



INCEPTION

A new era of VET excellence.

D 2.1 / REPORT ON COVE BEST PRACTICES AND CURRICULA MAPPING

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LIST OF ABBREVIATIONS

3LoE	Three-Level Centres of Vocational Excellence for Green Economy, Dual Vocational Education and Training and Entrepreneurship
AI4VET4AI	AI-powered Next Generation of Vocational Education and Training
AILEEN	Advanced Manufacturing Centres of Vocational Excellence for Aerospace and Defence
AR	Augmented Reality
BIBB	Federal Institute for Vocational Education and Training
BP	Best Practice
CAS	Certificate of Advanced Studies
Cedefop	European Centre for the Development of Vocational Training
CoVE	Centre of Vocational Excellence
CSRD	Corporate Sustainability Reporting Directive
CU	Competence Unit
CVET	Continuing Vocational Education and Training
CVT	Continuing Vocational Training
DigComp	European Digital Competence Framework for Citizens
EACEA	European Education and Culture Executive Agency
ECTS	European Credit Transfer and Accumulation System
ECVET	European Credit System for Vocational Education and Training
EEA	European Education Area
EQF	European Qualifications Framework
ERDF	European Regional Development Fund
ESCO	European Skills, Competences, Qualifications and Occupations
ETF	European Training Foundation
EURASHE	European Association of Institutions in Higher Education
Europass	European framework for transparency of skills and qualifications
EWf	European Federation for Welding, Joining and Cutting
GreenComp	European Sustainability Competence Framework
HE	Higher Education
HEI	Higher Education Institution
HP	Hanse-Parlament e. V.
IAMQS	International Additive Manufacturing Qualification System
IntVE	Internationalising vocational excellence
IVET	Initial Vocational Education and Training
IP	Intellectual Property
IPOSZ	National Association of Entrepreneurs and Employers, Hungary
ISATCOVE	International Self-Assessment Tool for Centres of Vocational Excellence
LMS	Learning Management System
LO	Learning Outcome
MOOC	Massive Open Online Course
NADCAP	National Aerospace and Defence Contractors Accreditation Program
NQF	National Qualifications Framework
NUTS2	Nomenclature of Territorial Units for Statistics, Level 2
OER	Open Educational Resources





PDCA	Plan, Do, Check, Act
PoVE Water	Platform of Vocational Excellence Water
RIF	Regional Innovation Fund
RIS3	Research and Innovation Strategies for Smart Specialisation
SME	Small and Medium-sized Enterprise
VET	Vocational Education and Training
VR	Virtual Reality
WBL	Work-Based Learning
WIN4SMEs	Workplace Innovation for Small and Medium-sized Enterprises





1 EXECUTIVE SUMMARY

This deliverable presents the results of the Best Practice Analysis and Curricula Mapping within the INCEPTION project. It identifies transferable approaches from existing CoVE initiatives, including AI4VET4AI, 3LoE, WIN4SMEs, PoVE Water and AILEEN, and links them to the development of future INCEPTION Centres of Vocational Excellence.

The analysis shows that successful CoVEs are most effective when they operate as structured ecosystems connecting VET providers, higher education and research, companies, SMEs, chambers, associations and public actors. Key success factors are clear governance, recurring quality assurance, EQF/NQF-anchored and modular curricula, strong workplace-based learning, SME involvement, digital and AI-enabled learning formats, green and entrepreneurial competences, and early planning for transfer and sustainability.

The Curricula Mapping confirms that modular, competence-based curricula are essential for transparency, recognition and future micro-credentials. Digital tools such as MOOCs, AI-supported content development and blended learning can increase scalability, but should be combined with local, practice-oriented formats such as workshops, company projects, mentoring, mobility or incubator activities.

For INCEPTION, the main implication is that Best Practices and curricula should not be treated separately. Best Practices show how CoVEs can be structured, governed and sustained, while Curricula Mapping shows what learning offers can be reused, adapted or further developed.

The report recommends developing an INCEPTION CoVE reference model, establishing a light but robust QA and recognition approach, using modular and EQF/NQF-based curricula as a minimum standard, strengthening SME access through intermediaries, embedding green and entrepreneurial competences transversally, and planning transfer, funding and sustainability from the beginning.

Overall, the deliverable provides a practical foundation for strengthening CoVE development, improving curriculum transparency and supporting future-oriented skills development across sectors, regions and countries.

2 INTRODUCTION

The INCEPTION project aims to strengthen and connect Centres of Vocational Excellence (CoVEs) across Europe to better support the digital and green transitions and to address persistent skills gaps. Within this framework, Work Package 2 “Setting a common ground” provides the analytical basis for the project by mapping existing CoVE practices and curricula and translating them into a shared evidence base for later work.

Deliverable D2.1 “Report on CoVE Best Practices and Curricula Mapping” documents the results of Task 2.1 “Map best-practices from CoVEs” and Task 2.2 “Curricula and NQF/EQF mapping”. The purpose of Deliverable 2.1 is to provide a consolidated evidence base on existing Centres of Vocational Excellence (CoVEs) that will underpin all further work in INCEPTION. It does so by (1) systematically identifying, describing and comparing system-level Best Practices in governance, quality assurance, CoVE nomination/recognition, training and didactics, AI-based innovation, SME/workplace innovation, entrepreneurship and green skills across the participating CoVEs (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs, PoVE Water), and (2) mapping their main curricula against national and European qualification frameworks (NQF/EQF), including the embedding of AI, green economy and entrepreneurship. The scope of the report is therefore both system-level (structures, processes, governance, QA, cooperation) and programme-level (curricula, learning pathways, qualification frameworks) across the five CoVEs.





In this way, D2.1 sets a common ground for INCEPTION's Excellence Toolbox (WP3), the Community of Practice pilots (WP4) and the impact and policy work (WP5), by making existing excellence models visible, comparable and transferable.

In methodological terms, D2.1 combines structured desk research with partner-based data collection and validation. Building on a literature review on CoVEs, Best Practices and curricula–NQF/EQF integration, a common Excel mapping template was developed covering key themes such as CoVE governance and QA, training and didactics, AI and digitalisation, SME innovation, entrepreneurship and green skills. The five participating CoVEs (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs, PoVE Water) documented their approaches and provided supporting evidence, which was checked for completeness and then analysed comparatively. This analysis formed the basis for identifying and validating CoVE-level Best Practices and for mapping curricula and their NQF/EQF anchoring in a consistent way across the ecosystems.

The remainder of this report is structured as follows:

- Chapter 3 introduces the conceptual framework and key definitions used in D2.1.
- Chapter 4 describes the methodology for best-practice identification and curricula mapping.
- Chapter 5 provides concise profiles of the five CoVE ecosystems.
- Chapter 6 describes the main findings of desktop research
- Chapter 7 presents the identified Best Practices and a cross-CoVE analysis.
- Chapter 8 reports on curricula and NQF/EQF mapping.
- Chapter 9 discusses implications for future work.
- Chapter 10 summarises the main conclusions.

3 CONCEPTUAL FRAMEWORK AND DEFINITIONS

The conceptual framework of D2.1 understands **Centres of Vocational Excellence (CoVEs)** as skills ecosystems rather than single institutions. A CoVE is seen as a structured cooperation of VET providers, higher-education and research organisations, companies and SME/intermediary bodies, often embedded in regional smart-specialisation or sector strategies.

Building on this ecosystem view, D2.1 looks at CoVEs along three core capability areas that structure the INCEPTION Community of Practice: 1. quality assurance and CoVE nomination/recognition, 2. AI-based and digital innovation in VET, and 3. SME/workplace innovation, entrepreneurship and green skills.

Within this framework, **Best Practices** are defined as implemented and documented arrangements in these ecosystems – in governance, QA, training, cooperation or innovation – that have produced visible results and are clear, transferable and aligned with at least one of the three capability areas. European reference frameworks such as EQAVET or EQF/NQF, and competence frameworks (e.g. GreenComp, DigiComp, EntreComp) are used as common reference points for describing quality, levels and competences across CoVEs.

For **Curricula Mapping**, D2.1 treats “**curricula**” as structured learning offers that can be described through learning outcomes, workload, level, modularisation and thematic focus, and that are referenced to or integrated into national and European qualification frameworks where applicable.

The combination of (a) CoVE-as-ecosystem, (b) Best Practices as validated, transferable patterns and (c) curricula as EQF/NQF-anchored learning pathways provides the analytical lens for comparing AILEEN, AI4VET4AI, 3LoE, WIN4SMEs and PoVE Water and for deriving reusable models for INCEPTION's Excellence Toolbox and Community of Practice.





4 METHODOLOGY FOR COVE BEST PRACTICES IDENTIFICATION AND CURRICULA MAPPING

The methodology of WP2 combines structured desk research with partner-based data collection and validation. Building on the existing documentation of five mature CoVE ecosystems (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs, PoVE Water) and on the AILEEN methodology for best-practice identification, the work followed a qualitative, comparative case-study design. Within the AILEEN project, a methodology for Best Practice identification was developed which has already proven validity and therefore was adapted for usage within INCEPTION. The aim of the methodology was not to produce a statistically representative survey of all European CoVEs, but to map and synthesise system-level practices and curricula information from a small number of well-documented, thematically relevant ecosystems.

Two main strands were implemented:

1. **Best Practice identification:** identification and consolidation of CoVE-as-ecosystem Best Practices in governance, quality assurance, training and cooperation, using an adapted version of the AILEEN approach;
2. **Curricula and NQF/EQF Mapping:** descriptive mapping of key IVET, CVET and HE offers within the five CoVEs, including EQF/NQF anchoring and thematic focus.

Both strands used a common Excel mapping template (INCEPTION_T2.1_All COVES_08.06.2026.xlsx) and a shared conceptual frame (CoVE as skills ecosystem, EQF/NQF, European QA/competence frameworks).

Recognising that each of the five CoVEs operates within a distinct national, sectoral, and target-public context, specific quality control mechanisms were embedded to avoid the comparison of non-homogeneous realities and to secure the harmonisation of the data collected. To enforce consistency and ensure reliability, a verification workflow was implemented.

First, all entries were filtered through a predefined and structured table layout supported by mandatory concept definitions and explicit cell instructions. Following the initial submission, comprehensive completeness checks were carried out. To resolve data gaps and clarify context-specific variations, targeted follow-up questions were addressed through bilateral meetings and structured validation interviews with the respective CoVE representatives. This iterative review loop guaranteed that all partner inputs were fully aligned.

The work for both strands started with desk research. The desk research provided the conceptual and empirical starting point for D2.1. It aimed to gain an overview of existing approaches, Best Practices and curricula related to CoVEs and to curricula–NQF/EQF integration, in order to understand what is already regarded as standard and shared understanding in the current CoVE landscape. Rather than striving for a complete literature review, it focused on key European and project-level descriptions and on publicly available descriptions of CoVE models, QA frameworks, training methods and curricula. The insights from this desk research were used to derive the thematic categories and criteria for a common Excel mapping template, to frame a subsequent partner-based data collection, and to shape the evaluation of the CoVEs participating in INCEPTION.

The Excel mapping template combined general information on the CoVEs (governance, organisational aspects, quality assurance, organisation of training, topics such as AI, green skills, entrepreneurship and SMEs) with detailed information on the trainings offered by the different CoVEs, thus providing the basis both for deriving Best Practices and for the curricula mapping.

All CoVE partners were asked to complete the mapping template for their ecosystems and to provide further references (websites, deliverables, presentations). Where necessary further explanations and additional content was requested.





4.1 METHODOLOGY FOR COVE BEST PRACTICES AND CURRICULA MAPPING

The identification of CoVE-level Best Practices followed the logic of the AILEEN approach for Best Practice identification, adapted from a sector-specific Advanced Manufacturing context to the broader INCEPTION scope (QA/CoVE nomination, AI, SME/workplace innovation, green & entrepreneurship). The Best Practice identification followed an expert-informed internal assessment approach including validation by the authors of this deliverable.

The procedure comprised the following steps:

1 CoVE mapping: For each of the five ecosystems, the coordinator or lead partner filled in the INCEPTION mapping template, drawing on existing project reports and internal documentation. The template covered, among others, organisational models, governance and QA, training formats and methods, digital/AI practices, SME and entrepreneurship approaches, and green skills.

2 Extraction and structuring of potential Best Practices: For the identification of Best Practices, the entries of all CoVEs were first compared for each aspect covered in the mapping table and summarised thematically. In this step, commonalities and differences between the CoVEs were analysed, and potential strengths and weaknesses of the various approaches were examined. Initially, the aim was to define Best Practices as clearly separated, stand-alone items with sharp boundaries between them. However, this approach would have resulted in more than one hundred highly specific Best Practices, making the set difficult to oversee and work with. The concept was therefore adjusted: instead of maximising separation, several closely related aspects were combined into broader, more holistic Best Practices, even if this reduced the degree of distinctiveness between them. On this basis, a consolidated and manageable list of 36 Best Practices was created as a basis for the following partner interviews

3 Partner review and relevance voting: The consolidated BP list including 36 Best Practices was circulated to all CoVE partners. For each practice, partners were asked to indicate:

- whether the practice had been derived from their CoVE (“yes/no”),
- whether it was generally interesting for their CoVE,
- and, on a 0–3 scale, how relevant it was for their CoVE (0 = not relevant, 3 = highly relevant).

This step served two purposes: cross-checking the correctness of the attribution and identifying practices that were both transferable and of interest across ecosystems.

4 Validation interviews: In addition to the partner relevance votes, validation interviews were executed with the representatives of the five CoVEs. The aim was to understand whether the Best Practices identified really fit the experiences of the CoVEs and to identify potential missing Best Practices that should be added. During the interviews, five additional potential Best Practices were identified and added to the table. These five additional Best Practices were added to the initial list of 36 Best Practices. The second version of the list of Best Practices thus includes 41 Best Practices.



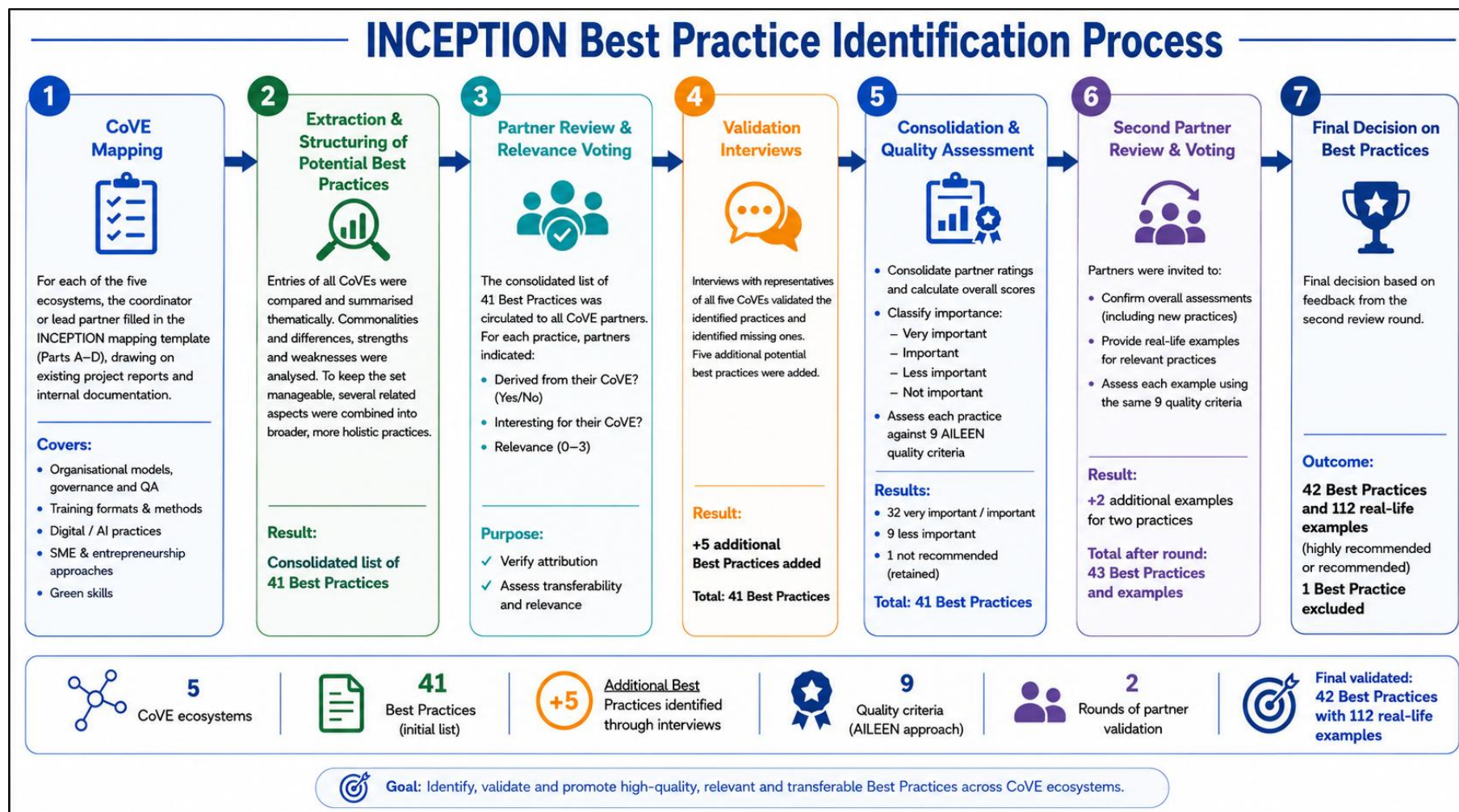


Figure 1: Infographic of the Inception Best Practice Identification Process





5 Mapping of results: After the interviews, the evaluations of the Best Practices from the different CoVEs were consolidated and analysed. The analysis considered the rating categories mentioned above and resulted in an overall score for each Best Practice. In addition, the practices were classified according to how important and relevant they were perceived to be by the participating CoVEs, using four categories: “very important”, “important”, “less important” and “not important”. This resulted in 32 very important and important Best Practices and 9 less important Best Practices. Additionally, the Best Practices were voted according to nine criteria for assessing the quality of Best Practices derived from the AILEEN Best Practice Identification approach. The criteria used for this voting were “Implemented practice with demonstrated results (K.O.)”, “Clarity and documentation (K.O.)”, “Alignment with INCEPTION capabilities (K.O.)”, “Partnership and Governance”, “Adaptability and Scalability”, “Innovation and distinctiveness”, “Sustainability”, “Systemic/regional impact”, “Evidence base and monitoring”. The criteria could be voted on a scale from 0 (not existent) to 3 (high). Overall, a score of 27 points could be reached for each Best Practice. Best Practices were voted “not recommended” from 0-14 points, “recommended” from 15-19 points and “strongly recommended” from 20-27 points. The voting revealed that most of the Best Practices identified can be seen as strongly recommended or recommended. Only one Best Practice was voted “not recommended”. Following the combined results of those two approaches for mapping the results, no Best Practices were excluded at this step, resulting in a list of 41 Best Practices.

6 Second round partner review and voting: To validate the above mentioned votings and decisions on Best Practices as well as to identify concrete descriptions of the Best Practices, CoVE partners and representatives were invited to take part in a second reviewing round. They were asked, on the one hand, to review and confirm the overall scoring of the existing Best Practices across the nine criteria and to provide ratings for the newly added practices. On the other hand, for each Best Practice that is relevant to their CoVE, they were requested to describe a brief, real-life example from their own practice and to assess this example again using the same nine criteria which were used for voting on the Best Practices. This second round of consultation was used both to validate the overall best-practice assessment and to collect concrete case examples for each identified Best Practice. One CoVE added two examples for two additional Best Practices, resulting in 43 Best Practices after the second round of partner review and voting. Additionally, 114 examples for the Best Practices were mentioned by the representatives of the CoVEs.

7 Final decision on Best Practices: The final decision on the list of Best Practices was made on the basis of the feedback from the second round of the partner review and voting. The decision on the integration of the examples for the Best Practices was made based on the self-assessment results of the CoVEs and the validation by the authors of this document. According to the summarised voting, only one Best Practice identified in the first round of reviewing had to be excluded as the voting was not strong enough and no example for this Best Practice could be delivered by the CoVEs. Moreover, two examples mentioned for the Best Practices were excluded as they were voted “not recommended”. Finally, 42 Best Practices and 112 examples for those Best Practices voted either highly recommended or recommended by the CoVEs could be derived from the CoVEs involved in the INCEPTION project.

4.2 METHODOLOGY FOR CURRICULA AND NQF/EQF MAPPING

The methodology used to map curricula and their integration into National Qualification Frameworks (NQFs) focuses on how existing CoVE training offers — in particular in the areas of entrepreneurship (WIN4SMEs), green economy (3LoE) and artificial intelligence (AI4VET4AI) — relate to national qualification systems, and on identifying the barriers and enablers that condition this integration. The approach builds on a comparative analysis across the five CoVE ecosystems considered in this report (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs and PoVE Water) and was implemented through two sequential, standardised data collection instruments.





Phase I: Curricula and Qualification Mapping

The first phase relied on the shared Excel mapping template introduced in Chapter 4. Each CoVE representative completed a dedicated sheet for their ecosystem, following common guidelines set out in the template's instructions tab, ensuring that entries across the five CoVEs remained comparable.

For each curriculum or training module, partners recorded:

- the core course or programme name and the targeted professional profile;
- the corresponding EQF level, with particular attention to levels 3 to 6;
- the duration structure, including total workload and contact hours;
- the current NQF integration status, distinguishing between recognised, partially recognised and non-integrated provision; and
- alignment with international reference systems and transparency tools beyond the national NQF level, such as ESCO occupational profiles, Europass instruments, European Competence Frameworks (Greencomp, Digicomp or Entrecomp), sector-specific industrial standards, including EWF's International Additive Manufacturing Qualification System (IAMQS).

This step provided the quantitative backbone of the mapping exercise, allowing curricula from the five CoVEs to be positioned along a common EQF/NQF grid despite differences in national systems and sectoral focus.

Phase II: Barriers and Enablers Audit

To complement the quantitative mapping with a more qualitative understanding of the conditions that obstruct or support NQF integration, a second instrument — a structured survey on NQF integration barriers and enablers — was distributed to all CoVE representatives.

The survey addressed two thematic strands. The first examined twelve recurring institutional bottlenecks, including format mismatches between national systems, divergent definitions of credit volume, centralised administrative procedures, and, in specific sectors such as Defence and Aerospace, confidentiality and security constraints. Partners rated each bottleneck on a Yes / No / Country-dependent scale, capturing the extent to which national systemic variation shapes the relevance of each barrier.

The second strand examined nine potential enablers of integration, such as legally mandated green or digital skills requirements, the emergence of micro-credential registries, and the adoption of outcome-based curriculum design. These were assessed using the same cross-country scale, allowing enabling factors to be read against the same systemic variation as the barriers.

Data Analysis and Cross-Comparison

The data were gathered through a matrix, and the survey forms were then consolidated and cross-examined to build a coherent picture of curricula and NQF/EQF integration across the five CoVEs. This was done in four steps. First, the individual entries from the five network sheets were grouped to map overall EQF distribution patterns and credit volume trends. Second, the data rows were reviewed to identify shared systemic obstacles while also documenting the operational differences between national systems represented within the consortium, such as the contrast between dual-chamber frameworks and centralised public education systems. Third, these empirical results were triangulated with the country-specific desk research, allowing partner-reported findings to be checked against the broader national context. Finally, the validated patterns and recurring obstacles were translated into targeted recommendations, setting the direction for the forthcoming Unified Quality and Recognition Frameworks and the INCEPTION Excellence Toolbox.





5 THE FIVE COVES OF INCEPTION

This chapter presents the results of the comparative analysis of the five participating CoVe ecosystems (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs, PoVE Water). Building on the conceptual framework in Chapter 3 and the methodology outlined in Chapter 4, it first highlights common structural features and working principles shared by all CoVEs. It then provides, for each CoVE, a concise profile followed by its specific strengths, distinctive features compared to the others, and selected weaknesses or development needs. The chapter concludes with cross-cutting observations that are particularly relevant for the further development of INCEPTION's Excellence Toolbox, the Community of Practice activities and the subsequent policy work.

The FIVE Pillar CoVEs of INCEPTION


AILEEN

(2023 – 2027) To ensure high-quality international cooperation through structured synergies and a harmonised methodology for the designation of CoVEs across countries. It focuses on developing advanced manufacturing skills—technological, digital, and green—to support a circular and sustainable economy. It also updates harmonised welding and additive manufacturing curricula aligned with aerospace and defence sector needs.

(2023 – 2027) The general objective of AI4VET4AI is to establish a transnational European platform for vocational education and training (VET) excellence. This platform aims to contribute to the digital transformation of the EU labour market by introducing innovative teaching content and methods into vocational education and training (VET) curricula across 11 European countries. The primary goal is to support and foster the growth of a skilled workforce in the field of artificial intelligence (AI).



(2020-2024) 3LoE establishes eight Centres of Vocational Excellence (COVEs) in seven EU countries to qualify, support, and foster entrepreneurship and innovation in SMEs in the Green Economy. It covers all three levels of VET excellence: initial dual vocational training (EQF 3-4), continuing vocational training (EQF 5-6), and higher education (EQF 6-7), all with a green economy focus. COVEs cooperate transnationally to develop, test, and transfer curricula, tools, and qualifications, making the green skills ecosystem accessible to SMEs, learners, trainers, and universities across Europe.

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(2024-2028) WIN4SMEs significantly boosts workplace innovation in SMEs by nurturing a skilled workforce and entrepreneurship, fostering collaborative environments, and promoting knowledge transfer across the Baltic Sea region. It unites VET providers, higher education institutions, and SME associations in 7 national COVEs plus one umbrella COVE, developing and implementing tools and programmes on workplace innovation, HR management, and entrepreneurship at EQF levels 3-6. All results are transferred to 70 associated partners from 13 countries, with Ukraine engaged as an expert partner.



