GUIDANCE ON DEVELOPING THE HARVESTING AGENDA AND CAMI4.0 GLOSSARY

D.T1.1.1 - A guidance document for A.T1.1 on havesting protocols for the Policy Learning Lab and Strategy Upgrade & Boost

Version Final

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Document Control

Document Summary	
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Deliverable	D.T1.1.1 – Guidance on Harvesting Agenda on CAMI4.0 for Policy Learning Lab/ Strategy Upgrade & Boost
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Dissemination Level		
PU	Public	
PP	Restricted to other programme participants	
RE	Restricted to a group specified by the consortium	
CO	Confidential, only for members of the consortium	CO

Document History			
Date	Version	Issuer	Description of Changes
14.04.2020	1.0	MCR	Working document
15.04.2020	1.1	PRO	Ready for send to WP1 Leader
04.05.2020	final	PRO	Feedback from KTP, PTB and KIT included, final Version to WP Leader

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1. Executive Summary

1.1. Project Overview

CEUP 2030 aims to generate stable innovation networks which foster better understanding on **C**entral **E**urope Advanced **M**anufacturing and **I**ndustry **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.

1.2. Work Package and Activity Overview

The overall objective of WPT1 links to the project's specific objective of enhancing skills, capabilities and knowledge of people in charge of local, regional and (trans)national Research, Technology and Innovation policies within the triple-helix context.

The challenge manifests in two sub-objectives which are:

(1) To train and empower people to work in the environment of new technologies (strategically and operatively) regarding policy-relevant decisions

(2) To pool a critical mass of trained stakeholders to generate sufficient power for policy-making and appropriate selection, adaption and fine-tuning of already proven tools, instruments and methodologies.

The specific activity which is of relevance for this document is Activity A.T1.1, which is a common activity for all WPs and covers the preparation of the Harvesting activity which all PPs must participate in, to choose the outputs and results of exceptional CE and EU projects to create a "fast start" on the WP's Key Outputs (Policy Learning Labs and Strategy Upgrade)

Specifically, the practical activities which are supported in this document are:

- the appropriate selection, adaption and fine-tuning of proven tools, instruments and methodologies, aka "Harvesting" – during A.T1.1
- The appropriate definition of the four technology topics for Central Europe Advanced Manufacturing & Industry 4.0 (CAMI4.0) – during A.T1.1

Note: It is recommended that all PPs read the WPT1 Implementation Guide to gain further understanding about the connectivity of the WP Activity objectives. This can be found on the project's central repository - Alfresco

1.3. Scope of Document & Deliverable Summary

This document contains the guidance for how to complete Activity A.T1.1. It gives further detail on the steps and processes, including quality indicators, that the CEUP 2030

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partnership should take to identify outputs and results of the selected CE/EU projects which were identified as good practice for the CAMI4.0 Topics.
Furthermore, it provides key starting definitions which will enable correct PP analysis and harvest of their results portfolio for:

- CAMI4.0 Topics;
- Policy Learning Labs
- Strategy Upgrade & Boost
- Technology Showcases (Technology Use Cases)
- Policy Instrument Use Cases

Finally, it provides templates which show the PPs the "streamlined" way the deliverable responsible would like to receive PP inputs to the next two deliverables (D.T1.1.2 and D.T1.1.3).

1.4. Audience

This document is directed at all project partnership members, because all PPs will be asked to review their results portfolio and provide input to the CAMI4.0 Glossary and the CEUP 2030 WPT1 Harvesting Agenda.
The appropriate status of this deliverable is reflected in the "Dissemination Level" table, on the Document Control page of this Guidance Document.

1.5. Change Control Procedure & Structure

The Deliverable Responsible: PROFACTOR (PRO/PP2), created this guidance document and it is hosted on the Project's common repository in the appropriately named deliverable folder (CEUP2030 Share Point1).
The document is under project deliverable change control protocols whereby Partners are requested to give feedback on the Draft Version within five working days. Feedback will be incorporated and Final Version will be issued by PRO. Thereafter the PPs have five additional working days for any final comments.
At any time, partners believe a project methodology should change, the request should be brought to the Deliverable Responsible (PRO/PP2) and the Work Package Leader (PTP/PP8) 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.

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Contents

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2. Introduction

The purpose of this guidance document is to provide information to the CEUP 2030 Partnership on how to complete Activity A.T1.1 – "Prepare the Harvest". This activity is the common activity which can be found in each work package of this experimental project, and has the goal of creating an active and transparent plan on how the Partnership will capitalise the results of previous projects which were identified as good practice for engaging with the topic of Advanced Manufacturing and Industry 4.0. The guidance document takes the following structure:

Key Background Information – which provides:

- definition of the four CAMI4.0 Topics;
- definitions of the WPT1 Methodologies which the specific focus of this harvesting activity
- indicators of the good practice projects which must be included in the partnership's upgrading activity.

Methodology, which provides:

- process description on how to bring your PP results into the CEUP reporting framework for D.T1.1.2, CAMI4.0 Glossary;
- process description on how to bring your PP results into the CEUP reporting framework for D.T1.1.3, Harvesting Agenda on CAMI4.0 for Policy Learning Lab and Strategy Upgrade & Boost.

Conclusion and Next Steps, which provides:

- short summary of the document;
- next steps to do list and deadlines

3. Key Background Information

It is important to note that PPs work to review your organisation's past project work is a critical aspect of the CEUP 2030 project. The Interreg Central Europe 4th Call was an experimental design, which looks to prioritise the capitalization of knowledge and know-how gained from a cross-section of good practice projects. The underlying goal of such an experiment is to enhance the macro-regional benefit which is gained from subsidy programmes, with a vision to enable more aligned development plans for the coming programming period.

Harvesting from the cross-section of projects is, therefore, a key enabling activity of CEUP 2030, to which every PP is asked to contribute. We use the term "**Result Portfolio**" to describe each PPs past project work from this programming period. The emphasis on "**this programming period**" is to ensure the results which are harvested for capitalization and upgrade are current and relevant to the socio-political, and technical environment consistent with this programming period.

Partners are asked to review their Result Portfolio and filter for results which would add-value to CAMI4.0. This review and filtration of results, with the purpose of capitalising knowledge within CEUP 2030 is the associated definition of the term "**harvest**". Results can take many forms, and for the purpose of this document, results which enhance the methodological development of CAMI4.0 or results which enhance the content development of CAMI4.0, should be prioritised. "**Upgrade**" is another term which is used across the project proposal. This term refers to the deployment of the harvested result into the CEUP 2030 project, so it can deliver wider or more extensive benefits to the macro-regional area.

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3.1. Activity Flow

Each Work Package starts with an activity where Partners must harvest results from their completed project Result Portfolio to be used and upgraded within the specific work package. The activity structure provides the partners with the guidance on how to assess their completed results for the "harvest", and then contains two deliverables which require the Partnership to provide an indication of exactly which results (methodologies, use cases) which will be deployed into the further WP Activities. Figure 1 provides a visual showcase of how the harvesting components will be used to inspire methodologies and onward deployment of use-cases in the WPT1 work.

