Erasmus+ and digitalisation

Report on the study of beneficiaries

Aleksandra Czetwertyńska
Aleksandra Janus
Karol Sobestjański
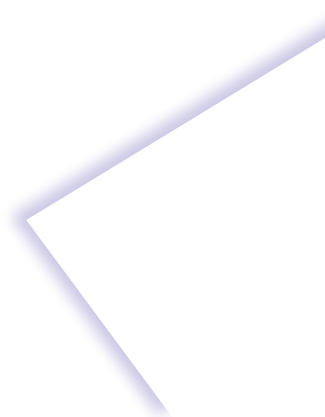
Erasmus+ and digitalisation

Report on the study of beneficiaries

Aleksandra Czetwertyńska
Aleksandra Janus
Karol Sobestjański

Erasmus+ and digitalisation

Report on the study of beneficiaries

Authors: **Aleksandra Czetwertyńska, Centrum Cyfrowe**

Aleksandra Janus, Centrum Cyfrowe

Karol Sobestjański, Foundation for the Development of the Education System

Research team: **Karol Sobestjański i Mateusz Jeżowski,**

Foundation for the Development of the Education System,

Magda Biernat, Aleksandra Czetwertyńska,

Aleksandra Janus i Anahita Rezaei CENTRUM CYFROWE

Free copy

More publications from FRSE Publishing: **www.czytelnia.frse.org.pl**

FRSE Publishing periodicals and portals:

[JĘZYKI·OBCE *w szkole*]   europa DLA AKTYWNYCH   eurodesk Polska   EUROPEJSKI PORTAL MŁODZIEŻOWY

Introduction

The growing significance of the broadly understood digitalisation for economic and social development, caused in part by the COVID-19 pandemic, has also been reflected in the field of education. Therefore, it is also relevant to measures that support international cooperation in education, including the Erasmus+ programme. Since 2021, one of the four main priorities of Erasmus+ has been to support the engagement of learners, teachers, as well as youth workers and entire organisations in digital transformation. At the strategic level, these provisions relate directly to the EU's *Digital Education Action Plan 2021–2027*. Monitoring and evaluation are important elements that support the effective implementation of activities in the area of digital education.

This publication is a summary of the implementation of phase I of the project: "The ecosystem of digital competence development in Erasmus+ programme", initiated and coordinated by the Foundation for the Development of the Education System (FRSE), Polish National Agency for the Erasmus+ Programme and the European Solidarity Corps. The project aims to verify the implementation of the objectives of the Erasmus+ programme with regard to digital transformation.

The publication analyses the regulations and legal conditions that affect the functioning of digital education and its perception by beneficiaries of the programme, as well as the level of staff competences in this field. The conclusions and recommendations from the completed part of the study can serve as important guidance for decision-makers and beneficiaries on how they can support organisations benefiting from the Erasmus+ programme to accelerate digital transformation. Additionally, they can provide insights on managing the activities of schools, institutions, and third-sector entities to ensure the best outcomes of the transformation.

Information about the research project

The research project "The ecosystem of digital competence development in Erasmus+ programme", coordinated by the Foundation for the Development of the Education System, has been carried out in partnership with National Agencies of the Erasmus+ programme in Belgium (Flanders), Italy, the Netherlands, Romania, Slovenia, and Türkiye. The project relates to four sectors of the Erasmus+ programme: School Education, Higher Education, Adult Education, and Vocational Education and Training (with the exception of Italy, where only the latter sector was analysed). Within the framework of these sectors, the project examined the activities undertaken by beneficiaries of the Erasmus+ programme in the context of digitalisation both in Key Action 1 – Learning Mobility of Individuals (KA1), which covers

Home

activities such as educational and training trips for individuals and groups, project preparation visits, and meetings with experts; and in Key Action 2 – Cooperation among Organisations and Institutions (KA2), which primarily involves international institutional partnerships[1].

The main objective of the study is to provide information about the impact of the Erasmus+ programme on digital transformation in beneficiary organisations, and on the development of digital competences of their employees, as well as changes in these areas. Moreover, it aims to formulate conclusions and recommendations in this regard. Therefore, the subject of the study covers digital skills and digital transformation in the beneficiary institutions, especially with regard to cooperation using digital technologies and the (co)creation, reuse, and sharing of digital content. Each research area and way in which it is defined refer directly to two strategic documents of the European Union: the above-mentioned *Digital Education Action Plan 2021-2027* (European Commission 2018) and the *Digital Competence Framework for Citizens DigComp 2.1 with eight proficiency levels and examples of use* (European Commission 2021a)[2].

The project, which has been scheduled for 2022–2025, has been carried out in collaboration with the "Centrum Cyfrowe" Foundation. The study was conducted using mixed methods, which include quantitative and qualitative components, and incorporates diverse research techniques such as: desk research, an online survey (Computer-Assisted Web Interviews – CAWI) involving Erasmus+ coordinators, and Individual In-Depth Interviews (IDI) with management staff at beneficiary organisations. Too determine the scope and assess the impact of the Erasmus+ programme on the studied institutions, the focus was only on relatively new projects, i.e. those commenced in 2022. Details of the study and its methodology, including the manner in which it was carried out and the research questions, have been included in the *Methodological note*.

How to read this report?

The key findings were outlined briefly at the beginning allowing readers to easily familiarise themselves with the issues raised later. The national context of the study was subsequently outlined, enabling the results to be applied within the context of the Polish education system. Next, the definitions of digital transformation and digital competences adopted in the project were presented and juxtaposed with respondents' understanding of these terms. Approaches

1 Details on Key Actions 1 and 2 for specific sectors of the Erasmus+ programme are to be found on the programme website: erasmusplus.org.pl.

2 The concept of the study was developed using the DigComp 2.1 framework (as of September 2022), this version was in force at the time the study was conducted. Version 2.2 is currently available (bit.ly/42ISH4Y).

to the development of digital skills identified in this part of the study were also outlined along with the methods of implementing transformation in the digital area. The next section contains a broad discussion of the impact of the COVID-19 pandemic on the digital transformation of the studied organisations and the level of digital competence of their teams, as well as the impact of support from the Erasmus+ programme on these elements. Finally, the barriers encountered by institutions undergoing digital transformation and seeking to provide their teams with opportunities to acquire and develop modern competences were discussed. In the last part of the publication, readers will find recommendations formulated on the basis of the results of the phase I of the study, addressed to three groups: beneficiaries of Erasmus+, the National Agency of the programme in Poland, and the European Commission. The publication closes with *Methodological note*, which provides a detailed account of how the study was conducted and carried out.

Key findings of the study

Erasmus+ as a game changer

One of the key results of the study is the precise diagnosis of the impact of the Erasmus+ programme on digital transformation and the development of digital competences among its beneficiaries. The following section of the report presents four types of functions that Erasmus+ can serve in the process of transforming an organisation and developing skills. In this context, special attention should be paid to the finding that both the qualitative and quantitative parts of the study revealed a significant impact of the programme on instilling positive change in smaller organisations, many of which had poorly developed digital competences. In such institutions, Erasmus+ can sometimes act as a game changer, mobilising them to start the process of transformation and skills development, including training participation and the implementation of new practices, tools, and software. Smaller organisations with lower competences can embark on the path of digital transformation and knowledge development precisely through this programme. In most cases, they assess the change it catalyses as very positive.

Impact of the pandemic on the development of digital competences

Although the study was conducted after most of the restrictions related to the COVID-19 epidemic in Poland had been lifted, the changes brought about by the epidemic were still evident. The topic often came up spontaneously in the interviews, even though it was not prompted by the interviewer. This implies that it is still not possible to have conversations about digital transformation without referring to the time of the pandemic. During the pandemic, digital tools became an essential part of everyday work, enabling organisations to operate efficiently in circumstances that made it necessary for them to function remotely. For some institutions, remote working has proved to be a factor that supported and accelerated their digital development. For others, it initiated major changes, that would most likely never have happened without the urgency of the pandemic. However, it should also be noted that, even months after returning to work in offices, employees continue to feel fatigued by the influx of technological novelties.

Competence gaps

The most extensive digital competence gaps in project coordinators were observed in the areas of content creation, sharing information and other resources, and engaging in online civic activity. The group with the greatest potential for developing digital skills includes representatives of the Adult Education sector.

Assessment of the electronic platform for Erasmus+ and the European Solidarity Corps

One in five project coordinators experience difficulties with effective project management using the European Commission's electronic platform for Erasmus+ and the European Solidarity Corps programmes[3]. It is, therefore, necessary to assess the functionality of this tool and to modify it in a way that would make it more accessible and user-friendly for those who are required to use it in their role as Erasmus+ project coordinators.

Methods of implementing digital transformation

Analysing the research material, we identified three main methods of conducting digital transformation adopted by the studied organisations. We have labelled them as top-down, organic, and incidental. The top-down method is typical of larger, often strongly hierarchical institutions and is distinguished by a high degree of bureaucratisation. The organic method is more dominant in smaller organisations, which are less hierarchical but tend to have a fairly high initial competence level. This method usually takes the form of a collective process of learning and deciding on the selection of tools and development of procedures. The incidental method is observed most frequently. It is characteristic of smaller institutions with a lower initial competence level, where key decisions concerning transformation are often made by accident or by persons who have the relatively highest level of knowledge. However, these individuals may lack a holistic view of the organisation and a strategic approach to the process. The latter deserves particular attention, as it points to the necessity for providing targeted support to these institutions. Offering consultations and sharing good practices could make the process of their transformation more successful.

---

3   See bit.ly/3UGezeY.

National context of the study

The first component of the study was the analysis of existing materials and information obtained from selected institutions (desk research) conducted in 2022. We examined documents on activities and tools supporting the development of digital competences in countries covered by the study, as well as regulations specifying the guidelines and legal requirements for digital education in Poland. These included school and higher education curricula, strategies for digital transformation in education and digital competence development, as well as nationwide programmes and projects implementing these plans. The key findings of the desk research are outlined below.

Body responsible for competence development

In 2022, at the time when the desk research was conducted, the body responsible for the area of digital competence development was the Chancellery of the Prime Minister of Poland (Kancelaria Prezesa Rady Ministrów – KPRM)[4]. However, this was only a temporary solution; before 2020, and from May 2023 onwards, the development of digital skills was overseen by the Ministry of Digital Affairs (Ministerstwo Cyfryzacji).

