ENLIGHT'EM

European Training Network in
Low-Energy Visible Light IoT Systems

Innovative Training Networks (ITN)
H2020-MSCA-ITN-2018

Deliverable D4.2

Second report on training activities, presentation of the results of past events and detailed planning of upcoming events

Date of delivery:	31/05/2021	Version:	1.0
Start date of Project:	01/06/2019	Duration:	48 months

Deliverable D4.2

Second report on training activities, presentation of the results of past events and detailed planning of upcoming events

Project Number:	814215
Project Name:	European Training Network in Low-Energy Visible Light IoT Systems

Document Number:	H2020-MSCA-ITN-2018-ENLIGHTEM/D4.5
Document Title:	Second report on training activities, presentation of the results of past events and detailed planning of upcoming events
Deliverable Lead Organisation:	IMDEA Networks
Workpackage:	WP4
Version:	1.0
Dissemination Level:	PU
Contractual Date of Delivery:	31/05/2021
Status:	Final
File Name:	D4_2_Second_report_training_activities_Presentation_results_v1_0.docx

Editors

Borja Genovés Guzmán (IMDEA)
Domenico Giustiniano (IMDEA)

Contributors

All beneficiaries and partner organizations

Abstract

This document captures the second annual report on training activities, presentation of the results of past events and detailed planning of upcoming events of the ENLIGHT'EM project. The purpose of all these activities is the optimization of ESRs learning during their PhD program, as well as the dissemination of knowledge in the project research field.

Revision History

Version	Editor	Date	Change
0.1	Borja Genovés	07/05/2021	First version of deliverable.
0.2	Domenico Giustiniano	17/05/2021	Editorial changes to the content.
0.9	Borja Genovés	21/05/2021	Final editorial work with inputs from partners.
1.0	Domenico Giustiniano	27/05/2021	Final review.

Executive summary

This document captures the second annual report on training activities, presentation of the results of past events and detailed planning of upcoming events of the ENLIGHT'EM project. The purpose of all these activities is the optimization of ESRs learning during their PhD programs, as well as the dissemination of knowledge in the project research field.

Event 0 and Training Event 1 took place within the first year of the project, whose details were included in D4.1. This document focus on Training Event 2 and 3, which took place during the second year of the project. Besides, planning for Training Events 4, 5, 6 and 7 are included in this document, which will take place during the third year of the project.

Contents

List of Figures

List of Tables

List of Abbreviations

ENLIGHT'EM: European Training Network in Low-Energy Visible Light IoT Systems

ESR: Early-stage researcher

EWSN: International conference on embedded wireless systems and networks

IoL: Internet of Lights

MSCA: Marie Skłodowska-Curie Actions

R&D: Research and Development

1. Introduction

1.1. Scope and objectives

This document contains the second annual report on training activities, results of past events and detailed planning of upcoming events, which constitutes the deliverable D4.2 of the H2020-MSCA-Innovative Training Network nº 814215 ENLIGHT'EM.

The purpose of this document is to report the training activities carried out in the project with the main objective of optimizing the training of the early-stage researchers (ESRs) that belong to the training network. Furthermore, a compendium of the results from the training events is detailed, as well as a brief description of the next training events and information about their organization.

1.2. Document structure

The remainder of this document includes a description of the training activities in the second year of the project (M13-M24) in Section 2, the results of these training events together with important additional results in Section 3, and finally details of training events planned for the next 12 months in Section 4.

1.3. Project situation

The project has reacted promptly to minimize the effects of the critical situation that the COVID-19 pandemic is creating. As can be seen in this deliverable, some Training Events have been affected by COVID-19 pandemic, mainly all of them are being organized in a remote mode, always guaranteeing the quality of the training events as well as the safety of all ENLIGHT'EM members.

2. Training activities to date

This Section presents the training events that took place during year 2, providing details of the organization and description of the contents.

2.1.   Training Event 2

 The objective of Event 2, based on the Annex I of Grant Agreement, was as follows:

Event 2: Training on research skills, and project meeting

The ESRs will be kicked off in key skills for research that will be required throughout the course of their doctoral programs and careers. The event is timed to take place within the first 3 months of the ESR recruitment, will be organized by IMDEA. IMDEA will organize the following training modules: research organization (meaning of being a researcher, academic integrity, yearly qualification exams); personal management (self-managed growth through a targeted choice of course offering from various sources, effective use of time). UEDIN will lead for the following modules: transversal research skills (identifying problems of interest, literature search and sources, teamwork); impact (effective publishing practices, networking, scientific presentation practice, communication to wider audiences).

The Training Event 2 took place virtually on July 13th, 20th, 21st, 2020. As it can be seen, the event was split into two main blocks to avoid excessively long online sessions. The first day was dedicated to the Project meeting #2, to which both supervisors and ESRs that joined until that date attended. Instead, 20th and 21st July 2020 were dedicated for the Training above described, as well as to the presentations of Research Proposals from ESRs with a Q&A session from supervisors. During this process, the research proposals have been reviewed and finally approved by the whole consortium.

Following the original plan described above, the Training Event 2 was divided in two main modules:

- Research organization and Personal management: It was organized by IMDEA, and the focus was to provide ESRs with indispensable tools for their research, but also to anticipate main conflicts they may find along their PhD and how they can solve them.

- Transversal Research Skills and Impact: It was organized by UEDIN and it focused on potentiating skills directly related to research, such as effective literature survey and review, how to manage a research project efficiently, how to overcome challenges common to PhD researchers, etc.

Although it was a private event only for ESRs, researchers and management team involved with ENLIGHT'EM, the videos were later published in ENLIGHT'EM Youtube channel as well as the ENLIGHT'EM website to guarantee the highest impact and visibility. This event gave also the opportunity to recently joined ESRs to know each other as well as to give them the opportunity to meet with all supervisors of the network.

Figure 1: Picture of room and one of the speakers during Training Event 2

The agenda of the training event is reported below.

**

MONDAY (13th July 2020):

Project meeting #2

9:30AM - 12:30PM CEST

MONDAY (20th July 2020):

- Training on Research Organization and Personal Management
- Research proposals presentations (ESRs).

9:30AM - 4:00PM CEST (Full day)

Location: remotely via Zoom application

Organizers: IMDEA and UEDIN.

Detailed program:

Table 1: Agenda of Training Event 2 (Day 1)

Time	*Training module*	*Talk title*	*Responsible*
9:30-10:30	*Research organization & Personal management*	*Meaning of being a researcher & Tips for and effective use of time (Round table: Dr Joerg Widmer, Dr Andrés García and Dr Albert Banchs)*	*IMDEA*
10:30-11:00		*Thesis roadmap and the contents of an effective thesis (Presenter: Dr Borja Genoves)*	
Coffee break			
11:30-12:00	*Research organization & Personal management*	*How to write papers effectively (Presenter: Dr Domenico Giustiniano)*	*IMDEA*
12:00-12:30		*Emotional intelligence, assertiveness and conflict management (Presenter: Javier Hervas)*	
LUNCH			
14:30-14:45	*Research proposal presentations*	*Enhanced Energy and Spectrum Efficiency in LiFi (UEDIN)*	*ESR 1.1*
		Low-Power VLC Transmitter Design (PureLiFi)	*ESR 1.2*
		Simultaneous Data and Power Transfer (OZU)	*ESR 1.3*
14:45-15:00	*Q&A from Supervisors in a round-robin fashion*		*Supervisors & ESRs*
15:00-15:15	*Research proposal presentations*	*Passive Communication and Sensing (TUD)*	*ESR 1.4*
		Resource-constrained VLC (SUPSI)	*ESR 1.5*
		Algorithms for Joint Reconfiguration of Smart Lighting and LiFi Access Points in Dense Deployments (PureLiFi)	*ESR 2.2*
15:15-15:30	*Q&A from Supervisors in a round-robin fashion*		*Supervisors & ESRs*

Break			
15:40-16:00	*Supervisors discussion*	*Approval of Research proposals*	*Supervisors*

TUESDAY (21st July 2020):

- Training on Transversal Research Skills and Impact.
- Research proposals presentations (ESRs).

9:30AM - 4:20PM CEST (Full day)

Location: remotely via Zoom application

Organizers: IMDEA and UEDIN.