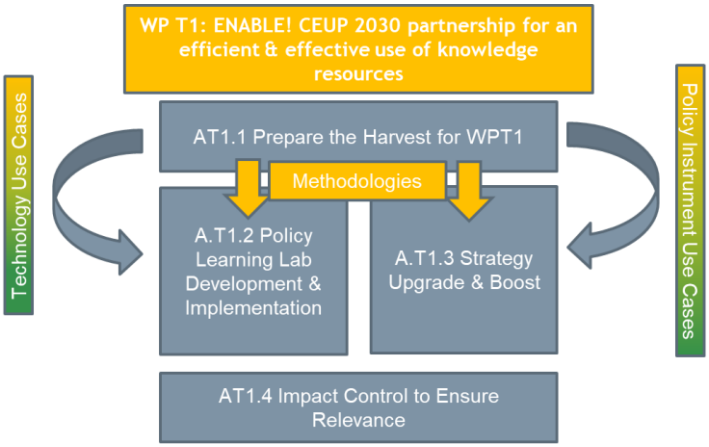

Figure 1 Activity Hierarchies (Source: Author Generated)

The goal of having a stand-alone activity for this purpose, is because it allows a dedicated showcase to be made of the identified harvested results, in the featured reporting deliverables. Figure 2 provides a visual representation of how the requested harvested content will be brought into the two reporting deliverables.

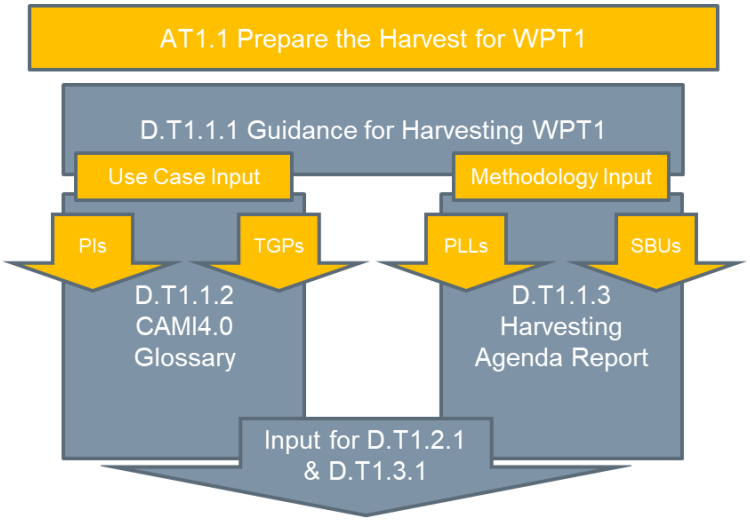

Figure 2 Harvesting Input Visualised (Source: Author Generated, PI = Policy Instrument, TGP = Technology Good Practices, PLLs = Policy Learning Labs, and SBU = Strategy Boost and Upgrade)

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3.2. Definitions of Methodologies and Concepts

Like many AF's, due to character restrictions available to the Partnership when writing the project, there are a number of terms which must be commonly defined to create better understanding about the project's intended goals and objective methods. Some key definitions can be found below.

3.2.1. CAMI4.0 Topics

The CEUP defines the following 4 technological subfields. These subfields consider the topic both globally and in some (maximum 5) subthemes This ensures a certain focus of the themes and the related actions.

The sub-themes will be selected according to defined priorities and will be designed in such a way that the networks defined in WP T3 can be set up well after that.

The priorities according to which the sub-themes are selected are as follows:

- **Competencies of the partners:** Is there a broadly spread know-how in the consortium sufficient to cover the topic including the sub-topic competently together with the associated partners
- Relation to the 6 previous CEUP2030 projects (3DCentral / Synergy / S3HubsinCE / SISCode / Spirit / DIH2): How well are these issues covered in the 6 projects that CEUP2030 links to maximise its potential
- **Additional projects:** Is there a sufficient number of excellent additional projects in the consortium on the topics to create added value
- **Transfer potential:** Do the topics including sub-topics have enough transfer potential to other domains (e.g. from industry to medicine)?
- **Associated Partner networks and competencies:** Are the Associated Partner networks well served by the topics.

3.2.1.1. Technology Field/Network 1:

Name: Big & Real Data Processing & Sensors

Responsible Partner: PP5/KIT

Responsible Contact Person: Dr. Steffen G. Scholz

Description of the Topic: This topic includes the Technologies for **handling** (data storage, data visualization, data analysis) complex data whose volume, speed and variety are too large to be handled in the traditional way (f.e. energy monitoring) and Sensors offering big data users an operational analytics edge (f.e. printed sensors for online monitoring) and includes the following subtopics.

Subtopics:

1. **Subtopic 1: Efficient storage devices and databases for Big data**, which includes the development of effective methods for the extraction of data, which includes polyglot storage solutions, combining different types of database approaches, where diverse data sets can be captured, stored, managed and analysed within the storage space.

- **Subtopic 2: Big Data Analytics**, which describes the complex process of examining, sorting, classifying large and varied data sets that may include structured,

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unstructured or semi-structured data, in order to extract the required information such as hidden patterns, models, unknown correlations, to make predictions and forecasts etc. Data mining, predictive analysis, machine learning and deep learning are the techniques that often comprise of big data analytics methods.

- **Subtopic 3: Big Data application,** using software applications that analyse big data using massive parallel processing frameworks, such as Hadoop, Spark or Elastic Search. The data itself could come from various sources such as process data during manufacturing, marketing, health care, finance etc. In the automotive industry for example Big Data can be applied for product design, manufacturing, vehicle maintenance or for autonomous driving.
- **Subtopic 4: Big Data Visualization,** After data analysis is done, one of the most important topics is the efficient communication of results, findings etc. to various stakeholders. This is to ensure that once the flow of raw data can be represented with images, only then decision making is possible. Therefore the creation of big data visualisation tools must allow for processing of various types of incoming data, application of filters to data, interaction with data sets during analysis as well as integration with company systems and other software to receive input from or to provide input to.
- **Subtopic 5: Sensors and Sensor networks,** describes the creation of wireless sensor networks as a viable data gathering infrastructure for big data systems. The challenge lies in the creation of large network of smart, connected and diverse sensors with the ability to prepare, pre-process, filter and transport data. This is applicable for example for the creation of smart grids, where smart sensor networks are introduced for energy management, and these systems can run applications for power monitoring, forecasting, coordination of distributed energy storage etc.

3.2.1.2. Technology Field/Network 2:

Name: Automation & Robotics

Responsible Partner: PP2/PRO

Responsible Contact Person: Dipl. Ing. Christian Wögerer, MSc

Description of the Topic: Automation and **Robotics** support the "Factory of the Future" and enables realising efficient, effective production processes ranging from nano scale processes over collaborative robotic systems to complex adaptive production systems.

Subtopics:

- **Subtopic 1: Robotic and Assistive Systems** focuses on systems, which are combining human and machine interaction, intelligence and processing power, human expertise and machine power. The aim of industrial Assistance Systems is to support human beings in a in a volatile, richly varied and highly flexible production. The cognitive abilities of these assistance systems are constantly being improved.
- **Subtopic 2: Machine Vision - Zero Defect Manufacturing for Automation:** The ultimate goal of any kind of quality control is to **avoid defective parts**. Technologies related to achieving this goal are summarized under the strategic topic of "**Zero Defect Manufacturing**".
- **Subtopic 3: Augmented and virtual reality, visualization:** Visual Computing combines established and scientific methods for position determination, tracking technologies and machine learning to drive the following innovations. This includes Systems with higher-value perception and assistance options, Smart devices and tools and also Collaborating robots

