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LEADS
ADVANCED DIGITAL SKILLS

D4.2 ADS PROGRAMME BEST PRACTICE REPOSITORY

Revision: V1.0

Work package	WP4
Task	T4.2 Best Practice & Recommendations
Due date	31/01/2024
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Deliverable lead	BLU
Version	1.0
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Reviewers	Brendan Rowan (BluSpecs)

Abstract	Deliverable 4.2 of the LEADS project focuses on the creation and dissemination of a best practice repository designed to serve as a centralised resource for stakeholders across the Advanced Digital Skills (ADS) landscape. The repository is curated from the experiences of 20 SPECIALISED projects funded under the Digital Europe Programme, and select additional initiatives/actions, offering insights into effective strategies for study programme design, industry collaboration, upskilling and reskilling, among others.
Keywords	Advanced Digital Skills, SPECIALISED projects, best practice, skills definition, programme design, industry collaboration, upskilling, reskilling, joint accreditation, certification,

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DOCUMENT REVISION HISTORY

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V0.1	20/11/2023	Collection of best practices and preparation of dataset	Cristian Salis (BLU)
V0.2	17/01/2023	Preliminary definition of categories for the repository	Cristian Salis (BLU)
V0.3	07/02/2024	Development of the best practice PDF template	Cristian Salis (BLU)
V0.5	29/02/2024	Preparation of content for the repository	Cristian Salis, Max Welford (BLU)
V0.6	25/03/2024	Revision of the best practice content and update of the categories for the repository	Brendan Rowan (BLU)
V0.7	15/04/2024	Development of the best practice repository on the LEADS website	Cristian Salis (BLU)
V0.8	13/05/2024	Preparation of D4.2 report	Cristian Salis (BLU)
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PROJECT CO-FUNDED BY THE EUROPEAN COMMISSION IN THE DIGITAL EUROPE PROGRAMME (DIGITAL)		
NATURE OF THE DELIVERABLE:	Report (R)	
DISSEMINATION LEVEL		
PU	Public, fully open, e.g. web	x
SEN	Sensitive, limited under the conditions of the Grant Agreement	
Classified R-UE/ EU-R	EU RESTRICTED under the Commission Decision No2015/ 444	
Classified C-UE/ EU-C	EU CONFIDENTIAL under the Commission Decision No2015/ 444	
Classified S-UE/ EU-S	EU SECRET under the Commission Decision No2015/ 444	

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ABBREVIATIONS

ADS	Advanced Digital Skills
AI	Artificial Intelligence
AI and Health	Advanced digital skills programme Artificial Intelligence and Health
CEF	Connecting Europe Facility programme
CSA	Coordination and Support Action
CyberSecPro	Collaborative, Multi-modal and Agile Professional Cybersecurity Training Program for a Skilled Workforce in the European Digital Single Market and Industries
DIGITAL	Digital Europe Programme
DIGITAL4BUSINESS	Master's Programme focused on the practical application of Advanced Digital Skills within European Companies
DIGITWIN4CIUE	Digital Twins for Complex Infrastructures and Urban Ecosystems
DigiQ	DigiQ: Digitally Enhanced European Quantum Technology Master
DSJP	Digital Skills and Jobs Platform
DS4HEALTH	Digital skills for Healthcare Transformation
DS4Skills	Digital Space for Skills
EC	European Commission
EuroHPC JU	European High Performance Computing Joint Undertaking
HaDEA	Health and Digital Executive Agency
HEI	Higher Education Institution
HPC	High Performance Computing
ICT	Information Computer Technology
KPI	Key Performance Indicator
LEADS	Leading Europe's Advanced Digital Skills
ManagiDiTH	Master of Managing Digital Transformation in the Health Sector
MERIT	Master of Science in Smart, Secure and Interconnected Systems
ML	Machine Learning
SO4	Strategic Objective 4 of the DIGITAL Programme
SPECIALISED 2021	Actions funded under DIGITAL-2021-SKILLS-01-SPECIALISED
SPECIALISED 2022	Actions funded under DIGITAL-2022-SKILLS-03-SPECIALISED-EDU
STEM	Science, Technology, Engineering and Mathematics
WP	Work Package

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1 INTRODUCTION

1.1 Context

The Digital Europe Programme (DIGITAL), conceived with the aim of empowering citizens with ADS and preparing them to tackle current societal challenges, is set to invest, through specialised education programmes and other actions, €121M for Advanced Digital Skills (ADS) in key capacity areas within the 2021- 2027 period. The aim is to enhance the competency of Advanced Digital Skills (ADS), one of its priority areas, by developing master's programmes, short-term training courses and a training academy.

