

INTERIM EVALUATION & IMPACT ASSESSMENT REPORT ON RIS3 ROUND TABLE AND POLICY FRAMEWORK

D.T3.4.2 - Interim Evaluation & Impact Version 2 Assessment Report on RIS3 Round Table and 5 2022 Policy Framework

Authors:

Marija Galeković, HAMAG-BICRO (PP10) Ebonita Ćurković, HAMAG BICRO (PP10) Tomislav Zoretić (External contractor)

Document Control



Document Summary	
Project Number	CE1662
Project Title	CEUP 2030
Work Package/Activity	A.T3.4 - Impact Controlling & Evaluation of RIS3 Round Tables & Policy Framework for CE/EU
Deliverable	D.T3.4.2 - Interim Evaluation & Impact Assessment Report on RIS3 Round Table and Policy Framework
Deliverable Responsible (if applicable)	PP10 / HAMAG-BICRO
Deliverable Reviewer (If applicable)	All partners
Deliverable Due Date	September 2021

Dissemination Level					
PU	Public	PU			
PP	Restricted to other programme participants				
RE	Restricted to a group specified by the consortium				
CO	Confidential, only for members of the consortium				

Document History					
Date	Version	Issuer Description of Changes			
20.04.2022	1.0	HAMAG	First draft		
29.05.2022	2.0	HAMAG	Second draft		





1. Executive Summary

Project Overview

CEUP 2030 aims to generate stable innovation networks which foster better understanding on <u>C</u>entral Europe <u>A</u>dvanced <u>M</u>anufacturing and <u>I</u>ndustry <u>4.0</u> ("<u>CAMI4.0</u>") topics, to generate improved knowledge resource exchange on these technologies leading to an upgraded 1.1 framework for policy-making and implementation.

Ultimately, CEUP 2030 creates and tests a common method to promote improved knowledge dissemination to policy-making stakeholders using a collaborative exchange framework based in physical and digital-methods. These methods and the technology show-cases disseminated within these method structures are harvested from existing, high-quality innovation know-how in the CE area.

The project focuses on:

- Identifying the highest-quality innovation know-how in the CE Area, on the CAMI4.0 Topics.
- Enhancing skills capabilities and knowledge of people in charge of local, regional, and (trans)national RTI Policies, associated to the CAMI4.0 Topics.
- Creating a sustainable structure for awareness-raising and shared-sustainable RTI knowledge resource use to enhance policy decision support.
- Anticipating and fast-tracking policy / strategy policy pilot actions to promote a joint RIS3 for CAMI4.0 Excellence in CE/EU.

1.2.

Main Project Results

The main results of the projects are the 6 outputs contributing to the result indicator by setting up a stable network for trend monitoring on CAMI4.0 topics as well as the RIS3 Round Tables both fostering innovation in a regional and transnational context. For immediate cooperative innovation learning, the Policy Learning Labs & the Tech Radars/PID fit to the indictor. For a mid-term and long-term anchoring, the Strategy & Boost and the Policy Framework for 2021-2027 also contributes. The expected change at the territorial level will be noticeable by aligning structures & processes for a stable, future robust tech & innovation policy implementation scheme lasting far beyond project's end & by integrating consequently stakeholders across Europe for strengthening CE. CEUP 2030 improves the situation of target groups through a deep-dive integration in both working group structure (TIN, RIS RT) & in the cooperative learning of the PLLs.

In general, the project assures sustainability of outputs/results during project duration by the number of involved top level stakeholders & proven quality of PPs and their ASPs. After project's end there will be an agreed capitalization agenda & a long-term validity stated in the Policy Framework 2021-2027 (political) and the subsequent action plan (financial). PLLs, TINs & RIS3 RTs will stay as network organisations from the triple-helix stakeholders (institutional). The outputs/results of CEUP 2030 can & will be transferred to additional target audiences/territories during project lifetime anyway (e.g., TIN/PID/PLL on 5 conferences, using 3 EU Presidencies, working groups from DGs,





Vanguard, EFFRA, etc.). Also, beyond CEUP 2030 it is planned and will be agreed to foster a strong transfer scheme (Policy Framework 2021-2027).

Work Package and Activity Overview

The overall objective of WPT3 is to anticipate and to fast-track policy strategies focused on the CE/EU sustainable and continuous development necessary to promote an aligned joint 1.3 regional strategy for Research and Innovation for Smart Specialisation - S3/RIS3 for CAMI4.0 topics.

Based on the synergy of the T1 and T2 outputs - Policy Learning Lab PLL learnt lessons /best practices and TTTDMs established structures and processes - the WPT3 aims to create the policy framework for excellence in policy making on CAMI4.0 for the EU term 2021-2027.

This is achieved by:

- 1) workshops / RIS3 Round table which represents a stakeholder's discussion that revolves around chosen Uses case /Policy pilot action delivered in the WPT2. The Round table should result with a clear guidance describing how the Use case creates competitive advantage in partners eco system as well as in CE/EU ecosystem
- 2) aligned cooperation among policy makers among 30 CE/EU regions.

Following this line of reasoning the WPT3 major objective is 1) to set up 10 regional round tables (one per each project partner) and 4 transnational RIS3 and 2) to start on 2021 with common Policy framework in 30 CE/EU regions.

Below are listed WPT3 activities that lead to the major objective:

- T3.1 harvests the best available & fit-for-purpose experiences on policy pilot actions and strategy building from the identified CE/H2020 projects to assure CEUP 2030 high impact inside project work and from a long-term view. An easy step in for new partners & target group is assured.
- T3.2 establishes the RIS3 Round Tables. For each of the 4 TIN/PID topics a policy pilot action is set in a regional and transnational context. This includes regional/national ministries, European Agencies (EFFRA, Vanguard) and working groups of the DGs (DIH, S3).
- T3.3 fosters a joint CAMI4.0 policy strategy for 2021-2027 with 30 regions in CE/EU. Some immediate policy actions get started & long-term capitalisation will be agreed among PP, ASPs & further stakeholders.
- T3.4 optimises the impact controlling with peer reviewers for the RIS3 Round Tables and the Policy Framework to upstream outstanding policy actions and strategies for CAMI4.0 excellence.

This document is related to the Activity T3.4, the development of the methodology for Impact Controlling & Evaluation of RIS3 Round Tables and the Policy Framework to upstream outstanding policy actions and strategy for CAMI4.0 excellence. There are 3 deliverables in this activity which are described in the Table 1 - A. T3.4. Deliverables.







Table 1 A.T3.4 Deliverables

Outputs: WPT3 - A.T3.4 Impact Controlling & Evaluation of RIS3 Round tables & Policy Framework for CE/EU (07.2021-02.2022)					
1. Coaching guidance for involved	Design of WPT3 impact controlling system, linked to global impact controlling scheme				
CAMI4.0 stakeholders on RIS3 Round Table &	PPs to re-engage peer review group & extend review schedule (6/PP) and test/review process plus recommendations for inclusion in RIS3 Round Tables to 'feel impact' of PID / other tools on policy making				
Policy Framework (HAMAG) [07.2021]	1 guidance document to qualitative & quantitative impact controlling & evaluation to WPT3 RIS3 Round Tables and & Policy Framework				
2. Interim Evaluation & Impact	Engagement of peer reviewers				
Assessment Report on RIS3 Round Table and	Strengthening of the RIS3 Round Table and Policy Framework outputs through collection of feedbacks from peer reviewers.				
Policy Framework (HAMAG) [09.2021]	1 interim report comprises peer review pre-interviews (6/PP) feedback incorporated for Round Table				
3. Final Evaluation & Impact	Final peer review				
Assessment Report on RIS3 Round Table and	WPT3 final outputs collection and analysis				
Policy Framework (HAMAG) [02.2022]	1 final report, incorporates peer review pre-interviews (6/PP) and assesses closing impact of WP3 of outputs Round Tables and Framework on generated structures, networks and tools to upstream outstanding technological foresight into policy making excellence				

1.4.

Impact Controlling System Overview

Impact Controlling System is a cross cutting activity where partners work together to determine a methodology and associated tools to monitor and measure the impact that the project has made on meeting its objectives. The developed methodology is a combination of qualitative and quantitative attributes which will be assessed across the lifecycle of the project.





Qualitative attributes are a series of questions that can be asked to a chosen group of Peer Reviewers, across the project's development; whilst **quantitative attributes** are based on project numerical indicators that are associated to connecting with Target Groups generally, and meeting content-relevant deliverables on a work package by work package basis.

The methodology is accompanied by an in IT based tool, in the form of a group-accessible Excel sheet, which can be used to track and update information from Partners and their peer reviewers about the impact of the project on reaching its desired goals.

Scope of Document & Deliverable Summary

This document (D.T2.4.2) aims at collecting and analysing the main outcomes after the S3 Round tables, in order to perform qualitative and quantitative impact controlling and evaluation of RIS3 Round Tables and assess their impact. The document is based on the methodology, steps and processes developed regarding identification of outputs and results, impact controlling and evaluation, as part of the common guidance to all project partners provided in the Coaching guidance document (D.T3.4.1). Final impact assessment report (D.T3.4.3.) will complement the analysis with the assessment of the Policy Framework.

^{1.6.} Change Control Procedure & Structure

The Deliverable Responsible: HAMAG-BICRO Croatian Agency for SMEs, Innovation and Investments (HAMAG/PP10), created this impact assessment document which is hosted on the Project's common repository in the appropriately named deliverable folder (D.T3.4.2 Interim Evaluation & Impact Assessment Report on RIS3 Round Table and Policy Framework).

The document is under project deliverable change control protocols whereby partners are requested to give feedback on the draft version according to the timing proposed in the final section of this document. Feedback will be incorporated and the final version will be issued by HAMAG-BICRO.

At any time, partners believe a project methodology should change, the request should be brought to the Deliverable Responsible and the Work Package Leader (PIA/PP3) to consolidate feedback from other partners, and then further integrate and disseminate the final agreed changes. A new version of the document should be created, and recorded in the document's "Document History" table.



Abbreviations



Abbreviation	Explanation
AF	Application Form
ASP	Associated Partner (i.e., Strategic Partner)
CAMI4.0	Central European Advance Manufacturing and Industry 4.0
CE	Central Europe
DIH	Digital Innovation Hub
eDIH	European Digital Innovation Hub
MoU	Memorandum of Understanding
PID	Policy Intelligence Dashboard
PLL	Policy Learning Lab
PP	Project Partner
RIS3	Regional Innovation Strategy for Smart Specialisation
RIS3 RT	RIS3 Round table
TIN	Trend and Innovation Network
TTTDM	TINs Trend & Technology dialogue meetings
S3	Smart Specialisation Strategy
	•



Contents

1. Executive Summary3	
1.1. Project Overview	
1.2. Main Project Results	
1.3. Work Package and Activity Overview4	
1.4. Impact Controlling System Overview5	
1.5. Scope of Document & Deliverable Summary6	
1.6. Change Control Procedure & Structure6	
Abbreviations7	
2. Introduction	
2.1. Background and Aims9	
2.2. Project Aim	
2.3. Impact Controlling System Overview	
2.4. Definitions10	
2.5. CEUP 2030 Requirements related to Target Group11	
2.6. CEUP 2030 Requirements related to Thematic Result Indicators12	
3. Methodology14	
3.1. Flagship projects	
3.2. RIS3 RTs14	
3.3. Peer review	•
4. Results	
4.1. Flagship projects	
4.2. RIS3 RTs	•
4.3. Peer review	
5. Conclusions & Next Steps	
6. Annexes	
Annex 1. External Peer Review Template for WPT3 OUTPUTS	
Annex 2. Evaluation template for RIS3 Round Table41	
Annex 3. Overview of flagship projects identified by PPs43	•
Annex 4. Overview of conducted peer reviews53	





2. Introduction

The purpose of this report is to provide an analysis of feedback collected from a selected group of Peer Reviewers (6-8 interviews/PP), on validation and capitalization of use cases and flagship projects of the PPs, and more broadly the work that the PPs are doing to create strategic long-term support to promote the uptake and adoption of Industry 4.0 and Advanced Manufacturing. The report provides an overview of methodology, covers the regional and transnational RIS3 RTs organized by the PPs and draws common conclusions based on contributions of the PPs, in form of qualitative and quantitative data collected from the stakeholder interviews, RIS3 RT discussions and reports.

