

Setting updates, tasks and responsibilities + setting of details related to the next following activities to be organized on the EMERALD project

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

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Technical University of Cluj-Napoca, Romania

Content

- 1. Setting of details related to the next following activities to be organized on the EMERALD project**
- 2. Setting updates, tasks and responsibilities related to IO1 and IO2**
- 3. Setting updates, tasks and responsibilities for the next period – follow up after the Transnational Project Meeting event organized in Bucharest - final recap (September 2022)**
- 4. Q&A with partners + final conclusions of the TPM meeting in Bucharest (RO)**

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1. Setting of details related to the next following activities to be organized on the EMERALD project

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European Network For 3D Printing Of Biomimetic Mechatronic Systems

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

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	
			Poznan University of Technology	5	2	-	

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Certificates?

Daily monitoring?

Promoting on the EMERALD website?

Report?

Registering procedure also for people outside of consortium?

Pictures?

Press release?

Social media?

Feedbacks?

Grant payments according to the rules of the Agency!

Communicating / emails?

We must think to interesting activities (games, competitions, socializing activities. trips)

online / onsite?

Intention is to have also experimental research engaged / innovative design / companies / local authorities –invitations to be send to them

Companies / research institutions visits?

Prizes for the best students (e.g. printed 3D logo of EMERALD)?

Organizing of trip – to and back from Kristiansand to Oslo?

Accommodation invoice – per each person needed?

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European Network For 3D Printing
Of Biomimetic Mechatronic Systems

EMERALD International Summer School on:

EMERALD International Summer School on 3D Printing in Bio-Mechatronics – 12-23 September 2022

3D printing in bio-mechatronics

Organized at the University of Agder, Norway by the EMERALD project consortium partners



h	Monday 12.09.2022	Tuesday 13.09.2022	Wednesday 14.09.2022	Thursday 15.09.2022	Friday 16.09.2022	Monday 19.09.2022	Tuesday 20.09.2022	Wednesday 21.09.2022	Thursday 22.09.2022	Friday 23.09.2022	h
10	Opening ceremony (UiA) and project presentation (TUCN)	CAD - Lecture (PUT)	CAE - Lecture (TUCN)	Workshop 3D Printing and & Progress report, feedbacks regarding printing process, corrections to be made (all partners)	Company visit, professional visit of SME company in Kristiansand / Stavanger + visiting of the fjords / socializing activity (UiA + all partners)	General progress of W1 and objectives of W2 (UiA + TUCN) Students' presentation (interim report + scientific presentations)	Intelligent (smart) materials (UPB)	Computer Programming case studies (UiA)	Finalizing progress report, preparing final presentation (all partners)	Closing and awarding ceremony, future perspectives of the EMERALD project (all partners)	10
11	Participants' presentation and program guidelines for summer school (UiA, TUCN, all partners)	Workshop 3D / Launching of case studies (PUT)	Workshop 3D CAE & Progress report (TUCN)	Medical and mechanical tests, metrology of mechatronic systems (UPB + Sven)		Feedback on behalf of the EMERALD experts and guidelines for W2 (all partners)	Sensors and electronics (UPB + TUCN)	VR and AR programming applications presentation, case studies (PUT + BIZZCOM)	Final test, final questionnaires and feedbacks (all partners)	EMERALD final consortium meeting (all partners)	11
12	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	12
13	Visiting of UiA laboratories and city tour of Kristiansand city (UiA)	Workshop 3D CAD redesigned & Progress report (all partners)	3D printing and Rapid Tooling for mechatronics (TUCN)	Laboratory on Mechanical test, metrology/ medical institute visit (UiA)	Laboratory on / bio-mechatronics (UiA+PUT)	Bio-mechatronics (UiA + PUT)	Assembling and testing of mechatronic systems conceived and developed (all partners)	Developing of VR / AR applications (PUT + BIZZCOM)	Round table with local representatives of business sector (companies / research institutes) involved in mechatronics (UiA)	Free time, sightseeing	13
14			Workshop 3D Printing and & Progress report (TUCN)	Re-designing / re-analyzing / re-3D printing of the components (all partners)		Laboratory on / bio-mechatronics (UiA+PUT)			Final student presentations (all partners)		14
15											15
					WEEK 1			WEEK 2			

