

Digitale Bildung

in Erasmus+

Strategische

Partnerschaften

in der Berufsbildung

2018-2020

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Themencuster: Digitale Bildung

Titel: Möbeldesign und moderne Fertigung im europäischen Kontext – Schlüsselkompetenzentwicklung für Ausbilder, Lehrkräfte und Auszubildende

Akronym: Möbeldesignkompetenz
Vertragnehmer: Emil-Possehl-Schule Lübeck
Projektnummer: 2018-1-DE 02-KA202-005058
Projektlaufzeit: 24 Monate
Projektwebseite: -
Deutsche Partner: -
Beteiligte Länder: FI, DK, FR, SE, DE
Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

Die zunehmenden Anforderungen der Auftraggeber an Design/Gestaltung von Möbeln und Innenausbauarbeiten erfordern eine diesen Ansprüchen gerecht werdende Berufsausbildung der Tischlerinnen und Tischler. Der betriebliche Produktionsprozess lässt die Ausbildung einer umfassenden Gestaltungskompetenz der Auszubildenden kaum zu. Daher sind die Lehrkräfte der berufsbildenden Schulen gefordert, diesem Kompetenzbereich eine größere Bedeutung beizumessen und die Ausbildung von Gestaltungskompetenz in vielen Bereichen (Lernfeldern) der Berufsausbildung umzusetzen.

Die Lehrkräfte der beteiligten europäischen Berufsschulen und die Ausbilder in den Betrieben verfügen zumeist über eine hervorragende handwerklich ausgeprägte Fertigungskompetenz, jedoch nicht über solche, den heutigen Erfordernissen angemessene Gestaltungskompetenz im Möbel- und Innenausbau. Besonders im Bereich der Entwurfs- und Darstellungstechniken sowie in den vielfältigen Gestaltungsmöglichkeiten und bei den zeitgemäßen Visualisierungstechniken (3-D Präsentation) für den Kunden bestehen bei den Lehrkräften fachliche Defizite.

Diese Defizite sind bei den Lehrkräften aller am Projekt beteiligten europäischen Schulen festzustellen und können durch die transnationale und aktive Auseinandersetzung mit diesem Thema und durch die Lehrtätigkeiten der Designer kompensiert werden.

Das Projekt verfolgt das Ziel, die Gestaltungskompetenz und die damit verbundene methodisch-didaktische Kompetenz der Ausbilder und Lehrkräfte zu verbessern, um sie in einem weiteren Schritt an die Auszubildenden des Tischlerhandwerks zu vermitteln. Hierbei hat die europäische Ausrichtung des Projekts sowohl eine unterscheidende wie auch eine gemeinsame Dimension für die Teilnehmer.

Die Teilnehmer an diesem Projekt sind Ausbilder in Tischlereibetrieben unterschiedlicher Größenordnungen, Lehrkräfte an Berufsbildenden Schulen der Holztechnik sowie in den letzten beiden Projektabschnitten Auszubildende des Tischlerhandwerks. Insgesamt werden 5 Ausbilder und Designer der Firmen, 24 Lehrkräfte und 20 Auszubildende an den insgesamt 12 LTTAs teilnehmen.

Es werden 5 Modulthemen des Ausbildungs- und Lehrplans bearbeitet, die an den 5 Schulstandorten stattfinden werden. Die Lehr-, Lern- und Übungsaktivitäten (LTTA) gliedern sich in je 2 Projektabschnitte: Im ersten Projektabschnitt wird der Auftrag analysiert und es werden erste Entwürfe gefertigt. Die Lehrtätigkeit der professionellen Designer führt zur Verbesserung der Entwürfe und anschließend zur Visualisierung mit dem 3-D CAD System. Die Erstellung der Fertigungszeichnung mit einer 2-D CAD und die Anfertigung eines Prototyps schließt den ersten Projektabschnitt ab.

Im zweiten Projektabschnitt werden die Zeichnungen optimiert, Einzelteilzeichnungen erstellt, Programmiergrundlagen gelehrt und CNC Programme erstellt. Das Produkt wird gefertigt und endmontiert.

Das Projektmanagement hat als zentrale Elemente die Meilensteinplanung, die Projektsteuerung, das Controlling und die Zuordnung der Verantwortlichkeiten. Bedeutsam sind weiterhin das Element der Berichterstattung sowie der Kommunikation mit den Projektmitgliedern. Die zentralen Projektmanagementaufgaben liegen beim Projektkoordinator. Dies sind: Das Kostencontrolling, das Termincontrolling, das Risikocontrolling, die Meilensteinplanung und die Steuerung der LTTA, die Verwaltung sämtlicher Dokumente und Belege der Projektteilnehmer sowie die Erstellung eines Zwischen- und eines Endberichts.

Als Ergebnis des Projekts wird die erhebliche Kompetenzerweiterung der Ausbilder und Lehrkräfte im Bereich der Gestaltung und Fertigung von Möbel- und Innenausbauprodukten angestrebt. Dies wird durch die Auswertung der regelmäßig erfassten und bewerteten Selbstevaluierungsbögen erfolgen. Die Projektgruppe fertigt einen Leitfaden zur Möbelgestaltung an und veröffentlicht diesen auf einer Website, die vom Projektkoordinator eingerichtet und gepflegt wird. Dort finden Stakeholder und interessierte Lehrkräfte und Ausbilder die Berichte der LTTAs und Entwurfsergebnisse aller Teilnehmer.

Perspektivisch erwarten die Projektmitglieder eine Verbesserung der Gestaltungskompetenzen der Auszubildenden im Tischlerhandwerk mit der Folge, dass die anzufertigenden Produkte, Prüfungsstücke und Wettbewerbsprodukte eine hohe Gestaltungsqualität aufweisen und bei Gestaltungswettbewerben vordere Platzierungen erreichen sowie bei Privatkunden auf große Begeisterung und Akzeptanz stoßen.

Themenccluster: Digitale Bildung

Titel: **My Way into the digitalized and globalized working world**

Akronym: My Way

Vertragnehmer: Berufskolleg des Rhein-Sieg-Kreises Siegburg

Projektnummer: 2018-1-DE 02-KA202-005063

Projektlaufzeit: 24 Monate

Projektwebseite: <https://mgsegschneider.wixsite.com/ways>

Deutsche Partner:

Beteiligte Länder: IT, FR

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

MY WAY into the digitalized and globalized working world

After finishing school young people need to find an apprenticeship or a vocational training program. But they also have to be prepared for the rapid changes of the business world. Digitalization, automatization and globalization are big challenges for companies as well as for employees. Being familiar with new developments and technologies can provide employees with better opportunities for career advancement.

It is decisive for companies to adapt quickly to new technological developments in a competitive market. The actual profiles of professions are changing, too. Our students have to be prepared for a life-long learning process in the upcoming digital revolution, in which companies from all over Europe can be connected in a digitalized value chain. The digitalized global market requires flexible actions and altering cooperation and communication.

At the BK Siegburg we already support our students to find an apprenticeship or a vocational training program. In the school subject 'Berufsorientierung' the students get individual guidance in the field of orientation and application. For our students we offer also a vocational fair to meet local and regional companies and institutions.

The project 'My way into the digitalized and globalized working world' prepares the students (commercial college/business school/hospitality management) for the challenges and chances of the changing working world. They will explore how fast local businesses have to adapt to new technological and methodical developments – like for the production line of industries, for retail companies and for international hotel businesses. In the next step they research what impact the business alterations will have on the profiles of the affected professions like hotel management assistant, retailer and industrial clerk. For results they will explore the internet, interview business people and visit companies. The students will publish their results in an online-journal and at a market square. This production process has to be planned, managed and monitored. Students will experience new agile project managing methods which foster the personal key competence 'learning to learn'.

According to different surveys girls have accumulated needs in natural and computer science in Germany. During the project the students will get inside information about two IT-consulting companies and different careers will be presented.

Digitalization and globalization can be seen as two sides of the same medal. Therefore, it is important for us to get in contact with European partners to exchange experiences. With our partners I.I.S.S."MARCO POLO in Bari (Italien), and Lycée Professionnel François Camel in St. Girons (Frankreich) we work on further topics of digitalization and globalization which are relevant for all partners. We agreed on further topics: "cooperation between vocational colleges and companies" and "what job related chances Europe can offer students and apprentices". Finally, the program promotes a transnational network system with regional companies to convey internships and vocational training places to enable students to play an active role in the European working world.

Schools and teachers who need to prepare the students for the changing working world, have the problem to keep up with the rapid developments. The project which links specific businesses and professions to the partner schools can offer teachers a learning opportunity. Teachers from one school and teachers from European partner schools can learn from each other and try new ways to collaborate and develop new concepts for learning and teaching in the field of vocational guidance, which can be reused in similar situations.

The students meet their European partners during the project at three teaching and training activities. Every partner sends ten students and three accompanying teachers to the meetings. The students will work together, exchange their ideas and present their results and use new digital appliances. They will communicate in person as well as on social media to exchange information. The students will visit their partners in their home countries and learn more about their working conditions, their interests and their social situation. The project provides insights into international work environments and everyday life. The students can get in contact with companies to arrange international internships or working experiences. They will train their language skills as well as their cross-cultural competences which will increase the opportunities for their career advancement.

The project will provide a mixture of student activity, real business life experience and intercultural exchange. Students, teachers and companies benefit from the international exchange. Students can use this unique experience to distinguish themselves from other applicants on their way into the digitalized and globalized working world.

Themenccluster: Digitale Bildung

**Titel: The use of digital media in social firms practice:
a European comparison**

Akronym:

Vertragnehmer: Diözesan-Caritasverband für das Erzbistum Köln e. V.

Projektnummer: 2018-1-DE02-KA202-005067

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner:

Beteiligte Länder: BE, RO, LT, EL

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

The digital evolution does not stop at Social Firms in Europe that are committed to the qualification, employment, occupational rehabilitation, and integration of persons whose health prevents them from taking on or continuing a job and who are therefore in need of special help.

Like other enterprises Social Firms must apply technological developments specifically to the occupational promotion and training of persons with disabilities or health issues. They have to adapt to the digital evolution to improve the employability of the target groups and increase their chances on the labour market. In other words, also underprivileged persons must be promoted by qualified offers on the labour market, must be made fit for the digital era, and hence must be protected from the danger of digital exclusion.

The strategic partnership centres on the professional exchange of information on digital training issues in the context of Social Firms and on the familiarisation with good working practices in the participating European countries. In order to reach this aim, a cross border dialogue is to be set up and specific relationships are to be initiated throughout the cooperation.

The partnership pursues the objective of communicating new, define findings and ideas to the involved organisations on how to deal with the opportunities provided and the challenges posed by digitisation in their Social Firms. In this respect, the emphasis is placed on two aspects:

a) the opportunities that digitisation can provide specifically for training work with the underprivileged on the labour market, with respect to both vocational and personnel qualifications (e.g. by means of technical aids, standardisation of work routines, social learning, game based learning);

b) the risks that digitisation may entail in each of the partner countries for employees and specifically for the underprivileged on the labour market (e.g. privatisation of labour, displacement of low grade jobs, etc.).

Six organisations from five member states (Germany, Romania, Lithuania, Greece, Belgium) will take part in the partnership. The project is realized as a series of steps including not only the kickoff and the final event, but also four additional workshops of three days each taking

place at the participating partner organisations. Each partner sends three to four experts and/or executives to the workshops. Furthermore workshops in social firms will be organized with members of the target groups on digital learning and vocational training.

The partnership will produce a good-practice-reader and a project website.

Themenccluster: Digitale Bildung**Titel: smart grid - intelligente Stromnetze 4.0****Akronym:** smart grid**Vertragnehmer:** Heinrich-Emanuel-Merck-Schule**Projektnummer:** 2018-1-DE 02-KA202-005075**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** Industrie- und Handelskammer Darmstadt Rhein Main Neckar; DE
Darmstädter Kreis für Berufliche Bildung DKBB e.V.; DE**Beteiligte Länder:** DE, CZ, AT, IT,**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2018**Zusammenfassung:**

Im Rahmen des Projektes "smart grid - intelligente Stromnetze 4.0" haben sich Berufsschulen aus Bregenz/Österreich, Bozen/Italien, Sokolnice/Tschechien, Wien/Österreich und Darmstadt/Deutschland mit der Industrie- und Handelskammer Darmstadt Rhein-Main und dem Verein DKBB e.V. zur Förderung beruflicher Bildung zusammengeschlossen, um durch Nutzung verschiedener Formen der Lernkooperation, ein nachhaltiges europäisches Berufsbildungsnetzwerk zu knüpfen, das aktuelle Themen des Elektrotechnik und Energiewirtschaft pädagogisch-didaktisch aufbereitet und Lernaufenthalte für Auszubildende im Ausland für Elektroberufe anbietet.

Unser Projekt greift die zunehmende Internationalisierung von Betrieben auf und die damit notwendige Erhöhung der Mobilität von Jugendlichen in beruflicher Erstausbildung. Ausgehend von mehreren Jahren der Zusammenarbeit im gegenseitigen Austausch von Auszubildenden und gemeinsamer transnationaler Partnerschaftserfahrungen und Fortbildungen (z.B. Elektromobilität, smart grid) haben sich die Einrichtungen mit der Maßnahme „Lernortkooperation“ auseinandergesetzt.

Den Akteuren ist bewusst, dass der Aufbau und die Pflege von Lernortkooperationen eine wirkungsvolle und strategische Maßnahme zur Steigerung der Beschäftigung von jungen Menschen in Europa ist. Lernortkooperation bedeutet die Zusammenarbeit von Berufsschule und Ausbildungsbetrieben bzw. kooperierenden Betrieben. Sie ist nicht nur auf das duale System bezogen, sondern beschreibt alle Formen, auch vollschulische Formen der Berufsausbildung, in denen Kooperationen zwischen verschiedenen Lernorten zur Optimierung der Berufsausbildung stattfinden.

Die Industrie- und Handelskammer, die betrieblichen Kooperationspartner der Berufsschulen und auch der DKBB e.V. unterhalten Kontakte zu weiteren Betriebe im In- und Ausland. Im Bezug auf die Lernortkooperation nehmen Sie repräsentativ die Perspektive der Betriebe ein, während die Schulen aus ihrer Sicht das Thema mitgestalten. Die IHK/GSI als auch der DKBB e.V. werden zudem bei der Vermittlung von Plätzen für Lernaufenthalte unterstützen. Gleichzeitig können sie durch ihre starke regionale Stellung auch als Türöffner zu Betrieben fungieren, die Schulen bei Werbeaktionen in ihren Medien unterstützen und lokale als auch internationale Informationsveranstaltungen zu Lernaufenthalten und deren Mehrwert für die Ausbildung und die Betriebe anbieten.

Beabsichtigt wird, Digitalisierung und Industrie 4.0 am Beispiel smart grid und WBT in die Berufsausbildung zu transportieren, um die Auszubildenden zur Erfüllung der Aufgaben im Beruf sowie zur Mitgestaltung der Arbeitswelt, Gesellschaft und Europa in sozialer und ökologischer Verantwortung zu befähigen. Deshalb werden bewährte Verfahren guter Praxis der Lernortkooperation ausgetauscht, weiterentwickelt und erprobt.

Grundlegende Strukturen zur Bereitschaft und Offenheit für diese Ziele stehen im Mittelpunkt des Arbeitsauftrags dieser Partnerschaft. Dies soll im Einzelnen durch folgende Aspekte der Lernortkooperation erreicht werden:

- 1) Ergänzung der Ausbildungspläne der Partner. Das Themengebiet Industrie 4.0 weist hinsichtlich der smart grid Technologie Lücken auf,
- 2) Organisation und Management eines auf Lernortkooperation basierendes Berufsbildungsnetzwerks,
- 3) Planung, Durchführung und Evaluation von kooperativen Ausbildungsprojekten mit Fokus auf das handlungsorientierte Lernen unter Einbeziehung von Web Based Learning (E-Learning, Digitalisierung 4.0),
- 4) Planung, Durchführung und Nachbereitung von Betriebserkundungen zur Generierung beruflicher Lernaufgaben und
- 5) Transnationale Kooperationen hinsichtlich beruflicher Lernaufenthalte im Ausland.

Basierend auf diesen Teilthemen der Lernortkooperation ergeben sich folgende Ziele:

Ziel 1) Entwicklung, Erprobung und Evaluation des Unterrichtsmoduls smart grid zur Ergänzung der regionalen Ausbildungspläne,

Ziel 2) Transnationales Berufsbildungsnetzwerk knüpfen, das Auszubildenden Lernaufenthalte ermöglicht,

Ziel 3) Austausch von kompetenzorientierten Unterrichtsformen (SOL, HO) des Web Based Learning.

Der Stand der Erarbeitung und weitere Informationen können jederzeit bei den Projektpartnern oder der antragstellenden Einrichtung, der Heinrich-Emanuel-Merck-Schule, bezogen werden. Die Mailadresse lautet Gerald.Hubacek@darmstadt.de. Die Projektgruppe berichtet unter folgender Webseite über den Fortgang und die Ergebnisse der Partnerschaft: www.erasmusplus-projekte.eu.

Themenccluster: Digitale Bildung

- Titel:** **Good Practice on the Move – Anchoring New Technologies in Automotive VET**
- Akronym:** Good Practice on the Move
- Vertragnehmer:** BGZ Berliner Gesellschaft für internationale Zusammenarbeit mbH
- Projektnummer:** 2018-1-DE 02-KA202-005079
- Projektlaufzeit:** 25 Monate
- Projektwebseite:** -
- Deutsche Partner:** Innung des Kraftfahrzeuggewerbes Berlin; DE
Hochschule für Technik und Wirtschaft Berlin; DE
- Beteiligte Länder:** DE, PL, IT, FR, LT, HR, AT,
- Gefördert aus:** Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

HINTERGRUND: Die „digitale Revolution“ bedeutet für Wirtschaft und Gesellschaft einen Umbruch vergleichbar mit dem Übergang von der Industrie- zur Servicegesellschaft. Die immer stärkere Digitalisierung der Arbeitswelt und die Einführung neuer Technologien, Systeme und Verfahren verändern betriebliche Arbeitsprozesse und damit auch die Anforderungen an die Fachkräfte. Neue Technologien verlangen Kompetenzen, die mittlerweile deutlich über das traditionelle Berufsbild hinausgehen. Der Wandel der Kfz-Betriebe von Reparaturwerkstätten zu Qualitätsservicebetrieben erfordert z.B. Facharbeiter mit Diagnose- und Reparaturkompetenz für eine IT-gestützte integrierte Kfz-Technik sowie hohe Beratungs- und Methodenkompetenz. Gleichzeitig muss angesichts des zunehmenden Fachkräftemangels Berufsbildung für Jugendliche attraktiver werden – vor allem auch durch interessante neue Inhalte, partizipative Lernformen und den Zugang zu innovativen (digitalen) Tools im Unterricht.

An diesem Spannungsfeld setzt unser Projekt „Good Practice on the Move“ an. Die in den letzten 5 Jahren im Rahmen von Innovationsprojekten exemplarisch entwickelten Lösungsansätze zum Umgang mit Digitalisierung und neuen Technologien in der beruflichen Bildung (z.B. Anpassung von Curricula, Lerninhalten, Materialien & Medien, aber auch Neugestaltung von Berufen und Abbau der strikten Trennung VET-HE) sollen nun auf Praxistauglichkeit in der regulären Ausbildung geprüft, in den verschiedenen Systemen EU-weit zur Nutzung vorbereitet und institutionell verankert werden.

PROJEKTZIEL ist es, exemplarisch für den Kfz-Sektor Perspektiven für eine erfolgreiche Einbindung von Digitalisierung und innovativen Technologien in der Berufsbildung aufzuzeigen. Damit sollen

*die Qualität, Arbeitsmarktrelevanz & Zukunftsfähigkeit der Ausbildungsgänge in Kfz-Berufen gesteigert,

*die institutionellen Kapazitäten der Berufsschulen gestärkt,

*Transparenz & Durchlässigkeit zwischen Berufs- und Hochschulbildung verbessert und

*die Kooperation von Bildungseinrichtungen gefördert werden.

ZIELGRUPPEN sind das Management und Lehrkräfte im Bereich Kfz aus Berufsschulen (sowie Hochschulen), aber auch Behörden als Gestalter der Rahmenbedingungen. Endbegünstigte sind die Auszubildenden in Kfz-Berufen und die Unternehmen.

PROJEKTPARTNER sind Berufsschulen, Hochschulen und Verbände aus sieben EU-Ländern (AT, DE, FR, HR, IT, LT, PL), alle mit langjähriger Erfahrung und Expertise im Kfz-Bereich.

AKTIVITÄTEN: Good Practice und neue Ansätze zur Ausgestaltung von Berufsbildung und zur Zusammenarbeit VET-HE aus sieben EU-Ländern werden gebündelt und auf Zukunftsfähigkeit/Nutzbarkeit für EU-weiten Transfer und institutionelle Verankerung geprüft. Dafür kombinieren wir die Arbeit mit lokalen/regionalen Akteuren und transnationalen Austausch. Die Erkenntnisse fließen in Konzepte für den Kapazitätsaufbau der Einrichtungen sowie Schlussfolgerungen und Empfehlungen zur Weiterentwicklung der Berufsbildungssysteme ein. Begleitende PR und Verbreitung machen das Projekt und seine Ergebnisse sichtbar.

Bei der Arbeit mit den Akteuren aus Politik/Verwaltung, Bildung und Wirtschaft verzahnen wir mehrere Einflüssebenen: Unterrichtspraxis – Kompetenzen des Lehrpersonals - institutionelle Kapazitäten der Berufsschule.

Im ERGEBNISS stehen:

*die Nutzung der Inhalte, Methoden, Materialien und Tools zu den neuen Technologien in der Unterrichtspraxis und ihre Einbindung in Curricula;

*verbesserte Kompetenzen der Lehrkräfte im Umgang mit den neuen Inhalten, Materialien und Tools;

*eine engere Zusammenarbeit zwischen Einrichtungen der Berufs- und Hochschulbildung und verbesserte Möglichkeiten für Lernende zum Übergang VET-HE;

*Konzepte für den Kapazitätsaufbau der Berufsschulen und mehr internationale Kooperation;

*Kompetenzentwicklung bei den Auszubildenden.

WIRKUNGEN umfassen

*eine höhere Qualität und Attraktivität der beruflichen Ausbildung (new skills for new jobs),

*gestärkte Kapazitäten der Bildungseinrichtungen (innovative Curricula, Lernformen, Lernmodelle und Medien etc.) und

*mehr Wettbewerbsfähigkeit der Kfz-Unternehmen (Verfügbarkeit von gut ausgebildeten Fachkräften).

Mit der Ansprache von Akteuren mit Regulierungskompetenzen nimmt der Projekt auch Einfluss auf die Ordnungssysteme der beruflichen Bildung (z.B. bei der Beantwortung der Frage, wie Zukunftstechnologien sich in der Ausbildung niederschlagen sollen). So kann die berufliche Bildung langfristig ihrer Funktion als Wachstumsmotor nachkommen.

Der LANGFRISTIGE NUTZEN ist ein ökonomischer, ein sozialer und ein gesellschaftlicher: gestärkte Wettbewerbsfähigkeit der Kfz-Branche, attraktive Beschäftigungsmöglichkeiten für junge Facharbeiter, mehr Servicequalität für Verbraucher, breite Anwendung digitaler

Lösungen zur Steigerung von Funktionalität und Nutzwert, aber auch zur Stärkung von Umweltschutz. Schließlich werden neue Technologien mehr und mehr Teil der Gesellschaft und ihre Beherrschung Teil der Lebensqualität.

Themenccluster: Digitale Bildung

Titel: **Enhancing inclusion capacity of educational organisations / institutions providing VET with information and communication technologies (ICT)**

Akronym: EICON

Vertragnehmer: Institut für Technologie und Arbeit (ITA) e. V.

Projektnummer: 2018-1-DE 02-KA202-005110

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner:

Beteiligte Länder: PT, FI, EL, SE

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

Official data shows that people with disabilities continue to be disproportionately excluded from the labour market. Moreover, people with learning or intellectual disabilities are even less likely to be in work than those with physical disabilities. However, the exclusion of people with disabilities from the labour market is a serious concern from the perspective of equal opportunities. Countries should make it a priority to achieve better results for, among others, learners with special needs / disabilities, as well as to promote personalised learning through timely support and well-co-ordinated services, to integrate services within mainstream schooling and to ensure pathways to further education and training (European Agency for Special Needs and Inclusive Education, 2013). Vocational education and training (VET) plays a crucial role, as it acts as the joint between school education and the working world.

EICON's main objective is to support organisations / institutions providing VET to become more inclusive. In particular, the aim is to put the organisations as a whole in the focus, and not just education and training practice. Managers of these organisations / institutions are particularly in need for guidance on how to further develop their organizations, as they often have to work towards multiple aims simultaneously, i.e. inclusion usually is one among other aims. The typical organizational response to address inclusion is to provide teaching personnel with further qualification and training. This is essential, but unfortunately not sufficient to reach the aim. Rather, systemic approaches are required to succeed in the inclusion endeavour. Hence, different organizational areas will be analysed, in particular those that are known - from research - to be essential in establishing and maintaining an organisation's inclusive capacity. For each of these organizational areas it will be discussed and explored, if and how information and communication technology (ICT) can be used within this unit as a lever / amplifier to increase the overall organization's inclusiveness.

Six partners from Germany, Portugal, Greece, Sweden and Finland have joined forces to elaborate practice-oriented recommendations. Partners come from organisations that provide VET (Invalidisäätiö - Keskuspuisto vocational college (FI) and Cooperativa para a Educação e Reabilitação de Cidadãos Inadaptados de Cascais – CERCICA (PT)), that support organisations / institutions that provide VET (Specialpedagogiska skolmyndigheten – SPSM (SE) and the National Ministry of Education, Research and Religious Affairs (EL)) and that

support organisations in complex change processes (Institut für Technologie und Arbeit – ITA (DE); project coordinator).

The main project activities will take place ahead, during and after a series of seven face-to-face meetings (approx. 3-monthly), each focusing on a central thematic area: (1) pedagogy & teaching / learning approaches, (2) technology & infrastructure, (3) establishing & maintaining links to employment / labour market, (4) stakeholder involvement, collaboration & partnerships, (5) leadership, (6) transition & target scenarios for VET organisations, (7) continuous improvement process. Each meeting will produce a specific draft outcome that will then be published for a certain time on a consultation platform to collect further ideas, comments or suggested changes from a wider audience in Europe. Final / consolidated outcomes and recommendations will be published on the project's dedicated website.

It is expected that participants will gain a wider perspective on inclusion by applying an organisational / holistic view on inclusion. They will also be able to learn from good examples from other European countries and gain knowledge about effective organisational levers of change. Organisations / institutions active in VET are expected to feel better prepared for the required change, may initiate change processes and collaborate / network with other organisations in this endeavour. At policy level the project aims to highlight which favourable conditions for organisations / institutions active in VET are required so that they can improve their inclusion capacity on their own.

The EICON recommendations on how to make use of ICT to help organisations / institutions offering VET to become more and truly inclusive, will benefit learners with special educational needs / disabilities in the longer term, as they would find equitable means to participate in VET to ultimately gain the very same qualifications than anybody else.

Themencuster: Digitale Bildung**Titel: Netzkompetenz für eine digitalisierte Arbeitswelt 4.0****Akronym:** NetKom_4.0**Vertragnehmer:** Europa-Universität Flensburg**Projektnummer:** 2018-1-DE 02-KA202-005132**Projektlaufzeit:** 18 Monate**Projektwebseite:** -**Deutsche Partner:** Regionales Bildungszentrum Eckener-Schule AÖR; DE
Grundig Akademie für Wirtschaft und Technik Gemeinnützige Stiftung
e.V.; DE**Beteiligte Länder:** DE, LT, AT, PT**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2018**Zusammenfassung:**

Der Technologiewandel hin zu einer digitalisierten Arbeitswelt wird Auswirkungen auf das Beschäftigungssystem in Europa haben. Welche Kompetenzen und Qualifikationen für diese veränderten bzw. neuen Beschäftigungsmöglichkeiten benötigt werden, wird derzeit in nur wenigen geförderten Projekten erforscht. Aufbauend auf den Ergebnissen aus dem BMBF-geförderten Verbundvorhaben "PROKOM_4.0" und den Ergebnissen des Teilprojektes der Europa-Universität Flensburg zur "Netzkompetenz", wird nun im europäischen Raum mit innovativen Partnern an einer Weiter- und Fortentwicklung der "Netzkompetenz" gearbeitet. Eine "Netzkompetenz" lässt sich als eine individuelle Disposition beschreiben, die es Personen heute und in der Zukunft ermöglicht, die Veränderungen einer digitalisierten Gesellschaft und Arbeitswelt reflexiv und kritisch bewertend mit zu gestalten. Ziel wird es sein für die höhere Berufsbildung auf dem EQF-Niveau 6 ein gemeinsames Verständnis für die Kompetenzanforderungen und deren Entwicklung im grenzüberschreitenden Dialog zu erarbeiten und an der bereits existierenden Expertise der einzelnen Partner zu partizipieren. Durch die Analyse länderspezifischer "Best-Practice" profitieren alle Partner. Dadurch werden die eigenen Einrichtungskapazitäten gestärkt. Mit dem internationalen Austausch entwickelt sich eine Professionalisierung des Bildungspersonals. Die sieben Netzwerkpartner werden auf der Basis einer Partnerschaft zum Austausch guter Praxis vier transnationale Projekttreffen bei den Partnerinstitutionen in Deutschland/Dänemark, Portugal, Litauen und Österreich durchführen. Dort werden jeweils regionale Einblicke in die technologische Entwicklung hin zu einer Industrie 4.0 kritisch betrachtet. Im Ergebnis soll ein länderübergreifendes Verständnis und eine Sensibilisierung für eine individuelle Kompetenzentwicklung geschaffen werden. Die (Mit-)Gestaltung von Arbeit und Technik ist ein Grundanliegen der Berufsbildung. Somit sollten in der beruflichen Aus- und Weiterbildung sowie in der Aus- und Fortbildung von Lehrkräften sowie Ausbilderinnen und Ausbildern Kompetenzen entwickelt werden, die die Herausforderungen der Digitalisierung bewältigen können. Aufbauen auf den Ergebnissen und der Netzerkennung soll ein weiteres Vorhaben zur Unterstützung von Innovationen erarbeitet werden.