Under the Specific Objective 4 - Advanced Digital Skills (SO4) of the DIGITAL programme an extensive portfolio of actions has been established. Part of it is a collection of twenty SPECIALISED projects funded through two separate calls:

- DIGITAL-2021-SKILLS-01-SPECIALISED (SPECIALISED 2021) – 8 Projects[1]
- DIGITAL-2023-SKILLS-05-SPECIAL-PROGEDU (SPECIALISED 2022) – 12 Projects[2]

LEADS, as a Coordination and Support Action (CSA) within this cluster, engaged with key representatives from the SPECIALISED 2021 projects established 5 thematic Topic Groups (TGs) to help them address core challenges. Besides, the LEADS partners organised and participated in relevant events, including conferences, workshops and roundtables, to activate key cluster actors and facilitate communication among them.

This report presents the best practices extracted mainly through regular Topic Group meetings with the SPECIALISED 2021 projects and supplemented with best practices presented in other relevant contexts and activities, which LEADS attended.

1.2 Purpose of this document

The purpose of this report is to showcase the extracted best practices and online repository created by LEADS to host them. This repository will serve as a centralised, accessible resource that compiles identified tips and recommendations intended for various stakeholder in the ADS landscape. Its contents touch upon innovative strategies and effective tools deployed by leading universities, Vocational Education Training (VET) providers, research centres, industry experts and practitioners, among others.

The public repository is designed to support existing and future efforts in developing critical digital competencies across Europe. By disseminating these best practices, the repository aims to foster a culture of knowledge exchange, empowering training providers and organisations to stay competitive and thrive in the digital age.

This document does not represent the Best Practice Repository itself but is to register its publication through the following link: https://advancedskills.eu/best-practice-repository/

[1] *https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/digital-2021-skills-01-specialised;callCode=null;freeTextSearchKeyword=digital-2021-skills;matchWholeText=true;typeCodes=0,1,2,8;statusCodes=31094501,3109450*

[2] *https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/digital-2023-skills-05-special-progedu?keywords=DIGITAL-2023-SKILLS-05&programmePeriod=2021%20-%202027*

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2 BEST PRACTICES

2.1 What is best practice

Best practice in the context of this report refers to a method or approach that has been proven to achieve better results compared to other approaches, in the experience of the developing the SPECIALISED 2021 projects or other relevant initiatives. The types of best practices, as summarised in section 2.3, have been defined on the grounds of overarching discussion points emerging in the TGs, as well as topics brough to the epicentre by the European Commission and HaDEA during the deployment of the LEADS project.

2.2 Best practice collection

Best practices have been collected by the LEADS partners over an extensive period of time, particularly since March 2023, as the majority of the SPECIALISED projects had reached by then a fundamental level of maturity and had already gained experience in core tasks and procedures. The best practices selected to be included in the repository came primarily from TG1 and TG2, which were consistently more active during the project, and address programme and content design, joint accreditation, and industry (SME) involvement.

During this period, LEADS also organised and/or participated several workshops, which provided unique insights into ADS, how to incorporate more of these in our current training offer, and how to equip the European talent pool with advanced digital competencies. The most notable events in terms of best practice generation include:

- 'Aligning HE curricula to ADS dynamic demand' Workshop, Online, 27/03/2023
- Data Week 2023, Lulea, 13-15/06/2023
- High-Level Policy Forum, Brussels, 17/04/2024

2.3 Format and content standardisation

Even though recommended presentation templates were provided in the context of the TGs, the inputs received, particularly in non-TG events, were varied and heterogenous. The LEADS team distilled the key information from the participants' presentations and restructured them to conform with a specific format, which would then allow for their insertion into the specific categories of the best practice repository.

The main elements that were identified as common across all best practices and that were also considered essential for the users that would consume the online content are:

- **Context:** Background information on the project, initiative or action within which the best practice was identified.
- **Challenge:** Specific challenges or issues related to the action that need to be addressed or overcome to grasp the benefits of the best practice.
- **Action:** Specific activity as part of which the best practice was implemented.
- **Key takeaways:** Lessons, learnings and reflections from going through the action.

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The best practices are then categorised by:

- **Type:** Which area of developing ADS the best practice contributes towards.
  - **Skills Definition:** Depending on the provider and/or beneficiaries of the best practice, specific ADS need to be identified and matched to the needs of specific markets, organisations, professional roles, study programmes etc.
  - **Programme Design:** What should be considered at the stage of designing and structuring a study programme, be it professional or academic, long or short-term.
  - **Ecosystem Development:** How to engage key ecosystem actors in efforts that promote the development of ADS and attract more relevant players to the ADS landscape.
  - **Industry Collaboration:** How to engage industry representatives, particularly SMEs, in the different stages of developing study programmes.
  - **Sustainability/Exploitation:** How to ensure long-term financial and/or operational sustainability of the ADS-related actions undertaken.
  - **Upskilling:** What key points should be considered when developing upskilling initiatives.
  - **Reskilling:** What key points should be considered when developing reskilling initiatives.
  - **Certification/Accreditation:** How to facilitate the process of receiving certification/ accreditation (both as a learner or training provider).
- **Target beneficiaries:** What stakeholders benefit from applying the best practice.
  - Private training providers (including private organisations)
  - Public HEI and VET providers
  - Professors
  - VET students
  - Tertiary education students
  - Labour force employed
  - Labour force unemployed
  - Women (at different stages of academic and/or professional career)
  - Non-STEM background (at different stages of academic and/or professional career)

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3 THE ONLINE TOOL

The best practice repository is hosted on the LEADS project website[3] and is publicly available to ensure the widest reach and impact possible. It is currently comprised of 16 best practices:

- 6 on industry collaboration.
- 3 on certification and accreditation.
- 3 on programme design.
- 3 on upskilling.
- 1 on reskilling
- 1 on skills definition.

