

## Activities and reporting documents needed for the activities organized in the frame of the EMERALD project

### Transnational Project Meeting – UPB -day 2 - 1st of September 2022

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## 1. Activities and reporting documents needed for the activities organized in the frame of the EMERALD project

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## Before going to the EMERALD project activities and expected results

### 5 budget lines with unit costs

1. Project management and implementation
2. Transnational project meetings
3. Intellectual outputs
4. Multiplier events
5. Learning, teaching, training activities

**NB: 20% flexibility  
between the lines except  
for line 1 which can not be  
increased**

## Project management and implementation

**The triggering event that conditions the entitlement to the grant is that the beneficiary implements the project activities and produces the project outputs to be covered from this budget category as applied for in the grant application and as approved by the National Agency.**

### **Reporting:**

On behalf of the Project as a whole, the coordinator must report on the final distribution of funds and on undertaken activities and results.

## Project management and implementation

### Supporting documents:

Proof of activities undertaken and outputs produced will be provided in the form of a description of these activities and outputs in the final report. In addition, outputs produced must be uploaded by the coordinator in the EEA Platform and/or, depending on their nature, available for checks and audits at the premises of the beneficiaries.

Beside these, timesheets can be provided (similar to the ones used for Intellectual output reporting) – activities reported in the timesheets will be managerial activities

Bills and invoices in which it is clearly stated that the declared expenses were made from the EMERALD 21-COP-0019 project are also needed / all other documents stated in the contract (in case of acquisition of different equipment items) – these are very important since they will be needed for the final audit of the EMERALD project

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## Quick overview of the EMERALD project activities and expected results

TPM	Transnational project meetings
IO	Intellectual Outputs
ME	Multiplier Events
C	Intensive Programmes for higher education / Short-term joint staff training events
EMERALD - Summarizing the Calendar of the project / deadlines / milestones	

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## TPM activities

### Transnational project meetings

= meetings for project coordination (kick-off, interim evaluation, writing of the reports...)  
(Fixed amount of money to contribute to travel and subsistence expenses)

**The triggering event** that conditions the entitlement to the grant is that the participant has actually participated in the transnational project meeting.

## TPM reporting documents

### Supporting documents:

- **Travel: Proof of attendance of the activity in the form of an attendance list or individual attendance certificates signed by the receiving organization;**
- **Proof of attendance of the transnational project meeting** in the form of a **participants list** signed by the participants and the receiving organization;
- **Detailed agenda and any documents used or distributed at the transnational project meeting (report of the organized event / press release – to be posted on the website)**
- **Accommodation + traveling bills + accounting**

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## TPM reporting documents

### Reporting:

It must be reported in principle the venue of the meeting, the date, the number of participants and few things about the activities (minutes of the meeting).

**In all cases, the beneficiaries must be able to demonstrate a formal link with the persons participating in transnational project meetings, whether they are involved in the Project as staff (whether on a professional or voluntary basis) or as learners of the beneficiary organisations.**

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## TPM reporting documents

The Education, Scholarships, Apprenticeships and Youth Entrepreneurship

Project No:  
Project title:  
Event host organization:  
Event title:  
Date and Place:

Insert the logo of the organization  
F-SEE-116/12.2018

### PARTICIPANTS LIST Transnational project meeting

No.	Name and surname	Sending organization	Sending organization's address	Signature
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Host organization	
Name of the legal representative	
Signature of the legal representative	

F-SEE-114/09-2018

The Education, Scholarships, Apprenticeships and Youth Entrepreneurship Programme – EEA Grants 2014-2021

Project No: ..... (to be completed)

Project Title: ..... (to be completed)

### Declaration for Staff Costs Transnational Project Meeting

(as proof of the nature of the relationship between the person and the PP/project partner)

I undersigned .....

Position .....

representing the organization:  
(complete name) .....

Address: .....

city: ..... country: .....

certify that the following person:

M. ....

M. ....

M. ....

M. ....

M. ....

are employed within the organization and worked on the ESAYEP project (title) .....

coordinated by ..... (Project Promoter's name): .....

implemented in the period: .....

and were paid from the grant awarded to the project.

Place ..... date: .....

Name of the legal representative: .....

(signature of the legal representative & stamp)

**+ report of the organized event / press release – to be posted on the website**

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## Transnational Project Meetings

	MEETING LOCATION	SENDING ORGANISATION	PARTICIPANTS
TPM 1	Cluj-Napoca, RO	University Politehnica Bucharest	2
		Technical University of Cluj-Napoca	2
		University of Agder	2
		Bizzcom s.r.o.	2
		Poznan University of Technology	2
TPM 2	Bucharest, RO	University Politehnica Bucharest	2
		Technical University of Cluj-Napoca	2
		University of Agder	2
		Bizzcom s.r.o.	2
		Poznan University of Technology	2
TPM 3	Poznan, PL	University Politehnica Bucharest	2
		Technical University of Cluj-Napoca	2
		University of Agder	2
		Bizzcom s.r.o.	2
		Poznan University of Technology	2
TPM 4	Bucany, SK	University Politehnica Bucharest	2
		Technical University of Cluj-Napoca	2
		University of Agder	2
		Bizzcom s.r.o.	2
		Poznan University of Technology	2