The Report provides a complete summary of the peer review interviews and the regional and transnational RIS3 RTs organized. This deliverable is part of activity A.T3.4 "Impact Controlling & Evaluation of RIS3 Round tables & Policy Framework for CE/EU" which ran from July 2021 to February 2022. The final report (D.T3.4.3.) for this activity will provide further assessment regarding the Policy Framework developed.

Background and Aims

2.1.

Impact controlling is an essential part of project development, because it provides a series of gateways (timely review periods), where PPs and the stakeholder network who were targets of the project, can assess whether the project has or is successfully meeting its intended goals. This means that the methodology is inherently tied to the overarching project's aims, and the intended goals of the project's core outputs.

2.2.

Project Aim

CEUP 2030 aims to generate stable innovation networks which foster better understanding on Central Europe Advanced Manufacturing and Industry 4.0 ("CAMI4.0") topics, to generate improved knowledge resource exchange on these technologies leading to an upgraded framework for policy-making and implementation.

Ultimately CEUP 2030 creates and tests a common method to promote improved knowledge dissemination to policy-making stakeholders using a collaborative exchange framework based in physical and digital-methods. These methods and the technology show-cases disseminated within these method structures are harvested from existing, high-quality innovation know-how in the CE area.

The project focuses on:

- Identifying the highest-quality innovation know-how in the CE Area, on the CAMI4.0 Topics.
- Enhancing skills capabilities and knowledge of people in charge of local, regional, and (trans)national RTI Policies, associated to the CAMI4.0 Topics.





- Creating a sustainable structure for awareness-raising and shared-sustainable RTI knowledge resource use to enhance policy decision support.
- Anticipating and fast-tracking policy / strategy policy pilot actions to promote a joint RIS3 for CAMI4.0 Excellence in CE/EU.

Impact Controlling System Overview

Impact Controlling System is a cross cutting activity where partners work together to determine a methodology and associated tools to monitor and measure the impact that ^{2.3} the project has made on meeting its objectives. The developed methodology is a combination of qualitative and quantitative attributes which will be assessed across the lifecycle of the project.

Qualitative attributes are a series of questions that can be asked to a chosen group of Peer Reviewers, across the project's development; whilst **quantitative attributes** are based on project numerical indicators that are associated to connecting with Target Groups generally and meeting content-relevant deliverables on a work package by work package basis.

The methodology is accompanied by an in IT based tool, in the form of a group-accessible Excel sheet, which can be used to track and update information from Partners and their Peer Reviewers about the impact of the project on reaching its desired goals.

2.4.

Definitions

2.4.1. What is impact controlling?

Impact controlling, or more commonly known as impact monitoring, is a system and or a set of procedures which can be used to measure whether a project or task has reached its intended goal, or is on track to reaching its goal. It can be succinctly defined as a continuous process of collecting data on specified indicators.¹

2.4.2. What is a Peer Reviewer?

Peer Review is defined as "a process of subjecting an author's scholarly work, research or ideas to the scrutiny of others who are experts in the same field"²

A Peer Reviewer is a term which has emerged from academic/scientific writing, which refers to an individual or organisation whose goal is to assess the validity, quality and

¹ "What is Impact?" in the Danish Demining Group's "An introduction to Impact Monitoring" available at: <u>http://danishdemininggroup.dk/media/1220258/im_manual_2012_web.pdf</u>

² What Is Peer Review?" (2014). Int J Comput Appl. Web. Retrieved July 02, 2014, from <u>http://www.iicaon-line.org/peer-review</u> [Google Scholar] [Ref list]





often the originality of an article (or a concept in an article). This term can be similarly assessed in the project world, where an individual or organisation will be assessing the validity and quality of the project's goals and provide qualitative feedback on the group's ability to achieve the goals with the project's outputs.

2.4.3. What is a RIS3 RT

The RIS3 RTs are series of workshops targeting the four main CAMI4.0 topics. The purpose of the RIS3 RTs is to gather stakeholders who are relevant for the implementation of the consortium's Regional RIS3 Alignment Instrument Pilot Project Flagships ("Flagships") / Use Cases. In this way, regional and transnational dialog is ensured, which should bring up better implementation and capitalisation of support mechanisms for CAMI4.0. Consequently, it leads to the enhancement of the competitive advantage in the CE manufacturing eco-system and supports the uptake of technologies.

The primary aim of the RTs is to exchange and share knowledge over chosen use cases in order to provide clear recommendations on how the Use case can deliver value added benefits and create a competitive advantage in its ecosystem as well as in the CE ecosystem. Those recommendations are round table outputs and should define a roadmap for implementing new financial instruments with direct/support recommendations on CAMI4.0 topics.

Participants at the Round tables are stakeholders who are important for the capitalisation of the Use case (supplier/facilitator/receiver/enabler) and stakeholders who will promote the exchange of insight which could help capitalise the Use case and its key stakeholders. This includes Triple helix stakeholders, among which are Associated partners and selected EU/CE stakeholders of critical importance to the Use case implementation.

RIS3 RTs are organized either as regional or transnational round tables. The key purpose of the transnational round table is to promote the alignment of research and innovation strategies among different transnational stakeholder's perspectives. In terms of methodology, the partners should build consensus on the type of methods that can be used to create joint opportunities in the area of enhancing the uptake of advanced manufacturing industry 4.0.

2.5.

CEUP 2030 Requirements related to Target Group

The selected institutions, organisations, companies should contribute with a high impact to the project implementation and their capitalization, strategic anchoring as well as to a high-quality communication of gained project results. At the same time these indicators are to be kept in mind for impact monitoring of quantitative indicators.



Target groups	Please further specify the target groups - see examples in annex 4 of the application manual (classification of target groups)	<u>Target value</u> Please indicate the size of the target group the project aims to actively involve.
Local public authority	Local & municipal authorities associated to innovation & technology support initiatives will be engaged in the project 10 from PPs area and a further 10 from complementary areas (e.g. Graz, Salzburg, Bratislava, Brno, Jena)	20,00
Regional public authority	Regional ministries of economy, technology, innovation & industry will be engaged from 10 PP regions + 10 further regions which provide critical synergy to promote the CEUP 2030 Framework of Excellence vision (e.g. Styria, Thuringia, South Tyrol, etc.)	20,00
National public authority	National ministries or delegated & policy-relevant agencies will be involved from PPs associated country. Focus will be on incorporating National S3 coordinating ministries, leveraging off of engaged Associated Partners.	7,00
Interest groups including NGOs	Via Members, Owners & founders of PPs Interest Groups will be brought into the partners (approximately 1/PP). Interest groups engagement deepen understanding about impact on industry/labour/technology innovation generally.	10,00
Higher education and research	Through HE&R, innovation to promote the PID & TINs become more future foresight orientated. Critical connections with this Target Group is key, therefore each PP engages 3 from their networks to enhance thematic discussions within project life cycle.	30,00
Education/training centre and school	Each PP will identify one E/TC&S to support transferability & sustainability of PID tool use, focusing on an integrative approach which connects to training centres to promote interdisciplinary teaching methods for the four topics.	10,00
Large enterprises	LEs will be involved, especially through use-case development & to showcase practical relevancy industrial impact from these target technologies (Each PP engages 2 LEs, gaining a collaboration pool in Robotics, Materials, Big Data/Sensors & AI).	20,00
SME	SMEs, especially those within PP networks, will be included to showcase practical relevancy of targeted growth support mechanisms associated to the technology areas (Each PP engages 8, approx. 2 with a business model/ tech area.)	80,00
Business support organisation	PPs & networks engage regularly with BSOs (technology parks, dusters), these multiplying organisations will be involved in TIN discussion & further in RIS3 Roundtables. PPs each bring 2 BSOs into the CEUP 2030 activities.	20,00

Figure 1 Target Groups of CEUP 2030

While implementing WPT3, Partners should carefully consider how to identify and involve them to add value to each project activity.

Target Groups can and should be included in project content work (such as attendees at RIS3 Round tables), as peer Reviewers, and as general attendees at workshops and strategic 2.6 alignment activities.

CEUP 2030 Requirements related to Thematic Result Indicators

Thematic Result Indicators are relevant for the whole project. However, there are contributions to these indicators through the thematic work in the project's work packages.

The following thematic result indicator should be monitored whilst implementation.





Figure 2 Specific Indicators for WPT3

Number of trained persons	Persons	100,00	Through the Policy Learning Labs (WPT1), collaborative learning techniques will be used to upgrade and upstream technology focused results to policy-relevant users (10/PP – 100 total); these users will be engaged again once tools are further developed & upgraded (WPT2), and policy-relevant stakeholders are brought into the RIS3 Round tables to determine implementation alignment steps for the Framework for CAMI4.0 Policy Excellence.
---------------------------	---------	--------	---

These stakeholders will be policy-relevant individuals working for triple helix organisations which have influence on the regional, national and transnational development of CAMI4.0 topics (from public authorities to interest groups/NGOs with key influence over advanced manufacturing / industrial digitization or Industry 4.0).





3. Methodology

The purpose of this section is to describe the methodology utilized for WPT3 Impact Controlling. For purposes of impact controlling, following data was collected:

Quantitative information expressed in numerical terms as numbers and ratios for example. This information will be used to answer 'what', 'how many' and 'when' questions.

Qualitative information is expressed through descriptive prose and can address questions about 'why' and 'how', as well as perceptions, attitudes and beliefs.

Flagship projects

3.1 Each PP's Use Case Portfolio and CAMI4.0 Topic Strategy sets the thematic basis of discussions in the RIS3 Round Table. The goal is that the Partners will refine their 4 Use Cases within their Portfolio to foster two ideas further into regional Flagship Projects.

For minimum 2 Use Cases, the PPs are asked to build further insight and further activity to move it from paper into action. Each Use Case is different, regarding the steps which need to be taken to activate the idea.

^{3.2.} RIS3 RTs

A Regional RIS3 RT is a facilitated panel event organised with purpose of promoting knowledge exchange and sharing information regarding one or more use cases / flagship projects identified by a PP. Transnational RIS3 RTs are events organised to promote the alignment of research & innovation strategies and exchange of perspectives among different transnational stakeholders.

The goals of the RIS3 Round Table Workshops are threefold:

1. Use Cases Dissemination, informing key stakeholders about the CAMI4.0 Strategy, and accompanying Use Cases (specifically, those Use Cases which are chosen to become Flagships) which was chosen by your PP organisation.

2. Use Cases Validation, gaining feedback and recommendations from key stakeholders about the context of your Use Cases, the conclusions you made to choose the specific challenge-solution-instrument, and how to bolster the implementation of your Use Case (or bolster support for the challenge you have chosen to tackle).