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- **Subtopic 4: Simulation and modelling, Flexible Production Systems:** Flexibility and Interoperability is becoming – in addition to price and quality strategies – an increasingly important competitive factor. Networked machines, software, employees, suppliers, customers are a reality. Unfortunately, the design and engineering of software for decentralised and distributed socio-technical production systems is reaching quite often its limits. Partners researches and develops infrastructure and algorithms for flexible production systems, assist people in making decisions which can't be reached with methods based on experience alone. Plant operators can – for example – by means of model-based methods test system configurations that are most promising for a particular product version or the current process status
- **Subtopic 5: Robots for non-Industrial Applications, Man machine collaboration:** Robot for non-industrial Applications such as agriculture or medical robots have a high potential to transfer industrial solutions into other domains. Therefore, also the aspect of safety and human machine (robot) collaboration is very important

3.2.1.3. Technology Field/Network 3:

Name: Smart and New Materials

Responsible Partner: PP4/IWU

Responsible Contact Person: Kenny Pagel

Description of the Topic: called also intelligent or responsive materials, refers to designed materials that have one or more properties that can be significantly changed in a controlled fashion by external stimuli, such as stress, moisture, electric or magnetic fields, light, temperature, pH, or chemical compounds. Smart materials are the basis of many very highly integrated applications of actuators and/or sensors. The sub topics are oriented along the value chain of Smart Materials Systems

Subtopics: To Be Determined, examples such as

- **Subtopic 1: Functional Materials** include the basic development and investigation of new Smart Materials which are currently not known from the state of the art
- **Subtopic 2: Improved technologies for Smart Material manufacturing and Processing** deals with basic manufacturing technologies which turn materials into semi-finished products. In this context, rapid prototyping technologies in particular are considered as new innovative technologies.
- **Subtopic 3: System Design and Implementation** describes the general design rules for applications based on smart materials.
- **Subtopic 4: Smart Structures** deals with the systematic fusion of material and function by means of multifunctional smart materials. Compared to Subtopic 3, this enables a considerable functional compression.
- **Subtopic 5: Manufacturing of Smart Material Systems** aims to develop series production technologies for Smart Material Systems as a product. This especially includes the commercial point of view.

3.2.1.4. Technology Field/Network 4:

Name: Artificial Intelligence

Responsible Partner: PP6/AFIL

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Responsible Contact Person: Roberta Curazzi

Description of the Topic: As defined by the European Commission, "Artificial intelligence (AI) refers to **systems that display intelligent behaviour by analysing their environment and taking actions** – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)."

Subtopics:

- **Subtopic 1: Machine Learning (ML)** is a branch of artificial intelligence working on systems that can learn from data, identify patterns and, based on mathematical models, make decisions with minimal human intervention. Learning begins with observations or data either through direct experience or instruction, in order to define data patterns and make better decisions based on the experience collected. Accordingly, the challenge is focused on allowing systems to learn automatically without human intervention or assistance and adjust actions accordingly.
- **Subtopic 2: Natural Language Technologies (**NLP) are focusing on the interpretation and processing of human language. NLP can be used to interpret free text and make it analysable extracting a huge number of relevant information, offering companies the opportunity to improve operations and services. NLP techniques deal with the pragmatics (contextual), semantics (meanings), grammatical (syntax) and lexical (words) aspects of natural languages. The development of NLP applications is still challenging because of the complexity and ambiguity of human language (i.e. slang, regional dialects and social context) but cutting-edge deep learning techniques are applied to automated language analysis to try to overcome these issues.
- **Subtopic 3: Recognition technologies** play a crucial role to drive and improve machine learning algorithms with a variety of data coming from different sources and with increasing precision. Those technologies are for example facial recognition, emotion recognition, object detection, image processing
- **Subtopic 4: Decision management:** The combination of AI technologies with decision management systems has raised a number of benefits for companies allowing faster decisions, detection of risks and process automation. Recently, businesses have implemented several AI-solutions for gathering data, analysing them with proper algorithm and generate information to support decision making. However, it is still a major challenge for stakeholders to make an efficient use of those solutions and systems.
- **Subtopic 5: AI-enhanced/powered hardware and robotics** encompass a set of technologies that can be applied to machines to automate the tasks that are repetitive and with no value added, allowing humans to focus on more conceptual and strategic activities. AI-enhanced/powered hardware are able to collect and analyse real-world data allowing the system to take decision. Robotics is one of the main field in which AI is applied introducing flexibility and learning capabilities in previously rigid applications.

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3.2.2. Policy Learning Labs

***Definition*:** the Policy Learning Lab (PLL) is an established training process which each PP will deliver within the framework of WPT1. The training process consists of two consecutive workshops which PPs hold within their region between May 2020 and February 2021. The workshop's training focus should be on empowering policy-relevant stakeholders with knowledge resources on the CAMI4.0 Topics through triple-helix-learning. The physical workshops manifest as interactive sessions where the participants can really "feel" the opportunities which the CAMI4.0 technologies could bring to the region. The interactive sessions should be formulated around informative technology use-cases which provide interesting, understandable insight on how technologies have helped different target groups. PPs must include 100 unique stakeholders in their training programme (10 Stakeholders / PP).

CEUP 2030 Partnership Harvesting Questions to Consider?

- What is your good practice experience with delivering trainings/ interactive workshops?
- How were stakeholders engaged in an interactive way?
- How did it especially showcase the benefit of technologies?
- How was it able to especially target policy-making stakeholders?
- What were the key lessons you learnt, and the key methodologies and techniques which would be valuable to integrate into the CEUP 2030 Policy Learning Lab framework?
- How would you upgrade it for CEUP 2030?

3.2.3. Technology Use Cases

***Definition*:** The Technology Use Cases demonstrate to policy-relevant stakeholders the benefits of the CAMI4.0 topics for their regional context. Technology use-cases will be presented in detail to policy-relevant stakeholders during the implementation of the Policy Learning Labs. These technology use cases are built on "Technology Good Practice".

Technology Good Practice Use-Cases will be varied depending on the experience of involved PPs, but should showcase the interesting opportunities that regional or national territories can gain through supporting the CAMI4.0 technologies. Most importantly, this should be a real example of the technology (or a relevant technology within a sub-genre field) delivering value for an organisation / set of organisations, which should be interesting and help lay-people "see", "feel" or experience the benefits. These good practice use cases will enhance the above-mentioned "definitions of CAMI4.0", by showing the specific interpretation of the CEUP 2030 through their research results.

CEUP 2030 Partnership Harvesting Questions to Consider?

- What is your experience with the 4 CAMI4.0 topics?
- Does your organisation (or a close associate) have a good practice experience with at least two of the topics, individually, which could help a lay-person better understand the benefits that this technology set can bring to different organisations?
- Do you have your good practice experience developed as an understandable use case, which can be deployed easily in an interactive workshop structure?

3.2.4. CAMI4.0 Strategy Upgrade & Boost

Definition: The Strategy Upgrade & Boost is the development of a Strategy and Action plan which sets the vision and working plans for the Trend and Innovation Networks ("TIN" in WPT2) for CAMI4.0. Ultimately it is the strategic operating framework which the PPs will use

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to guide their activities across the project, including providing insight on the target Policy Pilot Action Use Cases which PPs want to have "in-scope" for improving support for CAMI4.0 topics.

- The Strategy (D.T1.3.2) sets strategic vision statements from each PP on the CAMI4.0 Topics. The vision should emerge from harvested strategies which the PPs have worked on this programming period, plus the feedback and insight gained from stakeholders during the PLL implementation. The latter aspect the "feedback and insight" are what represents the "Upgrade & Boost" element of this output.
- The Action Plan (D.T1.3.3.) sets a structured working module for the 4 CAMI4.0 Topics. This Plan should identify the policy pilot actions, aka policy instruments in action for CAMI4.0 which PPs believe offer good support opportunities for CAMI4.0 stakeholders, that will be one part of the discussion base for the RIS3 Round Tables (WPT3).