The activities of the Chancellery of the Prime Minister of Poland in the area of digitalisation referred to: cybersecurity, digitalisation, telecommunications, data management, digital services and information society, and the development of relevant policies and innovations. It also had authority over two key research centres: the Research and Academic Computer Network – National Research Institute (Naukowa i Akademicka Sieć Komputerowa – Państwowy Instytut Badawczy – NASK) and the National Institute of Telecommunications (Narodowy Instytut Telekomunikacji). Meanwhile, other institutions operating in the broadly understood domain of digitalisation, such as the Digital Poland Projects Centre (Centrum Projektów "Digital Poland") and Digitalisation Leaders (Liderzy Cyfryzacji), were obligated to report to it on their activities. The Chancellery of the Prime Minister of Poland, as well as the Ministry of Digital Affairs, which was later established, oversee cross-sectional digitalisation activities in Poland. Their oversight also extends to the education sector.

Framework and strategies

In the context of digital education in schools, as well as in higher education and vocational programmes in Poland, the *Digital Competence Framework for Citizens DigComp 2.1 with eight proficiency levels and examples of use* (European Commission 2021a) is significant,

---

4 See www.gov.pl/web/digitalization.

Home

though non-binding. The document systematises digital qualifications, dividing them into areas and levels. Moreover, it offers information on the need for developing digital competences in school students as well as teachers. The DigComp framework was also prepared in a version intended for educators, titled *European Framework for the Digital Competence of Educators: DigCompEdu* (European Commission 2021b), and released as a teaching material. It outlines how digital technologies should be used to educate in a more effective and modern way.

Meanwhile, the Polish Qualifications Framework – PRK (Ministry of National Education 2013), developed by the Educational Research Institute (Instytut Badań Edukacyjnych – IBE) is important, especially in the context of vocational education. It specifies what knowledge, skills, and social competences one needs to acquire in order to obtain a given qualification.

Schools and universities

Schools play a significant role in the development of digital competences; therefore, the curriculum contains references to particular skills in this area. The preamble to 21 subject curricula[5] contains the information that the role of the school is to teach problem-solving skills using Information and Communication Technology (ICT), logical and algorithmic thinking, programming, computer applications and software, and information search. These digital competences are also mentioned in the DigComp. These skills are developed in computer science classes which, according to the curriculum, are taught from the first year of primary school until the end of secondary school. In these classes, school students learn programming and problem-solving using digital tools and acquire social and communication skills necessary to navigate the web, along with knowledge about the law and ethics of the digital space.

Digital competences are also mentioned in the curricula of subjects such as biology, geography, or music. In secondary schools, computer science lessons can be taught at two levels: basic and advanced (the *matura* exam in this subject can also be taken at these levels).

Meanwhile, at the higher education level, there are no top-down guidelines in this area. This is due to the organisational autonomy enjoyed by universities. The only common document for higher education is the Constitution for Science, also called Act 2.0 (Ministry of Science and Higher Education 2018).

---

5 See www.ore.edu.pl/2018/01/centre-for-education-development.

The Constitution for Science was drafted out of the need to reorganise the system of higher education and science in Poland. According to the information provided on the website of the ministry responsible for drafting this document, the goal of implementing Act 2.0 was to create the conditions necessary for practicing excellence in research and teaching, and to ensure the sustainable development of academic centres in Poland. The Constitution for Science was the basis for the establishment of doctoral schools and for providing universities with efficient management tools. However, Act 2.0 does not cover digital competences, as these fall under the responsibility of universities. For this reason, it is difficult to draw conclusions as to how these institutions support the development of digital skills without the support of detailed research.

It is worth mentioning the Digital Competence Development Programme 2023–2030 (Council of Ministers 2023), adopted in February 2023. This programme envisions "the creation of a stable and flexible system of education and training in which [between 2023 and 2030 – editor's note] more than 1.5 million citizens will take part, including 270,000 teachers working at all levels of education and other educators" (Ministry of Digital Affairs 2023). The document identifies activities under the following priorities:

- development of digital education;
- providing everyone with the opportunity to develop digital competences;
- support for digital competences of working people;
- development of advanced digital competences;
- strengthening the management and coordination of activities in the field of digital competence development.

Home

Perception and understanding of digital transformation

For the purposes of the research project, we have adopted the definition of digital transformation proposed by Europeana[6]. According to this definition, it is "both the process and the result of using digital technology to transform how an organisation operates and delivers value. It helps an organisation to thrive, fulfil its mission and meet the needs of its stakeholders"[7].

The choice of the above definition was dictated by the fact that it stresses the processual character of digital transformation and its potential to shape the overall change in an organisation; both with regard to its internal processes and its interactions with the environment. Moreover, the subordination of this process to the mission and objectives of the institution is also an important element here; the definition of digital transformation proposed by Europeana assumes that this transformation takes place to foster the development of a given entity, the fulfilment of its mission and social expectations, rather than as an end in itself.

Based on the above definition, we analysed which of its aspects are to be found in statements made by respondents. Analysing the material obtained from the Individual In-Depth Interviews (IDI), we have also taken a closer look at the differences in respondents' statements[8]. In their perception of the process of digital transformation, some respondents focused on its practical and instrumental aspects (linking it to the expansion and development of infrastructure; equipping the organisation with tools and acquiring the competences necessary for its use). Others concentrated on the organisational change (i.e. the streamlining and optimisation of activities), while others still stressed, above all, the broader, social dimension of the transformation process, which, in most cases, goes beyond the transformation itself (it is a change that takes place in a world marked by the development and spread of technology, in which we all participate, though each of us to a varying degree). In the latter case, digital transformation is often perceived as a process that is inevitable and, at the same time, highly advanced, and requiring some adaptation. It is also, in a sense, enforced or imposed by the pace of technological development in all areas and aspects of life. Interestingly, no significant differences were observed in the perception of the transformation, regardless of the type of institution the study respondents represented.

---

6 Europeana is a digital library, virtual museum, and archive dedicated to making Europe's cultural and scientific heritage available online: pro.europeana.eu [access: 31.01.2024].

7 "Digital transformation is both the process and the result of using digital technology to transform how an organization operates and delivers value. It helps an organization to thrive, fulfil its mission and meet the needs of its stakeholders", see: pro.europeana.eu/page/building-digital-capacity [access: 31.01.2024].

8 The choice of masculine forms in the descriptive section of the report to present the findings for all respondents was deliberate and dictated solely by practical considerations. Its aim is to make it easier for Readers to follow the text by avoiding overly elaborate linguistic structures that would break up the argument.

> [Digital transformation is – editor's note][9] the necessity to adjust to the market's expectations and working practices. VET.KA2[10]

> I perceive digital transformation as] a change in the use of digital technologies in everyday activities, including educational activities. This transformation involves incorporating digital instruments and changing their role. SCH.KA2

> [Digital transformation is] the development of an institution leading to the implementation of information technologies, expansion of knowledge of new tools and methods of teaching with them, as well as working methods. SCH.KA1

> [...] it is crucial that everyone has tools to work with, which means having a well-equipped school; which in this case means having various tools. It seems that computers are already a standard thing. The Internet too, isn't that right? Multimedia boards and interactive monitors... I think this is the next step. With them comes the ability to use them and the access to a pool of ready-to-use ideas and materials. SCH.KA1

Speaking about their work, respondents usually emphasise a selected aspect of digital transformation; in most cases, they refer to the aspect that affects them the most or that is dominant in the process of organisational change. However, almost everyone perceives digital transformation as a process that entails numerous challenges; practical and financial (the need to purchase equipment and licenses, hire people who have competences required for their implementation, and organise training), as well as related to the change of practices within an organisation (implementing new procedures and work practices). The respondents pointed out that in both these dimensions, the process may evoke different emotions in team members or among recipients of activities of a given entity.

---

9 All annotations in quotations enclosed in square brackets were added at the stage of editing the text to enable Readers to fully understand the statements made by respondents.

10 Interview codes for sectors and key actions of the Erasmus+ programme cited in the study: School Education: SCH.KA1, SCH.KA2; Higher Education: HED.KA1, HED.KA2; Adult Education: ADU.KA1, ADU.KA2; Vocational Education and Training: VET.KA1, VET.KA2.

> [Digital transformation] is something that has become part of our life. Perhaps the greatest challenge is persuading [employees] that it makes life significantly easier and that functioning without it has become impossible. I believe it is necessary. ADU.KA1

> *Some things are new to the extent that we have to make an effort to change and learn something, and to develop, but there is fertile ground for this. In general, we are a team that is willing to learn these things, at least up to a point. However, it happens that some people give up at a certain point, believing that it is no longer the right thing for them. SCH.KA2*

The changing reality and more frequent use of digital technologies also impact activities initiated by organisations participating in the Erasmus+ programme as well as their beneficiaries:

> *We were visited by students from various schools, some of them lived out of town. There was one student who would arrive early because he attended a secondary school in the town and wasn't able to go home after school, which meant he had a spare hour. One time, a friend asked him why he was sitting inside when the weather was fine, instead of spending this time outside. The student replied that he never went outside; he wanted to chase Pokemons and that was the only time he could do it. Then we came up with the idea that digital technologies could help encourage young people to spend time outdoors. We created a project in which we were trying to demonstrate that they could use their phones while, for example, hiking in the mountains. SCH.KA2*

> *We had to do some explaining to some [beneficiaries] why their data [leaked outside of the organisation]. Especially in the era of the GDPR [...]. It forces us to be attentive. It is certainly good that attentiveness is there. ADU.KA1*

Home

Perception and understanding of digital competences

To define and analyse digital competences, we relied on the *Digital Competence Framework for Citizens DigComp 2.1 with eight proficiency levels and examples of use* (European Commission 2021a). In the framework, these skills are divided accordingly: information and data, communication and cooperation, digital content creation, security, and problem-solving. The perception and understanding of digital competences by those who took part in Individual In-Depth Interviews (IDI) was quite varied, as was the case with digital transformation. Some respondents linked them primarily to the ability to use modern tools, while others to the general attitude towards digital technologies and the global change they have caused.

> [Digital competences are] the ability to navigate various programming languages, upload information on different platforms, and use databases on these platforms. VET.KA1

> *I understand digital competences as the ability to navigate the contemporary world and to use digital technologies, beginning with taking full advantage of the possibilities offered by the smartphone and its applications [...], which provide us with access to banks, allow us to file official paperwork, and use public transport [...]. Generally speaking, they enable us to navigate the digital world, that is the Internet, and find information about rail connections, book hotels [...].* VET.KA1

> [...] simply speaking, I shouldn't fear digital equipment and the things that are inside them. [...] *digital competence means that I can pick up the phone and find anything I want in it because I have a certain intuition. Digital skills can, to an extent, be associated with some kind of intuition.* HED.KA2

Some respondents have also stressed the multidimensional character of digital competences.