The beneficiaries targeted through these best practices are:

- Public HEI and VET providers (11)
- Private training providers (10)
- Labour force employed (4)
- Labour force unemployed (2)
- Non-STEM background (1)

No best practices in ecosystem development or sustainability and exploitation were compiled. Also, no best practice is explicitly targeted to professors, HEI or VET students, and women. This indicates a particular interest from the SPECIALISED 2021 projects on specific topics, i.e. industry collaboration, certification and accreditation, programme design and upskilling, which aligns with the overall engagement in the respective Topic Groups.

The users can browse through the repository and filter best practices by type. Once the 'type' filter has been applied it is very easy for the user to also select best practices of interest based on the target beneficiaries, which are explicitly mentioned below the title.

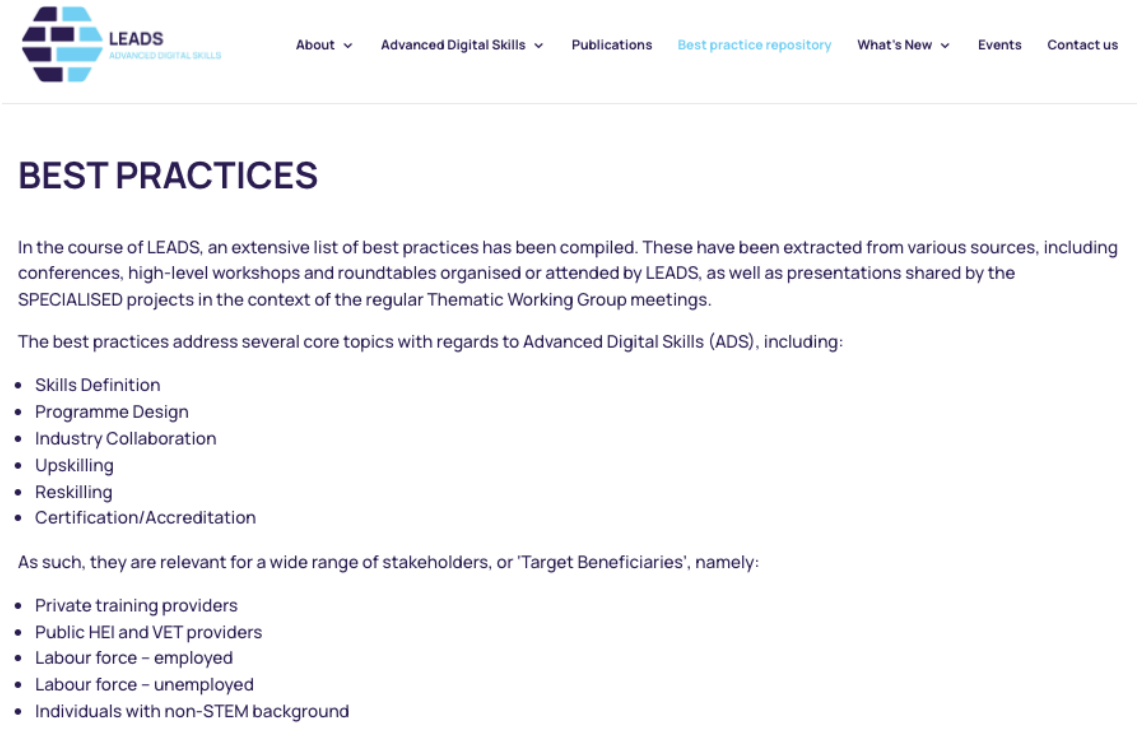

Figure 1. Overview of the online repository.