(2022-2026) PoVE Water Scale-up further integrates Vocational Excellence in the European Water sector, ensuring high-quality skills and competences that lead to quality jobs and careers in an innovative, inclusive, and sustainable economy. It builds on the Pilot PoVE Water to upscale four regional COVEs Water, add new COVEs (including a first step toward South Africa), and develop state-of-the-art Virtual Reality and e-learning materials for water-related VET. Its ultimate ambition is to become a worldwide point of reference for Vocational Education in the Water sector.

PoVE Water was added as an additional CoVE because the project partner Hanse-Parlament had also been involved in this CoVE, which concluded in May 2026, and identified several transferable insights of direct

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relevance to INCEPTION. In particular, PoVE Water's regional CoVE structure and its use of "Regional Captains" as coordinating interfaces between regional partners, sector stakeholders and the wider network were considered to provide clear added value for the project.

5.1 CROSS-COVE COMMON FEATURES

Across all five ecosystems, the participating Centres of Vocational Excellence (CoVEs) share a number of structural and strategic characteristics. They are all built as multi-partner skills ecosystems rather than single institutions, typically combining VET providers, higher education and research organisations, companies (often SMEs), chambers or sector associations, and sometimes public authorities. All five have been developed under the Erasmus+ CoVE actions, are embedded – to varying degrees – in regional or national strategies and Smart Specialisation priorities, and explicitly use European reference frameworks such as EQF, EQAVET, and competence frameworks (DigiComp, EntreComp, LifeComp). A more detailed analysis of the different levels of integration of these frameworks is offered in chapter 8.

On the operational level, all CoVEs apply formalised quality-assurance processes (self-assessment, external evaluation, audits, or sectoral QA schemes), work with modular, learning-outcomes-based curricula spanning several EQF levels and combine classroom-based teaching with work-based or project-based learning. Digitalisation is a common denominator: all use learning platforms and digital tools, although the degree of AI integration varies considerably.

Finally, all ecosystems face similar systemic challenges: heterogeneous national VET laws, limited time and capacity on the SME side, the need to secure post-Erasmus+ sustainability, and the difficulty of scaling good practices beyond projects and early adopters.

5.2 AILEEN – ADVANCED MANUFACTURING COVES FOR AEROSPACE & DEFENCE

AILEEN brings together a network of sectoral CoVEs in advanced manufacturing (welding, brazing, additive manufacturing and inspection) for the Aerospace and Defence (A&D) industries. The ecosystem is coordinated by EWF with strong involvement of specialised VET/HE providers, research institutes and sectoral companies across seven countries. AILEEN's core offer consists of transnational, EQF-mapped competence units from level 2 to 7 and sector-specific courses delivered via authorised training bodies and universities. The project responds to critical skills gaps in A&D by providing harmonised training routes, sector standards and a structured CoVE concept.

Particularities and strengths

What makes AILEEN distinctive is its formal CoVE nomination and recognition methodology, including a "proof-of-excellence" label. Based on 24 criteria in three clusters (education/training, cooperation/governance, resources), the procedure combines self-assessment with external audit and 5-year re-audit and is underpinned by detailed guidelines (AILEEN D3.1). This gives AILEEN a uniquely robust, auditable QA and recognition model that can (and is intended to) serve as a reference architecture for other sectors. A second strength is the sector specificity: AILEEN is tightly aligned with A&D industrial standards and international qualification systems (EWF/NDACAP, IAMQS), ensuring high relevance and trust from industry.

At the same time, AILEEN's strengths are also its main limitations. The narrow sector focus (A&D advanced manufacturing) and high levels of confidentiality/IP protection make transfer to other sectors and wider SME environments more demanding. The current model is only loosely linked to national NQFs and not yet aligned with ETF self-assessment tools, and explicit SME involvement and the systematic use of AI in teaching/learning are still relatively weak compared to other CoVEs.





5.3 AI4VET4AI – AI-POWERED NEXT GENERATION OF VET

AI4VET4AI is a transnational CoVE ecosystem dedicated to artificial intelligence in VET. It connects 26 partners from 11 countries, including VET providers, HEIs, AI companies, research organisations and sector bodies. Its core outputs are seven free MOOCs on AI in different sectors (tourism, education, healthcare, advertising, market research, customer service, logistics), accompanied by teacher training materials, AI VET campuses and AI innovation incubators. The programmes cover EQF levels 4–6 and target both IVET and CVET learners as well as VET and HE teachers.

Particularities and strengths

AI4VET4AI is the only CoVE in this group with a pure AI focus. It provides a coherent AI-VET ecosystem that combines MOOCs, campus events, incubators, sector-specific use cases and teacher training, all aligned with DigiComp, EntreComp, LifeComp and EQF. The project has developed a structured approach to AI-supported content creation, using generative AI for texts, visuals, quizzes and scenarios, combined with human peer review and QA checklists. It also integrates entrepreneurship into AI incubators and project-based learning and explores micro-skills and future micro-credentials.

The main weaknesses stem from the complexity and scale of the ecosystem: coordinating 26 organisations is demanding and deep regional embedding can vary. Formal NQF anchoring and accreditation of the AI programmes depends on national partners and is not centrally governed, and explicit green-skills content is present but not central. Finally, while AI is strongly embedded as subject matter, AI-driven adaptivity and learning analytics are not yet implemented in a systematic way across the ecosystem.

5.4 3LoE – THREE-LEVEL COVES FOR GREEN ECONOMY, DUAL VET AND ENTREPRENEURSHIP

3LoE established eight regional CoVEs in seven countries (AT, DE, ES, IT, LT, LV, PL) with a three-level structure: initial dual VET (EQF 3–4), continuing VET (EQF 5–6) and dual Bachelor programmes (EQF 6–7). Thematically, 3LoE focuses on the green economy (energy and resource efficiency, sustainable construction, logistics, agriculture, circular economy) and on entrepreneurship and innovation for SMEs. Over the project period, it delivered 59 IVET/CVET/HE programmes, seven Train-the-Trainer schemes and multiple tools, reaching nearly 5000 learners and involving 578 companies.

Particularities and strengths

The defining feature of 3LoE is its integrated “through-care” model from IVET via CVET to HE within one COVE ecosystem, combined with strong dual VET principles and very high shares of work-based learning (70–80 % in companies for apprentices, ~50 % workplace time in dual Bachelor). Another strength is the systematic involvement of chambers and SME associations as gatekeepers to hundreds of SMEs, ensuring employer voice in curriculum development and substantial SME participation. 3LoE has also succeeded in creating new recognised qualifications (e.g. EQF 5 CVET in Austria) and in explicitly embedding green skills across all programmes.

However, the transfer and recognition of this model is constrained by heterogeneous national VET legislation (especially around dual systems and EQF-5 CVET), which requires substantial national adaptation. Digitalisation and AI are present but not at the same innovation level as in AI4VET4AI or PoVE Water (no systematic AI-supported learning or content authoring), and formal micro-credentialing is still at an early stage.





5.5 WIN4SMES – WORKPLACE INNOVATION FOR SMES

WIN4SMES builds a Baltic Sea-wide CoVE ecosystem for workplace innovation (WPI), HR management and entrepreneurship in SMEs. The structure consists of an umbrella CoVE coordinated by Hanse-Parlament and eight national COVEs in seven countries plus Ukraine, each specialising in a particular aspect (e.g. entrepreneurship, upskilling, newcomers, weak learners, diversity & inclusion, collaboration and digitalisation). The ecosystem covers EQF levels 3–6 and offers differentiated VET pathways, continuing VET for SME owners and staff, and dual/trial Bachelor routes.

Particularities and strengths

A central strength is the SME-centric focus: WIN4SMES explicitly targets SME owners, managers and employees, and uses chambers/SME associations as systematic interfaces to large SME populations (e.g. IPOSZ with 30 000 SMEs). The KAIN method (“Knowledge According to Individual Needs”) links individual, workplace-based learning directly to company innovation projects and has been successfully piloted in several COVEs (including in wartime Ukraine). The ecosystem applies a structured QA concept based on ETF’s ISATCOVE self-assessment, combined with external evaluation by EURASHE, and is comparatively advanced in entrepreneurship promotion and inclusive VET for weak learners and newcomers.

At mid-term, however, SME involvement is also identified as the ecosystem’s weakest dimension in external evaluation: depth and continuity of SME engagement varies by country, and legal structures (e.g. absence of dual systems in FI/NL) constrain WBL. Recognition and NQF anchoring of some CVET offers and micro-credentials are still under development, and the use of AI in teaching and content creation is emerging but not yet systematic.

5.6 POVE WATER – COVE ECOSYSTEM FOR WATER, CIRCULAR ECONOMY AND VR-BASED VET

PoVE Water Scale-up further develops a multi-regional CoVE ecosystem in the water sector, with four European regional COVEs (West-EU, Baltics, Central EU, Mediterranean) and new COVEs in South Africa and France, coordinated under a common PoVE platform. Each regional CoVE is a triple-helix partnership of VET providers, water industry and research/HE actors, focusing on drinking water, wastewater, water technology, water-smart agriculture and circular water economy. The ecosystem delivers IVET and CVET programmes (primarily EQF 3–5) and HE-facing activities and has a strong international mobility component (Water Weeks, Water Days, Summer Schools).

Particularities and strengths

PoVE Water stands out through its strong sectoral specialisation, and the use of immersive Virtual Reality and Moodle based e-learning as core didactic innovations. More than ten story-based VR scenarios simulate realistic water-work environments and are complemented by teacher training and blended delivery; retention figures reported are very high compared to traditional lectures. The ecosystem is firmly anchored in EQAVET-based QA, applies ECVET principles and tools /Europass for mobility recognition, and has a clear impact-evaluation architecture (baseline and endline surveys, impact stories, peer reviews of regional COVEs). Triple-helix cooperation is fully institutionalised: water industry partners are permanent CoVE members and co-authors of curricula.

The main weaknesses are systemic rather than internal: the water sector is still under-recognised in many national VET and skills strategies, which can limit visibility and mainstreaming. The strong dependence on commercial VR technology raises issues around licensing and OER openness, and multilingual requirements make development and scaling more resource-intensive. AI as a teaching or authoring technology is not yet part of the didactic concept, which could become a gap as AI enters simulation and process control in the water sector.





6 RESULTS OF DESKTOP RESEARCH

The desktop research conducted as part of Task 2.1 provided the conceptual and empirical starting point for the best-practice identification and Curricula Mapping in this deliverable. It aimed to gain an overview of existing approaches, policy frameworks, quality assurance models and curricula-related concepts relevant to CoVEs and VET in Europe.

The scope of the research was not designed as a comprehensive academic literature review. Instead, it focused on key European policy documents, institutional reports, European reference frameworks and selected project-level outputs that are directly relevant to the INCEPTION capability areas. Sources were selected according to four criteria:

1. their relevance for current European VET and CoVE policy
2. their role as recognised European reference frameworks
3. their practical relevance for CoVE governance, development, public-private cooperation or self-assessment, and
4. their connection to the themes addressed in INCEPTION, namely quality assurance and recognition, AI and digitalisation, SME and workplace innovation, entrepreneurship and green skills.

The sources included documents from the European Commission, Cedefop, the European Training Foundation, EQAVET and the Council of the European Union, as well as competence frameworks such as DigComp, EntreComp and GreenComp. In addition, recent ETF publications on vocational excellence, CoVE processes and practices, public-private partnerships and international CoVE networking were considered. Selected CoVE project outputs and recent Erasmus+ analyses were also considered where they provided concrete examples of governance structures, training models, recognition approaches or curricula design or CoVE ecosystem development.

The results of this desktop research informed the development of the Excel mapping template and the categorisation of best practices presented in Chapter 7. They also provided the conceptual basis for the curricula and NQF/EQF mapping presented in Chapter 8.

6.1 EUROPEAN POLICY AND CONCEPTUAL FRAMEWORK FOR CENTRES OF VOCATIONAL EXCELLENCE

At European level, CoVEs are understood as multi-actor skills ecosystems rather than as individual training institutions. They bring together VET providers, higher education institutions, research organisations, companies, intermediary bodies and public authorities in order to strengthen the responsiveness, quality and innovation capacity of VET systems (European Commission, 2020a; European Commission, 2020b).

This understanding is closely linked to wider European policy priorities. The European Skills Agenda highlights the role of skills development in supporting competitiveness, social fairness, lifelong learning and the green and digital transitions (European Commission, 2020a). The Council Recommendation on VET also emphasises flexible pathways, work-based learning, quality assurance, digital readiness and vocational excellence as central features of modern VET systems (Council of the European Union, 2020). The Osnabrück Declaration further underlines the role of VET in supporting recovery, resilience and just transitions towards digital and green economies (European Commission et al., 2020).

Recent ETF work reinforces this ecosystem perspective. The report *Towards vocational excellence: Building skills ecosystems for the future* frames vocational excellence as the result of cooperation between education and training providers, employers, public authorities and innovation actors within broader skills ecosystems (ETF, 2023a). Similarly, the ETF report *A road to excellence* highlights the importance of international networking





between VET excellence initiatives and Centres of Vocational Excellence for co-creating ecosystems and supporting mutual learning across countries and sectors (ETF, 2025a).

Within this context, CoVEs are positioned as instruments for strengthening cooperation between education, industry and regional innovation systems. Their role is not limited to the delivery of training. They are expected to contribute to innovation, regional development, skills intelligence, lifelong learning and smart specialisation (European Commission, 2020b).

For INCEPTION, this confirms that CoVEs need to be analysed as ecosystem structures. The mapping therefore considers not only individual courses or curricula, but also governance, cooperation mechanisms, quality assurance, recognition models, SME involvement and sustainability.

6.1.1 MODELS AND GOVERNANCE APPROACHES OF COVES

The desktop research shows that CoVEs can take different organisational forms, including single centres, regional clusters, sectoral partnerships or transnational networks. Despite this diversity, effective CoVE models are typically based on stable cooperation structures, clearly defined roles and regular interaction between education providers, companies and policy or intermediary actors (European Commission, 2020b; ETF, 2023).

The ETF study “Centres of Vocational Excellence: Processes and practices” provides particularly relevant evidence for INCEPTION. It shows that CoVE development is not a single institutional status, but a process of building capacity, partnerships, services and innovation functions over time (ETF, 2024a). This process orientation is also reflected in the ETF Vocational Excellence Cookbook, which presents the journey towards becoming a CoVE as a structured development path involving vision-building, stakeholder mobilisation, service development, continuous improvement and ecosystem consolidation (ETF, 2025b).

A recurring governance pattern is the triple-helix or knowledge-triangle model, which connects education and training providers, research or higher education institutions and industry partners. In the CoVE context, this structure is often complemented by chambers, sector organisations, SME associations or regional development agencies. These intermediary organisations are important because they help translate labour market needs into training provision and support access to companies, especially SMEs.

The importance of autonomy and public-private cooperation is also emphasised in ETF work on CoVEs and public-private partnerships. ETF’s study on CoVE autonomy in forging public-private partnerships shows that successful cooperation with companies depends not only on goodwill, but also on the institutional capacity of VET providers to enter partnerships, adapt provision, manage resources and respond to labour market needs (ETF, 2021). This is directly relevant for INCEPTION, where SME engagement, workplace innovation and sectoral cooperation are central themes.

In addition, the Erasmus+ analysis Advancing European Centres of Vocational Excellence provides a useful overview of how CoVE projects operationalise European policy priorities through project-based ecosystems, thematic specialisation and transnational cooperation (Erasmus+ Netherlands, 2026). This source is particularly relevant because it situates current CoVE projects within the wider Erasmus+ CoVE landscape and helps position INCEPTION’s participating CoVEs in relation to other European initiatives.

The European Training Foundation has also supported the development of structured self-assessment approaches for CoVEs. The ISATCOVE tool provides a framework for analysing vocational excellence across areas such as teaching and learning, partnerships and cooperation, governance and funding (ETF, 2023b). This supports the idea that CoVE development requires systematic reflection and continuous improvement, not only project-level reporting.





For INCEPTION, these findings justify the inclusion of governance, stakeholder roles, self-assessment and cooperation structures as key dimensions in the best-practice mapping.

6.1.2 QUALITY ASSURANCE AND RECOGNITION FRAMEWORKS

Quality assurance is a central element of European VET policy. At European level, EQAVET provides the main reference framework for quality assurance in vocational education and training. It is based on a continuous improvement cycle including planning, implementation, evaluation and review (European Parliament & Council of the European Union, 2009; EQAVET, 2020).

In the CoVE context, quality assurance cannot be limited to individual training programmes. It also concerns the wider ecosystem, including governance, stakeholder involvement, labour market relevance, monitoring of outcomes and the use of feedback for improvement. This broader view is also reflected in European VET policy, where quality assurance is linked to responsiveness, innovation and learner outcomes (Council of the European Union, 2020).

In addition to EQAVET, ETF resources provide practical reference points for CoVE-level quality development. The International Self-Assessment Tool for Centres of Vocational Excellence (ISATCOVE) supports structured reflection on vocational excellence across areas such as teaching and learning, partnerships and cooperation, governance and funding (ETF, 2023b). The ETF IntVE Knowledge Packages also provide practical guidance and resources for VET centres aiming to strengthen vocational excellence, including areas such as partnerships, innovation, teaching and learning, and sustainability.

Recognition frameworks are also relevant for CoVEs. Criteria-based nomination or recognition procedures can increase transparency by defining what vocational excellence means and how it can be assessed. Models combining self-assessment, external review and periodic re-assessment can support credibility and continuous development.

For INCEPTION, this is directly relevant for the work on CoVE recognition, nomination and quality assurance. The desktop research therefore supports the inclusion of QA systems, self-assessment tools, recognition procedures and quality labels as relevant best-practice categories.

6.1.3 CURRICULA DESIGN AND NQF/EQF INTEGRATION

A key trend in European VET systems is the shift towards learning-outcome-based curricula and alignment with qualification frameworks. The European Qualifications Framework provides a common reference system for comparing qualifications across countries based on what learners know, understand and are able to do (Council of the European Union, 2017). National Qualifications Frameworks translate this logic into national systems and support transparency, comparability and permeability between education sectors.

Learning outcomes are central to this approach because they allow curricula and qualifications to be described independently of specific institutional or national formats (Cedefop, 2017). This is particularly relevant for CoVEs, which often operate in transnational partnerships and develop training offers that should be transferable across countries and sectors.

Cedefop's work on National Qualifications Frameworks confirms that NQFs have become an important tool for improving transparency and comparability of qualifications in Europe (Cedefop, 2020; Cedefop, 2022; Cedefop, 2025). However, the implementation and practical use of NQFs still differ considerably between countries. Cedefop's NQF resources and monitoring work show that national systems vary in terms of governance, qualification types included, openness to non-formal learning, and procedures for registering shorter qualifications or micro-credentials (Cedefop, n.d.; Cedefop, 2020; Cedefop, 2022).





Another important development is modularisation. Modular curricula allow training programmes to be divided into smaller learning units and can support flexible learning pathways, partial recognition, upskilling and reskilling. This is especially relevant for continuing vocational training and micro-credentials. The European approach to micro-credentials supports the recognition of shorter learning experiences and can offer a pathway for more flexible qualification structures (Council of the European Union, 2022).

At the same time, the research confirms that formal NQF integration can be difficult for short, industry-driven or transnational training offers. National procedures, minimum workload requirements and differences between qualification systems can limit formal integration. Recent Cedefop work also indicates that NQFs have improved transparency, but that the inclusion of short or non-formal qualifications remains uneven across countries (Cedefop, 2025).

For INCEPTION, this means that the Curricula Mapping should not only record formal NQF integration, but also consider complementary forms of recognition, including sectoral standards, learning-outcome-based descriptions, micro-credentials and alignment with European competence frameworks.

6.1.4 DIGITALISATION AND AI IN VOCATIONAL EDUCATION AND TRAINING

Digital transformation is a major driver of change in VET. It affects both the skills required in the labour market and the way training is organised and delivered. The Digital Education Action Plan underlines the need to strengthen digital education ecosystems and improve digital skills across education and training systems (European Commission, 2020c).

In VET, digital tools are increasingly used to support blended learning, online learning platforms, simulations, virtual or augmented reality and flexible learning pathways. These approaches can improve access and scalability, but they require appropriate infrastructure, pedagogical concepts and staff competences.

Artificial intelligence is becoming an increasingly relevant topic in education and training. AI can be addressed as a learning topic, preparing learners for AI-related changes in their sectors. It can also be used as a tool for training design and delivery, for example through personalised learning, AI-supported content development, learning analytics or assessment support. At the same time, the use of AI in education raises questions related to ethics, transparency, data protection, bias and human oversight (European Commission, 2022).

The reviewed CoVE literature confirms that digitalisation and AI are increasingly important dimensions of vocational excellence, but are not yet evenly developed across all CoVE ecosystems. Some CoVEs address AI as their core thematic focus, while others use digital technologies primarily as enabling tools for teaching, simulation, cooperation or scaling. This distinction is important for INCEPTION, because the project does not only need to identify AI-specific curricula, but also transferable ways of embedding AI and digital tools into broader VET ecosystems.

For INCEPTION, this supports the decision to treat AI and digitalisation as a dedicated capability area. It also confirms the need to identify concrete examples that show how digital and AI-based approaches can be integrated into VET in a responsible and pedagogically meaningful way.

6.1.5 SME ENGAGEMENT AND ECOSYSTEM APPROACHES

SMEs play a central role in European economies and are important actors in skills development, employment and innovation. However, SMEs often face barriers when engaging in structured VET cooperation, including limited time, resources and administrative capacity. This makes intermediary organisations particularly important.





Chambers, SME associations, sector organisations and regional innovation agencies can act as interfaces between education providers and companies. They support the identification of skills needs, facilitate curriculum co-design, coordinate training activities and create access to workplace-based learning opportunities.

ETF's work on public-private partnerships in vocational education confirms that cooperation with employers is strongly influenced by the autonomy, governance capacity and partnership-management competences of VET providers (ETF, 2021). Where VET centres have sufficient autonomy and established partnership structures, they are better able to adapt curricula, offer services to companies and support innovation-oriented cooperation.

The KAIN method ("Knowledge According to Individual Needs") provides a relevant example of a workplace-oriented and SME-focused training approach. It links individual learning needs with concrete innovation or development projects in companies. This makes it particularly relevant for workplace innovation, SME competitiveness and practice-based continuing vocational training. For INCEPTION, KAIN is useful not as a general CoVE framework, but as a specific methodological example of how learning can be embedded in company-level innovation processes.

Entrepreneurship is also increasingly understood as a transversal competence. The EntreComp framework defines entrepreneurship as the capacity to act upon opportunities and ideas and transform them into value for others (Bacigalupo et al., 2016). In CoVE ecosystems, entrepreneurship is closely linked to SME development, workplace innovation and regional competitiveness.

For INCEPTION, the desktop research confirms that SME engagement should not be treated as an isolated activity. It needs to be embedded in governance structures, training design and innovation processes. This is why chambers, associations and SME hubs and workplace-based innovation methods are considered important elements of CoVE ecosystems in the best-practice analysis.

6.1.6 GREEN SKILLS AND SUSTAINABILITY IN VET

The green transition has significant implications for vocational education and training. The European Green Deal and the European Skills Agenda both stress the need to support the transition towards a more sustainable, climate-neutral and resource-efficient economy through skills development (European Commission, 2019; European Commission, 2020a).

Green skills are relevant across many occupations and sectors, not only in explicitly environmental professions. They include technical competences related to areas such as energy efficiency, circular economy, water management and sustainable production, but also broader competences such as systems thinking, responsible action and sustainable innovation.

GreenComp provides a European reference framework for sustainability competences and can support the integration of green skills into curricula and learning outcomes (Bianchi et al., 2022). ETF's work on vocational excellence also confirms that sustainability should be understood as part of broader skills ecosystems, where green transition, innovation, regional development and labour market adaptation are connected (ETF, 2023a; ETF, 2024a). For CoVEs, this is relevant because sustainability should not only be addressed through individual courses, but as a transversal dimension of governance, curricula, industry cooperation and impact measurement.

The reviewed CoVE practice documents indicate that green skills are most effective when they are embedded across occupational profiles and learning pathways rather than treated as add-on modules.

For INCEPTION, this confirms that green skills should be treated as a cross-cutting topic across the analysis of Best Practices and curricula.





6.2 KEY ASPECTS FOR INCEPTION

The desktop research highlights several patterns that are directly relevant for INCEPTION. First, CoVEs are best understood as ecosystem-based structures, where excellence emerges from cooperation between multiple actors. Second, governance and quality assurance are central for transparency, consistency and long-term development. Third, curricula are increasingly expected to be modular, learning-outcome-based and, where possible, linked to EQF/NQF structures.

The research also confirms that AI, digitalisation, SME engagement, entrepreneurship and green skills are not separate side topics, but central dimensions of modern VET systems. They therefore need to be reflected in the mapping template, in the best-practice analysis and in the Curricula Mapping.

The following table summarises the main implications for INCEPTION:

Table 1: Key aspects for INCEPTION identified from desktop research

	Desktop research finding	Relevance for INCEPTION
1	CoVEs are multi-actor skills ecosystems.	The mapping template captures governance, stakeholder roles and cooperation mechanisms.
2	Vocational excellence depends on structured governance and continuous improvement.	Governance, self-assessment and QA cycles are included as best-practice categories.
3	European frameworks such as EQAVET, EQF/NQF, ISATCOVE, DigComp, EntreComp and GreenComp provide common reference points.	These frameworks support comparison across CoVEs and inform the Curricula Mapping.
4	Learning-outcome-based and modular curricula support flexible VET provision.	The Curricula Mapping records EQF/NQF levels, learning pathways, modularisation and recognition status.
5	Formal NQF integration is difficult for some short or industry-led training offers.	Complementary recognition mechanisms and sectoral standards are also considered.
6	Digitalisation and AI are important but unevenly implemented.	AI and digitalisation are treated as a dedicated best-practice cluster.
7	SME engagement requires intermediary structures.	Chambers, associations and SME hubs are analysed as key ecosystem actors.
8	Green skills are a transversal requirement.	Sustainability is included as a cross-cutting category in best-practice and curricula analysis.