> *This is a highly complex topic, we could talk about it for a long time, but I understand that digital competences are not limited to computer skills and familiarity with software, but include key competences and soft skills as well. Only all these taken together give us a full picture of the possibilities for using digital skills.* SCH.KA1

Home

> *[...] an openness or a certain capacity to receive what comes to us from the world – this is where it all begins. Then comes a certain capacity to absorb things. Once we have agreed to do this, it is followed by the capacity to absorb specific skills and mechanisms, and to utilise them. I mean, to utilise them in ways that are helpful rather than harmful, as the latter can happen too. SCH.KA2*

As far as competence development is concerned, it seems that the respondents' individual experiences have a greater influence on the way it is perceived rather than the type of organisations in which they are employed. No correlation was found between the type of institution and the understanding of digital competences by respondents representing the same types of institutions in the study.

Approach to the development of digital competences

The study showed that respondents often associate the development of digital competences with the ability to use modern tools, including software and applications, and that they are less likely to exhibit a multifaceted approach to the issue. The reason for this may be that organisations that decide to embrace digital transformation tend to believe that its essence lies in implementing new tools. As a result, they often offer training in the use of new tools to their employees, which undoubtedly raises their skill levels.

Those who represent the management staff, especially in larger organisations, are aware that managing change during digital transformation is also associated with the necessity of facing up to the expectations and the potential resistance that arise with it. While sharing their experiences of the digital development processes during Individual In-Depth Interviews (IDI), respondents from this group mentioned both the challenges they faced and the surprisingly enthusiastic attitude of their teams to the process of change.

> *It is not their* [the employees'] *negative approach* [...]; *it is just the absolute discouragement by the way universities—probably due to tendering and procedural reasons, as well as public finance discipline—are implementing it poorly.* VET.KA2

> *To persuade people* [...] *that it makes work and its organisation easier... There is fear, but fear can be overcome.* ADU.KA1

The models of improving and developing digital skills in the studied organisations vary. However, responsibility for this process is almost unanimously attributed to the employer, as it is the employer who makes the final decisions on the funding and scope of activities directed at skills development in the organisation; even when needs and proposals in this regard are formulated from the bottom up by employees. Training is the dominant form of skills development used in teams. Apart from training courses that are strictly related to the implementation of selected tools, respondents from the management staff group choose other courses and skill improvement methods. They often follow suggestions made by members of the subordinate teams.

> [Employees] *let me know that there is going to be a training course in a particular area and that they want to take part in it. It is their bottom-up initiative. I appreciate it because, if I were to look out for such solutions, I would have probably missed some of them.* VET.KA2

Managers are not always informed about the competence level of employees and about the needs and opportunities related to it; for example, the amount of time they can devote to training, given their daily professional duties. Respondents have also mentioned that employees differ in terms of their motivation and readiness to expand their knowledge.

> *It is happening slowly, at a pace that is right for each individual teacher; we have various teachers; some of them are younger, others are older.* SCH.KA1

> *It is a very difficult process. [...] Let's say that 30% of our team is made up of engineers who ask about [training courses] and want to attend more and more of them. I often can't satisfy their demand. But there is also a group of, let's say, 40-50% of the people, who are simply tired of constant training and technological change. I think this is a natural process. Then, I have the "French Revolution" – those who are indifferent, who don't care, and who would prefer to do nothing because they think that what they already know is enough. The process is not easy; you need to have good motivational tools.* VET.KA1

However, it is worth noting that some respondents pointed to the role of participation in the Erasmus+ programme within this context. It could have been a catalyst of change within the organisation, acting as a factor motivating the staff to raise their level of digital competences:

> *Erasmus+ can influence this, as it has requirements regarding the use of digital tools such as MS Office and the use of software such as Excel, which I find brilliant. Of course, some people who manage projects need to learn this, while others need to improve their skills. This is certainly some contribution.* VET.KA1

The development of digital competences in the studied institutions varies greatly and is very uneven. Different organisations stress diverse aspects related to skills development, and the process is often unstructured. However, all institutions that we interviewed make an effort to educate their employees or support them in acquiring new competences. In many cases, respondents were unable to recall a coherent concept of skills development; it was easier for them to describe specific professions and areas that they focused on. Moreover, they noticed a discrepancy between having the technical competence to use tools and being able to use them effectively in the future:

> *One can attend training to learn to use a computer or an interactive board. This is not a problem. But knowing [how to use them] is one thing, and using them in practice is another. It is not always possible at a later stage, for a variety of reasons. SCH.KA1*

Moreover, various institutions adopt different approaches to digital competence development. Some rely on the help of leaders; people who are competent in a given technology and can therefore help other employees.

> *I am in favour of the model in which we educate a group of leaders, who then lead the others. These people are trained directly by the provider of a given solution. People whose competences are high quickly gain an understanding of the essence of working with a given IT solution. HED.KA1*

Some organisations believe in the spontaneous development of staff, which occurs through generational replacement. They make the assumption that young people are so familiar with new technologies that they need no major support in this area:

> *The development of digital competences is so natural nowadays that people never stop; they don't need to be taught, they simply observe and follow. Nowadays, we use applications to buy tickets and to pay for things. We don't have to carry a driving licence with us but we must be able to access it on the phone. There are hardly any people who don't use smartphones. I guess, that's what digital competences are. HED.KA2*

However, there are organisations that have a constant need to train their staff:

> *I know that there is absolutely no scope for development without continuous education to improve digital competences. In the area of technological development, we are practically destined to keep improving [digital skills]. VET.KA1*

Schools, including vocational schools, treat the development of their employees in the area of digital skills as an element of a broader plan that takes various competences into account. Some representatives of these institutions pointed out that, while developing digital skills, one must not forget about social skills, which can easily disappear as the world becomes more technically advanced.

Home

Virtually none of the organisations participating in the study had a plan for developing the digital competences of their employees in the coming years. All of them acted on an *ad hoc* basis, following hints from their staff or external companies, or in response to needs arising in the course of their institutional operations.

Methods of implementing digital transformation

The study revealed that the participating organisations differed in their assessments of the degree of digital transformation they were undergoing. Interestingly, the size of an institution seems to matter more in this context than its type. However, in some cases, such as with universities, for example, these categories are related (universities are mostly large institutions). Among smaller institutions (although this does not apply to all of them), there is a prevailing sense of the need to "catch up" with the rapidly developing world. Meanwhile, larger institutions (especially universities), tend to be more satisfied with their progress in terms of digital modernisation. This is related to how digital transformation is implemented and embedded within the structure of the relevant organisation.

Three dominant methods of carrying out digital transformation emerged from the analysis of the study material:

- **top-down**, encountered primarily in larger, more hierarchical institutions;
- **organic**, collective, encountered primarily in smaller teams with well-developed skills;
- **incidental**, encountered primarily in smaller organisations with limited experience and a lower level of competences.

Figure 1.
Methods of implementing digital transformation in beneficiary organisations

large, hierarchical institutions

top-down

organic

incidental

small teams
with extensive experience
and a high level
of digital competences

small organisations
with limited experience
and a relatively low level
of digital competences
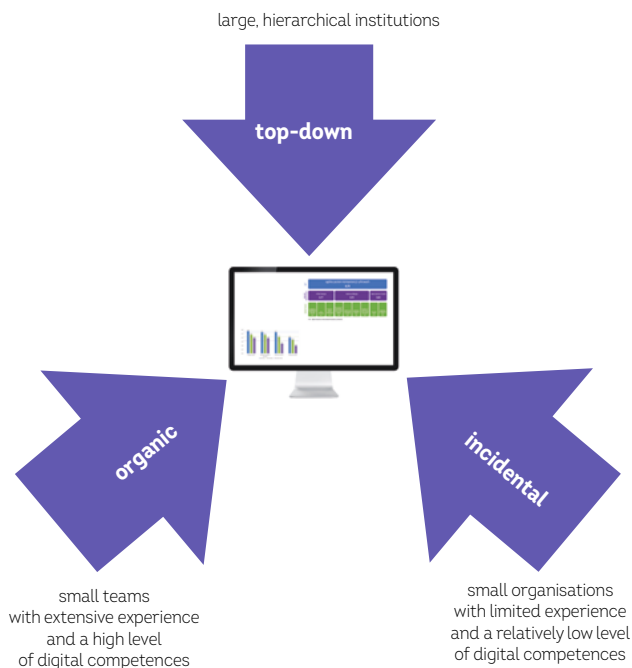
Source: IDI with management staff of beneficiary organisations, own study.

The top-down approach is usually adopted by larger entities and is closely related to the scale of their operation (e.g. being required to select suppliers through tenders or to prepare training well in advance) and the hierarchy that exists in them. In smaller organisations, on the other hand, where there is no need to make such decisions, the level of competence seems to play a decisive role. In teams with a higher level of competence, decisions on digital transformation can be made collectively, based on solutions suggested by employees.

> *We are a small organisation [...]. The youngest colleague has been working with us for eight years, while the others have been here for several years. In fact, we have operated for nearly twenty years, and we have always been able to do it with this team without much systematisation. I am talking about very formal things; things that, as far as I understand, are encountered in corporations or at the level of teams in larger businesses. [...] We are working on [digital transformation]; we meet at work and after work. It's an important topic for us. It very much starts with conversations about technological innovations. But we also have conversations about the current security requirements and things we need to pay attention to at later stages of our work.* SCH.KA2

In organisations where the level of competences is lower, the staff often depend on the most qualified employee or an external consultant, who has more extensive knowledge of a given area.

> *The man was great. One of the ladies was great too. We chose her deliberately because she knows a lot about technology and keeps searching; she also has a lot of distance, she never panics, and I knew that changing the system would give rise to unexpected situations.* ADU.KA1

Analysing the assembled study material, we can conclude that all of the approaches identified in the study have their advantages and disadvantages. The top-down approach can ensure good organisation and consistency during the process of digital transformation. However, this approach is also often highly bureaucratic, which can make it less flexible and less agile[11]. Meanwhile, organic, collective processes, encountered in smaller organisations, are flexible and allow for solutions to be selectively adjusted to employees' needs. On the other hand, however, this approach can also be shaped by team members' personal preferences. The incidental approach is the least favourable compared to the other two. Alhough it has the advantage of a quick decision-making process, it entails the risk of not matching the solutions based on

---

11 In the understanding of the AGILE methodology.

the team's needs and failing to ensure the continuity of the process if the "change leader" (the most competent person) decides to leave the organisation.

Moreover, the process of digital transformation is formalised to varying degrees and is linked to strategic documents and long-term plans. The studied institutions reflect this in their organisational structures in various ways. The results of a survey of Erasmus+ project coordinators conducted as part of the study show that over 40% of organisations (42%) have a digital transformation strategy and that the institutions they represent employ someone who is in charge of this process (41%). In this context, we can see clear differences between types of institutions. The elements of organisational culture identified above are clearly less common among beneficiaries involved in mobility projects (Key Action 1) and among organisations representing the Higher Education sector in the Erasmus+ programme[12]. They are also relatively rare in organisations based in rural areas and in small towns with a population below 50,000 (see: Graphs 1 and 2).