Detailed program:

Table 2: Agenda of Training Event 2 (Day 2)

Time	*Training module*	*Talk title*	*Responsible*
9:30 -10:00	*Transversal research skills*	*Effective Literature survey and review (By Dr Wasiu Popoola)*	*UEDIN*
10:05 - 10:35		*Managing your research project (By Dr Stefan Videv, LRDC)*	
10:40 - 11:00		*Overcoming challenges common to doctoral researchers (By Dr Nick Polydorides, UEDIN, UK)*	
Coffee break			
11:30 - 12:00	*Impact*	*Research Communication/dissemination (Prof Harald Haas)*	*UEDIN*
12:05 - 12:30		*Research Commercialisation and Intellectual Property Protection (By Andy Aitken, PureLiFi, UK)*	
LUNCH			
14:30 – 14:45	*Research proposal presentations*	*Integration between home automation and VLC (IMDEA)*	*ESR 2.3*

		Integration of Visible Light and Radio Frequency Communication in the Network Access (UNIPA)	ESR 2.4
		Integration of VLC Access and mmwave Backhauling (IMDEA)	ESR 2.5
14:45 - 15:00	Q&A from Supervisors in a round-robin fashion		Supervisors & ESRs
15:00 – 15:15	Research proposal presentations	VLC-BLE Indoor Positioning System (TREL)	ESR 3.1
		VLC-enabled Energy Disaggregation (TUD)	ESR 3.3
15:15-15:30	Q&A from Supervisors in a round-robin fashion		Supervisors & ESRs
Break			
15:40-16:00	Supervisors discussion	Approval of Research proposals	Supervisors

**

All speakers are experts in their respective topics, and all of them employed at institutions involved in ENLIGHT'EM, except for Dr Andrés García, senior researcher at NEC, Germany.

All the content created from this Event has been recorded and it has been uploaded to the Youtube channel of the project. Furthermore, the slides are available to all project partners in the internal GitLab repository of the project. Using this approach, the ESRs joining later had the opportunity to do the same training remotely at their best time convenience. Furthermore, ESRs that had already signed the contract but planned to join at a later date due to COVID-19 restrictions, have been invited to join the event to feel part of the ENLIGHT'EM community.

2.2. Training Event 3 (co-located with ACM Mobicom 2020)

The objective of Event 3, based on the Annex I of Grant Agreement, was as follows:

Event 3: Training on entrepreneurship, Workshop at conference, and project meeting

The young startups in our consortium, LBEE and VEL, will present a training session on entrepreneurship. The focus will be to provide ESRs with the necessary knowledge to create a start-up and understanding the market potential of their work. The topics to be covered are

analysis of market competition, spotting of business opportunities and creation of a strong business plan. The event will be held alongside a workshop organized by SUPSI in parallel to ACM Sensys, the premier conference in IoT. The conference will be enhanced with a special workshop session dedicated to the topics of the ENLIGHT'EM network. As a result, the ESRs' work will enjoy exposure in front of a top-notch community of experts.

The Training Event 3 took place virtually on September 14th, 15th, 25th, 2020. As for Training Event 2, we decided to split the event into two main blocks (14-15th and later on 25th) to avoid long online sessions. The first day (full day) and second day (morning) were dedicated to the Training modules, whereas the second day afternoon was employed for the Project Meeting #3, to which the external advisory board members were invited. Then, we presented the main 1st-year outcomes of the project and we received very valuable feedback from them.

Regarding the Training Event 3, it was divided in two main modules, each of them led by one different project beneficiary/partner:

- Training module organized by LBEE: Creating a SME (Dr. Julio Rufo) and Technology transfer from Lab to Enterprise (Dr. Jose Rabadán).

- Training module organized by VEL: Creating a Business Plan (Market Research, Product Market Fit / Application & Use-cases of Technology, Product Development Roadmap, Go to Market Strategy), Financial Planning & Budgeting, Fund Raising (Investor Pitch Deck).

Although it was a private event only for ESRs and people involved with ENLIGHT'EM, the videos were later published in ENLIGHT'EM Youtube channel as well as the ENLIGHT'EM website to maximize the impact and visibility.

The training concluded with a presentation of ESRs of a business canvas model after having worked in groups of 5 people, coming up with start-up proposals. In the next image you can see the breakout rooms created in Zoom for them to work collaboratively.
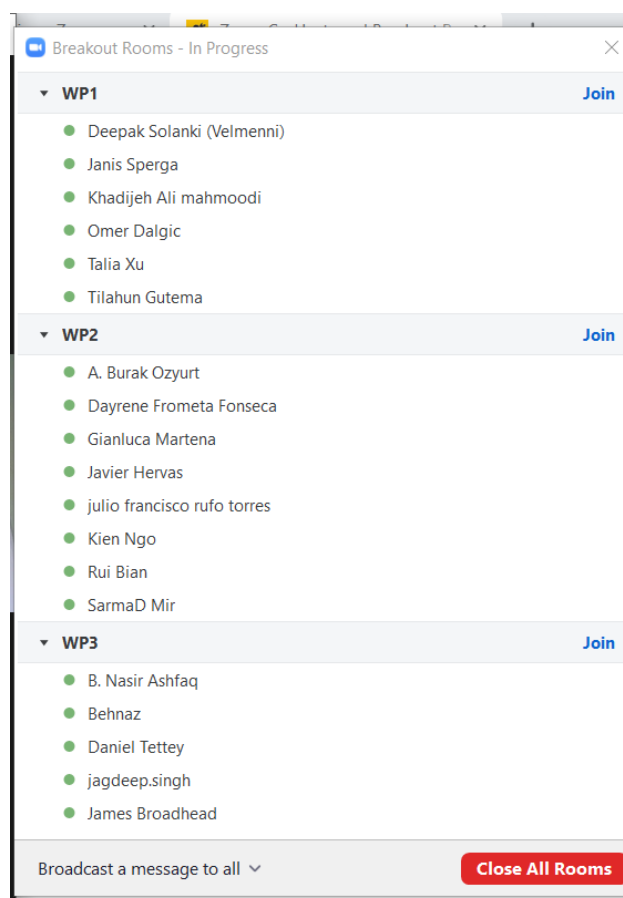
Figure 2: Breakout rooms created in Zoom for ESRs to work collaboratively in Training Event 3

The agenda of the training is reported below.

**

DAY 1 (SEPTEMBER 14TH, 2020):

Table 3: Agenda of Training Event 3 (Day 1)

Time (CEST)	Training module	Talk explain	Responsible
9:00-11:00	*Creating a SME on VLC*	*Creating a SME or StartUp is always difficult and even more when the enterprise is created from research results and knowledge transfer. In this talk the experience of the SME LightBee will be explained. How the company was created and why Visible Light Communications (VLC) has been, for LightBee, the main technology to get a product into market will be the focus of this talk.*	*LightBee*

		Coffee break	
11:30-13:00	*Technology Transfer from Lab to SME*	*Technology Transfer is the process of interchanging high valuable knowledge between the technology owner and other entities. This knowledge includes researches, skills, data, management strategies, among others. It will be used to create new products or services, improving the entity's position and benefits.* *In this training, some of the main concepts related to Technology Transfer and the transfer process tools are presented. The aim is to make the students aware of this issue's relevance, and the main aspects to consider when they get involved in this process for their research results.*	*LightBee*
		LUNCH	
14:30-15:30	*Creating a Business Plan*	*Building a business plan is especially important for long term sustenance of the business. In this module, we will share what are the important aspects to create a business plan.*	*Velmenni*
		Coffee break	
16:00-17:00	*Financial Planning & Budgeting*	*Creating a financial plan and budget is an important aspect of creating a business. In this module, we will cover up major factors to consider while creating a budget for whole financial year. This will include the following:* • *Resource Cost Planning* • *Operational Expenditure Planning* • *Travel & Marketing Expenditure Planning* • *Cost of goods sold/ inventory management of product* • *Capex Planning* • *Recurring R&D Expenditure Planning*	*Velmenni*

DAY 2 (SEPTEMBER 15TH, 2020):

Table 4: Agenda of Training Event 3 (Day 2)

Time	Training module	ESR work	Responsible
9:00 -11:00	Create your own company	SME ideas. Based on the training the ESR must create a company idea.	ESRs
Coffee break			
11:30 – 12:00	Fundraising	Creation of elevator Pitch / Investor Pitch Deck. Presentation and elevator Pitch.	ESRs
12:00-13:00	SME or company proposal presentations	Pitch elevator presentation and debate with the committee members	ESRs and committee members
LUNCH			

Instructions for Day 2 (September 15th, 2020) ESRs work:

From (9:00-11:00): The ESR´s will be together in a ZOOM session selected by WP (3 sessions). They will have to complete a CANVAS model for a new Business Model. They must think in a business related to Optical Wireless Communications. They must propose the hypothesis, the tests of that Business Model and the metrics they want to measure to validate the model.