Overall, the desktop research confirmed the analytical logic of D2.1. CoVE Best Practices need to be assessed not as isolated measures, but as part of wider ecosystem structures that combine governance, quality assurance, curricula, industry cooperation, innovation and sustainability. These findings provided the basis for the





comparative CoVE analysis, the categorisation of Best Practices in Chapter 7 and the curricula and NQF/EQF mapping in Chapter 8.

7 BEST PRACTICES FOR COVES

This chapter presents the results of the best-practice analysis and summarises those approaches that have proven particularly robust across the CoVEs considered. The identified Best Practices constitute a common frame of reference that can be applied to all, or at least to a large proportion, of the CoVEs and thus represent an important building block for the further work in the INCEPTION project.

Many of the Best Practices are derived from approaches that are already being implemented in several CoVEs, but are each tailored to their specific context and partners. Against this background, the Best Practices in this chapter are deliberately described at the level of fundamental approaches. The concrete design and level of detail can – and should – vary from CoVE to CoVE. To make this range of variation visible, at least one CoVE-specific example has been provided for each Best Practice.

For reasons of space and readability, the detailed best-practice table is provided in Annex 11.1 and 11.2. Chapter 7 presents the main findings in the form of thematic cluster descriptions, visual summaries and a cross-cluster ranking. The consolidated table in Annex 11.1 provides the complete evidence base, including the best-practice IDs, short descriptions, CoVE relevance rankings, best-practice ratings, examples identified and assessed, and aggregated interpretations.

Additionally, cross-cutting success factors and common pitfalls are discussed in the second part of this chapter.

7.1 BEST PRACTICES IDENTIFIED

The following section presents the identified Best Practices, grouped into thematic clusters. For information on the methodology for Best Practice identification, please see chapter 4. For more detailed information on the Best Practices and corresponding examples, please see annexe 11.1 and 11.2

Overall, the ranking of the Best Practices confirms that the identified Best Practices provide a strong evidence base for INCEPTION. In total, 42 Best Practices were identified and ranked “strongly recommended” or “recommended”. Across all examples for the Best Practices, 104 examples were rated as strongly recommended, 10 as recommended, and 2 as not recommended. This indicates that most practices are not only conceptually relevant, but are also supported by concrete and transferable implementation examples from existing CoVEs.

The detailed evidence base underlying this analysis is provided in the consolidated best-practice in Annex 11.1.2. The table is organised by thematic cluster and mirrors the structure of this section, allowing readers to link each cluster description and figure with the corresponding validated Best Practices, ratings and implementation examples.

7.1.1 STRATEGIC STRUCTURES & ECOSYSTEMS / NETWORK MODELS

This cluster brings together Best Practices that show how CoVEs are organised as ecosystems – from triple-helix structures (VET–higher education–business) via umbrella and “bridge” CoVEs through to thematic specialisation of individual CoVEs. The focus is on long-term governance models, role distribution and embedding in regional and national strategies that serve as blueprints for building and scaling excellence networks.

The infographic below (Figure 2) shows an overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.



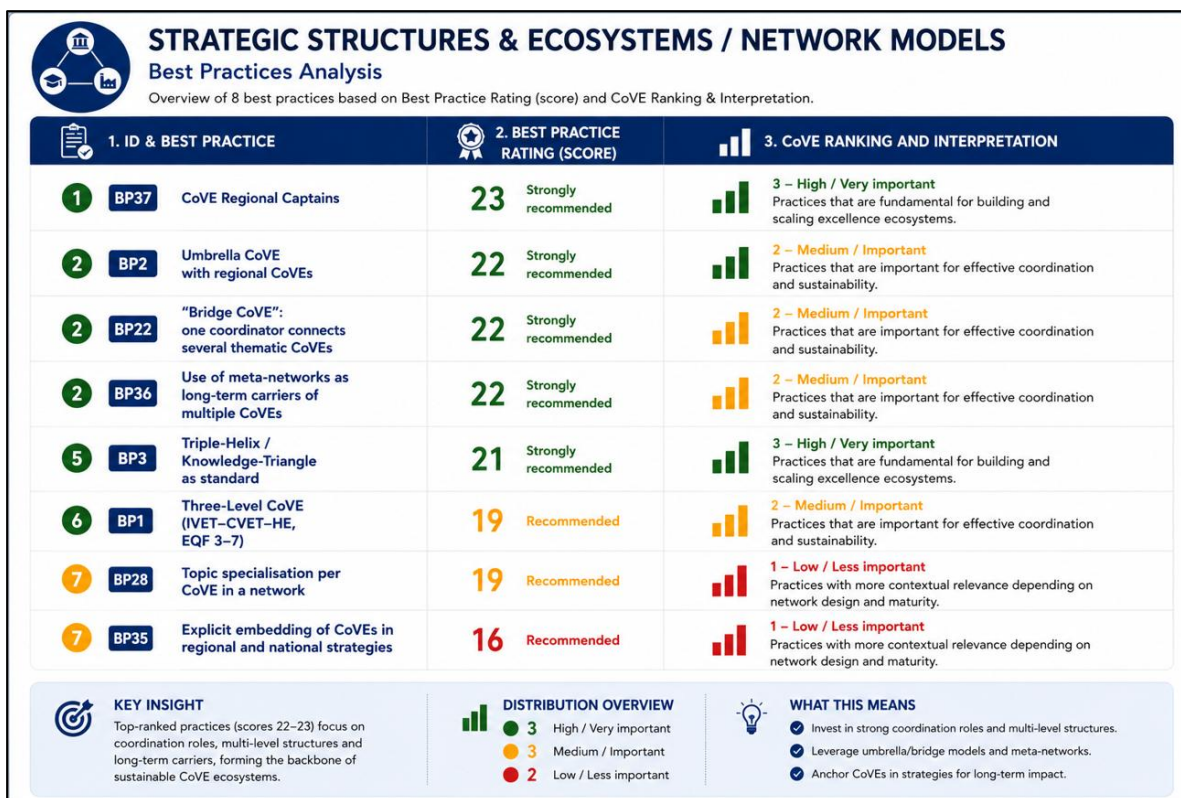


Figure 2: Strategic Structures & Ecosystem Models: Overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

Figure 2 shows that ecosystem-oriented structures are among the most robust and transferable practices identified in the analysis. In particular, triple-helix cooperation, regional coordination roles and long-term meta-network structures combine high relevance for CoVEs with strong best-practice ratings, confirming their importance as structural foundations for scalable CoVE models.

The corresponding detailed entries for this cluster are included in the consolidated best-practice table in Annex 11.1.2.

7.1.2 GOVERNANCE, COVE NOMINATION, QUALITY ASSURANCE & RECOGNITION

This cluster bundles Best Practices on the formal recognition and quality assurance of CoVEs. It covers sectoral nomination procedures with external audits, “proof-of-excellence” labels, multi-level QA concepts, the use of European frameworks (EQAVET, DigiComp, EntreComp, EQF) as well as self-assessment instruments such as ISATCOVE. The aim is to systematically strengthen the governance, transparency and comparability of CoVEs.

The infographic below (Figure 3) shows an overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

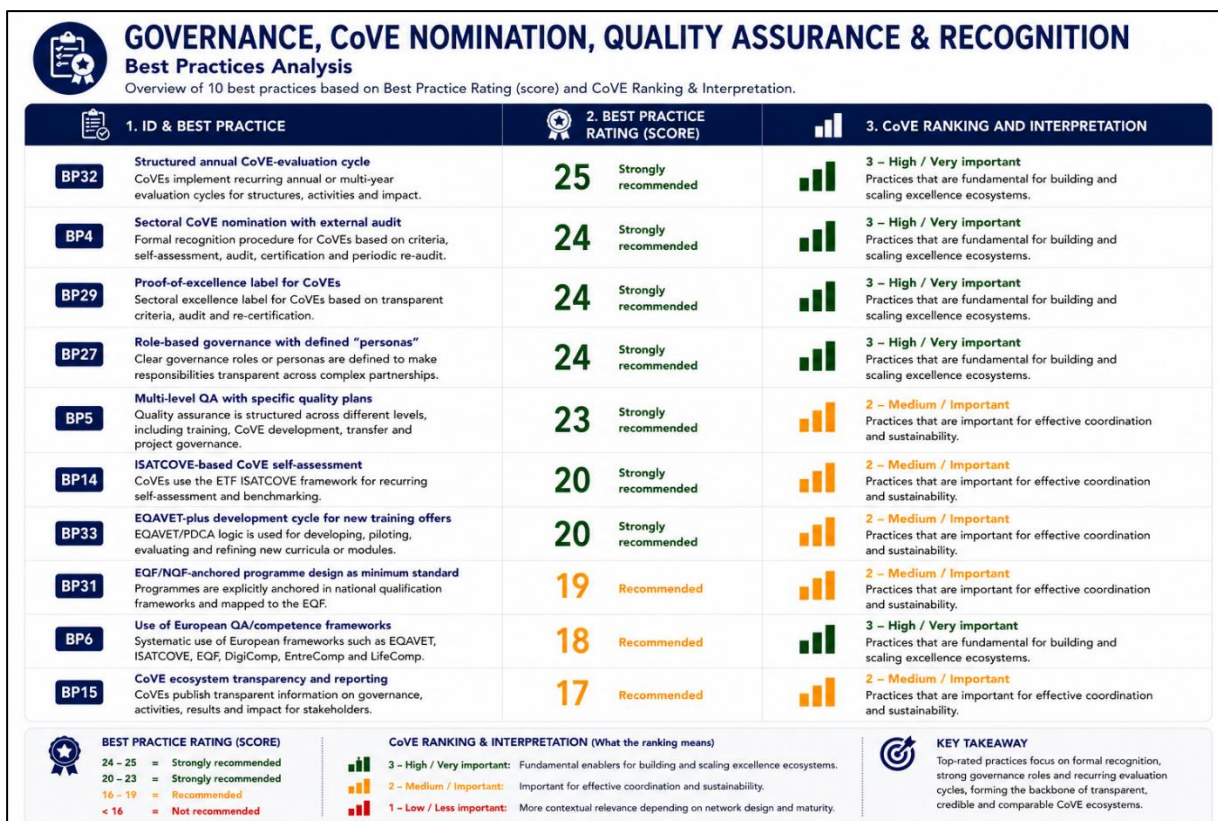


Figure 3: Governance, CoVE nomination, quality assurance and recognition: overview of identified Best Practices ranked by best-practice rating score and CoVE ranking

Figure 3 indicates that governance and quality assurance practices received some of the strongest overall ratings across the analysis. Structured evaluation cycles, role-based governance, formal CoVE recognition and proof-of-excellence labels stand out as particularly relevant because they provide the procedural backbone for transparency, comparability and continuous improvement across CoVE ecosystems.

The corresponding detailed entries for this cluster are included in the consolidated best-practice table in Annex 11.1.2.

7.1.3 TRAINING, DIDACTICS & WORKPLACE-BASED LEARNING (WBL)

This cluster focuses on Best Practices in teaching/learning models and the design of learning pathways – from strong dual and WBL models through “dual light” approaches in non-dual systems to modular curricula and micro-credentials. It also includes didactic development cycles (EQAVET PDCA) and methodological approaches such as KAIN, which directly link learning with innovation projects in companies.

The infographic below (Figure 4) shows an overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.



Figure 4: Training, didactics & workplace-based learning (WBL): Overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

Figure 4 shows that modular curricula, work-based learning models and flexible didactic approaches form a central part of the best-practice evidence base. Practices such as modular curricula, dual or dual-light learning models and low-barrier blended formats are particularly important because they combine transferability with direct relevance for learners, companies and future micro-credential pathways.

The corresponding detailed entries for this cluster are included in the consolidated best-practice table in Annex 11.1.2.

7.1.4 DIGITALISATION & AI

This cluster comprises Best Practices that drive digital and AI-supported innovation in vocational education and training. This includes AI-specific VET ecosystems with MOOCs, camps and incubators, the systematic use of AI tools for content and assessment development, and scalable digital learning formats (LMS, simulations, VR/AR). The focus is on developing an AI-enabled learning environment and workforce.

The infographic below (Figure 5) shows an overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.



Figure 5: Digitalisation & AI: Overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

Figure 5 highlights the strategic relevance of AI and digitalisation for future-oriented VET, while also showing that the evidence base is more concentrated than in broader governance or training clusters. AI-supported content production and assessment design emerges as a particularly transferable practice, whereas AI-specific ecosystem models provide strong thematic relevance for INCEPTION's digital capability area.

The corresponding detailed entries for this cluster are included in the consolidated best-practice table in Annex 11.1.2.

7.1.5 SME INVOLVEMENT & ENTREPRENEURSHIP

This cluster presents models showing how CoVEs systematically involve SMEs and promote entrepreneurship. This includes the role of chambers/associations as “SME gatekeepers” and innovation hubs, multi-stage entrepreneurship programmes along the education chain, and formats that directly connect business innovation and skills development (e.g. KAIN). The goal is to create a robust interface between CoVEs, SMEs and start-up ecosystems.

The infographic below (Figure 6) shows an overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

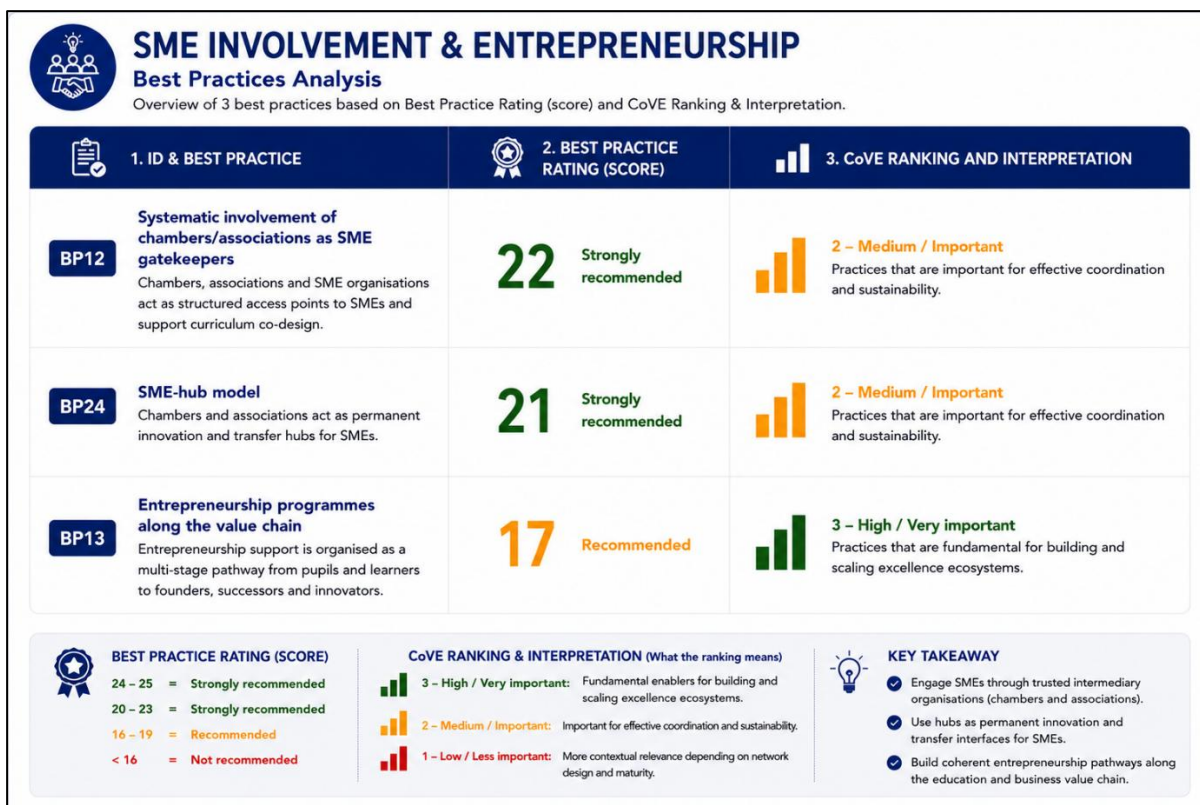


Figure 6: SME involvement & entrepreneurship: Overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

Figure 6 confirms the importance of intermediary structures for effective SME engagement. Chambers, associations and SME hubs appear as key mechanisms for reaching companies, involving them in curriculum development and connecting vocational training with entrepreneurship and workplace innovation.

The corresponding detailed entries for this cluster are included in the consolidated best-practice table in Annex 11.1.2.

7.1.6 GREEN & SUSTAINABILITY

This cluster contains Best Practices that embed green competences and sustainability across programmes and levels. Examples include thematic Green CoVEs that systematically integrate “green skills” into all offerings, as well as approaches to impact-oriented measurement of ecological effects (indicators, impact stories). The focus is not on “green add-on courses”, but on the mainstreaming of sustainability in curricula and practice.

The infographic below (Figure 7) shows an overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

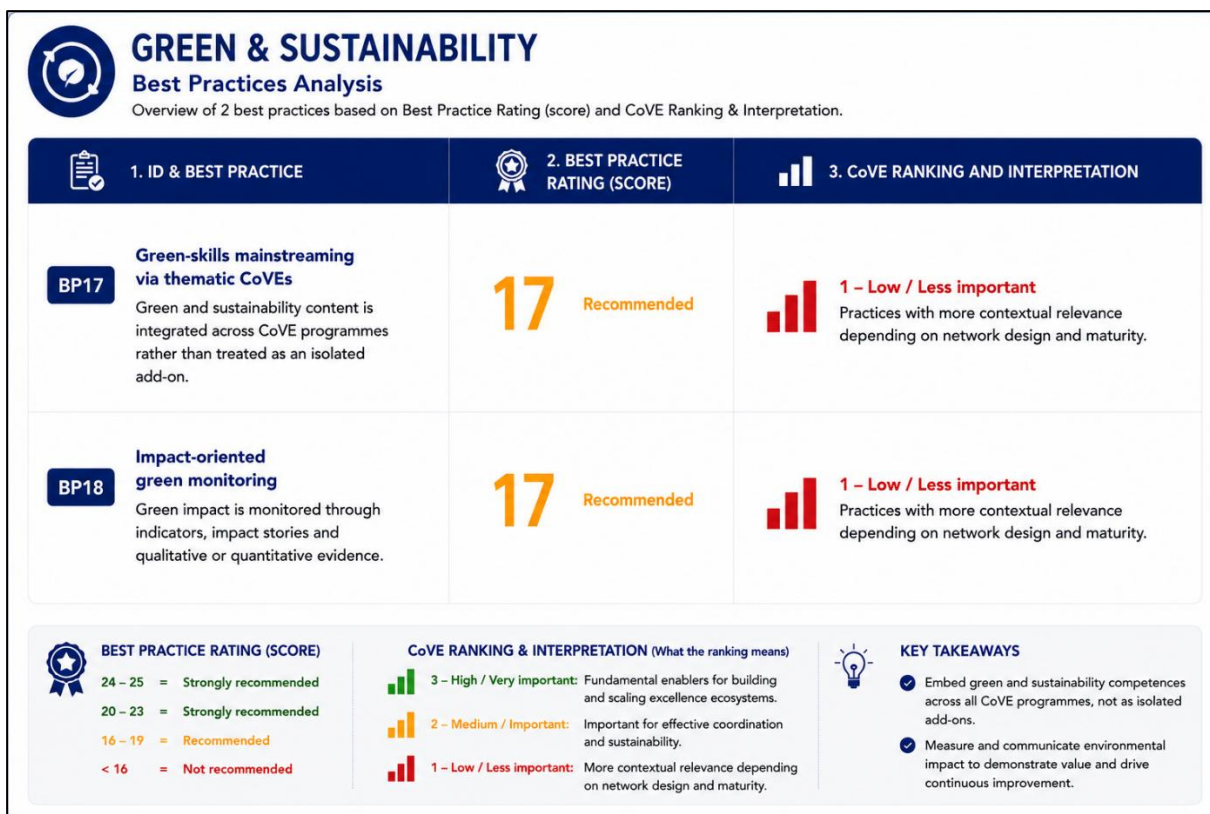


Figure 7: Green & sustainability: Overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

Figure 7 shows that green and sustainability-related practices are relevant across CoVE ecosystems, but their ratings are more dependent on sectoral focus and implementation context than in some other clusters. The results suggest that sustainability is most transferable when it is mainstreamed across curricula and CoVE activities rather than treated as a separate add-on topic.

The corresponding detailed entries for this cluster are included in the consolidated best-practice table in Annex 11.1.2.

7.1.7 SCALING, TRANSFER, IMPACT & SUSTAINABILITY

This cluster brings together best practices that deal with scaling up and sustaining CoVE activities. These include structured transfer networks with many associated partners, best-practice marketplaces, combined qualitative and quantitative impact measurement (baseline/endline, stories + numbers), as well as business and funding models for the post-project phase. The aim is to turn individual projects into permanent structures with systemic impact.

The infographic below (Figure 8) shows an overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

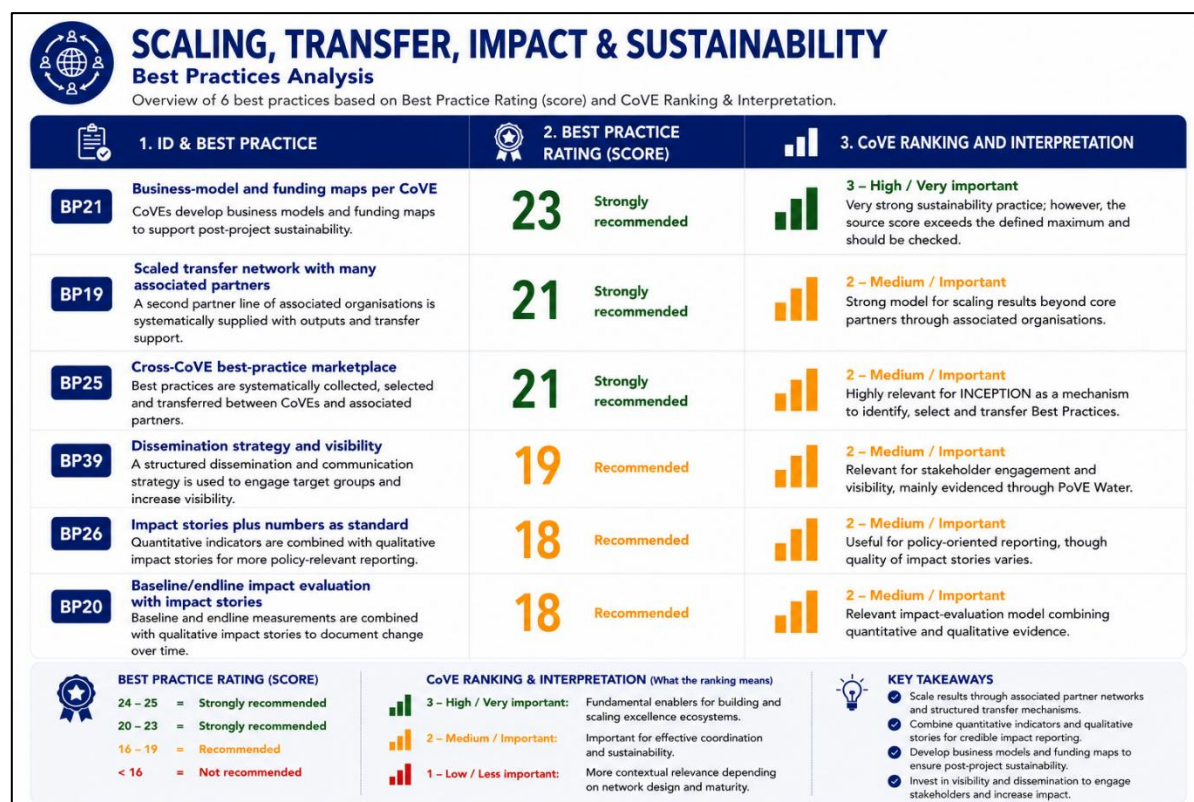


Figure 8: Scaling, transfer, impact & sustainability: Overview of identified Best Practices ranked by Best Practice Rating Score and classified according to their CoVE Ranking & Interpretation.

Figure 8 underlines that scaling and sustainability are central for turning project-based innovation into lasting CoVE structures. Business-model and funding maps, associated partner networks, best-practice marketplaces and combined qualitative and quantitative impact reporting stand out as practices that support long-term transfer, policy relevance and post-project continuity.

The corresponding detailed entries for this cluster are included in the consolidated best-practice table in Annex 11.1.2.

7.2 TOP 15 BEST PRACTICES ACROSS ALL CLUSTERS

To complement the cluster-specific analyses, a cross-cluster ranking was conducted to identify the highest-scoring Best Practices across the entire benchmark. This Top 15 overview combines the Best Practice Rating with the CoVE Ranking, highlighting those practices that are not only strongly evidenced in the analysed CoVEs but are also considered strategically important for the development of Centres of Vocational Excellence.

This analysis helps distinguish the practices with the greatest potential for transferability, long-term sustainability, and systemic impact. As such, it provides a clear set of priorities that can guide the design, implementation, and scaling of future CoVE initiatives within the INCEPTION project and beyond.

Conclusion:

- 1) The cross-cluster analysis demonstrates that the highest-ranked Best Practices are primarily related to governance, quality assurance, strategic coordination, and long-term sustainability.
- 2) Practices such as structured evaluation cycles, formal recognition mechanisms, and strong governance models consistently achieved the highest scores, underlining their importance as the foundation of successful CoVE ecosystems.



- 3) At the same time, the analysis highlights that network coordination, sustainable funding models, and collaborative structures are key enablers for scaling excellence beyond individual projects.

These findings provide a clear evidence base for prioritising the practices with the greatest potential to strengthen the long-term impact, transferability, and resilience of Centres of Vocational Excellence within the INCEPTION project and future CoVE initiatives.

Figure 9 summarises the 15 highest-ranked Best Practices across all thematic clusters. It provides a cross-cluster perspective on those practices that combine strong evidence from existing CoVEs with high strategic relevance for future CoVE development.