[3] https://advancedskills.eu/best-practice-repository/

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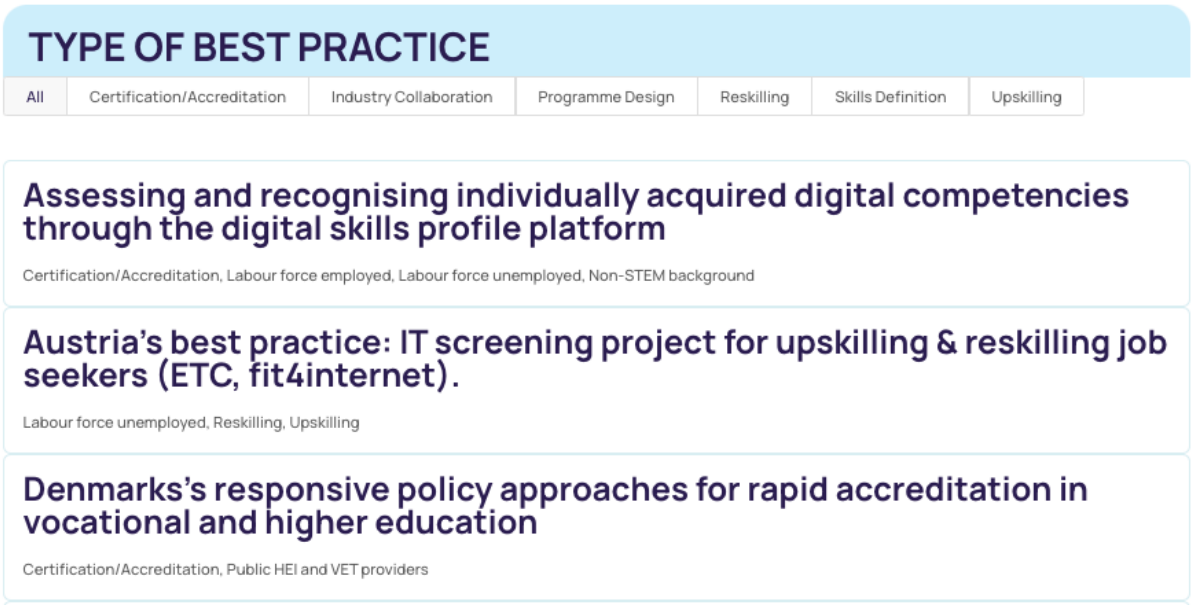

Figure 2. Mechanism for filtering best practices by type on the online repository.

On the best practice page, the users find a holistic overview of the best practice, including all the categories outlined above, as well as the contact of the individual responsible for the best practice.

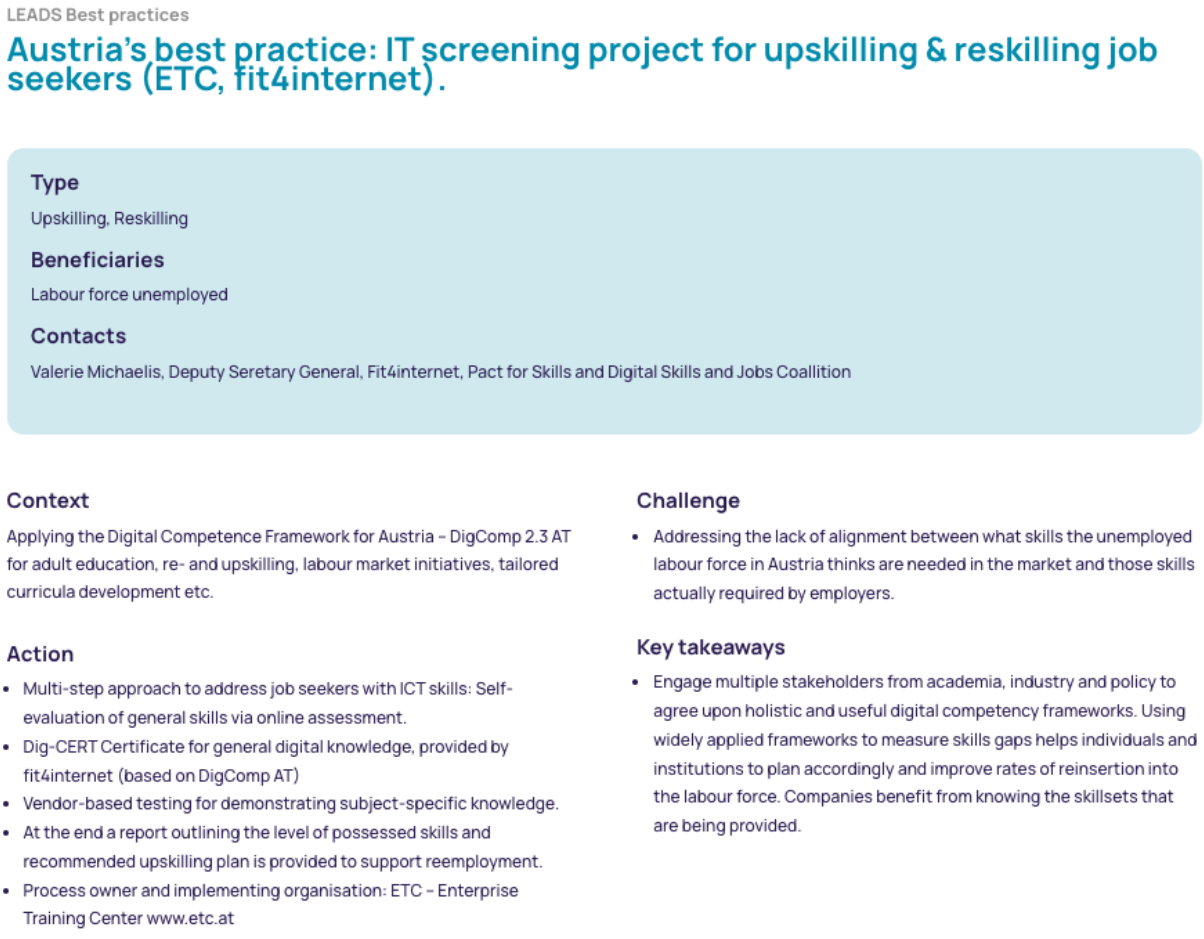

Figure 3. Example of best practice published on the online repository.