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**EMERALD – Kick off meeting – 28.02.2022 – TUCN, RO**



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## EMERALD – Kick off meeting – 28.02.2022 – TUCN, RO

The event was **organized at the Technical University of Cluj-Napoca**, together with the Executive team (1 representative of each institution that is involved in the consortium) + 1 representative of the Technical Team, with **the main goals**:

- ▶ to discuss about the logistic aspects involved in the project and to make presentations that were prepared prior in advance about Institutions involved in the project, infrastructure, key personnel that will be involved in the project (constituting of the Financial team, Technical Team, Communication team)
- ▶ as results of this meetings there are foreseen to reach a clear Project management plan, financial management plan, dissemination plan like the one in the Annexes, to discuss and establish the main key outputs, to present the regulations stated by the Romanian National Agency, quality assurance and risk management plan, etc.

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## EMERALD – Monitoring Transnational Meeting - TPM 2 - August 2022 - University Politehnica Bucharest, RO

The event is organized at **the University Politehnica Bucharest**, together with the Executive team (1 representative of each institution that is involved in the consortium) + 1 representative of the Technical Team, with **the main goals**:

- ▶ to monitor the first stage of the project (IO1), to audit the direction, to take several measures if such measured are imposed due to delays from the project management plan or due to unpredicted risks caused by pandemic context
- ▶ to plan the next activities to be developed within the EMERALD project in IO2 with clear tasks allocated to the Technical Team and/ or the Communication Team.
- ▶ financial Team will provide one detailed report about all the expenses / status of the Timesheets / new regulations imposed in pandemic period and urgent measures that might be carried out from the financial point of view / financial reports if needed, etc. prior to this meeting

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## EMERALD – Monitoring Transnational Meeting - TPM 3 - January 2023 - Poznan University of Technology, PL

The event will be organized at the **University of Poznan (Poland)**, together with the Executive team (1 representative of each institution that is involved in the consortium) + 1 representative of the Technical Team, with **the main goals**:

- to monitor the progress of the activities, financial aspects
- to discuss / finalize Interim Report
- to communicate changes in rules and regulations imposed by the Romanian National Agency (if it is the case) / to discuss about re-allocating budget
- to take care about all the technical activities that are required to be realized in the project. Most important discussions will be held about the preparing steps required for IO3, related to the e-virtual laboratory platform, which has to be finished until July 2023.

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## EMERALD – Monitoring Transnational Meeting - TPM 4 - June 2023 - BIZZCOM company, SK

The event will be organized at the **BIZZCOM company (SK)** together with the Executive team (1 representative of each institution that is involved in the consortium) + 1 representative of the Technical Team, with **the main goals:**

- ▶ to discuss about the finalizing of virtual laboratory platform that is expected to be finalized at the end of July 2023 within IO3
- ▶ to discuss about the case study reports that have to be finished until September 2023
- ▶ to monitor and discuss the status of open access book / toolkit manual / patent submission / diploma projects / academic papers that are expected to be made with the support of the medical institutions and mentors / co-mentors of the EMERALD consortium.
- ▶ aspects related to final scientific / dissemination / financial report will be discussed prior to this meeting as well, so as all planning about final delivery reports will be made in due time prior in advance ( 1 and half months before) for preliminary checking

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## Intellectual output activities

### Intellectual output

To calculate the grant amount, **the category of staff applicable does not relate to the professional profile of the person, but to the function performed by the person in relation to the development of the intellectual output.**

**The triggering event** that conditions the entitlement to the grant is that the intellectual output has been produced and that it is of an acceptable quality level, as determined by the evaluation of the National Agency.

Once the  
project is  
finished !

## Intellectual outputs reporting documents

### Supporting documents:

- **proof of the nature of the relationship between the person and the beneficiary concerned** (such as type of employment contract, voluntary work, SME ownership, etc.), as registered in the official records of the beneficiary. In all cases, **the beneficiaries must be able to demonstrate the formal link with the person concerned, whether he/she is involved in the Project on a professional or voluntary basis.** Persons working for a beneficiary on the basis of service contract (e.g. translators, web designer etc.) are not considered as staff of the organisation concerned. Their working time can therefore not be claimed under "intellectual outputs" but may be eligible under "exceptional costs" .../...

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## Intellectual outputs reporting documents

### Supporting documents:

- Send to the coordinator an official document stating the formal link with your organization by 15<sup>th</sup> of October 2022 (employment contracts + template of the Agency)
- For any new people involved in the project, timesheets are needed to be provided for them also. Please send the timesheets for the period February 2022 – September 2022 until 15<sup>th</sup> of October 2022 – these documents must be sent to Cristina Borzan and uploaded on Teams platform as well)

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## Intellectual outputs reporting documents

UNIVERSITATEA TEHNICĂ DE CLUJ-NAPOCA

ACT ADIȚIONAL nr. 1 din 30.06.2020 LA CONTRACTUL INDIVIDUAL DE MUNCĂ înregistrat în registrul general de evidență a salariaților sub nr. 45432/24.06.2020