From (11:30-12:00): The ESR´s will make a presentation as a Pitch elevator of the idea of the Business Model. One or maximum two ESRs from every group will present the Pitch to the committee from 12:00 to 13:00. The Pitch elevator could not last more than 10 minutes so the committee can have time to make questions to all the ESR´s from the group.

Note: The CANVAS model is attached as a word file but they can use any other scheme of Canvas Model they like.

TUESDAY (15th September 2020):

Project meeting #3 (both supervisors and ESRs must attend)

3:00PM - 5:30PM CEST

FRIDAY (25th September 2020): *"Light-up the IoT" workshop co-located with ACM Mobicom 2020 organized by SUPSI and LBEE*

**

All speakers are experts in their respective fields, and are involved in the ENLIGHT'EM project. For the last slot of training on September 15th where ESRs presented their start-up proposal, one real investor joined the event, and he could give his impression. His name is Appurv Gupta (GuptaJi), an Indian Stand Up Comedian, entrepreneur, and angel investor. In the following image you can see a picture of him explaining few details to ENLIGHT'EM ESRs:
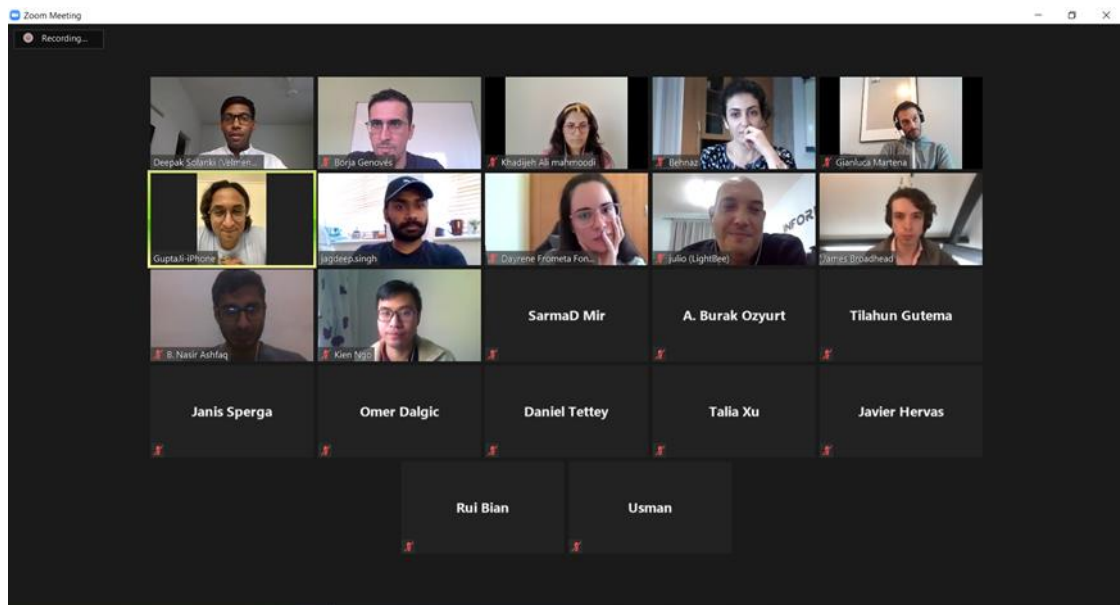

Figure 3: Picture on Zoom application during Elevator Pitch at Training Event 3

The program of the "Light-up the IoT" workshop celebrated on 25th September 2020 was the following:

Table 5: Program of "Light-up the IoT" workshop co-located with ACM Mobicom 2020

2:15 CEST Opening remarks and Keynote Talk *Nikola Serafimovski. pureLiFi Ltd - VP, Standardization & Business Development*	*Title: LiFi – ecosystem and standardization*
3:15-4:00 pm CEST Session 1: From the Physical Layer to IoT applications	*"OFDM Based Visible Light Communication with Probabilistic Shaping" Tilahun Zerihun Gutema, Harald Haas, Wasiu O. Popoola (Institute for Digital*

	Communications, School of Engineering, The University of Edinburgh)
	"Non-linearity of LEDs for VLC IoT applications" Muhammad Sarmad Mir, Borja Genoves Guzman, Ander Galisteo, Domenico Giustiniano (IMDEA Networks Institute)
	"Multi-LED Multi-Datastream Dome Bulb for Dense Visible Light Communication Networks" Sajad Saghaye-Polkoo, Pooya Nabavi, Murat Yuksel, Kyle Renshaw (University of Central Florida)
4:15-5:00 pm CEST Session 2: UAVs and Underwater Communication	*"Evaluating LED-Camera Communication for Drones" Bhawana Chhaglani (University of Massachusetts Amherst, USA); Abhay Sheel Anand (Bharati Vidyapeeth's College of Engineering, India); Nakul Garg (University of Maryland College Park, USA); Ashwin Ashok (Georgia State University, USA)*
	"FLight: Toward Programmable Visible-Light-Band Wireless UAV Networking" Nan Cen (Missouri University of Science and Technology)
	"Underwater Optical Camera Communications based on a Multispectral Camera and Spectral Variations of the LED Emission" Behnaz Majlesein, Julio Rufo (LightBee); Daniel Moreno, Victor Guerra, Jose Rabadan, Rafael Pérez Jiménez (ULPGC)
5:00-6:00 pm CEST Session 3: Intermittent Computing, Passive VLC, and Passive Backscatter	*"Position Paper: Why Intermittent Computing Could Unlock Low-Power Visible Light Communication" James Broadhead, Przemysław Pawełczak (TU Delft)*
	"Passive Visible Light Networks: Taxonomy and Opportunities" Qing Wang, Marco Zuniga (TU Delft)
	"Passive Visible Light Positioning Systems: An Overview" Jagdeep Singh, Usman Raza (Toshiba Europe Limited)
	"Embracing Collisions: Enabling Parallel Channel Estimation with COTS Passive Backscatter Tags" Jiaqi Xu (the Ohio State University); Wei Sun, Arjun Bakshi (The Ohio State University); Kannan Srinivasan (Ohio State University)

The event was held together with ACM Mobicom 2020 instead of ACM Sensys 2020 (as originally planned) to diversify the type of communities with respect to EWSN, where Training Event 1 was held. ACM Mobicom is the flagship conference in communication systems, while the focus of ACM Sensys and EWSN is on embedded systems.

3. Results of past events

This section presents the results obtained from the events that took place during second year of the project, in the form of slides, videos, etc.

3.1.   Training Event 2

The material created for the Training Event 2 that can be re-used in the future within the project lifetime, and beyond, are: slides from the tutorial's presenters, videos recorded of the tutorial talks, and some other outcomes for the sake of ESRs learning such as networking.