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Additionally, each best practice can be downloaded as a PDF:

Figure 4. Examples of the downloadable best practice template on the online repository.

All best practices can also be found in table format in Annex I of this document.

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ANNEX I – BEST PRACTICE DATASET

Title	Type	Target	Org.	Contacts	Context	Challenge	Action	Key takeaways
SME engagement for master programme design - ManagiDiTH	Industry collaboration	Private training providers, Public HEI and VET providers	Whymob	Rosalia Rodrigues,	Engaging with European ICT professionals, managers, and medical staff in the healthcare sector across Portugal, Greece and Finland, for developing tailored programmes to each of the individuals' professional growth needs.	Mapping of ecosystem and conducting clear needs assessment – Identification of actors in the local and European healthcare sector and digital ecosystems, coupled with the assessment of the ecosystem's future digital skills needs.	Creation of a 1.5 year-long master's programme in healthcare education with not only social skill classes, but also specialised modules in data science and interoperability. Creation of coherent curriculum, modules and learning outcomes, and setup of a learning software. Successful joint accreditation across countries and institutions.	Invite SMEs to deliver guest lectures or workshops, sharing real-world experiences and case studies Involve SMEs in the design and execution of project-based learning modules Encourage SMEs to give students practical experience through internships and work placements in their field of study, preparing them for the workforce. Involve SMEs in advisory boards throughout to ensure the adjustment of the master curriculum and module content to emerging industry needs and trends. Invite SMEs to collaborate on innovative research initiatives, either on the local level or hybrid initiatives with the participation of all project partners.
Success and challenges in master's programme design and development	Programme Design	Private training providers, Public HEI and VET providers	National College of Ireland	*Michael Bradford, Assistant Professor in Computing, National College of Ireland*	Fostering seamless advanced digital skills diffusion for European SMEs and companies in the areas of AI, Cybersecurity, Cloud computing, Quantum Computing and Data Analytics. Doing this through and in collaboration with HEIs. Research Centres, Employment Services and Industry Experts in a a master's degree programme delivered across Ireland, Portugal, Germany and France.	Securing joint accreditation for a master's programme, particularly across various countries, can be time consuming and reduce available resources dedicated to other tasks in programme design.	Establishing collaborative arrangements ("Cooperation Agreement") between project partners, and joint academic QA processes and procedures for the programme. Development of a centralised platform for online programme delivery and administration (application, enrolment, registration, fees etc.) Addressing mobility considerations, ECTS allocation and delivery schedules for part-time and full-time students.	Ensure team cohesion and avoid siloed communication through regular meetings and workshops at consortium and work-package level. Establish theme-based workgroups to target and overcome particular challenges. Establish transnational networks through alumni, faculty and industry organisations.