Fișă de contract

Angajator - persoana juridică UNIVERSITATEA TEHNICĂ DE CLUJ-NAPOCA, cu sediul în Cluj-Napoca, str. Memorandumului nr. 28, cod fi. n. 5364-401/200, reprezentată legal prin Prof.dr.Ing. Vasile Toşa, în calitate de salariat al Ministerului Educației Naționale în județul Cluj, municipiul Cluj-Napoca, str. Memorandumului nr. 28, cu număr de înregistrare la Birou de Identitate seria C2 nr. 45432/24.06.2020

Adresă în vederea adresei nr. 12472 din 29.04.2020, în vigoare din 01.07.2020, H.G. 8/2018, Hotărârea Consiliului de Administrație nr. 8/23.01.2018, Legea 55/2003 republicată și actualizată, și/sau contractele care conțin prevederi care modifică conținutul clauzei din contractul individual de muncă:

Art. 8. Incorporează în data de 01.07.2020 se modifică:

Litera H. Durata muncii: o fracțiune de normă, durata timpului de lucru fiind de 84 săptămâni.

Litera J. Salariul lunar: ... lei, valutar.

Art. 9. Trecerile contractului precedent ale contractului.

Art. 10. Prezentul act adițional s-a încheiat în 2 exemplare, câte unul pentru fiecare parte.

RECTOR,  
Prof. dr. Ing. Vasile TOȘA

Director proiect,  
Conf. dr. Ing. Florin RĂBĂNĂȘ

Director Economic,  
Ec. Laura-Claudia RUSU

Director Resurse Umane,  
Ec. Paulina LEA

VIZAT  
Brancoș EMI

Imprimat,  
Adm. Sc. Cluj-Napoca

Contracts for the period of hiring persons in the project (registered, signed, stamped, etc!!!! Working hours – to be calculated on legal basis (e.g. one person cannot work more than 12 hours/day)! Additional annexes, statements – signed by the Rector / Vice rector (authorized person!)/ director!!!!

DECLARAȚIE

Subsemnatul, în calitate de reprezentant al instituției, declar că:

Nume: TOȘA  
Surnume: VASILE  
Instituția: Technical University of Cluj-Napoca  
Data: 30.06.2020

STATEMENT

With which I, stated above, as legal representative of the institution, state that the documentation that is given as a proof of formal connection between institution and staff member FLOAREA RĂBĂNĂȘ, who worked on assignments connected to the production of intellectual outputs for project 3D and Virtual Reality Technologies for VET is in accordance with national law of Romania, rules of the Erasmus programme and provisions of the Grant Agreement no.: 2019-1-HR01-KA202-041006.

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA, ROMANIA

STATEMENT REGARDING ERASMUS KA 1 PROJECT "3D and Virtual Reality Technologies for VET" 2019-1-HR01-KA202-041006

According to internal regulations of the Technical University of Cluj-Napoca, contracts for all persons involved in ERASMUS KA 2 projects are registered and are naming according to the rules, terms and regulations that are stated in these contracts. Contracts related to ERASMUS KA 2 projects are different as compared to the "main contracts" that are registered between the employees and the Technical University of Cluj-Napoca as institution. In these cases, there are no any restrictions imposed by the Technical University of Cluj-Napoca for the employees engaged in ERASMUS KA 2 projects to develop activities and report themselves in these contracts in the periods when from the "main contracts" part of time people involved in ERASMUS KA 2 projects are taking activities in "holiday periods". The time limit of 4 hours they will be reported on the case of each person involved in the project in the entire period of signed contracts and no any activities will be reported during National holidays and weekends in the ERASMUS KA 2 projects, according to the internal regulations of the Technical University of Cluj-Napoca.

Sincerely yours,  
Prof. dr. Ing. Vasile TOȘA

CONTRACTS TO BE UPLOADED ON DRIVE / TEAMS CONTRACTS MUST COVER THE EMPLOYING TIME PERIOD ON THE EMERALD PROJECT

F.SEE-114/09.2020

The Education, Scholarships, Apprenticeships and Youth Entrepreneurship Programme – EEA Grants 2014-2021

Project No: ..... (to be completed)

Project Title: ..... (to be completed)

Declaration for Staff Costs  
Intellectual Outputs  
(as proof of the nature of the relationship between the person and the PP/project partner)

I undersigned .....  
Position .....  
representing the organization:  
(complete name) .....  
Address: .....  
city: ..... country: .....  
certify that the following person:  
M. ....  
M. ....  
M. ....  
M. ....  
M. ....  
are employed within the organization and worked on the ESAVEP project (date) .....  
coordinated by ..... (Project Promoter's name): .....  
implemented in the period: .....  
and were paid from the grant awarded to the project.

Place: .....  
Name of the legal representative: .....  
(signature of the legal representative & stamp)

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## Intellectual outputs reporting documents

### Reporting:

On behalf of the Project as a whole, the coordinator must report on the activities undertaken and results produced. The coordinator must include information on the start and end date and on the number of days of work per category of staff for each of the beneficiaries cooperating directly on the development of intellectual outputs.

