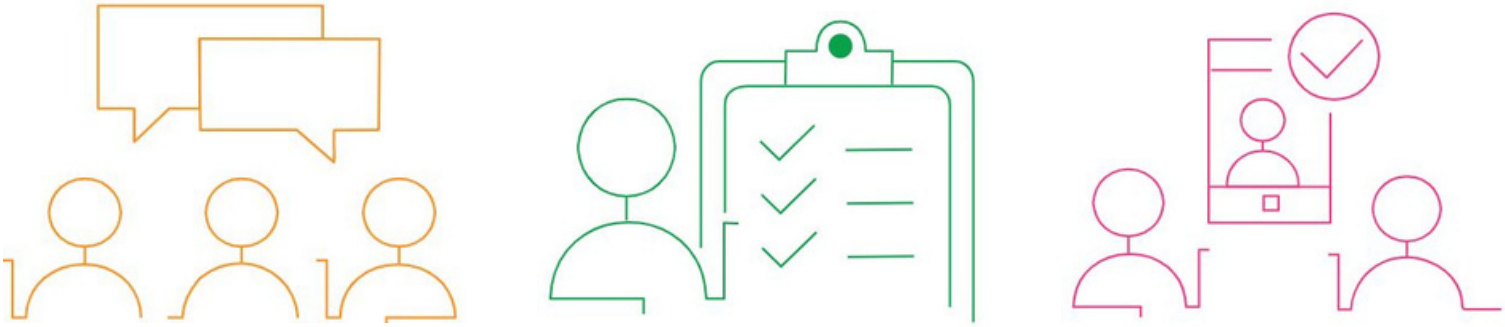
reset

Resources for
Post-Pandemic
Effective Training

Country Snapshot

Germany

https://project-reset.eu



A. Survey – primary level

During the recent years and especially accelerated through the Covid-19 pandemic, the amount of online training and digital means of teaching and learning has gone up in Europe. Germany is no exception here. To understand how exactly virtual teaching is used and what topics it encompasses, the German stakeholders were surveyed along with the other partner countries (Belgium, Denmark, Italy, Spain) in the RESET project.

In general the results show that in the great majority of German VET institutions online education was offered to VET learners. The number amounted to a total of 81% which is only slightly below the project's average of 85%. Thus, the German educational system in terms of VET has adopted online methods before or during the last year. To understand if this is only a new development in times of crisis, the participants were then asked if they had offered these online classes or other supporting measures for their learners before Covid as well. The majority of 64% replied with no, which makes the online offers a newly created chance. Compared to the average of all project countries, Germany is a little better off since there 57% replied with no. It can thus be concluded that in Germany digital activities were a little more popular even before the pandemic then in the other countries combined. If this will hold true for all countries individually will be seen at a later stage. Right now it is also worth noting that with 43% of VET institutions offering online education before Covid-19, quite a lot had realised the potential of digital learning before they were forced to by the outside circumstances.