Graph 1.
Presence of digital transformation strategies in beneficiary organisations (n=379)

Sector		
School Education		42%
Vocational Education and Training		44%
Higher Education		38%
Adult Education		48%

Key action		
Key Action 1 – Learning Mobility of Individuals		41%
Key Action 2 – Cooperation among Organisations and Institutions		49%

Seat of the organisation		
village or small town (population up to 50,000)		38%
medium town (population between 50 and 500,000)		44%
large town (population over 500,000)		45%
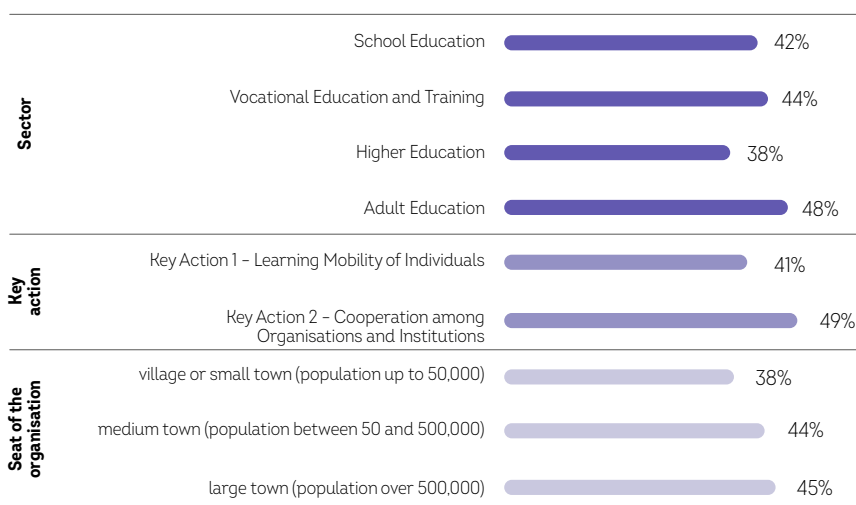
Source: CAWI survey conducted among project coordinators in Poland, own study.

---

12 An analysis of the qualitative research material taken from interviews with management staff shows that decisions on digital transformation in the Higher Education sector are usually made by relevant university departments and offices in response to the needs arising in individual organisational units. This dispersion may explain the relatively low values of indicators related to digitalisation at the level of the entire organisation.

Sector

School Education	40%
Vocational Education and Training	46%
Higher Education	35%
Adult Education	48%

Key action

Key Action 1 – Learning Mobility of Individuals	38%
Key Action 2 – Cooperation among Organisations and Institutions	56%

Seat of the organisation

village or small town (population up to 50,000)	36%
medium town (population between 50 and 500,000)	45%
large town (population over 500,000)	41%
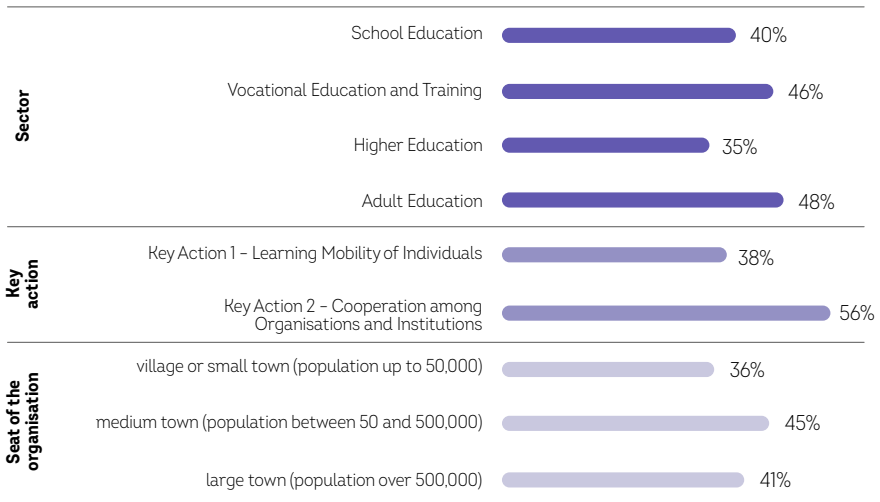
Source: CAWI survey conducted among project coordinators in Poland, own study.

Regarding the assessment of the scope in which an organisation's formal affairs (e.g. contracts, invoices, other elements of accounting) can be conducted digitally, beneficiaries implementing projects as part of the Higher Education sector and Key Action 1 of the Erasmus+ programme also stand out. In these groups, the percentages of people who indicated that all or most of their organisation's affairs can be conducted remotely amounted to 22% and 31% respectively. Meanwhile, in the entire group of respondents, a third (33%) confirmed the same. No significant variation was observed based on the location of the organisation in this context.

Impact of the COVID-19 pandemic on digital transformation and digital competences

The study was conducted after all restrictions related to the COVID-19 pandemic had been lifted. Despite this, the changes enforced by the epidemic continued to influence the long-term functioning of the analysed institutions. In virtually all of the interviews that were conducted, coronavirus was mentioned spontaneously, before any questions were asked about work during the pandemic. This implies that changes brought about by the COVID-19 pandemic were noticeable and significant and that they persisted afterward. In this context, respondents spoke about various aspects of organising their work, such as the implementation of new tools in administrative and educational activities, and the methods and skills they had to adopt. Respondents mentioned the need to collaborate remotely, communicate online, store data, or work in the cloud. Consequently, the necessary modifications were related to equipment and software; institutions transitioned from desktop computers to laptops, acquired relevant software (to host remote meetings, for example), and even acquired their own servers.

The epidemic not only forced organisations to embrace transformation, but also reinforced changes that have been taking place in organisations for some time. The extent of its impact on a given entity depended on multiple factors, such as the level of digitalisation before the pandemic as well as the type and size of the organisation.

> We use tools such as the one we can see now [Zoom] during faculty meetings and we are happy about it. Also in the case of one-to-one teaching for students who cannot attend school for various reasons and need additional hours of tuition, teachers teach them [remotely] and appreciate this too. VET.KA1

> [The pandemic], above all, changed the definition of remote teaching. I believe that, even now, some people do not fully understand what it really means that [teaching] does not have to occur in real time. So, the very approach to the use of information technology in teaching methodology has changed a lot. [Teaching] does not have to mean, for example, connecting via Zoom in real time but, for example, solving quizzes on Moodle. SCH.KA1

The tools and skills acquired as a result of constraints brought about by the pandemic proved to be helpful in the process of returning to normalcy once the pandemic ended as well. The meetings held after the epidemic with, for example, business partners or the faculty, described by respondents and kept as digital records, can serve as an example of such solutions.

Home

The pandemic as a force for change

The emphasis of the changes caused by the COVID-19 pandemic varied across individual sectors of the Erasmus+ programme (School Education, Higher Education, Adult Education, and Vocational Education and Training), in which funding was awarded to the studied institutions.

Thanks to the transition to remote operations during the coronavirus pandemic, entities operating in the Adult Education sector, including universities of the third age (U3As), discovered many tools that they continue to use to this day:

> *I must admit that we launched online classes during the pandemic. We won a grant and it was a really big challenge for us, but we managed. We organised foreign language courses and conferences remotely.* ADU.KA1

> *During the pandemic, we were forced to use technology, and 130 people regularly participated in remote foreign language, painting, and floristry classes* [using various applications]. *Interestingly, once these classes ended, people asked "Why can't we keep using them? We can do it from our homes; sure, it is a disadvantage that we don't meet in person, but I don't have to rush to catch the bus [...]". So, we continue with these classes.* ADU.KA1

Other educational institutions representing the School Education and Higher Education sectors, also took advantage of the change and embraced development. The main change in both cases involved the shift from onsite tuition to remote tuition.

> *The majority of research and teaching staff had to learn to teach remotely. This involved, for example, learning to use Teams to teach classes online. I can say that many people appreciate this form of delivery. Currently, although the lockdown is over, some teachers teach classes in a hybrid form, partly online and partly onsite.* HED.KA1

In the School Education sector, we can see a change in the approach of bodies responsible for governing institutions, which are more willing to subsidise the purchase of equipment and to finance workshops that improve the digital competences of employees.

Honestly speaking, COVID helped us a lot because schools need more technology. Also, we obtained a bit more funding for development in this direction. SCH.KA1

Figure 2.
Impact of the pandemic on the digital transformation of beneficiary organisations

**pandemic as
a force
for change**

**pandemic as
an acceleration**
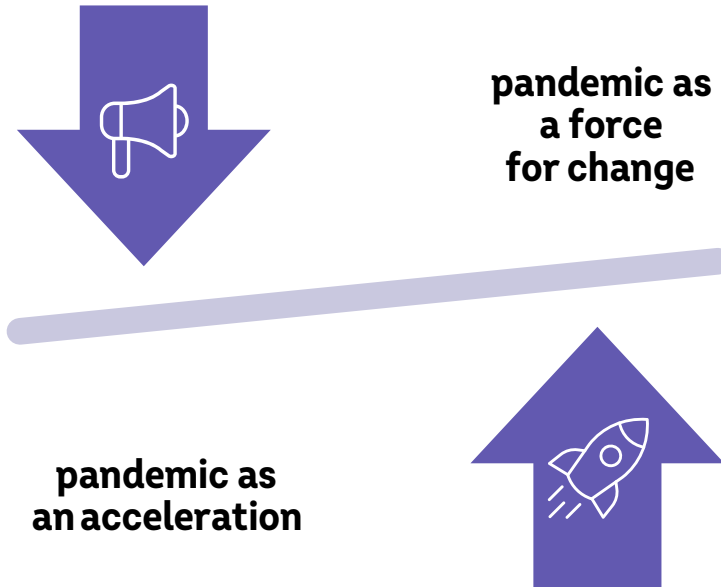
Source: IDI with management staff of beneficiary organisations, own study.