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SME engagement for master programme design - CyberSecPro	Industry collaboration	Private training providers, Public HEI and VET providers	Trustilio	*Kotty Kioskli, CEO & Cofounder, Trustilio*	Enhancing the role of HEIs in preparing new workforce generations and upskilling the existing workforce to address complex cybersecurity challenges, including threats from advanced AI. Provision of hands-on academic offering to bridge the gap between formal education, real-world job requirements, and marketable cybersecurity skills.	SMEs limited by their capacities (Budget, personnel, time), preventing ability for long-term collaboration. As training programmes include cross-institutional education across different countries in their offering, it is a challenge to tailor the programme to the individual needs of the SMEs in the respective areas. This makes it also more difficult to scale, for example in comparison to an American programme operating in one market. Maintaining consistent engagement from SMEs through the course of programme in the face of fluctuating market conditions or business priorities.	Co-creation of cybersecurity master's curriculum in collaboration with SMEs to integrate industry demands and real-world business scenarios. Establishing joint R&D initiatives between HEIs and SMEs to foster innovation, where academic research is aligned with the technological and market needs of the SMEs, leading to shared benefits in knowledge creation and application.	Implement engagement models that allow SMEs to contribute to varying levels of involvement, accommodating their resource constraints. Less rigid structures and more flexibility can facilitate engagement on the needs and availability of SMEs. Develop a customisable, tailored curriculum that aligns with the needs of SMEs, ensuring that training is both relevant and applicable to them. Establish regular check-ins and feedback loops, to keep SMEs consistently involved and responsive to the evolving demands of the training programmes.
SME engagement for master programme design - AI and Health	Industry collaboration	Private training providers, Public HEI and VET providers	Omzey	Baran Bayindir,	Integration of AI-technologies in healthcare and provision of guidance for using tools in non-ICT fields (e.g. Biology and Medicine) through a master's degree programme delivered across France, Spain, Italy and Sweden.	Maintaining the critical talent in delivering programmes, as well as having sufficient time to ensure the active and consistent engagement of SMEs involved. Maintaining this also throughout the study programme and implementation design period is considered a challenge, as these tend to be only addressed and tackled in later stages, in which it is too late to set off the necessary steps and operational tasks for successful implementation.	Hands-on training that involves SMEs in the course creation, and industry experts make up the training staff. Learning built in association with micro-credentials and digital certification to increase industry and professionals' participation and circulation of digitally identifiable certificates.	Raising awareness through events to enable interaction from both academia (HEIs, VETs and research organisations) and industry (start-ups and SMEs). Prepare engagement models in advanced to introduce the companies to the study courses in time.
SME engagement for master programme design - MERIT	Industry collaboration	Private training providers, Public HEI and VET providers	Vilnius Tech University	*Simona Ramanauskaite, Full professor and senior researcher, Vilnius Gediminas*	Master's degrees and short-term courses in areas, such as AI, cybersecurity and IoT, with the participation of industry across Estonia, Lithuania, Latvia, Italy and Spain.	Accurate arrangement of possible SME collaboration cases is compromised by the fact that most study programmes are not yet ongoing. SMEs have limited human and time resources to invest in	Organising an industry-oriented hackathon, where SMEs propose the challenges and mentor the participants. Partnerships between the study programme and SMES for presentations on relevant	Organise introductory meetings for potential collaborators with leading enterprises, to motivate SMEs' participation. Approach SMEs through personal contacts and/or the EDIHs. Divide the programme development into steps and ask for

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				Technical University	The programmes is delivered by 4 technical universities, and developed in collaboration with an NGO, two non-profits, a research organisation, a company and SME.	completing necessary surveys, providing inputs to study programmes and testing various ideas. The study programmes developed have limited flexibility to adapt to the needs of all SMEs as they also need to meet national requirements for accreditation.	topics, employee scouting etc.	concrete inputs each time (e.g. course design, course implementation).
SME engagement for master programme design - DIGITWIN4CIEU	Industry collaboration	Private training providers, Public HEI and VET providers	UPM	*Antonio Arcos, Department Director, Fernando Garcia Molina, Project Manager, UPM*	Master's programme and centre of excellence to upskill civil engineers with digital competencies, with the participation of industry across Spain, France, Hungary and Turkey. The programme has been co-developed by 4 higher education institutions and 4 tech SMEs/start-ups.	Atomisation and segmentation of the market obstructing access to SMEs. Convincing SMEs that are already struggling to adapt to the Building Information Modelling (BIM) to look forward to the virtualisation of infrastructures. SMEs are reluctant to invest in sponsoring students. Limited time availability of SME employees to participate in the different staged of preparing the courses of the master's programme	Academic programme designed with flexibility to attract different disciplines of the built environment industry, e.g. executive format with evening classes and recorded sessions. Creation of a Centre of Excellence, as the main platform to interact with SMEs in various directions. Continuous generation of technical content to impact the mindset of SMEs managers and highlight the need for adjusting to technological advances.	Build a network of contacts to be able to generate impact: Create a technical contents team, generating weekly communications of interest to persuade SMEs managers on the need to anticipate the future of the construction sector, in order to be competitive with larger entities. Regular publications on social media: LinkedIn, Instagram, Twitter, YouTube. Sign collaboration agreements with SME associations (e.g. ANCI, Tecniberia)
Incorporating automated tools and analysis in master programme design	Programme Design	Private training providers, Public HEI and VET providers	Vilnius Tech University	*Simona Ramanauskaite, Full professor and senior researcher, Vilnius Technical University*	Master's degrees and short-term courses in areas including AI, cybersecurity and IoT developed and implemented across Estonia, Lithuania, Latvia, Italy and Spain. The programmes are delivered by 4 technical universities, and developed in collaboration with an NGO, two non-profits, a research organisation, a company and SME.	Finding the balance between making the programme specific and flexible enough. Addressing both national market needs and student preferences. Ensuring the sustainability of the programme after the project end.	Develop automated tools for systematic analysis and monitoring. Solutions implemented: Data scraping from different sources Usage of data analysis summarising tools to aggregate data AI and NLP tools to identify similarities and cluster data among programmes Competency-oriented tool for competency monitoring and further development predictions Learning environment log data integration with competency tool to get more	Scheduling Collaborative Online International Learning (COIL) possibilities, maintaining the programme's structure consistency and bringing in required international experience. Selecting and implementing distance communication technologies (in-person vs. online delivery) which will affect the teaching mode