CEUP 2030 Partnership Harvesting Questions to Consider?

- Has your partner organization, during this programming period worked on developing a strategy or framework for one CAMI4.0 topics? This can be at national, regional or transnational level!
- Has your partner organization, during this programming period worked on developing a strategy or framework for advanced manufacturing and industry 4.0, more generally? Again, this can be at national, regional or transnational level!
- What was the key result of this strategy development which is relevant to creating a CAMI4.0 strategy? Was it a specific vision on a topic? Was it a specific measure which was agreed by the involved stakeholders?
- What was the practical methodology which was followed to bring this strategic framework together? How did stakeholders build the strategy together?
- Do you have a physical copy of that strategy which can be shared within the Partnership (ideally in English, but native language is also ok)?

3.2.5. Policy Pilot Action Use Cases (aka the reason behind asking about Policy Instruments)

Definition: The Policy Pilot Action Use Cases emerge in a multi-step process across the project, and will fully emerge within WPT3, because these are the core unit of discussion for the RIS3 Round Table Workshops (see WPT3 guidelines), grappling with the question of how do we better align trans-regional support for CAMI4.0, can we learn from our experience (WPT1 harvest input and PLL outputs), from other disciplines/ strategic management of other trends/topics (WPT3 harvest input) on how to deliver support to select target groups?

Understanding the hierarchy of this topic is useful in advance because it can promote specific choices on the technological use case and strategic vision which you bring to the project. Differences in terminology is described below:

- Policy Instruments: Basic "market" knowledge of the subsidy/ support instruments and structures which exist to promote advanced manufacturing or industry 4.0. Each PP identifies 4 of these instruments by type, target group and topic (e.g. **Type**: funding schemes, subsidised services, infrastructure finance etc.; **target group**: SMEs, Large Enterprises, Research Organisation and **topic**: CAMI4.0 topics) **(by April 2020 - DT1.1.2. and DT1.1.3)** as part of Harvesting activity (by name and category, with a short description of the strategic intention of the instrument).
- Policy Instrument Use Cases: The 10 Use Cases (10 sets, 4/PP), are the output of D.T1.3.3 **(by February 2021),** and should be good examples of results or experiences from each PPs in this programming period, which showcase how to use these instruments and in an understandable, how policy instruments create specific positive motion to support organisations in engaging with the CAMI4.0 topics.

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- Policy Pilot Actions Use Cases:
    - Regional RIS3 Alignment Instrument Pilot Projects: By WPT3 PPs should have evidence of starting 20 new regional RIS3 Alignment Instrument Pilot Projects (2/PP) **(by September 2021),** where they aim to showcase how specific policy instrument action can improve regional S3 support for chosen CAMI4.0 topics. These pilot projects should be built from the "Policy Instrument Use Cases" identified at the end of WPT1.
    - Common Policy Use Cases: In WPT2 and WPT3 emerges the idea of the coordinated "alignment" of policy instruments. This is a key area of discussion which should occur between PPs (in CAMI4.0 Working Groups, aka TINs in WPT2) and their stakeholders (In RIS3 Round Tables, in WPT3). By the end of the project PPs operating across the 4 CAMI4.0 Topics create 4 common policy use-cases **(By February 2022),** where the stakeholders involved in each CAMI4.0 working group (TIN) agree a plan to align activities for the coming programming period.

CEUP2030 Partnership Harvesting Questions to Consider?

- Does your organisation have experience in using policy instruments?
- Does a closely associated organisation that you know, have experience in using such policy instruments?
- What was good about the support instrument?
- Why does the support instrument have good potential for RIS3 alignment activity on the CAMI4.0 topics?

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3.3. Quality Indicators and Requirements for Harvest

The following section was written to provide some further guidance on the project's quality indicators which each partner should consider and input requirements which each partner should deliver, when it comes to completing the harvesting activity.

3.3.1. Application Form Projects

The following table lists the six identified projects which were named within the Application Form as bringing result potential to CEUP 2030. It is recommended that these projects are first reviewed for their potential results inclusion in CEUP 2030.

Subsidy Programme	Project Name
HORIZON 2020	SISCODE
HORIZON 2020	Spirit
HORIZON 2020	DIH2
Interreg Central Europe	3DCentral
Interreg Central Europe	Synergy
Interreg Central Europe	S3HubsinCE

3.3.2. Rules

The following rules table was created to try to emphasize to partners that quality within this project is dependent on your contribution. Your foresight and understanding of the project's logic and the goals of the partnership are key to delivering high quality results. Therefore, each Partner is asked to use your gut-instinct and experience when determining what project input to provide.

Rule	Rule Logic
If you were part of one of the AF mentioned projects, you must pull a result from it!	This rule exists so we can demonstrate that the identified projects have sustainable results which are able to be capitalised!
Only use complete or "near" complete results!	This rule exists so we can be sure that the concept has been tested prior to its inclusion in CEUP 2030
Be honest about the result's success!	This rule exists to remind Partners that they are jointly responsible for bringing in good-quality. We trust your gut-instinct on this!
Clarify exactly which aspect of the result you think the CEUP2030 partnership can benefit from!	The Partnership needs to pull high-quality characteristics from different partner's experience, but we need to know what worked and what didn't work. For example: ***for a physical, interactive workshops*** - what practically worked, and what was the aspect that can be "capitalised", was it a method (i.e. a co-creation process like brain-writing?), was it a presentation style (i.e. like PechaKucha, visual storytelling)? ***For strategy and action plans*** - what was it that was agreed strategically in the project, which you think is a relevant for CEUP 2030's strategic vision?

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	Was it an interesting technical measure which was agreed (i.e. SMART targets of X% of technological dissemination workshops on Artificial intelligence?) Was it a particularly inspiring strategic statement on support measures for one of the CAMI4.0 Topics?
Provide a comprehensive description	Reflect on what you write to make sure it is understandable and able to be interpreted for further use by the Deliverable Responsible of the methodology which will look to benefit from the capitalised knowledge! Would someone with no context to the project world (a loved one, for instance?) understand what you wrote?

3.3.3. Input Requirements

It is important to note that the harvesting activity's goal is provide a summary of the existing results to which the Partnership has "access", in order to capitalise a number of good practice projects in the direction of improved knowledge provision to policy-makers, to better support policy making processes in the next programming period. Because of this, PPs at this stage are only asked to provide summaries of existing results from your PP organisation Result Portfolio, so we can streamline an "Agenda" of results which will be drawn upon in the design and deliver of key project outputs.

Therefore, a number of inputs are required and listed below:

Name of Harvesting Aspect	Additional Comments	PP's Individual Obligation	CEUP 2030's Combined Obligation
Methodologies for Policy Learning Lab Development	Should help inspire interactive workshop methods on technology topics or policy maker engagement	1	10
Methodologies for Strategy Boost and Upgrade	Should help inspire the development of the strategic framework on the CAMI 4.0 topics; focus/strategic vision, active and relevant actions.	1	10
Technological Good Practices	Should be examples that help policy-makers "feel" and "experience" the CAMI4.0 Topics. The PP inputs should cover at least two CAMI4.0 topic foci and two types of target group foci.	4	40
Policy Instruments	Will develop into Policy Pilot Use Cases, and should evidence the type of support which exists on the market for target groups. The PP inputs should cover at least two CAMI topics foci, two types of target group foci, and two types of instrument types.	4	40
Total Number of Inputs		**10**	**100**

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4. Methodology

This section provides insight on an agreed methodology which partners should follow to identify and filter appropriate results from Results Portfolios, and then create the appropriate simplified description for a quick and streamlined reporting in the two key reporting deliverables of A.T1.1. Figure 3 provides a visual description of the Deliverable Hierarchies which are expected to emerge with Activity A.T1.1. It should be noted that the Deliverable Due Dates are already at risk, and indicated in red.