The pandemic as a force of acceleration

Respondents in the sector of Vocational Education and Training pointed chiefly to the development and improvement of ongoing processes:

Of course, I can see progress with regard to, for example, teamwork tools or the use of cloud files. We no longer send Word files by e-mail, as some people continued to do... But this doesn't mean we are starting at level zero. We can see the difference; this is an upgrade that we needed in our work. VET.KA2

The perception of the pandemic as a factor that accelerated the process of digital transformation was also, though to a lesser degree, observed in organisations representing other sectors of the Erasmus+ programme:

> We saw no big changes except for the intensification of certain behaviours. Since we were unable to hold classes and meet face to face, we had to focus on digital tools. We simply found more applications for Zoom than, for example, for Google Meets. So, these are really small things; the way these tools are used did not change but intensified. SCH.KA2

> We used remote systems, we even had remote labs, and we did not need to implement any new systems in response to the COVID-19 pandemic. Yet, remote working methods have become common practice now. However, I don't mean remote working in the sense of working from home but working on documents displayed on shared screens. This often proves to be a handy solution even when people are sitting in the same room. They are looking at the same thing at the same time and can correct things for one another, write, and work on things together. It is therefore natural that this technology is widely used. HED.KA2

Although many digital improvements were introduced, respondents often stressed that they still find great value in face to face meetings and onsite activities. This applies to all types of organisations that were studied. However, there are institutions that are noticing some fatigue related to what they perceive is an excessive reliance on digital tools following the pandemic. This, in turn, has underlined the importance of a skilful choice of tools and moderation in this regard:

> After the pandemic, we can see that [using digital tools] is not a priority. People also are not always willing to use them... Even students ask for ordinary things, with no "digital fireworks". They simply want to spend time together and study. SCH.KA1

Implementing Erasmus+ projects and digitalisation

Impact of the Erasmus+ programme on the digital transformation of beneficiary organisations

The results of the survey indicate that the implementation of Erasmus+ projects supports beneficiary organisations in their digital transformation. The majority of project coordinators participating in the survey (59%) expressed the opinion that participation in the programme had improved the attitudes of their institutions' staff towards digital transformation. This was reported mostly by the respondents who have implemented projects in the School Education and Vocational Education and Training sectors, as well as those representing organisations based in villages or small towns of up to 50,000 inhabitants (cf. Graph 3).

Graph 3.
Impact of Erasmus+ programme on the digital transformation of organisations (n=379)

Sector		
School Education	65%	34%
Vocational Education and Training	66%	38%
Higher Education	45%	41%
Adult Education	62%	34%

Key action		
Key Action 1 – Learning Mobility of Individuals	58%	36%
Key Action 2 – Cooperation among Organisations and Institutions	63%	38%

Seat of the organisation		
village or small town (population up to 50,000)	67%	35%
medium town (population between 50 and 500,000)	59%	36%
large town (population over 500,000)	50%	39%

● improvement in employees' attitudes to digital transformation

● improvement in technical infrastructure (e.g. availability of equipment)

Source: CAWI survey conducted among project coordinators in Poland, own study.

Interestingly, even though Erasmus+ funding cannot generally be used for infrastructure investments, approximately one-third of coordinators (37%) declared that the implementation of a mobility or cooperation project contributed to an improvement of the technical infrastructure (e.g. increased availability of equipment) in their organisations. This applies, to a similar extent, to each of the groups analysed. The development of technical infrastructure

Home

in beneficiary institutions can therefore be regarded as one of the indirect, positive effects of the implementation of Erasmus+ projects, which is also confirmed by the findings from the Individual In-Depth Interviews (IDI) with the management staff of those institutions.

Impact of Erasmus+ programme on the development of digital competences in beneficiary organisations

The decisive majority of the surveyed project coordinators believed that participation in the Erasmus+ programme had a significant impact on the development of digital competences in their organisations. Sixty-one percent of them pointed out that implementing a project funded by this programme had an impact on improving the digital competences of their employees, while 57% said that the availability of high-quality educational materials in their institutions improved thanks to Erasmus+. Moreover, 68% of project leaders were of the opinion that participation in mobility projects has a significant or very significant impact on the development of digital competences in learner participation in these activities (cf. Graph 4).

Assessment in the above-mentioned categories depended on the type of project and organisation represented by the surveyed coordinators. Consequently, the most significant impact of the Erasmus+ programme on the development of digital competences of employees was observed in beneficiaries based in villages and small towns with a population up to 50,000. Improved availability of high-quality educational materials was observed, above all, in institutions implementing projects in the Adult Education and School Education sectors, while the development of digital competences in learners participating in mobility projects was observed in the Vocational Education and Training sector.

Among all the surveyed groups, a high or very high impact of the Erasmus+ programme on the development of digital competences was indicated least frequently in organisations implementing projects in the Higher Education sector, which were based in the largest towns and cities with populations over 500,000 (cf. Graph 4).

The above analysis, conducted on the basis of quantitative data, allows us to state that the Erasmus+ programme has a positive impact on the development of digital competences in beneficiary organisations. These findings will be explored in more depth in Individual In-Depth Interviews (IDI) with Erasmus+ project coordinators, to be conducted in phase II of the study, which is due to take place in 2024.

Graph 4.
Impact of Erasmus+ programme on the development of digital competences (n=379)

Sector

School Education
65%
74%
64%

Vocational Education and Training
66%
84%
59%

Higher Education
52%
50%
42%

Adult Education
66%
69%
67%

Key action

Key Action 1 – Learning Mobility of Individuals
60%
66%
55%

Key Action 2 – Cooperation among Organisations and Institutions
67%
76%
70%

Seat of the organisation

village or small town (population up to 50,000)
69%
74%
62%

medium town (population between 50 and 500,000)
64%
71%
60%

large town (population over 500,000)
50%
57%
50%

● development of digital competences in employees

● development of digital competences in learners participating in mobility projects and improving

● access to high quality educational materials

Source: CAWI survey conducted among project coordinators in Poland, own study.

Role of the Erasmus+ programme in the process of digital transformation of beneficiary organisations

Analysing the study material obtained from the quantitative and qualitative analysis, we observed that the impact of the Erasmus+ programme can be summed up by distinguishing four types of functions that participation in the programme can serve in organisations with regard to digital transformation and the development of digital competences. These functions depend on:

- the size of the organisation and access to sources of digital support associated with it;
- the institution's previous experience of digital transformation and implementation of new technologies;
- the level of digital competence in the organisation.

Home

As in the case of methods of implementing digital transformation, these factors are associated with the scale of the organisation rather than with its type. Although, as we indicated earlier, for some institutions (universities), their size and type are correlated. Based on the conducted interviews, we were able to identify the following roles played by Erasmus+ in the process of digital transformation:

- **game changer**, especially in smaller organisations with limited experience and core skills;
- **important supporting factor**, especially in organisations with previous experience and more advanced skills;
- **one of many factors**;
- **beneficiary**, in the case of organisations that are so advanced that the quality of the Erasmus+ programme and projects implemented as part of the programme are improved thanks to the skills already possessed by the organisation.

An important observation to be drawn from the study is that Erasmus+ can have a highly significant impact on initiating positive change in smaller organisations, which often have poorly developed digital competences. In these institutions, the programme can act as a **game changer**, mobilising them to begin the process of transformation and the improvement of competences, as well as providing an opportunity for training and implementing new practices, tools, and software. Smaller organisations with lower skill levels can embark on the path of development and digital transformation precisely thanks to the Erasmus+ programme and, in most cases, they assess the change it brings in very positive terms.

In institutions with a higher initial level of competence and advancement in the transformation process, Erasmus+ undoubtedly serves as **an important supporting factor**. This enables consolidating and developing skills, deepening knowledge, acquiring new experiences, and exchanging practices. This type of support can be significant for organisations at the beginning of transformation, when it is important to become familiar with new practices, procedures, and tools, or to become proficient in using them.

Erasmus+ can also be **one of many factors** supporting digital transformation and competence development. Especially in larger, more advanced organisations, this programme does not come to the fore, which does not mean that its role is not important. In this function, it is part of the sum of factors influencing the development of the organisation and may be of significant importance for a given area of activity of a team or group of employees.

Finally, occasionally it is the Erasmus+ programme that benefits from the efficiency and competency of the organisations whose projects it supports. This means, in practice, that a high initial level of skills translates significantly into the quality of projects implemented. Thus, it is Erasmus+ that becomes **the beneficiary**.

Figure 3.
Typology of the roles that Erasmus+ programme plays in the process of digital transformation in beneficiary organisations

Erasmus+ as...

- game changer
- important supporting factor
- one of many factors
- beneficiary
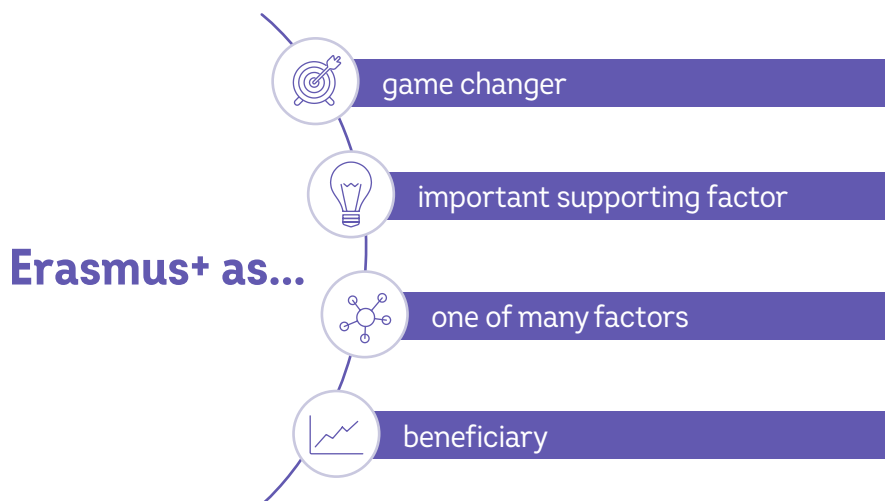
Source: IDI with management staff of beneficiary organisations, own study.

Level of digital competence of project coordinators

One of the objectives of the survey was to measure digital competence in coordinators of projects implemented under the Erasmus+ programme. In the survey, respondents were able to assess their knowledge, skills and attitudes comprising a total of nine competences within three main areas: information, communication and content creation. The focus was on those competences that are directly used by coordinators in their daily work related to the implementation of Erasmus+ projects. The information obtained made it possible to construct the so-called Digital Competence Index (DCI), making it possible to compare the competence levels of different groups of respondents. The value of the index can range from 0 to 1. It should be assumed that the higher its value in the context of a given competence

or area, the higher the level of digital competence within a given element (cf. Figure 4)[13]. Details on the construction of the index can be found in the *Methodology note*.

Figure 4.
Method of interpreting the Digital Competence Index (DCI)

DCI value

0

lowest level of competence

1

highest level of competence
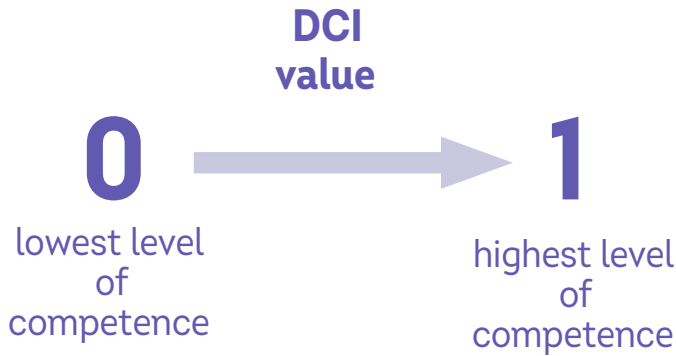
Source: own study.