3. Use Cases Capitalisation, gaining recommendations on which elements of the use case can be used as a base for further regional or transnational capitalisation and cooperation. What is specifically important in the context of CEUP 2030, is that capitalisation efforts should be used to answer the questions:

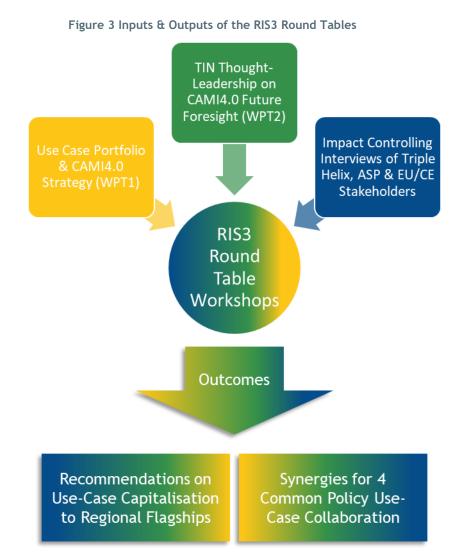
a. "How can we make strategic influence on policies in Central Europe, through the utilization of Use Case actions?"





b. "How can we further expand the benefits of this specific Use Case, with tangible actions and enhance Central European competitive advantage (RIS3)?"

Figure 3 provides a visual representation of the inputs and expected outputs of the RIS3 Round Table. The remainder of the session details the process that PPs should follow to build up the appropriate building blocks for the RIS3 Round Table Workshops, mainly - the Use Case portfolio, expert insight on topic foresight, and Use Case impact controlling and validation discussions with triple-helix, ASP & select EU/CE stakeholders.



Source: D.T3.2.1 - RIS3 Round Table Guidance

The RT panel discussion was focusing on use cases / flagship projects chosen by the PPs. The use cases / flagship projects were analysed by panellists in terms of how they can deliver value-added benefits and competitive advantage. The primary aim of the discussion is to exchange and share knowledge over chosen use cases, which must result in clear recommendations on how the use case / flagship project can create a competitive advantage in its ecosystem as well as in the CE ecosystem.





At the end of RIS3 RTs, the PPs were required to collected quantitative data with a questionnaire presented in Annex 2.

3.3. Peer review

Peer review was conducted in form of interviews with the purpose to collect qualitative information regarding the use cases / flagship projects selected by the PPs.

The peer review process focused on a specific set of questions for collecting feedback in order to gain insight and validation of use cases and flagship projects suggested by the PPs, to facilitate formulating a capitalization agenda, and to collect other general feedback regarding the project objectives and the work the Partners are doing to create strategic long-term support to promote the uptake and adoption of Industry 4.0 and Advanced Manufacturing. More specifically, answers to following questions were collected from the reviewers:

- What are your perspectives and recommendations on the described Use Case(s)? (Challenge, solution, policy instrument used, stakeholders involved?)
- How can you see the Use Case(s) adding value to the Central European manufacturing eco-system?
- How could this activity, be aligned to other work you are doing / you know about?
- How could this activity be further expanded/enriched?
- In your view, what are the benefits of aligning and expanding action on this activity? How does this impact Central Europe's competitive edge?
- How could this activity be adapted to promote strategic, policy-level support for Central Europe's manufacturing sector?
- Beyond the described Use Case, what are critical areas you'd recommend assessing in order to create specific, strategic support for advanced manufacturing and industry 4.0?
- What other comments or recommendations do you have about (a) the results of CEUP 2030 so far and (b) the next steps to develop the Use Case.

The template utilised to collect information through peer reviews is available in Annex 1 of this document.



4. Results



Flagship projects

Table 2 shows the number of use cases and flagships identified by each PP. Distribution of Use cases / flagship projects according to the primary CAMI4.0 topic they are targeting is shown in Table 3. Additional information regarding the flagship projects and the CAMI4.0 4.1 topics they are addressing is presented in Annex 3.

ID of PP	Number of use cases	Number of flagships
PP1_KPT	7	2
PP2_PRO	9	2
PP3_PIA	5	2
PP4_IWU	7	2
PP5_KIT	2	2
PP6_AFIL	4	2
PP7_SIIT	5	2
PP8_PTP	7	2
PP9_PBN	6	2
PP10_HAMAG	4	2
TOTAL	56	20

Table 2 Use cases and flagship projects identified by the PPs

Table 3 Distribution of Use cases and flagship projects according to their primary CAMI4.0 topic

CAMI4.0 topic (primary)	Number of use cases	Number of flagships
Intelligent Production Systems	18	6
Automation & Robotics	15	5
Smart & Advanced Materials	12	5
Artificial Intelligence	11	4
TOTAL	56	20







As presented in Table 4, each PP organised one regional RIS3 RT event in the period from September 2021 to February 2022. Additionally, three transnational RIS3 RTs were held.

Table 4 Regional and transnational round tables organized by the PPs

ID of PP	Event type	Date	Location ³	Use cases / flagships	CAMI4.0 topics
PP1_ KPT	Regional	20.12. 2021.	KPT, Podole 60, Krakow Poland	(1) SmartCircuit (2) eDIH (3) Poland Prize	 (1) Intelligent Production Systems (2) Automation & Robotics (3) Intelligent Production Systems
PP2_ PRO	Regional	21.2. 2022.	Online (MS Teams)	(1) CoRTEAM(2) Share 4.0(3) BIOSAM(4) Hub4Industry	 (1) Automation & Robotics (2) Automation & Robotics (3) Automation & Robotics (4) Automation & Robotics
PP3_ PIA	Regional	14.1. 2022.	Online (Zoom)	(1) Testbed Exchange (2) SHARE 4.0	(1) Automation &Robotics(2) IntelligentProduction Systems
PP4_ IWU	Regional	2.11. 2021.	RUTHs Berlin	(1) STEP UP smart3 (2) Smart Circuit	 (1) Smart & Advanced Materials (2) Intelligent Production Systems
PP5_ KIT	Regional	26.1. 2022.	Online (MS Teams)	(1) NEXT4FUN (2) BIOSAMS	(1) IntelligentProduction Systems(2) Automation &Robotics
PP6_ AFIL	Regional	9.11. 2021.	Online (MS Teams)	(1) "AdvancedPolymers" StrategicCommunitydevelopment(2) AI Roadmap	(1) Smart & Advanced Materials (2) Artificial Intelligence

^{4.2.}

³ Address/location if the event was on site, hosting platform if the event was online.





PP7_ SIIT	Regional	11.11. 2021.	Online (GoToMee ting)	(1) EU-ALLIANCE (2) FORGING	(1) Smart & Advanced Materials(2) ArtificialIntelligence
PP8_ PTP	Regional	23.11. 2021.	Pomurje Tehnology Park	(1) DIH2 project Technology Transfer Experiment (concrete story of Flexido /TECOS / Polycom)	(1) Automation &Robotics(2) IntelligentProduction Systems
PP9_ PBN	Regional	14.9. 2021.	Townhall of Szombath ely (+ some participan ts online)	 (1) Purchase of autonomous production line (Teaching and Learning Factory) and smart material board and further developments (2) Establishment and development of a smart senior room 	(1) Intelligent Production Systems (2) Artificial Intelligence
PP10 _HA MAG	Regional	17.2. 2022.	Hotel Academia, Zagreb, Tkalčićeva 88	 (1) Adriatic multifunctional smart buoys INTERREG Italy Croatia (2) EDIH - CROHUB++ 	(1) Automation & Robotics (2) Artificial Intelligence
PP1_ KPT	Transnational (Contributing PPs: PP4_IWU, PP8_PTP, PP9_PBN)	15.11. 2021.	Online (<u>https://ri</u> <u>s3forum.k</u> <u>pt.krakow</u> <u>.pl/</u>)	(1) eDIH	(1) Intelligent Production Systems
PP6_ AFIL	Transnational (Contributing PPs: PP1_KPT, PP3_PIA, PP5_KIT, PP9_PBN)	10.3. 2022.	Online (GoToMee ting)	The event focuses on AI needs, barriers and challenges to be addressed in the common flagship. PBN and AFIL individual flagships.	(1) Artificial Intelligence
PP8_ PTP	Transnational (Contributing PPs: PP2_PRO, PP5_KIT)	20.12. 2021.	Šmartinsk a c.152 Hala 1, 1000	(1) DIH2 project Technology Transfer Experiment (concrete story of Flexido /TECOS / Polycom)	(1) Intelligent Production Systems



Ljubljana, Slovenia	

Table 5 breaks down the numbers of participants that have participated in the organized RTs, based on the type of organisation they were representing. Out of the 369 participants in total, the majority of participants came from Business Support Organisations, Higher Education and Research, and SMEs.

			Participants									
ID of PP	Event type	Date	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	Total
PP1_ KPT	Regional	20.12. 2021.	0	4	0	0	0	0	0	5	0	9
PP2_ PRO	Regional	21.2. 2022.	0	1	0	8	0	2	18	3	0	32
PP3_ PIA	Regional	14.1. 2022.	0	4	10	10	1	22	7	8	2	64
PP4_I WU	Regional	2.11. 2021.	0	0	3	3	0	0	3	3	0	12
PP5_ KIT	Regional	26.1. 2022.	0	0	0	5	0	3	3	3	0	14
PP6_ AFIL	Regional	9.11. 2021.	0	0	0	13	0	4	3	2	0	22
PP7_ SIIT	Regional	11.11. 2021.	2	2	1	5	0	3	11	3	0	27
PP8_ PTP	Regional	23.11. 2021.	0	0	2	0	0	0	2	4	0	8
PP9_ PBN	Regional	14.9. 2021.	4	0	0	4	0	1	0	1	0	10
PP10 _HA MAG	Regional	17.2. 2022.	0	0	9	5	0	0	1	2	0	17
PP1_ KPT	Trans national	15.11. 2021.	6	0	0	8	0	0	9	30	10	63
PP6_ AFIL	Trans national	10.3. 2022.	0	0	0	5	0	0	6	10	0	21
PP8_ PTP	Trans national	20.12. 2021.	1	0	6	4	1	1	5	11	41	70

Table 5 Participants of regional and transnational round tables organized by the PPs



Total number of participants:	13	11	31	70	2	36	68	85	53	369
Indicator / reference value:	20	20	7	30	10	20	80	20	n/a	207

Legend:

- (1) Local public authority
- (2) Regional public authority
- (3) National public authority
- (4) Higher education and research
- (5) Education / Training Centre & Schools
- (6) Large Enterprises
- (7) SMEs
- (8) Business Support Organisations
- (9) Unknown / anonymous / other

When comparing the participant structure to the reference targets (see section 2.5.), it can be observed that for half of the categories, the number of RT participants significantly exceeded the reference values set for that category. For example, more than double of the number of participants from Higher education and research attended the RTs. Further, three times more Business Support Organisations participants involved are slightly lower than the reference values, for example when it comes to training centres and schools. In any case, the total number of participants involved significantly exceeds the target value, with 369 participants involved, compared to the reference value of 207. Available questionnaires from the survey show high levels of satisfaction regarding different elements of the organised RIS3 RTs (Table 6).

Table 6 Average grades per satisfaction survey question⁴

Satisfaction survey questions	Average grade
1. How satisfied are you with the activity of the hosting institution in organizing the event?	9,42
2. How satisfied are you with the infrastructure provided by the organizer institution? (equipment for educational technology, material conditions for the workshop, heating, lighting, hygiene, etc.)	9,46
3. How satisfied are you with the communication of the hosting institution?	9,38
4. To what extent did the event / workshop meet your expectations?	9,38
5. How satisfied are you with the information provided on the event?	9,54
6. How satisfied are you with the structure and content of the event?	9,42

⁴ Based on available questionnaires in a sample of three RTs, organised by PP5_KIT, PP7_SIIT and PP10_HAMAG.