Themencuster: Digitale Bildung**Titel: Transforming VET to 4.0****Akronym:** TVET 4.0**Vertragnehmer:** Bayerisches Staatsinstitut für Schulqualität und Bildungsforschung**Projektnummer:** 2018-1-DE 02-KA202-005158**Projektlaufzeit:** 24 Monate**Projektwebseite:** <https://www.tvet40.eu/>**Deutsche Partner:** Berufskolleg Werther Brücke; DE
Industrie- und Handelskammer für München und Oberbayern; DE
AUDI AG; DE**Beteiligte Länder:** NL, FI, IS, DE**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2018**Zusammenfassung:**

Kontext und Hintergrund:

Durch die Digitalisierung entwickelt sich eine neue Kulturtechnik – der kompetente Umgang mit digitalen Medien –, die ihrerseits die traditionellen Kulturtechniken Lesen, Schreiben und Rechnen ergänzt und verändert. Diese Aussage vergangener Zeit ist jetzt Realität geworden. Wir leben jetzt im Zeitalter der Digitalisierung. Die gesamte Wirtschaft wird von neuen Technologien erfasst - der Begriff Industrie 4.0 beschreibt diese Entwicklung. Diese Entwicklung muss von der beruflichen Bildung nicht nur berücksichtigt werden - mit den rasanten Weiterentwicklungen in der Arbeitswelt muss Schritt gehalten werden.

Zielsetzungen:

Das Projekt fokussiert auf die Qualifizierung von Bildungspersonal in der beruflichen Bildung (Schule und Betrieb) als auch in der Erwachsenenbildung.

Wir wollen

- Bildungspersonal die Möglichkeit einer fachlich-pädagogischen Weiterqualifizierung ermöglichen
- die Wahrnehmung der Veränderungen in der Arbeitswelt schärfen und ein Bewusstsein für zukünftige Anforderungen schaffen
- den Einblick in eine Vielzahl unterschiedlicher Technologien, pädagogischer Ansätze und Reflexionsmöglichkeiten auf internationaler Ebene anbieten
- die beteiligten Einrichtungen dazu bringen, ein Trainings- und Ausstattungskonzept zu entwickeln, das den Bedarf der Betriebe und technologische Entwicklungen berücksichtigt

Teilnehmerinnen und Teilnehmer:

- ISB als nachgeordnete Behörde des Bayerischen Kultusministeriums (mit Verbindung zu Politik und Netzwerk zu allen bayerischen Berufsschulen und einschlägigen Arbeitskreisen). Dies ist das erste Projekt im Rahmen der Leitaktion 2 als Koordinator für das ISB.
- Bildungspersonal der IHK München und der Mitgliedsbetriebe (z. B. Audi, BMW, Siemens, Infineon)
- ICT-Lehrkräfte einer Beruflichen Schule mit Anbindung zur Hochschule, Lehrerausbildung und einem einmaligen Konzept zum experimentellen Lernen
- ICT-Lehrkräfte einer Beruflichen Schule, die die Bereiche Duale Berufsausbildung (EQR 4) bis zur berufliche Weiterqualifizierung (EQR 6) abdeckt, unterschiedliche technische Berufsfelder (ICT, Elektronik, Mechatronik, Automobiltechnik)
- Lehrkräfte einer Beruflichen Schule mit einer großen Bandbreite unterschiedlicher Berufe (Technik, Wirtschaft, Dienstleistung, Sozial), die alle durch Digitalisierung Veränderungen erfahren
- Bildungspersonal des Bereichs der Erwachsenenbildung, die für die Qualifizierung Berufstätiger zuständig sind und diese auf Veränderungen in der digitalisierten Arbeitswelt vorbereiten müssen; Anbindung an das Arbeitsministerium

Aktivitäten:

Projektmanagement und Implementierung: Vorbereitung und Organisation der Aktivitäten und der finanziellen Abwicklung, Unterstützung der Partner, Abfrage der Projektergebnisse, Erstellung und Pflege der Projekthomepage

Mobilität (LTTAs): Vorträge und Inputphasen durch hochtechnologisierte Betriebe, Input zur neuesten methodisch-didaktischen Fragestellungen, zur Curriculumveränderung und zu Ausstattungsaspekten, Darstellung der Tätigkeit und Arbeit an den Einrichtungen (Beispiele guter Praxis), Reflexion der Input-Phasen, Austausch über die mögliche Anwendung in der eigenen Einrichtung, Evaluation und Dokumentation der LTTAs

Projektergebnisse: Schriftliche Darstellung von Beispielen guter Praxis, Erarbeitung und Verteidigung eines Fortbildungs- und Ausstattungskonzepts, Verbreitung der Projektergebnisse

Resultate:- Erfassung zukünftiger Anforderungen der beruflichen Bildung durch Digitalisierung / Industrie 4.0

- fachliche und methodisch-didaktische Qualifizierung des Bildungspersonals
- Gestaltung eines Fortbildungs- und Ausstattungskonzepts

Wirkung und Nutzen:

- Stärkung der beteiligten Einrichtungen zur Bewältigung neuer Herausforderungen / Verringerung der Lücke zwischen Berufsbildung und Arbeitswelt
- Weiterentwicklung der Lehrer, der technischen Infrastruktur und der Organisation
- Verbesserte Qualifizierung der Lernenden / bessere arbeitsmarktorientierte Ausbildung
- Stärkung der europäischen Zusammenarbeit im Bereich der beruflichen Bildung
- Stärkung der Zusammenarbeit von Betrieb und Schule
- Deckung des Bedarfs an qualifiziertem Fachpersonal
- Startpunkt neuer Kooperationen

Themencuster: Digitale Bildung**Titel: Digitalise VET****Akronym:** DigiVET**Vertragnehmer:** Internationaler Bund-IB BERLIN-BRANDENBURG gGmbH für Bildung und soziale Dienste**Projektnummer:** 2018-1-DE 02-KA202-005185**Projektlaufzeit:** 18 Monate**Projektwebseite:** <https://www.internationaler-bund.de/angebot/10589>**Deutsche Partner:****Beteiligte Länder:** LT, EE**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2018**Zusammenfassung:**

The digital era has led to changes in the way the economy and companies work. It is clear that neither companies, schools, training centres nor society is adequately prepared for this change. Professionals on the labour market nowadays need to be able to work with ICT tools and understand how these work.

It has taken a bit longer for this change to arrive in VET curricula and VET institutions. Yet, digitalisation has progressed at a different pace in different EU countries. While Estonia is by many considered a “digital state” which has managed to digitise its society nearly completely, Germany is considered to be far behind when it comes to digitisation especially when it comes to government services and digital education, whereas Lithuania is somewhere in the middle field (see Digital Economy and Society Index 2017).

When it comes to Vocational Training and Education (VET), the need for adapting to the digital markets and making VET more attractive by including digital learning into the curricula is obvious. Students and apprentices need to be able to have the necessary ICT skills for the modern labour market. Currently, there is a skills gap between the increasingly digitalised labour market and VET training that is provided. In order to close the skills gap, VET providers need to digitalised their learning environment so that apprentices and students learn the necessary skills and are adequately prepared for their professions.

This is especially true for disadvantaged learners such as students with learning difficulties who need digital skills teaching methods adopted to their learning speed and needs.

The Exchange of Good Practice project "Digitalise VET" will focus on three different aspects of digitalisation:

- digitalisation of training: e-learning methods and digital skills
- digitalisation of VET tools: managing learning with different digital tools (e.g. moodle and other learning and exchange platforms)
- digitalisation VET for disadvantaged: adapting e-learning and its tools to disdavantaged learners: what are their needs and limitations?

The project will consist of two transnational project meetings and three study visits to each of the involved partner organisations. During the study visits one of the three above mentioned aspects will be the main focus. The study visits will involve a mixture of presentations, discussion groups, practical demonstration and job shadowing. After the study visits a guideline for digitalisation of VET institutions with the three mentioned topics in focus will be developed.

Themenccluster: Digitale Bildung

Titel: **ICT is the Future - Integration through Competence Testing and Training**

Akronym: ICT is the Future

Vertragnehmer: Zentrum Arbeit und Umwelt - Gießener gemeinnützige Berufsbildungsgesellschaft mbH

Projektnummer: 2018-1-DE 02-KA202-005212

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner:

Beteiligte Länder: PT, IT

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

Grundlage der Partnerschaft zum Austausch guter Praxis zwischen den drei Partnerorganisationen ZAUG (Deutschland), CEPROF (Portugal) und AICS (Italien) ist der Antrieb, gemeinsam einen Beitrag auf europäischer Ebene zu leisten, um auf die Herausforderungen der beruflichen Bildung durch einen sich wandelnden Arbeitsmarkt und durch andauernde Migrationsbewegungen zu reagieren sowie feste Kooperationsstrukturen unter den Projektpartnern zu schaffen.

Geflüchtete und Migranten zählen zur Bevölkerungsgruppe der am stärksten Benachteiligten. Daher ist der Bedarf an digitaler Bildung, die als eine der acht notwendigen Schlüsselkompetenzen zur Erlangung der Beschäftigungsfähigkeit zählt, bei dieser Zielgruppe sehr hoch. Die Aneignung von IKT-Kompetenz ist für Geflüchtete und Migranten, neben weiteren Grundkompetenzen, wie z.B. der Fähigkeit des zielgerichteten und selbstständigen Lernens, wesentlich für die zukünftige Beschäftigungsfähigkeit wie auch für ihre soziale Inklusion und persönliche Entfaltung in der heutigen Informationsgesellschaft.

Das Projekt ICT is the Future – Integration through Competence Testing and Training verfolgt mit der Identifikation, Optimierung und Verbreitung bewährter Verfahren im Bereich der Kompetenzfeststellung und Qualifizierung mit dem Schwerpunkt IKT von Geflüchteten und Migranten das Ziel, die Integration der Zielgruppe in den Arbeitsmarkt 4.0 zu verbessern.

Die Schwerpunkte unseres Projekts gliedern sich dementsprechend in zwei Unterziele, die Verbesserung der digitalen Bildung unter Einbezug der fünf im DIGCOMP Referenzrahmen definierten Kompetenzbereiche: Informations- und Datenkompetenz, Kommunikation und Kooperation, Erstellung digitaler Inhalte, Sicherheit und Problemlösung und die verbesserte

Integration von Geflüchteten und Migranten in die berufliche Bildung im IKT-Bereich und den Arbeitsmarkt 4.0.

Die Projektpartner sind AICS, eine Nichtregierungsorganisation im Bereich der Sport- und Kulturförderung mit dem Schwerpunkt der sozialen Integration von Geflüchteten, CEPROF, ein Bildungsträger mit eigenem Qualifizierungs- und Zertifizierungszentrum mit IKT-Schwerpunkt und ZAUG, ein Berufsbildungsträger mit dem Schwerpunkt der beruflichen

Qualifizierung und Arbeitsmarktintegration Geflüchteter und Migranten. Mit den unterschiedlichen Expertisen der Projektpartner sind alle relevanten Bereiche wie digitale Bildung, berufliche Qualifizierung, Zertifizierung, soziale Inklusion und Arbeitsmarktintegration von Geflüchteten und Migranten vertreten. Das Fachwissen und die methodischen Kompetenzen jedes einzelnen Partners ergänzen die Spezialisierung der anderen Partner für einen breitgefächerten Austausch guter Praxis und der Sammlung von Ideen und Visionen, diese bewährten Verfahren miteinander zu verknüpfen.

Über den Austausch guter Praxis der Projektpartner in den Bereichen

- Unterstützung bei der Stärkung von Schlüsselkompetenzen für benachteiligte Gruppen (AICS, ZAUG)
- zielgruppenspezifische Kompetenzfeststellungsverfahren (ZAUG)
- zertifizierte Qualifizierung im IKT-Bereich (CEPROF)
- berufliche Qualifizierung von Geflüchteten und Migranten (ZAUG, AICS, CEPROF)

wird die Übertragbarkeit bewährter Verfahren von Projektpartnern aus Deutschland, Italien und Portugal mit unterschiedlichen Schwerpunkten in den genannten Bereichen auf die eigene Organisation und das eigene Land geprüft.

Zu erwartende verwertbare Ergebnisse des Projekts ICT is the Future, die der Verbreitung der guten Praxis dienen, sind ein Kriterienkatalog zur Identifizierung und Bewertung guter Praxis in den projektrelevanten Bereichen und eine Sammlung guter Praxis mit Übertragungs- bzw. Anpassungsstrategien auf andere Zielgruppen, Berufsbildungsbereiche und Länder. Des Weiteren soll, aus dem Austausch resultierend, eine gemeinsame Projektidee entstehen, die die Kombination einzelner Komponenten der verschiedenen Beispiele guter Praxis und deren Weiterentwicklung vorsieht und zukünftig im Rahmen von Partnerschaften zur Unterstützung von Innovationen umgesetzt werden kann.

Themencuster: Digitale Bildung

Titel: **Audiovisual E-learning platform: MEDICAL TRANSPORT OF PATIENTS WITH TROPICAL DISEASES IN SAFE CONDITIONS**

Akronym: TROPICSAFE
Vertragnehmer: Bernhard-Nocht-Institut für Tropenmedizin
Projektnummer: 2018-1-DE02-KA202-005077
Projektlaufzeit: 24 Monate
Projektwebseite: <https://www.tropicsafe.com/>
Deutsche Partner:
Beteiligte Länder: ES, IE, LV,
Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

BACKGROUND:

The sanitary transport service is a dangerous task when professionals have to deal with patients suffering contagious diseases. The outbreak of Ebola in 2014 and the H1N1 influenza virus demonstrated a lack of effective training in some case in the EU. Nowadays there are several protocols to manage the tropical diseases but health professionals are demanding specific guidelines and more practical training material. More specifically, sanitary professionals have detected some deficiencies in the current trainings:

- There is a large dispersion and lack of homogenous criteria for the training in sanitary professionals in cases of tropical diseases.
- There is a significant dispersion of guidelines to follow (WHO protocols, national protocols, guidelines army) and no harmonization.
- There are no specific training plans, and the only materials available are just some informal brochures
- Sanitary transport staff states that they have the action protocols, but no clear guidelines for action. There are no trainings available for protective equipment.
- The treatment of tropical diseases requires specialized training and preventive and stringent measures to prevent infection. It should include health professionals and corroborate the several protocols that have been launched in different regions to prevent future infections.

By other hand, the creation of the Schengen Area and the suppression of internal borders in the EU make necessary common policies and procedures to face any potential outbreak of virus through transnational actions.

OBJECTIVES:

The TROPICSAFE project aims to develop an homogeneous training protocol at European level focused on patient transport professionals with normalized guidelines for a proper and safely transfer of patients with tropical diseases.

This training will be published in an Open Online Learning Platform, since it's considered the best way for transmitting the disinfection guidelines and use of protective equipment. The training will include audiovisual support such videos, images and graphics in order to better demonstrate the safety procedures the professionals should follow. The e-learning platform will be completed with a questions & answers tests to evaluate the training process.

It will be translated to the languages of the consortium to get the support of the national health authorities and increase its impact. It will also be transferred to European institutions to set common criteria within the EU.

PARTNERSHIP:

The partnership will be conformed by entities combining expertise in different fields, such medical transport, vocational training, work safety and tropical diseases. They complement and each one provides different expertises. They are:

- ANEA (National Federation of Ambulances). Spain
- SGS TECNOS (Multinational company specialized in work safety). Spain
- MURRAY AMBULANCE SERVICE Ltd. (SME of medical transport) Ireland
- BIEDRIBA EUROFORTIS (NGO specialized in vocational training): Latvia
- Bernhard Nocht Institute for Tropical Medicine. (Research Institute) Germany

Having an international consortium would also ensure a wider diffusion of the project, reaching the professionals of the health sector and public authorities at all levels.

IMPACT:

The main beneficiaries of this project will be sanitary transport workers, private companies, professional associations in the medical transport, trainers, Public and Private centers of training and health professionals.. The consortium includes an associated hospital and partners are work closely with the Public Health Authorities. They will transfer them the results to make them available for society, and thus achieving a more homogeneous safety procedures throughout the EU member states.

As the training program will be hosted in an e-learning platform and will have a Creative Commons license, it will be easier to disseminate the results and anyone will be able to benefit from them.

Themencuster: Digitale Bildung

Titel: **Experiencing augmented reality on cultural heritage applications in iVET**

Akronym: CULT-APP

Vertragnehmer: Fachhochschule des Mittelstandes (FHM) GmbH - University of applied science

Projektnummer: 2018-1-DE 02-KA202-005088

Projektlaufzeit: 30 Monate

Projektwebseite: <http://cultapp.eu/>

Deutsche Partner:

Beteiligte Länder: IT, PL, BG, NL, EL

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

“Culture and education are closely intertwined all along our citizens’ life. The cultural sector represents a world of thousands of opportunities to learn, be they formal, non-formal or informal. The outcomes of these practices are more and more acknowledged in the educational systems and ought to be better exploited.”(CAE)

Context:

Cultural heritage (CH) is of great value to European society from a cultural, environmental, social and economic point of view. Thus, its sustainable management constitutes a strategic choice for the 21st century, as stressed by the Council in its conclusions of 21 May 2014 (DECISION (EU) 2017/864). Moreover, CH plays a specific role in achieving the Europe 2020 strategy goals for a ‘smart, sustainable and inclusive growth’ because it has social and economic impact and contributes to environmental sustainability (2014/C 183/08)

Towards this vision, the European Parliament and the Council of the European Union have designated the year 2018 as the ‘European Year of Cultural Heritage’ (‘European Year’) with the purpose “to encourage the sharing and appreciation of Europe’s cultural heritage as a shared resource, to raise awareness of common history and values, and to reinforce a sense of belonging to a common European space”. Furthermore, the ‘European Year’ shall highlight the best means to ensure the conservation and safeguarding of Europe’s CH as well as the enjoyment thereof by a more and diversified audience, including heritage education.

Finally, most of the above mentioned EU policies are supported by national priorities and objectives:

- Germany: modernization of VET within the funding program “Digital Media in VET” aiming at a strong and competitive Vocational Training 4.0.;

- Italy: launch of a National Plan for Digital Schools aimed at mainstreaming ICT in classroom using technology as a catalyst of innovation;

- Bulgaria: development of a Plan for Effective Implementation of ICT in Education and Science 2014-2020 aiming at overcoming digital divide in the country improving digital learning at schools.

Problems addressed:

“The challenge for Europe will be to innovate in strategic technologies and help workers to gain the right skills to avoid widening the gap in the labour market” (COM2017,240).

Skills gaps and mismatches are striking. Many people work in jobs that do not match their talents. At the same time, the demand for digital technology professionals has grown by 4% annually in the last ten years.

The rapid digital transformation of the economy means that almost all jobs now require some level of digital skills. Europe needs digitally smart people who are able to innovate and lead in using these technologies, overall in the heritage sector where traditional skills and crafts are disappearing.

Hence, in an international context in which cultural heritage is increasingly threatened, it is essential to invest in education and training (E&T) and raising awareness and knowledge about the significance and the value of heritage and the importance of its diverse cultural expressions. With this in mind, innovative, participatory and more accessible forms and means of E&T on CH are required.

Project aim and objectives:

The overall aim of the project is to raise awareness of the value of Europe's CH through education and lifelong learning, specially among young students. In particular, the project aims at supporting iVET institutions in integrating innovative teaching practices within their programmes. Such project will lead to following innovative elements:

1. raising awareness of the importance of transmitting the value of Europe's CH within the education sector;
2. the quality of the iVET offer will be enhanced through the improved professional capacity of teachers;
3. adopting innovative ways to transfer knowledge in education aiming at aligning technologies with learning objectives and support students in attaining 21st century skills such as communication, critical thinking, problem-solving, persistence, collaboration and curiosity.

Partnership:

8 Partners from 6 European countries (DE,IT,BG,NL,EL,PL), form a transnational cooperation partnership with a balanced geographical representation of the Erasmus+ area.

Methodological approach and key outputs:

Since the very beginning of the project Partners will define concrete strategies and approaches for engaging iVET institutes, training organisations other stakeholders in experiencing innovative approaches for teaching art and CH. Partners will set up an online teacher training programme and student will be engaged in cooperating for designing and developing an augmented learning project work.

Impact and long term benefits:

- a. raise awareness of the contribution of CH in terms of educational value;
- b. building a challenging and creative vocational education training environment which engages both school teachers and students;
- c. offering teachers attractive working conditions to get their learners involved.

Themenccluster: Digitale Bildung

Titel: **Redefining Nursing Skills for AI and robotization in health care**

Akronym: NursingAI

Vertragnehmer: Universitätsklinikum Heidelberg

Projektnummer: 2018-1-DE 02-KA202-005101

Projektlaufzeit: 30 Monate

Projektwebseite: <https://projects.tib.eu/nursingai/about/>

Deutsche Partner: TECHNISCHE INFORMATIONS BIBLIOTHEK (TIB); DE

Beteiligte Länder: NL, HU, DE

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

In rapidly changing health care systems, digitalization, e-health and robotisation are gaining influence. Due to the existing global nurse shortage in Europe, a demand for healthcare and therewith nurses will continue to grow, whilst the supply of available nurses is projected to drop. Therefore, it is expected that the shortages will accelerate in the coming decade and will be more serious than the cyclical shortages of the past. This nursing shortage will ultimately constrain health system reform and innovation, and contribute to escalating costs. ICT, AI and robotization are one way to support health care professionals, enhance interprofessional cooperation and patients` safety. This introduction of ICT, robotisation and other technologies in nursing care will create a disruptive change in the provision of health and nursing care. Furthermore, research shows, that the usage of ICT is still limited within the health care professions and thus in nursing. For that external and internal factors have been identified, e.g. infrastructure not being suitable or the lack of interoperability of different computer and ICT systems, the limited awareness and understanding of ICT concepts. Health care professionals who use ICT complain about the lack of skills and tailored trainings for their needs. Usually nurses have to learn ICT related skills on the job within their working duties. As ICT is rapidly changing and developing towards robotization and AI, the resistance and skepticism towards technology among nursing professionals are expected to grow.

The NursingAI project will analyze and forecast the types of skills and competencies needed by health care professionals, especially nurses. By gaining insight of needed competencies and skill, curriculums for trainings and education programs can be enhanced to the actual needs concerning ICT competencies.

NursingAI will work towards an assessment and training tool for skills related to AI, robotisation, digitalization and e-health in nursing sectors of Germany, Hungary and the Netherlands. The tool prototype will be tested and evaluated in these countries in order to make them available for local and European VET curriculums and further education programs. These efforts are critical, since 1), nurses should be able to understand and work with novel AI and Information and Communication Technologies (ICT) in order to improve the general quality of care; 2) the current offer of assessment and training methods on AI, robotisation, digitalization and e-health skills in nursing in Europe is very limited, and 3) in order to have a significant amount of AI and robotization skilled nurses in place in 5-10 years time in Europe, investments and changes in the VET curricula need to be initiated now.

With the transnationally project, needed competencies in future workplaces will be multiplied and progress made in VET and health care.

Themencuster: Digitale Bildung

Titel: Upgrading the Health Sector with high-skilled Data Protection Officers (DPOs) under GDPR

Akronym: GDPR4H

Vertragnehmer: Steinbeis-Hochschule-Berlin GmbH

Projektnummer: 2018-1-DE 02-KA202-005103

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: Akkreditierungs, Zertifizierungs- und Qualitätssicherungs-Institut (AQUIN) e. V.; DE

Beteiligte Länder: DE, EL, RO

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

The healthcare industry is plagued by a myriad of cybersecurity-related issues posing new challenges in the Healthcare Sector. In an increasingly data-driven world, cybersecurity is no longer just a concern for experts. During the last 12 months, Europe came across an unprecedented number of cyber-attacks in terms of their global scale, impact on business sector and rate of spread.

Characteristically, the May's 2017 attack in England's National Health Service (NHS) demonstrated in the most flashing way the vulnerabilities of information systems (IS) in any possible way. Healthcare organizations are some of the most-trusted entities holding the most sensitive information about patients: name, date and place of birth, medical records, social security details. Suffering from many flaws (low budget, lack of IT organization, excessive use of legacy systems), healthcare actors have become easy targets for hackers, facing more and more pressure and threats from them.

The nature of the healthcare industry's mission poses unique challenges since cyber-attacks can have ramifications beyond financial loss and breach of privacy. The General Data Protection Regulation (GDPR) 2016/679 which will be directly applicable in all member states by 25 May 2018 requires for healthcare organizations to re-think about their data flows and how they handle and monitor patient data to make sure they are in compliance with the regulation.

At the same time, the expected massive growth of data protection jobs redrives new skills, knowledge and competences from Healthcare employees. As a result, Healthcare Sector is facing the risk of rising skills mismatch between data protection officers/employees across European countries with different occupational profile on skills and competences and most importantly, different level of legislation/integration on data protection.

Our proposed Project aims at empowering the major actors with employees that are going to fill the gap and the identified skills mismatch through:

- Developing enhanced regional and cross-regional partnerships to ensure that a sufficient number of healthcare employees and learners receive the right training / education based on current needs
- Connecting educational and vocational training with healthcare industry and organisations in a more systematic and coherent way
- Developing an environment that is going to foster employability of employees in the healthcare sector, providing adequate tools that will better their working conditions and the quality of services provided.
- Improving comparability and transfer of skills and competences focusing on-line training of current healthcare employees based on a blended approach, while introducing innovative education/ training initiatives.
- Raising awareness and improving the knowledge on patients' data privacy protection as well as providing concrete information on rising legal aspects

Concise description of the results and/or products expected:

- A renewed Occupational Profile for DPOs accompanied by a new Skills Chart
- A DPO VET Curriculum accompanied by a detailed WBL Scheme
- An Awareness raising Curriculum on Data Protection for current and future employees
- Data Protection and GDPR Learning Resources for learners and wider audiences and WBL Employer Manual
- On line web platform for "Data Protection Ready" Employees
- A new Certification Scheme for Data Protection
- Concrete Methodology for Quality Assurance and Licencing of DPO VET Curricula
- Development of effective feedback loops to enhance VET provision

Our partnership has formed a coherent strategy to reach:

- Stakeholders: Health associations, health/pharmaceutical industry, VET providers, independent data protection authorities Chamber Unions
- End users: DPOs, Information security experts, lawyers of Bars Associations, current and future employees learners & trainers making use of the learning and training resources developed

The impact envisaged:

GDPR4H is going to achieve an important Social and Financial Impact, specifically:

For Stakeholders:

- Strengthened interoperability network across employers and employees
- Employers and social partners will maintain an important role in shaping DPOs VET provision.
- Industry-ready workforce meeting labour market needs

- Increased confidence and mutual trust for Data Protection
 - Increased visibility of outputs through open multifarious dissemination channels.
2. End users: current and future employees in Data Protection:
- Better employability chances
 - Transparent joint qualifications and transferrable skills through a viable Certification Scheme
 - Enhanced competitiveness for the data protection field.
 - Exchange of good practices through trans-regional mobility and advanced WBL schemes
 - Harmonised but not homogenised learning-outcome based and teaching approach across the three countries

Themenccluster: Digitale Bildung

Titel: **Fostering Digitisation and Industry 4.0 in vocational education and training**

Akronym: DigI-VET

Vertragnehmer: Ingenious Knowledge GmbH

Projektnummer: 2018-1-DE02-KA202-005145

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner:

Beteiligte Länder: DE, UK, CY, RO

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

In the last few years digitisation is becoming more and more important. This goes hand in hand with trends towards mobile learning.

The Erasmus+ project DigI-VET addresses new and innovative ways of learning and teaching in the age of digitisation and Industry 4.0. The partnership creates awareness of the needs to address digitisation and Industry 4.0 in vocational education and training (VET). The development of a curriculum and learning resources for digitisation is a core aspect of the project and goes hand in hand with an innovative sMOOC for teachers and learners in VET which offers the most crucial aspects on the topic. In DigI-VET also the DigI-VET book will be created to address a broad audience with the current developments and challenges in the world of work and how it is affected by digitisation and what this means for VET and for VET educators. The aim is to create Digital Competence Profiles for VET. To provide direct impressions of digitisation and Industry 4.0 the project offers an online best practice site with showcases which provide insights into enterprises and companies and how they use digitisation today and what they expect for the future. This site provides teaching materials and examples with texts, audios, videos and photos and bring industry 4.0 directly to the learners in the classroom.

Current Industry 4.0 approaches focus on a symbiosis between production and new IT technologies to enhance industry and gather adequate data. Here, digitisation is a key to handle these approaches. But, this does not only mean changes in industry and production this also means change and challenges in the field of VET. Digitisation and Industry 4.0 usually stands for the fourth industrial revolution. This means digitisation of products as end-to-end digitisation. This includes the expansion of existing products but also requirements for new competences. For VET teachers the core challenge is to gather information about the rapidly changing environment and to find adequate ways to deliver these new information to the learners.

Therefore, DigI-VET focusses on the design of an acceptance study in the partner countries to get a European view on acceptances, experiences, problems and chances in the fields of digitisation and industry 4.0. Target groups are teachers, trainers, learners and VET educators. The survey examines how these target groups in VET think about digitisation and how they integrate it in their teaching. Moreover, the surveys focus on the challenges of industry 4.0 in

a VET environment and gather information how the aspect of creating a digital economy influences teaching and learning. In additional desktop researches the partners also gather information about mobile learning in their national contexts and the EU.

In DigI-VET the partners will create a book in English language on digitisation and Industry 4.0 and the influences to VET, where the survey results and the results of the desktop researches are provided and additional checklists and hints for teachers and trainers are provided.

The DigI-VET project is designed similar to a former partnership project under Leonardo II and includes only two intellectual output focussing the quantitative and qualitative research on the topic and the design of the DigI-VET book. Most of the work concerning matching of approaches and data will be done at the three meetings of the partners. The results of the surveys will be presented in the book and together with the best practices and the DigI-VET sMOOC at the multiplier events.

DigI-VET offers the innovative new world of work and IT to VET educational contexts and the curriculum helps teachers to integrate these new challenges into their daily teaching.

The fifteen core results of the project DigI-VET are:

- (1) the DigI-VET Curriculum
- (2) the DigI-VET Learning and Teaching Resources
- (3) the DigI-VET Online Observatory with best practice information and videos
- (4) the DigI-VET Book on Digitisation and Industry 4.0 in European VET
- (5) the DigI-VET sMOOC
- (6) the DigI-VET research report
- (7) the DigI-VET dissemination materials (posters, leaflets, brochure, cards, pens, flyer)
- (8) the DigI-VET Website with Blog
- (9) the DigI-VET Checklist for VET educators and teachers
- (10) the DigI-VET videos (integrated in the website and the online observatory)
- (11) the DigI-VET OER strategy
- (12) the DigI-VET digitisation concept for VET
- (13) the DigI-VET publications, newsletter and press articles
- (14) the DigI-VET sMOOC Concept
- (15) the DigI-VET evaluation report

Themencuster: Digitale Bildung

Titel: BIM LEARNING APPLICATION FOCUSED ON LCA QUALIFICATION AND TECHNIFICATION OF WORKERS IN NATURAL STONE SECTOR

Akronym: BIMstone

Vertragnehmer: Deutscher Naturwerkstein-Verband e. V.