The analysis carried out made it possible to identify both the areas of competences that are best developed among Erasmus+ project coordinators and those in which the potential for development is greatest. The highest level of skills was recorded in information proficiency. Project coordinators feel quite confident in this area. This is confirmed by the finding that the DCI for all skills included in its scope, i.e. browsing, searching and filtering information; as well as assessing, storing, and finding it, has a high value.

Slightly different conclusions can be drawn in the area of communication and cooperation. While competences such as communication using digital tools and applications and cooperation employing these types of tools were rated very high, in the case of the remaining competences, i.e. sharing information and resources and online civic activity, the DCI had relatively low values.

The lowest level of skills was recorded in the area of digital content creation. In this context, both the creation of new content and the integration and processing of existing resources are competences that have a high potential for development among project coordinators (cf. Figure 5).

---

13 The information presented in this study, which includes data collected in the first quantitative measurement of 2023, allows an assessment of the baseline level of digital competence of Erasmus+ project coordinators, shortly after the start of project implementation by the programme's beneficiary organisations. Conducted in 2024, a second measurement using the same survey tool will assess how the digital competences of coordinators have changed over the duration of the Erasmus+ project. The results will be presented in the next publication, which will summarise the implementation of the entire research project.

Figure 5.
Digital Competence Index (DCI) values by competence area and
individual competences (n=379)

DCI*	AREAS OF COMPETENCES	COMPETENCES
overall level of digital competences 0.72	content creation 0.66	content integration and processing 0.61
		content creation 0.72
	communication 0.72	cooperation using digital tools 0.76
		online civic activity 0.63
		sharing information and resources 0.69
		communication using digital tools and applications 0.80
	information 0.77	storing and finding information 0.77
		assessing information 0.77
		browsing, searching and filtering information 0.76

Source: CAWI survey conducted among project coordinators in Poland, own study.

Valuable information is also provided by the above analysis, which is divided into sectors of the Erasmus+ programme and represented by the surveyed project coordinators (cf. Graph 5). In this case, attention is drawn to the exceptionally low index level for all three areas in the Adult Education sector. This indicates the potential need to support the development of digital competences in this precise sector. In the case of two digital skills areas, i.e. content creation and communication, coordinators representing the Higher Education sector were also generally below average.

Home

Graph 5.
Value of the Digital Competence Index (DCI) for individual areas
of competences by the Erasmus+ programme sectors studied (n=379)
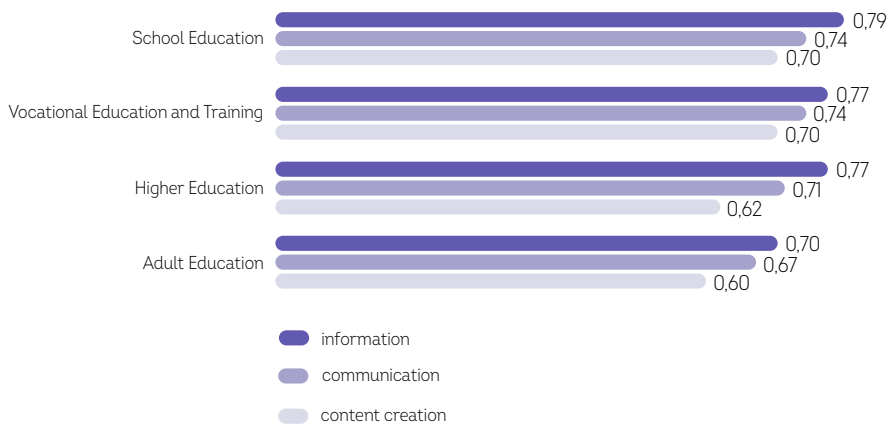
School Education
0,79
0,74
0,70

Vocational Education and Training
0,77
0,74
0,70

Higher Education
0,77
0,71
0,62

Adult Education
0,70
0,67
0,60

- information
- communication
- content creation

Source: CAWI survey conducted among project coordinators in Poland, own study.

Interesting conclusions can also be drawn from the analysis that takes into account the nine digital competences by sector (cf. Graph 6). On the one hand, it confirms the conclusions formulated above regarding the need to support representatives of the Adult Education sector in developing their digital skills. On the other hand, it highlights the relatively low self-esteem of coordinators in the context of integrating and processing content and online civic activity. The latter competence may be relevant not only from the perspective of supporting the digital transformation priority of the Erasmus+ programme, but also because it simultaneously relates to the participation in democratic life and civic engagement.

Graph 6.
Value of the Digital Competence Index (DCI) for individual competences by the Erasmus+ programme sectors studied (n=379)

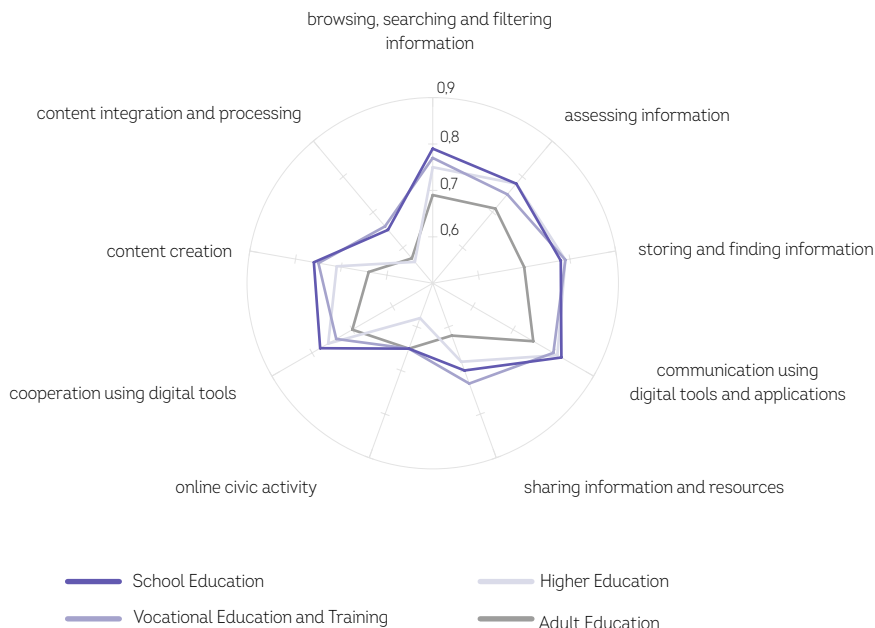*Source: CAWI survey conducted among project coordinators in Poland, own study.*

Erasmus+ and European Solidarity Corps electronic platform

Project coordinators participating in the survey also had the opportunity to assess one of the main tools used when applying for funds from the Erasmus+ programme and managing projects under it. This refers to the previously mentioned European Commission platform for Erasmus+ and European Solidarity Corps programmes for project management (cf. p. 12). About nine out of ten coordinators said they knew how to access the platform themselves (92%) and how to complete and submit an application through it (87%). By contrast, there are far more problems involved with managing Erasmus+ projects using this tool. It turns out that over one in five coordinators (22%) do not know how to do this or need support from others when they want to use the platform to manage a project. Taking into account that one of the main functions of coordinators is managing Erasmus+ projects, this percentage seems very high. Additionally, significant differences are visible between project leaders representing individual

sectors. In the Higher Education sector, 88% are able to independently manage a project using the official electronic platform intended for this purpose. Among those representing the Adult Education sector, this percentage drops to 64%, which means that approximately one-third of project coordinators in this sector have difficulties with managing the project independently using a platform intended for this purpose. The analysis of the specifics of these problems would probably need to be explored further in a separate survey, but even this basic information indicates that steps need to be taken to make the platform easier to use for those who want to coordinate projects and are obligated to use it. On the one hand, as indicated earlier, it may be beneficial to support the development of digital competence in beneficiary organisations. On the other hand, it is necessary to consider modifying the platform so that it meets the criterion of inclusiveness and is user-friendly.

Graph 7.
Project coordinators' ability to independently use Erasmus+ and European Solidarity Corps electronic platform (n=379)

gaining access to the platform
- 95%
- 92%
- 94%
- 82%

completing and submitting the application form through the platform
- 89%
- 80%
- 93%
- 79%

managing the Erasmus+ project through the platform
- 77%
- 74%
- 88%
- 64%

Legend:
- School Education
- Higher Education
- Vocational Education and Training
- Adult Education
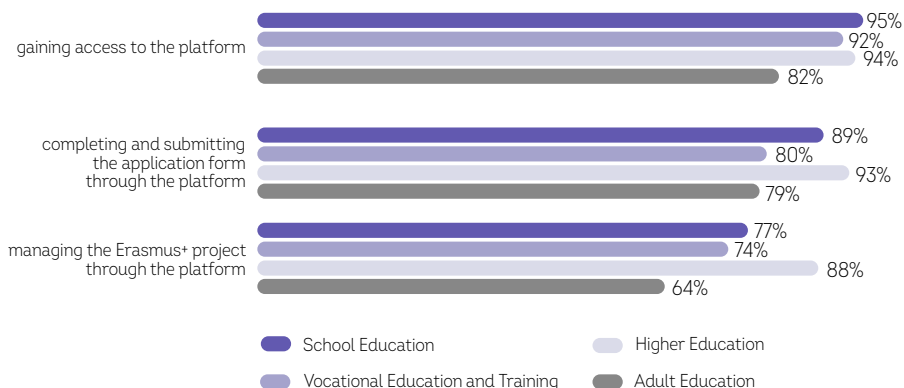
Source: CAWI survey conducted among project coordinators in Poland, own study.

Barriers hindering
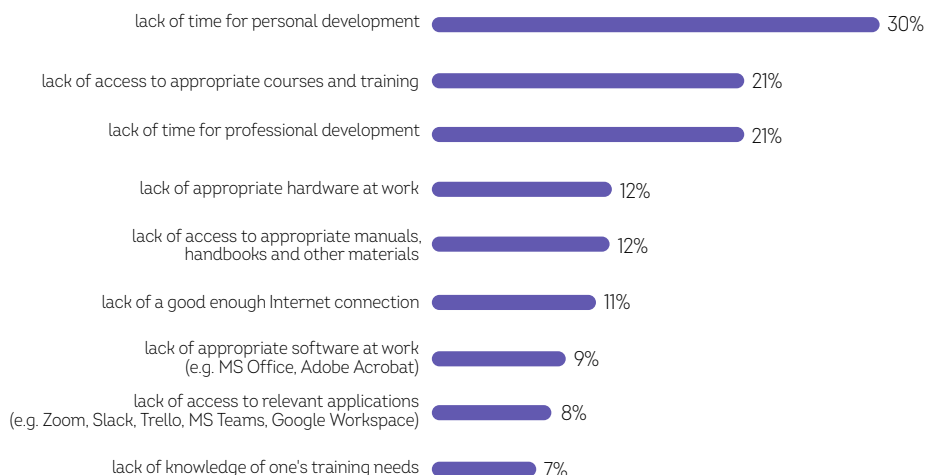# the development
# of digital competences

In one of the survey questions, respondents were asked to indicate how much they agreed with 10 statements on improving digital competences. The results showed that as many as 94% of Erasmus+ project coordinators have a need to further develop their skills in this area. It is therefore worth examining what are the most important factors limiting or preventing the development of the competences in question (cf. Graph 8).