3.1.1. Slides

The slides created by the speakers of the tutorials are uploaded to the internal GitLab of the project: where only people involved in the project can access them. It can be seen in the following images.
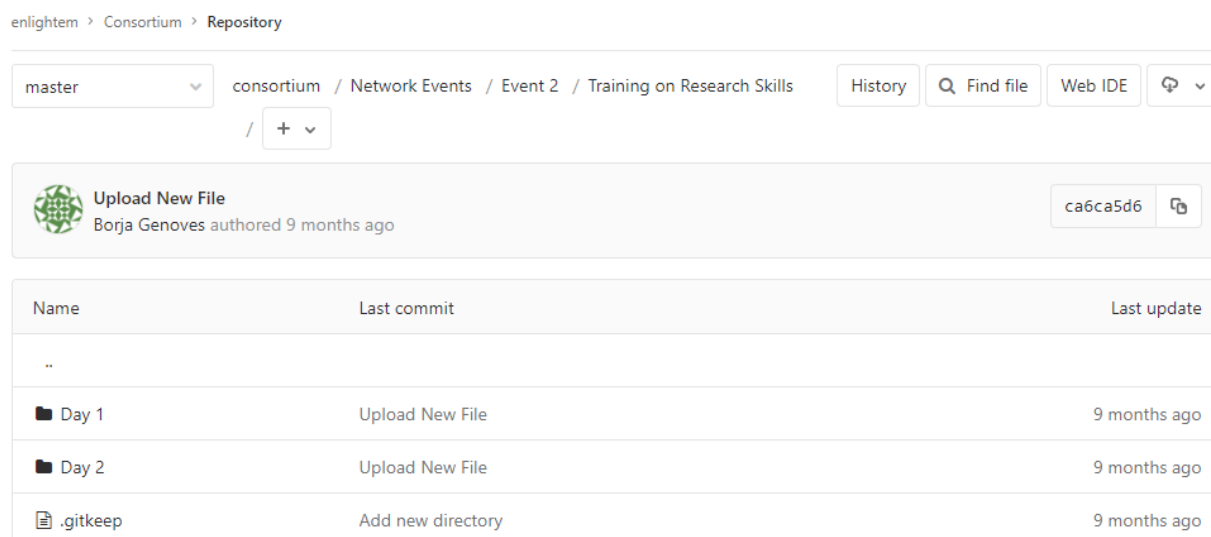
Figure 4: GitLab repository of ENLIGHT'EM where the Training Event 2 slides are uploaded

Figure 5: GitLab repository of ENLIGHT'EM where the slides of Training Event 2 / Day 1 are uploaded

Figure 6: GitLab repository of ENLIGHT'EM where the slides of Training Event 2 / Day 2 are uploaded

Note that slides are private because companies and universities had some reservations about the potential replication of the slides' content without their consent. However, the videos of their talks are fully public.

3.1.2. Videos

The talks of the Training Event were recorded and the videos have been published in the Youtube ENLIGHT'EM account for the general public. Link to the videos is also provided in the project website: https://enlightem.eu/results/videotutorials/training-on-research-organization-and-personal-management-virtual-event-20-21-july-2020/. The following figure shows a sample of them:

Training on Research Organization and Personal Management (Virtual Event) 20-21 July 2020

On the 20-21 of July, the Training Event 2 has taken place, held as an online session. This training about Research Skills, organized by IMDEA Networks and The University of Edinburgh, was divided in 2 morning sessions, the first one about Research Organization and Personal Management, and the second one focused on Transversal Research Skills and Impact.
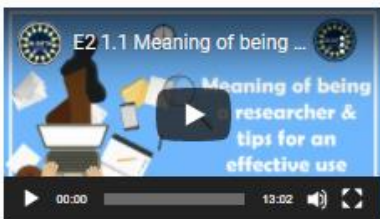
1.1 Meaning of being a researcher & Tips for an effective use of time – Joerg Widmer (IMDEA Networks)

1.2 Some thoughts on being a researcher – Dr. Albert Banchs (IMDEA Networks)

1.3 Industry and academia: Collaboration models – Dr. Andrés García Saavedra (NEC Labs Europe)

1.4 Thesis roadmap and the contents of an effective thesis – Dr. Borja Genovés (IMDEA Networks)

1.5 How to write papers effectively – Dr. Domenico Giustiniano (IMDEA Networks)

1.6 Emotional intelligence, assertiveness and conflict management – Javier Hervás (IMDEA Networks)

Figure 7: Videos of the tutorials at Event 2

3.1.3. Other results

On Monday July 13th the Project meeting #2 took place together with Training Event #2. It was a virtual meeting organized via Zoom application, as the whole Training Event. It was used to discuss the ESRs hiring state, presentation of next deliverables to be submitted, details of next Training Event 3, a brief presentation of ESRs about their current research activities, and some miscellaneous. Regarding the brief presentation of ESRs, we identified potential synergies and collaboration options among ESRs. The next table summarizes such connections, highlighting which ESRs will coincide in a secondment together:

Table 6: Potential collaborations among ESRs identified at Project Meeting #2

ESR	*Potential collaboration*
ESR 1.1 Tilahun (UEDIN)	*ESR 1.2 (secondment), ESR 2.2 (secondment)*
ESR 1.2 Janis Sperga (PureLiFi)	*ESR 3.2, ESR 2.2, ESR 1.1 (secondment)*
ESR 1.3 Khadijeh (OZU)	*ESR 2.3, ESR 1.4, ESR 3.2*
ESR 1.4 Talia (TUD)	*ESR 2.4, ESR 3.3*
ESR 1.5 Ömer (SUPSI)	*ESR 1.1, ESR 1.4 (secondment)*
ESR 2.2 Giovanni (PureLiFi)	*ESR 1.1 (secondment), ESR 1.2, ESR 2.3 (secondment) (ML), ESR 2.5 (secondment) (multi-cell, RL), ESR 3.1 (indoor apps)*
ESR 2.3 Sarmad (IMDEA)	*ESR 1.3, ESR 3.3, ESR 1.4*
ESR 2.4 Ngo Trung Kien (UNIPA)	*ESR 2.2, ESR 1.4, ESR 2.5, ESR 3.5*
ESR 2.5 Dayrene (IMDEA)	*ESR 2.2 (secondment), ESR 2.3, ESR 2.4*
ESR 3.1 Jagdeep Singh (TREL)	*ESR 1.5, ESR 1.4, ESR 2.2, ESR 2.4 (secondment), ESR 2.5*
ESR 3.3 James Broadhead (TUD)	*ESR 1.4, ESR 2.3*

Note that ESR 2.1, ESR 3.2, ESR 3.4 and ESR 3.5 did not join yet due to COVID restrictions at the time of the Training Event.

To summarize the issues addressed in Project meeting #2, its agenda is included in the following:

**

Project meeting #2

9:30AM - 12:30PM CEST. July 13th, 2020

Location: remotely (via Zoom)

1. **ESRs hiring state**
   a. *PhD enrollment:*
      i. *Enrolled: ESR1.1 (UEDIN), ESR1.3 (OZU), ESR1.4 (TUD), ESR2.3 (IMDEA), ESR2.5 (IMDEA), ESR3.2 (LBEE), ESR 3.3 (TUD).*
      ii. *Enrolling: ESR1.2 (PureLiFi), ESR1.5 (SUPSI), ESR2.2 (PureLiFi)*
      iii. *Not known (beneficiary did not attend the meeting): ESR2.4 (UNIPA), ESR3.1 (TREL).*
      iv. *ESRs not joined yet: ESR2.1 (UEDIN), ESR3.4 (FORD), ESR3.5 (FORD)*

Borja will refresh the hiring state and ask for updates (if any).

2. **ESRs tasks: CDP, research proposal and Quarterly report**

Borja will remind the submission deadlines for these documents.

CDPs of ESR 2.4, ESR 2.5 must be approved.

3. **Presentation of deliverables to be submitted:**

Borja will present deliverables to be submitted by the end of July, and he will give guidelines about how to proceed to do it on time. Final version for the common structure of D1.1, D2.1 and D3.1 must be discussed.

4. **Training Event 3**

Julio Rufo (LightBee) and Deepak Solanki (Velmenni) will give an update about it.

Training Event on dates 14th – 15th September 2020 to be approved.

Workshop 21st September 2020.

5. **Presentation of new secondment plan**

Domenico will present the new secondment plan.

6. **ESRs will briefly present their current research activities (3 slides = 3 minutes). Objective: Seek synergies among ESRs to identify potential additional short visits**

ESRs will briefly present their research.

7. Dense VLC testbed of IMDEA and Toshiba.

Any progress? Domenico (IMDEA) and Usman (Toshiba) will give updates about their respective testbeds.

8. MOOC:

Syllabus is ready. Next steps: Detail/divide modules in concepts and then allocate them to ESRs/beneficiaries.