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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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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 : IO2 - 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	14:00 Presenting of a-toolkit manual for developing of new biomimetic mechatronic systems (aspects related to 3D printing and Smart materials)
10:00 Presenting on how research base learning for teaching mechatronics and 3D printing methods can be used in higher education (EMERALD project)	14:30 Conclusions, future activities of EMERALD consortium
10:30 Presenting of overall support e-courses / e-resources developed by the EMERALD consortium	14:45 Round table
11 :30 Presenting of a-toolkit manual for developing of new biomimetic mechatronic systems (aspects related to CAD/ CAE)	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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2. Setting updates, tasks and responsibilities related to IO1 and IO2

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State of progress of the production of the Intellectual Outputs / monitoring / urgent aspects that must be considered for Intellectual output IO1 and IO2

IO1 - 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

The main aim of the IO1 is to provide the proposed **CURRICULUM** for increasing the application of research results in regenerative medicine, human-machine interfaces, advanced robotics, new paradigms in biomimetic mechatronic systems, etc. The curriculum comprise **8 MODULES**.

IO2 - 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

The aims of the IO2 : ➤ to provide e-toolkit for teaching purposes

- to provide the **basics knowledge** about the realizing of biomimetic mechatronic systems by 3D printing.
- to provide the **other preliminary and post processing steps** that are required to be followed in terms of CAD modeling
- **diploma project themes**

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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

The main aim of the I01 is to provide the proposed **CURRICULUM** for increasing the application of research results in regenerative medicine, human-machine interfaces, advanced robotics, new paradigms in biomimetic mechatronic systems, etc. The curriculum comprise **8 MODULES**.

Languages : English

Open
access
on the
platform?

Content?

Template?

Report?

MODULES	RESPONSIBLES
1. Computer Aided Design (CAD)	PUT
2. Computer Aided Engineering (CAE)	TUCN
3. Computer Programming	UiA
4. Virtual Reality / Augmented Reality	PUT & BIZZCOM
5. Sensors and Electronics	UPB
6. Bio-Mechatronics	UiA
7. 3D printing and Rapid Tooling methods	TUCN
8. Intelligent (smart) materials	UPB

Starting:
15.02.2022

Deadline:
31.07.2022

For each module according to the skills and competences of the EMERALD partners consortium, from the **Technical team there will be nominated 1-2 responsible persons** which will be in charge with one module and will need to provide course support for the particular module courses necessary for **producing biomechatronic / biomimetic systems**.

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EMERALD

The Education, Scholarships, Apprenticeships and Youth
Entrepreneurship

EUROPEAN NETWORK FOR 3D PRINTING OF BIOMIMETIC

MECHATRONIC SYSTEMS

MODULE *number*

Name of Module

Project Title	European network for 3D printing of biomimetic mechatronic systems 21-COP-0019
Output	IOI - EMERALD e-book for developing of biomimetic mechatronic systems
Module	Module *number* *Name of Module*
Date of Delivery	July 2022
Authors	
Version	FINAL VARIANT, *date*

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4.1.2	Subsection	7
4.2	Subchapter	7
4.2.1	Subsection	7
4.2.2	Subsection	7
5	Chapter	8

Title of the presentation

Academic title or role in the company, Name and Surname,
Department,
Faculty / University / Company, country of origin



1

Template is ready in the first draft

8 course modules comprising 30-40 pages each are needed to be delivered (deadline was 31.07.2022)

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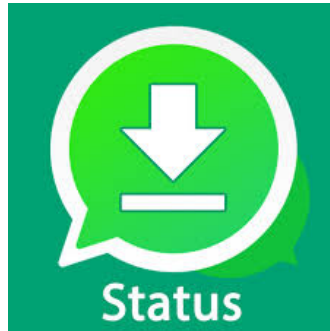
MODULES	RESPONSIBLES
1. Computer Aided Design (CAD)	PUT
2. Computer Aided Engineering (CAE)	TUCN
3. Computer Programming	UiA
4. Virtual Reality / Augmented Reality	PUT & BIZZCOM
5. Sensors and Electronics	UPB
6. Bio-Mechatronics	UiA
7. 3D printing and Rapid Tooling methods	TUCN
8. Intelligent (smart) materials	UPB

8 course modules comprising 30-40 pages each are needed to be shared and delivered (together with the Powerpoint presentations) at the International Summer School in Norway (september 2022)

This is the main aim of this edition of summer school organized in the frame of the EMERALD project

8 course modules comprising 30-40 pages each were supposed to be shared and distributed at this edition of ME organized on 2nd September 2022 in Bucharest

This is the main aim of the ME organized in the frame of the EMERALD project in Bucharest