7. How satisfied are you with the presenters of today's event?	9,50
8. How satisfied are you with the quality of the event/workshop materials provided? You only have to answer if the workshop material has been provided.	9,64

Peer review

Table 7 breaks down the number of peer reviews per each PP that conducted them. A total of 51 peer 4.3.

ID of PP	Number of peer reviews conducted
PP1_KPT	2
PP2_PRO	3
PP3_PIA	6
PP4_IWU	6
PP5_KIT	7
PP6_AFIL	3
PP7_SIIT	6
PP8_PTP	6
PP9_PBN	8
PP10_HAMAG	8
TOTAL	55

Table 7 Number of peer reviews conducted by the PPs

Additional information regarding the peer reviews and interviewees is provided in Table 8. Annex 4 complements the overview with information regarding use cases / flagship projects reviewed, and CAMI4.0 topics they are connected with.

CENTRAL EUROPE



ID of PP	Date of interview	Name of interviewee	Name of organisation	Type of organisation
PP1_ KPT	16.2.2022.	Agnieszka Bachórz	Marshall Office	Regional Public Authority
PP1_ KPT	4.11.2021.	Maurits Butter	τνο	Business Support Organisation
PP2_ PRO	7.3.2022.	Elmar Paireder	Business Upper Austria	Business Support Organisation
PP2_ PRO	2.3.2022.	Alexander Numrich	GMAR Robotics	SME
PP2_ PRO	23.3.2022.	Manfred Tscheligi	AIT	Higher Education & Research
PP3_ PIA	15.10.2021.	Andrea SCHWECHERL	City of Vienna	Regional Public Authority
PP3_ PIA	27.10.2021.	Claudia SCHICKLING	Pilotfabrik TU Wien	Higher Education & Research
PP3_ PIA	20.10.2021.	Jan JIRSA	Vysoká škola polytechnická Jihlava	Education / Training Centre and School
PP3_ PIA	20.10.2021.	Ingo HEGNY	Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology	National Public Authority
PP3_ PIA	20.10.2021.	Martin HURA	Interreg Office SK-AT	International Organisation
PP3_ PIA	28.10.2021.	Christian Wögerer	Profactor	Higher Education & Research
PP4_ IWU	1.11.2021.	Nancy Windisch- Samusik	Saxon State Ministry for Economic Affairs, Labour and Transport	Regional Public Authority
PP4_ IWU	2.11.2021.	Lukas Nögel	VDI/VDE	National Public Authority
PP4_ IWU	6.10.2021.	Holger Kunze	Fraunhofer IWU	Higher Education & Research
PP4_ IWU	26.11.2021.	Anton Mauersberger	DIH innosax	Infrastructure and (Public) Service Provider
PP4_ IWU	7.10.2021.	Jochen Barth	Smart ³ materials, solution, growth	Business Support Organisation
PP4_ IWU	7.10.2021.	Björn Senf	FiberCheck GmbH	SME
PP5_ KIT	12.11.2021.	Joško Valentinčič	University of Ljubljana	Higher Education & Research
PP5_ KIT	15.11.2021.	Jens Korell	Projektträger Karlsruhe (PTKA)	Funding Agency
PP5_ KIT	16.11.2021.	Lars Beex	University of Luxembourg	Higher Education & Research
PP5_ KIT	17.11.2021.	Marcel Strobel	Quantica3D	SME

Table 8 List of interviewees and organisations involved in the peer review process



- C	EUP 2030			
PP5_ KIT	16.11.2021	Carlos Bermudez	Sensofar	SME
PP5_ KIT	7.12.2021	Alexandra Fezer	Steinbeis Europa Zentrum / Vanguard Initiative	Business Support Organisation
PP5_ KIT	7.1.2022	Christine Neuy	Microtec Südwest	Cluster organisation
PP6_ AFIL	12.11.2021	Mirko Mazzoleni	Università di Bergamo	Higher Education & Research
PP6_ AFIL	18.1.2022	Annabelle Sion	Polymeris - Vanguard demo-case coordinator	Higher Education & Research
PP6_ AFIL	20.10.2021	Andrea Mazzoleni	CFI - Cluster Fabbrica Intelligente	Cluster organisation
PP7_ SIIT	10.11.2021	Mariella Ferraro	DIH Liguria	Infrastructure and (Public) Service Provider
PP7_ SIIT	10.12.2021	Anastasia Roufou	European Commission	International Organisation
PP7_ SIIT	14.12.2021	Paola Fontana	POINTEX - Polo Innovazione Tessile	Business Support Organisation
PP7_ SIIT	12.11.2021	Elice Bacci	Regione Liguria	Infrastructure and (Public) Service Provider
PP7_ SIIT	12.11.2021	Marcin Bukat	SKA polska	SME
PP7_ SIIT	14.12.2021	Davide Ottonello	STAM	SME
PP8_ PTP	12.1.2021	Tanja Rener	Government Office for Development and European Cohesion Policy	National Public Authority
PP8_ PTP	23.11.2021	Uroš Žižek	Castoola	SME
PP8_ PTP	18.11.2021	Dr. Domen Mongus	Inova Fusion d.o.o.	SME
PP8_ PTP	17.11.2021	Robert Grah	Pomurje Chamber of Comerce and Industry	Business Support Organisation
PP8_ PTP	26.11.2021	Robert Kološa	PRO-ING, Robert Kološa s.p	SME
PP8_ PTP	23.11.2021	Dr. Dragan Kusić	TECOS	SME
PP9_ PBN	15.9.2021	Ádám Sebestyén	EIT Manufacturing	International Organisation
PP9_ PBN	14.9.2021	Adrienn Bokányi	Municipality of Szombathely	Local Public Authority
PP9_ PBN	10.9.2021	Lászlóné Kulcsár	Károly Pálos Social Service Center and Child Welfare Service" - Social Care Service Provider Company	Infrastructure and (Public) Service Provider
PP9_ PBN	14.9.2021	László Pungor	MAM Hungária LTD.	Large enterprise
PP9_ PBN	13.9.2021	Győző Kóbori	Meddevice Ltd	SME



PP9_ PBN	8.9.2021	György Eigner	Óbuda University	Higher Education & Research
PP9_ PBN	14.9.2021	Krisztina Bárdos	Scientific Association for Mechanical Engineering	Business Support Organisation
PP9_ PBN	9.9.2021	András Haklits	University of Pécs (Medical University Local Institute)	Higher Education & Research
PP10 _HA MAG	24.11.2021.	Mateo Ivanac	Croatian Chamber of Economy	Public body
PP10 _HA MAG	1.2.2022.	Mislav Jurišić	GDi Group LLC	SME
PP10 _HA MAG	14.1.2022.	Robert Cupec	J. J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Computer Science and Information Technology Osijek	Higher Education & Research
PP10 _HA MAG	24.1.2022.	Ivana Palunko	University of Dubrovnik, Department of electrical engineering and computing, Laboratory for intelligent autonomous systems	Higher Education & Research
PP10 _HA MAG	27.1.2022.	Zoran Belak	Razvojno inovacijski centar Alutech Šibenik	Regional Public Authority
PP10 _HA MAG	13.4.2022.	Mirela Čokešić	Ministry of Economy and Sustainable Development	National Public Authority
PP10 _HA MAG	21.4.2022.	Marina Skelin	Ministry of Economy and Sustainable Development	National Public Authority
PP10 _HA MAG	21.4.2022.	Miro Hegedić	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture	Higher Education & Research

The majority of peer reviewers represented Higher Education & Research institutions, SMEs, and Business Support Organisations. Structure of peer reviewers per type of organisation they are representing is shown in Table 9.

Table 9 Structure of peer reviewers per organisation type

	Number of
Type of organisation	peer reviews
	conducted



Business Support Organisation	7
Cluster organisation	2
Education / Training Centre and School	1
Funding agency	1
Higher Education & Research	13
Infrastructure and (Public) Service Provider	4
International Organisation	3
Large enterprise	1
Local Public Authority	1
National Public Authority	5
Public Body	1
Regional Public Authority	4
SME	12
TOTAL	55

The following section provides word-cloud analysis and summary of answers collected from peer reviews (as per template in Annex 1).

A. USE CASE VALIDATION AND FEEDBACK

Peer reviewers were engaged to provide inputs in order to help the PPs gain insight and feedback for purposes of validation of the selected Use Cases.

QUESTION #1: What are your **perspectives and recommendations** on the described Use Case(s)? (Challenge, solution, policy instrument used, stakeholders involved?)

Most peer reviewers emphasised the **strength and relevancy of the presented use cases** / flagship projects and indicated that they touch upon topics that are very relevant for the future development of their particular segments. In particular, the ecological dimension of economic transformation is critical to address, especially in manufacturing & production sectors. Other reviewers also mention the importance of supporting circular economy, sustainability, and application of smart materials. Other





specific examples mentioned are related to functional printing, biologicalisation in manufacturing, data science, and autonomous robotics.

Several reviewers, coming from public authorities, noted that the reviewed projects are **in line with strategic goals** defined in their strategic documents, and thus in line with the needs of the regions covered. For some projects it was also noted that they correspondent with relevant EU strategies/documents (European Green Deal Agenda, Digital Compass, European Sustainability Goals, etc.).

Involving adequate partners was deemed crucial for the collaboration to be effective. Moreover, discussion regarding Use cases presented within this project may contribute to finding them. It needs to be ensured that the consortium is strong and involved from the beginning of the project. For some reviewers, good set-up of the consortium partners to achieve outlined ideas is noted as a strength of the proposed projects. Others recommend ensuring an extensive network of players, both on regional and transnational level. One reviewer emphasised to take MoUs seriously and use the project not only to deliver papers but as a process for collaboration. In that perspective, the reviewers suggest building upon existing collaboration and using it as an opportunity for deepening the cooperation to expand into new topics and areas. Deepen the exchange information and knowledge on the content of Industry 4.0 and experience in implementation of common instruments, such as testbeds or DIHs, is suggested to be realised through exchange formats like workshops, trade fairs and the like. Some reviewers noted a learning exercise within this project regarding the CAMI4.0 topics and variety in their understanding within several different countries.

In a significant number of use cases there is already **triple helix cooperation** including collaborating closely with regional authorities in order to align the activities and strategies. Some best practices noted by the peer reviewers include: building upon previous involvement of consortia members in the topics addressed by the Use projects and previous collaborations with positive experience and results, and ensuring a well-balanced composition of the consortia, in order to bring together partners from different groups, such as those from academia, innovation centres, i.e., Business Support Organisations and SMEs.



Figure 4 Word-cloud analysis for Question 1





Some peer reviewers emphasised the importance of **private-sector orientation** of the projects and importance of collaboration of SMEs with other stakeholders. It is important that the SME target group is reached by the project. Cooperation is key for supporting the digital transformation of the economy, so projects such as eDIHs are needed to provide expert services supporting the digitization of industry and tailored to the industry needs. They should also be open for transnational services provision. Networking aspects are important for the companies' R&D activities to strategically expand collaborative R&D efforts - via national/EU projects, direct collaborations with customers or via joint publications. Digitalisation and innovation are key competitive advantages of the modern SME.

Involvement of researchers supports further the efforts to create strong network links across the projects partnership and bridge the gap between academic research and industrial ecosystems. According to one reviewer, one desired outcome could be potential future job opportunities for the highly skilled and trained PhD students. Using the educational PhD approach for technology transfer towards industry is a promising approach and fills an existing gap/need to intensify technology transfer.

As for future perspective of the Use Cases, **potential for further development** was clearly identified, as most of the projects, according to the reviewers, are in line with strategic documents of the policy makers. The relevant authorities should, however, ensure that instruments are in place with sufficient funding available to provide funding to these operations. In any case, different levels of funding sources should be explored, e.g., regional and national, and EU level.