**We must be able to justify finalized deliverables (reports and results on the EEA platform) for our expenses to be eligible.**

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## Intellectual outputs (quick overview)

Intellectual Output: I01 - EMERALD e-book for developing of biomimetic mechatronic systems

Start Date : 15 Feb 2022 → End Date : 31 Jul 2022

Responsible: Technical University of Cluj-Napoca

Intellectual Output: I02 - EMERALD e-toolkit manual for digital learning in producing biomimetic mechatronic systems

Start Date : 01 Aug 2022 → End Date : 31 Jan 2023

Responsible: University of Agder

Intellectual Output: : I03 - EMERALD e-Jearning VR / AR platform for programming and using biomimetic mechatronic systems

Start Date : 01 Feb 2023 → End Date : 31 Jul 2023

Responsible: Bizzcom company

Intellectual Output: : I04 - EMERALD a-case studies for project based learning method used in developing, testing and manufacturing of new biomimetic mechatronic systems by 3D printing technologies

Start Date : 15 Feb 2022 → End Date : 29 Sep 2023

Responsible: Poznan University of Technology

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## Multiplier events activities

### Multiplier events

The grant amount is calculated by multiplying the number of participants from organizations **other than the beneficiary, the associated partners** hosting a multiplier event and other project partner organizations.

**The triggering event** that conditions the entitlement to the grant is that the multiplier event has taken place and that it is of an acceptable quality level, as determined by the evaluation of the National Agency.

Once the  
project is  
finished !

## Multiplier events reporting documents

### Supporting documents:

- **Proof of attendance of the multiplier event in the form of a participants list signed by the participants and the receiving organisation;**
- **Detailed agenda and any documents used or distributed at the multiplier event  
(report of the organized event / press release – to be posted on the website)**
- **Accommodation + traveling bills + accounting**

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## Multiplier events reporting documents

**The Education, Scholarships, Apprenticeships and Youth Entrepreneurship**  
Project No:  
Project title:  
Event host organization:  
Event title:  
Date and Place:

Insert the logo of the organization  
**F-SEE-117/12.2018**

### PARTICIPANTS LIST Multiplier event

No.	Name and surname	Sending organization	Sending organization's address	City of the organization	Country of the organization	Signature
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Host organization						
Name of the legal representative						
Signature of the legal representative						

**+ report of the organized event / press release – to be posted on the website**

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## Multiplier events reporting documents

### Reporting:

- On behalf of the Project as a whole, it must be reported
  - ✓ the description of the multiplier event,
  - ✓ the intellectual outputs covered,
  - ✓ the leading and participating organizations,
  - ✓ the venue of the meeting
  - ✓ the numbers of local and international participants / statistics
  - ✓ Feedbacks on behalf of participants

## Multiplier events reporting documents

### Reporting:

- **In the case that the beneficiaries do not develop the intellectual outputs applied for and approved by the National Agency, the related Multiplier events will not be considered eligible for grant support either.**
- **If the National Agency awarded support for the development of several intellectual outputs but only some of them are ultimately realized, the National Agency must determine to which extent each of the related Multiplier events is eligible for grant support.**

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## MULTIPLIER EVENTS

	ORGANIZING INSTITUTION	DATE	LOCAL PARTICIPANTS	FOREING PARTICIPANTS
ME 1	University Politehnica Bucharest, Romania	2 SEPTEMBER 2022	40	-
ME 2	Technical University of Cluj-Napoca, Romania	17 FEBRUARY 2023	40	8
ME 3	BIZZCOM company ,Slovakia	01 SEPTEMBER 2023	40	-

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## Multiplier events

**ME 1 - EMERALD research base learning method for teaching**

**Start Date : 2 Sept 2022**

**End Date : 2 Sept 2022**

**Country of Venue : University Politehnica Bucharest, Romania**

Participating Organizations : University Politehnica Bucharest, Technical University of Cluj-Napoca, University of Agder, Bizzcom s.r.o., Poznan University of Technology

**Event Description :** 1st Multiplier event EMERALD project is the event organized in order to share the 1st intellectual result of a project with a larger audience. **Organized free of charge ! one day !** and the participants are required to register in the preamble. Expected number of attendees is **about 40 people**.

**The target groups:** > colleagues involved in teaching Computer Aided Design, Computer Aided Engineering, Computer Programming, Virtual Reality / Augmented Reality, Sensors and Electronics, Bio-Mechatronics, 3D printing and Rapid Tooling, Intelligent (smart) materials  
> teaching staff, students, other partners, other people involved in Higher education teaching in their respective organizations, that are interested about developing, producing and testing of biomimetic mechatronic systems for people with special needs.

Intellectual Outputs Covered : I01 - EMERALD e-book for developing of biomimetic mechatronic systems

**The aims of ME1 are:**

- To present the project in its conception, research approach, technological outputs and e-book (the results of I01)
- To share the technological tools developed on the level of the EMERALD consortium.