Projektnummer: 2018-1-DE 02-KA202-005146

Projektlaufzeit: 24 Monate

Projektwebseite: <http://www.bimstoneproject.eu/de/startseite/>

Deutsche Partner:

Beteiligte Länder: ES, HR, RO

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:**BACKGROUND**

The BIMstone project is, in its nature, the production and development of multimedia materials based on BIM and taking into account challenges related to LCA (Life Cycle Analysis) of stone products, to be used as training material for both VET students and professionals in the sector, in order to satisfy a series of main objectives.

The motivation behind the project BIMstone is the consideration that stone products is one of the most sustainable construction materials and, in spite of the changes of technology and design across the years, it lasts as the main construction material for different works: building facade, outside pavements, inside pavements, inside walls, etc. But the value of stone products totally depends on the quality of manufacturing and quality of the placement. Related to the manufacturing, during the last decades, the most of European companies in this industry have increased a lot the quality of their products. However, concerning placement, the development has not been the same, and it is much lower than required by the sector. Furthermore, if in the stone products manufacturing European stakeholders have created clear standards, in placing the stone products it has not been the same, using, except for some specific products, as building facades, the traditional methods, whether they are the most suitable or not.

It is necessary to define and compile the most appropriate methods for placing stone products using the latest BIM technologies, those which bring high levels of effectiveness, starting from the local traditional methods, but comparing them, selecting the best ones for any specific stone product, and incorporating them into the curricula of the training organisations in the sector, both for initial training and for continuous training.

Taking advantage of this situation of raising the BIM tool in countries with scope of our consortium, and also counting on a partner of a leading country and precursor of this tool, we consider that a perfect framework for the realisation of this project is created with the firm purpose to make education more plausible in the processes of placement and execution of stone products.

Life Cycle Thinking implies a form of global analysis that not only includes the traditional parameters (manufacturing and production), but also considering all the processes that take place throughout its life cycle (from the cradle to the grave). In this way, the hidden impacts surface and the transfer of loads is avoided; Helping to make decisions and identify options.

Institutions such as the United Nations Environment Program (through the UNEP-SETAC Life Cycle Initiative) or the European Commission (through the European Platform for LCA) promote its application for the environmental improvement of products and processes in all sectors, including construction.

OBJECTIVES

The idea of the proposal has arisen from the conclusions of different meetings of the European associations, aimed to solve the multiple demands of the national associations whose member companies, were aware that the placement has a big influence in the market of the stone products and manufactured products, giving an extra value to the product, when it is placed following the best practices, or making it look like an “unsuitable” material, when the placement procedures are not the proper ones.

PRODUCTS

The main results of the project are:

01. Establishment of common learning outcomes on stone placing methods, life cycle analysis and relative regulations.

02. BIMstone Multimedia Materials. New Interactive BIM-learning methods (IT production of BIMstone Multimedia Cards and Interactive BIM Tool).

03. ONLINE RESOURCE CENTRE.

CONSORTIUM AND IMPACT

DNV (DEUTSCHER NATURWERKSTEIN-VERBAND E.V) and RoGBC (Asociatia “Romania Green Building Council”), decided to start a project to improve the quality of stone products placement across Europe, and got in contact with CTM (Business Association of Research for Marble, Natural Stone and Materials Technology Centre), COAMU (Association of Architects of Region of Murcia) and Klesarska (Klesarska skola), organisations with a wide experience in coordinating EU projects in these fields. These partners have the biggest competences in placing the stone products, being aware of the importance of them represent the main European stone products areas and, then, the most comprehensive knowledge about this matter. Finally, the schools in the project come from different countries, where all partners have close cooperation with VET providers.

In addition, all of them can bring to the project different uses of the stone products and different techniques for placing it, as well as the energy saving and sustainable design with the aim to achieve the foundation of a good design, and the whole society is aware of these facts.

Themencuster: Digitale Bildung

Titel: **Migrants in Care – EC VET Mobile Learning App on customer care**

Akronym: Migrants Care

Vertragnehmer: Internationaler Bund - IB Mitte gGmbH für Bildung und Soziale Dienste Niederlassung Sachsen

Projektnummer: 2018-1-DE 02-KA202-005156

Projektlaufzeit: 24 Monate

Projektwebseite: <http://www.migrantsincare.eu/>

Deutsche Partner:

Beteiligte Länder: AT, ES

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

With age, there is an increased risk of becoming dependent on care: between the ages of 60 and 80, about 4.2 percent of people need care, and with over 80, it is already 28.8 percent. At present, about 2.45 million people in Germany are in need of care . The number is estimated to increase to 3.2 million by 2030 and to 4.23 million by 2050. (<https://www.diakonie-hamburg.de/de/fachthemen/altenpflege/Fakten-zur-Situation-der-Pflege-in-Deutschland->)

Europe is confronted with an ageing population and a shrinking workforce, as well as labour and skills shortages: While in 2010, just over 4.2 million people in Germany e.g. were 80 and older, in 2050, experts estimate, there will be over 10 million. OECD (2014) estimates working-age population to decline by 7.5 million (-2.2%) between 2013 and 2020 and with zero net migration it would be expected to decline by even -3.5% by 2020 in the 28 EU countries. In the care sector, the ver.di trade union, estimates 70,000 skilled workers are already missing nationwide in nursing. 40,000 additional specialists are needed in geriatric care and this issue will become even more severe in the future. According to forecasts of the Deutsche Pflegerat (German Nursing Council), 300,000 caregivers will be missing by 2030, 200,000 of them in geriatric care alone." (www.tagesschau.de)

To overcome this situation, many countries, inter alia Austria and Germany, have invited high qualified workers without (yet) solving the overall skills and HR gap. One possibility however not yet explored well, due to legal limitations and/ or longterm preparations needed in education mainly, is that of involving migrants and refugees who, in many cases, show respective qualifications or at least knowledge, skills and competences to start in the care sector with support related to knowledge/ skills assessment gained from (non)formal or experimental learning situations in their home countries and learning of customer care related skills and competences at a European standard.

In January 2018, e.g. about 12,907 new arrived migrants were registered by the federal authorities in Germany. Compared to the previous year (January 2017: 16,057 people) this number declined by 19.6%. The following nationalities are currently represented most among them: Syria with 2,450; Iraq with 1198 and Nigeria with 884 persons.

In addition, however, in January 2018, 2,170 follow-up applications were registered to the federal government. Compared to the previous month (1,806), the number increased by 20.2% and to January 2017 (1,907), the number increased by 13,8%. Nearly a third of all applications for January 2018 (31.5%, 684) are from the countries of the Balkan region. 269 from Serbia, 132 from Albania and 118 from Macedonia. Similar it shows in Austria and Spain.

By active transnational cooperation, the MIGRANTS CARE project will - in this light and for these reasons - elaborate innovative education material and accompanying support documents for their transfer into other VET organisations, companies in the care sector and initiatives supporting migrants in their (labour and or education) integration. Partners from three countries, i.e. Germany, Austria and Spain, bring in necessary expertise, substantial experience and direct access to the target groups of this project (migrants/ refugees, education stakeholders, VET providers, umbrella organisations and initiatives working on behalf of migrants/ refugees) to concretely provide them with:

IO1 - A MOBILE LEARNING APP for self-assessing prior learning, learning in daily care sector work based situations aiming at improving their employability. Contents elaborate customer care to work with with elder people, those having disorders and/ or handicaps due to their age. The APP will be available in German, English, Spanish for B2 language level and will have language support in learning contents also in Arabic, Serbian and Turkish. Learners will be able to receive up to two ECVET points upon its completion.

IO2 - POLICY RECOMMENDATIONS for upscaling in VET for stakeholders and professionals to better support migrants and refugees in continuous VET and education stakeholders and policy makers in transferring and upscaling the results.

The intellectual outputs will be accompanied by dissemination events in partner countries addressing the project target groups. In total, the consortium aims to reach 6411 beneficiaries (including migrants/ refugees, professionals, stakeholders)

MIGRANTS CARE will be supported by a strategic involvement of target groups and key stakeholders and is confident to thus achieve the long term impact of helping target audiences in improving customer care aspects in the care sector for migrants; make policy and education providers rethink towards the implementation of alternative training solutions for otherwise people at risk of exclusion from society, work and education.

Themencuster: Digitale Bildung

Titel: **Digi4VET - Qualification needs for VET trainers and teachers for coping with industry 4.0, craftsmanship 4.0 and trade 4.0**

Akronym: Digi4VET

Vertragnehmer: Sächsische Bildungsgesellschaft für Umweltschutz und Chemieberufe Dresden mbH - SBG

Projektnummer: 2018-1-DE 02-KA202-005157

Projektlaufzeit: 24 Monate

Projektwebseite: <http://digi4vet.com/>

Deutsche Partner:

Beteiligte Länder: UK, CY, NL, BE

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

Die EU 2020-Strategie fördert digitale Kompetenzen, wie auch die 2013er "Grand Coalition for Digital Jobs". Die EU-Leuchtturminitiative fordert eine mehr ICT-orientierte Qualifizierung (entsprechende Curricula auf allen Ebenen der beruflichen Bildung). Im Bereich des arbeitsplatzbasierten Lernens (work-based-learning) ist Digi4VET eng verbunden mit den Anstrengungen der Europäischen Ausbildungsallianz und der sog. Riga Conclusion von 2015, in denen systematische Ansätze für die berufliche/ fachliche Entwicklung von betrieblichen Ausbildern und Lehrern in arbeitsprozessbezogenen Umgebungen gefordert werden.

Die EU-Strategien reagieren auf die Entwicklung, dass digitale Technologien viele Bereiche des täglichen Lebens transformieren. Bedarf besteht dabei für Bereiche, wo digitale Technologien bestehende Tätigkeiten sinnvoll ergänzen. Dies betrifft besonders das Lernen im Prozess der Arbeit, da hier der Bedarf an digitalen Kompetenzen sich nicht sofort in der fachlichen Entwicklung von Lehrern und Ausbildern niederschlägt. Dies kann zu Autoritätsverlust und einer Verschlechterung der Qualität der Ausbildung führen. Weitere Einflussfaktoren sind die sich kurz- und mittelfristig abzeichnenden Novellierungen von Berufsbildern in Deutschland, in der Industrie, im Handwerk und im Handel. Ziel ist es die technologischen Änderungen entsprechend in den jeweiligen Ausbildungsordnungen zu antizipieren. Elementar ist dabei, dass die entsprechenden digitalen Kompetenzen branchenspezifisch vermittelt werden müssen, damit Ausbilder/Lehrer mit der technologischen, pädagogischen und sozialen Entwicklung der Arbeitswelt mithalten.

Das grenzübergreifende Projektvorhaben „Digi4VET- Qualifizierungsbedarfe (betrieblicher) Ausbilder und Lehrer in der beruflichen Bildung vor dem Hintergrund von Industrie 4.0, Handwerk 4.0 und Handel 4.0“ wird ausgewählte Inhalte für den Einsatz von AR/VR/MR/ und 3D-Druck in Lehr- und Lernprozessen in der Chemie, dem Malerhandwerk und der Floristik entwickeln und testen. Ziel ist es, eine messbare Motivationssteigerung unter Lernenden herbeizuführen und um Lehrenden eine neue Lehrmethode an die Hand zu geben, damit diese insbesondere komplexe Sachverhalte visualisieren können. Dies ist ein Beitrag zur BERUFSBILDUNG 4.0.

Die Qualifizierung umfasst dabei den Umgang mit der Augmented Reality (Chemie), der Virtual Reality (Malerhandwerk) sowie der Mixed Reality und des 3D-Drucks (Floristik). Diese neuen Technologien haben großes Potential, da Sie neue Lehr- und Lernformen ermöglichen. Diese neuen Lehr- und Lernmethoden benötigen entsprechende Lehr- und Lernkonzepte und Inhalte, die es bisher so nicht gibt, um Lehrern und (betrieblichen) Ausbildern die relevanten Kompetenzen zu vermitteln. Erst dadurch sind entsprechende Anwendungsszenarien in der beruflichen Bildung denkbar. Handlungsdruck besteht dabei besonders für das Berufsbild des Chemikanten, da hier im 3. Quartal 2018 Inhalte wie digitales Arbeiten und betriebliche und digitale Kommunikation hinzukommen.

Eine transnationale Online-Kurzumfrage (2018) des Digi4VET-Konsortiums unter 24 Lehrern/Ausbildern ergab (ANHANG I), dass 82 %, Interesse an themenbezogenen AR/VR/MR und 3D-Druck-Inhalten sowie Konzepten für den Einsatz im Klassenraum bzw. im Unternehmen haben. Da es sich um neue Technologien handelt, bevorzugen diese überwiegend fertige Lehr- und Lernmaterialien sowie Demonstrationen.

Digi4VET wird für (betriebliche) Ausbilder und Lehrer bereitstellen:

- Blended Learning Kurs für den Einsatz von AR/VR/MR und 3D-Druck bei Lehr- und Lernprozessen im Unternehmen / Bildungseinrichtung
- Schulung für Nutzung und Erstellung von Inhalten auf verschiedener AR/VR/MR- und 3D-Druck-Hardware
- Objektdatenbank für lizenzfreie Nutzung von Objekten im Unterricht (Augmented Reality, Mixed Reality, 3D-Druck)
- Best practices Nutzung in der Chemie/Pharmazie, der Floristik und im Malerhandwerk
- Handreichung für Einsatz im Unternehmen und im Unterricht

Die länderübergreifende Kooperation ermöglicht erst eine EU-weite Anwendung in verschiedenen Branchen, da explizit auf die Bedürfnisse von Lehrern/betrieblichen Ausbildern und Schülern/Auszubildenden abgestellt wird, unabhängig von der Art des berufsbildenden Systems der Partnerländer in Digi4VET. Die fachliche Entwicklung der Lehrer/Ausbilder wird zwischen den verschiedenen Branchen verglichen. Dies wäre ohne die Teilnahme von Einrichtungen, insbesondere aus DE, NL, BE, nicht möglich.

Themenccluster: Digitale Bildung

Titel: **Accelerating Coaching and Counseling through e-Tools and innovative Training**

Akronym: ACCEnT

Vertragnehmer: Friedrich-Alexander-Universität Erlangen Nürnberg

Projektnummer: 2018-1-DE 02-KA202-005177

Projektlaufzeit: 24 Monate

Projektwebseite: <https://accent-project.eu/de/ueber/>

Deutsche Partner:

Beteiligte Länder: UK, IE, FI, PT

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

ACCenT aims at supporting career counselors, guidance practitioners and coaches working with “hard-to-reach groups” by an innovative online learning environment offering support, training and a peer-community.

Europe struggles for adequate approaches for preparing and integrating hard-to-reach groups in the European labor market. On the one side European societies are struggling with the lack of qualified workforce on the other side the long-term unemployed are not (re)-entering the labor market. Additionally over the past years millions of migrants came to Europe that could enter the European society and fill-in the labor market gaps if adequate support via counseling, guidance and coaching is provided. Therefore counseling and coaching practitioners need being supported for developing new skills and competences in order to cope with the multiple challenges European societies are facing. The challenge is a European one. Since Europe’s labor market is an open and mobile one, solutions need to be developed from a European perspective. And they need to integrate innovative concepts in terms of training provision (e.g. online) and counseling approaches (e.g. using e-tools).

Counseling practitioners working with hard-to-reach groups face three main challenges: 1. increasing number of migrants entering Europe. Counselors and coaches are keystones in the process of integration in order to provide opportunities to migrants to prove their competences develop new ones and increase their chances into the labor market. 2. Long-term unemployed persons that due to multiple biographies can only be supported at a very individual level and 3. high number of young people facing difficulties moving into a first job.

For a better help on both sides – counselors and beneficiaries- it is crucial to provide these career counselors and coaches with motivating further training, information, knowledge, peer-community and support. And that is the motivation of the project ACCenT!

It seems crucial that European countries collaborate, accomplish shared learning progresses and gain competences to cope with this very topical subject. Countries can learn from the approaches and solutions of others in order to reach a common higher standard in counseling for challenging target groups.

The main output of the project will be an online training seminar, presented in a user-friendly online learning environment, for counseling practitioners. The online training respects the need of the target group for flexible training in term of time and customizable in term of contents, comprising four main topical areas:

1. Information: The main aim of this area of the online seminar is to enable the career practitioners to accelerate and facilitate the integration process in to the labor market and thus: support long-term unemployed to re-enter, help young people to get first access and to prepare the newcomers for a successful long-term integration.

2. Social-communicative and intercultural competence: This part of the seminar supports counseling practitioners in getting aware of communication processes and cultural barriers and helps them to handle difficult cultural situations. Which are the most common cultural challenges a specific group has to face? How can the work of counseling practitioners be influenced by cultural barriers? How communication skills and styles influence motivation? How to detect cultural and social barriers? And how to overcome those barriers? Social-communicative and intercultural competence is a key factor for working successfully with hard to reach people.

This area of the online course aims at providing counseling practitioners with the necessary sensitivity and awareness for their work with people from different backgrounds. They get enabled to act as mediators between different cultures and social groups, understanding the background, thinking and acting patterns of a person.

3. Coaching skills & competences: “hard-to-reach groups” of becoming & staying unemployed build a very heterogeneous group. Support is very demanding and challenging and must be provided very individually and often only be fulfilled by individual coaching. Therefore the training will be focusing on the development of coaching competences, especially technical-methodical competences: targeted restatements, identifying, listening, questioning, clarifying to help individuals shift their perspectives and thereby discover different approaches to achieve their goals

4. Using e-Tools in counseling and communication processes: The training approach will use a set of e-Tools (online meeting tools, video-chat, video, social media, scheduling, self-reflection and self-assessment, online cooperation tools, etc. for the communication and counseling process. The tools are both learning tools and learning content.

All experiences and outcomes of the project will be compiled in an interactive eBook that will accessible and free to use (cc-license).

Themencuster: Digitale Bildung

Titel: **In medias res without borders – Development, assessment and recognition of media competences in the age of global communication**

Akronym: M.E.W.B.

Vertragnehmer: Johanniter-Unfall-Hilfe e. V.

Projektnummer: 2018-1-DE 02-KA202-005184

Projektlaufzeit: 24 Monate

Projektwebseite: <https://mewb.weebly.com/>

Deutsche Partner: Technische Universität Dresden; DE
CorEdu UG haftungsbeschränkt; DE

Beteiligte Länder: DE, ES, HU, IE

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

The digitalization, the Internet and the broad availability of mobile devices have fundamentally changed the media world in the meantime. The convergence of old and new media, their universal availability and interactive media offerings, social online networks and media-based contents and services generate new opportunities for acquisition of information, but also lead to new challenges. On the one side, in addition to the traditional function of media, among others, to inform and report, media have a versatile didactical-methodological potential for teaching and learning, which include visual evidence, attractive contents and the formal quality. It is able to support self-regulated learning regardless of temporal or geographical limitations, and cooperative learning through collaborative online platforms or educational tools as well. On the other side, the media world brings for the society and individual as well, risks and dangers. This means upon others, the increased potential of negligent use of media technologies and services, of reckless or irresponsible handling of personal data and of non-observance of copyright principles. Additionally, through the increased presence of the media in our everyday life, it has become a constant socialisation instance. The increasingly networked media offerings, with their dynamic symbolic and life-worlds, open up new experiences and adventure areas to youth but it has an influence on their personality too. Youth develop their moral standards, ethical orientations and aesthetic judgments in their personal and social environment, as well as in the media. Medial models, heroic figures and idols accompany childhood and youth; Self- and world pictures, argument and action pattern, role understandings and behaviours are often taken from media contexts. Therefore, from the technical and contextual point of view, the young generation need an adequate media education to be able to foster the development of their age-appropriate abilities to critically and constructively reflect the growing media offer, to choose from these offers meaningful and needs-driven and to use media appropriately, creatively and socially responsible for the development of one's own personality. Media education creates the prerequisite for analysing and understanding media design elements, expressions and codes as well as deciphering media messages and evaluating their intentions.

Rapid changes in the uses of information and communication technologies changes our information consumption and the adoption of digital networks. New information and communication technologies substantially modifies media forms and content, as well as users' relationship with information too. At every level of education, media and digital literacies are often approached from a strictly technical perspective, resulting in a goal of literacy competencies based on the way that hardware and software applications can be mastered and directly applied to traditional learning environments. As a result, media education is often associated with simply attaining the applied skills needed to navigate computer networks, virtual worlds, software platforms, social networks or media production tools and editing devices. The current project goes beyond these aims and target the media education related to the critical analysis and practices as essential requirement for a social participation, equal opportunities and personal and professional development.

The project follows a holistic approach on fostering media competences of youth and educators. At first, common up-to-date standards on media education based on the technical, ethical, democratic, social, legal, affective, aesthetical and behavioural dimensions of media competence will be elaborated among the partners, considering the country specific circumstances and challenges. Based on these standards e-learning training for educators will be developed to up-skill their media competences and offer options for action for their teaching environment. Following the holistic approach of the project, the project aims to develop age-proper e-learning modules on media education for youth, also based on the previously developed standards on media education. The real piloting of the e-learning modules by educators and youth and the elaboration of criteria and tools for the assessment of media competences round up the objectives of the project. The e-learning modules can be used substituting or supplementing the current curricula or other media related educational offers. The outcomes will be available for the public, and accessible on all mainly recognised electronic devices (computer, smart phone and tablet). The innovative character of the outcomes lays in the holistic approach considering not only the media literacy regarding the use of technical devices but also the critical thinking for „socialising and become active citizens“ (UNSECO 2013).

Themencuster: Digitale Bildung

Titel: **AgriTrain - Train the Trainer for a Sustainable Agriculture**

Akronym: AgriTrain

Vertragnehmer: Institut für nachhaltige Regionalentwicklung in Europa
(PECO-Institut e. V.)

Projektnummer: 2018-1-DE 02-KA202-005191

Projektlaufzeit: 24 Monate

Projektwebseite: <https://www.agri-train.eu/>

Deutsche Partner: HUMBOLDT-Universität zu Berlin; DE
Landwirtschaftskammer Niedersachsen; DE

Beteiligte Länder: DE, ES, BG, AT

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

AgriTrain

Ausbildung für Ausbilder für eine nachhaltige Landwirtschaft

Der Projektvorschlag resultiert aus der Erfahrung mit dem Projekt AgriSkills (www.agriskills.eu), dass neben neuen Bildungsansätzen für Berufliche Bildung für Nachhaltige Entwicklung (BBNE) die Ausbilder, seien es schulische oder betriebliche, auch für das Thema Nachhaltigkeit in der Landwirtschaft sensibilisiert werden müssen. Ziel ist es nicht, zusätzliche Inhalte zu vermitteln, sondern das nachhaltige Denken in berufliches und privates Handeln einfließt.

Projektziel und -thema ist die Implementation von BBNE in die Ausbildung von Ausbildern (Lehrer und betriebliche Ausbilder) im Agrar- und Gartenbaubereich, sowie angrenzende Gebieten. Das soll durch die Entwicklung von Curricula auf schulischer und betrieblicher Ebene erfolgen. Durch weitere Bildungsangebote und einer breiten Verbreitungsstrategie sollen auch Diskussionen um eine Implementation von BBNE in die Bildungsstrukturen erfolgen.

Dafür werden Weiterbildungsangebote erarbeitet, die auf individueller Ebene Lehrern und Ausbildern zur Verfügung gestellt werden und so auch die Lernortkooperation von schulischer und betrieblicher Ausbildung gestärkt wird. Ein Handlungsleitfaden BBNE ist sowohl für die direkten Teilnehmer gedacht, aber auch für eine breitere und qualifizierte Diskussion um BBNE auf struktureller Ebene. Die Verbreitung der Ergebnisse erfolgt über unterschiedliche Multiplikatoren-Veranstaltungen und die assoziierten Partner. Die Ergebnisse werden auf der Website www.agri-train.eu frei verfügbar sein und auch auf den Websites der einzelnen Partner.

In der Vorbereitungsphase erfolgte eine Analyse der Ausbildungs- und Weiterbildungsangebote für schulische und betriebliche Ausbilder in den Partnerländern, vor allem hinsichtlich der Verankerung von Nachhaltigkeitsaspekten. Diese Bedarfsanalyse dient

bei der Projektumsetzung auch als Orientierungshilfe für die Einordnung der Curricula in europäische vergleichbare Standards (EQR).

In einer strategischen Partnerschaft aus Hochschulen, Landwirtschaftskammer, gewerkschaftlicher Bildungsinstitution und einem Betrieb (DE, ES, BG, AT) werden die folgenden zwei Intellektuellen Outputs erarbeitet:

I.O. 1 - Curriculum – Training für Ausbilder im Bereich Nachhaltige Entwicklung

Exemplarische Entwicklung von 3 Teil-Weiterbildungsmodulen für Ausbilder (schulisch und betrieblich) jeweils mit den Schwerpunkten:

- z.B. Bodenkunde
- z.B. Wassermanagement
- z.B. Arbeits- und Gesundheitsschutz

Bei der Konzipierung aller 3 Module werden die Kriterien von BBNE berücksichtigt und sie werden entlang der „normalen“ Lehrinhalte entwickelt. Sie sollen das Training von Vermittlungskompetenzen, vielfältige Methoden und den Umgang mit Informations- und Kommunikations- Technologien (IKT) beinhalten.

Landbewirtschaftung ist ein Bereich der durch europäische Richtlinien stark geprägt wird. Die Auswirkungen dieser Regelungen muss in die Ausbildung integriert werden. Im Austausch mit den Partnern werden dazu innovative Ansätze erarbeitet.

I.O. 2 - Guideline Berufliche Bildung für nachhaltige Entwicklung

Zur verständlichen Verbreitung der Bildungsinhalte und -intentionen von BBNE wird ein Guideline erarbeitet. Grundlage des Guideline ist eine Leitbildentwicklung BBNE innerhalb des Projektes in dem die inhaltlichen Positionsbestimmungen von Nachhaltiger Entwicklung und Landwirtschaft dargestellt sind und eine auf dem Leitbild basierende Checkliste, die dem Projekt als Orientierung dienen soll, inwieweit Nachhaltigkeitsaspekte in Lehr- und Unterrichtsmaterialien Berücksichtigung finden. Der Leitfaden ist sowohl für schulische als auch betriebliche Ausbilder bestimmt und soll ebenso zur Verbreitung von BBNE für die Stakeholder genutzt werden.

Short-Term Trainings

Die Weiterbildungsmodulen und der Guideline werden transnational in Trainings getestet, evaluiert und die Erfahrungen fließen in die abschließende Bearbeitung des Curriculum ein.

Zielgruppen

Direkte Zielgruppen: Ausbilder (betrieblich und schulisch) aus dem Agrar- und Gartenbaubereich, sowie angrenzender Gebiete.

Indirekte Zielgruppen: Auszubildende in dem Agrar- und Gartenbaubereich und angrenzender Gebiete und dort Beschäftigte, die an Weiterbildungen teilnehmen.

Verbreitungsstrategie

Mit zahlreichen Multiplier Veranstaltungen werden der Diskussion auf Systemebene

um BBNE einige neue Aspekte (Weiterbildung für Ausbilder, Europäischer Kontext) hinzugefügt. In Kooperation mit den nationalen bis europäischen Sozialpartnern soll langfristig Einfluss auf die Ausbildungsordnungen und -pläne genommen werden.

Die Produkte werden elektronisch und in Printmedien veröffentlicht.

Daneben findet die Verbreitung der Ergebnisse

- auf lokaler Ebene durch das Angebot an Bildungsmaßnahmen,
- auf regionaler/nationaler Ebene durch Diskussionen und Veranstaltungen und
- auf europäischer Ebene über Diskussionen in Gremien in denen die Sozialpartner vertreten sind statt.

Themenccluster: Digitale Bildung

Titel: **Discovering job Knowledge through Web Analytics towards facilitated mobility of European Professionals and Refugees Career Integration**

Akronym: DISKOW

Vertragnehmer: Gottfried Wilhelm Leibniz Universität Hannover

Projektnummer: 2018-1-DE 02-KA202-005215

Projektlaufzeit: 36 Monate

Projektwebseite: <https://www.diskow.eu/aboutproject/>

Deutsche Partner: PETANUX GmbH; DE

Beteiligte Länder: SK, IT, DE

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

The web nowadays is overloaded with huge volumes of disparate information and linked data (i.e. Big Data) which requires the use of specific tools, Data Science methods (e.g. Machine Learning) and emerging technologies in big data in order to improve transparency and recognition of domain specific skills through the web. Job profiles contain general job description, expected competencies, skills and duties. Moreover, job centers and agencies typically aim at matching desired job profiles with suitable candidates. However, job seekers face difficulties in better understanding of the required job knowledge and competences through reviewing job profiles. Moreover, public and private sectors need IT-based tools to simplify transparent recognition of domain specific job knowledge while setting up their job profiles. It becomes more challenging when different countries provide different priorities and job descriptions due to various job market characteristics, vocational and educational trainings (VET) and demographic circumstances. This challenge prevents mobility of skilled workers, youth and workforce across Europe. It is shown that unemployment problem and risk of social exclusion hit more youth and young workforce in the European countries. Specially, the current refugee crisis caused by large amount of refugees and asylums in Europe enforces further difficulties to earlier stated challenges. Considering all stated challenges, the massive amount of information on the web such as job announcements, forums and wikis, is a gold mine for job knowledge discovery. The main issue in this regard is how to retrieve, cleanse, explore, visualize and interpret such huge volume of web data and put them in a sort of Job Knowledge Base (JKB). In addition, semantic web mining promotes exploitation of semantic structures in the JKB formed through web mining. Accordingly, enriched JKB using web data analytics (1) improves construction of job profile templates, (2) contributes to job analytics, labor market demand analysis, wage analysis, (3) facilitates skilled worker mobility, (4) supports identification of required skills and qualifications and (5) helps strengthening key competences in VET curricula.

DISKOW will provide a neat Job Knowledge Base (JKB) as a prototype which collects job specific data from the web and provides recommendations through analytics. Job knowledge catalogue of a job definition in the JKB will be equipped with a template of the most typically required competences and skills for that job. Job seekers will be able to use the JKB in order to develop their domain specific skills and competences based on recommendations in specific

job knowledge catalogue. In this regard, the mined information of jobs as well as their relevant competences and skills can be used to identify list of top demanding jobs, skills and competences and provide predictive analytics.

The consortium consists of four partners, namely the L3S Research Center at the Leibniz University of Hanover in Germany, the Institute of Economic Research at the Slovak Academy of Sciences (IER SAS), Engineering as a large enterprise in software development and skill analysis modeling provider in Italy and Petanux GmbH as a private data science and research exploitation company in Germany. The consortium as a whole provides professional competences for fulfilling the objectives and promises of DISKOW. In addition, the project partners will disseminate the project results in cooperation with their networks through governmental as well as private employment agencies, VET providers and other related stakeholders to flourish the results and outcomes and sustain the project and the platform in long term.