QUESTION 2: How can you see the Use Case(s) adding value to the Central European manufacturing eco-system?

A general expected benefit on the ecosystem which is recognized by several peer reviewers is the enhanced **uptake of new technologies**, allowing for a paradigm shift in established/classical production systems and pushing the state-of-art in the investigated technology areas. For successful industrial applicability, this will open new opportunities for the industry in terms of, e.g., design & restructuring of classical production pathways, new opportunities for material developers and new application areas.

Figure 5 Word-cloud analysis for Question 2



It should be ensured that project activities and results **reach the designated target groups**. Raising awareness of audience (Industry Enterprises, Policy Makers, Business Support Organisations, etc.) on available digitally/technology driven circular services and solutions is a key element needed for successful implementation. For example, information about projects such as DIHs and testbeds should be summarized and made accessible those, who need it, especially for SMEs.

Several peer reviewers identify value in **opportunities to find partners** and argue that the use cases can contribute to building the preconditions for collaboration and mutual understanding. Further, some of the projects can contribute to enhancing the transfer between science and industry. Tech transfer towards industry as main important factor is addressing current needs of the EU manufacturing eco-system; expanding the associated partner network with more industrial partners would be beneficial to foster both tech transfer across borders and organizations.

Especially for the stakeholders who do not have adequate own capacities (e.g., due to size), **international collaboration** is key. Connecting to existing networking initiatives on EU & regional level can help to better disseminate project activities and outcomes of best-practice examples to sensitize policy representatives towards the project goals and achievements. Making use of existing networks will also foster uptake of project results for various industrial stakeholders showcasing the benefits of being part of EU initiatives on different levels.

To be more effective in practice, when appropriate, collaboration should **include policy makers**, **authorities and decision makers**. The political aspect of the project (strategic political partners) is important, as maybe decision making can be influenced in order to make manufacturing a priority and secure adequate funding sources.

B. USE CASE CAPITALISATION





Peer reviewers were asked for feedback regarding Use Case Capitalisation, in order to help CEUP 2030 in the final stage of the project (creation of a capitalization agenda).

QUESTION 3: How could this activity, be aligned to other work you are doing / you know about?

In most cases, projects are identified as relevant and **in line with the strategic orientation** and operation of the interviewed stakeholders, such as generating more founding, researching, technologyoriented and exporting companies. Aligning the activities with different regional & EU networks should be pursued further to foster dissemination, uptake of new concepts & developments and acquiring new partners.

More practical collaboration would enhance this role more. In that perspective, some specific examples were noted by the peer reviewers, such as the need for students to have practical work at real companies to enable mutual knowledge exchange and facilitate the academia-industry transfers.



Several reviewers suggest keeping the existing and potential stakeholders updated and **using opportunities to showcase and disseminate information**. Best practice success stories can be used as showcases to demonstrate benefits for industrial partners of being part of national/transnational projects (R&D, innovation actions etc.). For example, Cluster communication channels can be employed to share the results with the wider network (multiplier effect).





Some of the peer reviewers expressed desire to be **more directly involved** in project preparation/implementation. Some see direct application (as potential users or providers of services, e.g., from, or as part of DIHs) and by creating synergies from similar strategic orientation and activities pursued by the organisations that the peer reviewers are representing with ones covered by Use cases.

QUESTION 4: How could this **activity be further expanded**/enriched?

Some reviewers suggest ensuring additional expert support in the field of policies related to innovation, entrepreneurship and digitization, and **involving more technological advisors**. One activity to potentially pursue could be cooperation in the organization of events and webinars related to the substantive scope of the project in the field of expert knowledge support.

In that perspective, strong dissemination and **awareness raising activities** are important. Creating strong communication plan for the project which will help to reach out project objectives to various stakeholders and in endgame - help in better commercialization of the project. There are lots of initiatives that can help in accomplishing this.



Figure 7 Word-cloud analysis for Question 4

Some peer reviewers suggested importance of **fine tuning the project** in accordance with specific needs. Because technology develops so quickly, students can get knowledge and skills in some areas only in industry because universities cannot upgrade curriculums due to legislative procedures.





Flexibility and adaptability in project design and implementation was emphasised to be important by several reviewers. The CAMI4.0 topics are in continuous evolution and so are the related challenges. It is important to implement soon the identified actions. If needed, project should be updated and should represent the latest achievements in the field.

Direct engagement of policy makers is deemed important by a significant number of peer reviewers. In the context of securing funding, a continuous two-side interaction with policy makers should be pursued. Proposing project to local (regional) and governmental organisations can provide policy support and help in finding out potential financial schemes to fund it. Policy makers could also contribute by adapting the regulatory framework relevant to particular technologies or sectors and this process could be facilitated by direct approach through organisations such as clusters.

For some projects, reviewers suggested **involving global partners**, from competing countries outside the EU (USA, Asia, etc.) on board in future activities to learn from their approaches. One reviewer noted that Europe is still not competitive to USA and Asia in many industry 4.0 segments, such as Artificial Intelligence, Automation & Robotics.

QUESTION 5: In your view, what are the **benefits of aligning and expanding action** on this activity? How does this impact Central Europe's **competitive edge**?

In many sectors, development of innovative, R&D-based solutions is crucial for enhancing competitiveness. In that perspective, interventions aiming to reduce initial costs of investments, leading to the topic of "Test before invest", are noted to be important by several reviewers. The benefits from taking up emerging technologies, first proof of concepts, applied research to **transferring emerging technologies into specific applications** up to demonstrators and prototyping.

Figure 8 Word-cloud analysis for Question 5



Peer reviewers noted some other specific impacts that could be created by further pursuing the proposed projects, such as **increased internationalisation and exports**, and enhanced competitiveness of SMEs within their specific markets.

Several peer reviewers argued that **clarity of the objectives and the expected results** is crucial in order to be effective and to increase competitiveness through the suggested use cases / flagship projects. Pilot projects need to be clearly defined and differentiated from other projects.

One of the purposes of collaboration is exchange and harmonization of ideas and knowledge. According to some reviewers, collaboration developed through some of the flagship projects could perhaps contribute to harmonization of ideas and of existing knowledge and help to **formulate joint positions towards the European level**, thus making a stronger case in that perspective. Another potential benefit is replication of adopted methodologies and tools in the different regions, according to each local peculiarities.

QUESTION 6: How could this activity be adapted to **promote strategic**, **policy-level support** for Central Europe's manufacturing sector?

Collaboration on projects can represent a starting point for discussion and alignment involving different stakeholders will contribute to **ensure common understanding regarding what Industry 4.0 is**. According to one reviewer, outcomes of use cases should be communicated on different levels with thematic stakeholders plus policy makers to help shape next orientation of funding programs / identifying new needs or topics not addressed yet. Communication should be driven by knowledge generators making use of existing communication structures within policy makers to get the information to the right destinations.





Figure 9 Word-cloud analysis for Question 6



Common activities and actions could lead to the improvement of **bilateral policy making**. Identified knowledge gaps in terms of new application sectors, material development and (funding) support for SMEs should be used for the development of new funding programs / support systems to push the technology update and it benefits to the users. In some cases, it could make sense to include actors from different levels of public authorities (e.g., regional and national).

Some reviewers note that successful applicability of project ideas can be used as **best practices** for industry and transferability of novel concepts and approaches towards other industrial applications (e.g., using different materials, adapting the modelling approaches to different systems etc.). Best practice use cases as showcases for different target groups illustrating benefits of such cooperation and approaches (educational aspect for tech transfer, horizontal connection of research topics).

C. CLOSING REMARKS

Peer reviewers were asked to provide further recommendations and comments based on the objective of the project, and the work the Partners are doing to create strategic long-term support to promote the uptake and adoption of Industry 4.0 and Advanced Manufacturing.

QUESTION 7: Beyond the described Use Case, what are **critical areas you'd recommend assessing** in order to create specific, strategic support for advanced manufacturing and industry 4.0?





Some reviewers noted the importance of **drawing know-how on the latest emerging technologies**, patents, products, and cooperation models concerning the pursued priority technology areas, and looking for new options. To succeed, the access to this type of knowledge, based on the best practices, is of key importance.

According to several peer reviewers, it is important to put an emphasis on **upskilling human resources** in area of advance manufacturing and industry 4.0. Advanced manufacturing critical areas are related to the labour force that needs to be equipped with advanced digital skills. In that perspective, there is a need to raise level of educational studies that will upgrade existing workforce with digital skills.

Some **other specific examples** of important topics were mentioned: Data Sharing Economy, Industry 5.0 solutions, Human-Centred Technology, New Mobility, Zero Defect Manufacturing, Sensor Systems based on Smart Materials, Dual use technologies applied to textile, Data management and Artificial Intelligence, etc.



Figure 10 Word-cloud analysis for Question 7

QUESTION 8: What other comments or recommendations do you have about (a) the results of CEUP 2030 so far and (b) the next steps to develop the Use Case.

Most reviewers agree that the project and related activities are **interesting and useful for the strengthening of European manufacturing sector**, also considering the crisis caused by the pandemic situation. Reviewers suggest continuing the project activities, in particular the stakeholder interaction formats. According to one reviewer, the main recommendation and next step for the use-case are to ensure a concreteness, so that it doesn't represent just a document but create real opportunities within the future strategic plans and actions at regional level.





A significant number of reviewers noted they are looking forward to receiving more information on the use cases / flagship projects as they further evolve. Some reviewers expressed **interest in possible cooperation opportunities** to develop the flagships. There will probably be some topics where it could make sense to deepen collaboration, involve additional partners etc.

Finally, the reviewers are looking forward to the expected future benefits of **having physical meetings** and workshops upon the end of the COVID-19 pandemic. The pandemic has made its impact on limitations to physical presence at the events and inability to meet with foreign partners. Through active moderation commonalities can be discovered and the benefits of collaboration and networking can be used.



Figure 11 Word-cloud analysis for Question 8





Work Package Leader and PPs are asked to review this guide and clarify with the Deliverable Responsible Partner, any questions or comments on the procedure.