### PROPOSED AGENDA

9:00 - Registration of the participants.	12:00 - Interactive feedback: a short survey to collect first impressions and reactions.
9:30 - EMERALD coordinator's welcome / Introduction to the activities.	13:00 - Presentation of 1st Intellectual Output: I01 - EMERALD e-book for developing of biomimetic mechatronic systems
10:00 - Presentation of EMERALD Consortium	14:30 - Interactive feedback: a quiz to collect first impressions and reactions on I01. Q&A time.
10:30 - Presentation of EMERALD project: a round table on WHAT WE MEANT; WHAT WE HAVE ACHIEVED; WHAT WE HAVE LEARNED;	

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# European Network For 3D Printing Of Biomimetic Mechatronic Systems

Working together for a **green**, **competitive** and **inclusive** Europe

Iceland Liechtenstein Norway grants

EMERALD project - European Network for 3D printing of Biomimetic Mechatronic Systems

EMERALD

EMERALD Multiplier Event on:

## Research base learning method for teaching in bio-mechatronics

Organized by the Politehnica University of Bucharest, Romania in cooperation with the EMERALD project consortium partners



EMERALD: European network for 3D printing of biomimetic mechatronic systems  
EEA & Norway Grant - Contract No. 21-COP-0019

### MULTIPLIER EVENT ON RESEARCH BASE LEARNING METHOD FOR TEACHING IN BIO-MECHATRONICS

POLITEHNICA University of Bucharest, Romania

Program

Date: 02.09.2022, between 9.00-14.00, UPB Central Library, Hall 2.2

Hour	Activity
9:00	Participants registration
9:15	Event opening Prof. Nicolae Ionescu (Politehnica University of Bucharest) / Prof. Tom Savu (Politehnica University of Bucharest) – Dep TCM
9:30	EMERALD Project Presentation Assoc. Prof. Diana Băilă (Politehnica University of Bucharest)
9:45	ANPCDEFP – Radu Stoika – EEA Norway grants – aims, particularities and opportunities
10:00	EMERALD Project – Main Aims, Actions and Activities of the project Assoc. Prof. Răzvan Păcurar (Technical University of Cluj-Napoca, Romania)
10:15	University of Agder Norway – Presentation Prof. Filippo Sanfilippo
10:30	Poznan University of Technology – Presentation Prof. Filip Gorski
10:45	LEYCOM Company – Presentation (Additive manufacturing of prostheses: SLM, SLA, SLS, FRESH 3D Printing, etc)

## Multiplier events

11:00	Coffee Break
11:15	Intelligent (Smart) Materials Prof. Zaharia Cătălin (Politehnica University of Bucharest)
11:45	ADMASYS Company – Presentation NUTECHNOLOGIES Company – Presentation
12:15	BIZZCOM Company - Slovakia Director Eng. Branislav Rabara
12:30	« Ilie Murgulescu » Institute of Physical – Chemistry – Romanian Academy - Bucharest Oxide nanomaterials used for sensors CS3 Eng. Oana Cătălina Mocioiu
13:00	Round table discussions about future potential collaboration in the bio-mechatronics / 3D printing domain - Assoc. Prof. Diana Băilă (Politehnica University of Bucharest)
13:30	Final conclusions
14:00	Lunch time

EMERALD project consortium partners:



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# European Network For 3D Printing Of Biomimetic Mechatronic Systems

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## Multiplier events

**ME2 - Applied research teaching methods for Higher education**

**Start Date : 17 Feb 2023**

**End Date : 17 Feb 2023**

**Country of Venue : Technical University of Cluj-Napoca, Romania**

Participating Organizations : [University Politehnica Bucharest](#), [Technical University of Cluj-Napoca](#), [University of Agder](#), [Bizzcom s.r.o.](#), [Poznan University of Technology](#)

**Event Description** : to present and share the results reached in intellectual output 2, related to the e-toolkit manual.

**Organized free of charge ! one day !** and the participants are required to register in the preamble. Expected number of attendees is about 48 people.

**The target groups**: ➤ are colleagues, teaching staff, students, other people involved in Higher education in their respective organizations

Intellectual Outputs Covered : I02 - EMERALD e-toolkit manual for digital learning in producing biomimetic mechatronic systems

**The aims of ME2 are:**

- research base learning for teaching methods that can be used in higher education in the EMERALD project
- presenting of overall objectives of EMERALD project / presenting of the overall approach
- presenting of e-toolkit manual
- future activities/perspectives of EMERALD consortium in digital learning & teaching, implementing & transferring of the results

### PROPOSED AGENDA

9:00 - Registration of the participants.	13:30 Presenting of e-toolkit manual for developing of new biomimetic mechatronic systems (aspects related to Bio-mechatronics)
9:30 - Welcome to the multiplier event at the Technical University of Cluj-Napoca	
10:00 Presenting on how research base learning for teaching mechatronics and 3D printing methods can be used in higher education (EMERALD project)	14:00 Presenting of a-toolkit manual for developing of new biomimetic mechatronic systems (aspects related to 3D printing and Smart materials)
10:30 Presenting of overall support e-courses / e-resources developed by the EMERALD consortium	14:30 Conclusions, future activities of EMERALD consortium
11 :30 Presenting of a-toolkit manual for developing of new biomimetic mechatronic systems (aspects related to CAD/ CAE)	14:45 Round table Q & A- EMERALD project perspectives in implementing and transferring of the results.
12:00 Presenting of e-toolkit manual for developing of new biomimetic mechatronic systems (aspects related to Computer programming)	

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# European Network For 3D Printing Of Biomimetic Mechatronic Systems

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## Multiplier events

**ME3 - EMERALD personalized and project learning methods for Higher education**

**Start Date : 01 Sep 2023**

**End Date : 01 Sep 2023**

**Country of Venue : BIZZCOM company ,Slovakia**

Participating Organizations : University Politehnica Bucharest, Technical University of Cluj-Napoca, University of Agder, Bizzcom s.r.o., Poznan University of Technology