From the non-technical point of view, DISKOW aims at analyzing the labor market at the level of consortium partnership countries whereas the proof of concept can be used to the labor market analysis at the European level. As a result, DISKOW will be able to provide a streamline of the workforce development and provide predictions and road-maps for the future of specific required competences and jobs. Accordingly, data science has moved to the top of European labor markets' list. Due to the importance of data science jobs in the European labor market, DISKOW will focus on the identification of skills and qualifications in the data science sector as a specific case study. The final solution will be ready to be adapted to a wide variety of sectors and workforces.

This proposal has been once accepted for funding last year with great scores. The University of Koblenz had internal difficulties with EU to sign the contract, therefore we agreed to resubmit the proposal once through LUH this year. Furthermore, thanks to reviewers of last year, we even improved the quality of proposal in terms of review critics from last year, meaning that this year's submission targets even review comments after acceptance of last year for having higher quality project.

Themencuster: Digitale Bildung

Titel: **Teilzertifizierung im Berufsfeld
Informationssicherheit**

Akronym: TeBeSi

Vertragnehmer: Betriebswirtschaftliches Forschungszentrum für Fragen der
mittelständischen Wirtschaft e. V. an der Universität Bayreuth

Projektnummer: 2018-1-DE 02-KA202-005218

Projektlaufzeit: 36 Monate

Projektwebseite: <https://tebeisi.eu/>

Deutsche Partner:

Beteiligte Länder: IT, LT, AT, PL

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

Das vorliegende Projekt beschreibt die Teilzertifizierung informell und non-formal erworbener Kenntnisse im Bereich der Informationssicherheit. Das Projekt trägt dazu bei, die Anerkennung und Bescheinigung von Qualifikationen und Kompetenzen unter Bezugnahme des Europäischen Qualifizierungsrahmens auch durch nonformales und informelles Lernen zu fördern. Hiermit werden aktuelle Bedarfe von Klein- und Mittelständischen Unternehmen im Prozess der Personalrekrutierung berücksichtigt. Resultate des Projekts sind die Entwicklung eines Anforderungskatalogs zur Feststellung von Informationssicherheitskompetenzen in einer veränderten Arbeitswelt, die Entwicklung von Handlungsempfehlungen zur nationalen Etablierung der Kompetenzfeststellung, die Entwicklung eines Online Personalfragebogens zur Feststellung von Informationssicherheitskompetenzen (Schwerpunkt soziale Kompetenzen) sowie die Erstellung von Weiterbildungsmodulen für die Schulung von spezifischen Teilkompetenzen unter der Berücksichtigung von sozialen, technischen Komponenten (Stichwort Multiplikatoren-Kompetenzen), die Erstellung eines Strategiepapiers auf der Basis der neuen Datenschutzverordnungen in den Ländern und EU, Glossar für Anwender sowie die Ausfertigung Forschungsbericht "Status Quo Informationssicherheitsausbildung für KMU": Vorstellung des Berichts und der Ergebnisse in Multiplier Events.

Themenccluster: Digitale Bildung**Titel: Educate! E-Learning for the Textile Care Sector****Akronym:** ELTCS**Vertragnehmer:** HeurekaNet - Freies Institut für Bildung, Forschung und Innovation e. V.**Projektnummer:** 2018-1-DE 02-KA202-005227**Projektlaufzeit:** 36 Monate**Projektwebseite:** -**Deutsche Partner:****Beteiligte Länder:** BE, CZ, DE, SE**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2018**Zusammenfassung:**

The Erasmus+ project “Educate! E-Learning for the Textile Care Sector” conducted by 6 partners from Belgium, Czech Republic, Germany and Sweden addresses the priorities of social inclusion and of open education and innovative practices in a digital era. The employees in the textile care incl. industrial laundry and textiles services and consumer laundry services are predominantly female, very often low skilled and have a migrant background to varying degrees depending on the EU country. Due to their life situation and educational biography they do not have adequate access to vocational education and training. The company-oriented and media-innovative approach of this project opens the door to VET and thus promotes equality, including gender equality, and inclusion. This project will be developing OER digital learning materials as e-learning modules, e-tutorials/ explainer videos and a learning platform, as well as supporting a work-based learning approach. On the one hand, there is the opportunity to obtain information that is directly needed with the help of mobile devices, on the other hand, the project stimulates employees to make their own learning experiences accessible to other employees in the form of small online tutorials or explainer videos. This approach strengthens the reflexivity and self-confidence of employees, encourages new forms of learning and at the same time promotes media and digital literacy.

Themencuster: Digitale Bildung**Titel: INDEX - Industrial Expert****Akronym:** INDEX**Vertragnehmer:** Internationale Akademie für Management und Technologie (INTAMT) e.V.**Projektnummer:** 2018-1-DE 02-KA202-005228**Projektlaufzeit:** 36 Monate**Projektwebseite:** <https://industrialexpert.eu/>**Deutsche Partner:** Hochschule Düsseldorf; DE**Beteiligte Länder:** IT, PL, RO, NL, DE**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2018**Zusammenfassung:**

SHORT PROJECT SUMMARY

The onset of the fourth industrial revolution known as “Industry 4.0” is a key technological feature at the current stage of human development. The working group on Industry 4.0 characterized its vision of the new industrial revolution as a worldwide implementation of information and communication technologies (ICT) in manufacturing processes, which are not only in charge for certain manufacturing stages, but are able to monitor and optimize manufacturing processes completely on its own. The greatest challenge of the Industry 4.0 however isn't technology – it is the skills and digital qualifications of the people who need to roll out digital processes and services. For almost every business and, of course, all engineering or manufacturing companies, enhancing skills and organisational structures will be critical.”

All latest studies show, that such rapid pace of technological development makes it almost impossible for existing vocational education and training to provide adequate and timely solutions. An essential prerequisite for the implementation of the „Industry 4.0“ as a whole and specifically for additive manufacturing technologies is a training of professionals competent in effectively using huge opportunities of innovative solutions offered by the fourth industrial revolution.

AIMS & OBJECTIVES

The present project “INDEX- Industrial Expert” is aimed at the development of a MOOC-based open educational resource (OER) on Industry 4.0“, and focused on professionals in application-oriented areas appears a vital practice-oriented task, whereas the combination of the newest academic know-how and entrepreneurial needs custom-fitted to produce systematic understanding and operational skills is an ideal approach to offer a solution tailored to the needs of the various target group:

The project reflects the strategic objectives of the EU cooperation in education and training (ET 2020) responding to the technological challenges with the newest training programs, inspiring the entrepreneurship and helping individuals and companies to identify and perceive new business opportunities.

Taking into account that Industry 4.0 and its main components are an efficient tool with a versatile applicability, a wide range of potential consumers, both institutional and individual, can benefit from the project.

The transnational project consortium brings together:

- Know-how from different regions of Europe with different industrial and development-related profiles.
- Experiences from a large number of European education systems and practice, which enable Europe-wide adaptation in the field of further education. Particular attention should be paid to the fact that the course is designed to be applicable at different stages of development.

The specific objectives of the project are:

- Identifying an INDEX- Industrial Expert occupation, structured according to ECVET guidelines.
- creating flexible learning courseware for modularized learning providing fundamental technical, management and entrepreneurial knowledge on Industry 4.0
- creating up-to-date MOOC-based OER

In the course of the project, the following intellectual outputs will be developed:

Educational content of the OER comprises:

IO1. "INDEX- Industrial Expert" competence profile;

IO2. Curricula Framework, Didactical concept and methodology for validation and assessment;

IO3. "Essentials of industry 4.0 Industry 4.0";

IO4. "The modern pathways of Entrepreneurship, Technology and Restructuring Management";

IO5. INDEX 4.0 – "Automation and Sensors"

IO6. INDEX 4.0 – "Additive Manufacturing - Creating the future in research and industry"

IO7. INDEX 4.0 – "Internet of Things - Connecting the Future"

IO8. INDEX 4.0 – "Augmented Reality/Virtual Reality"

IO9. The MOOC e-Learning platform, expandable for future modules

IO10. Outreach concept

The aim of the project consortium is to create and further develop the INDEX education platform in order to support enhancing the modern interdisciplinary skills and competences provided within VET and CET programmes and urgently required by today's industry.

Themencuster: Digitale Bildung

Titel: **CreatINNES – Strategic Partnership for Innovation and Business Skills Development in Cultural and Creative Industries Sector**

Akronym: CreatINNES

Vertragnehmer: INI-NOVATION GmbH

Projektnummer: 2018-1-DE02-KA202-005232

Projektlaufzeit: 36 Monate

Projektwebseite: <https://www.creatinnes.eu/>

Deutsche Partner:

Beteiligte Länder: BG, MK, HU, FR

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

CreatINNES is an EU funded project for creation of strategic partnerships between Cultural and Creative Industry (CCI) organizations and businesses dedicated to unlock the potential of CCIs by business and digital skills development and improving access to finance of cultural and creative, audio-visual and digital start-ups and freelancers. The overall objective of the project is to contribute to better support of the creation and business development in the CCI sector, with special focus on audio-visual sector, through innovative and multidisciplinary, blended and need-based VET training programme for start-ups and freelancers.

This wider objective is directly in alignment with the aims of the “Strategic Partnerships for vocational education and training”. The rationale behind the project is to address latest trends in the CCI sector related to digital revolution that bring forward new challenges and new opportunities not only for CCI but also for closely related sectors, such as tourism. The project objectives and activities are based on the latest in-depth studies related to Cultural and Creative Sector (CCS) trends on global and European level, and the expressed key concerns and recommendations for future of education and skills gaps. According to Eurostat, in 2015 the cultural sector constituted 2.9% of the total European workforce and the whole CCIs sector represents around 4% of European GDP and provides jobs to 8 million people. EY study concludes that Europe is the second-largest CCI market, and explains that “Europe’s cultural economy is rooted in its history: the region enjoys a unique concentration of heritage and arts institutions.” By themselves, through their spill-overs, and through their power to increase the attraction of cities and regions for other companies CCIs are now acknowledged as a key driver for growth and innovation increasing the competitiveness of the European economy. Although CCI is an important player in the economy encouraging competitiveness and inclusiveness of business, digitisation is posing new opportunities and challenges for the CCI actors. In particular, the speed and the amount of information offered by new digital technologies, allow better accessibility to European cultural heritage thus increasing the possibilities of its promotion and economic exploitation not only by the responsible management institutions, but also by CCI and digital businesses.

However, CCI has always been fragmented by small businesses or individuals that have challenges in access to finance that is important for their scaling. For CCI start-ups and

freelancers in Europe to make the most out of digitisation and new trends the study “Mapping the Creative Value Chains - A study on the economy of culture in the digital age” states that due to new developments new skills in CCI are required especially business skills via innovative curricula in arts education and more flexibility in combining different disciplines. Additionally an adequate material and training about the business implications of digitalisation and new models of co-operation to overcome the small size of most entities, “out-of-the-sector” thinking and cross-sectoral collaboration for the European economy and society at large should be promoted by bringing together CCI and other sector actors together. Nevertheless that CCI seems to be a fast growing sector, the SWOT analysis conducted by Austrian Institute for SME Research and VVA Europe in the report shows that CCI in general suffers from low investment readiness in the CCI because the entrepreneurs often lack business skills to market their projects to financial institutions and entrepreneurial skills, including mobilising financial opportunities. The European agenda is to promote and create new digital champions, and at the same time to boost the creative industry and to keep a leading position in the world.

Therefore, direct beneficiaries of CreatiNNES project are more than 210 freelancers, start-ups and other stakeholders working in the CCI, audio-visual, digital and tourism sector, including ones that are promoting European cultural heritage.

Six partners from five EU countries, Germany, France, Bulgaria, Macedonia and Hungary, are joining their knowledge and practical experience to create two innovative training programmes for blended learning. The VET programme will be developed by co-creation in creative labs, will use digital technologies such as open online course and learning platform for educators and CCI/audio-visual entrepreneurs, and will encompass blended and industry-based learning. The VET programme will include a multi-disciplinary skills development and joint actions so that talents can work together considering the real needs of potential users, cultural heritage management institutions and better exploiting the market opportunities linked to the European cultural heritage.

Themencuster: Digitale Bildung

Titel: **Open Online Catalogue of Intercultural Tools for VET Trainers**

Akronym: CIT4VET

Vertragnehmer: assist Gesellschaft für Unternehmensberatung und Personalentwicklung mbH

Projektnummer: 2018-1-DE 02-KA202-005051

Projektlaufzeit: 24 Monate

Projektwebseite: <https://cit4vet.erasmus.site/de/>

Deutsche Partner:

Beteiligte Länder: IE, PL, NL, BG, IT

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

Intercultural competences (IC) in today's reality are a major key competence. The importance of IC has been recognised by EC and is being recognised by more and more educational entities. Nonetheless it is still not yet prevalent or even common for every country to include intercultural education into every educational path. The extent to which the competence development is included in VET varies from country to country. The Migrant Integration Policy Index shows the following data (2016 last avail.): for the indicator 'intercultural education for all' (are all pupils and Teachers supported to learn and work together in diverse society?): 52/100pts for EU28., for the indicator: 'Teacher training to reflect diversity' (Teacher training and professional development require intercultural education) the values are low (0 for BG, PL). The indicators relating to the interculturality of curricula are also rather low. The situation is even worse when it comes specifically to the VET sector and VET Trainers. Interculturality has never been a major concern in vocational education. Instead, professional skills have always been regarded as being of the most importance. VET Trainers have learned intercultural issues themselves. Consequently, there are many VET trainers who are Experts in their field but when it comes to knowledge or experience in delivering their classes to learners from diverse cultural backgrounds, they have a real deficit detrimental to the content and delivery of their teaching. Taking into account the current situation in Europe, where the mobility of workers not only between EU countries, but especially from non-EU countries is so high, VET Trainers need to be aware of intercultural differences and to be able to deal with various cultures every day. With more immigrants arriving constantly, understanding different cultures continues to become an urgent need. For VET Trainers who deal with those that need to be trained to do various jobs, intercultural diversity has become a challenge that they face and deal with on a daily basis. Knowing the differences between cultures in order to be able to train effectively, is the crucial need for VET Trainers.

The project consortium would like to address this need for intercultural competences in VET education, by achieving its aim which is to develop and increase intercultural competences of VET Trainers' dealing with diverse learners in Germany, Italy, Poland, Bulgaria, Ireland and Netherlands by the end of 2020. The project will achieve it through providing easy access to tools in the area of interculturality and provide intercultural training materials including instructions on how to apply theory into intercultural trainings. In particular the specific objective

is to design and implement an innovative Open Online Catalogue of Intercultural Tools which will be an on-line application available as OER.

The Catalogue will be composed of 3 parts:

- 1) database of intercultural tools – collection of tools developed within previous various initiatives and projects as OERs and that relate to intercultural education,
- 2) training materials about culture – materials in the form of e-learning, with exercises and tests allowing for self-assessment of IC,
- 3) guide (with template) on how to develop simulations for intercultural training.

The target group of the project are VET Trainers working with diverse learners from different cultural backgrounds, staff of VET providers which deal with diverse learners and public

Themenccluster: Digitale Bildung

Titel: **Counsellors Study and Training Exchange Program for Key Challenges of European Labour Markets and Societies**

Akronym: Academia+

Vertragnehmer: Hochschule der Bundesagentur für Arbeit

Projektnummer: 2018-1-DE02-KA202-005117

Projektlaufzeit: 33 Monate

Projektwebseite: <https://academiaplus.eu/>

Deutsche Partner:

Beteiligte Länder: LU, UK, PT, LT

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

Key challenges for Europe's labour markets and societies: Migrants and refugees, demographic change and future jobs

At the beginning of the 21st century, the European labour market is in transition and Europe's societies face a number of substantial employment and social challenges. For instance, the impact of demographic change is becoming more apparent, migrants and refugees need to integrate into the EU labour market. The labour markets are becoming more international, work is becoming more mobile, more flexible and volatile and the information and knowledge society is approaching. Additionally, there will be a wide reaching impact of future jobs or so called 'labour 4.0'.

The key role of guidance practitioners

Guidance practitioners and employment services play a key role in addressing the challenges of Europe's labour markets and societies. They do not only address the needs of the unemployed, they also deliver services in skills assessment, profiling, training delivery, individual career guidance and client counselling. Furthermore, they match people to job profiles, and offer services to employers, as well as care catering for those furthest removed from the labour market.

For coping with today's challenges of Europe's labour markets and societies, a high level qualification as well as state-of-the-art information on effective concepts and approaches is essential. Due to the increasingly transnational nature of challenges, transnational trainings, placements/work shadowing as well as the networking of practitioners on a Europe-wide level is becoming more and more important. In this way, guidance practitioners have the chance to learn more about current approaches to tackle current challenges. They also have the chance to learn from other countries' approaches and experiences, both in theory and in practice.

Academia+: Study and training exchange programmes that combine theory, research, practice and mobility

The Academia+ project aims to develop and pilot 3 research-based counsellors' study and training exchange programmes (C-STEP) for career guidance professionals from across Europe.

Academia+ allows guidance professionals to take part in annual one-week C-STEPS in each of the partner countries. Each of the C-STEPS combines theory, research and practice. As well as providing state-of-the-art information, a strong focus of the C-STEPS is on allowing participants to achieve a deeper insight in the host countries' approaches, i.e. in the form of study visits (i.e. to employment agencies, VET-providers, companies, chambers etc.). This involves representatives from practice (i.e. in form of lectures, work shops etc.) and/or immersive experiences where participants engage with the target group and carry out a learning/guidance activity together.

In the project's first year the thematic focus of the C-STEPS held in the partner countries - Germany, the United Kingdom, Portugal and Luxembourg will be on 'counselling migrants and refugees', in year 2 on 'future jobs' (labour 4.0) and year 3 on 'demographic change'.

The development of the course units for each C-STEP build on an analysis of the target groups' needs as well as analysis of literature, media and resources in the project's first phase.

The C-STEPS will make use of a blended learning concept that brings together elements of face-to-face courses and training with ICT-based elements, such as a media centre, alongside an interactive learning environment to be used in the piloting of the courses. The media centre will provide a variety of resources and material such as videos, activities or exercises. These materials and resources will support the learning process and aim to be of practical use for the work of career counsellors with the project's indirect target groups (i.e. migrants and refugees).

Academia+: Preparing the wider Academia network for the demands of a more digitalized future

In terms of its overall concept of offering annual visits to host countries, Academia+ builds on the Academia network that was set up in 1992 and which has since then provided mobility for more than 2000 guidance professionals from up to 18 member countries. The Academia+ unites a core group of Academia member countries that will develop and pilot new concepts, more formalized and coordinated material and resources and new ways of linking with practice. Moreover, Academia+ will develop a web-based infrastructure consisting of a web portal, media centre and a virtual learning environment that clearly goes beyond what the Academia network was able to provide in the past.

The close link to the wider Academia network does not only ensure a sustainable use of the outcomes of the Academia+ project but it also ensures that the wider Academia network will be prepared for the requirements of an increasingly digitalized future.

Titel: **Promoting key competences (entrepreneurship) through an integrated career orientation programme and flexible learning pathways for vet students entre@vetschools**

Akronym: ENTRE@VETSCHOOLS

Vertragnehmer: Gottfried Wilhelm Leibniz Universität Hannover

Projektnummer: 2018-1-DE 02-KA202-005130

Projektlaufzeit: 29 Monate

Projektwebseite: <http://entrevet.eu/>

Deutsche Partner:

Beteiligte Länder: EL, RO, CY, UK, IS

Gefördert aus: Erasmus+ KA2, Antragsrunde 2018

Zusammenfassung:

The transition from school into professional life is one of the most challenging moments in life. A competitive job market requires young people to not only possess an excellent qualification but also the ability to apply their skills in the workplace, to be adaptive and to act in an entrepreneurial way. Developing a career is a process, not just a destination. Unfortunately, not enough attention is paid to the developmental process required to engage in thoughtful, thorough career development.

The European Commission's communication COM/2012/0669 and ET 2020 have highlighted the need to develop entrepreneurial skills, to not only contribute to new business creation but also to the employability of young people. Unemployment of young people across the EU remains at almost record high levels. One of the four key reforms in ET2020 is to promote entrepreneurial skills. ET2020 refers to inspiring entrepreneurial potential through addressing the need the attitude, skills and knowledge to generate creative ideas, and the entrepreneurial initiative to turn those ideas into action. This project offers a methodology to address this need but also has a focus on transnational working.

The Eurydice document Entrepreneurship Education at School in Europe (2012) indicates that many countries do not have specific strategies for Entrepreneurial education and that it remains an area for development. The skills and competence definitions are fairly general. Many initiatives are based nationally and have limited reach. This project aims to develop a new model that is transnational but based on a much clearer definition of competences and skills.

The OECD report Entrepreneurship in Education 2015, shows very limited progress since 2012 and highlights the need to increase awareness of entrepreneurial education as a pedagogical

approach relevant to all students and on all levels of education, and a need for increased understanding of when, how and why entrepreneurial education can develop entrepreneurial competencies, with an embedded approach. It states that 'the field of entrepreneurial education is in a quite early stage of development'.

Two are the main target groups: the CAREER COUNCELLORS/ADVISORS whose profiles will be strengthened and VET STUDENTS who will be offered new career orientation services leading towards acquiring new entrepreneurial skills.

The above target groups as well as the partner countries will benefit from the implementation of the project at a transnational level, as developing such an innovative and comprehensive programme to VET cannot be achieved without the exchange of information, identification of good practices and complementarity of expertise.

Therefore the aims of the project are:

- to map out and assess the role of career guidance in supporting entrepreneurship learning in initial vocational education and training (IVET)
- to design and offer a professional development programme for career advisors in order to upgrade the services provided to VET students for a better career orientation towards entrepreneurship routes
- to create the CAREER HUBS based on the creation of synergies between the labour market, SMEs, schools VET etc. in order to support the work-based learning opportunities to be offered to students, as well as real life opportunities.

Six organisations representing six different European countries will work for 30 months in order to develop 5 main intellectual outputs to the target groups of VET students and Career Advisors. The consortium envisions the development of training material, professional development courses for Career Advisors and VET teachers, as well as a complete pack for promoting entrepreneurial minded young people as part of the career orientation programme.

Themenccluster: Digitale Bildung

Titel: **E-Learning, Digitisation and Units for Learning at VET schools – Creating online Learning Environments in Technical Education for European metal industry**

Akronym: EDU-VET

Vertragnehmer: Universität Paderborn

Projektnummer: 2019-1-DE 02-KA202-006068

Projektlaufzeit: 26 Monate

Projektwebseite: <https://eduproject.eu/eduvet/>

Deutsche Partner: Ingenious Knowledge GmbH; Köln
Berufskolleg Bocholt-West; Bocholt

Beteiligte Länder: DE, UK, ES, NL

Gefördert aus: Erasmus+ KA2, Antragsrunde 2019

Zusammenfassung:

EDU-VET is an acronym for "E-Learning, Digitisation and Units for Learning at VET schools – Creating online Learning Environments in Technical Education for European metal industry" a European strategic partnership project within the ERASMUS + programme.

For vocational schools digitisation is becoming a challenge. Learners are used to new media because they use technical devices like smart phones and tablets in their daily life. But, at school digitisation is not so much in focus so far. For teachers and VET-schools the changes in social life and in economy lead to new requirements. In the future VET-schools have to provide not only Smartboards or a PC room to show they are ready for a changing situation in life but they also have to focus on providing courses online and integrate eLearning in their daily teaching activities. And this is a core anchor point for the EDU-VET project.

The main objective of the EDU-VET project is to create new teaching and learning environments for VET (vocational education and training). EDU-VET focusses on the creation of online courses in a learning platform and supports the use of digital technologies within learning in the metal sector and reduces or removes barriers to education. The objective of EDU-VET project is facing the design, the implementation and testing of innovative teaching and learning within the VET metal sector. The aim is to create an EDU-Curriculum and online-courses on a learning platform for initial vocational education (i-VET) as well as an online-showroom for insights (texts about objectives, products, processes, contact data, photos, video or audios) into real companies in the metal work sector to foster teaching on an authentic basis. Moreover, EDU-VET provides a handbook and guideline for teachers to support them with pedagogical hints, background information, information about the use of the online courses in blended learning scenarios and with additional learning and teaching materials and resources. This handbook comes as a real printed book to foster sustainability even after the end of the

project. The EDU-VET partners create the book in English language and focus on digitisation and eLearning and the influences on VET in metal industry, where the survey results and the results of the desktop researches are provided and additional checklists and hints for teachers and trainers are given. Basis for all work and especially for the curriculum design process in EDU-VET is a research on the use of learning units and online-courses as well as new media in metal industry and VET. Dealing with new technology in metal industry is state of the art and therefore, EDU-VET focusses on an approach to let it also be used in VET for this field. The design of a research study in the partner countries is also an approach to get a European view on acceptances, experiences, problems and chances in the fields of pedagogy and online-courses based on digitisation approaches in the metal work sector.

The EDU-VET online and blended learning approach as well as the common EDU-VET curriculum offer new possibilities to rethink i-VET in metal industry and enhances the access of the learners to training and qualifications. EDU-VET addresses the priorities of European VET brilliantly and addresses topics like ICT, OE and ensures quality. The support of VET teachers and VET learners is crucial and a core idea of EDU-VET. This is also the reason why EDU-VET provides results as open educational resources (OER) which will be of high quality and fit to the EU-StORe standards for OER.

In EDU-VET four VET schools cooperate with a university and a technical partner to combine the best set of competences and skills for the design, the implementation and the testing process. The partners are coming from UK, Spain, the Netherlands and Germany and have a strong network in VET.

The fifteen core results of the project EDU-VET are:

- (1) the EDU-VET Curriculum
- (2) the EDU-VET Learning and Teaching Resources
- (3) the EDU-VET online courses for the metal sector
- (4) the EDU-VET Online-Showroom with insights into metal companies, best practice information and videos
- (5) the EDU-VET Book on innovative teaching and learning in the metal sector
- (6) the EDU-VET research report
- (7) the EDU-VET dissemination materials (posters, leaflets, brochure, cards, pens, flyer)
- (8) the EDU-VET Website with Blog
- (9) the EDU-VET Guideline for VET educators and teachers
- (10) the EDU-VET videos (integrated in the website and the online show-room)
- (11) the EDU-VET OER strategy
- (12) the EDU-VET digitisation concept for VET
- (13) the EDU-VET publications, newsletter and press articles
- (14) the EDU-VET research
- (15) the EDU-VET evaluation report

Themencuster: Digitale Bildung

Titel: **Connecting VET for the European Digital Single Market**

Akronym: Connecting EU
Vertragnehmer: Kuniberg Berufskolleg Recklinghausen
Projektnummer: 2019-1-DE02-KA202-006079
Projektlaufzeit: 24 Monate
Projektwebseite: -
Deutsche Partner: -
Beteiligte Länder: BE, FI, CZ, ES, AT
Gefördert aus: Erasmus+ KA2, Antragsrunde 2019

Zusammenfassung:

Connecting VET for the European Digital Single Market (Connecting EU) is an interdisciplinary intercultural project involving six EU partners from three fields of vocational education: engineering (BE/CZ), ICT (FI/ES), and business administration (DE/AT).

Goods and services are designed, produced, and distributed internationally – mainly using ICT. Thus it is vital for future specialists in any field to have a basic understanding of ICT-based production, distribution, and communication processes as well as competences necessary to master such interdisciplinary, intercultural (communication) situations.

Connecting EU intends to prepare students for the EU Digital Single Market by improving digital literacy, imparting ICT skills, including migrants and opening up education (Europe 2020 Strategy). It aims to adapt teaching and learning to future technological, economic, environmental, and social challenges resulting from Europeanisation and globalization. At the same time, Connecting EU is a consequence of the need to integrate migrants into the national and European job market.

These aims will be achieved in two stages by (1) creating three teaching/learning arrangements (a Web Shop, a Smart Innovative Factory, and a MOOC) that provide teachers/students with tools to impart/acquire European digital vocational competences (in English) and by (2) documenting the didactic processes designed to master these (learning) situations ("European Digital Learning Situations").

Stage 1

The specific competences needed in this interdisciplinary and intercultural digital working environment are: ICT, process automation, business administration, and intercultural communication (in English).

a) A Web Shop will be set up that markets (fairly traded) goods as well as services (remote ICT consultancy/repair provided by selected courses of the technical partner schools).

b) A Smart Innovative Factory (SIF -400, Training equipment for industry 4.0 from SMC) will be used to develop a selection of the following: web services, smart devices, identification systems, augmented reality, artificial visions, energy saving solutions, industrial management systems. This SIF allows to choose products via the web shop, to fill a container, to store products, to label, to mark, to pack and to stock product holders, to deliver products, to recycle, and to manage production. The SIF combines didactic and innovative technical approaches (Internet of Things that connects the web shop to the industry: production, robots, cloud applications, preventive and predictive maintenance, and connection IT).

c) A short MOOC (on 3D printing in the SIF) will be produced in English (based on Content Language Integrated Learning). It is also meant to be a tool for successful integration (of migrants) into the EU job market by improving (their) communication competence.

Stage 2

The teaching/learning experiences made in stage 1 (integrating ICT into European manufacturing and business administration) are documented in "European Digital Learning Situations" to make them available to others. We will make use of the EQAVET building blocks to conceptualize the experiences made in stage 1 by singling out, describing, structuring, providing methods for teaching, and finding ways to assess the (basic and transversal) competences that are necessary for doing the jobs envisaged by Connecting EU. Competences will be assessed against current EU standards (EQF, CEFR, and ECVET).

The pool of potential EU specialists in technology is limited thus they need to travel more extensively - unless they risk losing business to huge multinational conglomerates. Thus, tapping into the pool of migrants and training them in tech jobs might reduce the scarcity of technically-minded employees.

Preparing the next generation of specialists for an innovative digitalized economy that takes the competences online to where they are needed without wasting time and energy on unnecessary transport is a contribution to developing a sustainable economy. Offering high-end online after sales (technological) service could also protect European SMEs against being squeezed out of the market by multinationals.

VET in the EU has to react to the changed future demands anticipated by the DSM to prepare students for future jobs (that are European, digital, ecological, and inclusive) in order to maintain Europe's competitive edge.

The European Digital Single Market requires digital competences (technological/administrative and intercultural/communicative) as well as an entrepreneurial attitude towards work in increasingly diverse societies based on tolerance and systemic thinking. Connecting EU provides the intercultural, cross-sectoral setting that reflects these challenges in teaching/learning arrangements ("European Digital Learning Situations") that require teachers and students to operate a Web Shop, to work in the SIF-400, and to compile a MOOC.