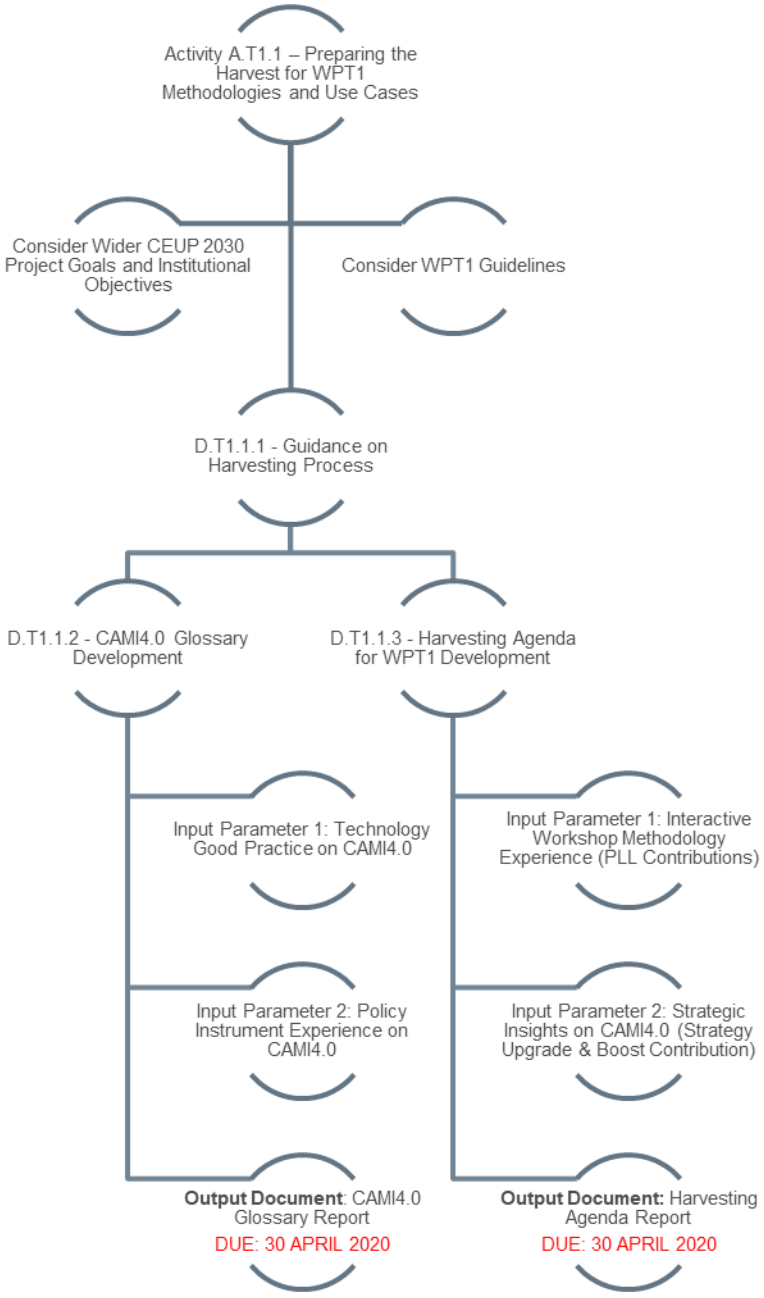

Figure 3 Deliverable Hierarchies for Activity A.T1.1 (Source: Author Generated)

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4.1. Process for Results Portfolio Review Harvest

The following section is a simple process description on result portfolio review

1. Review the project proposal, WPT1 guidelines, and the deliverable description so you are aware of the two key outputs for WPT1 and the content use cases which are to be deployed and discussed within the frame of WPT1.
2. Review the work that your PP organisation has done in the past programming period.
3. Review the CEUP 2030 Partnership Harvesting Questions to Consider
4. Filter your results portfolio for those results which provide:
    a. methods which could be used to create components for a good Policy Learning Lab
    b. methods which can create an inspirational Strategic Operating Framework for the CAMI4.0 Topics
    c. unique technological practices which can be upgraded into Technology Use Cases which could help a policy-maker “feel” and “experience” the CAMI4.0 topics in more detail.
        i. Topic (at least two topic foci across the 4 PP inputs) and
        ii. Target Group (at least two target group foci across the 4 PP inputs).
    d. market knowledge on policy instruments which can be upgraded into Policy Pilot Use Cases, because they have a track record of supporting CAMI4.0 topics this programming period.
        i. Type (at least two types across the 4 PP inputs)
        ii. Target Group (at least two target group foci across the 4 PP inputs) and
        iii. Topic (at least two topic foci across the 4 PP input).
5. Check that you or a member of your organisation has enough know-how of the project or result portfolio to write a simplified description of the filtered results
6. Check that you have the right access to information and results availability which would allow lessons learnt and methodologies on these subjects to be provided to the Partnership in the next 1 month.
7. Move to Harvest Reporting Framework in Section 4.2 and Section 4.3

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4.2. Harvesting Reporting Process for the CAMI4.0 Glossary (D.T1.1.2)

The CAMI4.0 Glossary has two input sets.

- **Input 1 = CAMI4.0 Technology Good Practices (TGPs)** - PPs review their result portfolio for high-quality technology good practices which can be input into Technology use cases presented at the Policy Learning Labs.
    - **PPs deliver 4 TGPs which should be diversified by**
        - Topic (at least two topic foci across the 4 PP inputs) and
        - Target Group (at least two target group foci across the 4 PP inputs).
- **Input 2 = CAMI4.0 Policy Instruments (PIs)** - PPs review their result portfolio for "market" knowledge on policy instruments, which can be input into the Policy Pilot Action use cases presented in the Strategy Upgrade & Boost.
    - **PPs deliver 4 PIs, which should be diversified by:**
        - Type (at least two types across the 4 PP inputs)
        - Target Group (at least two target group foci across the 4 PP inputs) and
        - Topic (at least two topic foci across the 4 PP input).

The template for the result harvest reporting can be found in the Annex of this document, on Page 25 – it is titled "Result Harvest for WPT1 Use Case Input Topics".

The required contribution information is:

- Your PP Organisation Name, as a drop-down menu
- The WPT1 Use Case Category that the input belongs, as a drop-down menu
- The name of the use case input, as a free text response box where you provide the policy instrument name or the technology good practice name, in English
- The CAMI4.0 topic which is reflected, as a tick-box with an "other" option. Multiple choices are possible.
- The Target Group which was the focus of the good practice or instrument, as a tick-box with an "other" option. Multiple choices are possible.
- The name of the project and programme from where the knowledge was harvested or where you learnt about the input idea, as drop-down menu (for the 6 AF good practice projects), and an "other" option for those partners not involved in the 6 projects.
- The type of instrument (only for PP inputs on Policy Instruments), as a drop-down menu with an "other" option.
- The hyperlink to where the partnership can find more information about the instrument or the technology good practice.
    - Note: If this is held privately and not on a website please provide PDF evidence of the input on the Project Shared Space, in a dedicated folder for your PP organisation.