Figure 9: Top 15 Best Practices across all clusters

Figure 9 shows that the strongest practices are concentrated in governance, quality assurance, ecosystem coordination and sustainability. This confirms that effective CoVE development depends not only on innovative training formats, but also on stable governance structures, recurring evaluation cycles, formal recognition mechanisms, strong coordination roles and realistic post-project funding models.

At the same time, the ranking illustrates that transferability is strongest where practices are not tied to one specific sector but can be adapted across different CoVE ecosystems. This makes the Top 15 particularly relevant for the future INCEPTION Excellence Toolbox, the Community of Practice and the development of shared quality and recognition approaches.

7.3 CROSS-CUTTING SUCCESS FACTORS AND COMMON PITFALLS

This chapter brings together the evidence from all mapped CoVEs and best-practice cases to identify the cross-cutting success factors that make Centres of Vocational Excellence work – and the recurring pitfalls that limit their impact. While the five ecosystems (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs and PoVE Water) operate in different sectors and national settings, they converge on a small set of structural and pedagogical patterns: CoVEs



function best when they act as true ecosystems (triple-helix cooperation between VET/HE, industry and public actors), when their programmes are clearly anchored in NQF/EQF and supported by robust QA cycles, when training is modular, work-based and digitally enabled, and when SME engagement, entrepreneurship and green skills are treated as integral, not optional add-ons.

At the same time, the analysis reveals minor-image weaknesses: siloed actors and fragmented IVET–CVET–HE pathways, CoVEs that are poorly embedded in regional or national strategies, QA systems that focus only on courses rather than governance and transfer, limited or ad-hoc SME participation, curricula that remain inflexible and difficult to scale, and heavy dependence on short-term project funding with no clear business model. These pitfalls recur across sectors and countries, suggesting that they are systemic rather than isolated shortcomings.

By distilling these common strengths and vulnerabilities, this chapter provides a bridge between the detailed case descriptions and the design of INCEPTION’s Excellence Toolbox and Community of Practice. The success factors and pitfalls identified here are used to define where INCEPTION can build on what already works in existing CoVEs, and where targeted support, new tools or policy adjustments will be needed to enable more resilient, transferable and future-proof models of VET excellence.

7.3.1 CROSS-CUTTING SUCCESS FACTORS

Across the five ecosystems analysed – AILEEN, AI4VET4AI, 3LoE, WIN4SMEs and PoVE Water – several cross-cutting success factors emerge that consistently underpin effective CoVEs, regardless of sector or country. At the structural level, all successful CoVEs operate as ecosystems rather than single institutions. A stable “triple-helix” or “knowledge-triangle” configuration (VET providers, HE/research, companies/associations, often complemented by public authorities) proves to be a core success factor (BP3). Where this is taken a step further through clear network architectures – umbrella CoVEs with regional CoVEs (BP2), bridge actors that coordinate several thematic CoVEs over many years (BP22), topic-specialised CoVEs in a network (BP28), and the use of meta-networks such as Hanse-Parlament or water innovation platforms as long-term carriers (BP36) – scaling, transfer and resilience are significantly strengthened. CoVEs that explicitly embed themselves in regional Smart Specialisation Strategies and national VET or sector strategies (BP35) gain political backing, visibility and access to funding, which in turn supports sustainability.

Governance and quality assurance are another cross-cutting area where the mature CoVEs converge. Several ecosystems have developed coherent QA architectures that clearly distinguish between quality of training, CoVE development, transfer activities and overall project governance (BP5). There is also systematic use of European quality and competence frameworks such as EQAVET, ISATCOVE, EQF, DigiComp, EntreComp and LifeComp (BP6). Annual self-assessment cycles (often ISATCOVE-based) combined with external mid-term and final evaluations (BP14, BP32) create a culture of recurring reflection rather than one-off project reporting. AILEEN’s sectoral nomination and “proof-of-excellence” label for CoVEs (BP4, BP29) shows how a transparent, criteria-based recognition procedure with self-assessment, external audit and five-year re-audit can become both a benchmark and a strong incentive for continuous improvement. Role-based governance models with clearly defined “personas” (e.g. Regional Captain, Digital Learning Enthusiast, Water Industry Expert) further reduce coordination frictions in complex consortia and make responsibilities visible and replicable across regions (BP27). Finally, systematic EQF/NQF anchoring of programmes (often combined with sectoral frameworks such as EWF/NDACAP and EU tools like Europass and ECVET) emerges as a minimum standard for transparency and recognition (BP31).

On the didactical and programme side, three elements repeatedly prove decisive: work-based learning, modularisation and digital/AI-enabled formats. Strong dual and work-based learning models in both VET and higher levels (BP7), including “dual-light” approaches in countries without a formal dual system (BP23), are key to reducing the gap between training and workplace requirements and to embedding innovation in real company contexts. The KAIN method (“Knowledge According to Individual Needs”) is a prominent blueprint for combining





individual workplace-based learning with concrete innovation projects in SMEs, producing both qualified staff and measurable innovation outputs (BP8). All ecosystems have moved towards consistently modular curricula – competence units, MOOC modules/units, CAS-type micro-credentials and ECVET units (BP9). This modularisation is a cross-cutting enabler for flexible pathways, up-/reskilling, partial recognition and future micro-credential schemes.

Digitalisation is used most effectively where low-threshold online offers are combined with intensive local learning: MOOCs and open e-content as scalable entry points, blended with high-touch campuses, incubators, workshops, Water Weeks/Days and Summer Schools (BP11, BP30). This “low-barrier online + high-touch local” pattern has proven to be a robust scaling model across very different sectors. PoVE Water’s VR and simulation-based learning shows that immersive environments can dramatically increase retention and provide safe access to high-risk or hard-to-reach facilities (BP10). AI4VET4AI demonstrates how a sector-specific AI VET ecosystem – combining MOOCs, AI campuses, AI incubators, use-case collections and teacher training – can systematically address AI-related skill gaps (BP15). Importantly, some partners have already started to use generative AI responsibly for content and assessment authoring (BP16), combining AI-supported production with human quality assurance; this emerges as a practical success factor for scaling high-quality digital content within realistic resource constraints.

SME involvement and entrepreneurship are another transversal pillar. 3LoE, WIN4SMEs and PoVE Water show that systematic use of chambers and associations as SME “gatekeepers” (BP12) and as permanent SME hubs (BP24) is a highly effective pattern for reaching many SMEs through a few intermediaries and for involving them in needs analysis, curriculum co-design and piloting. Where entrepreneurship is treated not as a stand-alone course but as a transversal competence integrated into green, AI and sectoral programmes – from initial VET up to dual Bachelor level, and from idea competitions to incubators (BP34, BP13) – ecosystems develop more coherent value-chain support, from pupils to founders and successors. WIN4SMEs and 3LoE demonstrate that workplace innovation and entrepreneurship can be directly linked to company development via methods like KAIN and through R&D projects tied to dual HE programmes, thereby embedding innovation capacity in SMEs rather than treating it as an add-on.

Finally, the most advanced CoVEs invest in scaling, transfer, impact and sustainability as systematic processes rather than by-products. Both 3LoE and WIN4SMEs have built second-line transfer networks with dozens of associated partners in many countries, supported by manuals and implementation consulting (BP19). Cross-CoVE “marketplaces” for Best Practices, with clear selection and documentation procedures (BP25), prevent good practices from remaining local and invisible and provide a tangible hub for mutual learning. On impact, combining quantitative indicators (baseline/endline measurements, participation figures, competence gains) with qualitative impact stories (BP18, BP26, BP20) has proven essential for convincing policy-makers and funders and for demonstrating systemic value. Business-model and funding maps at CoVE level (BP21), as developed in PoVE Water and now taken up in WIN4SMEs and AI4VET4AI, are a cross-cutting prerequisite for reducing dependence on time-bound Erasmus+ funding and for designing realistic post-project sustainability strategies.



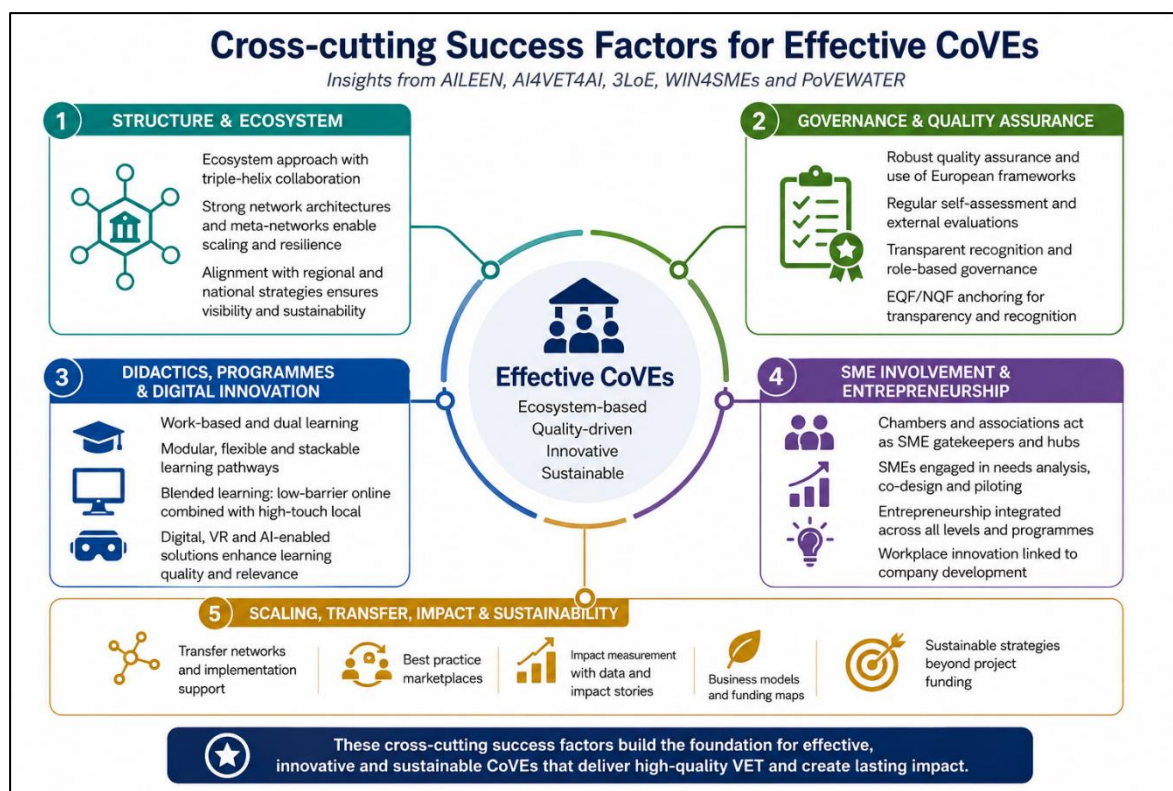


Figure 10: Infographic of the Cross-cutting Success Factor for Effective CoVEs

7.3.2 PITFALLS

Across the ecosystems analysed (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs, PoVE Water), the same pitfalls appear repeatedly when “Best Practices” are implemented in real CoVEs.

At structural level, many CoVEs start as strong project consortia but remain weakly embedded in national systems. Cooperation is often ad hoc instead of being secured through long-term governance, stable “bridge” actors or integration into regional Smart Specialisation Strategies and national VET reforms. Without this policy anchoring, practices risk staying local and time-limited, and do not automatically influence qualification systems or funding streams.

Quality assurance and recognition show another set of pitfalls. In several cases, QA is restricted to course or project reporting, with no regular CoVE-level self-assessment, no common criteria catalogue and no systematic use of European frameworks such as EQAVET, ISATCOVE, DigiComp, EntreComp or the EQF. Programmes are not always clearly mapped to NQF/EQF levels, which weakens transparency, cross-border recognition and the credibility of “excellence” labels. Where recognition models do exist (e.g. sectoral labels), they are often sector-specific and not yet aligned with ETF tools, which limits their transferability to other contexts.

In training and didactics, a frequent pitfall is the gap between school-based learning and real workplace requirements. Many systems still offer limited work-based learning, especially at higher EQF levels or in non-dual countries and lack a structured PDCA-style development cycle from needs analysis through piloting to scale-up. Programmes are often non-modular, making it difficult to offer flexible pathways, micro-credentials or partial recognition for up- and reskilling. Even in dual contexts, there can be insufficient connection between learning and concrete innovation in companies, so that training does not automatically lead to measurable workplace change.

Digitalisation and AI introduce further risks. While there are promising examples (MOOCs, VR, AI-driven ecosystems, AI-assisted content authoring), AI is still the exception rather than the rule in VET practice. Many CoVEs lack AI-ready curricula, tools and teacher competences, and there are few agreed guidelines for “responsible AI authoring” or for integrating AI into assessment. As a result, content development remains resource-intensive, and digital offerings are either low-touch (purely online) or high-touch (local, intensive) but seldom combine reach with depth in a systematic way.

SME involvement and entrepreneurship are also fragile points. Direct access to many SMEs is difficult; chambers and associations are often under-used as innovation and transfer hubs. SMEs rarely participate systematically in curriculum design or piloting, and workplace innovation skills are frequently missing. Entrepreneurship is still treated in many settings as an isolated add-on course, not as a transversal competence embedded across green, digital and sectoral programmes and value chains (from pupils to successors).

On the green and sustainability side, “green” is still too often an add-on rather than fully mainstreamed. Many programmes lack clear evidence of green impact, and there is little monitoring of how training changes behaviour, reduces emissions or supports circular practices. Where indicators exist, they are not yet widely used as standard.

Finally, scaling, transfer and sustainability are recurrent weaknesses. Project results often remain with the core partners, with only limited roll-out to wider networks. Structured transfer mechanisms (associated partner lines, best-practice marketplaces, impact stories plus numbers, baseline/endline evaluations) are the exception, not the norm. Business models for post-Erasmus+ sustainability are frequently underdeveloped, leaving CoVEs dependent on short-term project funding and personal commitment rather than on robust funding maps and diversified revenue streams.

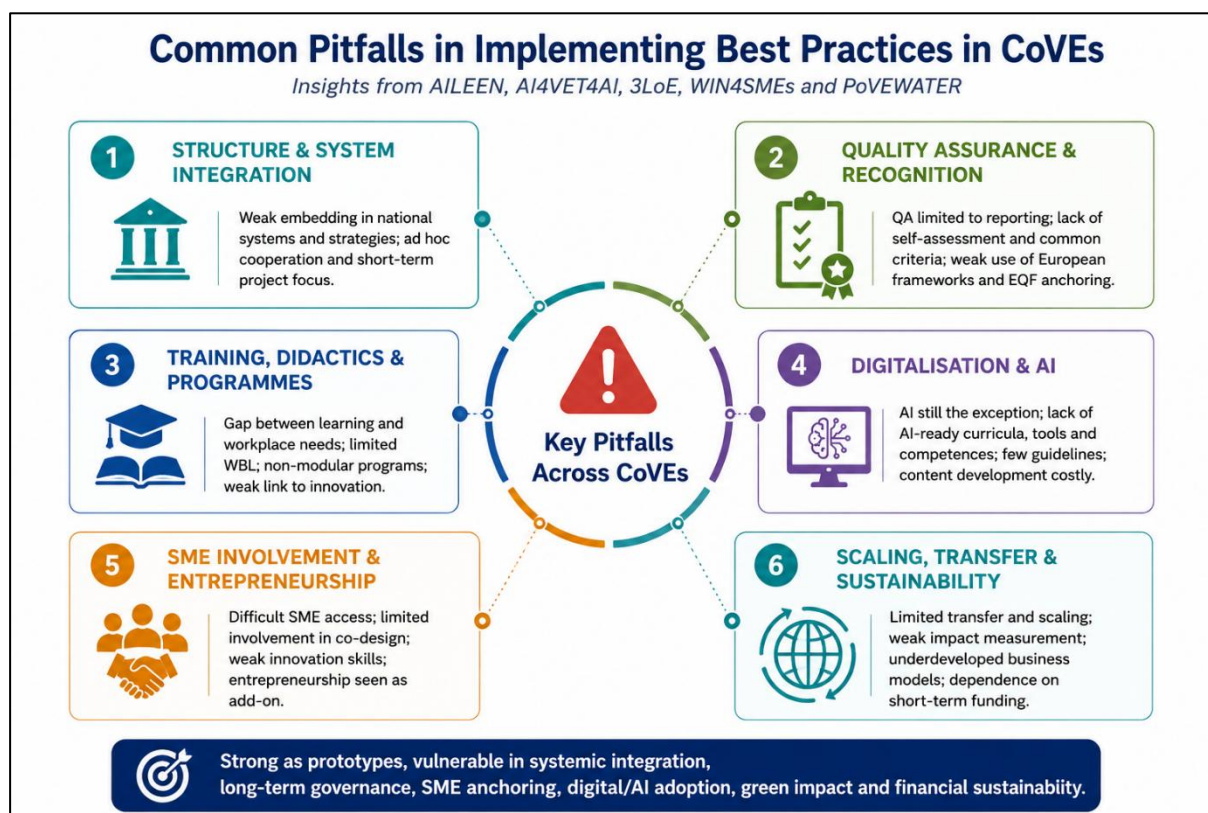


Figure 11: Infographic of Common Pitfalls in implementing Best Practices in CoVEs



Taken together, these pitfalls show that “Best Practices” in CoVEs tend to be strong as prototypes, but vulnerable when it comes to systemic integration, long-term governance, SME anchoring, digital/AI adoption, green impact and financial sustainability.

8 CURRICULA MAPPING AND NQF INTEGRATION

This chapter presents the results of the Curricula Mapping and NQF/EQF integration analysis, drawing on data collected from the five INCEPTION CoVE networks. It is important to note from the outset that the mapping does not cover the full training offer of each CoVE ecosystem, but focuses exclusively on programmes and learning units related to the three strategic themes of the INCEPTION project: artificial intelligence and digital tools, green economy and sustainability, and entrepreneurship and workplace innovation. This scope is particularly relevant in the case of AILEEN, which has developed a portfolio of over 20 specialised curricula in welding, additive manufacturing and related advanced manufacturing technologies, of which only 8 — those directly addressing digital and green/sustainability competences in the advanced manufacturing context— are included in this analysis.

It covers three interconnected dimensions of analysis: the structure and EQF positioning of the training offer documented across the five ecosystems (8.1); the thematic embedding of artificial intelligence, green economy and entrepreneurship in those curricula (8.2); and the status of NQF/EQF integration, including the systemic barriers and enablers identified by partners through the qualitative analysis (8.3). A dedicated case study on the International Additive Manufacturing Qualification System (IAMQS) follows in section 8.4, illustrating in depth the dynamics of a sector-led complementary qualification system and its relationship with national and European frameworks.

The findings presented here should be read alongside the Best Practice analysis in the preceding chapters: while chapter 7 documents what CoVEs do well at the level of governance, pedagogy and ecosystem design, chapter 8 examines how their training offer is structured, positioned and — where applicable — formally recognised within qualification frameworks. Together, the two analytical strands provide the evidence base for the implications for future project work outlined in chapter 9 and for the conclusions in chapter 10.

8.1 OVERVIEW OF PROGRAMMES AND EQF LEVELS PER COVE

The following data presented in this chapter were obtained through the analysis of the Curricula Mapping introduced in section 4.2, the full contents of which are available in Annex 11.3. It is important to note from the outset that the mapping entries do not correspond uniformly to individual curricula: in several cases, a single entry groups a set of related programmes or qualifications developed under the same project result. The dataset should therefore be read as a structured inventory of each CoVE's training offer, organised by EQF level and qualification type, rather than as a count of discrete curricula. Equally, the nature and completeness of this inventory vary among CoVEs, determined by each ecosystem's stage of project implementation at the time of data collection, a dimension addressed explicitly for each CoVE below.

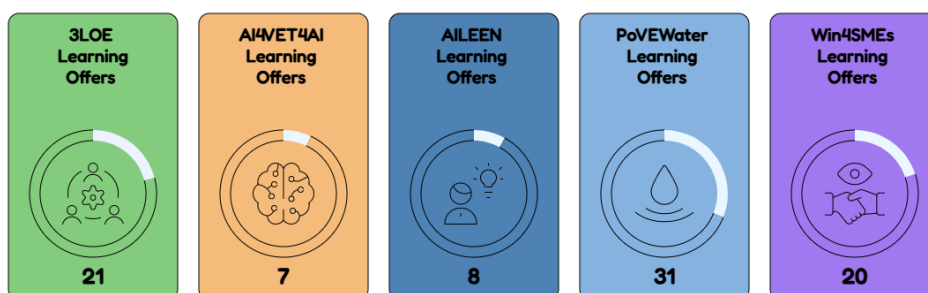


Figure 12: Mapping results overview





AILEEN — Advanced Manufacturing CoVEs for Aerospace & Defence

AILEEN maps 8 learning units at EQF levels 2, 4, and 7, all structured as short, self-paced CVT modules with contact hours between 7 and 14. This mapping covers only the curricula developed by AILEEN within the thematic areas addressed by the INCEPTION project — digital technologies and AI in advanced manufacturing, and green and sustainability competences — and does not represent the full set of the CoVE's training offer, which extends to a wider range of technically specialised curricula in welding, additive manufacturing and related advanced manufacturing technologies. Within the scope of this mapping, the focus on EQF Level 4 reflects the main professional profile targeted: engineers, coordinators and designers specialising in welding and additive manufacturing, engaged in continuing professional development within aerospace and defence contexts. The EQF 2 entry — an introductory environmental awareness module accessible to all welding professionals — and the EQF 7 entry — a highly specialised sustainable design and environmental compliance course for engineers and designers — mark respectively the lower and upper boundaries of an otherwise intermediate professional upskilling portfolio. All 8 modules are available through the AILEEN Training Catalogue¹ at the time of reporting, providing a current and complete picture of AILEEN's contribution within the INCEPTION project's thematic scope.

AI4VET4AI — AI-powered Next Generation of VET

AI4VET4AI maps 7 programmes, positioned at EQF 4 and 6, with a uniform structure of 90 contact hours and 3 ECTS credits in MOOCs and an additional PBL task with 2 ECTS credits. These are MOOC-based offerings covering AI applications across a range of professional contexts — tourism, healthcare, marketing, customer service and logistics — designed as accessible AI literacy programmes for a broad audience spanning VET learners, HEI students and adult learners across 11 countries. The consistency of this dataset, in terms of level, duration and credit structure, reflects a standardisation strategy oriented towards scalability and ease of integration into existing institutional curricula. All 7 programmes are live and publicly accessible at the time of reporting.

3LOE — Three-Level CoVEs for Green Economy, Dual VET and Entrepreneurship

With 21 mapping entries covering the full EQF range from level 2 to level 6, 3LOE provides a structurally diverse and granular dataset among the five CoVEs. The increase in entries relative to earlier project documentation reflects the individual listing of programmes that had previously been grouped and is consistent with the level of completion of the ecosystem: 3LOE is the only CoVE in INCEPTION to have concluded its full project cycle, reaching completion in October 2024. The mapping captures provision at all 3 levels of the CoVE structure. At IVET level (EQF 2–5), 3 dual vocational training programmes are documented, covering the occupational profiles of Cook, Sustainable Restaurant Worker and Logistics Technician, with durations ranging from 2 to 5 years and implemented across Lithuania, Poland, Latvia and Spain. At CVT level (EQF 3–5), 10 continuing training programmes are mapped, ranging from the 24-hour certified company instructor qualification to a group of 6 thematic green economy modules for SME managers (covering circular economy, waste reduction, wastewater, water management, Cradle-to-Cradle approaches and energy generation), as well as an Energy Service Manager qualification and an Entrepreneurship in Green Economy programme, with durations between 24 and 144 hours. At higher education and advanced VET level (EQF 6), 8 programmes are documented: vocational master craftsman curricula in construction trades and two technician training programmes, together with 6 dual bachelor's degree study courses implemented at partner universities in Austria, Lithuania, Latvia and Poland, covering sustainable management, renewable building energy, entrepreneurship and innovation, electrical automation, green supply chains and sustainable building systems. Programme durations at this level range from

¹ <https://aileencove.eu/assets/docs/materials/AILEEN%20-%20Training%20Catalogue.pdf>





120 contact hours for the craftsman curricula to approximately 4,500 hours for Bachelor-level provision, with ECTS credits between 110 and 240.

WIN4SMEs — Workplace Innovation for SMEs

WIN4SMEs maps 20 entries spanning EQF levels 3 to 7, encompassing HR management consulting tools, newcomer integration coaching, motivation and creativity training, workplace innovation CVT modules developed by consortium partners, a training programme for young people with learning difficulties, an entrepreneurship coaching programme for entrepreneurs, 3 thematic modules on AI, sustainability and business model innovation, a Train-the-Trainer programme, and a dual Bachelor degree in Human Resources and Business Administration (EQF 6, 4,500 hours). WIN4SMEs is currently in its second year of a four-year project cycle (2024–2028), and the majority of the programmes mapped are planned or in an early development stage at the time of this report, with several deliverables scheduled for completion in project years three and four. What the mapping provides for WIN4SMEs is therefore not a picture of deployed curricula but rather an image of the ecosystem's intended training architecture: the EQF levels it aims to cover, the professional audiences it targets, and the typology of offers it plans to develop. This is valuable information for the INCEPTION project but should be clearly distinguished from the more mature datasets of 3LoE or AILEEN.

PoVE Water — CoVE ecosystem for water, circular economy and VR-based VET

PoVE Water is represented in the mapping by a single, integrated e-learning programme comprising 31 independent modules, all at EQF 4, with a consistent structure of 45 contact hours and 6 ECTS credits per module. The programme is organised across 7 thematic areas — introductory water science, watershed management, water chemistry and microbiology, distribution and collection systems, drinking water treatment, wastewater treatment, and water use and reuse — and was developed collaboratively across the seven partner countries as a coherent modular curriculum for water sector technicians, conceived for deployment via Moodle-based e-learning. At the time of reporting, all modules are in their final stages of development and have not yet been tested with learners or formally submitted to national qualification bodies; post-project testing is planned for the academic year 2026–2027. The dataset, therefore, documents the curriculum design and thematic scope of the PoVE Water e-learning programme rather than a set of validated or formally recognised training offers.