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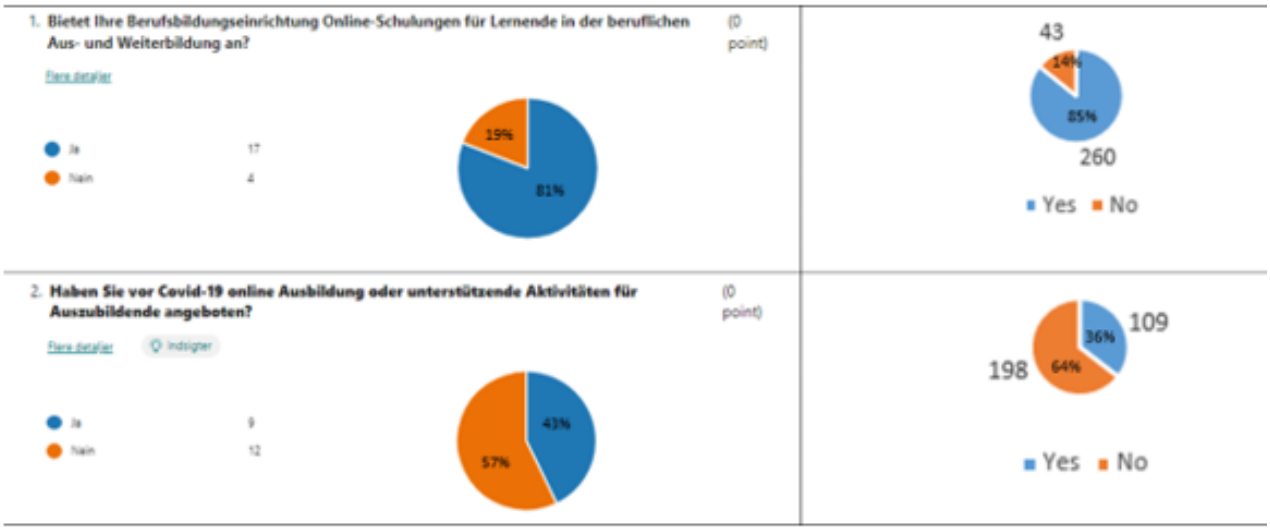

Figure 1: Digital offers in German education & VET. Source: RESET survey.

Going further into depth, the stakeholders were then asked how they would describe their own institution regarding the digital competences present there. They were given the following list of possibilities: a. Newcomer – little contact with digital tools and in need of guidance to expand, b. Explorer – using digital tools without following a consistent approach, c. Integrator – skilfully using digital tools for a range of purposes, d. Expert – confidently, creatively and critically using a wide range of digital tools, e. Leader – using an extensive repertoire of flexible, comprehensive and effective digital strategies, f. Pioneer – questioning the adequacy of contemporary digital and pedagogical practices and leading innovation. In Germany as well as in all partner countries combined the most common answer was c. Integrator (Germany 47%, all partners 38%).

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Following this answer, digital tools are used for a range of purposes and not only for communication or other rather simple processes. While in all partner countries combined the second most common answer was d. Expert (21%), in Germany the stakeholders rate themselves more as b. Explorer (24%). Only 14% see their own institution in the role of an expert. So while the majority in all partner countries does not differ from the German one, the further results show that the digital development in the VET sector may not be as far advanced in Germany as in other countries. Digital tools are used, but no clear strategy is behind it so far. It seems as if available tools are adopted while no own programmes or measures are created. This is further supported by the fact that not a single institution sees themselves as e. Leader and only one declares itself a f. Pioneer. This is different in the other countries where 7 and 8% do so respectively.

While digital competencies and measures are given a more important role – especially after the outbreak of Covid-19 – the respondents do to devote much of their time to digital activities. Asked for the average daily amount of time spent on such activities with regards to online education within the last 24 months almost the majority of German participants (47%) estimated them to take up 1-20% of their time. This seems like a rather small amount, especially considering that over 80% offer such measures. It can thus be assumed that the offer of digital classes or support is either rather small compared to the other offers or that it just does not take up so much time to uphold these online offers. In the case of Germany many (higher) VET institutions hire outside trainers to deliver their classes, only the administrative work is done inside the institution. This circumstance could result in a smaller estimation here than could have been expected.

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Nevertheless, with 33% the majority in all partner countries replied the same. Since here as well as in Germany alone most online offers only started with or after the pandemic, it can be estimated that they are not yet big enough to take up more time. This is supported by the second largest portion of respondents saying they spend 21-40% of their time with online activities (28% in Germany, 27% in all partner countries). Numbers are declining the longer the time shares get in all of the partner countries which is in line with the role the institutions see themselves in when it comes to their digital competencies as seen before.