Themencuster: Digitale Bildung**Titel: Industrielle Interaktion 4.0****Akronym:** INDI4.0**Vertragnehmer:** Max-Eyth-Schule Stuttgart**Projektnummer:** 2019-1-DE02-KA202-006099**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** PILZ GMBH & CO. KG; Ostfildern**Beteiligte Länder:** ES, PT, DE**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2019**Zusammenfassung:**

Die Thematik Industrie 4.0 an Schulen und in der Ausbildung ist für ganz Europa von hoher Bedeutung. Im Erasmus+ Projekt INDI4.0 (Industrielle Interaktion 4.0) wird ein Austausch der in den Partnerländern gemachten Überlegungen und Konzepte zu diesem Thema ermöglicht.

Ziel des Projektes INDI4.0 ist im ersten Schritt den Lernenden den Begriff der Industrie 4.0 zu erläutern und ein Verständnis für die Zusammenhänge, die Abläufe und die Vernetzung der Systeme zu bewirken. Im zweiten Schritt ausgewählte Kompetenzen und Fähigkeiten vermitteln, die in der Industrie 4.0 ihre Aktualität haben und in diesem Kontext Verwendung finden. Bei der Vermittlung des Wissens liegt großer Wert darauf, dass die Lernenden auf die Anforderungen des lebenslangen Lernens in der sich sehr schnell weiterentwickelnden Industrie gerüstet sind. Die Unterrichtseinheiten bedienen sich hierzu moderner und innovativer Methoden und Techniken der digitalen Lernstoffvermittlung.

Am Erasmus+ Projekt INDI4.0 sind drei berufliche Schulen aus dem Bereich Automatisierungstechnik beteiligt (Deutschland, Spanien und Portugal), sowie die Firma Pilz, die im Bereich der Sicherheitstechnik tätig ist und eine Industrie 4.0 Demonstrationsanlage entwickelt hat.

Als Ergebnis liegen interaktive Unterrichtsentwürfe vor, die bei der Umsetzung des Themas Industrie 4.0 an den Schulen und in der Ausbildung helfen. Desweiteren sind Methoden und Werkzeuge aufgezeigt, die bei dem Entwurf ähnlicher Unterrichtsentwürfe anleiten und unterstützen.

Themencuster: Digitale Bildung**Titel: Interdisciplinary Teaching and Training 4.0****Akronym:** INTENT 4.0**Vertragnehmer:** Bezirksregierung Köln**Projektnummer:** 2019-1-DE02-KA202-006122**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** -**Beteiligte Länder:** IT, CZ, PT, ES**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2019**Zusammenfassung:**

VET teachers and trainers have to face the challenges of the 4th Industrial Revolution and globalization on the one side and to deal with the fact that VET training is less attractive for many young people than academic qualification. So they have to improve the VET training and this includes their own professional development and their adaption to new requirements.

Teaching and training settings have to be adapted to the requirements of a digitalized world and trainers have to deal with modified requirements to their role, e.g. as classroom and project manager, tutor or coach of the students instead of an instructor. The role of the workforce changes from operators to problem-solvers alike. In addition, concrete further training modules which enable the teachers and trainers to prepare their students for the working world 4.0 in an optimal way are required.

In the project "Interdisciplinary Teaching and Training 4.0" we want to develop training units for the professional development of VET teachers and trainers which improve their digital competences, the use of innovative practices of teaching and learning and which are based on concrete practical requirements in the working world. For Summer Schools or seminars flexible, interactive training provisions will be offered which improve project-oriented and work-based learning, cooperative learning, the design of action-oriented, complex learning arrangements, the proper use of digital tools, project and classroom management, etc.

The idea is to bring together practitioners in companies and VET teachers who develop interdisciplinary and collaborative learning settings along an entire product supply chain. They will benefit from each other and improve their mutual understanding. Moreover, the improvement of key resources and the key competencies are addressed and altogether human resources developed.

Three VET colleges, one institution for teacher training and further education, a chamber, a business association and a regional VET college development and supervisory public body work together in order to develop the concept and the materials for the further training of teachers and trainers. The consortium represents the business and the school sector and will

be able to consider the needs of both and to benefit on the other side from the experience of both sides.

In the first project phase, training modules for the summer school will be developed in transnational working groups (IO1 and 2). They will be tested in a learning teaching training activity, evaluated and further developed also with a perspective that in future they will be applicable in regional training seminars, too, in order to have good conditions for a broad implementation. Basis for the development are the expertise of the teacher training institution in combination with the experience of EUGES regarding the challenges of VET 4.0 and the needs for further improvement of teachers and trainers. The practical expertise of the other participating institutions will add to create useful practical outputs. The leading idea is to relate the modules to entire supply chains and thus to support interdisciplinarity and cooperation between different sectors, departments and different actors in the training process from the beginning. Especially the change of orientation from thinking in separate sections to considering whole processes and supply chains often is requested with regard to increasing digitalisation. The training modules are oriented toward a cooperation between the technical and the business and administration sector.

The expected impacts are enhanced qualifications of teaching and training staff with regard to 4.0 competences, an intensification of the dialogue between local VET providers and companies in terms of modern digital and technical developments, an intensification of cooperation between companies and VET providers and an intensification of cooperation between commercial and technical vocational colleges/departments. Altogether this is supposed also to increase of the attractiveness of vocational training in schools and companies, initially on local level but perspectively also on regional and national level.

Themencuster: Digitale Bildung**Titel: Digital Innovation in Vocational Education and Training****Akronym:** Digital InVitation**Vertragnehmer:** Mariaberg e.V.**Projektnummer:** 2019-1-DE02-KA202-006147**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** Josefsheim gGmbH; Olsberg
Berufsbildungswerk Mosbach-Heidelberg; Mosbach**Beteiligte Länder:** EE, AT, FR, PT, FI, DE, SI, ES**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2019**Zusammenfassung:**

Im Projekt "Digital InVitation" treffen sich insgesamt 10 Einrichtungen der Beruflichen Bildung aus 8 europäischen Ländern insgesamt 6 mal, um sich über das Thema Digitalisierung in der sozialen Arbeit im Bereich der Beruflichen Bildung auszutauschen und sich gegenseitig "Best-Practice" Modelle vorzustellen. Alle Workshops laufen nach dem gleichen Schema ab. So werden aus allen Einrichtungen Umsetzungsmodelle und/oder aktuelle Entwicklungen vorgestellt. Im Anschluss daran wird eine intensive Diskussion mit gemeinsamen Schlussfolgerungen und einer sog. SWOT (Stärken-Schwächen-Chancen-Risiken) - Analyse durch die Teilnehmer geben, festgehalten und damit die jeweilige Projektdimension objektiviert. Für jeden Workshop gibt es eine Workshopdokumentation, die ebenfalls nach einer festen Struktur gestaltet werden wird. Nach Ende des Projektes werden alle Dokumentationen und Ergebnisse interessierten zur Verfügung gestellt. Für jede Einrichtung nehmen je Workshop max. 3 Personen teil, davon ist eine Person die sog. Projektkoordination. Diese soll an allen Treffen teilnehmen und dadurch die Kontinuität, was die Vorbereitung, Arbeitsweise, Diskussion und Netzwerkarbeit betrifft, gewährleisten. Die beiden anderen Personen bestehen aus den jeweiligen Fachexpertisen, welche für den entsprechenden Workshop notwendig sind. Die Themen der Workshops sind bereits festgelegt:

1. Digitale Kommunikation (Messenger, Videochats, etc.)
2. Hardware und Regulierungen
3. Lernplattformen, Onlineplattformen, Online Learning
4. Gamification, Apps, Appregeln
5. Gesundheits- und Generationenmanagement
6. Abschluss, Ergebnisse, Vision und ggf. Projektentwicklung für das Follow up

Die Koordinatoren sind dafür zuständig, die Recherche in der eigenen Einrichtung und ihrer Region zu betreiben, die Projektteilnehmer der eigenen Einrichtung sorgfältig auszuwählen und entsprechend vorzubereiten.

Ziele des Projektes sind:

1. Austausch von Wissen und Best Practice Modellen
2. Das Projekt entwickelt die positive Nutzung von digitalen Tools in der Berufsbildung
3. Rechtssicherheit: durch die Auseinandersetzung mit Regularien und Datenschutz
4. Das Projekt entwickelt das Wissensmanagement in den Einrichtungen.
5. Im Projekt lernen die Teilnehmer von und miteinander.
6. Betrachtung des Generationenmanagements
7. Internationalisierung und europäische Haltung
8. Qualitätsverbesserung in der Berufsbildung
9. Einbindung von Gesundheitsmanagement und Arbeitsschutz

Neben den geplanten Projekttreffen wird es weitere Online-Meetings geben, bei welchen sich die teilnehmenden Organisationen über wichtige Meilensteine und Entwicklungen abstimmen und so auch die Erfahrung mit unterschiedlichen Medien direkt erfahren.

Wir erwarten uns deutliche Wirkungen aus dem Projekt für die Berufliche Bildung und die fundierte Weiterentwicklung der Digitalisierung in der Berufsbildung im sozialen Bereich. Einrichtungen und Organisationen können sich anhand der Erfahrungen von Anderen weiterentwickeln und positive Impulse in ihre Strukturen implementieren. Dies macht die Ausbildung in sozialen Bereichen attraktiver und bezieht die Gruppe der Benachteiligten und von Ausgrenzung bedrohten Zielgruppe (Auszubildende mit Behinderungen) mit ein. Damit liefert das Projekt einen wichtigen Beitrag zur Barrierefreiheit und dem Zugang zu Beruflicher Bildung für alle. Das Projekt greift die aktuellen Diskussionen im Bereich der Beruflichen Bildung in der sozialen Arbeit auf und versucht einen wesentlichen Beitrag zur Enträumlichung von Bildung zu leisten.

Die Workshops und Projektabschnitte werden anhand einer vorgegebenen Systematik dokumentiert und damit stehen die Best Practice Modelle einer breiten Öffentlichkeit zur Verfügung. Alle Einrichtungen sind in lokale, regionale, nationale und internationale Netzwerke eingebunden und werden dort die wichtigsten Ergebnisse berichten und weitergeben.

Eine wichtige Wirkung des Projektes wird auch die Entwicklung einer gemeinsamen europäischen Identität sein. Durch die Zusammenarbeit und den strukturierten Austausch lernt man die jeweilige Arbeitsweise und Sichtweise der Anderen kennen. Dies führt unweigerlich zur Diskussion über Haltung, Werte und Grundannahmen, was die Entwicklung einer gemeinsamen europäischen Sichtweise befördert und unterstützt. Bei der Planung und Partnersuche war es wichtig Europa geografisch abzubilden und die Stärken und Ressourcen der unterschiedlichen Berufsbildungssystem und Voraussetzungen mit in das Projekt einzubringen.

Das Projekt kann als Grundlage zur Entwicklung intensiverer Zusammenarbeit dienen und die Ergebnisse sollen in vielfältiger Weise interessierten Einrichtungen in ganz Europa zur Verfügung stehen.

Themenccluster: Digitale Bildung**Titel: Inklusive Führung im digitalen Zeitalter****Akronym:** INCLUDE**Vertragnehmer:** emcra GmbH**Projektnummer:** 2019-1-DE 02-KA202-006246**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** IBW F Institut für Betriebsberatung, Wirtschaftsförderung u. -forschung e.V.; Berlin
EU-Fundraising Association e.V.; München**Beteiligte Länder:** CY, IT, DE, BG, PL**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2019**Zusammenfassung:**

Warum wird „Inklusive Führung im digitalen Zeitalter“ benötigt?

Viele Führungskräfte in kleinen und mittleren Unternehmen (KMU), kleinen und mittleren Organisationen (KMO) und in Start-ups stehen vor einem Dilemma. Sie fragen sich: Wie kann ich meine Organisation leiten, wenn ich selbst keineswegs sicher bin, wohin die digitale Reise geht? Wie können wir die Zukunft unserer Organisation erfolgreich zusammen gestalten?

INCLUDE greift zwei zentrale Entwicklungen unserer Zeit auf: Erstens den Trend zu flacheren Hierarchien und geteilter Verantwortung und zweitens die Digitalisierung aller Wirtschaftsbereiche. Beide Aspekte bieten den Ausgangspunkt für die Entwicklung eines neuen praxisnahen und innovativen Führungsansatzes im Zeitalter der Digitalisierung.

Ziele und Zielgruppen: Das Ziel des Projektes ist es, KMU, KMO sowie Start-ups bei den tagtäglichen Herausforderungen des digitalen Wandels mit einem zeitgemäßen, inklusiven Führungsansatz zu unterstützen. Dafür werden im Projekt Lern- und Lehrmaterialien für Führungskräfte und für Personen entwickelt, die mehr Verantwortung übernehmen wollen bzw. sollen. Mit diesen Materialien können Führungskräfte einerseits „inklusive Führung im digitalen Zeitalter“ Schritt für Schritt berufsbegleitend erlernen und direkt in ihrem Arbeitsalltag anwenden (Work-Based-Learning-Ansatz). Andererseits können Trainingsanbieter und freiberufliche Trainer*innen aus der beruflichen Bildung die Materialien und ein Mustercurriculum für Weiterbildungsangebote für die Zielgruppe nutzen. Dafür werden vier frei online zugängliche Produkte entwickelt.

Die 4 INCLUDE-Produkte sind:

- 1) Ein „Prozessmodell“ zum besseren Verständnis von „inklusive Führung im digitalen Zeitalter“. Den Nutzer*innen wird u.a. bewusst, dass die Einführung neuer inklusiver Führungsansätze grundlegende Veränderungen der gewohnten Arbeitsabläufe in ihrer Organisation mit sich bringt.
- 2) Ein „Curriculum“ auf Basis des Europäischen Qualifikationsrahmens (EQR). Damit lassen sich sowohl organisationsinterne als auch offene Trainings für die Zielgruppe konzipieren.
- 3) Ein INCLUDE-Handbuch, das insbesondere die persönliche und praxisnahe Weiterbildung am Arbeitsplatz für Führungskräfte und Mitarbeiter*innen in KMU, KMO und Start-ups mit Hilfe von „Ready-to-Use“-Methoden und -Instrumenten ermöglicht.
- 4) Ein „E-Mail-Kurs“ zur Sensibilisierung und als niedrigschwellige Einstiegsmöglichkeit in das Projektthema.

Für die Lernenden bietet INCLUDE die Chance, die eigenen Fähigkeiten in einem für den Arbeitsmarkt hochgradig relevanten Tätigkeitsfeld aus- bzw. aufzubauen.

Wer nimmt am Projekt teil? Um die Projektziele zu erreichen, ist das Projektkonsortium inhaltlich breit aufgestellt und gewährleistet eine starke Gewichtung der Interessen der zukünftigen Nutzer*innen. Im Projekt arbeiten darum ein Weiterbildungsanbieter, eine Hochschule, ein Berufsverband der mittelständischen Wirtschaft, zwei Kammern sowie zwei NGOs zusammen.

Projektintern leisten div. Hochschullehrer*innen, Führungskräfte, Berater*innen, Trainer*innen, Projektmanager*innen etc. der beteiligten Projektpartner einen Beitrag zum Projekterfolg.

Das Projekt erreicht mind. 178 Personen direkt: 18 Führungskräfte und Beschäftigte der Projektpartner nehmen an einer transnationalen Lernaktivität teil, 40 Personen aus der Zielgruppe testen die Projektprodukte in 5 nationalen Workshops und 120 Personen nehmen an insgesamt 5 Multiplikatoren-Veranstaltungen in den 5 Projektländern teil.

Die Teilnehmenden werden aus den folgenden Strukturen rekrutiert:

- Mitglieder der Kammern, des Berufsverbands und der NGOs,
- Trainer*innen, Studierende bzw. Lernende der Bildungsanbieter im Konsortium (v.a. Hochschule und berufliche Bildung),
- weitere Einzelpersonen bzw. Netzwerkpartner der Partnerorganisationen.

Wie arbeitet INCLUDE? Zur Erarbeitung der Produkte wird eine klassische Vorgehensweise genutzt: (1) gemeinsame Wissensbasis schaffen, (2) Konzeption und Entwicklung/Programmierung der Projektprodukte, (3) Testen und Überarbeiten, (4) Veröffentlichung der Projektprodukte und (5) Verbreitung der Ergebnisse. Bereits im Projektverlauf wird der Transfer in weitere Bereiche vorbereitet. Als Projektmanagement-Methode wird PRINCE2 (Projects in Controlled Environments) eingesetzt.

Wer wird von dem Projekt profitieren? Die Projektergebnisse werden an ca. 25.000 Führungskräfte und Mitarbeiter*innen von europäischen KMU, KMO, Start-ups und VET-Trainingsanbieter verbreitet. Es wird erwartet, dass bis zu 5.000 Repräsentanten aus der Zielgruppe die INCLUDE-Produkte aktiv nutzen.

Welche mittel- bzw. langfristigen Auswirkungen werden erwartet? INCLUDE bildet Personen aus, die in der Lage sind, im Schnittpunkt zwischen „Leadership“ und „digitaler Transformation“ zu inklusiven und zeitgemäßen Lösungen zu gelangen. Ihre Firmen bzw. Organisationen werden insgesamt wettbewerbsfähiger, können mittel- bis langfristig neue Arbeitsplätze schaffen und werden den europäischen Wirtschaftsraum stärken.

Themencluster: Digitale Bildung

Titel: **Improving skills and competences of VET teachers and trainers in the age of Artificial Intelligence**

Akronym: TACCLE AI

Vertragnehmer: Universität Bremen

Projektnummer: 2019-1-DE 02-KA202-006317

Projektlaufzeit: 24 Monate

Projektwebseite: <http://taccleai.eu/>

Deutsche Partner: -

Beteiligte Länder: UK, EL, IT, LT

Gefördert aus: Erasmus+ KA2, Antragsrunde 2019

Zusammenfassung:

Artificial Intelligence (AI) can be defined as a computer system that has been designed to interact with the world in ways we think of as human and intelligent. Ample data, cheap computing and AI algorithms mean technology can learn very quickly. The transformative power of AI cuts across all economic and social sectors, including education.

UNESCO says AI has the potential to accelerate the process of achieving the global education goals through reducing barriers to accessing learning, automating management processes, and optimizing methods in order to improve learning outcomes. Education will be profoundly transformed by AI. Teaching tools, ways of learning, access to knowledge, and teacher training will be revolutionized.

A recent European Joint Research Council policy foresight report suggests that "in the next years AI will change learning, teaching, and education. The speed of technological change will be very fast, and it will create high pressure to transform educational practices, institutions, and policies." They say it is therefore important to understand the potential impact of AI on learning, teaching, and education, as well as on policy development.

AI is particularly important for vocational education and training as it promises profound changes in employment and work tasks. There have been a series of reports attempting to predict the future impact of AI on employment, producing varying estimates of the number of jobs vulnerable to automation as well as new jobs which will be created. But the greatest implications for VET lies in the changing tasks and roles within jobs, requiring changes in initial and continuing training, for those in work as well as those seeking employment. Cooperative robotics offers new work designs and job scenarios for occupations avoiding repetitive work tasks. This will require changes in existing VET content, new programmes such as the design of AI systems in different sectors, and adaptation to new ways of cooperative work with AI.

If teachers are to prepare young people for this new world of work, and to excite young people to engage with careers in designing and building future AI ecosystems, then VET teachers and trainers themselves require training to understand the impact of AI and the new needs of their

students. There is an urgent need for young people to be equipped with a knowledge about AI, meaning the need for educators to be similarly equipped is imperative. This requires cooperation between policy makers, organisations involved in teacher training, vocational schools and occupational sector organisations, including social partners

For VET teachers and trainers there are many possible uses of AI including new opportunities for adapting learning content based on student's needs, new processes for assessment, analysing possible bottlenecks in learners' domain understanding and improvement in guidance for learners.

AI systems can provide diagnostic data to learners so that they can reflect on their metacognitive approaches and areas in need of development. New pedagogical possibilities include learning companions based on affective computing and emotion AI. AI systems can help in interpreting activities undertaken in VET, linking theoretical and practice-based learning.

AI can be a key technology in the modernisation of VET by providing new opportunities for adapting learning content based on student's needs, new processes for assessment, analysing possible bottlenecks in learners' domain understanding and improvement in guidance for learners.

The project will promote open innovative methods and pedagogies and develop learning materials, tools and actions in the form of Open Educational Resources that support the effective use of Information and Communication Technologies (ICT) to provide initial training and continued professional development for VET teachers and trainers in Artificial Intelligence. The project will extend the European Framework for the Digital Competence of Educators, a reference framework tool for implementing regional and national tools and training programmes to include AI.

The project will seek to support VET teachers and trainers in extending and adapting open curriculum models for incorporating AI in vocational education and training. Furthermore, the project will develop an Open Massive Open Online Course in AI in education in English and German, open to all teachers and trainers in VET in Europe. The course materials will be freely available for other organisations to use for professional development.

The realisation of the potential of AI for VET requires the involvement of European teachers and trainers in designing solutions to the key educational challenges facing VET. Technologists alone cannot design effective AI solutions. The implications of AI for VET curriculum and for teaching and training in schools and the workplace are profound and educators must engage in discussing what needs to change as a matter of urgency.

Themenccluster: Digitale Bildung**Titel: 3D Printer, Technology for the Future****Akronym:** 3DPTFTF**Vertragnehmer:** Berufsbildende Schulen des Landkreises Osnabrück in Bersenbrück**Projektnummer:** 2019-1-DE 02-KA202-006346**Projektlaufzeit:** 28 Monate**Projektwebseite:** <https://sites.google.com/view/3d-printer-technology/home-page>**Deutsche Partner:** -**Beteiligte Länder:** RO, EL, PL, ES**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2019**Zusammenfassung:**

This project was elaborated with the main aim of improving at a European dimension the quality of professional skills and personal abilities of students and young people who seek to continuously improve their vocational preparation, with the final aim to facilitate their integration on the market field. This objective will be reached by teaching our learners about 3D printer's technology, which is for several years on the list of future trends in technology, being the third in the top ten and with a very fast growing on the market, because of the possibilities of energy and cost savings 3D printing offers limitless future innovative opportunities.

Taking in account these considerations, we think that knowing the 3D printers technology and the possibilities that they offer is a necessity for the new generation. Through this project we intend to establish a European partnership for the education and training of the young generation in order to improve at a European dimension the quality of professional skills and personal abilities of students and young people who seek to continuously improve their vocational preparation, by making them aware of the possibilities that the 3D printer offers, with the final aim to facilitate their integration on the market field.

According to the reasons above,

(1) The main objective of the project is the production of a proper Learning Module (Intellectual Output) with more specific goals as below:

- 1a. Developing professional knowledge of students in the area of the 3D printer technology
- 1b. Developing students' professional competencies by learning basic steps in programming the 3D printer
- 1c. Improving students' personal competencies, abilities and their entrepreneurial skills by knowing the possibilities of setting up of a single company or Social Entrepreneurship

(2) A second objective is to be the produced material well adapted to the needs of students and young people generally, from different sectors, who want to incorporate the 3D printing possibilities into their work (Learning/Teaching Activities), and

(3) A third objective is to make this material as reachable as possible at least in the partners' countries (translation of the LM).

The target groups are: (a) Students of vocational technical schools and other young people looking for improving their professional skills,

(b) Specialized teachers and trainers of partner institutions and other interested organisations who will gather European experience, improve their professional skills and further the quality of their work.

The participant partners are vocational schools with technical background, training companies that offer training course in new technologies and e-learning and a NGO that promote innovative teaching methodologies and ICT. The main result of the project (a Learning Module on the subject of 3D printer's technology) will have two versions: for face-to-face teaching and for e-learning. This Learning Module will have the following chapters: 1. 3D printer - generalities (history, technology, current printing processes, additive manufacturing, software, possibilities of use) 2. 3D printer and Internet of Technology (IoT, industry 4.0, impact on business, industry, society and politics, open-source community) 3. Programming for 3D printer (with CAD, SketchUp and 3D Scan) 4. Setting up of a singlecompany or Social Entrepreneurship. The Learning Module, both versions, will be tested by students in the frame of two short term learning mobilities.

Other results will be also created for dissemination of the Learning Module and the project activities in general: website, Brochure of dissemination, Dissemination Events in partner countries, final Dissemination Conference in coordinator's country and Newsletters.

Participants will have the opportunity to work in a European team, will improve their professional skills and personal abilities at European level, by exchanging experiences and developing innovative teaching methods and learning modules. For learners, the training course in a European school will bring added value to their professional preparation by new knowledge acquired on a technology with great impact on the future, which will increase their chances to be integrated on the European labor market. Learning and spending time together with learners from different countries, will facilitate the communication between them, will improve their communication and cultural abilities. Cultural visits in the host country will contribute also to the personal development of students.

The results of the project will be valorized and implemented in the organizations involved in partnership as optional module; in this way other teachers and students will benefit on these results and products. The conventional LM and the e-LM will be available on internet, with free access, for the use of other interested organizations.

Themenccluster: Digitale Bildung

- Titel:** **Nobel Training Programme on Additive Manufacturing towards the Digital Transformation of Toolmaking and Habitat related sectors.**
- Akronym:** SAMANTHA: Skills in Additive MANufacturing for the Toolmaking and HABitat Sectors
- Vertragnehmer:** Karlsruher Institut für Technologie
- Projektnummer:** 2019-1-DE 02-KA202-006458
- Projektlaufzeit:** 36 Monate
- Projektwebseite:** <https://samantha-project.eu/>
- Deutsche Partner:** FRIEDRICH-ALEXANDER-UNIVERSITAET ERLANGEN NUERNBERG;
Erlangen
- Beteiligte Länder:** DE, ES, IT, SI
- Gefördert aus:** Erasmus+ KA2, Antragsrunde 2019

Zusammenfassung:

Additive Manufacturing, hereinafter AM, refers to the process used in the manufacture of products, by depositing or fusing materials layer by layer. AM, inside the category of Advanced Manufacturing Technologies (AMT), holds huge potential to disrupt the way in which a product could be designed, developed and manufactured. Moreover, can lead to a great number of technical and economic advantages and provide jobs in sectors such as the Toolmaking and Habitat.

Nevertheless, this revolutionary technology is still at an early stage in these manufacturing industries and many challenges have to be faced. On the one hand, Toolmaking industry mainly involved AM for product development or low-cost tools. On the other hand, the consumer market for AM in Habitat represents less than 0,1% of conventional manufacturing and the total services and products made is still a niche (1).

This needed shift might happen at three layers: 1) culture and organisation, 2) people and skills and 3) technology and infrastructure (2). Furthermore, the competitiveness of the industry is highly dependent on the knowledge, skills, competences and creativity of its employees; but the skills requested by industry are not merely technical.

Over the last decade, the notion of T-shaped skills and high-tech T-shaped skills has emerged. The vertical bar on the T represents the depth of related skills and expertise in a single field, whereas the horizontal bar is the ability to collaborate across disciplines with experts in other areas and to apply knowledge in areas of expertise other than one's own.

SAMANTHA project wants to anticipate with this up/reskilling strategy, especially in VET field because the current European VET offer has to respond to such challenges and take advantage of great opportunities ahead as the gap that exists in the Toolmaking and Habitat sector. For this reason, SAMANTHA aims to develop a novel training program addressing the mismatched high-tech T-shaped skills for proper implementation of AM in the value chains of

such sectors through high qualified workers. From this main objective there are several specific objectives:

SO1- Create flexible learning pathways and didactic tools based on the learning outcomes approach, able to provide, assess and recognize the key competences identified in target groups.

SO2- To ensure good alignment of VET programmes with the requirements of the Toolmaking industry and Habitat sector regarding AM.

SO3- To boost the Digital Transformation and the Smart Industrial Specialisation of these manufacturing sectors with a competent implementation of AM in their value chains.

SO4- To increase competitiveness and productivity of these sectors with a continuous up/re-skilling of the workforce with the required high-tech T-shaped skills needed in the Fourth Industrial Revolution.

SO5- To raise awareness and to improve the image of KETs and STEM graduates in society as a field to work in.

The main target groups of SAMANTHA project are: People with no practical expertise who are willing to learn about AM and find a job or workers from these sectors with experience in AM who want to acquire high-tech T-shaped skills or upgrade their knowledge.

Under the frame of the SAMANTHA initiative some results will be expected:

- (1) A complete overview of the level of implementation of Additive Manufacturing in the Toolmaking industry and Habitat sector, the desired and needed high-tech T-shaped skills in workers' curriculum and related VET training offer.
- (2) The creation of an innovative curriculum which will respond to those identified high-tech T-shaped skills and competences mismatches. Next, the development of SAMANTHA Training Content. The learning outcomes will combine high-tech skills with specific complementary skills. For instance: Technical, Quality, risk, ethics & safety, Management & Entrepreneurship, Communication, Innovation, Emotional & social intelligence competences. All of that making a distinction among the Toolmaking and Habitat sector.
- (3) The setting up of the SAMANTHA Open Learning Platform.
- (4) A Senior Transfer of Knowledge within senior workers to juniors.
- (5) Policy recommendations based on the obtained results of the project in order to foster the needed change in VET policies.

For achieving that, the project count on a multidisciplinary partnership composed of 7 partners with a different background as the Toolmaking industry, the Habitat sector, education and from a Psychology scope: KIT (the coordinator), ILI, AMUEBLA, CENFIM, CENTROCOT, CEIPES and TECOS.

- 1) Framework Service Contract - Studies in the areas of European Competitiveness: "Identifying current and future application areas, existing industrial value chains and missing competences in the EU, in the area of additive manufacturing (3D-printing)", COM (2016) doi:10.2826/72202 (1) European Commission "Skills for Smart Industrial Specialisation and Digital Transformation" (2018) doi: 10.2826/822644

Themenccluster: Digitale Bildung

Titel: **Schweißtechnische Ausbildung mit virtuellen Medien in Europa**

Akronym: DESA 4.0

Vertragnehmer: BBS II Gifhorn - Europaschule

Projektnummer: 2019-1-DE 02-KA202-006461

Projektlaufzeit: 26 Monate

Projektwebseite: -

Deutsche Partner: BBS II Leer, Berufsbildende Schulen II Leer; Leer

Beteiligte Länder: NO, AT, FI, EL, DE, ES

Gefördert aus: Erasmus+ KA2, Antragsrunde 2019

Zusammenfassung:

Die technische Entwicklung im Bereich der datenbasierten Steuerung von Prozessen in der Produktion hat sich in den letzten Jahren erheblich zugenommen. Um diese Prozesse auch in der Zukunft kompetent steuern und entwickeln zu können bedarf es auch der Integration der EDV gestützten Systeme in die berufliche Ausbildung. In vielen Berufen ist dies schon jetzt erkennbar.