All beneficiaries/partners must contribute.

9. Notification of the two ESRs as SB members.

ESRs must communicate the two representatives for attending SB meetings.

10. ACK to ENLIGHT'EM in any paper with ESRs from ENLIGHT'EM

Borja will remind to ACK ENLIGHTEM

11. Discussion about additional project meetings and hybrid meetings

Marco proposed to do that. We must discuss about it.

12. Configuration of General Assembly

Borja will explain what is the difference between Supervisory Board and General Assembly.

Nomination of members of the General Assembly (one representative of each Party).

Call for an extraordinary General Assembly meeting.

13. Next meetings:

    a. *Training Event 2 (20-21 July 2020)*

    b. *Training Event 3 (14, 15 and 21 September 2020)*

14. Free discussion – 12:30 PM CEST

**

3.2. Training Event 3 (co-located with ACM Mobicom 2020)

The material created for the Training Event 3 that can be re-used in the future within the project lifetime, and beyond, are: slides from the training speakers, videos recorded of the Elevator

Pitch activity, and some other outcomes for the sake of ESR learning such as networking, papers presented at the workshop, etc.

3.2.1. Slides

The slides created by the speakers of the tutorials are uploaded to the internal GitLab of the project: https://git2.networks.imdea.org/enlightem/consortium where only people involved in the project can access them. It can be seen in the following images.

Figure 8: GitLab repository of ENLIGHT'EM where the Training Event 3 slides are uploaded

3.2.2. Videos

To put in practice all the concepts learned during the training, the ESRs worked in 3 groups to create a Start-up. As a result, they presented their ideas in an Elevator Pitch activity. The groups and names of the created companies are as follows:

- Group 1 – Lightoys: Omer Dalgic, Janis Sperga, Tilahun Gutema, Khadijeh Ali Mahmoodi and Talia Xu.
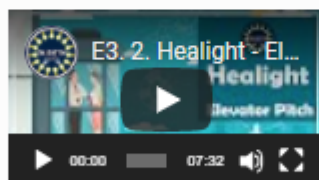
- Group 2 – Healight: Dayrene Frometa, Sarmad Mir, Kien Ngo, Burak Ozyurt and Gianluca Martena.
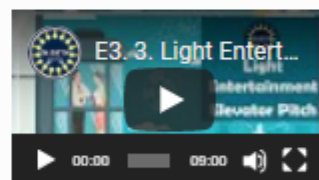
- Group 3 – Light Entertainment: James Broadhead, Jagdeep Singh, Behnaz Majlesein, Daniel Tettey and Nasir Ashfaq.

The talks of the Elevator Pitch activity were recorded and the videos have been published in the Youtube ENLIGHT'EM account for the general public. Link to the videos is also provided in the project website: https://enlightem.eu/event-3-elevator-pitch-videos/. The following figure shows them:

The event 3 of ENLIGHT'EM included a Training on Entrepreneurship, organized by LightBee and Velmenni. Due to the current travel restrictions, the event was hold virtual and counted with the participation of all the ESRs. The sessions lasted 2 days (14-15 September) and the ESRs received training on the following subjects:

- Creating a SME on VLC
- Technology transfer from Lab to Enterprise
- Creating a Business Plan
- Market Research
- Product Market Fit / Application & Use-cases of Technology
- Product Development Roadmap
- Go to Market Strategy
- Financial Planning & Budgeting
- Fund Raising
- Investor Pitch Deck

To put in practice all the concepts, the ESRs worked in 3 groups to create an Start-up. As a result, they presented their ideas in a Elevator Pitch activity

Lightoys	Healight	Light Entertainment
E3. 1. Lightoys - El... Lightoys Elevator Pitch ▶ 00:00 08:53	E3. 2. Healight - El... Healight Elevator Pitch ▶ 00:00 07:32	E3. 3. Light Entert... Light Entertainment Elevator Pitch ▶ 00:00 09:00
Group 1 – Lightoys	Group 2 – Healight	Group 3 – Light Entertainment
Omer Dalgic	Dayrene Frometa	James Broadhead
Janis Sperga	Sarmad Mir	Jagdeep Singh
Tilahun Gutema	Kien Ngo	Behnaz Majlesein
Khadijeh Ali Mahmoodi	Burak Ozyurt	Daniel Tettey
Talia Xu	Gianluca Martena	Nasir Ashfaq

Figure 9: Videos of the Elevator Pitch at Event 3

3.2.3. Videos and papers of "Light up the IoT" workshop

All videos were recorded and put available for everybody in ENLIGHTEM YouTube channel: https://www.youtube.com/playlist?list=PLGH-oHXjzcdG9QbkWaBfsYWynd820LFek

Besides, the papers can be found in the Proceedings of the ACM Mobicom 2020 conference: https://dl.acm.org/doi/proceedings/10.1145/3412449

3.2.4. Other results

On Tuesday September 15th the Project meeting #3 took place. It was a virtual meeting organized by Zoom application, and the External Advisory Members were invited to join:

- Maria Gorlatova: Duke University, US
- Athanasios Stavridis: Ericsson Research, Sweden
- Thomas DC Little: Boston University, US

The aim of this Project Meeting is to wrap up all results of first year of ENLIGHT'EM in the different WPs. This way, every WP leader prepared a presentation of results obtained in their corresponding WPs, and it was presented to the External Advisory Board (EAB). Athanasios (Ericsson) and Thomas (Boston Univ.) attended the meeting. Unfortunately, Maria Golatova could not attend due to an agenda conflict.

To summarize the issues addressed in Project meeting #3, its agenda is included in the following:

Table 7: Agenda of Project Meeting #3

Time	*Topic*	*Presenter*
15:00-15:15	*Welcome to Project Meeting #3 and introduction of External Advisory Board (EAB)*	*Domenico Giustiniano*
15:15 – 15:25	*WP1 results of year 1 (Research)*	*PureLiFi (Rui Bian – Harald Haas)*
15:25 – 15:35	*WP2 results of year 1 (Research)*	*UEDIN (Wasiu Popoola)*
15:35 – 15:45	*WP3 results of year 1 (Research)*	*TUD (Marco Zuniga)*
15:45 – 16:30	*Feedback from EAB and rest of members about Research*	
16:30 – 16:40	*WP4 results of year 1 (Training)*	*IMDEA (Domenico Giustiniano)*
16:40 – 17:00	*Feedback from EAB and rest of members about Training*	

5-5:30 PM CEST Miscellaneous. General progress of the project

The advisory board gave us very useful feedback. We have discussed how to address them at the consortium level in a subsequent SB meeting. In the next figure, we show a picture of the Project meeting #3 with External Advisory Board members.
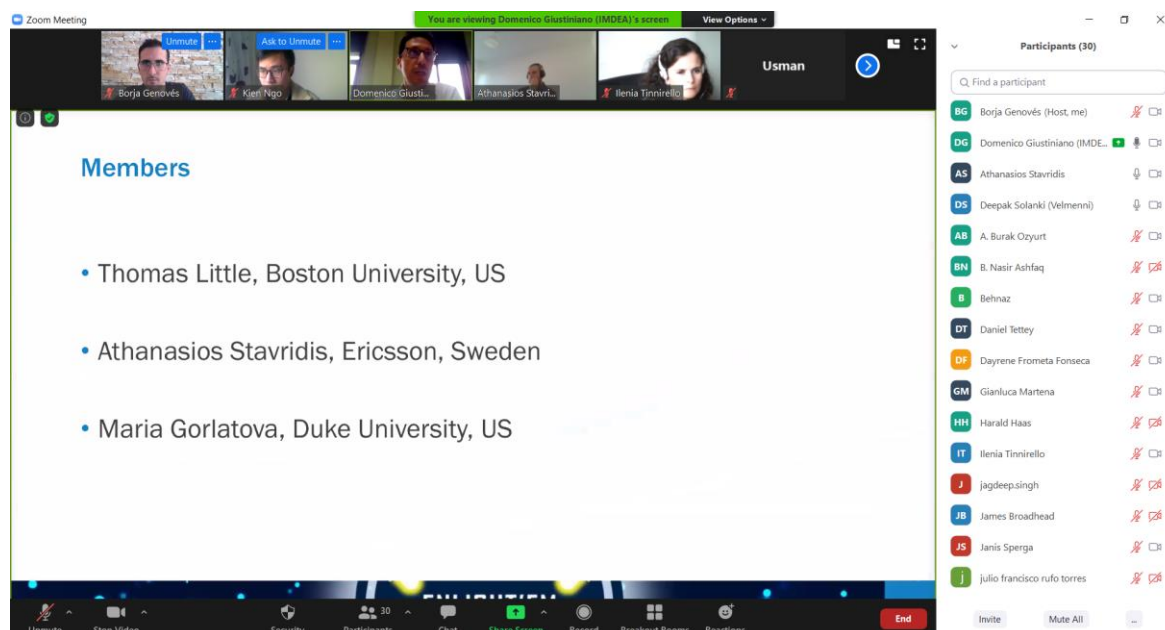
Figure 10: Picture of the Project meeting #3 with External Advisory Board members

3.3.   Online ENLIGHT'EM meeting for ESRs

As detailed in past D4.1, we decided to do additional meetings with all ESRs in order to promote the networking and getting them to know personally as, unfortunately, we cannot organize meetings in person yet. This allows them to form a closer community, gives each other moral support, and establish sustained collaborations.