However, this is only the current situation. As estimated before, the amount of daily work spent on digital activities is likely to rise in the coming months. A total of 65% of German respondents expect it to increase in the coming 12 months. While 20% believe it will stay the same, as much as 15% see it sinking in the future. Whether this is due to a decreasing number of digital offers or less time needed to maintain them cannot be judged at this point. What is noteworthy nevertheless is the difference between the German and the overall project results. In all partner countries 42% of participants expect the time spent on digital activities in the coming 12 months to be equal to last year. Roughly the same amount estimate an increase (30%) or a decrease (28%). This is an interesting fact when recollecting that in all partner countries combined even fewer digital offers where available before the pandemic than in Germany alone. So while the latter has offered more to begin with it now also expects to spend more time on it in the coming year.

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The area where they are most likely to spend their time in is again very similar in all partner countries. When asked in which competence the VET institution excels a majority in Germany (13%) chose the field of d. Organizing digital content and making it available to learners. Here again a more administrative role is taken by the German VET institution. The actual use of the digital content is left to the learners themselves or maybe a tutor, the institution only provides the content – now in a digital format. In this answer Germany does not differ from the rest of the project where the same answer was also given the most (15%).

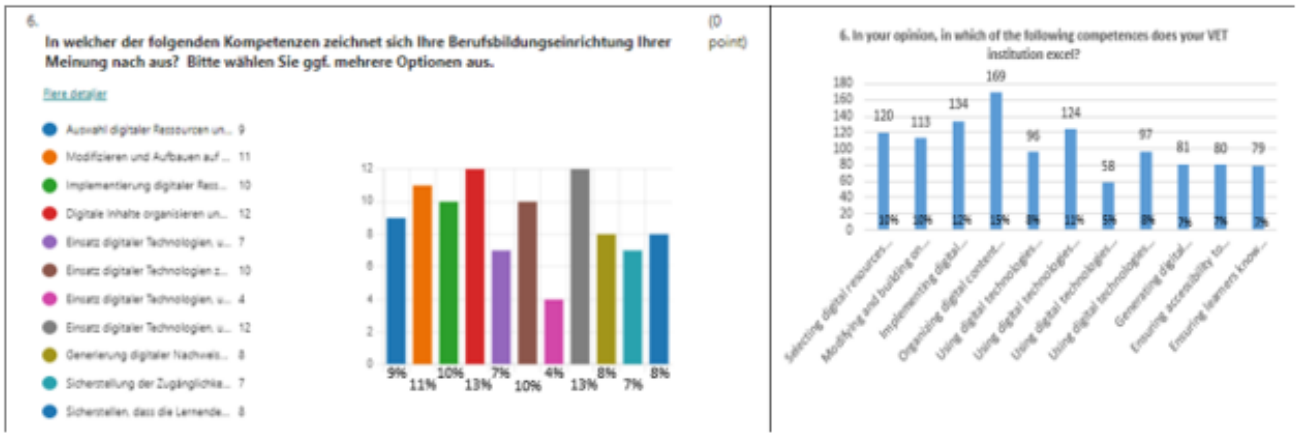

Figure 2: Competencies in Germany. Souce: RESET survey.

Equally as popular is in Germany h. Using digital technologies to address learners' diverse learning needs by allowing individual learning following different levels, goals and speeds. This more inclusive use of digital technologies allows more learners to participate in VET, be it because they need additional support or because their work-life balance is only achievable with digital learning methods. In all partner countries combined this area was not so popular, making it come in on fifth place with 8% of the votes. Other common competences in Germany are b.

