Communication and dissemination strategy

for the Project Education 4.0: Living Labs for the Students of the Future (LLSF)

Contract number 2021-1-RO01-KA220-HED-000032176

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List of participants

Participant No *	Participant organisation name	Acronym	Country
1 (Coordinator)	University POLITEHNICA of Bucharest	UPB	RO
2	Universidade NOVA de Lisboa	NOVA	PT
3	Universita Politecnica delle Marche	UPM	IT
4	Universidad Nacional de Education a Distancia	UNED	ES
5	Tel Aviv University	TAU	IL

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1. Introduction

1.1. Summary

The current document is meant to help the project partners coordinate in terms of dissemination goals and provide the right communication tools to achieve these goals over the *Education 4.0: Living Labs for the Students of the Future* project duration. Moreover, since the document might be shared with communication experts new to the project, throughout the current or future partner organisations, it contains a brief introduction to the fundamental concepts and elements used in communicating the project.

Below, you will find outlines of the different aspects of the communication strategy of the project: its objectives, target audience, and key messages, the project visual identity and communication toolkit. Also, you will find a detailed list of the various communication channels which will be used during the project, as well as other targeted activities, such as pitching or presentations to potential partners.

Although this document is a deliverable to be submitted within the project, it will be regularly reviewed and updated to ensure that it remains both relevant to the objectives of the project and helpful to all those involved.

1.2. Project overview

Advances in digital technologies are already shaping the approach to learning and the university experience altogether. As the fourth industrial revolution focuses on data, smart technologies and interoperability, universities are aligning themselves with the emerging needs of the labour market and digitally-literate students. This means not only changes made in the educational curricula, but entirely new approaches to learning and experimenting.

However, with this new wave of advances in digital technologies, one of the biggest challenges is navigating the oceans of data. Smart laboratories all over the world are exploring an unprecedented number of science domains and experiments. This is certainly incredibly exciting, but it also exposes a fundamental vulnerability in laboratory operations*: the collective inability to harness the power of the huge amount of data we generate.* Whether we talk about research labs or simply laboratories that analyse the research data, *the volume, velocity, and variety of data being generated by*

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scientists is overwhelming the systems required to support it. An Accenture study[1] *found out that up to 70% of experimentation is not reproducible, often due to the inability to find the original research data, or because the experimental conditions (metadata) are inconsistently or inadequately documented.* A solution to this challenge could successfully scale scientific advances and improve the lives of people everywhere.

The solution we are proposing is the development of an international network of interconnected smart labs that will provide students from Master and PhD levels from different parts of Europe with flexible digital study and research options. Through this, the project provides more accessible solutions for higher education - laboratories able to deliver their potential all over the world - while at the same time helping various laboratories synchronise their data in realtime.

Simply put, this helps the included laboratories provide digital readiness in terms of IoT studies and creates resilience of the provided educational service in the face of unexpected events (like the COVID 19 pandemic).

1.3. Concepts

Industry 4.0

We are currently in the middle of a significant transformation regarding the manner in which we create products, and this transformation is happening because of the digitalisation of factories and the process of manufacturing. This transition is so compelling that it is being called Industry 4.0 to represent the fourth revolution that has occurred in manufacturing. Simply put, smart factories nowadays are equipped with advanced sensors, embedded software and robotics that collect and analyse data and allow for better decision making. The resulting value of the production is significantly higher, especially since data from production operations is combined with operational data from resource planning, supply chain, customer service and other enterprise systems to create whole new levels of visibility and insight from previous information usage practices. These digital technologies lead to increased automation, predictive maintenance, self-optimization of process

[1] https://www.accenture.com/_acnmedia/PDF-115/Accenture-Digital-Lab-Transformation.pdf

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improvements and, above all, a new level of efficiency and responsiveness to customers not previously possible.

These concepts can and are currently applied across a wide range of industrial domains that have a direct impact on everyday life. What this means is that Industry 4.0 is beginning to have a great influence over our economy, labour market, and most of the services and products that are currently being used by society at large.