Among the most common barriers was a lack of time for both personal (30%) and professional development (21%), and about one in five coordinators (21%) have problems accessing appropriate courses and training, both physically and financially. Over one in ten people also experience constraints such as a lack of appropriate hardware at work (12%), lack of access to appropriate manuals, materials and handbooks (12%), and a lack of a good enough Internet connection (11%).

Graph 8.
Barriers to developing digital competences for project coordinators (n=379)

Barrier	Percentage
lack of time for personal development	30%
lack of access to appropriate courses and training	21%
lack of time for professional development	21%
lack of appropriate hardware at work	12%
lack of access to appropriate manuals, handbooks and other materials	12%
lack of a good enough Internet connection	11%
lack of appropriate software at work (e.g. MS Office, Adobe Acrobat)	9%
lack of access to relevant applications (e.g. Zoom, Slack, Trello, MS Teams, Google Workspace)	8%
lack of knowledge of one's training needs	7%

Source: CAWI survey conducted among project coordinators in Poland, own study.

The prevalence of each constraint varies by education sector (cf. Graph 9). In the case of the School Education sector, the most notable impediment is the lack of time for personal development, in addition to infrastructural problems such as the lack of a good enough Internet connection, and appropriate hardware and software at work, which are relatively more frequent in this group compared to the other sectors.

Home

In the Higher Education and Vocational Education and Training sectors, the most common barrier to development is a lack of time. However, coordinators implementing vocational education projects also frequently mentioned difficulties related to a lack of access to appropriate manuals, materials, and documents.

In the Adult Education sector, project leaders rarely cited a lack of time for personal or professional development. However, compared to the other groups, they more often highlighted a lack of knowledge of their own training needs.

The indications drawn up on the basis of the quantitative data concerning the barriers to developing digital competences identify the general difficulties experienced by the coordinators representing the various groups of respondents. In the next stage of the study, scheduled for 2025, these issues will be explored in depth through individual interviews. This will lead to the preparation of proposals for solutions conducive to the development of digital competences in Erasmus+ beneficiary organisations.

Graph 9.
Barriers to developing digital competences for project coordinators
by the Erasmus+ programme sectors studied (n=379)
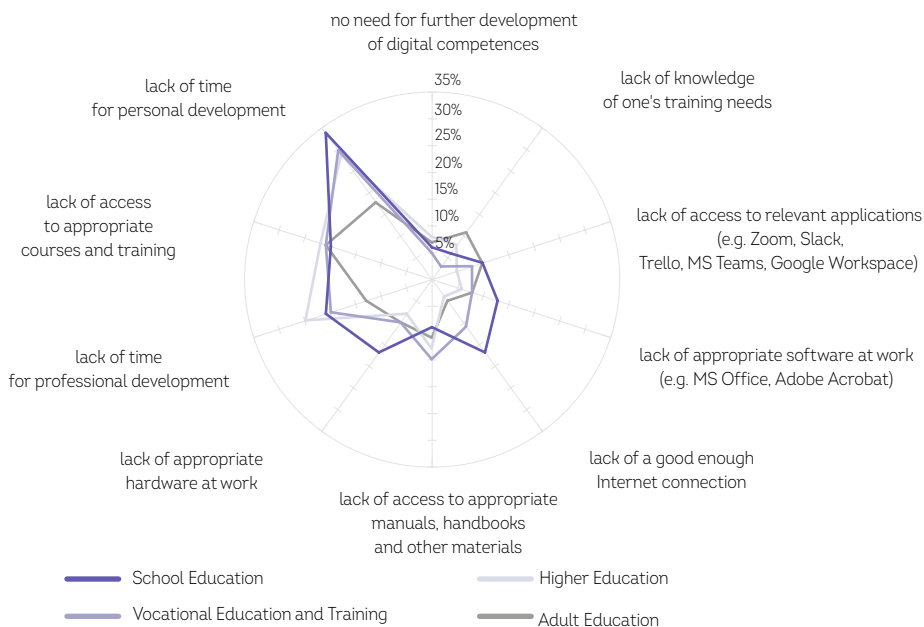
Source: CAWI survey conducted among project coordinators in Poland, own study.

Barriers related to the development of digital competences were also discussed by managers of institutions implementing Erasmus+ projects. From their perspective, the main limitation was the previously mentioned difficulty in diagnosing employees' needs related to the development of digital competences. Among the barriers to the development of digital competences identified by managerial staff, the most prominent were:

- oversaturation with digital tools and not seeing the point of acquiring new skills;
- lack of desire to develop due to not having enough time or understanding the need to develop;
- fear of new technologies and reluctance to share data or knowledge;
- fear of misuse of tools, including copyright issues.

> *The only problem is that not everyone uses* [the hardware], *because they are reluctant for various reasons. Also, sometimes there are no tools due to financial reasons. During the coronavirus pandemic, it became apparent that many people did not have the proper hardware to install such an application on their computers. This, too, is sometimes a barrier.* ADU.KA1

> *There is absolute resistance* [among employees] *against entering data about themselves.* VET.KA2

Additionally, many organisations do not have a clear transformation plan or an individual in charge of development, and any workshops that take place are the result of a spontaneous decision or even by chance. Other institutions such as schools, have such a plan, but it does not always include digitalisation. Occasionally, only part of the team is involved in digital development, making the transformation less harmonious than it should be.

Home

Recommendations

We address the recommendations developed on the basis of the survey results to three groups with different capacities to take appropriate action:

1. Erasmus+ programme beneficiaries,
2. Polish National Agency for the Erasmus+ Programme and the European Solidarity Corps,
3. European Commission.

For Erasmus+ programme **beneficiaries**, who often find the implementation of Erasmus+ projects to be valuable or even crucial in the process of digital transformation and competence development, we recommend:

- thinking about the tools, software, and technological solutions to be implemented in a strategic and long-term perspective (abandoning *ad hoc* measures) and choosing stable solutions that have a chance to remain on the market for a long time;
- identifying a change leader for the implementation of new solutions (this often happens spontaneously) and providing them with adequate support, including decision-making authority that will allow them to work effectively within the team;
- identifying the needs of employees regarding training support in the area of digital competence development (this does not need to be a formalised survey, it may suffice to regularly raise the topic at team meetings), including diagnosing the reasons for any possible lack of motivation;
- providing the team with opportunities to develop competences beyond the organisation of training (ensuring that employees have the time to take courses).

The above actions can help make the results of projects funded by the Erasmus+ programme more sustainable and significantly impact the development of the organisation.

Since Polish National Agency for the Erasmus+ Programme and the European Solidarity Corps is responsible for managing the programme in Poland and, in fulfilling this role, is in direct contact with beneficiary organisations, we recommend:

- increasing support for beneficiaries – especially small organisations and those representing the Adult Education sector – by organising training, seminars, and other events to help develop the digital competences of staff, particularly in of creating and sharing digital content and undertaking civic activities online;
- continued support for beneficiary organisations in the implementation of project activities and the use of European Commission tools, particularly Erasmus+ and the European Solidarity Corps electronic platform, through project teams responsible for specific sectors or other organisational units of the beneficiaries;

- undertaking promotional activities using data confirming that the Erasmus+ programme supports beneficiary organisations in their digital transformation and their staff in developing digital competences;
- creating a guide or collection of useful information and good practices for beginner organisations in order to support them in their decision-making process regarding the choice of a development path, appropriate tools, and training. Such a publication will enable institutions new to the programme to transition from an incidental approach to implementing transformation to a more deliberate and strategic approach, whether the change process happens organically or is initiated top-down.

The implementation of the above measures can directly contribute to accelerating the digital transformation process in beneficiary organisations and developing the digital competences of their staff, as well as to building the position of the Erasmus+ programme as an accelerator of change.

To the European Commission, as the institution that manages the Erasmus+ programme at the European Union level and thus shapes the programme objectives and the accompanying procedures and their implementation, we recommend:

- considering, in the next prospects for the programme, the possibility of subsidising the purchase of equipment and the development of infrastructure for organisations that lack sufficient resources to effectively implement and manage Erasmus+ projects using digital technologies;
- redesigning remote tools, especially Erasmus+ and European Solidarity Corps electronic platform, in accordance with the principles of service design based on user experience, so that the use of these tools, especially the management of projects through them, can be understandable to users with even a relatively low level of digital competence;
- supporting the National Agencies in promoting the Erasmus+ programme as an initiative that enhances the quality of digital education in Poland and the European Union.

The introduction of the above solutions will accelerate the implementation of measures addressing one of the four main priorities of the Erasmus+ programme – Digital Transformation – and increase its quality.

Conclusions

The period of the coronavirus pandemic highlighted the importance of quick adaptation of institutions to the changing reality, including in the digital dimension. The results of the first stage of the study "The ecosystem of digital competence development in the Erasmus+ programme" presented in this report clearly show that the implementation of educational mobility or cooperation projects can have a positive impact on the digital transformation of Erasmus+ beneficiary organisations. According to the results of the survey, in almost every group, the majority of respondents were of the opinion that the implementation of the Erasmus+ project improves attitudes towards digital transformation and has a positively impacts the development of digital competences of staff and learners. Meanwhile, the results of the Individual In-Depth Interviews (IDI) show that Erasmus+ played a a key role in determining the direction of digital transformation for some of its organisational beneficiaries. These findings provide evidence that in Poland, **the priority of the Erasmus+ programme related to supporting digital education is being put into practice**.

In the concluding the study, it is also worth mentioning areas that need improvement or further support from the European Commission, Polish National Agency for the Erasmus+ Programme and the European Solidarity Corps, or the beneficiary organisations themselves. One of these areas is the development of staff competence in digital content creation. At a time when a large part of cooperation, resources, and tasks has been transferred to the virtual world, the ability to create cohesive and attractive content for an online audience can prove to be crucial for the professional life of any employee.

Additionally, it is worth bearing in mind the necessity to adapt digital tools to the needs and skills of users. Only such an approach makes it possible to fully exploit the potential of digitalisation for learning – both at the organisational and individual levels.

This report concludes the first stage of the study in Poland. In parallel, similar publications are being prepared in the remaining six partner countries of the project. The second stage of the study, scheduled for 2024–2025, will expand on the issues raised in the first stage, with more attention given to the international dimension of the phenomena described. We encourage you to follow the study's findings and recommendations on digital transformation and digital competence development with the support of the Erasmus+ programme.