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- A short description on the input – as a free text response. Please limit this to no more than 2000 Characters.
    - For TGPs provide a short but comprehensive description on the benefit to the company or organisation who was involved with the technology
    - For PIs provide a short description on the goal and strategic intention of the instrument from the programme which is responsible for providing the instrument.
- A short description on the relevance of the input for CEUP 2030, as a use case input for development of the Technology Use Case and the Policy Pilot Use Case
    - For TGPs PPs should provide the logic for why this technology good practice is well suited for upgrade to a "CEUP 2030 Use Case" to be presented to Policy-Relevant stakeholders during the PLL. This can be because it is an especially interesting topic, a really easy-to-understand application or it has a technology associated to it, that allows someone to "feel the impact"
    - For PI, PPs should provide insight on how this Instrument could be upgraded to directly support the CAMI4.0 topics.

NOTE: A filled in example of appropriate template reporting for a TGP can be found in the Annex on Page 32 and for a PI on Page 34

Result Harvest for WPT1 Use Case Input Topics	
Name of the PP	Choose your PP Name
To which WPT1 use case category does the harvested result connect?	Choose a WPT1 Use Case Category
What is the name of the harvested use case input? (i.e. policy instrument name or technology good practice name, in English)	[Free Text Response]
To which CAMI4.0 topic does the harvested result connect? (multiple choices are possible)	☐ Big & Real Data Processing & Sensors ☐ Automation & Robotics ☐ Smart & New Materials ☐ Artificial Intelligence ☐ Other, Please Clarify Below In case of other, please clarify topic name, in English: [Free Text Response]
Which target group is addressed by this input? (multiple choices are possible)	☐ SME ☐ Large Enterprise ☐ Business Support Organisation ☐ Higher Education & Research Organisation ☐ Education / Training Centre & School ☐ Other, Please Clarify Below In case of other, please clarify topic name, in English: [Free Text Response]
What is the project name from which you learnt about the technology good practice or policy instrument? (in English)	Choose Good Practice Project Name In case of other, please clarify project & programme name, in English: [Free Text Response]
What type of instrument is it? (Only for the policy instrument)	Choose an instrument type In case of other, please clarify project & programme name, in English: [Free Text Response]
Hyperlink to the result location (i.e. where more information on the technology good practice or policy instrument can be found)	[Free Text Response]
A short description of the use case input:	
[Free Text Response]	
A short description of relevance for CEUP 2030 use case input:	
[Free Text Response]	

Figure 4 Image of the Template for Harvesting WPT1 Use Case Input Topics (Source: Author Generated)

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4.3. Harvesting Reporting Process for the Harvesting Agenda on CAMI4.0 for Policy Learning Lab / Strategy Upgrade & Boost (D.T1.1.3)

The Harvesting Agenda has two input sets:

- **Input 1 = Methodologies for Policy Learning Lab Development**, or methods and experience which can create a fast start on Policy Learning Lab (PLL) design & implementation
- **Input 2 = Methodologies for Strategy Boost and Upgrade**, or methods and experience which can create a fast start on the Strategy Boost and Upgrade (SBU) of the Joint Strategy for CAMI4.0 Excellence and Action Plan for CAMI4.0 Excellence.

The template for the result harvest can be found in the Annex of this document on Page 27 – it is titled "Result Harvest for WPT1 Methodologies".

The required contribution is:

- Your PP Organisation Name, as a drop-down menu
- The WPT1 Output Methodology Category that the input belongs, as a drop-down menu
- The name of the project and programme from where the knowledge was harvested, as drop-down menu (for the 6 AF good practice projects), and an "other" option for those partners not involved in the 6 projects.
- The name of the harvested result, as a free text response box where you provide the methodology/strategy name in English
- The hyperlink to where the partnership can find more information about the methodology.
    - Note: If this is held privately and not on a website please provide PDF evidence of the input on the Project Shared Space, in a dedicated folder for your PP organisation.
- A short description on the result – as a free text response. Please limit this to no more than 2000 Characters.
    - For PLL methods – describe the background to the workshop methodology type, what was the goal of it and who was it targeting?
    - For SBU methods – describe the background of the strategy or action plan, what was its goal and why was it needed?
- A short description of how the result "worked", what processes were followed in a real or practical sense, i.e. what did people really do. Please limit this to no more than 2000 Characters.
    - For PLL methods – for example: describe a practical run through of the workshop.
    - For SBU methods – for example: describe the process of strategy building which occurred.

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- A short description of the key lessons learnt. What worked well in the methodology that led to the achievement of the goals? Please limit this to no more than 2000 Characters.
- A short description of how the result can be "upgraded" for CEUP 2030. What is the exact part that you think could provide wider benefits to the macro-regional area. Please explicitly describe, is it the vision statement on a topic? Is it a specific measure which was agree to support the topic? Please limit this to no more than 2000 Characters.

NOTE: A filled in example of appropriate template reporting for a PLL can be found in the Annex on Page 28 and for a SBU on Page 31.

Result Harvest for WPT1 Methodologies	
Name of the PP	Choose your PP Name
To which WPT1 methodology does the harvested result connect?	Choose a WPT1 Output Methodology
What is the name and programme of the harvested project (in English)?	Choose Good Practice Project Name **In case of other, please clarify project & programme name, in English:** [Free Text Response]
What is the name of the harvested result (aka the output/activity name from the project)?	[Free Text Response]
Hyperlink to the result location (aka where more information on the strategy or workshop methodology can be found)	[Free Text Response]
A short description of the result:	
[Free Text Response]	
A short description how it worked:	
[Free Text Response]	
A short description of the key lesson learnt:	
[Free Text Response]	
A short description of how the result can be "upgraded" for CEUP 2030 method:	
[Free Text Response]	

Figure 5 Image of the Template for Harvesting WPT1 Methodologies (Source: Author Generated)

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5. Conclusions & Next Steps

The purpose of this document has been to provide the PPs background information and detailed process descriptions on the harvesting requirements of Activity A.T1.1. It sets the process for harvesting key content and methodologies from each PP's result portfolio from this programming period, which can be utilised and upgraded throughout the process of delivering WPT1's key outputs.

5.1. Next Steps

- Work Package Leader and PPs are asked to review this methodology and clarify with the Deliverable Responsible Partner, any questions or comments on the procedure.
    - Due Date: 21 April 2020
    - Responsibility: All PPs
- Where relevant, the Deliverable Responsible Partner, will make methodology upgrades to the Guidance, and issue the Final Version to the Partnership;
    - Due Date: 23 April 2020
    - Responsibility: PRO
- All PPs are then asked to complete the required tasks detailed within this guidance to complete your Result Portfolio review;
    - Due Date: 27 April 2020
    - Responsibility: All PPs
- All PPs are then asked to complete the harvesting and reporting process for the CAMI4.0 Glossary, including naming the Technology Good Practices (x4/PP) and Policy Instrument (x4/PP) you'd like to involve in the project's use case development.
    - Due Date: 30 April 2020
    - Responsibility: All PPs
- All PPs are then asked to complete the harvesting and reporting process for the Harvesting Agenda on CAMI4.0 Policy Learning Lab (x1/PP) / Strategy Upgrade & Boost (x1/PP)
    - Due Date: 30 April 2020
    - Responsibility: All PPs

All Harvesting should be completed by the end of April, to ensure the project's time plan can be met.