- Due Date: 26.04.2022.
- Responsibility: All PPs

Incorporation of Feedbacks

- Due Date: 29.04.2022.
- Responsibility: HAMAG-BICRO





6. Annexes

Annex 1. External Peer Review Template for WPT3 OUTPUTS

EXTERNAL PEER REVIEW TEMPLATE FOR WP3 OUTPUTS							
Administrativ	e Information						
Name of Interviewee (Last name, First Name)	[Free Text]						
Interviewee Organisation/Network Name	[Free Text]						
Interviewee's E-mail	[Free Text]						
Organisation Type	Choose an item.						
If other, please specify	[Free Text]						
Organisation's Territorial Representation	[Free Text]						
Name of PP Interviewer (Last name, First Name)	[Free Text]						
Partner Organisation	Choose an item.						
Date of Interview	Click here to e	enter a date.					
HOSTING LOCATION OF EVENT Location of Interview (if Physical	Online, please platform: XX	specify hosting					
Event)	□ On Site, please specify the location: XX						
	Use Case Name	CAMI4.0 Topic					
	XX	Choose an item.					
NAME OF USE CASE / CAMI4.0 FOCUS OF EVENT (Choose up to four)	XX	Choose an item.					
	XX	Choose an item.					
	XX	Choose an item.					
Start of Semi-Stru	Start of Semi-Structured Interview						

CENTRAL EUROPE



CEUP 2030									
Please start the session with an overview of then proceed with a discussion on the back Use Case	kground and context of your chosen								
The interview template is structured in sug gathering (A. Use Case(s) Validation & Feed Closing Remarks) carries one or two que	back, B. Result Capitalisation, and C. estions about each results aspect.								
PPs should strictly stick to this template.									
Category & Question	Answer								
A. Use Case Validation & Feedback - In orde validation for the Use Case:	r to help the PPs gain insight on and								
What are your perspectives and recommendations on the described Use Case(s)? (Challenge, solution, policy instrument used, stakeholders involved?)	[Maximum 500 Characters, in English]								
How can you see the Use Case (s) adding value to the Central European manufacturing eco-system?	[Maximum 500 Characters, in English]								
B. Use Case Capitalisation - In order to help project (creation of a capitalization agen	-								
How could this activity, be aligned to other work you are doing / you know about?	[Maximum 500 Characters, in English]								
How could this activity be further expanded/enriched?	[Maximum 500 Characters, in English]								
In your view, what are the benefits of aligning and expanding action on this activity? How does this impact Central Europe's competitive-edge?	[Maximum 500 Characters, in English]								
How could this activity be adapted to promote strategic, policy-level support for Central Europe's manufacturing sector?	[Maximum 500 Characters, in English]								
C. Closing Remarks - based on the objective Partners are doing to create strategic lon and adoption of Industry 4.0 and Advance	g-term support to promote the uptake								





Beyond the described Use Case, what are critical areas you'd recommend to assess in order to create specific, strategic support for advanced manufacturing and industry 4.0	[Maximum English]	500	Characters,	in
 What other comments or recommendations do you have about: the results of CEUP 2030 so far; the next steps to develop the Use Case. 	[Maximum English]	500	Characters,	in
TEMPLATE E	IND			





Annex 2. Evaluation template for RIS3 Round Table

Dear Participant!

Please fill out this template and help us to improve the quality of our events and services. Please mark your opinion by circling the correct number where 1 is the worst ('Extremely dissatisfied') and 10 is the best option ('Extremely satisfied').

Thank you for your cooperation!

Insert your name

project manager

Basic data about the event:	
Place:	Date:
Event title:	i
Type of the event:	
 TTTDM (TIN Technology Trend Dialogue Meeting) 	Policy Pilot Action Meeting (RIS3 round table)
□ International conference	□ Other:
\square No information / it was not defined	
Central Europe Advanced Manufacturing and Industr	y 4.0 related topic(s) on the event:
Intelligent Production Systems	Automation & Robotics
🗆 Smart & New Materials	Artificial Intelligence
Your country:	
Your type of organisation:	
Local Public Authority	□ Education/training centre and
Regional Public Authority	school
National Public Authority	Large enterprises
Interest Groups including NGOs	SME
☐ Higher Education &# Research</td><td colspan=4>□ Business support organisation</td></tr></tbody></table>	





Hos	st organisation:										
Sat	isfaction surve	y:									
1.	How satisfied event?	are you	u with	the act	ivity o	f the h	osting	institut	ion in (organizi	ing the
		1	2	3	4	5	6	7	8	9	10
2.	How satisfied (equipment fo lighting, hygie	r educa	tional t						-		
		1	2	3	4	5	6	7	8	9	10
3.	How satisfied	are you	with tl	he com	munica	tion of	the ho	sting in	stitutio	ר?	·
		1	2	3	4	5	6	7	8	9	10
4.	To what exten	t did th	ne even	nt / wor	kshop	meet yo	our exp	ectatio	ns?		
		1	2	3	4	5	6	7	8	9	10
5.	How satisfied	are you	with th	he info	rmatior	n provio	ded on	the eve	ent?		
		1	2	3	4	5	6	7	8	9	10
6.	How satisfied	are you	with th	he stru	cture a	nd con	tent of	the eve	ent?		
		1	2	3	4	5	6	7	8	9	10
7.	How satisfied	are you	with th	he pres	enters	of toda	y's eve	nt?			
		1	2	3	4	5	6	7	8	9	10
8.	8. How satisfied are you with the quality of the event/workshop materials provided? You only have to answer if the workshop material has been provided.										
		1	2	3	4	5	6	7	8	9	10
9.	Other comme	nts, sug	gestio	ns							

ADDITIONAL COMMENTS AND SUGGESTIONS:





Annex 3. Overview of flagship projects identified by PPs

			CAMI4.0 topics (secondary)					
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence		
PP1_KPT	Hub4Industry	Automation & Robotics	Х			Х		
Short Description of the Flagship project	hub4industry (h4i) is focusing on manufacturing SMEs from southern Poland. It's built around Krakow Technology Park ecosystem of more than 230 manufacturing clients, about 120 IT tenants and 80+ graduates of Industry 4.0 acceleration program. It focuses on various technologies from "4.0" area with special competence in robotics and communication (including 5G). Thanks to broad network of partners h4i offers also support in implementing AR/VR, AI, IoT, cybersecurity solutions, and various software solutions to manufacturing. We offer Skills and trainings, Demonstration and Test Before Invest services. As a digital maturity assessment we use ADMA methodology. In last 4 years we have supported 80+ pilot projects of innovative solutions to be tested in real life facilities of 15+ corporate industrial partners. We cooperate with state, regional and city authorities. H4i has a track record of Interreg and Horizon projects. Orchestrator of h4i has 25 years of experience.							
PP1_KPT	3DoP	Smart & Advanced Materials	х					
Short Description of the Flagship project	The project builds upon four 'packages of investment projects', aiming each to unlock large investments enabling the optimisation of production through AM and increase productivity. • Each package is driven by a 'leading company' and aims at addressing a pressing need or challenge related to optimizing manufacturing processes. • Each package of investment projects consists of several associated 'SME-led investment subprojects' that are essential either in unlocking the investment made by the leading company or in adapting the SME's products/processes to this investment. • All projects within a package are contributing to an overarching ambition, which is related to lead company and SMEs' needs in terms of smart, green and more competitive transitions. • The proposed packages will ensure impact maximization by bundling projects towards VC and leading companies' needs.							
PP2_PRO	CoRTeam	Automation & Robotics	Х			Х		
Short Description of the Flagship project	In the era of mass customization that demand manufacturing industries for small lot size production, Europe is also experiencing a demographic							



			CAMI4.0 topics (secondary)							
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence				
	skill drain. To keep of optimized assista	change with growing concern of the retiring workforce and a subsequent skill drain. To keep up the high quality of produced goods and the need of optimized assistance for the worker/s in the factory, flexible assistance systems are being developed.								
	The goal is to assist robots) and cognitiv dealing with the fac users.	vely (e.g., inte	elligent gui	dance syste	em). How	ever,				
	production workflow robots. Such assista accommodate prod	Therefore, such solutions should tackle multiple users and varying production workflows (mass customization) which could involve multiple robots. Such assistance systems should also be re-configurable (to accommodate production changes) according to the situation in the factory floor and cater to users accordingly.								
	to deploy and confi and machines in ma centered approach, digital simulation e allocate roles of ag collaboration to im CoRTeam promotes (introduction of rob	The project CoRTeam aims at implementing a reconfigurable framework to deploy and configure multiple collaborative teams of workers, robots and machines in manufacturing processes. This is achieved by a human- centered approach, studying behaviors and practices at work, informing a digital simulation environment that can optimally and dynamically allocate roles of agents (humans, robots) and initiate the required collaboration to improve the overall productivity at factory floor level. CoRTeam promotes a humanistic perspective to robotization (introduction of robots to carry out industrial tasks): it engages the gendered worker (their values, beliefs and abilities) in participatory								
	This approach will i thus opening the po industries.	• •		•	-	-				
	The project tackles adoption at work, a local workstation le	and ensures sa								
PP2_PRO	Human Centered AI Based Production Optimization (HAIPrO)	Intelligent Production Systems		Х		Х				
Short Description of the Flagship project	The project address increase productivi human-centered as The main challenge small batch sizes, b	ty and sustain sistance into a s are: a) incre	ability, tak account. easing pers	king production	tion data in produc	and tion with				



			CAMI4.0 topics (secondary)							
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence				
	c) great variability in processes involving human actors, d) lack of sustainability of modern production processes as well as d) ethical, especially privacy-critical aspects like GDPR.									
	flexible (e.g. by sup transparency of bot An inter-company of evaluation and visu product quality (e.g	The use of assistance systems is intended to make production more flexible (e.g. by supporting low volume, high mix production, greater transparency of both machine operation and process management). An inter-company quality data exchange or inter-company available evaluation and visualization services enable a cross-company increase in product quality (e.g. by integrating the Gaia-X platform). Tools are created to guarantee high interoperability of the quality data to be exchanged.								
	Furthermore, the project aims to increase worker satisfaction, productivity and the sustainability of human-centered manufacturing processes through an improvement in the safety and stability of manufacturing processes and through optimized, employee-centered production planning.									
	This is made possible by processes such as transfer learning, data augmentation and data fabrication. This data is to be enriched by individual operating and handling data at operator and team level. An innovative platform for privacy-preserving-transform-learning and the integration of the open platform Gaia-X guarantee a high level of data security and data sovereignty even when using data sources with differing statistical characteristics.									
PP3_PIA	Testbed Exchange	Automation & Robotics	Х							
Short Description of the Flagship project	Even today, we ofte Industry 4.0 are still understand someth necessary to create Industrie 4.0 and th Industrie 4.0 among 4.0 are currently in of top companies. A called pilot factorie depth expertise and survey these testbe intensive communic takes place.	Il only vaguely ing different b a solid frame us leads to a g the general p many cases u At academic ir es) have emerg d modern infra eds and to crea	understoo by it. We the work that more conce bublic. The niversities astitutions, ged in rece astructures ate a susta	d, and each nerefore be standardize rete unders aleading pla and specia so-called t ent years, w . The aim c inable netw	h compan lieve it is es the view tanding o ayers in In lized dep testbeds (which have of this pro-	y may w of of ndustrie artments in Austria e both in- oject is to nich				



		CAMI4.0 topics (secondary)							
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence			
PP3_PIA	Share4.0 - SK-AT	Intelligent Production Systems		Х	Х				
Short Description of the Flagship project	There is a solid knowledge base for research and innovation in the cooperation area. However, there is a lack of constant cooperation between the key players. The institutions involved only build regional, national, and cross-border relationships on an ad-hoc basis, but strategic cooperation and networking is not significantly evident. Awareness of permanent strategic cooperation is latent, but has yet to be developed, established and anchored through workable structures and processes. Other challenges relate to insufficiently finding qualified staff, exploiting research results, and incorporating EU excellence into research and innovation activities. Share 4.0 implements current needs of the target groups as well as strategic documents in a practicable way and forces cooperation potentials through a distinctive transfer for high-quality implementations and new forms of cooperation.								
PP4_IWU	STEPUP smart ³	Smart & Advanced Materials							
Short Description of the Flagship project	It is the purpose of the project to further develop the services and USPs for companies in the region. The overall goal should be to increase the number of the memberships in smart ³ network and of cooperations/cooperation projects to boost the impact of the smart materials community. The project aims at identifying and developing new cooperation partners in Germany and internationally, establishing new offers in English, generally new services to provide incentives and stimulate innovation and participate in roadshows and events.								
PP4_IWU	Smart Circuit	Intelligent Production Systems		Х	Х				
Short Description of the Flagship project	There is an increasing need to become resilient. We face globally impacting trends like climate change and overconsumption. That is why many countries have national funding programs and project opportunities in place to support sustainable ideas and innovation. Those sustainable ideas need to be embedded in many different technological areas for production of the future. The project tries to establish service corridors to promote sustainable transition in industrial production facilitated through digitally enabled technologies. The project tries to reduce implementation barriers and upgrade the production of sustainable products.								