Das Internet ist fester Bestandteil gesellschaftlich-kultureller, aber auch arbeitsplatzbezogener Informations- und Kommunikationsinfrastrukturen geworden. Kostengünstige, leistungsfähige und mobile Endgeräte, dazu eine universelle Verfügbarkeit des Internets und einfache Anwendungen führen zu deutlichen Veränderungen im Informations- und Kommunikationsverhalten. Diesen Veränderungen tragen auch neue Lernformen Rechnung, die mit diesen technologischen Entwicklungen einhergehen. Alle Lehrszenarien, die nicht ausschließlich face-to-face oder online stattfinden, können als Blended Learning oder hybrides Lernen bezeichnet werden, also als Kombination von virtuellen und nicht-virtuellen Lernsettings und Methoden.

Die auf dem Prinzip der Augmented Reality basierenden Simulatoren lassen sich für verschiedene Sprachen konfigurieren, was den Umgang der Schülerinnen und Schüler aus unterschiedlichen Partnereinrichtungen mit diesem Gerät sprachunabhängig gestalten lässt. Außerdem sind diese Schweißsimulatoren nicht an eine Werkstatt gebunden, sondern ermöglichen das Einüben der Handfertigkeit auch im normalen Klassenraum. Dieses bedeutet aber ebenso, dass die sonstigen Gefährdungspotentiale der verschiedenen Schweißverfahren wie die auftretende Lichteinwirkung durch den Lichtbogen, die sehr hohe Temperatur an der Schweißstelle und am Werkstück, die Gas- und Staubentwicklung und das Herumschleudern von Schlackestücken nicht auftreten. Dies ist vor allem bei der Arbeit mit Schülern in der Berufsorientierung wichtig und bei Schülern mit Einschränkungen, da hier die Gefährdungssituation erheblich größer ist.

Die neue Technologie kann in der Ausbildung zu den Metallverarbeitenden Berufen des Handwerks, der Industrie, in Vollzeitbildungsgänge BES, BFS und in der dualen Ausbildung – Teilzeit eingesetzt werden. Der Einsatz in der Berufsorientierung, bei der Ausbildung von Schülern mit „special needs“ und Menschen mit Flüchtlingsstatus ist dabei ein großer Vorteil. Der ortsunabhängige Einsatz ist nicht an eine aufwändige Schweißwerkstatt mit Absaugung, hohen Gefährdungspotentialen und UVV gebunden. Damit eignet sie sich auch für den Einsatz in internationalen Zusammenhängen und den unterschiedlichsten Zielgruppen.

In dem angestrebten Projekt soll ein internationales, bilinguales Konzept im Rahmen einer Strategischen Partnerschaft für den Einführungskurs in das Metall-Aktiv-Gasschweißen mit dem Schweißsimulator für verschiedene Zielgruppen erarbeitet und evaluiert werden. Hierbei soll ein besonderes Augenmerk auf die Selbständigkeit der Lernenden gelegt werden. Der selbständige Zugriff der Lernenden auf die Online im Theorieteil erarbeiteten und die am Simulator erzeugten Ergebnisse werden in der Schweißwerkstatt über Tablet-Computer ermöglicht. Neben der antragstellenden sind weitere acht Partner aus dem europäischen Ausland eingeplant.

Partnereinrichtungen:

Nr.	Schule	Land	Funktion	Teilnehmer
1	BBS II in Gifhorn	Deutschland	Antragsteller	7 LK + 5x6 Schüler
2	BBS II in Leer	Deutschland		2 LK + 6 Schüler
3	Saimaan ammattiopisto Sampo	Lappeenranta Finnland		2 LK + 6 Schüler
4	Buskerud videregående skole	Norwegen		2 LK + 6 Schüler
5	Goierri	Spanien	Erfahrung	2 LK + 6 Schüler
6	7 Ersatikiato Athen	Griechenland		2 LK + 6 Schüler
7	PTS Tamsweg	Österreich	Berufsorientierung	2 LK + 10 Schüler

Unterstützer:

1	Metall-Innung Gifhorn	Deutschland	Ausbildungsbetriebe	Betriebsleiter
2	TKNIKA Errenteria	Spanien	Erfahrung, Konferenzort	Fachleute
3	BBS für Metalltechnik	Bremen	Deutschland	Erfahrung Schulleiterin
4	Studienseminar Braunschweig	Deutschland	Unterrichtskonzeption	Fachleiter
5	Fa. Butting GmbH&co. KG	Deutschland	Ausbildungsbetrieb	Ausbilder

Für die Unterstützung bei der Erarbeitung des Kurskonzeptes sorgen die in der Lehrerausbildung angesiedelten Projektpartner vom Studienseminar Braunschweig. Fachlich wird die Erarbeitung durch die Metall-Innung Gifhorn sowie dem Industriebetrieb H. Butting GmbH & Co. KG begleitet. Die Module werden gemeinsam erarbeitet, erprobt, evaluiert und den Partnern abschließend zur Verfügung gestellt. Für die langjährige Erfahrung im Umgang ist die BBS für Metalltechnik Bremen dabei. TKNIKA bittet sich als Tagungsort an, da dort zahlreiche Simulationsgeräte vorhanden sind ein hervorragendes Kongresszentrum existiert.

Themenccluster: Digitale Bildung**Titel: LOG-IN: Logistics VET goes international****Akronym:** LOG-IN**Vertragnehmer:** BGZ Berliner Gesellschaft für internationale Zusammenarbeit mbH**Projektnummer:** 2019-1-DE 02-KA202-006483**Projektlaufzeit:** 32 Monate**Projektwebseite:** <http://login-project.eu/en/244/>**Deutsche Partner:** OSZ Lotis; Berlin**Beteiligte Länder:** DE, HR, NL, PL**Gefördert aus:** Erasmus+ KA2, Antragsrunde 2019**Zusammenfassung:****HINTERGRUND**

Digitalisierung und neue Technologien führen zu tiefgreifenden Veränderung in allen Industrien. Die Herausforderungen an die Logistik als Schnittstellenbranche sind dabei besonders groß. Digitale Kommunikation und Online-Handel, smarte Technik, mobile Endgeräte und Automation boomen, technikübergreifende Geschäftsmodelle setzen sich durch, Logistik wird digital. Diese Entwicklungen beeinflussen alle betrieblichen Arbeitsprozesse und damit auch die Kompetenzanforderungen an die Fachkräfte.

Schlüsselfaktoren für die Zukunft der Logistik sind Technologien als Innovationskatalysator und die veränderte Rolle des Menschen im System, strikte Kundenorientierung sowie Nachhaltigkeit. Diese Entwicklung definiert auch die Berufsbilder neu. Der Bedarf an Fachkräften mit den transversalen und berufsspezifischen digitalen Kompetenzen steigt rapide. Die Bildungssysteme in Europa müssen daher zügig Lösungen finden, um die digitalen Technologien in der beruflichen Ausbildung zu verankern und berufsbezogene digitale Kompetenzen praxisorientiert zu vermitteln.

ZIELE

Ziel des Projekts „LOG-IN“ ist, den Erwerb von berufsbezogenen digitalen Kompetenzen in der Ausbildung im Logistiksektor wesentlich zu stärken, um die jungen Fachkräfte auf die Anforderungen einer digitalen Arbeitswelt vorzubereiten. Dabei geht das Projekt deutlich über die bisherigen Ausbildungsinhalte hinaus. Spezifische Ziele sind die Stärkung von Qualität, Arbeitsmarktrelevanz und Zukunftsfähigkeit der Ausbildung im Logistikbereich und der institutionellen Kapazitäten der Schulen sowie die Förderung von Kooperationen der Bildungseinrichtungen. Damit leistet das Projekt einen Beitrag zur Stärkung der Qualität in der Berufsbildung hin zu Innovationsexzellenz – gemäß der EU-Strategie „Europa 2020“.

PARTNERSCHAFT

Projektpartner der BGZ sind Berufsbildungseinrichtungen und Hochschulen aus Deutschland, Kroatien, den Niederlanden und Polen, alle mit langjähriger Ausbildungserfahrung und umfangreicher Fachexpertise im Bereich Logistik. Weitere Akteure aus der Wirtschaft (Verbände & Unternehmen), sowie aus Bildung & Forschung unterstützen das Projekt als assoziierte Partner.

AKTIVITÄTEN

Die Partner entwickeln gemeinsam eine Matrix beruflicher Kompetenzen zur digitalen Logistik, ein Modell für eine digitale Lernumgebung für die Ausbildung in Logistikberufen, Lernmodule mit Lerneinheiten zur digitalen Logistik, einen Fortbildungskurs für Lehrkräfte sowie Empfehlungen für Akteure aus Berufsbildung, Wirtschaft und Politik. Begleitende Aktivitäten sind Netzwerkarbeit mit Akteuren, Verbreitungsmaßnahmen und Pilotaktionen zur Verankerung des Modells.

METHODIK

Die Partner bilden zu den thematischen Schwerpunkten transnationale Arbeitsgruppen. Die Entwicklung und Nutzung der neuen Lerneinheiten erfolgt in einem partizipativen Prozess mit Lernenden und Lehrenden. Akteure aus Wirtschaft & Politik sind in einen laufenden Dialog eingebunden - ihr Feedback sichert Relevanz und Passfähigkeit der Produkte.

TEILNEHMER/ZIELGRUPPEN

Teilnehmende sind die Auszubildenden der 4 beteiligten Berufsbildungseinrichtungen (sie lernen mit dem Modell und den neuen Lerneinheiten), die Lehrkräfte dieser Schulen (sie arbeiten mit dem Modell im Fachunterricht) sowie Branchenunternehmen und -verbände, Behörden und Regulierungsstellen (sie wirken in Arbeitsgruppen und Multiplier Events mit). Weitere Zielgruppen sind Lehrende und Lernende weiterer Einrichtungen (als Nutzer von Modell und Lerneinheiten in der Ausbildung sowie als Nutzer des Fortbildungskurses) sowie weitere Akteure aus Wirtschaft, Politik und Verwaltung (sie nutzen im besonderen die Empfehlungen für ihrem Tätigkeitsbereich).

ERGEBNISSE

Zentrales Ergebnis von „LOG-IN“ sind übertragbare Lösungen zur Einbindung von Digitalisierung in die berufliche Bildung – Modelle zum digitalen Lernen (Lernen 4.0) und innovative Lerneinheiten zur digitalen Logistik (Arbeiten 4.0). Damit erwerben die jungen Fachkräfte wichtige digitale Kompetenzen für den Beruf. Weitere Ergebnisse sind verbesserte Kompetenzen der VET-Lehrkräfte, eine engere Zusammenarbeit VET-HE und eine gestärkte Internationalisierung der Berufsbildungseinrichtungen.

WIRKUNGEN

Die in unserem Projekt exemplarisch umgesetzte Einbindung von neuen digitalen Inhalten in die Ausbildung im Logistiksektor, die deutlich über das traditionelle Berufsbild der Branche hinausgehen, stärkt die Zukunftsfähigkeit, Qualität und Attraktivität der beruflichen Bildung in Europa. Es verbessert die Beschäftigungsfähigkeit der Auszubildenden auf dem europäischen Arbeitsmarkt und hilft gleichzeitig den Unternehmen, ihren Bedarf an Fachkräften mit derartigen Kompetenzen zu decken. Der langfristige Nutzen ist ein ökonomischer, ein sozialer und ein gesellschaftlicher: attraktive Ausbildungsangebote, internationale Zusammenarbeit in der beruflichen Bildung, sichere Beschäftigungs- und Karrierechancen für junge Fachkräfte, Wettbewerbsfähigkeit und Qualität in der Logistikwirtschaft.

Themencuster: Digitale Bildung

Titel: **Digital unterstützte und nachhaltigkeitsorientierte Exzellenzzentren Beruflicher Bildung in Europa gestalten**

Akronym: DUNE-BB--EU

Vertragnehmer: Berufsbildende Schulen 1 Uelzen

Projektnummer: 2019-1-DE 02-KA202-006549

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: Studienseminar Hannover LBS; Hannover

Beteiligte Länder: EE, FR, IT, MT, DE, AT

Gefördert aus: Erasmus+ KA2, Antragsrunde 2019

Zusammenfassung:

Die Agenda 2030 und die 17 Nachhaltigkeitsziele der Vereinten Nationen (SDG), das UNESCO Weltaktionsprogramm (WAP), EU Bildungsraum 2025, der deutsche (NAP) Bildung für Nachhaltige Entwicklung (BNE) wirken sich auf die Gestaltung der exzellenten Lernorte Beruflicher Bildung in Europa aus!

Eine global wettbewerbsfähige europäische Wirtschaft wird zukünftig wesentlich durch exzellente nachhaltigkeitsorientierte Fachkräfteausbildungsstätten, also auch Berufsschulen, geprägt sein. Die in Europa dualisierte Berufsausbildung muss digitaler und nachhaltigkeitsorientierter und in sehr hoher (exzellenter) Qualität erfolgen, damit die EU-Fachkräfte mit hohen Beschäftigungschancen (minimiertes Arbeitslosigkeitsrisiko) als Leistungserbringer ein selbstbestimmtes gesichertes Leben führen können. Diese individuelle Lebenssicherheit und die damit verbundene Entlastung der Sozialsysteme trägt wesentlich zur sozialen Stabilität von Europa bei.

Das Berufsbildungsnetzwerk der Berufsbildungspraktiker*innen ermöglicht den systematischen Dialog über Organisationsstrukturen und nachhaltigkeitsorientiertes Lernortmanagement und BNE Projektmanagement, Gebäude- und Sachausstattung, Lehrkräfteaus- und -weiterbildung sowie digitale Unterstützungssysteme (bei den Pflegeberufen und beim EGovernance) und notwendige administrative Verbesserungen durch die europaweite Einrichtung von Landes- und Bundesinstituten Beruflicher Bildung und deren stärkere Vernetzung!

Der gemeinsam erarbeitete Referenzrahmen für die Gestaltung von digital unterstützten und nachhaltigkeitsorientierten Exzellenzzentren Beruflicher Bildung wird die Weiterentwicklung der nationalen Berufsbildungssysteme und die weitere Harmonisierung der europäischen Berufsbildung befördern.

Themencuster: Digitale Bildung

Titel: **GATE:VET – using GAMification in TEaching at VET schools**

Akronym: GATE:VET

Vertragnehmer: Akademie für berufliche Bildung gGmbH

Projektnummer: 2019-1-DE 02-KA202-006559

Projektlaufzeit: 24 Monate

Projektwebseite: <https://www.gate-vet.eu/>

Deutsche Partner: FACHHOCHSCHULE DRESDEN PRIVATE FACHHOCHSCHULE
GEMEINNUTZIGE GMBH; Dresden

Beteiligte Länder: DK, RO, DE, FR

Gefördert aus: Erasmus+ KA2, Antragsrunde 2019

Zusammenfassung:

The main objective of the project is to create a qualification and communication platform to simplify to use of game elements in the classroom of VET. The results of the project will therefore consist of an initial content collection of best practice cases provided on the platform. In order to be able to use these in a simple way and to expand them continuously, the platform will be designed in such a way that it is very easy to use and requires very little training. From the point of view of the project consortium, ease of use represents a central barrier for teachers, as they have relatively little time for preparation. By establishing an online-community towards Game Based Learning in VET schools, it should be ensured that the platform can continue to be maintained independently by the teachers even after the end of the project and that the teachers already involved can easily integrate new interested users.

Themenccluster: Digitale Bildung**Titel: Connecting pedagogy with technology****Akronym:** Digital school**Vertragnehmer:** Europäisches Bildungswerk für Beruf und Gesellschaft (EBG) gGmbH**Projektnummer:** 2020-1-DE 02-KA202-007382**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** Alemannenschule Wutöschingen; DE
Institut für individuelle Förderung und Schulmanagement Heinz
Gniostko; DE**Beteiligte Länder:** AT, SK, DE, BG, PT**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:**

The digitalisation creates new possibilities, but also dilemmas and challenges for schools and teachers, be it in VET sector or education in general since digital transformation is an overlapping process across all educational fields. There is consensus among policy-makers, researchers, teacher educators and school management that digital literacy and ICT implementation must be given high priority and needs to be explored more deeply in educational institutions. A large majority of European countries currently have definite plans to invest in schools' digital infrastructure. Germany has launched a digital pact to invest five billion euros into the expansion of IT infrastructure in schools by 2022. The successful integration of digital tools as comprehensively as possible, but without reflection and a pedagogical concept into everyday school life is the biggest challenge we face in Germany and partner countries.

Despite efforts to push digitization in schools, most schools do not have a concept for using digital learning aids, and are not able to reflect digital change as part of their systematic school and teaching development. Bertelsmann Stiftung Study shows rather the lack of pedagogical concepts. In fact, only 8 percent of school management attach great strategic importance. The result: Schools lack a concept for using digital learning aids, do not develop a common didactic understanding, and teachers usually have to organize their further training themselves. Having left all on their own, the partners in this consortium are struggling to use digital contents properly and the missing part is basically an application of the corresponding teaching pedagogy. The success of educational processes depends on the qualifications and competences of the teaching staff.

Unfortunately a pandemic shows us the relevance of mastering digital teaching. As coronavirus forces sectors to consider replacing real-world interactions with virtual alternatives, the move has been most dramatic in the education sector, with many schools sending all students home, suspending in-person lessons and switching to digital learning materials and lectures.

In this project by exchanging good practice we will encourage the teachers to view technology integration from a wider perspective and become reflective in their teaching as they use technology to support and facilitate instruction. The target group is teachers and schools. Each partner contributes to a specific issue we identified as important for our schools: teaching concept using digital technologies as well as the promotion of self-organized competency-based learning, new forms of teaching, learning and assessing, preferably open source solutions, joint activities platforms, networks. We will not only „consume“ the good practices, we will discuss with all partners what parts could be matching to currently available settings and frameworks within our organisations and how could such a transfer or integration or adaptation be engineered. We included the experts into our project who developed and/or applying these good practices, having expertise in pedagogical software settings as well as development of software related to these pedagogical concepts. Possible synergies and joint actions we could have benefit from are the additional pillars of the project. We foresee two face-to-face and one online learning activity. Learning from and with others is a most powerful learning experience. The value and importance of this experience inspires teachers: Being exposed to new ideas, new tools and new ways of teaching with these tools. Teachers would have time and place to reflect on their learning. Observation means getting involved, how it works, experiencing (first-hand experience, also together with others; stimulating, motivating), leads to reflection.

We included three good practices, each of them covering different aspects we are interested in.

We expect to learn from good practices the technology integration about new forms of teaching, learning and assessing

-individualized learning paths in order to support a heterogeneous group of learners in achieving the same learning goals. Students are no longer subjected to the same requirements across the board ('classroom principle'), because they are at different "learning levels" (skills, knowledge, willingness to learn), so they should get different options offered to progress.

-Methods suitable for designing individualized learning arrangements and the framework conditions of teaching-learning situations

-Appropriate teaching materials on the basis of learning levels and the respective digital learning environment and learn management systems

-A joint learning management system from teachers for teachers

-design and development of contents of educational scenarios

8 partners will participate and contribute and prepare eventually guidelines with results and recommendations based upon project activity.

Themenccluster: Digitale Bildung

Titel: **Berufliche Veränderungen durch Digitalisierung – eine europäische Qualifizierung für Fachkräfte der Berufsorientierung**

Akronym: BOQua dig

Vertragnehmer: Pädagogische Hochschule Schwäbisch Gmünd

Projektnummer: 2020-1-DE 02-KA202-007386

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: -

Beteiligte Länder: UK, AT, SI, ES

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

In all EU countries, the implementation of vocational orientation (VO) at the school-work Interface have a great importance, on the one hand to reduce the drop-out rate (about 20% of all started trainings/apprenticeships) due to false professional ideas, and on the other hand to occupy increasingly free training places with potential apprentices. The young people mostly don't know the jobs of the future and what changes due to digitization are acting in the different professions. As a result, job profiles in some professions are shifting massively, or completely new professions such as e.g. merchants in e-commerce - a cross-industry apprenticeship for the growing online retail trade, e.g. in Germany are arising. In addition, apprenticeship professions, which are apparently unattractive for potential trainees due to the lack of information on digital changes, are becoming more in the focus of the vocational orientation. In many cases, the advising and supporting specialists for vocational orientation (such as e.g. teachers, social education workers, vocational consultants in chambers) lack the necessary knowledge regarding the changes in the working /professional world, which is attended by the increasing digitization. The many changed challenges and requirements for trainees are often not sufficiently well-known and thus cannot be passed on to the direct beneficiaries of the vocational orientation (the young people). Numerous apprenticeship professions, especially in the industrial-technical and craft occupational field, but also in other fields such as the health sector and the commercial occupational field, are at first glance unattractive to young people. Often, digitization creates new challenges, that mix craft skills with information technology skills, so that the requirements profile completely is changing. The reason for this often lies in the lack of information about the changed challenges. Here, vocational orientation concepts or measures must be implemented that focus on the practical testing of these changed professions. In order to achieve this, will be develop in the project targeted and needs-oriented training modules (IO 1) for the specialists for VO, which will focus on the changes and new requirements of digitalization and empower the specialists to convey the professional changes due to digitization in the professions qualitatively better to the young people. The

modules will be tested during the project in each partner country in order to optimize them and to train multipliers for the sustainable use. For the sustainable implementation of the qualification modules, will be developed a guideline for Europe (IO6).

Furthermore, should be developed for specialist for VO five new occupational field-specific VO measures (IO 2) especially in terms of the aspect of digitization and which specifically take into account the new challenges and requirements in the professional world because of digitization. This includes overarching topics such as questions about data security and protection, cloud computing and digital learning, but also domain-specific changes such as digitization trends in craft and industrial-technical professions or in the commercial professions and nursing and health professions.

Furthermore an overview of all training professions (IO 3) should be worked out, which provides information on the new requirements with regard to digitized work processes per core training profession and that can be used as a basis for consultation and career choices of young people. Here we want to work together very closely with national authorities of VET in order to develop not duplicate structures. In order to ensure an EU-wide comparability of the VO measures, it is necessary to develop quality standards for VO measures (IO4). The basis for this are the quality standards from the BOQua project. These should be further developed and adapted to VO measures. Furthermore, for the actors who carry out the VO measures the success of the VO measures should be made verifiable and transparent by means of an assessment instrument. Thus, in case of non-success, adaptations in the VO process of the individual adolescent can be promptly initiated or the measures, e.g. against the background of regional peculiarities, can be optimized or adapted.

The aim of the project is to prepare the specialists of vocational orientation for the changes in the world of work and professions through digitization. Due to the changes in digitalization (or new digital technologies), the image of some professions can be change a lot. Recognizing this and preparing it for the target group of young people can lead to shifts in the career choices of the young people.

Themenccluster: Digitale Bildung

Titel: **Netzkompetenz für eine digitalisierte Arbeitswelt 4.0 v.2**

Akronym: NetKom_4.0_v.2

Vertragnehmer: Europa-Universität Flensburg

Projektnummer: 2020-1-DE 02-KA202-007393

Projektlaufzeit: 34 Monate

Projektwebseite: -

Deutsche Partner: Regionales Bildungszentrum Eckener-Schule AÖR; DE
Gewerbliche Schulen des Lahn-Dill-Kreises; DE

Beteiligte Länder: AT, NO, DE, PT, LT

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

The digitisation of the world of work, especially in the context of Industry 4.0 and a new digital learning culture, requires enhanced competences of learners. In addition to specific professional core competences, skilled workers must also possess broad interdisciplinary competences in order to successfully meet the changes in industrial production and society. This implies correspondingly professional teachers who prepare young people for the professional requirements in the best possible way within the framework of initial and further vocational education and training. Teachers are faced with the challenges of, on the one hand, opening up the dynamic development of technologies for themselves and, on the other hand, establishing suitable learning implementation concepts in the training courses. For this reason, the Strategic Partnership from five European countries (Norway, Germany, Lithuania, Austria and Portugal) has set itself the common goal of developing and testing new approaches to professionalising teachers in European initial and continuing vocational education and training in the context of Industry 4.0.

For this purpose, each partner institution develops one of the following "good practice" learning concepts based on its individual experience:

- Collaborative robots in industry 4.0
- Promoting interdisciplinary thinking in Industry 4.0 with "Science Shops"
- Learning concepts for Internet of Things (IoT) security
- Augmented reality with live data
- Production planning and production control in authentic industry 4.0 environments
- Concepts for learning location cooperation 4.0

In a second step, corresponding specialist teachers from all partners learn these diverse teaching implementations in joint training events according to the concept of the pedagogical "Biplane", in which the teachers themselves become the learners in order to develop an independent learning experience. Here, an intensive exchange is expected both on a professional and pedagogical level. It is hoped that this form of teacher professionalisation will have a more lasting effect than conventional formats and that the concepts will be incorporated into the corresponding partner institutions. It can also be transferred as a further training concept to other areas.

The Strategic Partnership provides recommendations for action/guidelines and corresponding learning material for the "good practice" learning concepts.

Via the project website, other interested parties can benefit from the concepts and transfer them to their own institutions.

The consortium is coordinated and evaluated by the Vocational Training Institute Work and Technology (biat) of the Europa-Universität Flensburg. In addition to the conditions of success for this form of teacher professionalisation, the learning concepts will be placed in the context of European vocational training programmes and the professional profiles of the labour market. Learning outcome-based descriptions of competences, if necessary also in the form of competence grids, can be used in the longer term by actors in vocational training planning but also in school-wide, instructional implementation.

Themenccluster: Digitale Bildung

Titel: **Digital methods, toolbox and trainings for increasing customer innovation in SMEs**

Akronym: IClinSMEs

Vertragnehmer: Hanse-Parlament e. V.

Projektnummer: 2020-1-DE 02-KA202-007397

Projektlaufzeit: 36 Monate

Projektwebseite: -

Deutsche Partner: Hamburgisches WeltWirtschaftsinstitut gemeinnützige GmbH; DE

Beteiligte Länder: DE, HU, PL, DK

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

On average, SMEs are less innovative than large companies, as they have limitations due to more limited internal resources (EC, 2019a). Especially in Eastern European countries, SMEs have very low innovation activity and there are large differences between SMEs and large companies. In the field of customer innovation, SMEs find it particularly difficult to innovate. Meeting real customer needs is the core factor for successful innovation management, for generating customer-oriented business ideas and innovative concepts (von Hippel, 2005). SMEs do not have the time and resources to receive feedback and ideas from their customers. And when they do find the time, it is difficult to process the information and turn it into valuable solutions. A holistic approach to customer-centric innovation is complex and requires changes at all levels of a company. However, digitization and new media are now opening up far-reaching opportunities to make full use of customer-centric innovations in SMEs as well, thus strongly promoting innovative strength and competitiveness (Robra-Bissantz, 2017). These technologies and the opportunities they offer have so far been little known in SMEs and are only used by very few SMEs. They lack information, experience, knowledge and skills on instruments, methods and procedures as well as on the use of digital technologies to acquire, process and realise customer innovations.

Against this background, the project pursues on a broad regional basis the objective of enabling and supporting SMEs to exploit their customer innovation potential and thus to strengthen the productivity and competitiveness of SMEs, to secure existing jobs and to create new ones. The following main activities will be carried out to achieve the objectives.

a) In 13 countries, analysis and comprehensive investigation of best practices on how SMEs generate, process and realise customer-centric innovation approaches and which digital technologies they can use doing so. The best practices obtained will be processed, transferred to SMEs in the context of training and consulting, and supported in their implementation in the companies.

b) Development of a toolbox with instruments, methods and procedures for the realisation of customer innovations in SMEs.

c) Through the development of two specific training and coaching programs, SMEs gain digital skills and are enabled to continuously realise comprehensive customer-centric innovations. The learning takes place mainly at the workplace and at the same time includes individual company development projects, so that digital technologies are already used and corresponding innovations are realised during the further training.

d) Comprehensive qualification of teachers and consultants of SMEs. The qualification, consulting and support programs are carried out by chambers, which, as central SME supporters, have direct access to SMEs and, with their training and technology centres, also have corresponding capacities. However, many teachers and consultants lack the knowledge and skills to qualify and advise SMEs and their staff in the application of digital technologies and in the acquisition, processing and realisation of customer innovations at a high quality level. Therefore, two specific train the trainer programs for teachers and consultants are being developed, which will be implemented and permanently run by 18 colleges and universities from 9 countries.

These programs are:

a) strengthening and promoting the knowledge and skills of teachers and consultants on digital technologies on the one hand and on the realisation of customer-centric innovations on the other hand.

b) constantly providing well qualified teachers and consultants on a broad regional basis. The developed instruments, digital models, educational and support programs will be tested and evaluated under different national conditions in several countries and implemented by all project partners. A continuation of the work after the end of the project with an ongoing implementation of the educational and support programs is secured, including financing. The project is carried out by eight experienced partners (chambers, other institutions of vocational training and universities) from Denmark, Germany, Poland and Hungary with different levels of development and conditions. The transnational project approach enables learning from each other, identification and transfer of best practices and joint development work.

All results of the project will be transferred to 68 chambers, SME associations and colleges/universities from 13 countries, which will receive implementation advice and will be involved in the project work as associated partners from the beginning of the project.

Themenccluster: Digitale Bildung

Titel: **Inclutrain connect – Inklusiver Austausch und Kooperation zu Konzepten personzentrierter beruflicher Bildung**

Akronym: INCLUTRAIN connect

Vertragnehmer: MERCKENS Development Support GmbH

Projektnummer: 2020-1-DE 02-KA202-007405

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: Hofgemeinschaft Weide-Hardebek LBF gGmbH; DE

Beteiligte Länder: DE, NL, AT, PT

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

Inclutrain connect is a strategic partnership for the exchange of good practice. The aim of the project is to create a European experience base of practiced inclusion. The project builds capacity of partners employees in methodological competence with a focus on vocational training. The participants improve their ability to see the individual quality of a person, to connect and develop their impulse of action. In the specific working environment, both care givers and those who are looked after learn to develop their personal qualities into professional skills. With such a holistic approach, inclusion and participation are practiced and directly tangible. The project is building a transnational network of communities in which active participation of all people in social and professional everyday life is lived in an inclusive way.

The participating partners Weide Hardebek, Loidholdhof, Birkenhof, Casa de Santa Isabell, Albert de Vries Onderzoek in eigen werk and Urtica de Vijfsprong are pioneers as living communities for people with needs for special care. They have many years of experience with different approaches to vocational training for people in need of support. Some partners, including the project applicant organisation merckens development support gmbh, have already jointly developed an inclusive person-centred vocational training concept for people with support needs in the INCLUTRAIN project.

The target group includes care takers, care givers and support staff of the communities. All employees of the partner institutions as well as providers of vocational training for people with special needs are targets of the proposed project.