By the time of writing this report, we have organized the following Zoom calls, whose activities have gone all in same direction: getting to know each other and solve questions.

- 26th June, 2020
- 6th November, 2020
- 11th December, 2020
- 19th February, 2021
- 16th April, 2021

The following figure shows a picture of the meeting we have on December 2020, before Christmas:
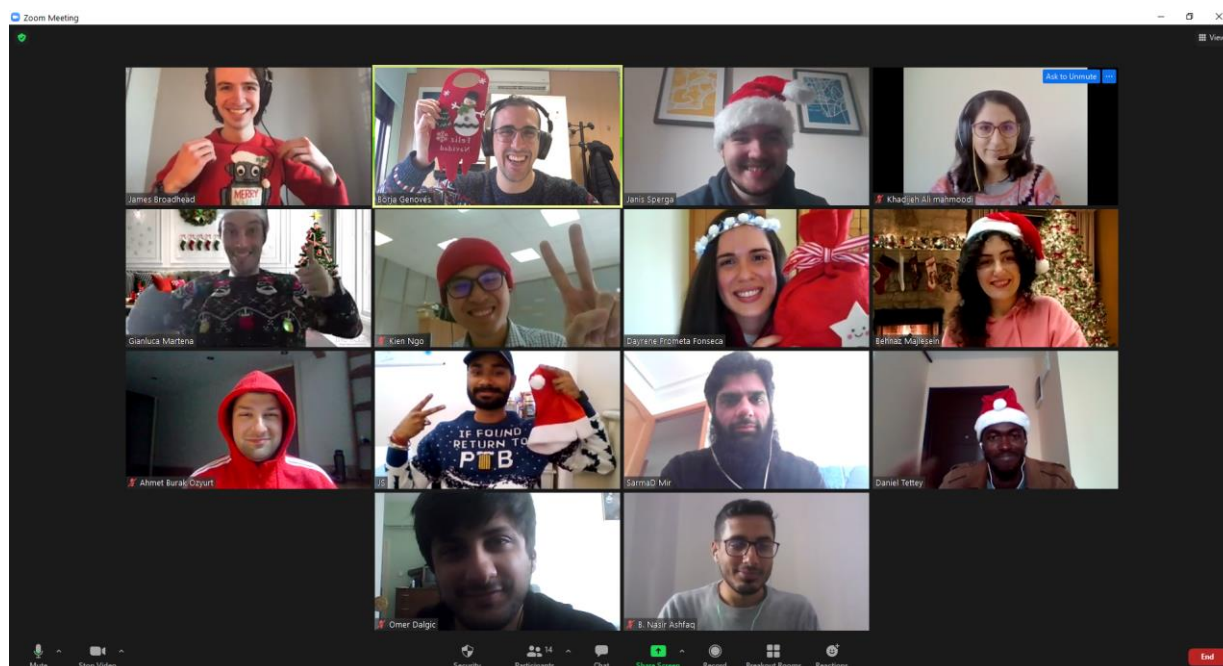
Figure 11: Picture of Online ENLIGHT'EM meeting for ESRs

The summarized agendas of those meetings are detailed as follows:

================

Agenda ESR meeting 26th June, 2020

================

11:00 to 11:20: Introductions

11:20 to 12:00: Madness Session

12:00 to 12:10: Break

12:10 to 12:30: Open discussion

================

Agenda ESR meeting 6th November, 2020

================

12:00 to 12:10: What are my rights as an ITN research fellow?

A brief online seminar was organized. Once all the ESRs have joined their respective institutions, we wanted to remind them about their rights as ESRs. The details were the following:

- Organizers: IMDEA
- Attendees: ESRs

- Agenda: Information about their rights as ITN research fellows, detailed in [Information note for Marie Skłodowska -Curie Fellows in Innovative Training Networks (ITN)](#) provided by the European Commission.

12:10 to 12:30: Solve doubts/concerns about your daily performance in ENLIGHT'EM

12:30 to 13:20: Team building activity. Each ESR prepared 3 sentences that describe 3 of their characteristics. 2 were true, and 1 false. The rest of the ESRs figured out which one is false. We allowed to pose few key questions to get further information and try to discover the lie.

13:20 to 13:30: Open discussion

===============

Agenda ESR meeting 11th December, 2020

===============

12:00 to 12:15: Solve doubts/concerns about your daily performance in ENLIGHT'EM

12:15 to 13:00: Team building activity. To get to know each other personally, we organized a Trivial Pursuit game about ESRs. They were organized in teams (by WPs) and they answered questions about ENLIGHT'EM ESRs.

13:00 to 13:15: Open discussion

===============

Agenda ESR meeting 19th February, 2021

===============

12:00 to 12:15: Solve doubts/concerns about your daily performance in ENLIGHT'EM

12:15 to 13:00: Team building activity. ESRs were asked to send one picture when they were a child and one current picture, so ESRs guessed who is that child and they told personal life stories.

===============

Agenda ESR meeting 16th April, 2021

===============

ESRs made it on their own. Main point was to discuss about joint paper and bring their opinions to SB meeting on the 19th April 2021.

4. Planning of upcoming events

This section details the plan for the next upcoming events that will take place from the submission date of this deliverable up to the next annual report D4.3.

4.1.   Training Event 4

According to the Annex 1 of the Grant Agreement, the Training Event 4 (*Training on VLC technology & Research commercialisation, and project meeting #4*) was expected to take place in Edinburgh (UK) in March 2021 with the following description:

The purpose of this event is two-fold and leverages the close-by location of UEDIN and PLF for improved efficiency. The first half will be led by UEDIN, one of the world's leading centers in VLC research, and has the purpose to train the ESR with the latest advancements in VLC technology, as well as in measurement and experimental technology in general. The second half will be led by PLF, a successful spin off from UEDIN, and will focus on the early-stage development of commercial products based on customer information, and on the technology transfer process from the research into the business world.

However, due to COVID-19 restrictions and despite postponing the event to June 2021 in case situation improved, organizers finally decided to do it in a remote way given the restrictions in UK, and then approved by the Supervisory Board. The decision was taken with the hope of organizing the event in hybrid mode. However, due to ongoing restrictions, it has been finally decided that the event will take place online on the days 16th-17th-18th June 2021 via Zoom application.

The draft of the event is the following:

Day 1 (16th June 2021): Training on VLC Technology (UEDIN)

Table 8: Agenda of Training Event 4 (Day 1)

Time (CEST)	Training module	Talk explain	Responsible
9:30-11:00	VLC Capacity Estimation		UEDIN
Coffee break			
11:30-12:30	VLC Transceiver Design (Workshop 1)		UEDIN
LUNCH			
14:30-15:30	VLC Transceiver Design (Workshop 2)		UEDIN
Coffee break			

16:00-17:00	VLC Transceiver Design (Workshop 2)		UEDIN

Day 2 (17th June 2021): Project meeting #4

During morning: 9:30-12:30 CEST
Agenda TBA.