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**Validation of the distribution of tasks –
Each partner will present the plan and status for each activity they have ownership**

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

The aims of the I02 : > to provide e-toolkit for teaching purposes

- > to provide the basics knowledge about the realizing of biomimetic mechatronic systems by 3D printing.
- > to provide the other preliminary and post processing steps that are required to be followed in terms of CAD modeling
- > diploma project themes

		RESPONSIBLES	
Open access on the platform?	Conceiving the concepts of biomimetic mechatronic systems / bio-mechatronic domain	UiA	Starting: 01.08.2022
	Providing details related to the designing solutions used for conceiving the biomimetic mechatronic systems	PUT & TUCN	
	Validation of the biomimetic mechatronic systems (solutions designed by CAD systems based on CAE analyses)	TUCN	
Content?	Solutions related to the materials to be used for the realizing of the new developed biomimetic mechatronic systems	UPB	Deadline: 31.01.2023
	3D printing and rapid tooling methods for the components to be realized for the new biomimetic mechatronic	TUCN & UPB & PUT	
Template?	Description of assembling and programming of the systems	UiA	
Report?	Aspects related to the set-up/functionality of the presented solutions/repeatability of the process /troubleshoot and control; inputs regarding the methods of testing of these new biomimetic mechatronic systems by AR / VR - solutions of conceiving, realizing and materializing of different scenarios in AR/VR where the biomimetic mechatronic systems will be connected and used for therapeutically purposes by the persons with special needs	BIZZCOM	

For each module according to the skills and competences of the EMERALD partners consortium, from the Technical team there will be nominated 1-2 responsible persons which will be in charge with the module and will need to provide the module for the e-toolkit manual.

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3. Setting updates, tasks and responsibilities for the next period – follow up after the Transnational Project Meeting event organized in Bucharest - final recap (September 2022)

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Setting updates, tasks and responsibilities for the next period – follow up after the Transnational Project Meeting event organized in Bucharest (September 2022)

- **Status related to staff employed in the project (contracts, teams, responsibilities) (all partners)**

UTCN	Position in university	Position in project
Razvan Pacurar	Assoc. Prof.	Project manager
...		

4 MAIN TEAMS

- the executive team
- financial team
- technical team
- communication team

Intellectual outputs reporting documents



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!!!!



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



Declaration for Staff Costs
Intellectual Outputs

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

I undertook:
Position:
expressing the organization:
Address:
I certify that the following person:
is employed within the organization and worked on the ESATIP project (YES)
coordinated by:
and were paid from the grant awarded to the project.

- **Files to be uploaded on tools (Mobility tool, Dropbox, WhatsApp, Teams, Drive, etc) –**
- **until 15th of October 2022 (all partners)**

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Setting updates, tasks and responsibilities for the next period – follow up after the Transnational Project Meeting event organized in Bucharest (September 2022)

- Status related to the activities reported for the period **February 2022 – September 2022** (timesheets + fulfilling the timesheets) **(all partners)**

Intellectual outputs reporting documents

Monthly timesheet form for Iceland Liechtenstein Norway grants. Fields include Project No., Organization, Staff category, and a table for reporting working hours on the assistant and intellectual outputs.

Summary timesheet form for Iceland Liechtenstein Norway grants. Fields include Organization, Name and surname of the employee, Staff category, and a table for reporting working hours by month and intellectual output.

Timesheet	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL (in days)
Intellectual Output 1													0.00
Intellectual Output 2													0.00
Intellectual Output 3													0.00
Intellectual Output 4													0.00
TOTAL (in days)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- Files to be uploaded on tools (Mobility tool, Dropbox, WhatsApp, Teams, Drive, etc) –
- **until 15th of October 2022 (all partners)**

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Setting updates, tasks and responsibilities for the next period – follow up after the Transnational Project Meeting event organized in Bucharest (September 2022)

- Reports and documents related to TPM / ME organized in Bucharest (**Diana - UPB**)

TPM reporting documents

Iceland
Liechtenstein
Norway grants

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:

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

Multiplier events reporting documents

Iceland
Liechtenstein
Norway grants

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

DECLARATION FOR STAFF COSTS
Transnational Project Meeting
(proof of the nature of the relationship between the person and the project/partner)

I undertigned _____
Position _____
representing the organization:
Company name: _____
Address: _____
City: _____
Country: _____
I certify that the following person:
M. _____
M. _____
M. _____
M. _____
M. _____
are employed within the organization and worked on the EYATEP project (No): _____
co-financed by _____ (Project Partner'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

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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Setting updates, tasks and responsibilities for the next period – follow up after the Transnational Project Meeting event organized in Bucharest (September 2022)

- Summer school in Norway – organizing issues and updates (**Filippo – UiA + Razvan - TUCN**)

Certificates?