				CAMI4.0 topic	s (secondary))			
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence			
PP5_KIT	NEXT4FUN (Next Generation InkJet-based Process Chain for 3D/4D Multi- material Functional Printing)	Intelligent Production Systems		Х	х				
Short Description of the Flagship project	as training the next training is combine exercises, creating (1) Ensure the avail rapid growth of the opportunities while industry; (2) Launch printing technologies technologies; (3) Fa Industry 4.0 smart	NEXT4FUN is a project that combines both scientific development as well as training the next generation of researchers in the field. The scientific training is combined with complementary skills and hands-on training exercises, creating highly trained personnel. Therefore, Next4Fun will: (1) Ensure the availability of highly trained professionals to facilitate the rapid growth of the AM industry, and enrich their future career opportunities while promoting the innovation capabilities of European industry; (2) Launch the next generation of 3D/4D functional inkjet printing technologies and hence increase the range of applications of AM technologies; (3) Facilitate the integration of AM processes within Industry 4.0 smart manufacturing, thereby making it more attractive for large-scale adoption by European industry and thus increasing the market							
PP5_KIT	BIOSAM (Biologicalisation for Sustainable Advanced Manufacturing)	Automation & Robotics	Х		х				
Short Description of the Flagship project	This project aims to develop the biologicalisation in design for manufacturing. The network is composed of 4 Universities, 2 Research and Technology Development organisations and 1 industrial partner from 4 different countries. This network will enrol 10 doctoral candidates (DCs), developing individual research projects within the doctoral network programme. One of the many challenges being addressed by this project include the unavailability of trained R&D personnel in this field within Europe. By training DCs this project achieves this along with all the technological developments outlined.								
PP6_AFIL	Strategic Community on Advanced Materials	Smart & Advanced Materials	Х			x			



	CAMI4.0 topics (secondary)								
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence			
Short Description of the Flagship project	AFIL constituency in this field. However to sustainability and materials. Since thi sector, AFIL wants focused on function The "Advanced Poly	Plastic sector is one of the most relevant area for Lombardy economy and AFIL constituency involves a good number of stakeholders operating in this field. However, the activities in this context were mainly associated to sustainability and Circular Economy rather than on innovative materials. Since this is a key aspect for the future development of this sector, AFIL wants to foster the creation of a new Strategic Community focused on functional plastics. The "Advanced Polymers" Strategic Community should represent the regional capabilities and expertise in the field along the whole value-							
	chain and identify r innovation. Once se should plan activitie and constitute new European level, for	esearch challe t up the work es aimed at in synergies and	enges and ing group, creasing th collaborat	industrial n the Strateg ne regional tions at inte	eeds to fo gic Comm competit er-regiona	oster the unity iveness			
PP6_AFIL	Al Roadmap	Artificial Intelligence	Х	Х					
Short Description of the Flagship project	its AI Strategic Com LE, startups and ass Through the organis AI Strategic Commu applications and be collaborations amou industrial users and transform the innov the submission of p national and Europe Although lots of act involved and comm mechanisms could b	AFIL promotes the identification and collection of industrial needs within its AI Strategic Community, where academic and research actors, SME, LE, startups and associations periodically meet and discuss on AI topics. Through the organisation of Innovation Labs, webinar and workshops, the AI Strategic Community increases the awareness on the potential applications and benefits of AI-driven solutions and fosters the collaborations among the relevant stakeholders, particularly between industrial users and technology providers. The Community also works to transform the innovation interests and topics in concrete actions, through the submission of projects and the collaborations with different regional, national and European initiative (e.g., Vanguard Initiative). Although lots of actions are running and regional stakeholders are involved and commit in these, additional supporting tools and mechanisms could be activated in next years to favor the implementation of AI-driven solution at industrial scale. To do that, AFIL wants to develop a structured AI Roadmap to highlight the current barriers and							
PP7_SIIT	EU-ALLIANCE	Smart & Advanced Materials	Х						
Short Description of the Flagship project	EUropean ALLiance materials and coNn					dvanced			



			CAMI4.0 topics (secondary)					
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence		
PP7_SIIT	FORGING	Artificial Intelligence						
Short Description of the Flagship project	Forum for Emerging Green Transitions t		-	• •	the Dig	ital and		
PP8_PTP	Rising competences in less developed regions focused on small scale food product & service providers through new transnational mentoring services	Intelligent Production Systems		Х	Х	Х		
Short Description of the Flagship project	The overall Flagship objective is improving competences and skills in LESS DEVELOPED RURAL REGIONS which are characterized by lack of development capacities, high unemployment, brain drain and emigration. The Flagship is therefore focused on improving regional support ecosystems and their involvement into developed joint transnational mentoring services to transform small scale rural Food & drink products &services into digital and circular attractive. Innovativeness is shown by DEVELOPED TRANSNATIONAL MENTOR SERVICES jointly offered to small scale food product & service providers, where regional support ecosystem and their mentors will have access to wide range of specialized digital & circular toolkits and access to pool of international experts to support digital & circular transition.							
PP8_PTP	GREEN 4.0 Smart and green innovation approaches for scaling up digital transformation opportunities in CE	Smart & Advanced Materials	Х	Х		х		
Short Description of the Flagship project	Flagship scope is to improve regional ecosystems innovation capacities for supporting transition to sustainable business models in CE manufacturing sector, by piloting customized innovation models which create new regional and transnational value chains, links manufacturing companies with solution providers and private equity, increase							



				CAMI4.0 topic	s (secondary))
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence
	knowledge and user industry, digitalizat authorities.					
PP9_PBN	Purchase of autonomous production line (Teaching and Learning Factory) and smart material board and further developments	Intelligent Production Systems		Х	Х	Х
Short Description of the Flagship project	developmentsThe Teaching and Learning Factory "TLF" (aka: cyberphysical factory) is a manufacturing unit with online, remote access to broaden cross-border services directly related to digitization competencies of the partners. The topics data science, autonomous robotics and 3Dprinting are integrated, enabling stakeholders to provide internationally competitive research and training infrastructure. With further future actions, connectivity will be ensured, contributing to its sustainability for the 2021-2027 period.This TLF has been purchased by PBN, and it will arrive to our premises in the beginning of December. Firstly, cyberphysical features will be installed, and it is followed by the development and application of experimentation and research modules enabling concrete services towards the relevant ecosystem members. Moreover, the TLF is concentrating on additional exploitation modules, to extend the cyberphysical facility into a strategic, cross-border opportunity as well. In parallel with the TLF purchase and development, PBN has also purchased a smart material board, which can be considered as a					
PP9_PBN	Establishment and development of a smart senior room	Artificial Intelligence		Х		
Short Description of the Flagship project	Szombathely City - and Western Hungary - are dominantly oriented on automotive industry. It results in a one-legged, labour-intensive positioning, that makes the region vulnerable. With the lead of PBN efforts were made to exploit the potential of digitalization to a achieve paradigm shift. These actions were supported by universities, companies					



				CAMI4.0 topic	s (secondary))
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence
	and the municipalit culminated in a stra	-				k was
	As first step, analys including seniors, for complex and integra and communicated educational institut care organisation al infrastructure for de confirmed the socie smart senior room to the citizens and ins preliminary researc self-monitoring and	ormal and info ated solutions a concept of s es - secondary so expressed emonstration etal need for s being establish piration for co h. The key are	are neede smart senic y and unive their motiv and trainir uch a poss ned, can se ompanies. eas will be	givers. It want of the second	as concluc ult, PBN e cial care , as well - ilize the questionr arn. The p tential vis elements	led that laborated , social naires also physical sion for based on
PP10_HAMAG	Adriatic multifunctional smart buoys INTERREG Italy - Croatia	Automation & Robotics				х
Short Description of the Flagship project	North Adriatic coast causes problems, in tourism and fishery miles towards south of Rijeka, the bigge Šibenik area, used t metals, still present Industrial pollution and fishery. That al One of the ways to robots which will cl The robots can also numerous marine re the both side of the One approach to the multifunctional smal long-term operation This use-case feature measurements of va- using built-in sensor months by employin as renewable energ	Apart region v Apart from t on the islan est port in the to be heavy in t in the soil ar undermines the tackle that iss ean the seafle measure all r esearch which e Adriatic. e issue of poll art buoys - inn on and persister res a static bu arious environ rs while ensur	which deriv he jelly fis d of Krk th Adriatic. I dustry whi nd affectin ne prospec whole ecc sue is deplo oor and mo elevant pa is conduct ution inclu ovative tee nt deploym oy gatheri mental val ing long-te	ves most of h pollution ere is pipe n the centr ch polluted g the local ts of eco ag o chain in th oyment of t nitor the le rameters in red in the re des the dep chnology be nent in mar ng, analysin ues (for bo	its incom in Istria, gas plant al Adriation the soil the ecosystem griculture the undervert the unde	e from fifty and port c, in by heavy n. , tourism c region. water llution. for the cations on of oped for onments. oring and air) co several



				CAMI4.0 topic	s (secondary)
ID of PP	Flagship project	CAMI4.0 topic (primary)	Intelligent Production Systems	Automation & Robotics	Smart & Advanced Materials	Artificial Intelligence
	Communication-wis with real-time reme areas, providing co beach, harbor, and	ote access, su ntinuous remo	ggesting ap te access f	oplication i	n tourism [.]	-heavy
PP10_HAMAG	CROBOHUB++: CROatian Industry and Society Boosting - European Digital Innovation HUB	Artificial Intelligence		X		
Short Description of the Flagship project	In align to the Digit released the call in will be established CROBOHUB++ vision North Croatia. It wi to funding, skills ar partners in the CRO needs thru already Digital Index (HDI) to on this we have def organisation and bu transformation, imp ensuring the quality changing market re- resources, data driv energy, networking markets, precision enabling employees The CROBOHUB++ of system stakeholder Electrical Engineeri Innovation center N HAMAG-BICRO (Croa Croatian Chamber of specialized in IT pro-	November 20 as a digital hu is to act as a dl offer a mix d training to DBOHUB++ con established Di that had 300 c fined main nee usiness model proving operat y of manufactur quirements ar y of manufactur quirements ar y of manufactur g of exchange farming, trans s. consortium gat s. Namely the ing and Compu- likola Tesla; S atian Agency for Economy (H ogrammes. It ce, 2) High Pe	20 to elect b for the N major dig of business its users, p sortium. Se H CROBOH companies eds for serv for implem cional effic ured produ ad custome ninistration of digital forming se chers all ke y are: Unive or SMEs, Ir GK) and Uni- is specializ rformance	the best c North Croat ital innovat s, technolog rovided by ervices are IUB and sur in their que vices as imp entation of iency and r iency and r iency and r iency and r iency and r iency and r iency and r iersity of Za which is a ersity Comp inovations a niversity Co ed in three Computing	onsortium ia region. ion centro gy service the differ based on vey of the estionnaire orovement f digital reducing c ding faste , sustainal ole and clo es, openin gaging stal ix eco inn agreb, Fac leading pa uting Cen and Invest ollege ALC key areas , 3) Cyber	a which e in the s, access rent detected e Croatian e. Based t of ost, er to the ble use of ean g keholders, novation culty of artner; tre); ments); EBRA, s: 1)