IoT

At the base of this industrial revolution stands the concept of the Internet of Things. The Internet of things (IoT) describes physical objects (or groups of such objects) with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks. The internet of things, or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

A *thing* in the Internet of Things can be a person with a heart monitor implant that has the capacity to alert the hospital whenever needed, a farm animal with a biochip transponder that warns the farm system whenever the animal needs feeding or an automobile that has built-in sensors to alert the driver when tire pressure is low. Within Industry 4.0 factories, these systems represent the foundation of the manner in which the factory operates automatically. A smart factory not only curates and analyses data, it actually learns from experience. It interprets and gains insights from data sets to forecast trends and events and to recommend and implement smart manufacturing workflows and automated processes. A smart factory undergoes continuous procedural improvement to self-correct and self-optimise – it can teach itself (and humans) to be more resilient, productive, and safe.

Education 4.0

Since technology is beginning to penetrate the labour market, a new educational process is emerging. Education 4.0 is a technique of learning that is connected with the fourth industrial revolution and focuses on transforming the future of education through advanced technology and automation. Smart technology, artificial intelligence and robotics are part of this industrial revolution. They are all affecting our daily lives.

In consequence, the universities are currently preparing their students for a world in which cyber-physical systems are ubiquitous across industries. This means that

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in order to produce successful graduates universities are incorporating technology into the curriculum, thus altering the learning process entirely and leveraging technology to enhance university experience.

Simply put, Education 4.0 is a concept that refers to the integration of advanced technologies, such as artificial intelligence, the internet of things, and big data, into the field of education. It aims to transform the traditional educational model into a more flexible, personalised, and technologically advanced one that better meets the needs of 21st-century learners and the demands of the modern workplace. Education 4.0 prioritises student-centred learning, data-driven decision making, and the development of skills that are critical for success in a rapidly changing and technology-driven world, such as problem-solving, critical thinking, creativity, and collaboration..

Living labs

Living labs are experimental environments that are used to test and develop innovative products, services, and technologies in real-life situations and with the involvement of users. They are interdisciplinary spaces that bring together different stakeholders such as researchers, businesses, public authorities, and communities to co-create and validate solutions for complex societal challenges. The aim of living labs is to create a bridge between research and development, and market uptake, and to promote user-centred and sustainable innovation.

1.4. Purpose of the Communication and dissemination strategy

The purpose of the communication and dissemination strategy for this project is to help synchronise the partners in sharing information and raising awareness about the project and its results among multiple groups and stakeholders, including learners, researchers, industry partners, stakeholders, professional networks, national and European research or industrial infrastructures, potential funders, and the general public. The strategy aims to make the project results easily accessible, inform various stakeholders about the benefits of the project, ensure sustainability of the project results, and measure the effectiveness of dissemination. This will help to extend and further adapt the project network to the needs of the labour market, promote student achievement and learning outcomes, and potentially increase funding for the digital education of future professionals.

1.5. Target audiences and benefits provided by the project

The target audiences for this project can be divided into several categories:

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Students: This project aims to provide students with new and innovative learning opportunities, through IoT technologies. The students will benefit from participating in the Living Lab activities, which will provide hands-on experience in developing solutions to real-world problems and help them to develop a range of skills that are relevant to their future careers.

Higher education institutions: For higher education institutions, the project offers the opportunity to share best practices and knowledge in terms of education enhanced by IoT. The institutions will also benefit from the project outcomes and results, which can be used to improve their own education and training programs. In this sense, the project also aims to expand the network of Living Laboratories, which beyond offering more data to all partners can add significant improvements to the Living Labs and study programs offered by all partners.

Industry and business sector: The project will engage with the industry and business sector by involving them in the Living Lab activities, which will provide them with an opportunity to contribute to the education and training of students and to develop new partnerships and collaborations with higher education institutions. The industry and business sector will also benefit from the project outcomes, which will help them to better understand the needs and expectations of future employees. Most importantly, industry partners will gain access to an ever-expanding network of laboratories that can help them improve their products or services by sharing usage data and experiences.

Civil society organisations and communities: The project will engage with civil society organisations and communities by involving them in the Living Lab activities, which will provide them with an opportunity to contribute to the education and training of students and to develop new partnerships and collaborations with higher education institutions from around the world. Civil society organisations and communities will also benefit from the project outcomes, which will help them to better understand the needs and expectations of future employees and to develop new solutions to social and environmental problems.

Policy makers: The project will engage with policy makers by providing them with information and insights into the role of higher education institutions in promoting social responsibility and community engagement. Policy makers will benefit from the project outcomes, which can inform the development of policies and programs to promote these objectives. An important point in this target group category is the fact that the project also aims to contribute to the Sustainable Development Goals, which can certainly help policy makers better understand a larger range of IoT solutions to sustainability challenges.