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							insight on potential study experience problems and its reasons	
Success and challenges in reaching SMEs for digital transformation	Industry collaboration	Labour force employed	Mittelstand-Digital Centre Magdeburg	*Stefan Voigt, Director, Mittelstand-Digital Zentrum Magdeburg*	Digitalisation support for SMEs in Saxony-Anhalt through the "Mittelstand-Digital" Initiative funded by the Federal Ministry for Economic Affairs and Climate Action. Mittelstand-Digital has to offer competent and provider-neutral contact points for information, awareness-raising and qualification to regional SMEs.	Overcoming issues common among SMEs, such as the lack of time and resources available to allocate to digital transformation ventures. SMEs' limited communication channels and geographical reach beyond the Saxony-Anhalt region hinder the exchange of knowledge, expertise and best practices in the implementation of digital technologies.	The Mittelstand-Digital initiative provides free tailored materials, such as check-ups, talks, offline workshops and seminars, eLearning, and blended learning options, as well as mobile consultation up to three times, mini projects, and convoy support. These include "digitisation tasting" workshops, showcasing technology through an escape room experience, and providing webinars and deep dive workshops at different technical levels. It offers service at 3 levels: Digitalization-related lectures; Underlining with examples from practice; Accompanying demonstrators to touch.	Show the bigger picture: Bring a series of events to the market instead of single workshops, giving detailed information and context, and allow participants to register separately based on their availability and needs. Work with multipliers to reach the target group. Ride the wave: Use the ChatGPT-Hype, show what is already possible and give concreate hints for different use cases of digital transformation. Provide contact information and optimise search engine results for the target audience.
Post-Grad Intensive Academy for upskilling employees	Upskilling	Labour force employed	PORINI	*Luca Malinverno*, Data Scientist, Porini	Porini, a DGS Group company specialising in innovative digital solutions, designed a custom course for its client's 12 new employees, to teach them company-specific methodologies and software, facilitating the transition from university to work.	Dealing with different levels of degrees: ranging from bachelor's to master's and PhD. Meeting the needs of employees with different professional profiles and experience in ICT.	Developing a 2-month onboarding course following the Kolb Cycle, intended as a means to (self) evaluate the employees' grasp of the topics addressed.	Incorporate hands-on labs with real-life scenarios and use cases throughout the course. Establish a clearly defined trajectory from the outset, to avoid the presentation of disparate technologies or data analysis stages as independent pipelines.
Developing the ITC Upskilling Initiative for the European Space Association	Upskilling	Labour force employed	PORINI	*Luca Malinverno*, Data Scientist, Porini	Porini, a DGS Group company specialising in innovative digital solutions, explored the possibility of a course to teach ESA employees the fundamentals of Microsoft Power BI	Training ESA Employees with diverse levels of technological competency and experience. Addressing the needs of diverse role profiles, ranging from admin officers to highly skilled professionals with	Developing a tailored 14-month programme delivered to 500 employees.	Start with the basics and during the course adapt the level of the exercises according to the class performance. Divide participants in groups and let the most skilled students teach and pass on their knowledge to the rest of the group.

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					Desktop, a self-reporting tool available for free.	considerable background in Data Analysis.		
Joint European Degree label in Engineering	Certification/ Accreditation	Private training providers, Public HEI and VET providers	UPM	*Lucía Linares, Project Manager Ramón Martínez, Project Coordinator, UPM*	Facilitating and harmonising the accreditation of engineering degrees across Europe to redefine the education of engineering, technology and science-oriented degrees.	Delivering recognised and differential Joint Degrees at all levels, including employers. Overcoming barriers in national legislations. Reluctance of national engineering professional associations to recognize foreign programmes.	Designing a prototype label for European joint degrees, based on a common set of European criteria and compatible with engineering, technology and science-oriented degrees. Testing the label on identified joint programme candidates.	Use inputs from multiple stakeholders on evaluating the set of criteria and envisioning the long-term application of the label. Learn from existing resources, well-known labels and engineering accreditation processes, e.g. EUR-ACE.
Framework for competency-based evaluation of students in higher education	Skills definition	Private training providers, Public HEI and VET providers	Vilnius Tech University	*Simona Ramanauskaite, Full professor and senior researcher, Vilnius Gediminas Technical University*	Creating an educational ecosystem to train digital specialists and improving the evaluation of different students or courses by matching study programmes to the skills produced across Estonia, Lithuania, Latvia, Italy and Spain. The programmes are delivered by Universitat Politécnica de Catalunya, Riga Technical University, Tallin Technical University and Vilnius Gediminas Technical University.	Continuous and competency-oriented student and study programme analysis and monitoring is not commonly applied. Courses tend to be designed in a non-agile manner, with a fixed curriculum and time limit. Lack of standards and/or common language for determining the type and level of digital skills hinders the comparison and analysis of study programmes in different countries and institutions	Defining the landscape of advanced digital skills and its supporting competencies and implementing competency-oriented student training and evaluation. Providing tools for continuous and competency-oriented student and study programme analysis and monitoring, based on a taxonomy of topics/areas and their relationships, as well as a mapping of educational programmes to topics/areas in different levels.	Use different sources to analyse hard and soft skills, particularly: SME needs Research tendencies Summarised reports Prioritise the skills mapping in line with university priorities. Develop a wide and detailed topic hierarchy for better match between different aggregation level material and course units.
Developing a common Body of Knowledge for a master's in human-centred AI	Programme Design	Private training providers, Public HEI and VET providers	TU Dublin	*Barry Feeney,*	Developing human-centred AI programmes and courses delivered in multiple languages across Hungary, Italy, Ireland and the Netherlands, to support the legal, regulatory-compliant, and ethical adoption of AI.	Addressing inconsistent requirements across countries and institutions. Fitting with the university culture, particularly when it comes down to selecting whether to adopt an applied vs. technological approach.	Organising learning events, such as panels and expert workshops, using the expertise of all partners, that will comprise the Human-Centred AI master's Programme, including study materials. Developing a common Body of Knowledge in collaboration with industry and research centres.	Transpose the Body of Knowledge to national formats for validation.