The core element of the project are five inclusive training activities. All participants (care takers and care givers from different working areas) cooperate to identify and connect to individual qualities. Situation-specific, targeted support for other participants shall expand their professional skills. During the training activities individual process steps led to direct

experiences of the inclusive approach for all participants. The basic experience of having already performed a certain activity or approach gives confidence and courage. This creates the prerequisites for the methods and experience of practiced inclusion. Such experiences will be passed on and implemented in one's own institution. During the training activities continuous reflection about the learning process takes place. New forms of the cooperative approach, partnership and task distribution increase motivation and satisfaction at work. The individual abilities of each person are taken into account and inclusion is practised.

The training activities are supplemented by six transnational project meetings, with the participation of all partners, and four project meetings, with the purpose to deepen the individual project contents and prepare the training activities on site.

The project activities open up space for exchange and common learning activities for about 190 employees of the partner institutions. People in need of support will experience it as absolutely normal to be noticed and receive support in becoming self-initiative. Participation in the project enables them to achieve professionalism in their respective areas of responsibility, to develop professionally, to take initiative and to take responsibility. The responsible employees gain additional confidence in using methodical techniques to initiate, accompany and pass on this development process.

The results and experiences of the project create a picture of an inclusive society where participatory living and vocational training are an integral part of every person's life. Uncertainties in the encounter with the unfamiliar are reduced by positive experiences and space for common development is opened. A change of perspective towards experiential learning, where quality in every activity is present and the connection to a personal individual impulse for action are central elements of the project. This is experienced by all people who are in contact with the project participants. A new basis of joint work is established and leads to that inclusion becomes reality. Exemplary and applied through international exchange on a European level.

Learning outcomes, perspectives and best practice approaches are collected, specified and processed in the form of a report of experience so that they can be referred to at any time. A translation into the languages of the partner countries, as well as English, will be provided. A handbook of all results will be published and is available online for interested institutions and stakeholders.

Themenccluster: Digitale Bildung**Titel: Web-based Technical VET****Akronym:** WebTVET**Vertragnehmer:** Staatl. Berufsschule Weilheim i. OB**Projektnummer:** 2020-1-DE 02-KA202-007440**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** INL Innovative Netzwerk-Loesungen AG; DE**Beteiligte Länder:** PL, DE, EL, ES**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:**

STARTING POINT

Facing the COVID-19 crisis showed that the tools and approaches currently available for technical vocational education and training are suitable to a very limited extent. The common tools from the context of eLearning somehow cover the requirements of general schools with theoretical learning units in a subject-specific didactic approach, but not for conveying a mixture of theoretical and practical knowledge in an action-oriented, task-driven system - as it is common in technical vocational schools. In addition, it turned out, that there are often good tools for smaller tasks, and therefore only for islands or islets on the global map of a solution. In order to enable appropriate basic homeschooling, the learners needed at least six tools, the teachers about 10 tools - each with its own login and differing operating philosophy.

OUR PROJECT "WebTVET" offers a solution architecture on how new digital technologies can be integrated into all phases of training without giving up the good practice of the current teaching and learning system. This solution architecture is intended to ensure, that web-based teaching is enabled in technical, vocational schools and especially in a larger context.

A CHALLENGE of this project is the school sector, which is the technical, vocational schools. According to current research, the greatest complexity can be found here. The requirements of general education schools, but also those of higher education, are lower. This is due to the fact, that a vocational, technical school needs to teach a mixture of theoretical and practical knowledge. Both need to be applied in a combined interplay to solve realworld, professional tasks. In general very different combinations (such as activities, manufacturing processes or manufacturing parameters) are possible to achieve a solution. At the end, one task can be fulfilled with an almost infinite number of solution approaches. Evaluating a learner solution in this context and enabling the combination of theoretical and practical competences is the specific challenge in this field of technical VET. Conversely, our solution architecture would cover an almost maximum complexity and would therefore be applicable for all training providers, possibly with reductions.

APPROACH

To achieve this challenging goal, we first want to subdivide the overall task of school work into manageable portions. These sub-areas are then examined in detail for their web capability, in particular with practical experience that already exists or that is collected in pilot projects during the project period. In total we will create an experience-based map, which enables teachers and decision-makers to plan and realize their navigation onto a web-based school.

TEAM

In order to have this solution architecture as practical as possible, the main actors of the project are four vocational schools, which themselves have extensive experience, but especially have the opportunity, to try out different approaches in real environments. Our partner arrangement is supplemented by the IT partner INL AG, whose focus is on school IT and thus will underpin our solution architecture with sound technical knowledge and awareness of current developments.

TARGET GROUP

Learners in technical professions should primarily benefit from the solution architecture. The solution modules modernize training and further education and create alternation and motivation. Regarding the learners, we will also take into account disadvantaged people, who rely on the complementary use of teaching content outside of school due to learning difficulties or language problems.

Of course, teachers and trainers from vocational education and training will also benefit from the results, since their work is being increasingly digitized as part of an overall strategy. This overall view is also intended to support authorities and regulatory bodies in their planning of IT and VET framework with well-founded, practical recommendations.

Themencuster: Digitale Bildung

Titel: **Innovative Training Solution for the Installation of Collaborative Robotics in Manufacturing Sectors**

Akronym: TOURINGS

Vertragnehmer: Hochschule Karlsruhe-Technik und Wirtschaft

Projektnummer: 2020-1-DE 02-KA202-007446

Projektlaufzeit: 36 Monate

Projektwebseite: -

Deutsche Partner: KARLSRUHER INSTITUT FÜR TECHNOLOGIE; DE

Beteiligte Länder: DE, IT, ES, FR, EE

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

During this year 2020, 1.7 M of industrial robots will be installed worldwide, being Asia the biggest market followed by Europe[1]. During the last year, the number of installed robots in Asia grew 1% (total 283,080 units) while in Europe it increased by 14% (75,650 units more) when the annual average growth rate is of 13%[1] since 2013 Manufacturing sectors represent the 14% of the EU's GDP [2] and involve more than 30 million workers [3]. In order to improve or maintain these numbers, Collaborative Robotics seem like the perfect tool for the European manufacturing sectors. Other emerging countries are being competitive due to their younger, cheaper and bigger workforce while European labour force is ageing and facing work-related disorders, which is has turned out costly for healthcare systems

According to the World Economic Forum, during 2022, 133 M job positions will be created while and 65 M will be aton risk of dissappearing. The continuous training of workers will be key in order to have achieve a smooth transition in terms of employability and new jobs in EU[4] In order to take advantage of robots' productivity it is needed more human resources.

Collaborative Robotics will foster the employee training and adaptation to Industry 4.0 while improving his health and work conditions. Only ISO-TS 15066 regulates Collaborative Robotics. In these contexts, TOURINGS proposes a training course totally aligned with the mentioned standard, addressing: I) safety requirements for the human-robot interaction, II) ergonomic assessment in human-robot interaction, III) installation of collaborative robotics in the assembly line, and IV) design of different robot modules and behaviours to address the production line needs

TOURINGS aims to develop a liquid education approach, "when the world is constantly changing, education should be fast enough to add to it" [5]. This approach will address a highly-interconnected training covering all the aspects related to Collaborative Robotics, its installation, design, human interaction, use and digital measurement

TOURINGS will consider different features of Collaborative Robotics; technical aspects, human-robot interaction, installation in the assembly line or robot design aspects. Collaborative Robotics make assembly lines more flexible, but it is important to install them without disrupting the balance of the production line. TOURINGS will address cycle times and process reengineering in the assembly line, it will cover ergonomics assessment of the human-robot interaction by following the ISO/TS 15066, Human Digital models and Human Digital Simulations along with the RULA (Rapid Upper Limb Assessment) method. The project will also cover technical aspects in different robots' module and behaviour design or workstation design

TOURINGS consists of six entities covering Higher Education and Vocational Education and Training institutions, Research Centres and a National Standardisation Body, introducing different expertise related to Collaborative Robotics, teaching, human resources management, assembly line management, ICT tools and Project Management. This collaboration is addressed to significant labour and societal challenges like work-related musculoskeletal disorders (WMSDs) or lack of knowledge of human-robot interaction

TOURINGS will perform the following activities

- Comparative analyses, questionnaires, real life study cases and a report of the current situation and potential evolution of Collaborative Robotics within European Manufacturing Sectors
- Development of an Educational Philosophy and Joint Curriculum related to the target groups needs. It will be the basis for the development of knowledge, skills and competences included in the learning content
- Development of interactive training materials and assessment methods
- 6 transnational meetings and 5 multiplier events (1 per country)
- The development of the Blueprint and the implementation of its action plan
- Management and implementation tasks, Quality & Risk Management tasks, Dissemination and Promotion activities

TOURINGS will bring innovative didactic training content and tools to enable Manufacturing companies in the participation of the ISO/TC 15066 development due to its alignment. The training course will also foster Collaborative Robotics as new creative language. The project results and activities developed will help the partners raise awareness among policy makers about the weight of aligning educational programmes with societal needs and deploying these concepts in educational and labour policies

[1]<https://ifr.org/downloads/press2018/Executive%20Summary%20WR%2019%20Industrial%20Robots.pdf>

[2]<https://data.worldbank.org/indicator/NV.IND.MANF.ZS?end=2018&location=EU&start=2006>

[3]<https://ec.europa.eu/eurostat/statistics-explained/pdfscache/10086.pdf>

[4]http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf

[5]Bauman, Z. (2006) Education in Liquid Modernity

Themenccluster: Digitale Bildung**Titel: Skills and Competences for Work in Industry 4.0****Akronym:** Industry 4.0 Skills**Vertragnehmer:** INI-NOVATION GmbH**Projektnummer:** 2020-1-DE 02-KA202-007473**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** -**Beteiligte Länder:** AT, SK, SI**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:**

Digitization is increasingly shaping the world of work. While computerisation has until recently been confined to routine tasks involving explicit rule-based activities, algorithms for big data are now rapidly entering domains reliant upon pattern recognition and can readily substitute for labour in a wide range of non-routine cognitive tasks. Advanced robots are gaining enhanced senses and dexterity, allowing them to perform a broader scope of manual tasks. This will change the nature of work across industries and occupations.

A recent study (The Future Of Employment: How Susceptible Are Jobs To Computerisation, Oxford 2013) estimated the probability of computerisation for 700 occupations, and examined the impacts of future computerisation on the labour market. According to their estimate, 47 percent of total employment is in the high risk category, and many occupations are potentially automatable over the next decade or two.

This means that most workers in transportation, logistics and in production are likely to be substituted by computers, as industrial robots are taking on the routine tasks of most operations.

But also, many office support professions are endangered. Here, algorithms for big data are already rapidly entering domains that deal with storing or accessing information, making it probable that office and administrative support occupations will be subject to computerisation.

More surprising is that also a substantial share of employment in services and sales will become the victim of computerisation in the near future. These findings are largely in line with recent documented technological developments including interactive tasks. and will concern, for example, cashiers, counter and rental clerks, or telemarketers.

By taking this development into consideration, it becomes evident that employers will put more emphasis on basic and transversal competences and on creative and social skills

Therefore, the overall objective of our project is to raise awareness about these developments, and how this will require continuous skill adaptations, especially on personal competences and soft skills. Our aim is to inform people working in the labour market service and in vocational orientation and education about successful initiatives and methods for training, developing and self-improvement of personal skills, and for evaluating and assessing personal development and competences.

In order to reach this objective, the specific objectives are

1)

To implement an e-platform with an interactive database, searchable after various parameters, that describes and gives access to initiatives, tools and methods and other materials that have been identified and collected in the course of the project, concerning the development and self-improvement of personal skills and competences and their evaluation and assessment.

2)

To elaborate a Catalogue “Skills and Competences for Work in Industry 4.0” which will give an overview about the current situation of the specific project environment in the partners’ countries. It will be enriched with the outcomes of the transnational meetings of the four meetings in each partner country where experts from the respective national and local labour market and vocational counselling organisations will discuss these issues with the representatives of our strategic partnership.

3)

To organise an online interactive Forum for exchange of experience and good practice that will promote networking and exchange activities not only among the partnership and VET organisations in their countries, but also on a European level. With new translation services, it will become possible to break down language barriers between users from different countries, and to foster exchange and assist initiatives that contribute to the European society as a whole.

The target group of our project are VET and adult education trainers and labour market policy organisations that will make use of the identified and selected materials to design and offer respective measures for adults who need to adapt their skills and personal competences to the needs of the 21st century labour market.

Themenccluster: Digitale Bildung**Titel: Empowering Digital Teachers in a changing world****Akronym:** EDGE**Vertragnehmer:** Gottfried Wilhelm Leibniz Universität Hannover**Projektnummer:** 2020-1-DE 02-KA202-007478**Projektlaufzeit:** 30 Monate**Projektwebseite:** -**Deutsche Partner:** -**Beteiligte Länder:** PL, HR, UK, ES, IT**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:****CONTEXT:**

With schools and universities now closed across most of the EU countries in an effort to contain the spread of coronavirus, an unprecedented number of students are out of class for an undefined period. This exceptional disruption has set off a move toward online teaching that has accelerated a shift from the traditional textbook-based classroom that has been the hallmark of education in most of the EU countries since the 19th century. Against this background, it becomes clear that the majority of schools were not prepared for 100% for the implementation of online learning. Having to use e-learning on a larger scale than schools had already tried, or indeed ever expected, they have underlined several key challenges, barriers and obstacles. In daily practice, these overarching obstacles manifest in many ways, e.g. in a lack of understanding and training of VLE (Virtual Learning Environment) or a lack of infrastructural support. Whilst obstacles regarding the infrastructural support need to be primarily addressed by school administrations, principals and policy makers, the lacking knowledge and efficacy of teachers regarding the implementation of e-learning can be focused by a range of institutions such as teacher training centers, universities, further and higher education colleges.

OBJECTIVES:

The purpose of the EDGE project is to address the rising issue of lacking knowledge and self-efficacy of teachers regarding the implementation of digital learning. Therefore, we aim at developing guidelines as well as an innovative training path in order to support teachers in applying digital learning. The guidelines and the training path shall promote teachers' sense of effectiveness and abilities, and by that means contribute to a purposeful integration of digital technologies in education. In addition, we want to focus on how inclusive teaching and learning can be addressed within digital learning.

EXPECTED RESULTS:

Our project will result in three major assets

- 1) GUIDELINES and RESOURCES to support the teachers in the use of Virtual Learning Environment (VLE)
- 2) An INNOVATION on line course for education professionals for an inclusive education based on digital technologies
- 3) A PILOT GROUP OF PROFESSIONALS (i.e., teachers, trainers, education staff) trained in the use of innovative technologies and in the development and production of VLE materials

ACTIVITIES:

Two intellectual outputs (IOs) have been identified:

IO1 EDGE Guidelines for online teaching: the guidelines will raise teachers' awareness of how technology can support online teaching and will provide practical instructions on how to select and use the most appropriate methods and respective platforms for digital teaching

IO2 EDGE online course on digital teaching: an online course for teachers to improve knowledge and competencies to design, develop and deliver digital teaching.

One Learning Activity (for education staff) is embedded within the full development of the IOs. The participants will be trained to be mentor for the delivery of the jointly designed EGDE online course. The same people participating to the LA, afterwards, will pilot the course in their own country.

PARTICIPANTS:

Besides EDGE partners, we will also involve the following participants during our project implementation who represent the direct target group of our approach:

- Educational staff (including teachers, trainers, researchers), who will be trained in digital learning
- School Heads, administrators, school community: the school heads and members of the Board of the School will participate in our project actions, especially in the evaluation phase
- Students will be the main indirect beneficiaries as they will be the first group to benefit from the new skills acquired by their teachers
- Parents will also benefit from the approach and they will be directly involved in the multiplier events which will be organized in each country.

IMPACT

The EDGE project will mainly impact the target groups in term of:

- Innovative insights in e-learning
- sustainable networks
- new experiences in education practices

In particular at the end of the project we expect to have a:

- Increased national and European understanding of an inclusive approach to e-learning
- Increase in Teachers trained in online material developing and delivery of online teaching
- Purposeful integration of digital technologies in education
- Modern and dynamic advancement of school practices
- Meeting of ALL students' expectations, skills and abilities,
- Clear vision in school leadership teams for diversifying teaching and learning processes

Themencuster: Digitale Bildung

Titel: **ARVETI4.0 - Augmented Reality im Kontext beruflicher Bildung in der Industrie 4.0**

Akronym: ARVETI4.0

Vertragnehmer: Berufsbildende Schulen des Landkreises Osnabrück Brinkstrasse

Projektnummer: 2020-1-DE 02-KA202-007497

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: -

Beteiligte Länder: IT, NL, FI, ES

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

The increasing complexity of current and future technical processes requires training that meets the demands. Skilled workers are confronted with increasingly complex systems that can only be mastered through experience and training. The training period ties up personnel and thus entails costs and should be minimized as much as possible. With their service-oriented view, companies are also confronted with these issues and are looking for solutions. For vocational training and thus for skilled workers 4.0, this development raises questions about content and methodology.

The technologies of Augmented Reality and Virtual Reality can provide support in this endeavor. This project aims at establishing practice-oriented cooperation between vocational schools and companies and developing concrete teaching material in this promising area.

The cooperation takes place on a national as well as European level in order to establish a broad exchange of experience on VR and AR technologies and possibilities of their application. Thus, in this project, participating partners from Finland, Germany, Italy, the Netherlands and Spain explore and test AR and VR technologies to prepare them for use in school lessons. An interdisciplinary approach pursued in this project enables most diverse disciplines and departments from local, regional and European levels to develop the AR and VR technologies with their own views and procedures, against different backgrounds and levels of previous knowledge, and to disseminate them as innovation multipliers.

The five participating partners are technical vocational schools from Germany (BBS Osnabrück-Brinkstraße), the Netherlands (ROC Friese Poort, Sneek), Finland (Tampereen Kaupunki, Tampere), Italy (ISIS "Città di Luino - Carlo Volonté", Luino) and Spain (I. E. S. Politécnico de Vigo). A total of 40 students and 18 teachers were recruited for the project. The companies in various industry sectors were selected to join the project according to their interest and their opportunities to support in the area of AR and VR.

A joint workshop LTAA1 lays a common content and technological foundation and serves as a basis for developing possible applications of AR and VR technologies in the local and regional setting. Against this background, students, assisted by the company and school, create and independently implement company-based learning situations. From these learning situations, they develop learning arrangements for school lessons, test them in their own school and adjust them for the upcoming LTAA2. In the next step, the students implement and analyse the adjusted learning tasks at the LTAA2 in mixed European groups. These evaluated learning tasks are subsequently implemented in all partner schools, adapted to their own needs and conditions. The results and adjustments are finally evaluated together with all project partners. In the end, the finalised teaching material is presented in a local setting and made available to the general public via the project website.

Targeted project results:

- teaching material in the form of concrete learning situations from the cross-sector industrial environment with real company-based problems and tasks at local, regional and European level
- initiation, dissemination and deepening of workplace-based and self-organized learning (VET 4.0)
- expertise in the field of AR and VR

The long-term benefits of the project include:

- development of ideas on new teaching and learning methods in the context of VET 4.0
- implementation and consolidation of the partners' "best practice" strategies
- optimization of cooperation between companies and schools
- intermeshment of practical and theoretical training
- strengthening of the European cooperation between schools and companies
- improvement of cooperation between learning locations in VET
- building and strengthening of transnational networks at different levels
- development of new ideas for improvement of operational processes
- further development of participants' professional skills, problem-solving skills, social skills and personal responsibility

Themencuster: Digitale Bildung**Titel: Digital Crossroads****Akronym:** Digital Crossroads**Vertragnehmer:** Education Mobility Grid GbR - Bulatovic und Kurtcu Bulatovic**Projektnummer:** 2020-1-DE02-KA202-007520**Projektlaufzeit:** 24 Monate**Projektwebseite:** -**Deutsche Partner:** -**Beteiligte Länder:** DK, IE, UK**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:****CONTEXT**

Given the growth that SMEs are encouraged to follow and strong public policy on the importance of digital technology, it is not surprising that business leaders are generally pro-technology. However, growing scientific evidence shows that unconstrained use of digital devices can have negative consequences for businesses in terms of productivity/performance and employees' mental and physical health.

Multitasking and the constant stream of notifications are associated with lower levels of creativity and concentration, and higher stress, while the google effect causes decreased memory efficiency. Collectively called "technostress" these issues are caused both by the technology AND by organisational expectations. The "always on" culture of checking emails at home or on holiday leads to worsened emotional states, poor work-life balance and burnout.

Many large corporations are already addressing digital overload, via wellbeing policies within their HR/CSR work. In a 2018 study of 500 senior HR executives from global organisations, 70% stated that policies to promote digital wellbeing were important. A similar study, though, found that 82% of SME employers do NOT have any digital health or wellbeing policies nor plans to introduce them. Moreover, our own research showed the issue is so new that no enterprise development or business training providers currently offers structured guidance on the topic: they too are unaware and unequipped.

OBJECTIVE

Therefore, the objective of our project is to design, develop and implement a new approach to train European SME managers in employee digital wellbeing. In doing so we meet the needs of the following target groups:

PARTICIPANTS & ACTIVITIES

SME MANAGERS. Numbering hundreds of thousands in each of our countries, they need greater awareness and knowledge of this challenge and to develop the digital and entrepreneurial skills to lead change in company policy and practice.

ENTREPRENEURSHIP (BUSINESS) EDUCATION PROVIDERS. They are a trusted source of training for SME managers and have ample access/geographic coverage to mainstream it, but they need knowledge of the subject matter AND suitable teaching resources.

EDUCATION AND BUSINESS DEVELOPMENT STAKEHOLDERS. As policy makers and funders of subsidised training for SMEs they need greater understanding of the relevance of this topic, so as to be able to focus and design greater support for digital wellbeing competences.

-SME EMPLOYEES are indirect participants and beneficiaries: thanks to the introduction of improved digital wellbeing policies and practices, they will be encouraged to strengthen their own competences regarding a balanced use of digital technology and digital self-care.

RESULTS

We will produce two Outputs and the following results

O1: Digital Wellbeing Pathway Creator. An interactive online tool enabling SME managers to evaluate their strengths and weaknesses in relation to employee digital wellbeing and to determine a suitable pathway through the subsequent learning materials (O2). 36 Business Advisors will help us test the Pathway Creator with 120 SME managers. A further 300 Advisors and SMEs will use the Pathway Creator during the project lifespan.

O2: Digital Crossroads Training Programme. A complete set of learning objectives, training materials and case studies providing SME Managers and business advisors to gain the knowledge, skills and self-belief required to implement an in-company programme to prevent employee digital overload. 16 business advisors will use the Training Programme with 48 SMEs (4 each) during the project. A further 240 individuals, mostly business advisors but also stakeholders and SME managers, will download and use all or part of the OERs during the project lifespan.

IMPACT

We've designed Digital Crossroads carefully to ensure our final goal: enabling SME managers to improve the digital wellbeing of their employees.

LOCAL IMPACT

Since the majority of SMEs and entrepreneurs access training and support from entrepreneurship VET providers close to home, the impact will first be felt on a LOCAL level: more businesses leaders will have the digital and entrepreneurial competences to lead change in their companies, having a positive knock on effect on employee wellbeing and productivity. Over the medium term, these benefits will become evident as improved growth and employment in the local economy.

REGIONAL AND NATIONAL IMPACT

At regional and national level, the project will demonstrate the need to broaden our approach to digital skills' competences in the SME and entrepreneurship education sectors, in line with Frameworks such as DigComp and the JISC approach.

EUROPEAN IMPACT

At European level, the main contribution of the project will be to highlight the work that still is required to translate Dig Comp (and to an extent DigCompOrg) into SME training and entrepreneurship education and to provide scalable response as to how to achieve this.

Themencuster: Digitale Bildung**Titel: advanced firST RespONders trainingG****Akronym:** STRONG**Vertragnehmer:** Hochschule für den öffentlichen Dienst in Bayern**Projektnummer:** 2020-1-DE02-KA202-007579**Projektlaufzeit:** 36 Monate**Projektwebseite:** -**Deutsche Partner:** -**Beteiligte Länder:** DK, EL, SK, ES, UK**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:**

First responders play a prominent and essential role in the everyday situations of all civil society; and among all services they provide are law enforcement, fire suppression, and emergency medical services (EMS). A fast and adequate response to emergencies in all three services can escalate rapidly and emergency responders might be able to do something to stop it if they get there in time. The police might stop an assailant from doing harm (or doing more harm than has already been done); the fire department might be able to rescue victims from a burning building; EMS might be able to resuscitate a person in cardiac arrest (one of a very small number of medical conditions guaranteed to result in death if not treated properly and quickly).

In case of big disasters they also need to work with interdisciplinary teams and coordination. Their everyday activities involve a lot of stressful situations and communication with subjects with special needs. It also involves many soft skills like decision making, teamwork or stress resilience.

Digital advances like satellite image analysis are tools they can incorporate to their daily activities; but as far as the technology advances they need to be trained to make an effective use of the new tools.

First responders are under the need of continuous training; and that training can be provided under many tools. STRONG project proposes a series of online courses that tackle the training need of first responders under a transversal approach; the courses are grouped by theme, not by type of first responders. The main aim of this project is to provide first responders a series of basic skills to be able to provide an effective response to a series of circumstances. The online courses are complemented by a digital tool to create an European Network of First Responders. Through this tool they can connect; share experiences; best practices and foster cooperation among first responders team at European level. The challenges they face are usually not circumscribed to a sole territory, so it is crucial to promote the cooperation at European level.

Results during the project:

Project management procedures and project plans (work plan, Monitoring and Reporting (M&R), communication and dissemination activities, quality plan) agreed and monitoring.

4 transnational meetings realized.

O1. Research of the state of the art. VR applied on training courses for first responders.

O2. Online course: Soft skills for first responders.

O3. Online course: Weather menaces.

O4. Online course: Health risks and personal risks.

O5. Tool for the creation of an European Network of First Responders.

11 first responders and trainers participating in a 4 days international intensive study program (C1)

30 first responders and trainers participating in a 5 days international intensive study program (C2)

Minimum of 140 people enrolled on each of the online courses.

Themenccluster: Digitale Bildung

Titel: **SWIFT SME - Smart Working: Innovative & Flexible Training for SME**

Akronym: SWIFT SME

Vertragnehmer: Centrum für Innovation und Technologie GmbH

Projektnummer: 2020-1-DE02-KA202-007601

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: MRK Management Consultants GmbH; DE

Beteiligte Länder: IT, BE, DE, ES, RO

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

CONTEXT & NEED

EU SMEs are the most affected by the negative effects of the COVID-19 pandemic and related lockdown: Europe is “closed for business”, and while large companies have systems in place to implement telecommuting and Smart Work, SMEs (especially microenterprises) do not have ICT systems in place nor policies for their staff to work remotely.

The EU Commission provides a worrisome picture: less than 15% of EU SMEs are ready to implement Smart Working arrangements. The most recent study Eurofound/ILO “Working anytime, anywhere” of 2017, reports that only 2.8% of employees in the EU adopt Smart Working. This means that when the pandemic stroke Europe, very few SMEs were ready and had systems in place to adopt telecommuting arrangements.

EU SMEs are the most exposed to the risk of not being able to ensure business continuity and be resilient in times of crisis. More importantly, they are less prone to reaping the benefits that Smart Working can bring due to the lack of guidelines on the most suitable ICT solutions and practices to implement Smart Working and of mechanisms to manage Smart Working and telecommuting.

There is a pressing need to equip SMEs and empower their staff to implement Smart Working. This is confirmed by relevant EU position papers and studies:

- > EU Commission, “An SME Strategy for Sustainable and Digital EU”, March 2020: calls for the swift adoption of ICT solutions to enhance the competitiveness and growth of SMEs
- > Eurofound/ILO “Working anytime, anywhere: The effects on the world of work” 2017: identifies the need of EU SMEs to adopt Smart Working as a means to increase efficiency, improve working conditions and reduce costs.

OBJECTIVES of SWIFT are to:

- 1) Fill the skill gaps identified by the EU and national entities to equip SMEs with skills, competences and solutions to be more flexible, responsive and efficient through Smart Working arrangements
- 2) Provide venues for SMEs and their staff to develop competences, skills and tools to adopt and adapt Smart Working for their resilience, competitiveness and growth
- 3) Enhance the responsiveness and flexibility of EU SMEs to ensure business continuity in times of need and crisis, while increasing their competitiveness and efficiency through effective Smart Working
- 4) Increase the growth and competitiveness of EU SMEs through more relevant and timely training to empower them with the operational tools and equip them with the skills to be more resilient and flexible

TARGET GROUP is identified in SMEs and their staff, especially in the small-scale enterprises in the service sectors. Such target groups was selected thanks to the thorough analysis of the state-of-the-art carried out at preparation: SMEs are the most vulnerable to asymmetric shocks and uncertainty and are the least equipped to implement Smart Working to be more resilient and efficient.

PARTICIPANTS are the 6 partners from 5 EU countries representing the world of VET, enterprise and ICT. Moreover, at implementation partners will engage at least 120 target groups in the delivery of the SWIFT training, more than 100 stakeholders and decisions makers in the Multiplier Events and more than 287,636 people at dissemination level.

ACTIVITIES

Partners will carry out the following activities:

- a) Develop the SWIFT OER Platform
- b) Develop a shared methodology for the mapping
- c) Consolidate findings in IO2 to map dynamics, trends and needs for Smart Working adoption, including technical, operational and human resource implications
- d) Develop the SWIFT training and tools for Smart Working adoption in SMEs
- e) Deliver the training to 120 target groups
- f) Develop guidelines for adoption of SWIFT and its mainstreaming in VET and SME ecosystems in EU
- g) Put forward policy options to promote Smart Working and competitiveness of SMEs

RESULTS & IMPACT are

- 1) The dedicated SWIFT Platform that is the Open Educational Resource for all SMEs across EU that can access for free, without restriction and in full Open Access mode all the SWIFT content, training, tools and resources available in multiple language versions. To ensure long-term impact, the SWIFT OER Platform will stay live for at least 2 years after the project
- 2) The SWIFT SME training courses, handouts, operational tools and guidelines for European SMEs to adopt, adapt and implement Smart Working to be more flexible, resilient and competitive

- 3) Enhanced competence of SMEs' to implement Smart Working that will lead to increased flexibility, responsiveness and competitiveness. Moreover, the adoption of Smart Working will enhance work-life balance of employees while producing efficiency gains for SMEs
- 4) Increased operational capacity of SMEs to be more responsive in the ever-changing global markets being more able to adapt to external conditions that require to adjust business processes.

