbcdsai.iitm.ac.in/DAI-2023/index.html)	06/06/2023	Aalto	Stephan Sigg
Keynote at the international workshop on networked AI systems (co-located with ACM Mobisys 2023) (https://netaisys.github.io/)	18/06/2023	Aalto	Stephan Sigg
2023 Joint IEEE SPS-AESS and EURASIP Summer School; Lectures on (1) Wireless sensing: Theory and Some fundamental issues; (2) Wireless sensing: Gesture and human activity recognition (https://conference.ece.ncsu.edu/isac/)	26/06/2023	IMT	Daqing Zhang
2023 WinterSchool DELTA (https://sites.tuni.fi/uploads/2023/06/51dc2918-delta_winter_school_2023_v1.1.pdf)	13/02/2023	Aalto	Stephan Sigg
2023 CoDaS Summer School; Sensing and Perception with Data Science (https://www.aalto.fi/en/departement-of-electrical-engineering-and-automation/students-learn-about-communications-engineering-and-data-science-at-th)	24/08/2023	Aalto	Stephan Sigg
Keynote: The 3rd International Conference on Internet of Things, Communication and Intelligent Technology; Towards Cyber-Physical Internet for Smart Modular integrated Construction (MiC) (https://www.iotcit.org/keynote-speakers-2024/)	28/06/2024	IMT	Daqing Zhang
Keynote: 2024 IEEE International Conference on Pervasive Computing and Communications Workshops; From WiFi Sensing to Quantum Sensing: Toward a Wireless Sensing Theory (https://www.computer.org/csdl/proceedings-article/percom-workshops/2024/10503283/1WnrsP3QjFm)	15/03/2024	IMT	Daqing Zhang

Communication effort	Date	Partners	Persons
Invited talk: Establishing awareness through networks of resource-constrained tiny experts.; Invited talk at University of Kassel, Germany; I will discuss the EIC pathfinder challenge project SUST(AI)N, which aims to develop a collective awareness structure from resource-constrained, autonomous sensing-capable digital experts. From an organism of spatially distributed tiny experts, awareness is achieved through an overlay structure, which composes task-specific reasoning structures from appropriate subsets of tiny experts.	12/11/2024	Aalto	Stephan Sigg
Keynote: Establishing awareness through networks of resource-constrained tiny experts.; ACM IoT 2024 conference; We will discuss the EIC pathfinder challenge project SUST(AI)N, which aims to develop a collective awareness structure from resource-constrained, autonomous sensing-capable digital experts. From an organism of spatially distributed tiny experts, awareness is achieved through an overlay structure, which composes task-specific reasoning structures from appropriate subsets of tiny experts. (https://longeviot.github.io/2024/#section-program)	19/11/2024	Aalto	Stephan Sigg

3.1 Website

The SUSTAIN project has a website, www.sustain-project.eu to explain the objectives and to disseminate information about project activities and results. As the project is in its early phases, the use of the website has not yet been active in the first project year.

It is used to publicise new journal articles, news and public Deliverables after the first review.

3.2 Blog and social media

We have created a Google account for the Sustain project, along with social media accounts on platforms including YouTube, Twitter, Medium (for blog posts), and ResearchGate. The accounts are used to regularly disseminate project outputs.

4 Targets for the third project year

We will continue to actively promote the project through conferences, summer/winter schools and presentations at international events.

References