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Each of these target audiences has different needs and expectations, and the project will offer, through its communication materials and messages, tailored benefits to meet these needs. For example, students will benefit from hands-on learning experiences and opportunities to develop their skills and knowledge, while higher education institutions will benefit from the opportunity to collaborate and share best practices with their peers. Similarly, the industry and business sector will benefit from the opportunity to engage with higher education institutions and to contribute to the education and training of future employees, while policy makers will benefit from the insights and information provided by the project to inform their work.

1.6. Guidelines for stakeholder mapping

Although the already mentioned categories of stakeholders need to be identified in each partner country, we recognise that each country has its own specific context. This means that the stakeholder categories may vary in terms of approach and even importance. Below we propose both a set of guidelines for mapping Various stakeholders and a Google sheets document that will help the partner institutions Synchronise with regards to a common list of stakeholders to be targeted, approached through various channels and invited to the relevant events of the project.

As a guideline for stakeholder mapping - and in line with the google sheets document below - please consider the following:

1. **Identify stakeholders:** This involves identifying all groups and individuals who have an interest or impact on the project.
2. **Classify stakeholders:** Classify stakeholders based on their level of interest and influence on the project. The classification we use is: primary stakeholders (students, teachers, universities), secondary stakeholders (parents, policy makers, industry), and tertiary stakeholders (local communities, media, international associations).
3. **Analyse stakeholders:** Analyse each stakeholder group and understand their specific needs, expectations and objectives. Consider the benefits and impacts of the project on each stakeholder group. Then, in the Analysis column of the Google sheet linked below, please add an analysis with regard with the benefits we could offer.
4. **Develop an engagement plan:** Based on the stakeholder analysis, develop an engagement plan that outlines the methods, frequency and purpose of communication with each stakeholder group. Will we mail them? Phone them? Pitch them directly through a presentation or simply add them to our mailing list?
5. **Monitor and review:** Regularly monitor and review the stakeholder engagement plan to ensure that the needs and expectations of stakeholders are being met. Make any necessary

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adjustments to the plan to ensure continuous improvement. All the updated information with regard to the engagement status of each stakeholder will be accessible in this file.

2. Communication channels

2.1. Communication channels and usage

The communication channels that can be used for the "Education 4.0: Living Labs for the students of the future" project include:

Project Website: The main communication outlet for the entire project, which will contain all necessary information, detailed description of project objectives and further content such as the objectives, results, and information on and about events or conferences.

Articles: Articles in media and journals in specific magazines dedicated to the higher education sector, further articles in the local and national press (online and paper), and online publications in relevant web pages and blogs.

Conferences and events: The project partners will attend and organise relevant conferences and events in the field of higher education, social responsibility, community engagement, as well as similar projects events, to disseminate the project's activities and outcomes and build links with similar projects.

Student associations and scientific associations: These groups will be contacted to promote the project.

Personal contacts: Each partner will communicate with each professor and researcher involved in the project to promote it during their seminars and conferences abroad through their presentations.

The specific usage of these communication channels will be described in the Communication Strategy and will be tailored to reach the target audience effectively and efficiently.

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3. Project visual identity

Through the project identity, we aim to:

- develop a project identity and be able to convey thematic information when needed;
- allow an immediate recognition of the project thanks to standardised communication templates;
- develop specific guidelines and structures related to such template such as a definite set of colours and/or typographic.

Acknowledging EU funding

EU funding should be acknowledged in all publications and official project documents. Acknowledgements with proper wording about EU funding are already included in the project document templates for Deliverables and for PowerPoint presentations, usually on the cover page or on the last page. The wording is:

"This project has received funding from the European Union's ERASMUS+ research and innovation programme under Grant Agreement no. 2021-1-RO01-KA220-HED-000032176."

When acknowledging EU funding, it should also be checked that the publication is conform with the guidelines of the use of the EU emblem, which can be found here:

https://www.eacea.ec.europa.eu/about-eacea/visual-identity/visual-identity-programming-period-2021-2027/european-flag-emblem-and-multilingual-disclaimer_en

Deliverables should include this disclaimer:

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3.1. Logo

Since European funded projects have a huge density of logotypes and logo marks, we decided to develop one single contrast-based minimalist logo that would incorporate essential elements of the project.

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- The symbol of wireless availability - an essential, almost omnipresent mark of Industry 4.0;
- The sun, as a symbol of intelligent and energy-efficient building (also a good contrast, design-wise, for highlighting the logo amongst others of its kind);
- The abbreviated title of the project.