Themenccluster: Digitale Bildung

Titel: **DigiCon - Digital Construction for Europe:
Technologien auf der Baustelle von morgen in der
Ausbildung von heute**

Akronym: DigiCon

Vertragnehmer: BGZ Berliner Gesellschaft für internationale Zusammenarbeit mbH

Projektnummer: 2020-1-DE 02-KA202-007604

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: Berufsförderungswerk e.V. des Bauindustrieverbandes Berlin-
Brandenburg e.V.; DE
Hochschule für Technik und Wirtschaft Berlin; DE

Beteiligte Länder: PL, DE, BE

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

How are digitisation and new technologies changing work processes in industries and the competences required of skilled workers? And what should a realignment of vocational education and training look like to ensure keeping abreast with social and technological developments in the future? Our "DigiCon" project will explore these questions and provide impulses for coping with digitisation in VET - exemplarily for the construction sector.

"Digital construction" and "Construction site 4.0" - these keywords highlight the current challenges the construction industry is facing, which also need to be met by vocational training. In the future, construction specialists will have to be able to handle digital technologies and applications - from digital communication and operating mobile devices to construction robotics.

"DigiCon" is our contribution to innovation excellence in VET. The aim is to enhance the job-related digital competences of trainees, to promote the digitisation of educational institutions and to strengthen cooperation with industry and research. This will make vocational education and training more attractive and forward-thinking

With digital construction as a subject in VET, the European construction industry will have access to skilled workers with a broad understanding of ICT and precisely tailored digital skills. The young skilled workers will be innovation ambassadors in their companies. And digitisation is also changing the role of teachers - from knowledge mediators to facilitators of self-directed learning.

Participants will comprise the trainees of the participating VET institutions (400, they acquire competences in digital construction) and the teachers (60, they can use models and materials for teaching), but also companies and branch associations, authorities and regulatory bodies (220, they make the regulatory decisions). Further target groups will be teachers and learners

from educational institutions outside the project partnership (as users of the model) as well as actors from business, politics and administration (they use the results of the project to further shape digitisation in VET).

„DigiCon“ will be implemented by six partners from three EU countries - under the leadership of BGZ. The three countries - Germany, Poland and Belgium - represent three typical VET systems in the EU - school-based, dual and a combination of both. This ensures that the project results will be designed for transferability in different systems across the EU.

The VET institutions and the universities will bring in many years of training experience and extensive technical expertise in the construction sector. Associated partners from industry and science support the project and will add their perspectives.

The project partners will jointly develop a model for teaching digital construction skills that is consistently geared to the requirements of the construction site 4.0. The model will comprise a set of process scenarios, learning scenarios based on those, as well as digital applications (such as augmented reality) and tools (such as the digital construction file). The learning tasks will be embedded in realistic construction processes - thus the trainees will develop a systemic understanding of the complexity of the processes and the interaction of digital and construction skills. The development of the learning scenarios and applications will take place in a participative process with learners and teachers. Interactive forms of teaching will support the trainees in shaping their learning process to a greater extent themselves. Digital communication is increasingly being used for peer-to-peer learning by working on learning tasks either as a team or with a division of labour.

At the same time, we will support educational institutions in developing and implementing their digitisation strategies - with solutions for the various design fields - didactically, in terms of training organisation and regulatory policy. The project will produce a guideline for capacity building for the institutions as well as solutions for access to learning materials and the design of e-learning - using digital construction as an example.

The main result of "DigiCon" will be a model for the consistent teaching of digital skills in the context of complex work processes, based on real work scenarios. This means that the trainees will have directly applicable skills and abilities. Further impacts will be improved teaching skills, closer cooperation with industry and with universities and research institutes and a stronger internationalisation of vocational training institutions.

The long-term benefits will be economic, social and societal: attractive training opportunities for young people, secure employment and career opportunities for young skilled workers on the European labour market, strengthened role of VET institutions and the future orientation of vocational training, improved competitiveness of the construction indus

Themenccluster: Digitale Bildung

Titel: „Kita digital – Digitalisierung und frühkindliche Bildung“ –Interdisziplinärer Fachkräfteaustausch mit Partnern aus Italien, Spanien und Deutschland

Akronym: -

Vertragnehmer: Kinderhaus Wittlager Land e.V.

Projektnummer: 2020-1-DE 02-KA202-007608

Projektlaufzeit: 25 Monate

Projektwebseite: -

Deutsche Partner: Berufsbildende Schulen des Landkreises Osnabrück in Melle; DE
Landkreis Osnabrück - Fachdienst Jugend; DE
Landkreis Osnabrück Fachdienst Bildung; DE

Beteiligte Länder: DE, IT, ES

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

Based on a meeting of professionals in 2017 in Spain (Lleida), the project aims to enhance and step up the exchange already in progress towards a structured, cross-disciplinary professional dialogue. Expanding the project physically by the Italian region of Rovereto and by including Don Milani vocational high school with its focus on social services and health as a new partner is an important step to reach this goal. Target groups are counselling centres and management of early child education, care and education, teachers at vocational schools as well as representatives of providers and professional staff of local administration. The project will help to bring on cross-disciplinary discourse and understanding between the players involved in light of expanding the capacities for care and support, and improving the quality of child day care. A special focus is on introducing digital technologies in early child education, care and education. Expanding child day care means quantity as well as quality of early child education, care and education. Therefore, linking practical and theoretical aspects in vocational training and development receives special attention. This will provide the possibility to identify new social developments and challenges from a practical point of view and include these topics to vocational curricula. In addition to a high-quality professional training in theory and practice, an important point is raising the interest of trainees-to-be for the social profession and creating strong ties with this field of work. Topics will be considered within a European context and discussed with Spanish and Italian professional staff. Among other things, the participants will gain from reviewing their own attitudes, considering other perspectives, learning from European partners and broadening their knowledge through constructive cooperation while stepping up their own professional process. To achieve this, strengthening of intercultural competences, of techniques and cooperation skills as well as European skills is essential and will be especially fostered during the course of the project. Within the time period of the project, a learning activity will be held in each of the partnering

countries with the aim that participants get to know each other and the local socio-cultural aspects and take part in an exchange on the scheduled key issues in formal settings such as presentations and lectures as well as part of training visits and talks. This will also provide opportunities for informal dialogues beyond professional issues and may relate to local culture and circumstances of the towns and countries involved. This will support friendly contacts and encounters. With long-term significance of the project in mind, structures of communication and interaction as well as networking with our partners will be improved and continued, and where possible expanded to other European countries. Digital networking and awareness for the European dimension in early child education will be firmly and sustainably fixed in the participating partners' routines to ensure continued and successful cross-border cooperation and a constructive, joint handling of challenges in the future. In this way, we aim to facilitate the long-term process of European experience and cooperation.

Themencuster: Digitale Bildung

Titel: **Lehr- und Lernlabore für didaktische Innovationen –
Fachexperte Digitalisierung in der Ausbildung**

Akronym: DIOS

Vertragnehmer: Sächsische Bildungsgesellschaft für Umweltschutz und Chemieberufe
Dresden mbH - SBG

Projektnummer: 2020-1-DE 02-KA202-007621

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: -

Beteiligte Länder: NL, CY, CZ, SI

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

Vocational training is inconceivable today without the use of digital teaching and learning aids. Acquiring comprehensive digital media skills is one of the basic skills. Media skills relate not only to how we learn, but increasingly also to how we work.

The increasing use of digital media in companies is accelerating the integration of technologies such as augmented reality (AR), virtual reality (VR), 360 ° video, IoT (Internet of things / sensors) and 3D printing. Appropriate didactic-methodical experiences with these technologies in vocational training are rare. These results particularly from the lack of teaching and learning documents in practical training and the lack of knowledge to work digitally. This means that company trainers and teachers at vocational schools cannot train learners, according to the current and expected requirements of the business world. This is particularly painful to see during the global corona pandemic. The lack of relevant knowledge of professional teaching staff, the use and the opportunities to convey knowledge with it, leads to a reduction in the occupational competence of learners, and it reduces the propensity to train companies as well as the demand for appropriate qualification offers, public and private educational institutions.

In order to reverse this development, the vocational training staff needs structured qualifications for handling these technologies as well as the freedom to adapt these technologies to the respective operational processes. This particularly enhances the work of company trainers in SMEs, who usually lack the professional competence and the time resources for such activities. This also enables innovations from the amended training regulations in the areas of chemistry (chemical operator: 2018, chemical lab technician: from 08/2020), IT (2020) and electrical engineering / mechatronics (2018), in dealing with AR, VR / 360 ° video, 3D printing and IoT, to be promptly integrated into the training.

The transnational project "DIOS - didactic innovations labs - digitalization experts in VET" will choose selected contents and concepts for the use in relevant teaching and learning processes for the occupational profiles: chemical operator, chemical lab technician, mechatronics technicians, electronics technician and IT specialist, or their equivalents, to develop, test, evaluate and transfer them in the 5 partner countries. This is done with the aim of setting up and operating industry-specific didactic innovation labs as well as to implement a digitalisation specific qualification concept for vocational training personnel.

The integration and effective use of digital media requires the successful integration of pedagogy, technology and organization in order to enable and sustain innovative teaching and learning scenarios. The industry-specific, physical teaching and learning laboratories for chemistry, IT, electrical engineering and mechatronics serve to anchor these new technologies in the organization of the DIOS partners and thus in vocational training.

The laboratories each contain a so-called "Learning Lab", for the qualification of teaching staff, and a "Media Lab", for tailor-made media creation. The corresponding, organization-specific need is recorded with the SELFIE tool, contents and formats will derived from it. This includes i.a. the creation of hands-on workshops and tailor-made teaching and learning content. The visualization of complex facts can lead to an increased motivation among learners, which leads to a more effective execution of working tasks as well as corresponds to a better learning success. At the same time, the attractiveness of teaching and training personnel activities in vocational training is increasing. The experiences are then published. The DIOS project activities are a contribution to a Vocational Training 4.0 and a reaction to demographic change.

DIOS takes into account the different vocational training systems of the partner countries and the requirements in the classroom or practical learning environments. These include countries with predominantly school-based vocational training (SI) and countries with a share of WBL up to 50% (CY, NL and CZ). The cross-border cooperation enables an EU-wide application in various industries, since the needs of teachers / company trainers and students / apprentices are explicitly addressed, regardless of the type of vocational system of the partner countries in DIOS. The professional development of teachers / trainers is compared between the different industries. This would not be possible without the participation of institutions from DE, NL, CZ, CY & SI.

Themenccluster: Digitale Bildung**Titel:** upgrade2europe**Akronym:** upgrade2europe**Vertragnehmer:** emcra GmbH**Projektnummer:** 2020-1-DE 02-KA202-007626**Projektlaufzeit:** 32 Monate**Projektwebseite:** -**Deutsche Partner:** EU-Fundraising Association e.V.; DE**Beteiligte Länder:** IT, DE, EE, HU, CY, BG**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:**

Why is “upgrade2europe” necessary?

Only those aware of the possibilities open to them and able to make use of them will be able to live out values in a European way, be socially engaged beyond their national borders, and take part actively in European (economic) life. Yet many organisations lack the ‘institutional readiness’ that this requires. A professionalisation is needed if those involved are to implement their international activities within Europe better in the future. This is where upgrade2europe comes in.

Aims and target groups: the aim of the project is to support educational institutions, small and medium-sized organisations (SMO) and small and medium-sized enterprises (SME) in the service sector with the challenges of international work in Europe. An integrated digital learning tool will be developed for this with 6 complementary products that will be available free online. Users can use this learning tool to acquire the necessary skills for the Europeanisation of their enterprises or organisations alongside their work one step at a time, and will be able to apply these skills directly to their daily work (work based learning approach). Education providers will be able to use the materials and model curriculum to offer training to the target group.

The 6 upgrade2europe products are:

1. A process model that clearly shows how the step from national work through to European work, or the optimisation of European work, can systematically succeed.
2. A curriculum on the basis of the European Qualifications Framework (EQF). This will facilitate the de-sign of internal organisational training and of training courses for the target group.
3. An upgrade2europe handbook that will enable personal and practical training at the workplace with the help of ‘ready to use’ methods and instruments.
4. Teaching and learning videos that focus on the most important areas of Europeanisation and give users a first impression of the relevance of the different topics.

5. A digital self-assessment tool to help users analyse their organisation's degree of readiness for inter-national work in Europe and give them immediate individual recommendations for action.
6. An email course to sensitise recipients to the topic of Europeanisation.
upgrade2europe offers learners the chance to expand and establish their own skills in a field of activity that is relevant to the job market.

Who is involved in the project? To achieve the project aims the consortium has a range of members and ensures that the interests of future users are given a strong weighting. To this end, two training providers/SME, a higher education institute, a national and a European professional association, a chamber of commerce and an NGO are working together on this project.

Within the project, various higher education teachers, leaders, trainers, consultants, project managers etc. from the participating project partners are contributing to the success of the project.

The project will reach at least 381 people directly: 19 employees of the project partners will take part in an international learning activity, 48 people from the target group will get to know the products in 6 national workshops, 54 people will apply them directly in 18 test organisations, 50 people will be involved as online test users and 210 people will take part in a total of 18 multiplier events in the 6 project countries.

The participants will be recruited from the following structures:

- Members of the chamber, professional associations and NGO,
- Trainers, students and learners from the training provider in the consortium (especially higher education institutes, vocational and adult education),
- Further individuals or networking partners of the partner organisations.

How does upgrade2europe work? A classic approach was used for the development of the products: (1) creating a shared knowledge base, (2) designing and developing/programming the project products, (3) testing and revising, (4) publishing the products and (5) disseminating the results. The transfer to further areas will already be prepared whilst the project is in progress. PRINCE2 (Projects in Controlled Environments) will be implemented as the project management method.

Who will benefit from the project? The results of the project will be disseminated to around 20,000 leaders and employees in educational institutes, SMO and SME. It is expected that up to 5,000 representatives from the target group will actively use the upgrade2europe products.

What are the expected mid-term and long-term effects? upgrade2europe trains people to successfully shape the process of Europeanisation within their organisation and contribute to the future design of Europe in the area of shared values. Their companies and organisations will on the whole be more competitive, able to create new workplaces in the mid to long term and able to strengthen the Europe-an economic area.

Themenccluster: Digitale Bildung**Titel: Learning Environment Applications****Akronym:** LEA**Vertragnehmer:** SOPHIA :: Akademie gGmbH**Projektnummer:** 2020-1-DE 02-KA202-007655**Projektlaufzeit:** 36 Monate**Projektwebseite:** -**Deutsche Partner:** -**Beteiligte Länder:** NL, IT, AT**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:**

Currently and in the years to come more than one hundred billion euros are expected to be spent in Europe on school and educational buildings. In the German-speaking countries alone, investments of more than 67 billion Euros are currently expected by 2030. Although more and more experts are becoming aware of the important role that space plays in pedagogy, this topic has not yet been adequately and structurally addressed in any of the participating training professions (municipal administrative staff) or courses of study (architecture, administrative sciences, real estate management, specialist planning, landscape architecture, teaching professions for all types of schools). At the same time, the need and demand for experts and advisors in school construction and schoolbuilding consultants increases with every new school construction project starting. This is true for the rapidly growing cities and also in rural regions, since modern educational buildings in the 21st century are the main reason for the increasing demand for school construction and school building advisors.

At the same time, the involvement of users is becoming increasingly important in planning processes. In Germany, for example, most major cities have now established school construction guidelines that require the participation of all school stakeholders (learners, teachers and parents) (e.g. Berlin, Hamburg, Munich, Düsseldorf, Cologne).

However, participation needs to be learned, experience and the right tools are needed to deal with the needs of school stakeholders. Here, too, not only do many municipalities lack the necessary know how, but also many planning professions in the various occupational fields of modern school planning are missing the art of transprofessional professional process design. Time is also pressing in view of the current school construction wave. This is where the Erasmus+ project "LEA" comes in. It is conceived as a multi-professional pilot project that uses, creates or develops digital possibilities in a targeted manner. In aims to cover the urgently needed further training needs, quickly and efficiently, by interlinking participative digital and analogue procedures in a targeted manner.

In concrete terms, the following products are developed:

- (1) a Massive Open Online Course on "How to develop Innovative Learning spaces", also called "PHASE Zero" (Hybrid MOOC),
- (2) an app that supports users in analyzing learning spaces and developing them further according to their own needs,
- (3) a "PHASE Zero" game, which identifies the requirements for innovative learning spaces across age and professions and which smartly combines analogue and digital levels,
- (4) a process manual as a practical guide for participation processes, which is oriented towards innovative pedagogical practice (e.g. 21st Century Skills, Inclusion, Multiple Intelligences etc.) as well as modern administrative procedures and innovative, sustainable architecture.

MOOC and App will be set up as expandable digital learning spaces, available one after the other over the 36-month project duration. This allows participants to work on the content at their own pace, independent of time and location. The partnership aims at activating the modules and units "on the fly" during the project development, so that the project can grow organically and can be commented and improved by users. Essential practical experience is flexible integrated as excursions to innovative school buildings. The MOOC is a virtual meeting place for architects, representatives of municipal building management, school development experts and school decision-makers, for example, as professional, interdisciplinary learning communities. Education, business and administration combine to form a growing field of knowledge and experience resulting from practice. On the one hand, this enables cross-border learning and working and, on the other hand, an intensive interaction between the different professions, disciplines and subject-related expertise.

The MOOC will consist of different modules that are interlinked in such a way that participants from the different disciplines can first perceive (I) and appreciate (II) the perspectives of the other professions and training courses and can be certified as facilitators for learning space development (III) after completing the course.

All Intellectual Outputs will available as OER in four languages (D, I, GB & NL) for free download. LEA is a strategic partnership for both continuing vocational training by developing the various tools for professionals from public authorities, schools, school construction as well as school education, since "Space as 3rd Teacher" is a hot topic for European educational staff of all school types and real participation in practice is one of the most important pillars of democracy. It is therefore a cross-sectoral project concentrating on continuing vocational training.

Themenccluster: Digitale Bildung

Titel: **Der Einsatz von VR (Virtuelle Realität) in der beruflichen Ausbildung**

Akronym: -

Vertragnehmer: Gewerbliche und Hauswirtschaftliche Schule Horb a.N.

Projektnummer: 2020-1-DE02-KA202-007665

Projektlaufzeit: 32 Monate

Projektwebseite: -

Deutsche Partner: -

Beteiligte Länder: ES, HR, LT, PL

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

Digitalization is going to change future work fundamentally. Especially in times of COVID-19 crisis and social distancing. Thus, vocational and educational training needs to adapt to these circumstances. New technologies have to be learned and applied.

The Gewerbliche und Hauswirtschaftliche Schule Horb (BS Horb) is in the process of establishing a 'learning factory' in which students get to know new technologies and experience "Industrie 4.0". In order to master the demanding tasks in a "smart factory", skilled employees of the future need to be trained. One part of the training will be transferred to the virtual world before dealing with the real work environment.

Virtual reality (VR) and augmented reality (AR) will therefore take a major part in our future professional life.

For the intended ERASMUS+ project an exemplaric tooling process of a milling machine was chosen. In order to manufacture components with a modern milling machine, the machine has to be prepared (set-up). Therefore, tools have to be chosen, jigs installed, zero points determined and CNC programmes have to be written and tested. It is the ambition to create a digital world in which all these tasks can be practiced before working with the real machines.

Themenccluster: Digitale Bildung**Titel: Digitaler Coach****Akronym:** -**Vertragnehmer:** Ruhr-Universität Bochum**Projektnummer:** 2020-1-DE 02-KA202-007683**Projektlaufzeit:** 36 Monate**Projektwebseite:** -**Deutsche Partner:** -**Beteiligte Länder:** HU, EL, BG**Gefördert aus:** Erasmus+ KA202, Antragsrunde 2020**Zusammenfassung:**

The starting point for the "Digital Coach" project are the challenges that the digital transformation poses to individual actors, companies, the economy and society. The project is concerned with the question of how the actors in the education system succeed in promoting the skills required to shape the digital transformation in companies or organizations as well as in the economy.

In this context, the maturity model (ADAPTION) developed at the Ruhr-Universität Bochum, classified as tried and tested, is being used in selected training companies in the EU countries. On the basis of a corresponding questionnaire, deficits and strengths can be identified by comparing the actual and target states and the need for skills and skill development can be worked out. At the same time, effective and efficient competence development programmes can be designed and implemented in a targeted manner, and individual future strategies for the respective companies can be worked out in a situation-specific manner.

The acquisition of competencies required in connection with the digital transformation also raises the question in the project as to which learning locations are particularly suitable. In addition to the (vocational) schools and the training companies, a new learning location is being added with the "learning factory" learning location. The concept of the Learning Factory represents an innovative approach to promoting the teaching and learning that is required in the context of implementing new digital technologies. In this context, it should be noted that the number of learning factories in Germany alone has increased considerably in recent years (from 3 in 2003 to over 30 in 2019). Just like the other learning locations, the "learning factory" learning location should meet certain quality standards. However, such quality standards do not currently exist. The EU project aims to work out quality standards for the establishment, implementation and evaluation of learning factories.

Another aim of the project is to further develop a modular, competence-oriented curriculum and a training programme based on the analysis and potential tool of the maturity model and the methodological-didactic concept of the "learning factory", in order to finally introduce and implement the innovative field of activity of a "digital coach". The Digital Coach will act as an internal and external process promoter for the companies, who will have the necessary

competences to meet the requirements resulting from the digital transformation of the economy and the companies. The Digital Coach will take on a similar task in relation to the Learning Factory as, for example, trainers in training companies.

The corresponding module programme comprises several self-learning modules such as (1) quality and process management as a starting point for digitisation including artificial intelligence, (2) Industry 4.0 including maturity models, (3) new business models and corporate cooperation, (4) corporate strategy for digital transformation and agile project management, (5) acceptance assurance of IT solutions, (6) learning transfer and learning location cooperation between training companies, vocational schools and learning factories, (7) opportunities for participation.

The target group of the project is primarily the teachers, i.e. groups of people who are responsible for vocational education and training, in order to be able to benefit from multiplier effects and thus, ideally, to bring about sustainable change. This group of persons includes, for example, trainers of instructors, instructors in companies and in inter-company training centres as well as teachers of vocational schools, but also employees of chambers of industry and commerce or of business development agencies.

It is the task of the respective project partners in the EU countries to ensure, among other things, access to (a) the target groups of the project, (b) the training companies that have a learning factory or a similar facility, and (c) the learning factories, among others, in the region. It is decisive for the sustainability and the impact of the project that a total of three learning factories could be won as project partners, who will contribute their expertise in the field of the "Learning Factory" and "Teaching Factory" concept to the "Digital Coach" task area.

The consortium consists of the following project partners: The Chambers of Industry and Commerce from Pécs (Hungary), Heraklion (Greece) and Gabrovo (Bulgaria), the learning factories at RIF/ Dortmund and Ruhr-University (Germany), the learning factory at the University of Budapest (Hungary) and the University of Patras (Greece) and a management consulting from Heraklion (Greece). The project is managed by the Institute for Work Science at the Ruhr-University Bochum.

Themencuster: Digitale Bildung

Titel: **Well-being and Stress Prevention in Digital Work and Home Office for SMEs**

Akronym: STRESS-LESS

Vertragnehmer: Betriebswirtschaftliches Forschungszentrum für Fragen der mittelständischen Wirtschaft e. V. an der Universität Bayreuth

Projektnummer: 2020-1-DE02-KA202-007727

Projektlaufzeit: 24 Monate

Projektwebseite: -

Deutsche Partner: -

Beteiligte Länder: AT, ES, BG, UK

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

Especially as a result of digital transformation and the associated changes in business models, workflows and the use of digital tools, employees are faced with constantly increasing demands in terms of e.g. flexibility, accessibility and transparency. As a consequence of this progress workers and managers (company owner) are suffering growing stress-related conditions: "Work-related stress not only takes a high toll on employees' well-being, but also adversely affects the overall performance of European companies." (László Andor, former European Commissioner for Employment, Social Affairs and Inclusion, 2014).

Results of a former German research project of the applicant BF/M-Bayreuth, called PräDiTec ("prevention for safe and healthy working with digital technologies"), identified twelve digital stress-factors. Some key findings (e.g.) were that more than every eighth is affected by strong digital stress factors and in addition, employees who use many different technologies and media but not in regular use are even more affected by these stress factors. Thus, it is already proven that digital stress is related to reduction of productivity, work satisfaction and motivation and also connected to higher risk of burn-out and to an unbalanced work-life relationship (e.g. Ayyagari et al. 2011; Gimpel et al. 2018). This research is particularly important with regard to today's CORONA (COVID-19) crisis. Everywhere in Europe drastic changes of the daily work routine can be observed. Anti-CORONA activities are leading to a compulsion to digitalize work even more. The consequence is an increased digitally caused stress. The research of the a.m. project also showed that there are meaningful measures that can be taken to reduce digital stress at work and this is the goal of the STRESS-LESS project. The STRESS-LESS project will provide up-to-date figures on how the new digital stress is being dealt with and, above all, provide solutions for small (also micro) and medium-sized companies (SME).

The target group of the project will be employees, managers and owners of SMEs. SMEs have few resources to deal with the problems of digitization and even more to deal with the consequences of the CORONA crisis, yet they represent 99% of all enterprises in the EU. In order to maintain their position in the value chains of the future, however, they must push ahead with the digital transformation and at the same time respond to the needs of their

employees. In consequence of the above prevention and management of digital stress is becoming increasingly important.

The STRESS-LESS project will provide data from research and feedback from practical implementation of measures against digital stress to scientific/training organizations and policy makers (scientific project results: National Reports/ Surveys and the final STRESS-LESS Report). New training content will be developed about prevention and management of digital stress that can be applied in work-based settings or in “home-office” settings by SMEs, their staff, managers and trainers/mentors (STRESS-LESS Blended Learning Solution for Digital Stress and STRESS-LESS Training for Company Digital Stress Coaches). VET teachers, trainers and mentors in work-based settings will be empowered through the development of effective digital, open and innovative pedagogies (STRESS-LESS Web and Mobile App).

The knowledge in stress-research, health, well-being and education of all project partners will be aggregated and transferred to every partner country. The developed online modules will be evaluated by SMEs in every partner country by Online Surveys, face-to-face trainings, workshops and expert interviews (based on Grounded Theory) and all project results will be published in a scientific (STRESS-LESS) report.

Thus, the STRESS-LESS project follows the recommendations of the European policy cooperation (ET 2020 framework) and EU priorities for VET (2015-2020) and actively participates in the recommended European reference framework for key competences for lifelong learning with a focus on strengthening digital competences and personal, social and learning to learn competences of SME staff in continuous VET. The project contributes using innovative digital and open pedagogies in the EU by using web and mobile application to support the uptake of innovative approaches and digital technologies for teaching and learning and innovative practices in a digital era. Innovative digital training tools will be applied and developed, which will help to learn how to prevent and manage digital stress and develop the habits and discipline required for this (how to cope with digital stress). As a result of the STRESS-LESS project in the long run SME staff and other learners will be healthier, less stressed, easier to communicate with, suffer less from depression and burn-out. SMEs staff will take less sick leave and be more productive, efficient, effective and competitive.

Themenccluster: Digitale Bildung

Titel: **VACIDE - vocational action competence in digital environments**

Akronym: VACIDE

Vertragnehmer: Betriebswirtschaftliches Forschungszentrum für Fragen der mittelständischen Wirtschaft e. V. an der Universität Bayreuth

Projektnummer: 2020-1-DE02-KA202-007743

Projektlaufzeit: 30 Monate

Projektwebseite: -

Deutsche Partner: GEBIFO Gesellschaft zur Förderung von Bildungsforschung und Qualifizierung mbH; DE

Beteiligte Länder: IT, DE, SI

Gefördert aus: Erasmus+ KA202, Antragsrunde 2020

Zusammenfassung:

The project "VACIDE - vocational action competence in digital environments" is implemented by 4 partners from Slovenia, Italy and Germany, who are supported by various associated partners.

The digital transformation of work and production processes places new demands on the skills of specialists. Problem solving, self-learning skills or dealing with complexity as well as process understanding are skills that are required in addition to the technical knowledge and skills to master the challenges.

The EU has made recommendations and action plans such as the action plan for digital education (SWD (2018) 12 final) outlined strategies for action in order to use vocational approaches to master the above-mentioned challenges.

In all three partner regions and among the partners themselves, there is a need for vocational pedagogical approaches that enable and support the necessary process and action orientation. Learning tasks are required that make the provision of company services a subject of learning and enable the learners to acquire the knowledge required for competent task management. Digital sequences are desirable for the acquisition of digital skills (COM (2018) 22 final), also in order to provide the learning tasks at all participating learning locations.

In this context, the partnership "VACIDE" decided to classify the project in the educational area-specific priority "developing partnerships aimed at promoting work based learning in all its forms".

To promote work based learning

- Developed and tested inter-company learning projects for the acquisition of vocational skills for trainees in a digitalized world of work,

- supports teachers in creating digital content and using it appropriately for didactic purposes,
- Strengthen learning location cooperation between companies and vocational training institutions by exchanging tried and tested instruments using digital media.

On the basis of the instructional design model, teachers at different learning locations are enabled to use process-oriented methods to promote the ability of learners to act in the digitalized world of work. The basic idea of the learning projects enables joint learning based on a business process.

The aim of the project is to reach 60 teachers and 75 apprentices in the metal and electrical fields as well as in commercial and administrative professions.

The results should include be applicable for the following apprenticeships:

- Electrical engineer (SLO / I) or electronics engineer in FR industrial engineering (D)
- Mechatronics technician (SLO / D) or mechanical engineer (I)
- Tool mechanic (D) or toolmaker (I)
- Secretarial, administrative and tourism specialist (I), industrial clerk (D) and commercial specialist (SLO)

After the end of the project, the tried and tested learning projects are expected to be used by the network partners and in their networks, at the level of use in training processes and in the development of additional learning projects based on the pedagogical skills acquired by the trainers.

For the partners, an increased process orientation in their own teaching and learning processes is expected due to the experience they have experienced in developing the IO's based on the division of labor. Along with this, increased flexibility in the educational processes is expected, which is a requirement of the digital transformation for those involved in vocational training. Expressing this new flexibility can be the rapid provision of work-related learning projects or the independent development of explanatory video sequences that are developed and made available in accordance with the "VACIDE blueprint".

Furthermore, the strengthening of workplace-oriented learning through the successful completion of project tasks and the available products is expected. The effect is triggered by the processing of a (constructed) customer order, from which workplace-oriented learning projects and digital sequences are derived and made usable for learning location cooperation.

The intellectual outputs resulting from the strategic partnership VACIDE can represent a "blueprint" at all levels, which enables actors in vocational training to develop and implement learning projects themselves. This is associated with the expectation that the measures proposed by the EU Commission in its recommendations and action plans, such as Support the promotion of innovation and digital skills in all educational institutions. This also applies to the implementation of the national measures proposed in the context of Economy 4.0, such as process orientation, labor market relevance or cooperation between learning venues in vocational training.