The large majority of the training offers mapped are positioned within continuing vocational training, with over half of all entries at EQF level 4 or above. This distribution reflects the shared orientation of the five CoVEs towards the upskilling and professional development of the existing workforce, rather than the initial training of new learners. The concentration at intermediate and higher professional levels also points to a deliberate focus on reskilling: the three strategic themes of INCEPTION — digital technologies and AI, green economy and sustainability, and entrepreneurship and workplace innovation — are precisely the areas where established professionals face the greatest pressure to acquire new competences in response to rapid technological, environmental and economic change. The training offers mapped are therefore not simply CVT in the traditional sense, but a targeted response to the structural transformation of labour markets across the sectors represented in the five CoVEs.



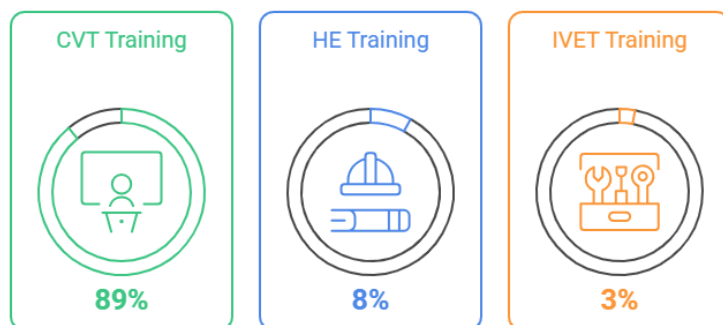


Figure 13: Training Type distribution (continuous, Higher Education, initial)

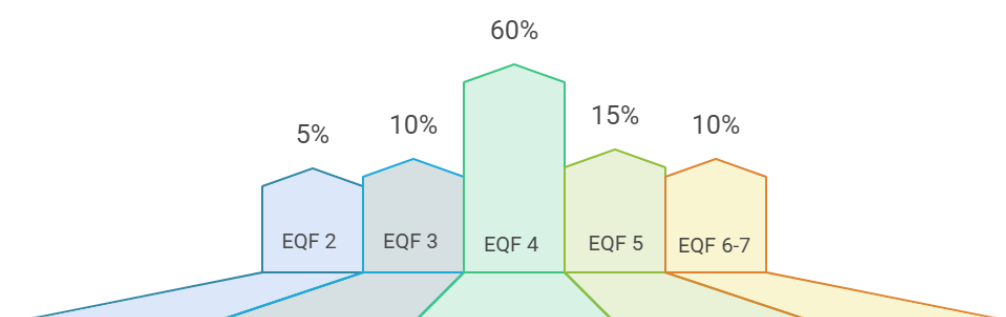


Figure 14: EQF approximate percentage values

8.2 THEMATIC EMBEDDING OF AI, GREEN AND ENTREPRENEURSHIP IN CURRICULA

The analysis of the Curricula Mapping shows that the way Artificial Intelligence, Green/Sustainability and Entrepreneurship are being integrated into training programmes is closely linked to the strategic focus of each CoVE. Rather than adopting a standardised curriculum, the data reflects the diversity of its member ecosystems, each responding to the specific needs of its sector and regional context.

The mapping shows that sustainability is the most widely embedded theme across the five CoVEs, reflecting the strong alignment of vocational education with Europe's green transition objectives. Entrepreneurship is also well represented, particularly in programmes designed to strengthen innovation and business competitiveness. By contrast, AI and digital technologies tend to be concentrated within a smaller number of highly specialised ecosystems, where they constitute the primary educational focus or support advanced technical applications.

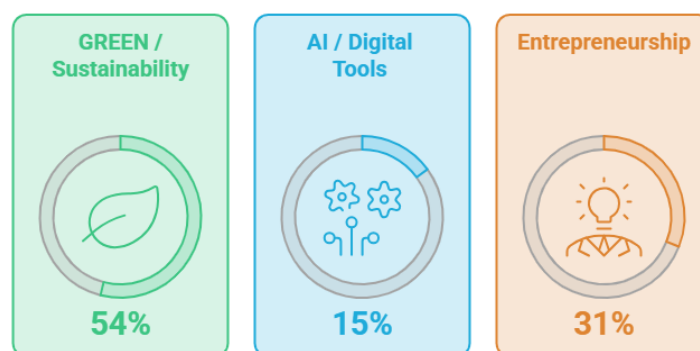


Figure 15: Thematic distribution



Two main approaches emerge from the analysis. In some CoVEs, these themes form the core of the educational offer and define the identity of the ecosystem. In others, despite being independent modules, they are embedded across technical programmes as cross-cutting competences that enrich vocational training without replacing its sector-specific focus.

8.2.1 CORE-THEMATIC LEADERS: ECOSYSTEMS BUILT AROUND A STRATEGIC PRIORITY

Several CoVEs have developed their activities around a clearly defined thematic specialisation, where one of the three strategic priorities—Artificial Intelligence, GREEN /sustainability or Entrepreneurship—constitutes the central pillar of their education and training catalogues.

PoVE Water and 3LoE exemplify ecosystems where sustainability is embedded as a fundamental organising principle. Their programmes address environmental challenges through topics such as water management, climate resilience, circular economy and sustainable production, ensuring that green competences are integrated throughout the learning pathways rather than treated as standalone subjects.

Entrepreneurship is particularly prominent within WIN4SMEs, whose programmes focus on strengthening the resilience and competitiveness of small and medium-sized enterprises. Through learning activities centred on innovation, entrepreneurship and business development, learners acquire the competences needed to support organisational growth and adaptability. 3LoE further reinforces this dimension by combining technical expertise with innovation and entrepreneurial thinking.

In contrast, AI4VET4AI represents a highly specialised ecosystem dedicated to Artificial Intelligence and advanced digital technologies. Artificial Intelligence and advanced digital technologies are not complementary subjects but the primary focus of its learning pathways. The curriculum is designed to develop specialised AI competences, positioning vocational education as a driver of digital transformation across industry.

8.2.2 TRANSVERSAL INTEGRATION: THE AILEEN APPROACH

While the previous examples illustrate ecosystems where a thematic area defines the overall educational strategy, AILEEN demonstrates a different but equally effective model based on transversal integration.

AILEEN's primary mission is to develop advanced specific technical competences for the Aerospace and Defence industries, focusing on areas such as welding, brazing, additive manufacturing and non-destructive testing. Given the highly specialised and regulated nature of these sectors, technical excellence remains the central objective of its training provision.

Within this context, Artificial Intelligence and Sustainability are integrated as enabling competences that enhance technical performance rather than as standalone learning domains. AI is incorporated through applications such as predictive maintenance, automated defect detection and digital manufacturing tools, while sustainability principles are embedded through resource-efficient production methods, material optimisation and waste reduction strategies associated with advanced manufacturing processes.

This approach illustrates how transversal competences can be successfully integrated into highly specialised vocational programmes without altering their technical focus. By embedding digital and green dimensions within existing occupational profiles, AILEEN demonstrates how sector-specific excellence can be aligned with broader European priorities for the digital and green transitions.



8.3 STATUS OF NATIONAL QUALIFICATION FRAMEWORK (NQF) INTEGRATION – ENABLERS AND BARRIERS

The NQF integration status of the programmes mapped reflects a landscape of considerable heterogeneity, both across and within CoVEs. Of the 87 mapping entries, 6% are recorded as integrated into national qualification frameworks, 7% as partially integrated, 5% as in progress, 23% as not integrated, and 51% were indicated as non-applicable or with an as-yet undefined status — the latter corresponding primarily to the PoVE Water programme, whose modules are still in development, and to the AI4VET4AI courses, whose integration pathway has not been formally initiated. These numbers tell only part of the story. The qualitative analysis conducted through a survey — which asked CoVEs representatives to reflect on the barriers and enablers they encounter in practice — reveals why integration succeeds in some contexts and fails or is deliberately set aside in others. What emerges is not a picture of failure, but of complexity: NQF integration is context-dependent, institutionally embedded, and often only one of several available pathways to recognition.

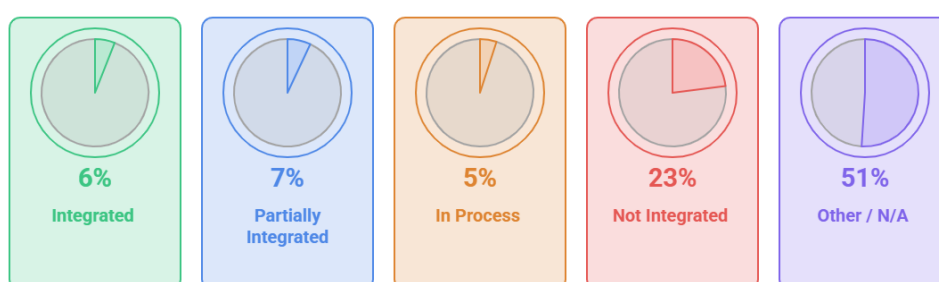


Figure 16: INCEPTION CoVEs NQF integration status

8.3.1 WHERE INTEGRATION HAS WORKED — AND WHY

The only CoVE with formally integrated programmes is 3LoE, and the reason is structural. All five integrated or partially integrated entries are programmes developed through dual VET systems in Germany and Austria — countries where qualifications are co-designed by employers, chambers and public authorities as a matter of institutional practice. In these systems, NQF registration is not a separate administrative difficulty: it is built into the qualification development process from the start. The dual system's deep embeddedness in the labour market also means that employers recognise and value NQF-referenced qualifications, which creates a virtuous cycle between formal registration and market uptake. As Cedefop's 2025 policy brief confirms, countries with operational NQFs and strong social partner involvement consistently achieve higher rates of qualification integration, including for programmes awarded outside formal education (Cedefop, 2025).

This context helps explain why the same result has not been achieved — at least not yet — in other partner countries represented in INCEPTION. In Lithuania, Poland, Latvia and Spain, where 3LoE also operates, integration has either not been initiated or is still in progress, reflecting national systems at earlier stages of NQF development and with fewer established pathways for non-formal providers.

8.3.2 INTEGRATION BARRIERS: WHAT GETS IN THE WAY

Four types of barriers appear consistently across the survey results.

- 1) **Administrative complexity.** The official procedures for NQF registration in most partner countries involve centralised agencies, multiple approval stages, and timelines that can stretch over years. For projects working on three- to four-year cycles, this is simply incompatible. The national qualification agency's requirements are sometimes perceived as rigid and disconnected from the pace at which industry-relevant training needs to evolve. This is not unique to INCEPTION — Cedefop documents it as



- a systemic tension across European NQFs, where quality assurance procedures, however well-intentioned, can end up discouraging providers from applying for inclusion altogether (Cedefop, 2025).
- 2) **Short modules and missing credit thresholds.** Most programmes in the INCEPTION portfolio are short CVT modules — many between 7 and 90 hours. Most national NQFs were designed around full qualifications with minimum credit volumes, which these modules simply do not meet. Micro-credential registries are beginning to address this gap: 18 European NQFs now include micro-credentials, up from 13 in 2022 (Cedefop, 2025). But coverage is still uneven, and in several INCEPTION partner countries, this pathway does not yet exist.
 - 3) **Transnational asymmetry.** CoVEs are by definition transnational — their programmes are designed to work across multiple countries simultaneously. But NQF registration is inherently national and in some cases regional. A programme that integrates smoothly in Germany may face entirely different procedural and institutional requirements in Poland or Croatia. AI4VET4AI shows this directly: operating across 11 countries means 11 different procedural contexts, and no single integration strategy fits all. This asymmetry is confirmed by Cedefop and ETF joint monitoring data, which shows significant variation in NQF maturity across countries (Cedefop & ETF, 2025).
 - 4) **Low employer recognition of NQF levels in specialised sectors.** This is perhaps the most revealing barrier identified in the analysis, and the one with the most strategic implications. In advanced manufacturing, aerospace and defence — the AILEEN case — employers do not valorise NQF-registered qualifications. They tend to rely instead on sector-led systems, industry standards and contractual certification requirements. If the market does not ask for an NQF level, training providers have little incentive to go through the effort of obtaining one. Cedefop confirms this pattern: awareness and use of NQF levels in labour market processes — recruitment, promotion, HR management — remains moderate or low in most countries, and is particularly limited among SMEs (Cedefop, 2025).

8.3.3 COMPLEMENTARY RECOGNITION PATHWAYS: SECTOR SYSTEMS AND EUROPEAN FRAMEWORKS

Formal NQF registration is not the only route to recognised, trustworthy, quality-assured training. Beyond formal NQF registration, several complementary recognition mechanisms are already in use across the INCEPTION CoVEs. EWF's International Qualification System in Joining and Additive Manufacturing provides internationally recognised certification for welding and additive manufacturing professionals, with strong industry credibility across the manufacturing sector. For AILEEN, this system represents the primary recognition pathway, operating alongside national qualification frameworks. Similar sector-led systems exist in other domains, such as ENISA's European Cybersecurity Skills Framework, and together they reflect a broader recognition landscape in which industry-validated certification and NQF registration serve complementary rather than competing functions.

Alongside these sectoral systems, alignment with the EU's competence reference frameworks provides a powerful and increasingly recognised quality signal. DigiComp — the European Digital Competence Framework for Citizens — is used as the primary reference by AI4VET4AI across all seven of its MOOCs, providing a common language for competence description which is understood by learners, employers and institutions. GreenComp — the European Sustainability Competence Framework — offers an equivalent reference for green economy curricula and is directly relevant to the 3LoE and PoVE Water portfolios. EntreComp — the European Entrepreneurship Competence Framework — underpins the design logic of WIN4SMEs and is embedded in several 3LoE programmes targeting SME managers and aspiring entrepreneurs.

These frameworks are relevant for two reasons. First, they provide a shared vocabulary for competence description that transcends national boundaries and facilitates mutual recognition. Second, in countries where NQF registration procedures explicitly require the use of learning outcomes expressed in terms of knowledge, skills and competences, pre-alignment with DigiComp, GreenComp or EntreComp significantly reduces the





technical work needed to submit a programme for formal levelling, making them not only quality tools but practical enablers of future integration.

8.3.4 WHAT MAKES INTEGRATION MORE LIKELY: PRACTICAL ENABLERS

Through the analysis of the data shared by the representatives from the 5 INCEPTION CoVEs and broader research, five conditions emerge as the most effective enablers of NQF integration in the INCEPTION context.

- 1) **Co-design with social partners.** Where employers, chambers and industry bodies are involved in curriculum development from the beginning — as in the 3LoE dual VET model — NQF integration follows as a natural outcome. Involving them late, or not at all, makes it considerably harder.
- 2) **Learning outcomes methodology.** Programmes described in terms of observable, assessable learning outcomes — knowledge, skills, competences, autonomy and responsibility — are structurally easier to submit to national qualification authorities and are increasingly required for formal registration. This is also a prerequisite for meaningful alignment with DigiComp, GreenComp and EntreComp.
- 3) **Micro-credential and modular design.** Where national NQFs have opened pathways for micro-credentials and partial qualifications, short CVT modules can achieve formal recognition without being redesigned from scratch. INCEPTION should actively monitor these developments and design guidelines to support the new modules' development in ways that are ready for micro-credential submission, where pathways exist.
- 4) **Green and digital regulatory pull.** EU legislation — from the Green Deal to the AI Act and the Corporate Sustainability Reporting Directive — is creating demand for certified professionals in the green economy and AI-related roles. As national authorities update their qualification registers to reflect these requirements, INCEPTION programmes aligned with GreenComp and DigiComp are well placed to be included in national frameworks, taking advantage of this opportunity.
- 5) **Sectoral credibility as a foundation.** Where a sectoral system like IAMQS already provides market recognition, the case for NQF integration is most persuasively made not as a replacement but as a complement — adding portability and comparability to qualifications that already carry industry trust. Articulating the relationship between sector-led certification and national qualification frameworks is a strategic communication task that INCEPTION is particularly well placed to lead.

8.4 THE INTERNATIONAL ADDITIVE MANUFACTURING QUALIFICATION SYSTEM (IAMQS) – CASE STUDY

In the framework of analysing existing Vocational Excellence curricula and their positioning relative to National Qualification Frameworks (NQFs) under Task 2.2, the International Additive Manufacturing Qualification System (IAMQS), managed by the European Welding Federation (EWF), serves as a structural benchmark.

It is crucial to clarify that the IAMQS does not replace any specific NQF, nor is it legally embedded within any. Instead, it operates as a transnational, industry-led qualification system with its own reference framework, containing seven proficiency levels, currently organised as statements of general descriptors and defined in terms of the knowledge, skills, autonomy, and responsibility for each proficiency level that its qualifications encompass. This approach ensures EWF Qualifications' transparency, recognition and linkage to both National (NQF) and European Qualifications frameworks (EQF). Emerging sectors like Advanced Manufacturing, Artificial Intelligence (AI), and the Green Economy experience fast-evolving technological cycles that create a severe skills mismatch with slow-moving national public education registries. By operating as an autonomous, complementary, but aligned with European guidelines and frameworks, the IAMQS addresses market needs, using industry recognition to give its diplomas regardless of national processes.



8.4.1 METHODOLOGY AND STRUCTURAL APPROACH: THE "MODULAR Architecture"

The primary mechanism that allows this industry-driven qualification system to interface, compare, and achieve mutual recognition with diverse European VET systems is its strict methodological alignment with the European Qualifications Framework (EQF).

The EQF acts as a common reference framework that helps education entities, employers, and individuals across Europe compare qualifications across different training systems, facilitating the mobility of trainees and workers within the EU. The EQF tool relies on Learning Outcomes (LOs) structured around three core reference level descriptors: Knowledge, Skills, and Autonomy & Responsibility (Attitudes).

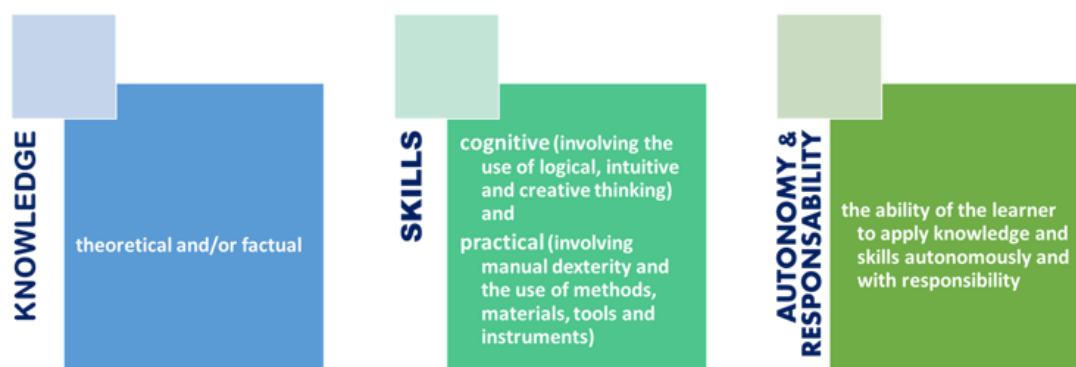


Figure 17: Learning outcomes descriptors

By embracing this approach and utilising the CEDEFOP education and training glossary standards, IAMQS's curriculum design flips traditional content-led education. Historically, curriculum design began by defining content and topics aligned with the big picture of a professional profile. The process utilised by IAMQS starts by looking at the end, focusing entirely on results and what the learner will be able to do upon completion. Centring the model on the definition of the job function and related required activities makes it possible to identify the exact knowledge and skills that learners should achieve. This sets the framework for a learning pathway structured into modular Competence Units organised in Learning Outcomes.

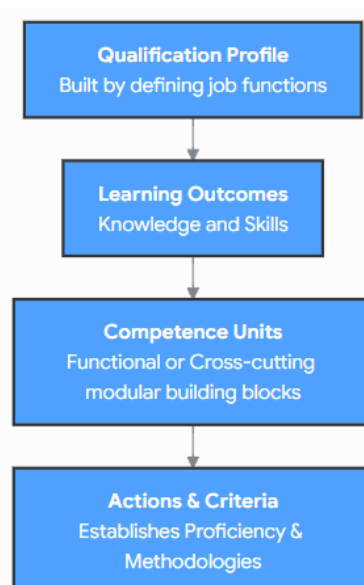




Figure 18: Qualification Designing Pathway

The IAMQS curriculum architecture is operationally broken down into the following explicit components:

- **Qualification:** A formal outcome (certificate, diploma, or title) of an assessment process obtained when an individual has achieved the required learning outcomes. It includes job requirements (knowledge, skills, autonomy, and responsibility) required to perform specific tasks attached to a particular work position. Structurally, it is composed of a defined professional profile and a respective curriculum containing all activities related to the design, organisation, and planning of the training.
- **Learning Outcomes (LOs):** Statements of what a learner knows, understands, and can do on completion of a learning process, defined in terms of knowledge, skills, and competence/responsibility/autonomy.
- **Competence Unit (CU):** Components of qualifications consisting of a coherent set of knowledge and skills, organised in learning outcomes and a minimum or recommended *Workload*, that can be individually assessed and validated.
- **Workload:** The estimation of the time learners typically need to complete all learning activities (lectures, seminars, projects, practical work, individual study) required to achieve the defined learning outcomes, including contact hours with trainers/teachers and self-learning time.

8.4.2 THE SHIFT TO INDUSTRY PROFICIENCY LEVELS

A key innovation of the EWF/IAMQS framework is how it translates standard educational levels into industry-aligned language. Instead of labelling qualification levels merely as Level 2, 3, or 4, the EWF Systems Framework defines them through qualitative **levels of proficiency**. This ensures that professional profiles are directly interlinked with operational competency. The reference framework encompasses the following distinct proficiency levels:

- **Elementary / Basic (EQF 2/3):** Involves working under supervision, dealing with problems within self-control, and establishing elementary or basic principles of the technology.
- **Independent (EQF 4):** Focused on factual and broad concepts. Trainees self-manage professional activities and simple standard applications in predictable contexts subject to change, supervising routine tasks and taking responsibility for decision-making in basic work.
- **Specialised (EQF 5):** Demands specialised, factual, and theoretical knowledge of the principles and applicability of the technology. Trainees manage and supervise common or standard applications in an unpredictable context.
- **Advanced (EQF 6):** Requires advanced knowledge and critical understanding of theory, principles, and applicability. Trainees possess advanced problem-solving skills to choose proper technical and economic solutions in complex, unpredictable conditions, acting autonomously in decision-making and task distribution.
- **Expert (EQF 7):** Represents highly specialised and forefront knowledge, including original thinking, research, and critical assessment. Trainees possess highly specialised problem-solving skills to develop original technical and economic solutions under complex conditions, taking full responsibility for transforming processes and defining personnel tasks.

To determine these levels, the learning outcomes break down into knowledge application and practical application. Trainees mobilise these through observable **actions/achievements** which, when combined with specific quality requirements (**performance criteria**), provide the complexity depth necessary to establish the exact alignment.





8.4.3 THE COMPLEMENTARY SYSTEM APPROACH: BARRIERS, FACILITATORS, AND NQF Interoperability

Analysing the IAMQS as a complementary system reveals distinct dynamics regarding how it interacts with highly asymmetrical, context-dependent national educational networks:

8.4.3.1 FACILITATORS FOR CROSS-BORDER COMPARABILITY

- **The EQF as a Universal Translator:** Because the IAMQS curriculum is structured around EQF-aligned learning outcomes, it establishes an objective baseline. National authorities and employers can use the proficiency descriptors to easily compare an IAMQS curriculum against their own NQF levels.
- **Granular Interoperability ("Plug-and-Play"):** Because Competence Units are autonomously evaluated and validated, a local VET provider operating within an NQF does not need to adopt an entire IAMQS qualification. If a Competence Unit is part of several qualifications, it is automatically recognised within the system once successfully completed, preventing repetition. Providers can isolate a single CU and insert it as an independent module or micro-credential within their existing national curriculum.
- **Functional vs. Cross-Cutting Customisation:** The system differentiates between Functional CUs (directly linked to specific job functions) and Cross-Cutting CUs (where knowledge and skills are mobilised across several activities, such as general process overviews). This allows national training systems to adopt transversal modules without altering core technical profiles.

8.4.3.2 STRUCTURAL BARRIERS

- **Institutional Rigidity regarding Workload and Track Structure:** While national qualification frameworks encompass both academic and professional tracks, feedback from several national contexts reveals a recurrent friction concerning the rigidity and pre-defined length of public training paths. Some national frameworks operate under mandatory minimum thresholds for their smallest certified learning units, such as a minimum constraint of 25 contact hours. Operational experience shows that this structural requirement often clashes with immediate industrial needs, as companies frequently report difficulties in releasing workers for extended periods. Consequently, there is a clear corporate preference for shorter, highly customised training pathways that target precise operational gaps. This forces flexible systems like the IAMQS to either artificially group smaller competence units or add localised content simply to comply with rigid national metrics.
- **Asymmetrical Regional and Technological Evolution:** The positioning of emerging qualifications within national or regional systems is deeply influenced by the uneven technological and economic maturity of local markets. Experiences across different European regions show that a highly specialised curriculum considered an immediate, critical priority in a technologically advanced industrial hub may not be viewed as a strategic necessity in another country with a different economic focus. This uneven pace of market evolution poses a challenge for the uniform adoption of European-wide curricula.
- **Institutional Isolation:** Operating a complementary system risks disconnection from mainstream public education funding pathways, which are usually tied strictly to native NQF frameworks.

8.4.4 REPLICABILITY LESSONS FOR COVES

The collaborative experiences, architectural design, and methodologies developed within the IAMQS offer valuable insights and strategic orientations for designing complementary educational systems and building flexible curricula aligned with National Qualification Frameworks (NQFs). Rather than promoting the creation of isolated parallel tracks, IAMQS demonstrates how industry-driven qualifications can function as vital bridging mechanisms between formal education and the labour market. Based on these lessons, the following points represent practical recommendations and frameworks to consider.