Figure 1: Project logo

3.2. Brand elements

Colors

YELLOW **HEX COLOR: #FDE100;** **RGB(253 225 0)** **PANTONE: PMS 107 C** **CMYK: (100 57 9 52)**	**BLACK** **HEX COLOR: #000000;** **RGB(0 0 0)** **PANTONE: PMS PROCESS BLACK C** **CMYK: (0 0 0 100)**

Smart sun

3.3. Templates

Various formats of templates have been prepared (Word, Excel and PowerPoint) and developed in order to provide partners with *"ready-to-be-used"* documents that will comply with the project brand. These templates must be used by the partners whenever possible when the project is presented, for instance for press releases or presentations related to the project during events.

The font which has been selected to be used on all communication material is Josefin Sans for titles and Open Sans for body text, both available here.

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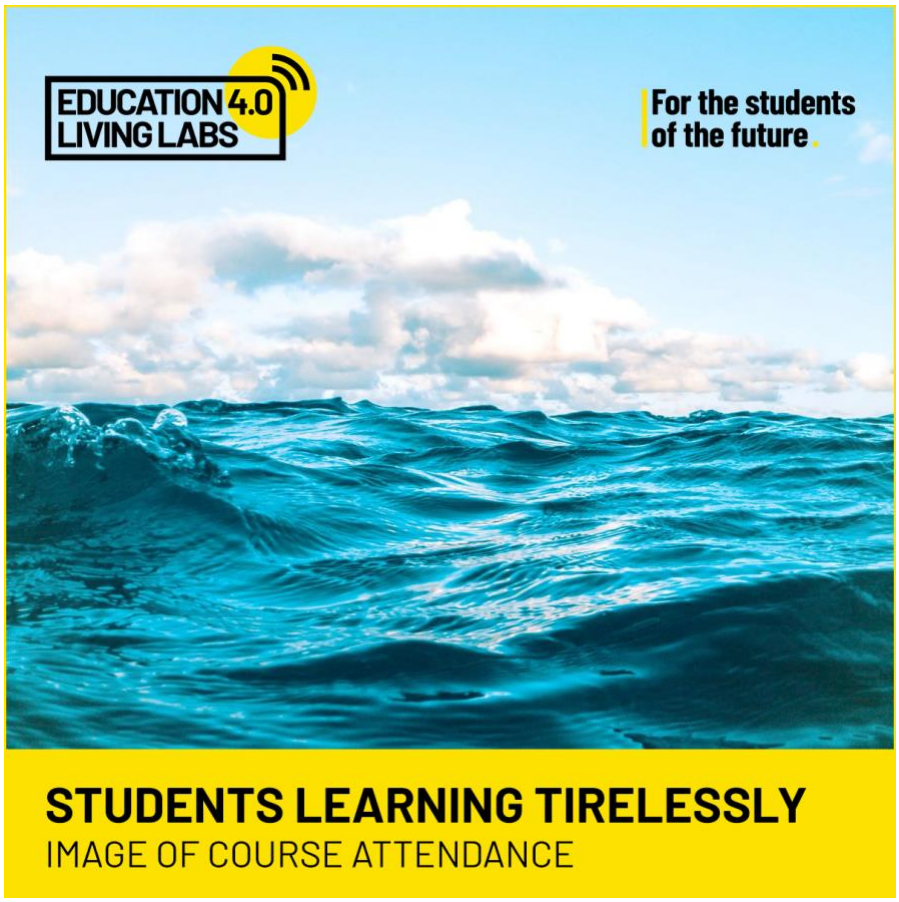
3.4. Social media card (template 1)



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3.5. Goodies (demo)

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4. Activities

4.1. Overview of activities

The dissemination activities planned for the *"Education 4.0: Living Labs for the students of the future"* project are meant to reach the target audiences effectively and efficiently and will be led by P1, which has relevant experience in the field of public relations. The following are some of the planned dissemination activities:

1. Conferences and Scientific Magazines: The partnership will participate in L&T or scientific conferences of international associations and will also organise a conference at the end of the project to disseminate results.
2. Communication with stakeholders: The partnership will maintain continuous communication with other relevant stakeholders such as education and training organisations, social partners, authorities, policy makers, industry, etc.

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3. Working group: A working group will be formed within the partnership, including communication and public relations experts from all partners, to design and conduct the dissemination activities.