Press release?

Promoting on the EMERALD website?

Registering procedure also for people outside of consortium?

Communicating / emails?

Grant payments according to the rules of the Agency!

EMERALDproject - European Network for 3D printing of Biomimetic Mechatronic Systems

EMERALD International Summer School on:
3D printing in bio-mechatronics

12-23 SEPTEMBER 2022

WHO can apply
Master students (MSc) PhD students

Specializations:
Mechanical Engineering, Bio-mechanics & Robotics, Mechatronics & Intelligent Systems, Computer Science & Automatics, Robotics & Artificial Intelligence

Organized by the University of Agder, Norway by the EMERALD project consortium partners

Logos: UiA, Bizzcom, TUCN, etc.

EMERALD International Summer School on 3D Printing in Bio-Mechatronics – 12-23 September 2022

	Monday 12.09.2022	Tuesday 13.09.2022	Wednesday 14.09.2022	Thursday 15.09.2022	Friday 16.09.2022	Monday 19.09.2022	Tuesday 20.09.2022	Wednesday 21.09.2022	Thursday 22.09.2022	Friday 23.09.2022	
10	Opening ceremony (UiA) and project presentation (TUCN)	CAD - Lecture (PUT)	CAE - Lecture (TUCN)	Workshop 3D Printing and Progress report, feedbacks regarding printing process, corrections to be made (all partners)	Company visit, professional visit of SME company in Kristiansand / Stavanger - visiting of the Sørås / socializing activity (UiA = all partners)	General progress of W1 and objectives of W2 (UiA + TUCN)	Intelligent (smart) materials (UPB)	Computer Programming case studies (UiA)	Finalizing progress report, preparing final presentation (all partners)	Closing and awarding ceremony, future perspectives of the EMERALD project (all partners)	10
11	Participants' presentation and program guidelines for summer school (UiA, TUCN, all partners)	Workshop 3D Learning of case studies (PUT)	Workshop 3D CAE & Progress report (TUCN)	Medical and mechanical test, metrology of mechatronic systems (UPB + Svan)		Feedback on behalf of the EMERALD experts and guidelines for W2 (all partners)	Sensors and electronics (UPB + TUCN)	VR and AR programming applications, case studies (PUT + BIZZCOM)	Final test, final questionnaires and feedbacks (all partners)	EMERALD final consortium meeting (all partners)	11
12	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	Lunch & free time	12
13	Visiting of UiA laboratories and city tour of Kristiansand city (UiA)	Workshop 3D CAD redesigning & Progress report (all partners)	Workshop 3D 3D printing and Rapid Tooling for mechatronics (TUCN)	Laboratory on Mechanical test, metrology/ medical instrument visit (UiA)	Laboratory on / bio-mechatronics (UiA+PUT)	Bio-mechatronics (UiA + PUT)	Assembling of mechatronic systems conceived and developed (all partners)	Developing of VR, AR applications (PUT + BIZZCOM)	Round table with local representatives of business sector (companies / research institutes) involved in mechatronics (UiA)	Free time, sightseeing	13
14			Workshop 3D Printing and Progress report (TUCN)	Re-designing / re-3D printing of the components (all partners)					Final student presentations (all partners)		14
15											15

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European Network For 3D Printing Of Biomimetic Mechatronic Systems

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

Setting updates, tasks and responsibilities for the next period – follow up after the Transnational Project Meeting event organized in Bucharest (September 2022)

- Conceiving of the disseminating plan and monitoring of the progress (**Filip – PUT Poznan**)



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

RESULTS (KPIs):

- ✓ 4 case study reports
- ✓ 1 open access book
- ✓ 1 open access toolkit manual
- ✓ 4 academic / scientific papers (ISI with Impact factor) are expected to be delivered at the end and shared via a-platform of EMERALD project as good practice use for dissemination
- ✓ e-learning platform conceived by the EMERALD consortium is intended to be used finally as one powerful tool for attracting the major stakeholders in the field of bio-mechatronics /3D printing domains) to scale up the solutions to build one active and representative network for 3D printing of biomimetic mechatronic systems in Europe (EMERALD network)