Adopting a Result-Focused, Learner-Centred Curriculum Design

A major insight from the EWF methodology is the shift away from traditional content-led or topic-based planning toward a results-focused approach. Curriculum design should ideally start by identifying the final Actions/Achievements and Performance Criteria required by the industrial sector, working backwards to establish the core learning outcomes. This methodology ensures that even when a curriculum is designed to complement existing school paths, its components remain directly and transparently anchored to real-world operational demands.

Defining Levels Aligned with Industry Proficiency

When building advanced or emerging professional qualifications, systems can benefit from translating traditional academic level descriptors into clear levels of proficiency. Defining qualification components through operational proficiency rather than abstract grading scales makes the training output immediately recognisable and highly legible to employers, directly matching workplace functions.

Designing for Functional Autonomy via Modular Independent Competence Units

Given the structural and procedural diversity observed across different national and regional education systems, attempting to implement single, rigid, multi-year transnational programs often proves impractical. A more effective alternative is the development of an autonomous, complementary architecture composed of modular, independent Competence Units (Micro-credentials). This granular structure allows local educational providers to integrate specific, individual units into their existing national pathways without needing to restructure a whole degree, thereby avoiding the repetition of content.

Bridging the Labor Market Literacy Gap Regarding NQFs and EQF Frameworks

A persistent challenge across multiple industrial sectors is that employers and business managers often lack a functional understanding of formal NQFs and the European Qualifications Framework (EQF). Complementary systems can actively serve as translators of these frameworks to the market. Increasing transparency and raising awareness about European descriptors among employers allows companies to clearly map professional profiles. This, in turn, provides robust, standardised support for industry recruitment, hiring, and targeted upskilling or reskilling pathways. CoVEs can play a vital role in actively promoting and translating these European tools to the market. Cultivating this literacy among employers allows companies to clearly define professional profiles, which in turn provides robust support not only for recruitment and hiring processes but also for the targeted reskilling and upskilling of their existing workforce.

Developing Foresight Mechanisms to Manage Market Uncertainty

To maintain vocational excellence in highly volatile and rapidly evolving fields, complementary systems should integrate continuous monitoring and skills-anticipation mechanisms. Proactively updating small, specific competence modules based on labour market trends allows the curriculum to adapt to technological shifts, ensuring that educational bridges between schools and factories remain modern, relevant, and robust. Designing an autonomous, complementary system composed of modular Competence Units (Micro-credentials) aligned with EQF descriptors. This granularity allows local VET providers to adopt only the specific components that match their current regional needs.





9 IMPLICATIONS FOR FUTURE WORK OF THE PROJECT

This chapter translates the results of the CoVE mapping and best-practice analysis into concrete inputs for INCEPTION's next steps. Section 9.1 informs T2.3 by outlining how to map regional/national cooperation ecosystems and funding logics; Section 9.2 supports T2.4 with design principles for the INCEPTION Community of Practice; Section 9.3 feeds into WP4 by proposing scalable, modular and SME-oriented cooperation models between CoVEs; and Section 9.4 derives implications for WP5 and future policy work on recognition, quality and sustainability of VET excellence.

9.1 INPUT TO T2.3 – MAP REGIONAL/NATIONAL COOPERATION INITIATIVES AND FUNDING OPPORTUNITIES

The following input can be derived for T2.3

9.1.1 INPUT FROM BEST PRACTICES

The mapping under T2.3 should systematically go beyond single projects and capture full ecosystems and their carriers. Building on BP35, BP36 and BP19, the analysis should identify meta-carriers such as Hanse-Parlament/Baltic Sea Academy, Katapult, clusters or water-innovation networks, and document where CoVEs are explicitly embedded in regional Smart Specialisation Strategies (RIS3) and in national VET, digital and green strategies. In addition, T2.3 should not only list individual initiatives, but also map SME gateways and transfer hubs. BP12 and BP24 show that chambers and associations function as effective SME hubs; the mapping should therefore record which chambers/associations operate de facto as innovation and transfer hubs and through which many SMEs can be reached.

In line with BP21 and BP36 as well as the funding map work in PoVE Water and 3LoE, T2.3 should also analyse funding logics, not just programmes. The inventory should therefore include models such as RIF funds, regional funds, membership contributions from chambers, service revenues of CoVEs and similar mechanisms, rather than limiting itself to Erasmus+-type project funding. For INCEPTION, particular priority should be given to initiatives that combine a clearly defined CoVE role with political anchoring (BP35), that already include a scaling and transfer architecture (BP19, BP25), and that have developed business and funding models (BP21).

9.1.2 INPUT FROM MAPPING

The mapping identifies three practical guidelines for T2.3 development. Firstly, the NQF integration data confirm that the most effective models of cooperation are those involving qualifications authorities, chambers of commerce and social partners from the beginning— T2.3 should therefore map not only funding programmes, but also the relevant stakeholders that enable the formal recognition of qualifications at national and transnational levels. Secondly, green economy and water management curricula are increasingly supported by EU regulatory factors — the Green Deal, the Water Framework Directive, and sustainability reports — which are mobilising regional funding and creating demand for certified professionals; T2.3 should identify which national and regional instruments meet these requirements and how the INCEPTION programme aligns with them. Thirdly, the pace of change in AI and digital skills calls for a focus on shorter-cycle, more agile funding instruments — national digitalisation strategies, skills programmes supported by the European Regional Development Fund (ERDF) — alongside the multi-annual project approach that dominates the current portfolio.





9.2 INPUT TO TASK 2.4 – DEFINE THE PLAN FOR INCEPTION COMMUNITY OF PRACTICE

The following input can be derived for T2.4.

9.2.1 INPUT FROM BEST PRACTICES

The Community of Practice should be conceived as a cooperation ecosystem rather than merely as a project working group. The findings suggest that governance concepts derived from BP3 (triple-helix), BP1 (three-level CoVE) and BP2 (umbrella structures) provide a promising foundation for the future CoP. The CoP plan should therefore consider a distributed architecture with a coordinating entity or "Bridge CoVE" (BP22) and clearly profiled national or regional CoVEs (BP28), each contributing expertise in specific thematic areas.

The analysis further indicates that clear governance roles support coordination and transfer across complex ecosystems. In line with BP27 and BP37, the CoP could therefore benefit from role profiles such as Regional Captain, QA Lead, AI Lead, SME Lead and Green Lead, with clearly defined responsibilities related to best-practice transfer, self-assessment, stakeholder engagement and policy liaison.

The evidence from the mapped CoVEs also suggests that continuous improvement mechanisms are an important success factor. Drawing on BP14, BP32 and BP6, the CoP should therefore consider recurring self-assessment and review cycles, making use of EQAVET, ISATCOVE and future INCEPTION criteria, with explicit attention to AI, Green and SME-related activities.

Finally, the findings indicate that shared tools are essential for sustaining collaboration beyond project meetings. Based on BP25, BP9, BP11 and BP30, the CoP may benefit from establishing a digital Best Practice Marketplace and an Excellence Toolbox as central instruments for collecting, curating and disseminating transferable practices and modular learning opportunities.

9.2.2 INPUT FROM MAPPING

The development of the INCEPTION Community of Practice should be guided by the three strategic themes—Artificial Intelligence and Digitalisation, the Green Economy, and Entrepreneurship—rather than by EQF levels or training typologies. The curriculum mapping highlights a highly diverse portfolio of programmes, spanning EQF Levels 2 to 7, initial and continuing VET, higher education, and delivery formats ranging from face-to-face to fully online. This diversity makes classification based on qualification levels or training types less meaningful than a thematic approach that reflects shared strategic priorities across sectors and regions.

The digital infrastructure already established by AI4VET4AI and PoVE Water, including Moodle-based e-learning platforms and MOOCs, should be leveraged as a shared dissemination and learning environment for the resources developed within the Community of Practice, rather than creating parallel digital solutions. Building on existing platforms will maximise efficiency, encourage collaboration and facilitate wider access to learning resources.

Finally, National Qualifications Framework (NQF) integration should become a permanent topic within the Community of Practice. The mapping and partner survey reveal significant differences in the level of NQF integration and in the national procedures governing qualification recognition across participating countries. Creating a dedicated space for peer learning on these issues would enable partners to exchange practical experience and identify transferable approaches. In particular, the dual VET integration model implemented by 3LoE and AILEEN's sector-led recognition approach provides valuable reference cases that can inform future recognition and quality-assurance activities within INCEPTION.





9.3 INPUT TO WP 3 – DEVELOP THE INCEPTION EXCELLENCE TOOLBOX, RECOGNITION FRAMEWORK AND COVE HUBS

The following input can be derived for WP 3

9.3.1 INPUT FROM BEST PRACTICES

The development of the INCEPTION Excellence Toolbox and Quality & Recognition Framework should build on the most highly rated governance, quality assurance and transfer practices identified across the participating CoVEs. In particular, BP4 and BP29 demonstrate how structured nomination procedures, proof-of-excellence labels, self-assessment and external audits can be combined into a coherent recognition methodology. These practices provide a strong foundation for the development of an INCEPTION recognition and quality framework that is applicable across sectors while remaining adaptable to different national and regional contexts.

The Excellence Toolbox should systematically translate validated Best Practices into practical instruments that can be adopted by CoVEs with different levels of maturity. Drawing on BP5, BP6, BP14, BP27 and BP32, the Toolbox could include governance templates, self-assessment instruments, quality assurance procedures, role descriptions, evaluation frameworks and implementation guidelines. Particular priority should be given to practices that were successfully implemented across multiple CoVEs and demonstrated high levels of transferability.

The findings also highlight several Best Practices that can support the development of the INCEPTION CoVE Hub concept. BP3, BP2, BP22 and BP36 demonstrate the value of ecosystem-oriented structures, umbrella organisations, bridge-CoVEs and long-term meta-networks for supporting cooperation and sustainability. BP28 further shows how thematic specialisation can create lighthouse functions within larger CoVE networks. These practices suggest that future CoVE Hubs should not be conceived as isolated entities, but as interconnected nodes within wider vocational excellence ecosystems.

Finally, the best-practice analysis strongly supports the inclusion of transfer and scaling mechanisms within WP3 deliverables. BP19 and BP25 demonstrate that associated partner networks and structured best-practice marketplaces are effective tools for disseminating innovation beyond the core consortium. Similarly, BP21 highlights the importance of business-model development and funding strategies as prerequisites for long-term sustainability.

9.3.2 INPUT FROM MAPPING

The curriculum mapping provides several practical implications for the development of WP3 tools and frameworks. The analysis confirms the importance of modular programme structures across all participating CoVEs. The widespread use of competence units, short training modules, MOOCs and stackable learning offers suggests that the Excellence Toolbox should include guidance on modular curriculum design, learning-outcome-based approaches and the development of future micro-credentials.

The mapping also reveals the need for recognition frameworks that accommodate different forms of qualification and certification. While formal NQF integration remains important, the analysis shows that many innovative programmes rely on complementary recognition approaches, including sectoral qualification systems, European competence frameworks and industry-led certification models. WP3 should therefore consider recognition pathways that promote interoperability between these approaches rather than focusing exclusively on formal qualification frameworks.



The mapping also demonstrates that Artificial Intelligence and Digitalisation, Green Economy and Sustainability, and Entrepreneurship represent the strongest common thematic areas across the participating CoVEs. These themes should therefore provide the primary structure for the resources, playbooks and tools developed within WP3. A thematic architecture reflects the diversity of qualification levels, delivery formats and sectoral contexts more effectively than an organisation based primarily on EQF levels or training categories.

Additionally, the IAMQS case study provides an important reference for the development of recognition and curriculum-design tools within WP3. Its use of learning outcomes, modular competence units and EQF-aligned proficiency levels demonstrates how flexible qualification architectures can support both labour-market relevance and transnational comparability. The findings suggest that similar design principles could strengthen future INCEPTION frameworks and tools while maintaining compatibility with existing national and European systems.

9.4 INPUT TO WP 4 – FOSTERED COOPERATION BETWEEN COVES

The following input can be derived for WP 4

9.4.1 INPUT FROM BEST PRACTICES

The findings suggest that cooperation activities under WP4 are likely to be most effective when they build on proven organisational and pedagogical models already identified within the participating CoVEs. Pilot collaborations could therefore explore and validate approaches such as triple-helix and three-level CoVE structures (BP3, BP1), umbrella-network concepts (BP2), work-based learning and dual-light approaches (BP7, BP23), as well as the systematic involvement of chambers and associations as SME gateways and innovation hubs (BP12, BP24).

The analysis further highlights the importance of modular, scalable and blended learning models. In line with BP9, BP11, BP30, BP10, BP15 and BP16, WP4 activities should consider combining modular learning units with blended delivery models that integrate open digital content and locally anchored, practice-oriented formats. The evidence also suggests that responsible AI authoring represents a promising area for experimentation and knowledge exchange among CoVEs.

In addition, SME engagement emerges as a critical factor for successful implementation. The findings therefore indicate that pilots should define explicit mechanisms for SME involvement and clarify expected benefits for participating enterprises, including workplace innovation, competence development and access to new learning models.

Finally, the mapped Best Practices demonstrate the value of combining quantitative and qualitative evidence for impact assessment. WP4 may therefore benefit from defining baseline and endline measurements and from systematically collecting both impact indicators and impact stories, thereby creating a stronger evidence base for future dissemination and policy work.

9.4.2 INPUT FROM MAPPING

The mapping identifies several practical opportunities for collaboration within WP4. Within the mapped CoVEs, EQF Level 4 is the most frequently represented qualification level, suggesting that it may provide a suitable starting point for joint curriculum development, pilot activities and the exploration of mutual recognition between partners.

The analysis also shows that sustainability provides the strongest common thematic ground for cooperation. As the most widely represented topic across the mapped programmes, it represents an excellent basis for developing shared micro-credentials or stackable learning modules. This could build on the complementary



strengths of the partners, combining 3LoE's experience in continuing vocational education and training, PoVE Water's digital learning infrastructure, and AILEEN's strong links with industry and sector-specific qualification systems.

The findings also highlight the need for flexible approaches to recognition. Although integration into National Qualifications Frameworks strengthens transparency and portability, it is not always the most suitable option for short, industry-driven training programmes, where speed and adaptability are essential. Findings suggest that WP4 should consider exploring complementary recognition mechanisms, such as micro-credentials based on learning outcomes and aligned with European competence frameworks, including GreenComp, DigiComp and EntreComp. These approaches can provide credible recognition while remaining responsive to labour market needs.

9.5 INPUT FOR WP5 AND FUTURE POLICY WORK

The following input can be derived for WP 5.

9.5.1 INPUT FROM BEST PRACTICES

WP5 and subsequent policy activities should support the political anchoring of CoVE quality and recognition. Building on BP4 and BP29 (nomination and proof of excellence) as well as BP31 and BP6 the findings suggest that WP5 could promote the development of an INCEPTION label based on the AILEEN methodology, extended to explicitly cover AI, Green and SME dimensions. Furthermore, EQF/NQF anchoring should be defined as a minimum standard for all publicly supported offers, although for some sectoral and short-cycle qualifications it might be inappropriate, unavailable or excessively slow and therefore not applicable. Additionally, European reference frameworks such as EQAVET, DigiComp, EntreComp and ISATCOVE should be promoted as the baseline for quality assurance and competence orientation.

CoVE policy should be oriented towards ecosystems and meta-carriers rather than isolated projects. In line with BP35, BP36 and BP22, policy recommendations should highlight the role of meta-carriers such as Hanse-Parlament or Katapult as long-term hosts for multiple CoVEs and themes, and should call for CoVEs to be explicitly named in relevant strategies and instruments (RIS3, national skills and VET strategies, Pact for Skills, etc.). Green and Digital/AI should be defined as cross-cutting criteria for CoVE support and recognition. Drawing on BP17, BP18, BP15, BP16 and BP29, WP5 should therefore propose that both Green and AI are treated as transversal requirements in future CoVE frameworks, and that impact monitoring – including green indicators – becomes standard practice, going beyond mere output statistics.

Finally, scaling and sustainability should be supported structurally. Following BP19, BP25, BP21, BP26 and BP20, WP5 should recommend national and regional funding lines that explicitly support transfer and scaling – for example through associated partner models and structured best-practice adoption – and targeted support for developing business models and funding maps for each CoVE. The obligation to provide “impact stories plus numbers” should be embedded in future monitoring and reporting requirements to ensure that CoVE ecosystems can demonstrate their systemic effects in a way that is meaningful for policy and funding decisions.

9.5.2 INPUT FROM MAPPING

The mapping analysis provides some guidance messages for WP5. First, it highlights the mismatch between the duration of many continuing vocational training (CVT) programmes and the minimum workload requirements for inclusion in National Qualifications Frameworks. This supports the need for more flexible recognition pathways, including the wider adoption of micro-credentials aligned with the European Union's skills agenda and existing European policy recommendations.





Second, the findings indicate that awareness of NQF levels remains limited among employers, particularly in highly specialised industrial sectors. WP5 should therefore promote a clearer understanding of how sector-led qualification systems and National Qualifications Frameworks can complement each other, rather than being viewed as alternative or competing approaches. The experience of EWF, which combines an international qualification system with the coordination of a European CoVE network, provides a strong example of how these systems can work together.

Finally, the comparison between CoVEs operating within dual VET systems and those working in other national contexts confirms the benefits of strong cooperation between education providers and industry. While dual systems cannot simply be replicated everywhere, WP5 should identify practical alternatives that strengthen employer engagement, such as sector-based qualification standards, joint validation mechanisms and learning-outcome-based approaches to recognising continuing vocational training.

10 CONCLUSIONS

This deliverable has established a structured and comparative evidence base on Centres of Vocational Excellence (CoVEs) within the INCEPTION project. By mapping five CoVE ecosystems and analysing their governance models, training approaches and cooperation mechanisms, the report has identified a consolidated set of Best Practices and derived cross-cutting success factors and challenges.

The findings confirm that CoVEs represent a systemic approach to vocational excellence, where the interaction between governance, training provision, industry cooperation and policy embedding determines overall effectiveness. The analysis shows that excellence is not the result of isolated measures, but of coherent ecosystems combining structural, pedagogical and strategic elements.

This chapter summarises the main findings of the report, reflects on limitations and open questions, and outlines priorities for further work within the INCEPTION project.

10.1 MAIN FINDINGS OF BEST PRACTICES IDENTIFICATION

The identification and validation of Best Practices across the five CoVE ecosystems (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs and PoVE Water) led to several overarching findings.

CoVEs function most effectively as ecosystems: Across all analysed cases, the most successful models are those that operate as structured, multi-actor ecosystems, bringing together VET providers, higher education institutions, companies (especially SMEs), intermediary organisations and, in many cases, public authorities. This “triple-helix” or “knowledge triangle” approach enables stronger alignment with labour market needs, more rapid transfer of innovation into training, and more sustainable cooperation structures.

Governance and quality assurance are central enabling factors: A second key finding is the importance of robust governance and QA systems. CoVEs with clearly defined governance structures, role models, and recurring evaluation cycles are better able to ensure transparency and comparability, maintain consistent quality across partners and regions, and support scaling and transfer. In particular, structured recognition and nomination models (as developed in AILEEN) demonstrate strong potential as reference frameworks for cross-sectoral CoVE recognition.

Work-based and modular learning are core to effective VET design: On a pedagogical level, the analysis shows that the most effective approaches combine high shares of workplace-based learning (WBL), modular, flexible curricula, and strong links to real innovation processes in companies. This combination enables both labour





market relevance and flexible lifelong learning pathways, which are essential in the context of green and digital transitions.

SME involvement requires structured intermediaries: While SME engagement is recognised as a critical success factor, it rarely occurs spontaneously. Instead, successful CoVEs rely on structured intermediaries, such as chambers or sector associations, that act as gatekeepers to SME networks, facilitators of cooperation, and co-designers of curricula.

Digitalisation and AI act as enablers, but are unevenly integrated: All CoVEs make use of digital tools, but the degree of innovation varies. Some ecosystems (notably AI4VET4AI and PoVE Water) demonstrate advanced approaches (e.g. AI-supported content creation, VR-based learning), while others still apply digitalisation in a more supportive role. This indicates a significant potential for cross-CoVE knowledge transfer.

Sustainability and scaling remain key challenges: Despite strong individual practices, many CoVEs still face limited post-project sustainability mechanisms, difficulties in scaling practices beyond pilot environments, and fragmented policy recognition. This confirms that systemic embedding and long-term funding models are among the most critical challenges for CoVEs.

10.2 MAIN FINDINGS OF CURRICULA MAPPING AND NQF INTEGRATION

The Curricula Mapping conducted documents 87 training programme entries across the five INCEPTION CoVEs, spanning EQF levels 2 to 7 and covering three strategic themes: artificial intelligence and digital tools, green economy and sustainability, and entrepreneurship and workplace innovation. It is important to recall that this mapping covers only the programmes developed by each CoVE within these thematic areas and does not represent the full extent of their training portfolios.

The main findings are as follows:

Continuing vocational training is by far the dominant modality, 77 of the 87 entries are CVT programmes, most of them short and modular, targeting the upskilling or reskilling of the existing workforce rather than initial qualification. EQF level 4 is the most represented level across the dataset, reflecting a shared focus on the skilled professional and technician profile.

Sustainability emerges as the most cross-cutting theme, present in some form across four of the five CoVEs, while AI and digital skills are approached through two distinct and complementary paradigms — high specialisation in advanced manufacturing (AILEEN) and broad transversal literacy (AI4VET4AI).

Formal NQF integration remains the exception; only five entries are formally integrated into national qualification frameworks, all from 3LoE and all within dual VET systems in Germany and Austria. This is not a measure of quality or ambition, but of systemic context — where qualification co-design with social partners is institutionally embedded, NQF registration follows naturally, where it is not, administrative, procedural and structural barriers make integration a post-project challenge rather than a built-in outcome.

Beyond formal NQF registration, the mapping analysis shows a broader landscape of recognition mechanisms that are already in use across the CoVEs: EWF's International Qualification System in Joining and Additive Manufacturing, alignment with European competence frameworks such as DigiComp 2.2, GreenComp and EntreComp. These mechanisms do not replace NQF integration but complement it, providing quality assurance, market credibility and cross-border comparability in contexts where formal national registration is not yet achievable or appropriate.

More generally, the mapping suggests that many innovative CoVE learning offers increasingly operate as competence ecosystems rather than as traditional qualification structures. While formal qualification





frameworks remain important reference points, a substantial share of the analysed programmes relies on flexible combinations of sectoral qualification systems, competence frameworks, modular learning units and emerging micro-credential approaches. Future CoVE development is therefore likely to require stronger interoperability between these different recognition mechanisms rather than exclusive reliance on any single system.

10.3 LIMITATIONS AND OPEN QUESTIONS

While this deliverable provides a structured and evidence-based overview of CoVE practices, several limitations must be acknowledged.

Limited number of case studies: The analysis is based on five selected CoVE ecosystems. While these represent mature and well-documented cases, they do not cover the full diversity of CoVE models across Europe. The findings should therefore be understood as analytically robust but not statistically representative.

Dependence on partner-provided data: The mapping relies strongly on data provided by the CoVE partners themselves. Although cross-checking and validation steps were implemented, differences in level of detail, interpretation of concepts, and availability of evidence may influence comparability.

Aggregation of Best Practices: In order to maintain a manageable and usable set of Best Practices, highly granular practices were aggregated into broader categories. While this improves usability, it may also reduce conceptual precision and differentiation between similar practices.

Limited evidence on long-term impact: Many practices are still embedded in project-based contexts. As a result, evidence on long-term sustainability, systemic policy impact and large-scale transfer remains limited.

Selection bias towards mature and successful CoVEs: The five CoVEs analysed in this report represent mature, well-established and highly active European vocational excellence initiatives. As a result, the study primarily reflects practices developed in comparatively advanced ecosystems that have already demonstrated a significant level of organisational maturity, international cooperation and project success. The findings therefore provide valuable insights into enabling factors for successful CoVEs, but they may not fully reflect the challenges and constraints faced by newly established or less mature CoVE initiatives.

10.4 SUGGESTED PRIORITIES FOR FURTHER WORK DURING THE PROJECT

Based on the findings of this deliverable, several priorities for the next phases of INCEPTION can be identified.

10.4.1 PRIORITIES DERIVED FROM THE BEST PRACTICE ANALYSES

Development of a unified CoVE recognition and QA framework: Building on the identified Best Practices, a key priority is to adapt and generalise existing nomination and QA models, align them with European frameworks (EQAVET, ISATCOVE), and develop a cross-sectoral recognition approach for CoVEs.

Translation of Best Practices into practical tools: The identified Best Practices should be systematically translated into operational tools, guidelines, and practical playbooks as part of the INCEPTION Excellence Toolbox (WP3).

Strengthening transfer and scalability mechanisms: Future work should focus on structured transfer models between CoVEs, mechanisms for cross-sectoral learning and support structures for scaling practices beyond pilot environments.

Enhancing SME engagement strategies: Given the central role of SMEs, it is essential to strengthen intermediary structures (e.g. chambers), develop scalable engagement models and align training more closely with SME innovation processes.





Systematic integration of AI and digital innovation: There is a clear need to mainstream AI-supported approaches in VET, develop guidelines for responsible AI use in training and foster cross-CoVE knowledge exchange on digital innovation.

Strengthening policy alignment and sustainability: To ensure long-term impact, further work should strengthen links to national and regional policy frameworks, develop sustainable funding and business models and support the institutionalisation of CoVEs as permanent structures.

10.4.2 PRIORITIES DERIVED FROM THE MAPPING

Design for recognition from the early start. The mapping confirms that integrating programmes into National Qualifications Frameworks (NQFs) is more straightforward when recognition requirements are considered during curriculum design rather than after a programme has been developed. Future curriculum development within INCEPTION, particularly under WP3 and WP4, should therefore adopt learning outcomes and EQF level descriptors as key design principles from the beginning. Where relevant, programmes should also align with European competence frameworks such as DigiComp, GreenComp and EntreComp, creating the conditions for future recognition without making formal NQF integration a prerequisite.