Methodological note

Objective of the study and research questions

The main objective of the study was to provide information, findings, and recommendations on the impact of the Erasmus+ programme on the digital transformation of its institutional beneficiaries and on the development of the digital competences of the staff of these organisations. To achieve this, the study used the research questions presented in Table 1.

Table 1.
Summary of research questions for each module of the study

Module	Questions
desk research	• Is there an official digital competence framework in the country; has the DigComp framework been translated and is it officially used? • What are the national strategies, programmes, and major projects supporting the development of digital competences and digital transformation in each sector? • What new measures regarding the development of digital competences and the digital transformation process have been devised in response to the COVID-19 pandemic? • Has there been any research on the level of digital competence in the country in recent years (2021, 2022)?
an online survey (Computer--Assisted Web Interviews – CAWI) and Individual In-Depth Interviews (IDI)	• How and to what extent are digital competences being used in Erasmus+ beneficiary organisations? • How and to what extent are digital competences being used in the activities undertaken by beneficiary organisations under the Erasmus+ programme? • What are the drivers and obstacles to digital competence development? • How do beneficiary organisations support their staff in developing digital competences? • What is the role of the Erasmus+ programme in the acquisition of digital skills? • How and to what extent do organisations benefit from the participation of their staff in the Erasmus+ programme and is there a link between the development of the staff's digital skills and the digital transformation of these institutions? • What are the conditions for the development of digital competences and digital transformation in different countries as well as sectors and key actions of the Erasmus+ programme? • What is the perception of digital transformation and the role of digital competence development in beneficiary organisations?

Study schedule, research modules

The survey was divided into two phases, implemented over a similar timeframe in all seven project partner countries. Within phase I, covering the period 2022–2023, three research modules were carried out: desk research, an online survey (Computer-Assisted Web Interviews – CAWI) with Erasmus+ project coordinators representing beneficiary organisations, and Individual In-Depth Interviews (IDI) with representatives of the management of beneficiary organisations.

Home

This phase will conclude with the preparation of a national report by each of the research partners based on the information collected through the above research modules.

Phase II of the study, scheduled for 2024–2025, includes the implementation of a second online survey with project coordinators (second measurement on the same group of respondents) and individual interviews with Erasmus+ project coordinators. The second phase of the project will be concluded with the preparation of an international report, taking into account all the data and information collected during the project in both phase I and phase II.

Implementation of the research modules in Poland as part of phase I of the study

Desk research

At this stage of the survey, documents, information and other materials regarding the context of the development of digital competences in Poland and support for the digital transformation of organisations at the national level were taken into account. The analysis included, among other things, the structure of national digitalisation authorities, laws, regulations and guidelines – including the core curriculum for school and higher education. The focus was also on digital transformation strategies in the education sector, strategies for the development of digital competences in Poland and nationwide programmes and projects aimed at implementing these plans. The results of this analysis were summarised in a questionnaire previously developed for each partner country.

Online survey (Computer-Assisted Web Interviews – CAWI)

The survey was conducted using a computer-assisted web interview technique. It targeted project coordinators representing beneficiary organisations of the Erasmus+ programme in Poland. These institutions implemented projects under this programme on the basis of contracts concluded in 2022. Therefore, the focus was only on those Erasmus+ projects that started relatively recently. According to the research concept, this approach makes it possible to capture changes in the analysed phenomena occurring during project implementation.

The link to the survey was sent to all Erasmus+ project coordinators included in the study frame, ensuring comprehensive coverage of 859 people. The survey was completed by 379 coordinators, resulting in a response rate of approximately 44%. The structure of the obtained sample by the Erasmus+ sector is shown in Graph 10.

Graph 10.
Structure of the sample of the online survey by the Erasmus+ programme sector (n=379)

- School Education
- Vocational Education and Training
- Higher Education
- Adult Education
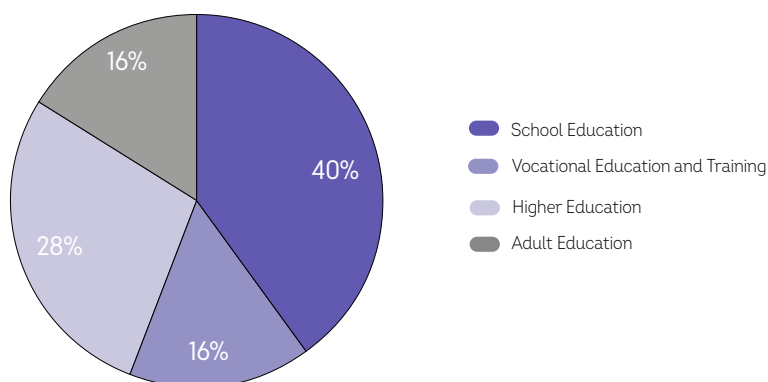
Source: CAWI survey conducted among project coordinators in Poland, own study.

Individual In-Depth Interviews (IDI)

As part of the study, 12 Individual In-Depth Interviews were conducted with representatives of the management of Erasmus+ organisational beneficiaries. Each interview lasted from 60 to 90 minutes. Similar to the online survey, it focused on organisations conducting projects contracted in 2022. In addition, the criteria for the selection of respondents included differentiation by the Erasmus+ programme sector and the key action in which the institutions they represent implement projects. It was assumed that for each sector, at least one interview should be conducted with a representative of the organisation conducting the mobility project, and one with a representative of the institution involved in the cooperation project. The number of interviews that took place according to the respective Erasmus+ sector and key action, is shown in Table 2.

Home

Table 2.
Conducted Individual In-Depth Interviews (IDI) among managerial staff
categorised by the Erasmus+ programme sector and key actions

Sector	Key action	Number of interviews conducted
School Education	Key Action 1 – Learning Mobility of Individuals	2
	Key Action 2 – Cooperation among Organisations and Institutions	1
Vocational Education and Training	Key Action 1 – Learning Mobility of Individuals	2
	Key Action 2 – Cooperation among Organisations and Institutions	2
Higher Education	Key Action 1 – Learning Mobility of Individuals	1
	Key Action 2 – Cooperation among Organisations and Institutions	1
Adult Education	Key Action 1 – Learning Mobility of Individuals	2
	Key Action 2 – Cooperation among Organisations and Institutions	1
Total		**12**

Method of measuring digital competences – the approach used and the construction of the Digital Competence Index (DCI)

The Digital Competence Index (DCI) was developed by the authors of the survey to measure the digital competences of Erasmus+ project coordinators. The method of conceptualising and operationalising the individual digital competences and their areas refers to documents and tools that have been prepared, implemented, or tested at the European Union level. The construction of the DCI is shown in Figure 6.

Figure 6.
Method of measuring digital competences – the approach used
and the construction of the Digital Competence Index (DCI)

Study objectives	Reference to the strategic objectives for digital education identified by the European Union in the *Digital Education Action Plan 2021-2027* (European Commission 2018), including the actions listed under Priority 2: *Developing relevant digital competences and skills for the digital transformation.*
Subject of the study	Selection of areas according to the specifics of the project and the organisations analysed. The study focused on educational institutions, so survey areas most related to the educational process were selected. Each is directly linked to the *Digital Competence Framework for Citizens DigComp 2.1 with eight proficiency levels and examples of use* (European Commission 2021a) defining digital competences.
Operationalisation	The method of measuring digital competences in the survey questionnaire was inspired by the questions developed for the MyDigiSkills (mydigiskills.eu) tool for the self-assessment of digital competences. The wording of the questions on the aspects considered relevant from the perspective of this survey and the multiple-choice answers were taken directly from this tool and translated into Polish.
Method of measurement and analysis	Using 27 variables (statements) regarding knowledge, skills, and attitudes related to the use of digital competences, a Digital Competence Index (DCI) was developed, enabling the measurement of the level of nine digital competences in three main areas*: information, communication, and digital content creation. The index has a value from 0 to 1. The higher its value, the higher the level of competence.

* In order to assess the reliability of the scales used to measure individual competences and areas, the Cronbach's Alpha reliability coefficient was used. Depending on the analysed competences and areas, it ranged from 0.83 to 0.92. This demonstrates the high internal consistency of the tool.

Source: own study.

Home

References

European Commission (2018). *Digital Education Action Plan 2021–2027. Resetting education and training for the digital age*, COM(2018) 22 final of 17 January 2018, bit.ly/3JYuOO5 [accessed on: 31.01.2024].

European Commission (2021a). *Digital Competences Framework for Citizens DigComp 2.1 with eight proficiency levels and examples of use*, bit.ly/44FVHQr and www.digcomp.pl [accessed on: 31.01.2024].

European Commission (2021b). *European Framework for the Digital Competence of Educators: DigCompEdu*, www.digcomp.pl/digcompedu, bit.ly/3JUNyy5 [accessed on: 31.01.2024].

Ministry of Digital Affairs (2023). *Ponad 2,5 mld na Program Rozwoju Kompetencji Cyfrowych*, bit.ly/4bgk49L [accessed on: 31.01.2024].

Ministry of National Education (2013). *Polska Rama Kwalifikacji* (PRK) i *Europejska Rama Kwalifikacji* (ERK), bit.ly/4bCMoDd [accessed on: 31.01.2024].

Ministry of Science and Higher Education (2018). *The Act of 20 July 2018 – the Law on Higher Education and Science*, Journal of Laws of 2018, item 1668, bit.ly/3Wz91Ec [accessed on: 31.01.2024].

The Council of Ministers (2023). *Resolution No. 24 of the Council of Ministers of 21 February 2023 on the establishment of a government programme called "Digital Competence Development Programme"*, Official Gazette of the Republic of Poland of 2023, item 318, bit.ly/3UEe7fV [accessed on: 31.01.2024].

Home

This report summarises the implementation of the first phase of the international project "The ecosystem of digital competence development in Erasmus+ programme". It aims to verify the implementation of the objectives of this programme in the field of digital transformation. The researchers analyse Erasmus+ programme beneficiaries' attitude towards this process, as well as their digital competences employed in educational projects in the four sectors of Erasmus+: School Education, Higher Education, Adult Education, and Vocational Education and Training.

Foundation for the Development of the Education System (FRSE) operates since 1993. It is the Polish National Agency of the Erasmus+ Programme and the European Solidarity Corps for 2021–2027, also implementing projects of the European Funds for Social Development (FERS). The Foundation is responsible for other European educational and informative initiatives in Poland, such as eTwinning, Eurodesk, Eurydice, Europass, Euroguidance, EVET and EPALE. It supports cooperation with countries in the East via the Polish-Lithuanian Youth Exchange Fund, the Polish-Ukrainian Council of Youth Exchange, SALTO-EECA Eastern Europe and Caucasus Resource Centre.

frse
Foundation for the Development
of the Education System

**Co-funded by
the European Union**