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6. Abbreviations

Abbreviation	Explanation
AF	Application Form
ASP	Associated Partner (i.e. Strategic Partner)
CAMI4.0	Central European Advance Manufacturing and Industry 4.0
PI	Policy Instrument
PLL	Policy Learning Lab
PP	Project Partner
RIS3	Regional Innovation Strategy for Smart Specialisation
S3	Smart Specialisation Strategy
SBU	Strategy Boost & Upgrade
TGP	Technology Good Practice
TIN	Trend & Innovation Networks
aka	also known as

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7. Annex

7.1. Template One: Result Harvest for WPT1 Content Use Case Input Topics

Result Harvest for WPT1 Use Case Input Topics	
Name of the PP	Choose your PP Name
To which WPT1 use case category does the harvested result connect?	Choose a WPT1 Use Case Category
What is the name of the harvested use case input? (i.e. policy instrument name or technology good practice name, in English)	[Free Text Response]
To which CAMI4.0 topic does the harvested result connect? (multiple choices are possible)	☐ **Big & Real Data Processing & Sensors** ☐ **Automation & Robotics** ☐ **Smart & New Materials** ☐ **Artificial Intelligence** ☐ **Other, Please Clarify Below** **In case of other, please clarify topic name, in English:** [Free Text Response]
Which target group is addressed by this input? (multiple choices are possible)	☐ **SME** ☐ **Large Enterprise** ☐ **Business Support Organisation** ☐ **Higher Education & Research Organisation** ☐ **Education / Training Centre & School** ☐ **Other, Please Clarify Below** **In case of other, please clarify topic name, in English:** [Free Text Response]
What is the project name from which you learnt about the technology good practice or policy instrument? (in English)	Choose Good Practice Project Name **In case of other, please clarify project & programme name, in English:** [Free Text Response]

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What type of instrument is it? (Only for the policy instrument)	Choose an instrument type **In case of other, please clarify project & programme name, in English:** [Free Text Response]
Hyperlink to the result location (i.e. where more information on the technology good practice or policy instrument can be found)	[Free Text Response]
A short description of the use case input:	
[Free Text Response – limit to 2000 characters]	
A short description of relevance for CEUP 2030 use case input:	
[Free Text Response – limit to 2000 characters]	

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7.2. Template Two: Result Harvest for WPT1 Methodologies

Result Harvest for WPT1 Methodologies	
Name of the PP	Choose your PP Name
To which WPT1 methodology does the harvested result connect?	Choose a WPT1 Output Methodology
What is the name and programme of the harvested project (in English)?	Choose Good Practice Project Name **In case of other, please clarify project & programme name, in English:** [Free Text Response]
What is the name of the harvested result (aka the output/activity name from the project)?	[Free Text Response]
Hyperlink to the result location (aka where more information on the strategy or workshop methodology can be found)	[Free Text Response]
A short description of the result:	
[Free Text Response – limit to 2000 characters]	
A short description how it worked:	
[Free Text Response – limit to 2000 characters]	
A short description of the key lesson learnt:	
[Free Text Response – limit to 2000 characters]	
A short description of how the result can be "upgraded" for CEUP 2030 method:	
[Free Text Response – limit to 2000 characters]	

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7.3. Example One: Result Harvest from Fraunhofer IWU on Policy Learning Lab Methodology

Result Harvest for WPT1 Methodologies	
Name of the PP	IWU
To which WPT1 methodology does the harvested result connect?	Policy Learning Lab
What is the name of the harvested project (in English)?	3DCENTRAL **In case of other, please clarify project name in English:** Not Applicable
What is the name of the programme from where the result was harvested?	INTERREG CENTRAL EUROPE **In case of other, please clarify programme name, in English:** Not Applicable
What is the name of the harvested result (aka the output/activity name from the project)?	Tech & Inno Camp (TIC)
Hyperlink to the result location (aka where more information on the strategy or workshop methodology can be found)	Selected examples: On request we provide more info. https://www.smarthoch3.de/details/technologietransfer-zwischen-wissenschaft-und-industrie-smart3-als-worldcafe-tischpate/ http://blog.smarthoch3.de/strategisch-denken-sommerlich-feiern/ https://www.smarthoch3.de/neuigkeiten/merlin/
A short description of the result:	
Tech and Inno Camps (TIC) are events dedicated for mutual learning, experience exchange and enhancement of know-how on 11 knowledge axis on Advanced Manufacturing. For this reason triple-helix stakeholders are addressed to cover tech and business knowledge as well as the transfer to policy measures. The TICs showcase a result-oriented training concept for new technologies which addresses and unites multifarious target groups, experts, stakeholders to (1) generate a common understanding and (2) gain excellent results about smart engineering technologies in CE. Its goal consists in transferring practical know-how while on same time the most appropriate solutions for CE relevant topics are developed. The Camps cover a simulation of transnational CE relevant knowledge on Advanced Manufacturing in a concentrated work and in short time, in particular using demo examples and new digital media. It starts in a traditional on-site manner (e.g. in companies and/or research labs) to train the stakeholder groups and will be managed later in a distributed remote version, too.	

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A short description how it worked:

TICs are generally used to communicate proactively new technologies and their already available solutions to stakeholders from Research/Education, Business and Policy/Administration. Facilitated by a human-centered design approach (inspiration, ideation, implementation) and using open innovation processes the participants should learn from each other in an operative and strategic context.

The use case, organised by Fraunhofer IWU, TIC on Smart & Functional Materials, Dresden, 09/2018, demonstrates how to involve companies, industry, research partners, interest groups and agencies from national ministries to an interactive session. The agenda in detail included:

- Introduction to make the topic clear and understandable (e.g. how to explain complex "piezoelectric materials" in short time and also for non-tech experts)
- After that, there was a 3 hours strategy workshop for how to use and how to implement smart materials in their own products, research and / or services of the participants.
- For that purpose a roadmap process was developed, started at the TIC and further developed with the stakeholders.
- The session was supported by easy-to-apply co-creation processes which were tested before inside the project group and the partner net.
- The official agenda ended with demonstrations of smart materials applications and solutions.

By organizing the TIC some complementary projects connected were to pool resources and gain a significant number of stakeholders and the right ones.

Same time this TIC was additionally supported by media (e.g. demo videos; Merlin, an annual Project Magazine) as well as presentation at conferences to keep and assure an intensive stakeholder dialogue.

A short description of the key lessons learnt:

The TIC work was based on more than 100 identified technology use cases (good practices) and some strategic projects from the PPs network (e.g. Smart^3, Innovation Network for smart materials in production, living, health and mobility, Federal Ministry of Education and Research (BMBF), EUR 45 Mio., 8 years).

TICs were implemented in a regional/national (e.g. smart & functional materials: 24 triple-helix stakeholders) and transnational manner (workshop in the frame of an international conference for Industry 4.0).

The main lessons learnt relates to a significant motivation of addressed stakeholders concerning understandable demos on new technologies, explaining complex tech solutions with digital support as AR/VR (Augmented & Virtual reality) and in the consistent triple-helix learning environment.

Furthermore, skills and services for managing innovation at the interfaces of cross-sectoral technology cooperation and transnational business performance were increased among project group members and inside involved stakeholder groups.

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A short description of how the result can be "upgraded" for CEUP 2030:

- The missing link for a continuous, stable and sustainable policy support was touched and tested successfully but not implemented at full scale. Thus several stakeholder groups like companies (SME, industry), BSO (Business Support Organisations) and Research/Education were addressed and committed to cooperate ongoingly. But the integration of relevant stakeholders from Policy/Administration (regional, national) could be elaborated in a more comprehensive, consistent and timewise consequent manner.
- The latent need to meet the intensive growth of new knowledge requires a flexible but transferable stakeholders´ dialogue driven learning scheme (Policy Factory 4.0). This is now anchored on a regional base but still demands an upgrade for solid transnational policy alignment and cooperation.
- Beside showcasing new technologies the triple-helix context for policy making should be fostered in a more explicit manner leading to a permanent system of joint road-mapping for long-term strategic planning and implementation.