Promote flexible recognition pathways for short training programmes. One of the most consistent findings of the mapping is the mismatch between the duration of many continuing vocational training programmes and the minimum workload requirements for inclusion in National Qualifications Frameworks. As demand for short, targeted learning opportunities continues to grow, INCEPTION should actively monitor national developments in micro-credentials and support approaches that enable flexible, high-quality recognition for industry-focused training.

Share good practices on qualification recognition across the Community of Practice. The experience of 3LoE demonstrates that successful NQF integration can be achieved through strong cooperation between education providers, employers and national authorities. Its work across several national qualification systems provides valuable practical experience that should be shared within the Community of Practice through guidance documents, templates, case studies and practical recommendations. Facilitating this exchange will help other CoVEs navigate their own national recognition processes more effectively.

Strengthen partnerships with industry to improve labour market recognition. The mapping highlights that the value of a qualification depends not only on its formal recognition within a National Qualifications Framework but also on its relevance to employers and the labour market. Achieving this requires the active involvement of industry throughout the qualification lifecycle—from identifying skills needs and emerging occupational profiles to validating learning outcomes and training pathways. However, many partners reported that engaging employers remains challenging, as companies are not always aware of the benefits of participating in curriculum design and qualification development. INCEPTION should therefore promote stronger and more structured collaboration between education providers and industry, while encouraging sector-led qualification systems and National Qualifications Frameworks to be recognised as complementary approaches. Together, they can enhance both the quality and labour market relevance of vocational education and training, while improving the transparency and recognition of qualifications across Europe.



11 ANNEXES

The annexes each contain summaries of the data analyses from the corresponding data resources, in particular Excel tables. The full tables cannot be included here for reasons of space but can, of course, be made available on request.

The findings presented in this chapter are based on data collected and analysed in the Excel-based working tables.

For the Best Practices analysis, the key underlying data could be consolidated into summary tables and are therefore included directly in the annexes of this deliverable.

For the Curricula Mapping, however, the underlying Excel tables were too extensive and heterogeneous to be meaningfully summarised in a clear and readable format within the deliverable itself. The underlying data for the Curricula Mapping will be available on request.

11.1 VOTING OF BEST PRACTICES

This Annex contains the consolidated best-practice table underlying the analysis presented in Chapter 7. The table brings together the 42 validated Best Practices identified across the participating CoVE ecosystems: AILEEN, AI4VET4AI, 3LoE, WIN4SMEs and PoVE Water as well as the results of the voting for the 112 examples identified.

For better understanding of the tables, the evaluation and rating scales are described first. The table of the Best Practices as well as the results of the voting for each Best Practice are shown in the second part of this subchapter.

11.1.1 EVALUATION AND RATING SCALES

The following tables show the evaluation and rating scales for the methodology used and described in Chapter 4 of this deliverable.

Table 2: Evaluation and rating scales

Evaluation Step / Area	Description	Scale / Options
Cluster Assignment	Each BP is assigned to a thematic cluster	Strategic Structures & Ecosystems, Governance/QA & Recognition, Training/Didactics & WBL, Digitalisation & AI, SME Involvement & Entrepreneurship, Green & Sustainability, Scaling/Transfer/Impact & Sustainability
Relevance Assessment by CoVEs	Each CoVE rates each Best Practice (BP) for:	- Derived from own CoVE: Yes / No - Generally interesting: Yes / No - Relevance: 0–3
	Is the BP derived from my CoVE?	Yes / No
	Is the BP generally interesting for my CoVE?	Yes / No
	Relevance for my CoVE	0 =not relevant 1 = low



Evaluation Step / Area	Description	Scale / Options
		2 = medium 3 = high
Quality Assessment of Best Practices	Each BP is assessed against 9 quality criteria (AILEEN approach):	0–3 points per criterion (max. 27 points per BP)
	1. Implemented practice with demonstrated results (K.O.)	0–3
	2. Clarity and documentation (K.O.)	0–3
	3. Alignment with INCEPTION capabilities (K.O.)	0–3
	4. Partnership and governance	0–3
	5. Adaptability and scalability	0–3
	6. Innovation and distinctiveness	0–3
	7. Sustainability	0–3
	8. Systemic/regional impact	0–3
	9. Evidence base and monitoring	0–3
Overall Recommendation	Based on total score (sum of 9 criteria)	0–14 = not recommended 15–19 = recommended 20–27 = strongly recommended
Best Practice Example Assessment	For each BP, CoVEs provide a concrete example and rate it using the same 9 criteria as for the quality assessment of the Best Practices	0–3 points per criterion (max. 27 points per example)
Cluster Assignment	Each BP is assigned to a thematic cluster	See above (e.g. Strategic Structures, Governance/QA, etc.)
Summary Statistics	Number of BPs per cluster, number of examples per BP, distribution of recommendations	N/A

Notes:

- **K.O.** = Knock-Out criterion (must be fulfilled for recommendation)
- All ratings and examples are documented in the Excel sheet and referenced in the deliverable's annex.

11.1.2 LIST OF BEST PRACTICES INCLUDING VOTINGS

The following table includes the Best Practices shown in chapter 7.1 as well as the voting for each Best Practice and corresponding examples.

The column “Thematic cluster” mirrors the thematic structure used in Chapter 7.1 and assigns each Best Practice to one of the seven analytical clusters used in the main text. For each Best Practice, the table provides the best-practice ID, title, short description, CoVE relevance ranking and interpretation, best-practice rating, examples identified and assessed by the CoVEs, as well as an aggregated interpretation. The table therefore serves as the full evidence base for the cluster descriptions, figures and cross-CoVE analysis presented in Chapter 7.





The best-practice IDs reflect the numbering used during the validation process. As one initially identified practice was excluded after partner review and validation, the final list contains 42 validated Best Practices while the original numbering was retained for traceability.





Table 3: List of Best Practices including Best Practice voting

Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
7.1.1: STRATEGIC STRUCTURES & ECOSYSTEMS / NETWORK MODELS	BP3	Triple-Helix / Knowledge-Triangle as standard	CoVEs are organised as long-term cooperation ecosystems between VET providers, higher education/research, companies, associations and, where relevant, public actors.	3 – high / very important	21 – Strongly recommended	5 examples strongly recommended	Core ecosystem model for INCEPTION; highly relevant across CoVEs and supported by strong examples.
	BP1	Three-Level CoVE (IVET–CVET–HE, EQF 3–7)	Integrated CoVE model combining initial VET, continuing VET and higher education across different EQF levels.	3 – high / very important	19 – Recommended	2 examples strongly recommended	Strong model for permeability across EQF levels, especially where IVET, CVET and HE can be structurally linked.
	BP2	Umbrella CoVE with regional CoVEs	Multi-level network model with one umbrella CoVE coordinating several specialised regional or national CoVEs.	2 – medium important	22 – Strongly recommended	3 examples strongly recommended, 1 example recommended	Effective model for coordinating national or regional CoVEs under one shared structure.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP22	“Bridge CoVE”: one coordinator connects several thematic CoVEs	An experienced actor acts as bridge or meta-coordinator across several thematic CoVEs and projects.	2 – medium important	22 – Strongly recommended	4 examples strongly recommended	Relevant for cross-thematic coordination and long-term knowledge transfer between CoVE networks.
	BP28	Topic specialisation per CoVE in a network	Each CoVE in a wider network develops a clear thematic specialisation and acts as a lighthouse for that topic.	1 – low / less important	19 – Recommended	4 examples strongly recommended	Useful for creating lighthouse functions within a network, although relevance depends on the network design.
	BP35	Explicit embedding of CoVEs in regional and national strategies	CoVEs align their activities with Smart Specialisation Strategies, national skills strategies, sectoral strategies or VET reforms.	1 – low / less important	16 – Recommended	2 examples strongly recommended, 2 examples recommended	Important for policy anchoring and sustainability, but implementation maturity varies across CoVEs.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP36	Use of meta-networks as long-term carriers of multiple CoVEs	Existing meta-networks or umbrella organisations host several CoVEs and support continuity beyond project funding.	2 – medium important	22 – Strongly recommended	3 examples strongly recommended	Strong sustainability mechanism where stable meta-networks or umbrella organisations already exist.
	BP37	CoVE Regional Captains	Each regional CoVE is coordinated by a regional captain acting as link between regional partners, other CoVEs and the lead partner.	3 – high / very important	23 – Strongly recommended	2 examples strongly recommended	Highly relevant coordination model that strengthens regional ownership and communication.
7.1.2: GOVERNANCE, COVE NOMINATION, QUALITY ASSURANCE & RECOGNITION	BP4	Sectoral CoVE nomination with external audit	Formal recognition procedure for CoVEs based on criteria, self-assessment, audit, certification and periodic re-audit.	3 – high / very important	24 – Strongly recommended	1 example strongly recommended	Strong model for formal CoVE recognition, including criteria, self-assessment, audit and re-audit.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP29	Proof-of-excellence label for CoVEs	Sectoral excellence label for CoVEs based on transparent criteria, audit and re-certification.	3 – high / very important	24 – Strongly recommended	1 example strongly recommended	Highly relevant for making excellence visible through a structured label and certification process.
	BP5	Multi-level QA with specific quality plans	Quality assurance is structured across different levels, including training, CoVE development, transfer and project governance.	2 – medium important	23 – Strongly recommended	3 examples strongly recommended	Provides a transferable QA structure covering training, CoVE development, transfer and project governance.
	BP6	Use of European QA/competence frameworks	Systematic use of European frameworks such as EQAVET, ISATCOVE, EQF, DigiComp, EntreComp and LifeComp.	3 – high / very important	18 – Recommended	3 examples strongly recommended, 2 examples recommended	Important basis for transparency and comparability through European QA and competence frameworks.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP14	ISATCOVE-based CoVE self-assessment	CoVEs use the ETF ISATCOVE framework for recurring self-assessment and benchmarking.	2 – medium important	20 – Strongly recommended	1 example strongly recommended	Strong basis for CoVE self-assessment and benchmarking within INCEPTION.
	BP27	Role-based governance with defined “personas”	Clear governance roles or personas are defined to make responsibilities transparent across complex partnerships.	3 – high / very important	24 – Strongly recommended	3 examples strongly recommended	Highly transferable governance model clarifying responsibilities in complex CoVE partnerships.
	BP31	EQF/NQF-anchored programme design as minimum standard	Programmes are explicitly anchored in national qualification frameworks and mapped to the EQF.	2 – medium important	19 – Recommended	5 examples strongly recommended	Essential minimum standard for qualification transparency and cross-border recognition.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP32	Structured annual CoVE-evaluation cycle	CoVEs implement recurring annual or multi-year evaluation cycles for structures, activities and impact.	3 – high / very important	25 – Strongly recommended	5 examples strongly recommended	One of the strongest practices in this cluster; supports recurring CoVE-level quality improvement.
	BP33	EQAVET-plus development cycle for new training offers	EQAVET/PDCA logic is used for developing, piloting, evaluating and refining new curricula or modules.	2 – medium important	20 – Strongly recommended	2 examples strongly recommended	Transferable model for developing, piloting, evaluating and refining new training offers.
7.1.3: TRAINING, DIDACTICS & WORKPLACE BASED LEARNING (WBL)	BP7	Strong dual and work-based learning models	High share of workplace-based learning, including company-based learning phases and real company projects.	3 – high / very important	19 – Recommended	4 examples strongly recommended	Highly relevant for practice-oriented learning, but transferability depends on national VET systems.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP23	Dual-light: dual elements in non-dual systems	Dual-learning principles are transferred into countries without formal dual systems through flexible, project-based models.	3 – high / very important	20 – Strongly recommended	2 examples strongly recommended	Important transfer model for introducing WBL principles in countries without formal dual systems.
	BP8	KAIN method	Individual, workplace-based continuing education linked to concrete innovation projects in companies.	2 – medium important	20 – Strongly recommended	1 example strongly recommended	Strong approach linking individual learning with company innovation projects, especially for SMEs.
	BP9	Modular curricula and future micro-credentials	Curricula are structured modularly as a basis for flexible pathways, upskilling, reskilling and future micro-credentials.	3 – above scale / highest ranking in source data	21 – Strongly recommended	5 examples strongly recommended	Highest-ranked training practice; central for flexible learning pathways and future micro-credentials.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP10	VR- and simulation-based learning in the water sector	Immersive VR and simulation scenarios are used to create realistic practice environments for water-sector training.	1 – low / less important	14 – Not recommended	1 example strongly recommended	Innovative but currently sector-specific; broader transferability requires further validation.
	BP11	MOOCs and blended learning as scaling instrument	Open online courses are combined with locally anchored face-to-face or blended learning formats.	3 – high / very important	19 – Recommended	2 examples strongly recommended	Strong scaling model combining open digital learning with local implementation.
	BP30	Low-barrier open content and high-touch local activities	Low-threshold online content is combined with intensive local workshops, coaching, training or innovation activities.	2 – medium important	20 – Strongly recommended	3 examples strongly recommended, 1 example recommended	Highly transferable model balancing accessibility with intensive local engagement.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP34	Systematic entrepreneurship integration	Entrepreneurship is embedded as a transversal competence across levels, modules and training methods.	3 – high / very important	18 – Recommended	3 examples strongly recommended	Relevant for embedding entrepreneurship as transversal competence in training pathways.
	BP38	Competitions	Skills competitions are used to increase attractiveness, motivation and excellence in vocational training.	1 – low / less important	18 – Recommended	1 example recommended	Useful for visibility, motivation and skills excellence; currently mainly evidenced through AILEEN.
	BP40	Link with applied research and knowledge creation	Applied research projects connect students, educators and industry partners in collaborative innovation processes.	2 – medium important	18 – Recommended	1 example strongly recommended	Promising model for connecting VET, applied research and industry innovation.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP42	Staff mobility	Staff mobility formats support peer learning, knowledge transfer and professional development across CoVEs.	2 – medium important	16 – Recommended	1 example strongly recommended	Relevant for peer learning and staff development, though systemic effects need stronger evidence.
	BP43	Problem-based learning	Problem-based learning toolkits and case studies support practical, industry-aligned learning.	2 – medium important	17 – Recommended	1 example recommended	Pedagogically relevant and transferable, but implementation maturity and evidence base should be strengthened.
7.1.4: DIGITALISATION & AI	BP15	AI-specific VET ecosystem	Integrated AI-VET ecosystem combining MOOCs, AI campuses, AI incubators and AI use-case collections.	3 – high / very important	17 – Recommended	1 example strongly recommended	Highly relevant for INCEPTION's AI dimension, combining MOOCs, campuses, incubators and use cases.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP16	AI-supported content production and assessment design	Generative AI is used to support learning-content production and assessment design, combined with human quality assurance.	3 – high / very important	20 – Strongly recommended	2 examples strongly recommended	Strong transferable basis for responsible AI authoring and efficient assessment design.
7.1.5: SME INVOLVEMENT & ENTREPRENEURSHIP	BP12	Systematic involvement of chambers/associations as SME gatekeepers	Chambers, associations and SME organisations act as structured access points to SMEs and support curriculum co-design.	2 – medium important	22 – Strongly recommended	2 examples strongly recommended, 1 example not recommended	Strong mechanism for reaching SMEs through trusted intermediary organisations.
	BP24	SME-hub model	Chambers and associations act as permanent innovation and transfer hubs for SMEs.	2 – medium important	21 – Strongly recommended	3 examples strongly recommended	Effective model for using chambers and associations as permanent innovation and transfer hubs.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP13	Entrepreneurship programmes along the value chain	Entrepreneurship support is organised as a multi-stage pathway from pupils and learners to founders, successors and innovators.	3 – high / very important	17 – Recommended	2 examples strongly recommended, 1 example recommended	Relevant for building coherent entrepreneurship pathways from learners to founders and successors.
7.1.6 GREEN & SUSTAINABILITY	BP17	Green-skills mainstreaming via thematic CoVEs	Green and sustainability content is integrated across CoVE programmes rather than treated as an isolated add-on.	1 – low / less important	17 – Recommended	3 examples strongly recommended, 1 example not recommended	Relevant for embedding sustainability across programmes, but strongly dependent on sectoral focus.
	BP18	Impact-oriented green monitoring	Green impact is monitored through indicators, impact stories and qualitative or quantitative evidence.	1 – low / less important	17 – Recommended	2 examples strongly recommended	Useful for combining indicators and impact stories, but requires stronger common metrics.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
7.1.7: SCALING, TRANSFER, IMPACT & SUSTAINABILITY	BP19	Scaled transfer network with many associated partners	A second partner line of associated organisations is systematically supplied with outputs and transfer support.	2 – medium important	21 – Strongly recommended	2 examples strongly recommended	Strong model for scaling results beyond core partners through associated organisations.
	BP25	Cross-CoVE best-practice marketplace	Best Practices are systematically collected, selected and transferred between CoVEs and associated partners.	2 – medium important	21 – Strongly recommended	2 examples strongly recommended	Highly relevant for INCEPTION as a mechanism to identify, select and transfer Best Practices.
	BP26	Impact stories plus numbers as standard	Quantitative indicators are combined with qualitative impact stories for more policy-relevant reporting.	2 – medium important	18 – Recommended	2 examples strongly recommended, 1 example recommended	Useful for policy-oriented reporting, though quality of impact stories varies.





Thematic Cluster	ID	Best Practice	Short description	CoVE ranking and interpretation	Best Practice rating	Examples identified and assessed	Aggregated interpretation
	BP20	Baseline/endline impact evaluation with impact stories	Baseline and endline measurements are combined with qualitative impact stories to document change over time.	2 – medium important	18 – Recommended	3 examples strongly recommended	Relevant impact-evaluation model combining quantitative and qualitative evidence.
	BP21	Business-model and funding maps per CoVE	CoVEs develop business models and funding maps to support post-project sustainability.	3 – high / very important	23 – Strongly recommended	4 examples strongly recommended	Very strong sustainability practice
	BP39	Dissemination strategy and visibility	A structured dissemination and communication strategy is used to engage target groups and increase visibility.	2 – medium important	19 – Recommended	1 example strongly recommended	Relevant for stakeholder engagement and visibility, mainly evidenced through PoVE Water.





11.2 FINAL LIST OF BEST PRACTICES INCLUDING BEST PRACTICE EXAMPLES

This annex presents the consolidated overview of Best Practices and corresponding CoVE examples identified in the INCEPTION WP2.1 analysis. It is based on the structured screening and assessment of practices collected from the participating CoVEs and documented in the working file 16.07.2026_Version 3_All CoVEs List of Best Practices for CoVEs.xlsx.

The annex distinguishes between Best Practices as general practice models and examples as concrete CoVE-specific implementations of these practices. The examples included here were only selected where a CoVE provided a sufficiently concrete and relevant case.

The assessment of the examples follows the scoring logic defined in the source table. Each example was rated against nine criteria, each scored on a scale from 0 to 3, resulting in a maximum score of 27 points. The criteria assess whether the example is:

- already implemented and supported by results,
- clearly described and documented,
- aligned with at least one key INCEPTION capability,
- based on structured partnership and governance,
- adaptable and scalable,
- innovative and distinctive,
- sustainable beyond the project context,
- systemically relevant at regional or sectoral level,
- and supported by evidence or monitoring.

Based on the total score, the examples were classified as follows:

- 0–14 Not recommended
- 15–19 Recommended
- 20–27 Strongly recommended

Accordingly, the results shown in this annex should be read as a comparative qualitative assessment of implementation quality and transfer potential. A high score does not necessarily mean that a practice is universally applicable in exactly the same form, but rather that it provides a particularly strong and well-documented reference point for possible use, adaptation, or further development within INCEPTION.

11.2.1 STRATEGIC STRUCTURE & ECOSYSTEMS / NETWORK MODELS

The following table shows the Best Practices regarding strategic structures and ecosystems as well as network models.





Table 4: Best Practices regarding strategic structure and ecosystems / network models

ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP3	Triple-Helix Knowledge Triangle Standard / as	AI4VET4AI	The project consortium is based on the knowledge triangle model and brings together partners from education, research, and business. All content is developed through continuous feedback from these three stakeholder groups. The knowledge triangle is also activated through local events, debates, and meetups that connect people around AI skills development and AI-related VET provision.	26
		3LoE	Each of the eight 3LoE CoVEs brings together a vocational school, a chamber of industry, commerce or crafts, and a university or other higher education institution. In Latvia and Spain, public authorities are also directly involved. This creates a stable multi-actor cooperation model linking education, business, and public governance.	26
		WIN4SMEs	Each of the seven national CoVEs combines a vocational school, a chamber or SME association and, where applicable, a university. The CoVEs are coordinated by designated national coordinators under the umbrella structure led by Hanse-Parlament. This creates a structured cooperation model linking education, business, and higher education.	25
		PoVE Water	Each CoVE includes at least one VET provider, one industry representative, and one higher education institution. Mobility weeks for teachers, professionals, and policymakers, as well as awareness-raising activities, helped strengthen cooperation among stakeholders. EfVET also played an important role in disseminating the project's results to policymakers and the wider VET community.	24





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		AILEEN	AILEEN CoVEs are built on cooperation between training providers, research actors, and industrial partners. Each CoVE is expected to include at least one training, one research, and one industrial organisation in order to bridge the gap between education and industry. This structure supports regular collaboration with Aerospace and Defence companies and helps ensure that training remains aligned with technological developments and industry needs.	25
BP1	Three-Level CoVE (IVET-CVET-HE, EQF 3-7)	3LoE	3LoE's eight CoVEs cover all three levels from EQF 3 to EQF 7 through 59 training programmes, including seven dual Bachelor's degrees. In dual VET, 70-80% of the training takes place in companies, which is particularly relevant for SMEs as the main target group. In Lithuania, one programme even started at EQF Level 2.	26
		WIN4SMEs	WIN4SMEs covers EQF levels 3 to 6 across initial VET, continuing VET, and higher education, with permeability between levels built into the concept. The model includes a dual Bachelor's programme in Human Resources and Business Administration. This supports progression across different learning pathways and qualification levels.	25
BP2	Umbrella CoVE with Regional CoVEs	AI4VET4AI	All project partners together form the AI4VET4AI CoVE. In addition, educational institutions in the partner countries act as national CoVEs and involve local stakeholders such as SMEs, NGOs, and other business representatives through different activities. This creates a multi-level structure that combines international coordination with local ecosystem engagement.	18





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		3LoE	The lead partner coordinated the regional CoVEs as a central hub and ensured shared access to results, tools, and curricula across all CoVEs. This umbrella structure supported consistency, transfer, and common quality standards across the network. It also enabled the coordinated development and dissemination of project outputs.	23
		WIN4SMEs	WIN4SMEs operates one Baltic Sea-wide umbrella CoVE coordinated by Hanse-Parlament, together with seven specialised national CoVEs in Germany, Denmark, Finland, Hungary, Lithuania, the Netherlands, and Poland. Each national CoVE has a specific thematic focus, such as newcomer integration in the Netherlands, older employees in Finland, digital cooperation in Denmark, and entrepreneurship in Hungary. This model combines shared governance with strong regional specialisation.	25
		PoVE Water	Each CoVE in the PoVE Water network contributes specific expertise while operating under the common PoVE Water umbrella. While the overall project addresses the water sector broadly, each regional CoVE focuses on a distinct thematic area. This creates complementary specialisation and strengthens the partnership as a whole.	25
BP22	“Bridge CoVE”: One Coordinator Connects Several Thematic CoVEs	3LoE	The lead partner promoted exchange across thematic CoVEs, for example by transferring the dual study model from Germany to Poland and Latvia. This bridging role supported knowledge exchange between different thematic and national contexts. It also helped adapt proven approaches across different systems.	23





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		WIN4SMEs	As lead partner, Hanse-Parlament connects the different national CoVEs, each with its own thematic focus, under one common framework for workplace innovation. This bridging role supports coordination, transfer, and joint learning across the full network. It also helps align diverse national approaches with shared strategic goals.	26
		PoVE Water	Hanse-Parlament coordinates 3LoE and WIN4SMEs and is also a partner in PoVE Water. Training programmes from 3LoE that were relevant for the water sector were shared with the PoVE Water consortium, and additional links were created between partners across projects. This strengthened synergies, transfer, and cooperation across thematic CoVE initiatives.	21
		AILEEN	The European Welding Federation (EWF) acts as a bridge organisation connecting several thematic CoVEs and related Erasmus+ projects. In this long-term meta-role, EWF links cooperation across areas such as welding, brazing, inspection, additive manufacturing, and Aerospace and Defence. This supports continuity, transfer, and strategic coordination across initiatives.	25
BP28	“Topic Specialisation per CoVE” in a Network	3LoE	Within 3LoE, individual CoVEs specialise in distinct thematic areas, such as logistics in Poland and sustainable building in Austria, while jointly covering the broader green economy curriculum. This allows each CoVE to build depth in its own area while contributing to the network as a whole.	24
		WIN4SMEs	Each of the seven national CoVEs in WIN4SMEs has a clear thematic specialisation in workplace innovation. Examples include entrepreneurship in Hungary, inclusion of learners with difficulties in Lithuania, and newcomer integration in the Netherlands. This creates strong thematic profiles within a shared overall framework.	26





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		PoVE Water	Each CoVE in the PoVE Water network contributes distinct expertise and thematic specialisation, for example in desalination, water quality, water management, or civil engineering for water infrastructure. This distribution of expertise strengthens the overall partnership and allows each region to act as a thematic lighthouse.	25
		AILEEN	Because AILEEN CoVEs differ in composition, they show varying levels of specialisation in technological fields such as welding, brazing, inspection, additive manufacturing, and Aerospace and Defence. This diversity creates opportunities for knowledge transfer, staff mobility, research collaboration, and shared training activities across the network.	20
BP35	Explicit Embedding of CoVEs in Regional and National Strategies	AI4VET4AI	AI4VET4AI began by analysing AI-related needs in 11 countries and 18 NUTS2 regions through Smart Specialisation Strategies (S3). This resulted in a report identifying priority sectors, challenges, and future AI skills needs. Based on this analysis, the project developed sector-relevant MOOCs and strengthened regional AI innovation ecosystems through cooperation among VET providers, HEIs, companies, startups, and sector representatives.	18
		3LoE	Ministries are directly involved as partners in the Latvian and Spanish CoVEs. This helps align 3LoE training offers with national VET reform processes and regional development priorities. It also strengthens policy anchoring and institutional support.	17
		WIN4SMEs	Several national CoVEs are embedded in regional innovation ecosystems, for example through links to Wrocław's regional development priorities in Poland and the SPRONG Human Capital Innovation initiative in the Netherlands. This helps connect workplace innovation training to wider regional strategies and stakeholder structures.	21





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		PoVE Water	Regional and national representatives from the water sector are directly involved in the PoVE Water CoVEs, ensuring close alignment with sectoral and territorial strategies. Their participation helps anchor the CoVEs within regional priorities and the evolving needs of the water sector.	22
BP36	Use of Meta-Networks as Long-Term Carriers of Multiple CoVEs	3LoE	Hanse-Parlament acts as a long-term institutional carrier and helps ensure that all eight 3LoE CoVEs can continue beyond the project lifetime. This meta-network function provides continuity, coordination, and a stable organisational backbone.	21
		WIN4SMEs	Hanse-Parlament is expected to continue coordinating the WIN4SMEs CoVE network through membership contributions and follow-up EU funding after the project ends. This provides a realistic pathway for long-term continuity.	23
		PoVE Water	PoVE Water Scale-Up builds on the pilot project PoVE Water and has integrated new partners into the network. It also established connections with other CoVEs through shared partner organisations. This contributes to continuity, scaling, and cross-project learning.	21
BP37	“CoVE Regional Captains”	PoVE Water	Each CoVE is coordinated by a regional captain who acts as the main liaison between regional partners, the other CoVEs, and the lead partner. Monthly meetings with all regional captains support coordination, information exchange, and alignment across the consortium. This structure strengthens ownership, efficiency, and communication.	26
		AILEEN	AILEEN applies a comparable approach through a Single Point of Contact (SPoC), which streamlines the nomination process and directs requests to the most relevant expert partner. This improves internal coordination and makes communication within the network more efficient.	25





11.2.2 BEST PRACTICES REGARDING GOVERNANCE, COVE NOMINATION, QA & RECOGNITION

The following table shows the Best Practices and corresponding examples regarding governance, cove nomination, Quality Assurance and Recognition.