Annex 4. Overview of conducted peer reviews

ID of PP	Date of interview	Name of interviewee	Name of organisation	Type of organisation	Use case / flagship	CAMI4.0 topic
PP1_ KPT	16.2.2022	Agnieszka Bachórz	Marshall Office	Regional Public Authority	(1) Smart Circuit (2) eDIH	(1) Intelligent Production Systems (2) Automation & Robotics
PP1_ KPT	4.11.2021	Maurits Butter	τνο	Business Support Organisation	eDIH	Automation & Robotics
PP2_ PRO	7.3.2022	Elmar Paireder	Business Upper Austria	Business Support Organisation	 (1) CoRTEAM (2) Share 4.0 (3) BIOSAM (4) Hub4Indu stry 	 (1) Automation & Robotics (2) Automation & Robotics (3) Automation & Robotics (4) Automation & Robotics
PP2_ PRO	2.3.2022	Alexander Numrich	GMAR Robotics	SME	 (1) CoRTEAM (2) Share 4.0 (3) BIOSAM (4) Hub4Indu stry 	 (1) Automation & Robotics (2) Automation & Robotics (3) Automation & Robotics (4) Automation & Robotics
PP2_ PRO	23.3.2022	Manfred Tscheligi	AIT	Higher Education & Research	 (1) CoRTEAM (2) Share 4.0 (3) BIOSAM (4) Hub4Indu stry 	 (1) Automation & Robotics (2) Automation & Robotics (3) Automation & Robotics (4) Automation & Robotics
PP3_ PIA	15.10.202 1	Andrea SCHWECHERL	City of Vienna	Regional Public Authority	Testbed Exchange	Intelligent Production Systems
PP3_ PIA	27.10.202 1	Claudia SCHICKLING	Pilotfabrik TU Wien	Higher Education & Research	Testbed Exchange	Intelligent Production Systems
PP3_ PIA	20.10.202 1	Jan JIRSA	Vysoká škola polytechnick á Jihlava	Education / Training	Testbed Exchange	Intelligent Production Systems



	EUP 2030					
]		Centre and School		
PP3_ PIA	20.10.202 1	Ingo HEGNY	Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology	National Public Authority	SHARE 4.0	Automation & Robotics
PP3_ PIA	20.10.202 1	Martin HURA	Interreg Office SK-AT	International Organisation	SHARE 4.0	Automation & Robotics
PP3_ PIA	28.10.202 1	Christian Wögerer	Profactor	Higher Education & Research	SHARE 4.0	Automation & Robotics
PP4_ IWU	1.11.2021	Nancy Windisch- Samusik	Saxon State Ministry for Economic Affairs, Labour and Transport	Regional Public Authority	 (1) Project Proposal in the new Interreg call starting from Nov 2021 (2) STEP UP smart3 	(1) Intelligent Production Systems (2) Smart & Advanced Materials
PP4_ IWU	2.11.2021	Lukas Nögel	VDI/VDE	National Public Authority	 (1) Project Proposal in the new Interreg call starting from Nov 2021 (2) STEP UP smart3 	(1) Intelligent Production Systems (2) Smart & Advanced Materials
PP4_ IWU	6.10.2021	Holger Kunze	Fraunhofer IWU	Higher Education & Research	Project Proposal in the new Interreg call starting from Nov 2021	Intelligent Production Systems
PP4_ IWU	26.11.202 1	Anton Mauersberger	DIH innosax	Infrastructur e and (Public) Service Provider	Project Proposal in the new Interreg	Intelligent Production Systems



- C	EUP 2030					
					call starting from Nov 2021	
PP4_ IWU	7.10.2021	Jochen Barth	Smart ³ materials, solution, growth	Business Support Organisation	STEP UP smart3	Smart & Advanced Materials
PP4_ IWU	7.10.2021	Björn Senf	FiberCheck GmbH	SME	STEP UP smart3	Smart & Advanced Materials
PP5_ KIT	12.11.202 1	Joško Valentinčič	University of Ljubljana	Higher Education & Research	BioSAMs	Intelligent Production Systems
PP5_ KIT	15.11.202 1	Jens Korell	Projektträge r Karlsruhe (PTKA)	Funding Agency	(1) BIOSAMS (2) NEXT4FU N	(1) Intelligent Production Systems (2) Automation & Robotics
PP5_ KIT	16.11.202 1	Lars Beex	University of Luxembourg	Higher Education & Research	NEXT4FU N	Automation & Robotics
PP5_ KIT	17.11.202 1	Marcel Strobel	Quantica3D	SME	(1) BIOSAMS (2) NEXT4FU N	(1) Intelligent Production Systems (2) Automation & Robotics
PP5_ KIT	16.11.202 1	Carlos Bermudez	Sensofar	SME	NEXT4FU N	Automation & Robotics
PP5_ KIT	7.12.2021	Alexandra Fezer	Steinbeis Europa Zentrum / Vanguard Initiative	Business Support Organisation	BioSAMs	Intelligent Production Systems
PP5_ KIT	7.1.2022	Christine Neuy	Microtec Südwest	Cluster organisation	NEXT4FU N	Automation & Robotics
PP6_ AFIL	12.11.202 1	Mirko Mazzoleni	Università di Bergamo	Higher Education & Research	Roadmap Al	Artificial Intelligence
PP6_ AFIL	18.1.2022	Annabelle Sion	Polymeris - Vanguard demo-case coordinator	Higher Education & Research	Advanced Polymers Strategic Communit y	Smart & Advanced Materials
PP6_ AFIL	20.10.202 1	Andrea Mazzoleni	CFI - Cluster Fabbrica Intelligente	Cluster organisation	 (1) Roadmap AI (2) Advanced Polymers Strategic Communit y 	(1) Artificial Intelligence (2) Smart & Advanced Materials



PP7_ SIIT	10.11.202 1	Mariella Ferraro	DIH Liguria	Infrastructur e and (Public) Service Provider	EU- ALLIANCE	Smart & Advanced Materials
PP7_ SIIT	10.12.202 1	Anastasia Roufou	European Commission	International Organisation	FORGING	Artificial Intelligence
PP7_ SIIT	14.12.202 1	Paola Fontana	POINTEX - Polo Innovazione Tessile	Business Support Organisation	EU- ALLIANCE	Smart & Advanced Materials
PP7_ SIIT	12.11.202 1	Elice Bacci	Regione Liguria	Infrastructur e and (Public) Service Provider	FORGING	Artificial Intelligence
PP7_ SIIT	12.11.202 1	Marcin Bukat	SKA polska	SME	FORGING	Artificial Intelligence
PP7_ SIIT	14.12.202 1	Davide Ottonello	STAM	SME	EU- ALLIANCE	Smart & Advanced Materials
PP8_ PTP	12.1.2022	Tanja Rener	Government Office for Development and European Cohesion Policy	National Public Authority	DIH2 project Technolog y Transfer Experime nt (concrete story of Flexido /TECOS / Polycom)	Intelligent Production Systems
PP8_ PTP	23.11.202 1	Uroš Žižek	Castoola	SME	DIH2 project Technolog y Transfer Experime nt (concrete story of Flexido /TECOS / Polycom)	Intelligent Production Systems
PP8_ PTP	18.11.202 1	Dr. Domen Mongus	Inova Fusion d.o.o.	SME	DIH2 project Technolog y Transfer Experime nt (concrete story of Flexido /TECOS / Polycom)	Intelligent Production Systems



PP8_ PTP	17.11.202 1	Robert Grah	Pomurje Chamber of Comerce and Industry	Business Support Organisation	DIH2 project Technolog y Transfer Experime nt (concrete story of Flexido /TECOS / Polycom)	Intelligent Production Systems
PP8_ PTP	26.11.202 1	Robert Kološa	PRO-ING, Robert Kološa s.p	SME	DIH2 project Technolog y Transfer Experime nt (concrete story of Flexido /TECOS / Polycom)	Intelligent Production Systems
PP8_ PTP	23.11.202 1	Dr. Dragan Kusić	TECOS	SME	DIH2 project Technolog y Transfer Experime nt (concrete story of Flexido /TECOS / Polycom)	Intelligent Production Systems
PP9_ PBN	15.9.2021	Ádám Sebestyén	EIT Manufacturin g	International Organisation	Purchase of autonomo us productio n line (Teaching and Learning Factory) and smart material board and further developm ents	Intelligent Production Systems
PP9_ PBN	14.9.2021	Adrienn Bokányi	Municipality of Szombathely	Local Public Authority	(1) Establish ment and developm ent of a smart	(1) Artificial Intelligence (2) Intelligent Production Systems



CEUP 2030 senior room (2) Purchase of autonomo us productio n line (Teaching and Learning Factory) and smart material board and further developm ents Károly Pálos Social Service Center and Infrastructur Establish Child e and ment of a PP9 Lászlóné Artificial 10.9.2021 Welfare (Public) smart PBN Intelligence Kulcsár Service" -Service senior Social Care Provider room Service Provider Company Purchase of autonomo us productio n line (Teaching MAM Intelligent PP9 László Large and 14.9.2021 Production Hungária PBN Pungor enterprise Learning **Systems** LTD. Factory) and smart material board and further developm ents Establish ment of a PP9 Meddevice Artificial 13.9.2021 Győző Kóbori SME smart Intelligence PBN Ltd senior room (1) (1) Higher Artificial PP9 György Óbuda Establish 8.9.2021 Education & Intelligence PBN Eigner University ment and

Research

(2)

Intelligent

developm



	EUROPE Europe EUP 2030	bean Union ean Regional goment Fund				
					ent of a smart senior room (2) Purchase of autonomo us productio n line (Teaching and Learning Factory) and smart material board and further developm ents	Production Systems
PP9_ PBN	14.9.2021	Krisztina Bárdos	Scientific Association for Mechanical Engineering	Business Support Organisation	Purchase of autonomo us productio n line (Teaching and Learning Factory) and smart material board and further developm ents	Intelligent Production Systems
PP9_ PBN	9.9.2021	András Haklits	University of Pécs (Medical University Local Institute)	Higher Education & Research	Establish ment of a smart senior room	Artificial Intelligence
PP10 _HA MAG	24.11.202 1	Mateo Ivanac	Croatian Chamber of Economy	Public body	CROBOHU B++: CROatian Industry and Society Boosting - European Digital Innovatio n HUB	Artificial Intelligence



	EUP 2030					
PP10 _HA MAG	1.2.2022	Mislav Jurišić	GDi Group LLC	SME	CROBOHU B++: CROatian Industry and Society Boosting - European Digital Innovatio n HUB	Artificial Intelligence
PP10 _HA MAG	14.1.2022	Robert Cupec	J. J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Computer Science and Information Technology Osijek	Higher Education & Research	CROBOHU B++: CROatian Industry and Society Boosting - European Digital Innovatio n HUB	Artificial Intelligence
PP10 _HA MAG	24.1.2022	Ivana Palunko	University of Dubrovnik, Department of electrical engineering and computing, Laboratory for intelligent autonomous systems	Higher Education & Research	Adriatic multifunc tional smart buoys INTERREG Italy - Croatia	Automation & Robotics
PP10 _HA MAG	27.1.2022	Zoran Belak	Razvojno inovacijski centar Alutech Šibenik	Regional Public Authority	Adriatic multifunc tional smart buoys INTERREG Italy - Croatia	Automation & Robotics
PP10 _HA MAG	13.4.2022	Mirela Čokešić	Ministry of Economy and Sustainable Development	National Public Authority	CROBOHU B++: CROatian Industry and Society Boosting - European Digital	Artificial Intelligence





					Innovatio n HUB	
PP10 _HA MAG	21.4.2022	Marina Skelin	Ministry of Economy and Sustainable Development	National Public Authority	Adriatic multifunc tional smart buoys INTERREG Italy - Croatia	Automation & Robotics
PP10 _HA MAG	21.4.2022	Miro Hegedić	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture	Higher Education & Research	CROBOHU B++: CROatian Industry and Society Boosting - European Digital Innovatio n HUB	Artificial Intelligence