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Denmark's responsive policy approaches for rapid accreditation in vocational and higher education	Certification/ Accreditation	Public HEI and VET providers	Danish Accreditation Institute	*David Metz, Senior Advisor of the Danish Accreditation Institution*	Accreditation of different forms and levels of education provided by Higher Education Institutions (HEIs), Vocational Education Training (VET) providers, university colleges, business academies and art institutions in Denmark.	Quantity of documentation and scale of overheads within the agency required to approve changes to individual courses. Fastest time to approval used to be minimum 6 months. Quality of submissions received, and a lower rate of acceptance creates blockages and friction. Similarity of courses and programmes can drive non-productive competition for students between entities.	Institutional rather than programme-specific accreditation, in 6-8 weeks, enabling HEIs to conduct changes in existing programmes without external approval. Programme prequalification in 10 weeks only for courses that are new and/or offered in a new location.	Keep documentation requirements short and intuitive to minimise the resources required for filing and processing accreditation requests, taking into consideration what specific information is required or non-essential for accreditation. Determine what constitutes a study programme new to avoid spending resources on evaluation preciously accredited but slightly modified programmes. Identify what accreditation format provides the highest benefit/cost ratio in a specific context. Build an environment of trust where training providers independently perform regular reviews and are open to beneficial change. Implement extensive, transparent monitoring of students' academic pathway through statistics.
Fit4internet's IT screening project for upskilling and reskilling unemployed workers	Upskilling, Reskilling	Labour force unemployed	Fit4internet	*Valerie Michaelis, Deputy Secretary General, Fit4interne, Pact for Skills and Digital Skills and Jobs Coallition*	Applying the Digital Competence Framework for Austria – DigComp 2.3 AT for adult education, re- and upskilling, labour market initiatives, tailored curricula development etc.	Addressing the lack of alignment between what skills the unemployed labour force in Austria thinks are needed in the market and those skills actually required by employers.	Multi-step approach to address job seekers with ICT skills: Self-evaluation of general skills via online assessment DIG-CERT Certificate provided by fit4internet & Digital Knowledge Certificate (based on DigComp AT) Vendor-based testing for demonstrating subject-specific knowledge At the end a report outlining the level of possessed skills and recommended upskilling plan is provided to support reemployment.	Engage multiple stakeholders from academia, industry and policy to agree upon holistic and useful digital competency frameworks. Using widely applied frameworks to measure skills gaps helps individuals and institutions to plan accordingly and improve rates of reinsertion into the labour force. Companies benefit from knowing the skillsets that are being provided.
Assessing and recognising individually acquired digital competencies through the	Certification/ Accreditation	Labour force employed, Labour force unemploy	Fit4internet	*Valerie Michaelis, Deputy Seretary General, Fit4interne,*	Fit4internet, is a non-profit association that qualifies and quantifies digital literacy among the Austrian population, to match available ICT	Managing proof of competencies acquired through various ways of learning, including formal, non-formal and informal certificates.	Platform to manage proof of competences for individuals, based on DigComp and the European qualification framework. Digital skills become visible and	Engage multiple stakeholders from academia, industry and policy to agree upon holistic and useful digital competency frameworks. Using widely applied frameworks to measure skills gaps helps

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digital skills profile platform		ed Non-STEM backgroun d		*Pact for Skills and Digital Skills and Jobs Coallition*	skills with existing market needs. The digital skills profile platform is a core employability-boosting initiative facilitating the collective management of individually acquired proof of skills.	Securing a sustainable funding stream to finance new competencies.	comparable in a standardised way. E-portfolio shareable by link or PDF, highlighting digital competencies linked to acquired certificates. Generation of a digital skills profile and badge.	individuals and institutions to plan accordingly and improve rates of reinsertion into the labour force. Companies benefit from knowing the skillsets that are being provided.

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