**Event Description:** to present and share the results reached in intellectual output 3, e-learning virtual laboratory (e-learning platform) & and intellectual output 4 related to e-case studies

**Organized free of charge ! one day !** and the participants are required to register in the preamble. **Expected number of attendees is about 40 people.**

**The target groups:** ➤ are colleagues, teaching staff, students, other people involved in Higher education in their respective organizations

Intellectual Outputs Covered : IO3 and IO4

**The aims of ME3 are:**

- personalized and project learning methods can be used for teaching in higher education using the EMERALD virtual laboratory platform
- presenting and experiencing of the virtual laboratory / AR / mixing AR applications developed by EMERALD consortium
- conclusions, future perspectives of implementing and transferring of the results, publications, dissemination, new project proposals
- future activities/perspectives of EMERALD consortium in digital learning & teaching, implementing & transferring of the results

### PROPOSED AGENDA

9:00 - Registration of the participants.	12:00 EMERALD project perspectives in implementing, disseminating and transferring of the results
9:30 - Welcome to the multiplier event at BIZZCOM company (Slovakia)	12:30 Round table, Q & A, final conclusions
10:00 Presenting on how personalized and project teaching methods can be used in teaching in higher education (using the EMERALD resources)	14:00 Live experiencing of the EMERALD VR/ AR e-learning platform
10:30 Overall presentation about e-virtual laboratory   e-learning platform developed by the EMERALD consortium	
11:30 Presenting of EMERALD consortium opportunities (case studies developed based on project base learning methods for people with special needs (practical using of EMERALD e-virtual laboratory / e-learning platform)	

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# European Network For 3D Printing Of Biomimetic Mechatronic Systems

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## Quick overview of the EMERALD project activities and expected results

TPM	Transnational project meetings
IO	Intellectual Outputs
ME	Multiplier Events
C	Intensive Programmes for higher education / Short-term joint staff training events
EMERALD - Summarizing the Calendar of the project / deadlines / milestones	

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## LTT events activities

### Intensive Programmes for higher education / Short-term joint staff training events

The grant amount = unit contribution towards the travel, individual support and linguistic support.

The beneficiaries must be able to demonstrate the formal link with the persons participating in Transnational training, teaching or learning activities, whether they are involved in the Project as staff (either on a professional or a voluntary basis) or as learners

## LTT reporting documents

### Supporting documents:

- **Proof of attendance of the activity in the form of an attendance list or individual attendance certificates signed by the receiving organisation;**  
**(report of the organized event / press release – to be posted on the website)**
- **Accommodation + traveling bills + accounting**

### Reporting:

There must be reported details on the venue of all learning, teaching and training activities, the date and the number of participants + details about the organized activities.

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## LTT activities

### Intensive Programmes for higher education / Short-term joint staff training events

	ORGANIZING INSTITUTION	PERIOD / NUMBER OF DAYS	SENDING ORGANISATION	STUDENTS	PROFESSORS	INVITED STAFF	
C 1	University of Agder, NO	SEPTEMBER 2022 / 10 DAYS	Technical University of Cluj-Napoca	5	4	-	UiA – 5 extra participants TOTAL : 30 participants
			University Politehnica Bucharest	5	2	-	
			University of Agder	-	-	-	
			Bizzcom s.r.o.	-	-	2	
C 2	Bizzcom s.r.o., SK	MAY 2023 / 4 DAYS	Poznan University of Technology	5	2	-	Bizzcom s.r.o. – 4 extra participants TOTAL :20 participants
			Technical University of Cluj-Napoca	-	4	-	
			University Politehnica Bucharest	-	4	-	
			University of Agder	-	4	-	
			Bizzcom s.r.o.	-	-	-	
C 3	University of Agder, NO	JULY 2023 / 10 DAYS	Poznan University of Technology	-	4	-	UiA – 5 extra participants TOTAL : 30 participants
			Technical University of Cluj-Napoca	5	4	-	
			University Politehnica Bucharest	5	2	-	
			University of Agder	-	-	-	
			Bizzcom s.r.o.	-	-	2	
			Poznan University of Technology	5	2	-	

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## LTT activities

### C1 : Intensive Programmes for higher education students – 3D printing and bio-mechatronics

Duration : 10 day(s)

Country of Venue : Norway

Total number of Participants : 30

Date: September 2022

The 1st International summer school organized by the University of Agder.

Participating Organizations : University Politehnica Bucharest, Technical University of Cluj-Napoca, University of Agder, Bizzcom s.r.o., Poznan University of Technology

**The target groups:** ➤ professors (from EMERALD consortium and engaged in technical activities) & students  
**Organized free of charge!** the participants are required to REGISTER in the preamble.

**Aims:** Starting from the curriculum that has been defined by the EMERALD project consortium and taking into consideration that at the time of organizing this event, e-support courses are being delivered, EMERALD consortium professors will be able to exercise the usefulness of the information provided in the e-courses on the 1st edition of EMERALD International summer school, by being engaged in teaching activities and sharing the information prepared in the e-course modules (e-book) IO1 with the attending professors & students.