DISSEMINATION:

1. **Chapters that might be used by students for BSc projects / reports** that emphasize the case studies and use of EMERALD resources in developing, producing or testing new types of biomimetic mechatronic systems by 3D printing (reports will be shared via the e-learning platform of EMERALD project in open-access mode in order to emphasize how EMERALD resources were used in sorting out real issues in close correlation with the persons with special needs | adapted for these case studies);
2. **Case studies developed, tested and made at this level** will provide important feedbacks regarding the EMERALD resources and regarding the new biomimetic mechatronic systems developed for people with special needs.
3. Since topic of the EMERALD project and content is in the interest of SMEs and Medical Institutions, **transfer of know-how from the universities engaged in the EMERALD consortium to stakeholders**, as well as building strategic partnerships and **applying for new EU projects** is highly foreseen to be reached at dissemination level in the future as well.
4. **patenting process of the solutions developed by the EMERALD consortium** (patent submitting application)
5. **Advertising is not for dissemination**, but is needed for promoting of the consortium and events (logo of the project, advertising, web page, newspapers) etc.

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- **Conceiving of the disseminating plan and monitoring of the progress (Filip – PUT Poznan)**

Role of the leaders of Intellectual Outputs. Important aspects that must be considered (as the Agency is specifically requiring it)

DISSEMINATION PLAN



Dissemination (disseminating) plan – this is urgently needed In the frame of IO4 (coordinated by Filip Gorski – PUT Poznan)

This disseminating plan must be done in concordance to the expected KPIs in the frame of the EMERALD project

Actions / terms (deadlines) / responsibilities will have to be attributed on behalf of Filip Gorski to all of us!!!

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Aspects related to the Disseminating possibilities (advertising /news interviews / university websites, etc) – publishing of an open access book + articles (e.g. MDPI) (all partners)

Aspects related to the involving of potential stakeholders in the field of 3D printing / bio-mechatronic domain on each region (all partners)

Aspects regarding the implementation of the EMERALD curriculum in the Higher Education institutions (EMERALD consortium) and developing of a common MSc program in the future (all partners)

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- Realizing of the synergy with the ARMIN project which is needed to be provided in our project (**Diana – UPB**)

Role of the leaders of Intellectual Outputs. Important aspects that must be considered (as the Agency is specifically requiring it)

Input
needed
on behalf
of UPB



Input
needed
on behalf
of UPB

ARM NEUROPROSTHESIS EQUIPED WITH ARTIFICIAL SKIN AND SENSORIAL FEEDBACK - ARMIN

Partners: UPB, National Institute of Microtechnology, Clinical Hospital of Floreasca, Medical Science Academy, Areus Technology, University of South-Eastern Norway, budget approx. 1.510.000 euro

The main objective of the project was to design and fabricate the command and control system of a neuroprosthesis that integrates the motion algorithms with the command and sensory signals. The sensorial feedback system is re-establishing the sensorial function of amputated arms and is able to achieve high precision movements when handling objects with the neuroprosthesis. To design and fabricate a set of regenerative neural bio-interfaces for selecting and stimulating (from ulnar and median nerves), the sensory axons considered being in charge with the transmission of tactile sensations from palm and fingers, before amputation has been developed. These bio-interfaces allow the tactile signals from the fingers and palms of the neuroprosthesis to be transmitted through these sensory axons. In this way the patient actually feels tactile feedback sensations when handling objects with neuroprosthesis. To mount a fully functional neuroprosthesis on the patient stump, it was needed to be connected to the peripheral nervous system of the patient. For delivering the arm neuroprosthesis prototype (implanted in the patient stump and WiFi connected to the prosthesis hand), most of lost arm and hand functions were achieved by 3D printing.



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1. applying for future common projects in the frame of ERASMUS, HORIZON programs, other research projects, etc. (all partners)
2. signing of ERASMUS bilateral agreements / CEEPUS (all partners)
3. Running common BSc./ MSc. Diploma projects, etc.) (all partners)
4. Starting of planning and organizing of TPM / LTT / ME for the next year
5. Asking for budget reallocation (emails to be send to the Agency (if it is strongly needed). Justifications must be provided for any change (added value must be proved, assumed and considered). It is recommended to stick to the initial allocated budget. Don't forget that 70 % of the received budget must be spent until 07.02.2022 in order to get financing for the 2nd year!

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4. Q&A with partners + final conclusions of the TPM meeting in Bucharest (RO)

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