Table 5: Best Practices regarding governance, CoVE nomination, QA and recognition

ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP4	Sectoral CoVE Nomination with External Audit	AILEEN	AILEEN uses a formal recognition procedure for Aerospace and Defence CoVEs based on four stages: application, evaluation, audit, and official nomination. The process is built on 24 criteria covering teaching, cooperation, and governance. Follow-up assessments ensure that recognised organisations continue to meet the required standards of excellence and industry relevance.	23
BP29	“Proof-of-Excellence” Label for CoVEs	AILEEN	AILEEN awards a “Proof-of-Excellence” certificate for Aerospace and/or Defence after a rigorous audit of teaching, cooperation, and governance criteria. The certificate is verified by the Joint Sectoral European Steering Committee and is valid for five years. It recognises long-term commitment to specialised, high-quality, industry-aligned training.	25
BP5	Multi-Level QA with Specific Quality Plans	3LoE	3LoE applies four differentiated quality plans covering educational measures, CoVE development, result transfer, and overall project management. These are complemented by external evaluation of project management and transfer during periodic and final reporting. This creates a structured quality assurance system beyond individual training activities.	21
		WIN4SMEs	WIN4SMEs applies a four-level QA concept covering project implementation, the umbrella and national CoVEs, all tools and training measures, and result transfer. The concept is based on the ISATCOVE framework adapted by EURASHE. This ensures systematic quality assurance across the full project architecture.	24





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		PoVE Water	PoVE Water developed a project management handbook to guide implementation and reporting and established governance structures to embed each CoVE in its regional ecosystem. Peer reviews, digital transformation planning, and impact questionnaires further supported quality assurance at different levels. This creates a multi-layered approach to quality and sustainability.	24
BP6	Use of European QA/Competence Frameworks	AI4VET4AI	The project aligned all developed curricula, MOOCs, and learning materials with key European frameworks, including DigComp, EntreComp, LifeComp, and the EQF. This supported transparency, quality assurance, and transferability across countries and education systems.	18
		3LoE	3LoE's evaluation processes refer to EQAVET and EQF, and entrepreneurship curricula are aligned with EntreComp. This strengthens European comparability and competence orientation across programmes.	20
		WIN4SMEs	WIN4SMEs uses the ISATCOVE self-assessment framework annually across all CoVEs and also refers to EntreComp and DigComp for entrepreneurship and digital skills content. This creates a structured link to established European reference frameworks.	22
		PoVE Water	The PoVE Water Scale-Up approach incorporated the European e-Competence Framework, DigCompEdu, SELFIE, EQF, EQAVET, and Europass. These frameworks supported both learning design and the digital transformation planning of participating VET providers.	20





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP14	ISATCOVE-Based CoVE Self-Assessment	WIN4SMEs	WIN4SMEs CoVEs carry out an annual ISATCOVE self-assessment across nine dimensions using a Likert-scale approach. This is complemented by EURASHE's independent midterm evaluation, which produced an overall mean score of 4.11. The model supports benchmarking and continuous improvement across the network.	24
BP27	Role-Based Governance with Defined "Personas"	AI4VET4AI	The project uses a role-based governance structure with clearly defined responsibilities across the 26 partners. Each partner assigns specific functions such as Steering Committee member, Quality Assurance Manager, Financial Manager, Dissemination Manager, and WP Contact Person. This supports accountability, transparent decision-making, and efficient coordination.	26
		PoVE Water	In PoVE Water, each region is coordinated by a regional captain who acts as the focal point for regional activities and stakeholder engagement. In addition, each captain leads a specific work package or thematic area and helps define the roles of regional partners. This creates a clear and functional governance structure across the consortium.	24
		AILEEN	AILEEN's governance structure includes the Sectoral European Advisory Board, the Joint Sectoral European Steering Committee, and the Management Team. These bodies provide advisory, strategic, and operational functions and ensure structured decision-making within the CoVE network.	25



ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP31	EQF/NQF-Anchored Programme Design as Minimum Standard	AI4VET4AI	The project follows an EQF/NQF-anchored programme design approach, using qualification frameworks as the minimum standard for curricula, MOOCs, and learning materials. Learning outcomes, competences, and assessment approaches are aligned with relevant EQF levels to support transparency, consistency, and transferability.	27
		3LoE	All 59 training programmes in 3LoE are explicitly mapped to EQF levels 3 to 7. Several of them also lead to state-recognised national qualifications in Germany and Austria. This strengthens transparency and recognition across contexts.	24
		WIN4SMEs	WIN4SMEs programmes target EQF levels 3 to 6, although most are still under development and not yet formally anchored in national qualification frameworks. Even so, the EQF orientation already provides a common reference point for programme design.	25
		PoVE Water	Vocational training programmes were delivered at proficiency levels corresponding to EQF levels 3 to 5. In mobility activities, PoVE Water also used European transparency tools such as EQF, EQAVET, and Europass.	22
		AILEEN	AILEEN systematically maps each developed competence unit to the EQF and combines this with sectoral frameworks such as those of EWF and NADCAP. This helps ensure transparency, comparability, and alignment with industry requirements across countries.	23





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP32	Structured Annual CoVE-Evaluation Cycle	AI4VET4AI	The project uses a structured recurring evaluation cycle supported by regular internal quality monitoring and continuous improvement processes. Every six months, partners complete an online survey before Steering Committee meetings, and the results are used to identify achievements, challenges, and follow-up actions. This creates a repeatable feedback loop that can continue beyond the project lifetime.	27
		3LoE	3LoE combines ongoing internal evaluation after implementation activities with external evaluation of project management and transfer support. This creates a regular review process that goes beyond one-off reporting.	24
		WIN4SMEs	WIN4SMEs runs an annual ISATCOVE self-assessment cycle across all CoVEs, complemented by an external midterm evaluation and a planned final evaluation. This creates a clear and recurring evaluation framework for the whole network.	25
		PoVE Water	Two peer reviews per CoVE were carried out based on the Katapult network model. These reviews assessed key CoVE dimensions and supported reflection, comparison, and continuous improvement.	26
		AILEEN	AILEEN CoVEs apply a structured surveillance process consisting of an annual written declaration and a follow-up assessment every five years. This helps ensure continued compliance with established standards and supports long-term quality assurance.	25





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP33	“EQAVET-Plus” Development Cycle for New Training Offers	PoVE Water	PoVE Water Scale-Up used the EQAVET framework to develop digital learning materials and international mobility activities. The development process followed the quality cycle of planning, implementation, evaluation, and review. This created a structured pathway for developing and improving new training offers.	22
		AILEEN	AILEEN applied a three-step process consisting of skills gap analysis, competence unit development and evaluation, and piloting with subsequent adjustment. The process was informed by desk research, stakeholder surveys, collaborative curriculum refinement, and pilot feedback from different countries.	20

11.2.3 BEST PRACTICES REGARDING TRAINING, DIDACTICS & WORKPLACE BASED LEARNING (WBL)

The following table shows Best Practices and corresponding examples regarding training, didactics and workplace-based learning.

Table 6: Best Practices regarding training, didactics and workplace-based learning (WBL)

ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP7	Strong Dual and Work-Based Learning Models	3LoE	3LoE’s dual vocational training includes 70-80% company-based learning, while dual Bachelor’s programmes combine academic study with around 50% workplace learning. This gives learners strong exposure to real work environments and supports close links with SMEs.	26
		WIN4SMEs	WIN4SMEs training programmes and dual Bachelor’s offers include strong work-based learning elements with intensive in-company learning. This is particularly important for micro and small enterprises as the project’s key target group.	25





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		PoVE Water	PoVE Water Scale-Up developed work-based learning formats, including practical hackathons in South Africa and the Czech Republic. These activities linked training to real sector challenges and practice-based learning.	25
		AILEEN	AILEEN developed a Work-Based Learning Kit to support apprenticeship-based WBL within its CoVEs. The kit supports trainees, tutors, and industrial mentors with practical tools, templates, and step-by-step guidance and is designed to remain useful beyond the project period.	21
BP23	“Dual-Light”: Dual Elements in Non-Dual Systems	3LoE	3LoE transferred the German dual VET model into school-based systems in Poland, Lithuania, Latvia, and Spain through country-specific adaptations. This shows how dual principles can be embedded even where no formal dual system exists.	26
		WIN4SMEs	WIN4SMEs adapts work-based elements to contexts such as Finland, where no formal dual education framework exists, and pilots a dual Bachelor model where legally possible. This demonstrates how dual features can be transferred flexibly into non-dual systems.	25
BP8	KAIN Method (“Knowledge According to Individual Needs”)	WIN4SMEs	WIN4SMEs’ KAIN method combines an HR-Card diagnostic, individual coaching cycles, and parallel company innovation projects. By midterm, 40 participants in Ukraine had completed the method and received certification. This links individual learning directly to workplace innovation processes.	25
BP9	Modular Curricula and (Future) Micro-Credentials	AI4VET4AI	The project develops modular AI curricula through seven MOOCs, each divided into three modules with three to four units. This allows flexible learning pathways and creates a strong basis for future micro-credentials across different target groups and settings.	27





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		3LoE	3LoE training programmes are designed in a modular way, and several are published as freely downloadable modules that can be adopted by other VET providers. This strengthens flexibility and transferability.	23
		WIN4SMEs	BHH Germany developed a Certificate of Advanced Studies (CAS) micro-credential concept and applied it to five micro-credentials within a continuing VET programme on sustainable management. This shows how modularisation can support more flexible qualification formats.	23
		PoVE Water	PoVE Water created online learning content and integrated 20 water-related EQF Level 4 courses into Moodle. This modular digital structure supports flexible access and re-use.	25
		AILEEN	AILEEN uses 21 modular competence units to support flexible, industry-aligned training across the European aerospace and defence sectors. This modular structure makes it easier to adapt training to regional needs and technological change.	20
BP10	VR- and Simulation-Based Learning in the Water Sector	PoVE Water	PoVE Water developed digital VR learning experiences and published them on Moodle. These resources provide immersive learning opportunities for the water sector and support more realistic practice-oriented training.	21
BP11	MOOCs + Blended Learning as Scaling Instrument	AI4VET4AI	AI4VET4AI combines MOOCs with blended learning approaches to expand access to AI-related VET education across regions and sectors. The MOOCs provide flexible digital learning, while local workshops and implementation activities support practical application and adaptation to local needs.	27





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		PoVE Water	PoVE Water developed 20 water-related EQF Level 4 courses in Moodle and complemented them with mobility and face-to-face events in all partner countries. This combination supported both scaling and contextualised learning.	26
BP30	“Low-Barrier Open Content” + “High-Touch Local Activities”	AI4VET4AI	The project combines easily accessible digital learning resources with intensive local activities such as workshops, campuses, incubators, and project-based learning. This balances broad accessibility with strong learner engagement and practical implementation.	27
		3LoE	3LoE combines freely downloadable open curricula with intensive face-to-face dual training and company-linked continuing education. This approach brings together broad accessibility and high practical relevance.	23
		WIN4SMEs	WIN4SMEs combines openly available tools with high-touch local formats such as coaching, entrepreneurship camps, and Train-the-Trainer seminars. This makes resources widely accessible while maintaining personalised support.	19
		PoVE Water	PoVE Water combines Moodle-based open learning content with local mobility events and face-to-face activities in all partner countries. This links scalable digital provision with direct stakeholder engagement and practice-based learning.	26





11.2.4 BEST PRACTICES REGARDING DIGITALISATION & AI

The following table shows Best Practices and corresponding examples regarding digitalization and AI.

Table 7: Best Practices regarding digitalisation and AI

ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP15	AI-Specific VET Ecosystem	AI4VET4AI	The project establishes an AI-specific VET ecosystem that combines sector-based MOOCs, AI campuses, and AI VET incubators. This integrated model supports learners, teachers, and industry partners and creates a scalable AI learning ecosystem.	27
BP16	AI-Supported Content Production and Assessment Design	AI4VET4AI	AI4VET4AI supports teachers and partners in using AI tools to draft, adapt, and refine learning materials, activities, and assessment items. The approach combines AI-assisted workflows with pedagogical quality assurance and ethical review.	27
		WIN4SMEs	ITECH Germany's Best Practice "Knowledge Transfer with AI" was transferred to five SME partner companies with confirmed positive effects. In addition, "AI for SMEs" was included as a module in the Hungarian entrepreneurship coaching programme.	21





11.2.5 BEST PRACTICES REGARDING SME INVOLVEMENT & ENTREPRENEURSHIP

The following table shows Best Practices and corresponding examples regarding SME involvement and entrepreneurship.

Table 8: Best Practices regarding SME Involvement and Entrepreneurship

ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP12	Systematic Involvement of Chambers/Associations as SME Gatekeepers	3LoE	Chambers of industry, commerce, and crafts are structural partners in all eight 3LoE CoVEs, linking the project to 578 companies and 70 associated partners across 14 countries. This creates systematic access to SMEs and supports cooperation on training and transfer.	21
		WIN4SMEs	Chamber and SME-association partners such as IPOSZ, LAHR, and SCC provide WIN4SMEs with structural access to SMEs across all seven national CoVEs. This makes them important intermediaries for outreach, transfer, and co-design.	24
		AILEEN	Although existing clusters such as the Asturias Defence Hub, Censec, and the MTC provided a structured starting point, securing active SME involvement remained a major challenge in AILEEN. This example therefore illustrates a structural difficulty rather than a fully successful practice.	0
BP24	“SME-Hub Model”	3LoE	3LoE chamber partners organise needs analysis, dual-training placements, and continuing education for SMEs on an ongoing basis within each CoVE. This makes them stable innovation and transfer hubs for company-oriented activities.	24



ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		WIN4SMEs	IPOSZ, LAHR, and SCC act as permanent innovation and transfer hubs, channelling WIN4SMEs tools and training offers to their SME members. This enables efficient outreach through established intermediary organisations.	24
		PoVE Water	Water associations in Latvia, Estonia, and the Czech Republic act as permanent innovation and transfer hubs in PoVE Water. They disseminate project results to their members and facilitate participation in project activities such as mobility weeks.	25
BP13	Entrepreneurship Programmes Along the Value Chain	AI4VET4AI	The project supports entrepreneurship development across the full value chain through AI VET incubators. Learners move from identifying challenges and generating ideas to developing, testing, and pitching AI-based solutions with the support of mentors and industry partners.	18
		3LoE	3LoE organised the annual “Latuaideadiimpresa” business idea challenge for 16-18-year-olds in Italy and linked this to further vocational pathways such as training for company successors. This creates a multi-stage entrepreneurship pathway.	24
		WIN4SMEs	WIN4SMEs offers an entrepreneurship pathway that includes an eight-module coaching and advisory programme as well as start-up and succession seminars. This supports entrepreneurship development across different stages and target groups.	20





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP34	Systematic Entrepreneurship Integration	AI4VET4AI	The project integrates entrepreneurship through AI VET incubators embedded in regular VET and HE activities rather than treating entrepreneurship as a stand-alone offer. Learners move through the full innovation process, supported by mentors and external stakeholders such as SMEs, NGOs, and industry representatives.	27
		3LoE	3LoE integrates entrepreneurship from initial VET to a dedicated dual Bachelor's programme in Latvia. This creates a progression pathway from early exposure to more advanced entrepreneurial qualification.	24
BP38	Competitions	AILEEN	The “League of Advanced Manufacturing Inspection” promoted excellence and attractiveness in VET through national and European skills competitions. National leagues were carried out in seven countries with 96 participants in total, followed by a European final in Lisbon with 21 participants.	18
BP40	Link with Applied Research and Knowledge Creation	AILEEN	AILEEN developed the Applied Research Projects Kit to guide students, educators, and industry partners through collaborative applied research processes. The kit links advanced manufacturing skills with green, digital, and circular economy competences and supports industry-aligned innovation within the CoVE ecosystem.	21
		WIN4SMEs	WIN4SMEs embeds entrepreneurship within an eight-module coaching programme and related support formats. This makes entrepreneurship a transversal element rather than an isolated topic.	23





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP42	Staff Mobility	AILEEN	AILEEN identified dual mobility formats as a good practice for staff development: case-based mobility for collaborative problem-solving and structured training-oriented mobility for standardisation and peer learning. This strengthens professional development and peer-to-peer knowledge transfer.	20
BP43	Problem-Based Learning	AILEEN	AILEEN is developing a comprehensive toolkit for problem-based learning, including implementation guidelines and standardised documentation. The project also plans to publish 20 case studies to support future uptake of the methodology across the network.	16

11.2.6 BEST PRACTICES REGARDING GREEN & SUSTAINABILITY

The following table shows Best Practices and corresponding examples regarding green and sustainability.

Table 9: Best Practices regarding green and sustainability

ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP17	Green-Skills Mainstreaming via Thematic CoVEs	3LoE	Green economy content is the core focus of all 59 3LoE training programmes, covering areas such as energy, water and waste, sustainable construction, logistics, and gastronomy. This represents full green mainstreaming across the CoVE offer.	25
		WIN4SMEs	In WIN4SMEs, sustainability appears as one module within broader workplace innovation training rather than as the central thematic focus. It is therefore integrated, but not fully mainstreamed.	21





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		PoVE Water	PoVE Water learning materials focus on skills relevant to the green transition in the water sector, including topics such as climate change, water resources, and circular use of water. This embeds sustainability directly into sector-specific VET provision.	24
		AILEEN	AILEEN developed competence units on topics such as environmental awareness for greener welding and sustainable design and environmental compliance in Aerospace and Defence. However, these units were developed but not piloted, which limits the level of implementation.	11
BP18	Impact-Oriented Green Monitoring	3LoE	3LoE tracked output indicators related to its green economy qualifications, including numbers of trainers, learners, and companies involved. Although it did not use a dedicated baseline-endline green impact methodology, it still generated relevant monitoring data.	25
		PoVE Water	PoVE Water used semi-structured interviews and impact questionnaires to generate both qualitative impact stories and quantitative evidence on green skills development. Several impact stories highlighted the environmental effects of improved water management practices.	24





11.2.7 BEST PRACTICES REGARDING SCALING, TRANSFER, IMPACT & SUSTAINABILITY

The following table shows Best Practices and corresponding examples regarding scaling, transfer, impact and sustainability.

Table 10: Best Practices regarding Scaling, Transfer, impact and sustainability

ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
BP19	Scaled Transfer Network with Many Associated Partners	3LoE	3LoE transferred all 33 project results, together with implementation advice, to 70 associated partners across 14 countries. This transfer process was supported by a published project manual.	25
		WIN4SMEs	WIN4SMEs plans to transfer all tools and programmes, with implementation consulting, to 70 associated partners across 13 Baltic Sea countries. This creates a strong basis for structured scaling beyond the core partnership.	24
BP25	Cross-CoVE Best-Practice Marketplace	3LoE	3LoE used nine international working groups to jointly develop, test, and transfer results across the eight CoVEs. This created a structured mechanism for sharing and refining practice across countries and institutions.	24
		WIN4SMEs	WIN4SMEs collected 72 best-practice submissions, narrowed them down to 13 through a structured consortium-wide selection process, and transferred them to all seven national CoVEs. This provides a clear example of a best-practice marketplace in action.	25
BP26	“Impact Stories + Numbers” as Standard	3LoE	3LoE combines output statistics, such as the numbers of trainers, learners, and companies involved, with a narrative project manual published in the Baltic Sea Academy series. This creates a mix of quantitative and narrative reporting.	19



ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		WIN4SMEs	WIN4SMEs combines midterm Likert-scale evaluation results with documented cases such as the 40 certified KAIN completions in Ukraine. This provides both numerical evidence and concrete examples, even if some cases remain modest in narrative strength.	21
		PoVE Water	PoVE Water assessed impact using both quantitative and qualitative methods, combining questionnaire data with interview-based evidence. This creates a balanced evidence base for reporting and dissemination.	24
BP20	Baseline/Endline Impact Evaluation with Impact Stories	3LoE	3LoE's external evaluation focused on project management and transfer support and was combined with output statistics, rather than a full baseline-endline comparison. Even so, it provided structured impact-related evidence.	22
		WIN4SMEs	WIN4SMEs relies on an external midterm evaluation based on ISATCOVE and plans a final evaluation in year 4, rather than using a dedicated baseline-endline impact methodology. This still provides a structured evaluation basis.	23
		PoVE Water	PoVE Water combined baseline and impact questionnaires with qualitative interviews to assess project impact. This produced both comparative data and narrative evidence on outcomes.	24
BP21	Business Model and Funding Maps per CoVE	AI4VET4AI	The project is developing business models and funding maps to support the long-term sustainability of the CoVE and its AI-related activities. Through partner workshops, the consortium identifies funding sources, cost structures, responsibilities, and possible revenue streams for maintaining project results beyond the funding period.	27





ID	Best Practice – Short Title	CoVE	Example for Best Practice	Total Score
		3LoE	All eight 3LoE CoVEs developed business plans for continuation after project end, with Hanse-Parlament supporting ongoing international cooperation. This creates a concrete basis for sustainability planning.	25
		WIN4SMEs	WIN4SMEs plans to develop financing models and business plans for the umbrella CoVE and all seven national CoVEs during project years 3 and 4. This provides a structured pathway towards sustainability.	25
		PoVE Water	PoVE Water developed six funding maps to identify relevant external funding sources for each regional CoVE. These maps support the long-term sustainability of regional activities and provide a practical overview of future opportunities.	25
BP39	Dissemination Strategy and Visibility	PoVE Water	PoVE Water developed a comprehensive Dissemination and Communication Strategy to engage different target groups through tailored channels and activities. For example, Instagram was used to reach students and raise awareness of project activities, opportunities, and results.	24

11.3 COVE CURRICULA & NQF MAPPING TEMPLATE

This annex constitutes the primary data collection instrument for Task 2.2. It comprises five dedicated sheets, one per CoVE network (AILEEN, AI4VET4AI, 3LoE, WIN4SMEs and PoVE Water), plus an Instructions tab providing uniform guidelines for data entry. Each partner was requested to document, for every training programme or learning unit within the thematic scope of INCEPTION, the following information: programme name and target group profile; EQF level alignment; duration and contact hours; current NQF integration status; alignment with international reference systems such as ESCO, Europass and EWF's qualification frameworks; and any relevant barriers, enablers or contextual observations. The full dataset underlying the analysis presented in sections 8.1 and 8.2 of this report will be available on request.

11.4 CROSS-COVE NQF INTEGRATION MATRIX

This annex presents the consolidated NQF Integration Matrix derived from the data collected in the AllCOVEs mapping template and will be available on request. It brings together all 87 mapping entries across the five CoVEs





into a single comparative table, organised by CoVE, programme name, thematic area, target audience, EQF level, NQF integration status, training type (IVET, CVT or HE), duration and credits, and alignment with European and international reference frameworks. A Summary Dashboard sheet provides an aggregated overview of key indicators: distribution of entries by NQF status, by CoVE, and by training type. This matrix is the primary analytical instrument supporting the findings presented in section 8 of this report.

11.5 NQF INTEGRATION BARRIERS & FACILITATORS SURVEY

In parallel with the completion of the curriculum mapping and the analysis of National Qualifications Framework (NQF) integration, it was considered essential to gain a deeper understanding of the factors that facilitate or hinder the recognition of qualifications from the perspective of the participating CoVEs. To complement the quantitative mapping, a qualitative assessment was therefore carried out in parallel.

Representatives from each CoVE were invited to evaluate their ecosystem as a whole by identifying the presence and relevance of institutional barriers to NQF integration, including administrative and procedural challenges, sector-specific constraints, and limited labour market awareness. They also assessed potential enablers, such as the availability of micro-credential registries, supportive regulatory frameworks, and the involvement of social partners. Responses were collected using a scale to capture differences across national contexts and qualification systems. The Excel survey raw results will be available on request.





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