#### Courses & practical activities related to the IO1 modules

Computer Aided Design,  
Computer Aided Engineering,  
Computer Programming,  
Virtual Reality / Augmented Reality,  
Sensors and Electronics,  
BioMechatronics,  
3D printing and Rapid Tooling methods,  
Intelligent materials

Students will be organized in teams and competitions will be launched in order to finally produce the case studies that are being required to be made for the final test (case studies will be the ones stated to be realized in the O2, adapted for people with special needs). At the end of the EMERALD International summer school, all participants will receive an invitation of joining the future activities of EMERALD consortium activities together with their professors (mentors) in the next upcoming year.

Content?

Report?

Certificates ?

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## LTT activities

### C2 : Short-term joint staff training events – 3D printing and bio-mechatronics

Duration : 4 day(s)

Country of Venue : Slovakia

Total number of Participants : 20

Date: May 2023

The International summer school organized by the BIZZCOM company

Participating Organizations : University Politehnica Bucharest, Technical University of Cluj-Napoca, University of Agder, Bizzcom s.r.o., Poznan University of Technology

**Activity :** ➤ is focused on the use and testing the functionality of e-virtual laboratory (e-learning) platform developed by the EMERALD consortium for teaching activities related to the manufacturing of biomimetic mechatronic systems by 3D printing

**The target groups:** ➤ professors ➤ other people / institutions (stakeholders) involved in research activities related to the developing, manufacturing and testing of new biomimetic mechatronic systems made by 3D printing, for people with special needs

Testing the functionality of virtual laboratory platform developed within IO3 related to: different scenarios in VR / AR / Mixed Reality applications for people with special needs

IMPORTANT FEEDBACKS

Content?

Report?

Certificates ?

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## LTT activities

**C3 : Intensive Programmes for higher education students - 3D printing and bio-mechatronics**

Duration : 10 day(s)

Country of Venue : Norway

Total number of Participants : 30

Date: July 2023

The 2nd International summer school organized by the University of Agder

Participating Organizations : University Politehnica Bucharest, Technical University of Cluj-Napoca, University of Agder, Bizzcom s.r.o., Poznan University of Technology

**The target groups:** ➤ professors (from EMERALD consortium and engaged in technical activities) & students  
Organized free of charge ! the participants are required to REGISTER in the preamble.

**Aims:** to familiarize the attendees with the personalized and project based teaching methods used in Higher education and the efficiency of these methods in using the EMERALD project resources, especially e-virtual laboratory (e-learning platform) AR / VR / mixed reality applications for getting knowledge and practical skills in developing of new biomimetic mechatronic systems by 3D printing technologies and specific applications related to the programming of biomimetic mechatronic systems AR / VR applications.

**Students** will be able first to understand the basic principles that are related to CAD/CAE, manufacturing, programming and testing of biomimetic systems using e-virtual laboratory (e-learning) platform.

**Professors** will present on a course the basics of different case study that is being prepared, with the particularities involved in the case when biomimetic mechatronic systems are required to be materialized for people with special needs, emphasizing the facilities of the virtual laboratory (e-learning platform / AR / VR applications).

In this way the easiness in using the e-learning platform of the EMERALD consortium will be checked based on the feedbacks provided by students.

**Testing and experiencing the virtual laboratory platform developed within IO3 related to:  
different scenarios in VR / AR / Mixed Reality applications for people with special needs**

IMPORTANT FEEDBACKS

Certificates ?

Report?

Main results reached during the EMERALD summer school organized at the University of Agder in July 2023 will be presented in September 2023 at the Multiplier event organized in Slovakia by BIZZCOM

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## Quick overview of the EMERALD project activities and expected results