These activities are tailored to reach the target audience effectively and efficiently and will ensure impact on institutions both within and outside academia.

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4.2. Activities, implementation, timeline

Activity/month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Communication & dissemination plan																																				
Project identity																																				
Project stationery design																																				
Project website																																				
Banner, posters																																				
Articles on website																																				
Sharing learning outcomes																																				
Multiplier events																																				

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4.3. Multiplier Events

Date	Name	Location	Description	Link
September 2023	eLearning Smart Digital Labs launch event;		70 participants	
March 2024	Change the future together: Co-creating platform for sustainable digital labs	Online	>100 participants	
December 2024	Final conference		>70 participants	
January 2025	Living labs for the industry: skills for the fourth industrial revolution		>70 participants	

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5. Evaluation, monitoring, impact assessment

5.1. Methods for data collection

The evaluation, monitoring, and impact assessment section of the communication strategy will include methods for data collection and analysis to ensure that the communication and dissemination activities are effectively reaching the target audience and achieving their intended goals. Some methods for data collection that could be used include:

Surveys: Surveys can be used to gather feedback from the target audience on the effectiveness of the communication and dissemination activities. Surveys can be conducted online or through other channels, and can be targeted to specific groups or individual stakeholders.

Focus groups: Focus groups can be used to gather in-depth feedback from the target audience on specific aspects of the project or the communication and dissemination activities. This type of data collection can provide qualitative information that can be used to further refine the communication strategy.

Web analytics: Web analytics tools can be used to monitor the impact of online communication and dissemination activities, such as website traffic, engagement rates, and conversions.

It is important to choose the most relevant methods for data collection for each stage of the project, and to ensure that the data collected is sufficient to provide meaningful insights into the effectiveness of the communication and dissemination activities.

5.2. Indicators for measuring the impact and effectiveness of the communication and dissemination strategy

The following table shows a quantitative overview of the dissemination and communication Key Performance Indicators that the project will set:

Tool/Channel	Expected impact	Related KPIs	Targets
Communication materials (logo, templates, etc.)	Facilitate reach to broader audiences in each category	# of stakeholders in the ecosystem, consistently reached by *impressions* of the project. An „impression" is a	> 100

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		rendition on a user's screen or contact with a message on a different support	
		Digital banners	12
Website	Main online information hub, communication of project news, events, results. Raising awareness of project.	# of unique visitors	5.000
		Average duration of visits	1 min
		# of page views	10.000
Project news	Communication of main project news and advancements in an understandable manner, through blog posts	# of news/blog posts	20
		# of visualisations	300
Multiplier events	These events will target the various stakeholders and raise awareness in both students and industry communities	# of participants, in total	

5.3. Plan for sustainability and continuous improvement

The sustainability and continuous improvement plan for the communication and dissemination strategy should include the following elements:

Regular evaluation and monitoring of the communication activities, using the indicators for measuring impact and effectiveness that were previously identified.

Collection of feedback from the target audiences, stakeholders, and partners on a regular basis, to continuously improve the communication and dissemination activities and to ensure that they remain relevant and effective.

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Regular updates to the communication and dissemination materials, such as the project website, brochures, and presentations, to ensure that they remain current and reflect any new developments or outcomes from the project.

The creation of a community of practice among the project partners, stakeholders, and target audiences, to encourage the sharing of best practices, experiences, and lessons learned, and to ensure that the results of the project continue to be used and applied beyond the life of the project.

The development of a sustainable funding plan, which could involve the involvement of new partners, the development of new business models, and the exploration of new funding opportunities, to ensure the long-term sustainability of the project and its outcomes.

The identification and dissemination of best practices, guidelines, and tools developed during the project, to facilitate their uptake and use by other organisations and individuals.

By implementing these elements, the communication and dissemination strategy can be sustained and continuously improved, ensuring that the results and impact of the project are maximised even beyond the project duration.

6. Conclusion

In order to successfully accomplish the main objectives of this Dissemination and Communication Strategy, we will promote a consistent brand, driven by a useful set of tools, and attractive content. The successful communication and dissemination of the project highly depends on the content and partner involvement, therefore we encourage all partners to contribute and share information about the project.

Moreover, as the technological and economic context are prone to change, we encourage all partners to continuously suggest changes to the current plan. In this manner, by the end of the project, the project and consortium partners will benefit from a well-rounded communication strategy for the sustainability period of the project.

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