Day 3 (18th June 2021): Research commercialization (PLF)

Table 9: Agenda of Training Event 4 (Day 3)

Time (CEST)	Training module	Talk explain	Responsible
9:30 – 9:40	Opening	Briefly introduce the talks and speakers	PLF
9:40 - 10:40	LiFi Ecosystem		PLF
Coffee break			
11:00 - 12:00	Agile project management		PLF
LUNCH			
14:00 - 15:00	Research commercialization		PLF
Coffee break			
15:20 - 15:50	Title - TBD	Given by Prof. Haas, talking about his experience, story of pureLiFi, and others.	PLF
15:50 – 16:15	Introduction - Horizon Results Booster	Present information about services provided by EU for exploiting results of the project: Horizon Results Booster: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/d-e-booster https://www.horizonresultsbooster.eu/ Service 1 – Portfolio Dissemination & Exploitation Strategy Service 2 – Business Plan Development Service 3 – Go-to-Market Support	PLF

4.2. Training Event 5

According to the Annex 1 of the Grant Agreement, the Training Event 5 (*Training on research exploitation, Presentation at IEEE standardization meeting #5*) was expected to take place in Madrid (Spain) in July 2021, together with the IEEE Std. Meeting that was going to be organized in Madrid. However, due to the pandemic, this standardization meeting is being organized remotely, and therefore also our Training Event 5. The initial description is as follows:

The activity will focus on fostering the entrepreneurial spirit. Our beneficiary TREL will provide an open training session on research exploitation. This session will cover topics of key relevance for successful startups and large organizations such as IPR generation, standardization and commercial exploitation of results. Alongside this event, we will take the opportunity offered by an IEEE standardization meeting, which usually occurs in Europe in the middle of the year. This meeting will give ESRs a chance to present their work in front of one of the Task/Study Groups (802.11 Light Communications; IEEE 802.15.7) and to understand the steps of a standardization process as it is happening live. This second activity will be led by our beneficiaries OZU and PLF, who are playing a leading role in VLC standardization.

The draft of the event is the following:

Training (1 day): 8th July, 2021

Table 10: Agenda of Training Event 5 (Day 1)

IPR generation (TREL) *Speaker: Thomas Prock*	*10:30 – 11:30 (1 hour)*
Coffee break	*11:30 – 11:45*
From the lab to the market: How to test the commercial demand for your idea *Speaker: Thomas Bierton*	*11:45 – 12:25 (40 min)*
Commercial Exploitation of R&D Activities: A Case Study Approach *Speakers: Dr Usman Raza*	*12:25 – 12:45 (20 min)*
Lunch break	*12:45 – 14:15*
Standardization (Part 1) *Speaker: Dr. Tuncer Baykas* *Title: IEEE 802 Standardization for Scholars and Students (Part 1)*	*14:15 – 15:15 (1 hour)*
Coffee break	*15:15 – 15:30*

Standardization (Part 2) *Speaker: Dr. Tuncer Baykas* *Title: IEEE 802 Standardization for Scholars and Students (Part 2)*	*15:30 – 16:30 (1 hour)*

Project meeting: 1/2 day (Organized by Borja and Domenico)

9th July 2021.

Agenda to be announced.

Training: Meetings of IEEE Plenary session (several talks and meetings)

Spread over July 09-23. More info will be given in next days.

https://www.ieee802.org/11/Meetings/Meeting_Plan.html

~~Marriott Madrid Auditorium, Madrid, Spain (TBC)~~ In person 802 Plenary is CANCELLED, 802 session will be electronic, 09-23 July
WG11 2021 July electronic Plenary session planned 12-20 July
Note: A registration fee will be charged, $50 early/$75 late, registration opens 10 May

Details of talks:

IPR generation (TREL): *This session will be conducted by a qualified attorney who would cover theory behind IP and the journey from idea generation to different stages of protecting it. It would discuss different types of mistakes (such as, public disclosures) that prevent companies from exploiting/monopolizing the idea.*

Speaker bio: Thomas advises clients in the high-tech field, in particular, in the electronics sector on software, artificial intelligence and internet related subject matter. Thomas moreover has a large medical devices practice and is active in the Cleantech field.

Thomas leads the Marks & Clerk practice group for Additive Manufacturing / 3D Printing; a technology in which he is considered an expert. He has been invited more than once to join a panel of experts, as the only private practice patent attorney, to present at conferences organised by the European Patent Office (EPO) on the challenges 3D printing poses to IP.

He has worked on patent applications relating to non-volatile semiconductor storage devices, data processing and exchange, mobile telecommunications, smart grid related inventions, waste reduction and medical imaging, to name a few. Thomas also has experience in contentious related matters, including European oppositions, appeals and litigation.

Thomas graduated with a Diploma in Biomedical Engineering from the University of Applied Science in Ulm (Germany) and went on to obtain his PhD from the Institute of Cancer Research, where he investigated the interaction between radio frequency electromagnetic fields and conducting tissue, with particular emphasis on its application to the design of phased array resonators.

Having qualified as a Chartered (UK) and European Patent Attorney in 2007, in 2014 Thomas became one of the few professionals to also qualify as a Patentanwalt (German Patent Attorney).

In the LMG Life Sciences Guide 2014, Thomas is listed as a 'Life Sciences Star' for his work in the medical devices area. He is also commended in the inaugural Who's Who Legal - Patent Agents, which refers to him as a "definite inclusion on any list".

Commercial Exploitation of R&D Activities

Talk 1:

Title: From the lab to the market: How to test the commercial demand for your idea

Abstract: Taking technology from concept to product is a difficult challenge to address. While I'm sure you will have tested your technology in a number of different ways to see whether it can be done, it is less likely that you have done some work around whether it should be done. Applying a rigorous and methodical approach to testing demand is as important as applying the same methods to testing the technology itself. In order to take an idea from the lab and towards a commercial product, you need to have explored the competitive landscape and customer demand for your idea. We will discuss methods of exploring the market for your idea, followed by how to test the demand using a methodology called 'the Startup Way'. This method sees you listing the key assumptions about your customers and market that must be true for your idea to succeed, followed by designing minimum viable products (read: experiments) that test as many of these assumptions as possible. Following the session, you will be able to think of methods of testing the commercial assumptions to your ideas that will help you to more quickly identify potential customers for your R&D activities

Speaker bio: Thomas Bierton is a Research Analyst at Toshiba's Bristol Research and Innovation Laboratory. His principal activities include analyzing markets and developing strategies for commercializing technologies. He has a Master of Business Administration from the University of West of England where he focused on Strategy, Digital Transformation, and Operations. During this time, he completed a consultancy project for Toshiba looking into potential business models for autonomous mobile robot solutions for small and medium enterprises with warehouses. He has a diverse background in project management at a legal software company as well as a Bachelor of Science in Molecular Biology from Cardiff University. He is interested in disruptive technologies and taking business ideas from concept to product.

Talk 2:

Title: Commercial Exploitation of R&D Activities: A Case Study Approach

Abstract: Go-to-market strategy for R&D outputs in the Internet of Things domain requires meticulous planning, patience, and perseverance. As a brilliant idea goes from different maturity stages of intellectual property protection, proof of concept, standardization, manufacturing, and software development, there are hurdles all along the way. The talk would touch on some of these hurdles and the strategies to make a success out of all these efforts. Preparing the market to uptake the latest technology often requires building a support ecosystem from major industry players. This is typically achieved by participation in standardization and building commercial alliances. We can't stress enough the importance of these activities that are easily ignored while working in an academic setting. We would present some of the successful case studies in recent years that have crossed the chasm between idea and market successfully. This would enable us to highlight some of the best and proven practices for commercial exploitation of R&D activities.

Speaker bio: Dr Usman Raza is a Principal Research Engineer at Toshiba Research Europe Limited, Bristol, UK. He holds a Ph.D. in Information and Communications Technologies from University of Trento, Italy. His current research interests include industrial wireless systems, low power wide area networks, and embedded machine learning. During his multiple roles in both academia and industry, he has filed patents, published papers and book chapters, participated as an invited panellist and speaker, and chaired scientific events. He was a recipient of the Endeavour Research Fellowship at The University of New South Wales Australia and an offer of the William J. Fulbright Scholarship from the U.S. Department of State. He received the IEEE Communications Society Heinrich Hertz Award in 2019, the Mark Weiser best paper Award in 2012, and the SenseApp best paper award in 2014.