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7.4. Example Two: Result Harvest from Platform Industry 4.0 (PIA) on Strategy Boost & Upgrade

Result Harvest for WPT1 Methodologies	
Name of the PP	PIA
To which WPT1 methodology does the harvested result connect?	Strategy Boost & Upgrade
What is the name and programme of the harvested project (in English)?	OTHER (Please Clarify Below) **In case of other, please clarify project & programme name, in English:** [Free Text Response] = tbd
What is the name of the harvested result (aka the output/activity name from the project)?	[Free Text Response]
Hyperlink to the result location (aka where more information on the strategy or workshop methodology can be found)	[Free Text Response]
A short description of the result:	
[Free Text Response – limit to 2000 characters]	
A short description how it worked:	
[Free Text Response – limit to 2000 characters]	
A short description of the key lesson learnt:	
[Free Text Response – limit to 2000 characters]	
A short description of how the result can be "upgraded" for CEUP 2030 method:	
[Free Text Response – limit to 2000 characters]	

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7.5. Example Three: Result Harvest from PROFACTOR (PRO) on Technology Good Practice

Result Harvest for WPT1 Use Case Input Topics	
Name of the PP	PRO
To which WPT1 use case category does the harvested result connect?	Technology Use Case
What is the name of the harvested use case input? (i.e. policy instrument name or technology good practice name, in English)	Collaborative Robot Solutions
To which CAMI4.0 topic does the harvested result connect? (multiple choices are possible)	☐ **Big & Real Data Processing & Sensors** ☒ **Automation & Robotics** ☐ **Smart & New Materials** ☐ **Artificial Intelligence** ☐ **Other, Please Clarify Below** **In case of other, please clarify topic name, in English:** [Free Text Response]
Which target group is addressed by this input? (multiple choices are possible)	☒ **SME** ☒ **Large Enterprise** ☒ **Business Support Organisation** ☐ **Higher Education & Research Organisation** ☐ **Education / Training Centre & School** ☐ **Other, Please Clarify Below** **In case of other, please clarify topic name, in English:** [Free Text Response]
What is the project name from which you learnt about the technology good practice or policy instrument? (in English)	OTHER (Please Clarify Below) **In case of other, please clarify project & programme name, in English:** CobNet - Qualification Network for Cobots (Technology Transfer)

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What type of instrument is it? (Only for the policy instrument)	Subsidised Service **In case of other, please clarify project & programme name, in English:** [Free Text Response]
Hyperlink to the result location (i.e. where more information on the technology good practice or policy instrument can be found)	Infos could be provided on request.

A short description of the use case input:

Client Profile: The companies Welser Profile (profile manufacturer), Doka (formwork panel manufacturer), Miraplast (SME, plastic goods manufacturer), Rupert Fertinger (LE, Cooling System Manufacturer), Duomet, Fuchs Metall Technik, Seisenbacher, (all SMEs, Metall Processing) have worked together with Profactor on a project funded by the Province of Lower Austria to introduce Cobots to companies. All the companies were interested in using cobots for future production tasks. In Addition to the development of demo applications and pilot systems, training and qualification methods for the introduction of technology were also developed.

Client needs: The companies had no experience with cobots and could not estimate their technological properties and potential due to the lack of know-how.

Provided solution to meet the needs: The companies were supported by Profactor in the evaluation of the application potential as well as in the definition, implementation and commissioning of the pilot installations. At the end of the project, 3 systems are ready for use and one system is in the phase CE Certification. Furthermore, 11 demo applications were examined and a technology evaluation center was set up by one of the partners.

A short description of relevance for CEUP 2030 use case input:

Cobots, or collaborative robots, are robots that work with people in a shared workspace. Using them contributes to increase productivity in manufacturing. CEUP 2030 could support more applications of robot systems, in particular fostering the change from traditional robots to new ones. Many companies have no experience with cobots and are unable to estimate their technological characteristics and potential due to a lack of know-how.

Thus cooperative technology transfer and innovation processes could be organised. For instance several companies with the same interests joined forces with a technology provider to estimate the use, definition and possibilities of implementation and to evaluate them through pilot installations. Important is a neutral consultancy and a common procedure including implementation and verification possibilities.

For the PLL understandable demo cases will demonstrate the advantages of cobots. Stakeholders will get experiences, see and feel how cobot systems work.

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7.6. Example Four: Result Harvest from PROFACTOR (PRO) on Policy Instruments

Result Harvest for WPT1 Use Case Input Topics	
Name of the PP	PRO
To which WPT1 use case category does the harvested result connect?	Policy Instrument Use Case
What is the name of the harvested use case input? (i.e. policy instrument name or technology good practice name, in English)	**COMET** **e.g. Pro²Future-Products and Production Systems of the Future** **(several further CAMI4.0 applications)**
To which CAMI4.0 topic does the harvested result connect? (multiple choices are possible)	☒ **Big & Real Data Processing & Sensors** ☒ **Automation & Robotics** ☒ **Smart & New Materials** ☒ **Artificial Intelligence** ☐ **Other, Please Clarify Below** **In case of other, please clarify topic name, in English:** [Free Text Response]
Which target group is addressed by this input? (multiple choices are possible)	☒ **SME** ☒ **Large Enterprise** ☒ **Business Support Organisation** ☒ **Higher Education & Research Organisation** ☐ **Education / Training Centre & School** ☐ **Other, Please Clarify Below** **In case of other, please clarify topic name, in English:** [Free Text Response]
What is the project name from which you learnt about the technology good practice or policy instrument? (in English)	Choose Good Practice Project Name **COMET (Competence Centers for Excellent Technologies)** **In case of other, please clarify project & programme name, in English:** [Free Text Response]

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What type of instrument is it? (Only for the policy instrument)	Funding Scheme **In case of other, please clarify project & programme name, in English:** [Free Text Response]
Hyperlink to the result location (i.e. where more information on the technology good practice or policy instrument can be found)	https://www.ffg.at/en/comet-competence-centers-excellent-technologies https://www.ffg.at/sites/default/files/allgemeine_downloads/strukturprogramme/COMET/Factsheets_K1_EN/COMET_K1_Call4_FactSheet_Pro2Future_en_2018-04-27_0220.pdf

A short description of the use case input:

Since 1998 competence centre programmes have been implemented in 45 centres and networks in Austria in order to build up key research competences through cooperation between science and industry, providing a network of hubs offering high quality research. Bundling these competences within a single centre and defining promising/emerging fields of research via science - industry collaboration shall stimulate new research ideas, encourage technology transfer, and strengthen the innovative capacity of companies. This should result in the creation of new product, process and service innovations.

COMET is managed by the Austrian Research Promotion Agency (FFG) on behalf of the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) and the Federal Ministry for Digital and Economic Affairs (BMDW). The Austrian provinces support COMET with additional funds.

BMK is ASP of PP/PIA for CEUP 2030. BMDW is connected to CEUP 2030 via the RIS3 Round Tables and the Framework 2030.

A short description of relevance for CEUP 2030 use case input:

Relevance for CEUP 2030 could be elaborated by:

Aligning complementary national and regional Competence Center systems among Central Europe macro-region, managed by e.g. RIS3 Round Tables and TINs

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