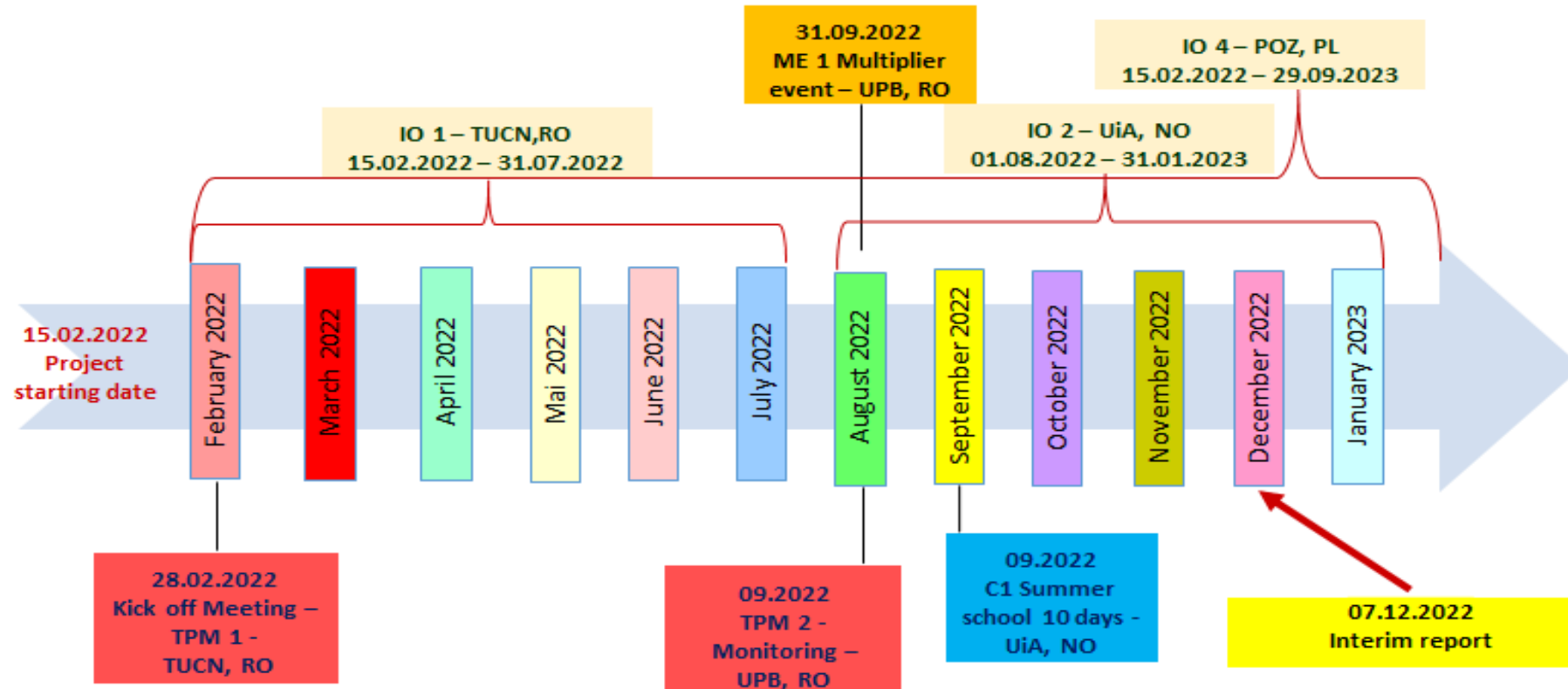
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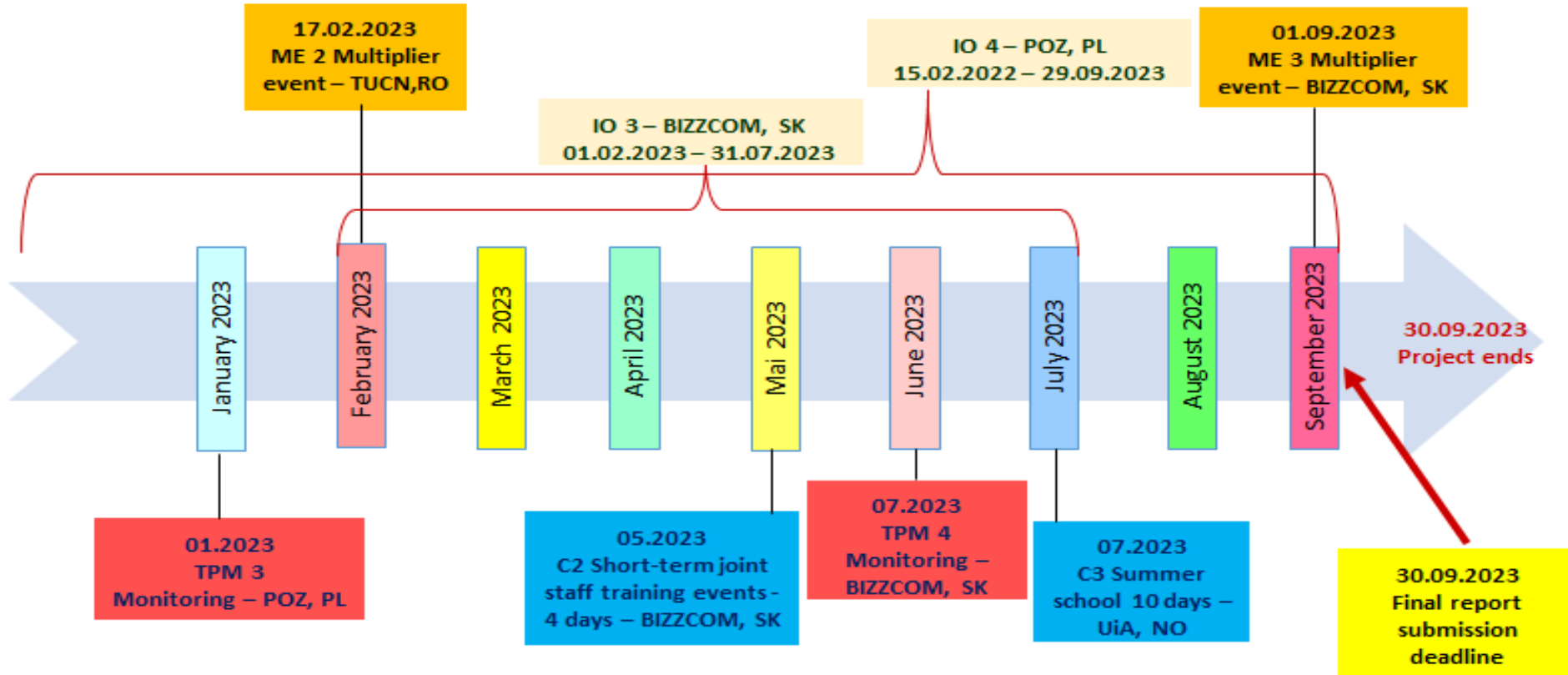


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