Standardization - IEEE 802 Standardization for Scholars and Students: *The IEEE 802 LAN/MAN Standards Committee develops and maintains networking standards and recommended practices from body area to metropolitan area networks, using an open and accredited process, and advocates them on a global basis. Among its working groups 802.11, 802.15, 802.16, 802.19 and 802.22 focus on wireless communication. In this talk, we review those task groups' current projects and activities, focusing on light communications. We will provide suggestions on how researchers from academia can contribute and benefit from the 802 standardization process.*

Speaker bio: Dr. Tuncer Baykas received his Ph.D. in Electrical Engineering from the University of Ottawa in 2007. Then, he joined National Institute of Information and Communication Technologies of Japan same year. During his tenure, he contributed to multiple standardization projects, including 802.15.3c, 802.11ad and 1900.7. He served as the chair of IEEE 802.19.1 Coexistence in TVWS Task Group. He joined Istanbul Medipol University as assistant professor in 2014, where he was the founding head of the Computer Engineering Department. Currently he is the vice chair of 802.19 Working Group and 802.11bb Light Communications Task Group. In addition, he is serving as liaison officer between 802.19 and 802.11 groups. His research interests include THz communications, spectrum sharing and radar signal processing. Dr. Baykas is one the recipients of Turkish Academy of Sciences Young Researcher Awards, IEEE-SA Standards Board Award and IEEE-SA certificate of appreciation. He served as guest editor for IEEE Communications Magazine and board member IEEE Comsoc MMTC E-Letters. He organized 2017 Istanbul IEEE 5G Summit and 2018 IEEE Standards Summits in Ankara and Istanbul. He is IEEE Turkey Board Member and IEEE Comsoc Turkey Chapter chair. Dr. Baykas has over 50 major journal and conference publications and 3 US, 34 Japanese Patents.

4.3.   Training Event 6

According to the Annex 1 of the Grant Agreement, the Training Event 6 (*Training on industrial careers, Workshop at conference, and project meeting #6*) was expected to take place together with a top conference in the domain. The original details of the event are as follows:

The first objective of this event is to train our ESRs in industrial careers. Two industry partners, TRI and ZII, will provide training on making a transition from academia to industry, technology roadmap (TRM) and innovation management, TRL process engineering, and building and leading teams. The second objective will involve organizing a second special workshop co-located with ACM Sensys, giving ESRs a continuous opportunity to showcase their work and receive substantial feedback from an expert community.

One workshop proposal titled "Internet of Lights" was submitted to Mobisys 2021, and it was accepted. The call and all the details are currently published in ENLIGHT'EM website: https://enlightem.eu/results/workshops/iol-workshop/ and Mobisys 2021 website: https://www.sigmobile.org/mobisys/2021/wsl.html. In the following we detail the call for papers:

**

==

Call for papers -- IoL 2021

"Internet of Lights"

July, 2021, Virtual

Co-located with MobiSys 2021

==

LEDs have become ubiquitous owing to their superior energy efficiency. Their potential for Visible Light Communication remains largely untapped, but the emergence of Li-Fi and its convergence with the Internet of Things can effectively change that, allowing the world's virtually unlimited supply of LEDs to be harnessed for data communication as well as illumination.

The intersection of the Internet of Things and Li-Fi technology holds great promise and poses formidable challenges, for instance with respect to energy-efficient operation. The objective of this workshop is to provide a forum for researchers and practitioners to share early-stage ideas and results on how to leverage the huge potential of Li-Fi and the underlying Visible Light Communication technology in the Internet of Things.

Papers describing prototype implementations and deployment of such applications and systems are particularly welcome. The submission of informative surveys of the state of the art as well as position papers on controversial issues is also encouraged.

The topics of interest include, but are not limited to:

- *Energy efficiency in LiFi*
- *Spectrum efficiency in LiFi*
- *Low-power VLC systems*
- *Simultaneous Data and Power Transfer*
- *Passive Communication and Sensing*
- *Resource-constrained VLC*
- *Resilient LiFi for IoT applications*
- *LiFi systems for home automation*
- *LiFi systems for smart buildings*
- *Interplay of LiFi and smart lighting*
- *Indoor Positioning Systems based on LiFi/VLC*
- *Integration of VLC/LiFi and mm-Wave technologies*

- *Power-efficient underwater optical communications*
- *Applications of LiFi to smart energy systems*
- *Applications of LiFi to smart vehicles and smart transportation*
- *Applications of LiFi to smart manufacturing*

Program Chairs

==

Daniele Puccinelli, University of Applied Sciences of Southern Switzerland

Frank Lochmann, Tridonic GmbH & Co KG, Austria

Technical Program Committee

==

Ashwin Ashok, Georgia State University, USA

Borja Genovés Guzmán, IMDEA Networks, Spain

Daniele Puccinelli, SUPSI, Switzerland

Koen Langendoen, Delft University of Technology, The Netherlands

Marco Zúñiga, Delft University of Technology, The Netherlands

Michele Girolami, CNR, Italy

Przemysław Pawełczak, Delft University of Technology, The Netherlands

Usman Raza, Toshiba Research Europe Ltd., UK

Valeria Loscri, Inria Lille - Nord Europe, France

Wasiu Popoola, The University of Edinburgh, UK

Keynote speaker

==

Prof. Harald Haas: Director of the LiFi Research and Development Centre (University of Strathclyde, UK)

Submission Instructions

==

Submission website: https://iol2021.hotcrp.com/

Manuscripts must be submitted by using the HotCRP conference management system. Prospective authors must submit a single PDF file with all fonts embedded, using the ACM

conference proceedings format (please use the same PDF formatting guidelines as the main conference). Paper length is limited to six (6) pages (in two-column, no smaller than 10-point format), all-inclusive (references, figures, etc.). Papers must include author names and affiliations for single-blind peer reviewing by the program committee.

As per ACM policy, all submissions must describe original research not published or currently under review for another conference or journal. Submissions should adhere to the ACM templates available at the following URL: http://conferences.sigcomm.org/sigcomm/2013/misc/sig-alternate-10pt.cls

Authors of accepted papers are expected to present their work at the workshop.

Key Dates

===

- *Papers submission deadline: May 7, 2021*
- *Camera ready deadline: June 11, 2021*
- *Workshop date: TBD in July, 2021*

For more details, please visit the workshop homepage: https://enlightem.eu/results/workshops/iol-workshop/ and/or contact the Program Chair Daniele Puccinelli (daniele.puccinelli@supsi.ch)

**

The rest of the Training Event 6 will be organized by ZII and TRI and will take place on the expected time (October 2021). Details will be prepared and given in due course.

4.4. Training Event 7

According to the Annex 1 of the Grant Agreement, the Training Event 7 (*Training on advanced research skills, tutorials at conference, and project meeting #7*) is expected to take place together with EWSN 2022 in February 2022 with the following description:

The event will be co-located with the EWSN conference. The purpose of this event is two-fold: tutorial sessions will be organized to showcase the results of the ESRs to a broad global audience (activity led by UEDIN); and ESRs will be trained on advanced transferable skills (activity led by TUD). The training will include modules on thesis completion (effective writing, preparing for the thesis defense); continuing education and career development (career planning, skill development and professional development planning, CV writing, applications and interview in the academic and non-academic domains); impact (advanced presentation skills, advanced communication skills, knowledge transfer).

The organizers are TUD and UEDIN. However, it is still soon to give a detailed plan of the event.

5. Conclusion

This document presented the training activities during the second year of the project, as well as the results obtained from those past events. Finally, a detailed planning of upcoming events was described.

Training events 0 and 1 took place in the first year, whereas Training Events 2 and 3 took place in this second year, as planned in the Annex 1 of Grant Agreement (GA). Instead Event 4 has been delayed for 3 months with respect to what was planned in the Annex 1 of the GA. Although project have been affected by COVID-19 outbreak, and as it is demonstrated in this deliverable, measures have been taken to alleviate this situation. Furthermore, all ENLIGHT'EM members are committed to guarantee the highest impact and visibility of the training events.