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Modifying and building on existing digital resources and devices for teaching and learning (11%), c. Implementing digital resources and devices in the teaching process (10%) and f. Using digital technologies to enhance learner communication and collaboration (10%). All these can be seen as rather simple implementations. While area c can be more tricky depending on the extent of implementation, most other aspects can be combined with existing methods. In all partner countries combined c. Implementing digital resources and devices in the teaching process (12%) and f. Using digital technologies to enhance learner communication and collaboration (11%) are also quite popular. The least competencies are seen in g. Using digital technologies to enable learners to reflect on their own learning and share insights – in Germany (4%) and overall (5%) equally. So while using digital means and incorporating digital tools in the existing processes and forms of teaching – with potential modifications – is done rather confidently, reflection on the learning and the contribution of the learners' own ideas and insights is not supported through digital activities that much. Nevertheless, with the numbers for all options being rather similar and no big exception in a positive or negative way, all proposed competencies seem to be present to some extent in all partner countries.

Not surprising are thus the answers when asked where the respective VET institution needs to improve its competencies the most. The most common answer in all project countries including Germany is j. Ensuring accessibility to learning activities for learners with special needs (Germany 13%, all partners 11%). While this answers to one of the areas where Germans see the lowest competence rate in their VET institutions, in all partner countries this addresses the second to last place in the previous question. In Germany the second top answer was g. Using digital technologies to enable learners to reflect on their own learning and share insights (13%) which complements the missing competencies as shown before.

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In all partner countries combined the answers k. Ensuring learners know how to manage risks and use digital technologies safely and responsibly and h. Using digital technologies to address learners' diverse learning needs by allowing individual learning following different levels, goals and speeds (11% each) share the first place. Germany differs here where especially the managing of risks is not seen as an area in need of learning, although the German view themselves as only slightly more competent here than the project's average (8% to 7%). What is noteworthy is that in the area c. Implementing digital resources and devices in the teaching process the German participants seem themselves as competent (10%, see above) but also in need of further competencies (12%). This combined shows the importance of this aspect in the German VET institutions. In all project countries the same can be said for d. Organizing digital content and making it available to learners (competence of 15%, need for improvement of 10%).

While digital training for VET learners and pupils have been wildly discussed in the last months, the training of VET providers and administrators in the institutions were not such a popular topic. When asked if they themselves participated in digital training activities to improve their digital skills in the last 12 months, a vast majority of German respondents (66%) replied with yes. This is in stark contrast to the overall result in the project's countries where a majority of 59% replied with no. So while participants in Belgium, Denmark, Italy and Spain have mostly not received training for themselves, this seems to have been a priority for Germans. This training encompassed a wide range of topics, almost 30 in total, while some participants took several courses. Topics mentioned more than once included online and VET marketing and employer branding, methods for virtual and digital VET, and learning platforms such as Moodle and school clouds.

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Figure 3: Trainings for digital competencies. Source: RESET survey.

When looking at the training topics the German participants are interested in in the coming 12 months, a focus on the execution of lessons can be detected. With a fourth of the respondents opting for b. Effectiveness of online VET – choosing the right digital tools (25%), many want to ensure that only the best and most efficient tools are used in the classes and courses offered by them. In this way the use of digital tools is optimised and even less work and attention is needed which further enables the VET providers to dedicate only a small amount of their work time (1-20% as seen earlier) to the digital activities. This estimation is further supported by the second most common answer f. Digital competences for teachers and tutors (23%). As stated before most German higher VET institutions work with a pool of external trainers. Equipping them with digital competencies will make the VET better and ensure a high quality for the VET institution itself. In all project countries the latter is also very popular (20%) which indicates that the focus on the digital competences for tutors and trainers is a common focus point in most of the EU. Germany also does not really differ in its main focus since b.

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Effectiveness of online VET – choosing the right digital tools comes in second in all partner countries combined (15%), receiving the same amount of support as d. Classroom management within the virtual classroom. Thus the focus on what happens in the actual classroom as opposed to administrative and organisational work around marketing and budgeting seem to be more needed for the participants in all countries. Only one respondent in Germany mentioned an additional topic, namely efficiency regarding the amount and use of digital media in VET. This again adds to the aforementioned focus on the performance in class. In the entire partner countries many more topics were mentioned which to some extent echo the digital training activities received in the last 12 months (cyber security, digital tools) but also respond to the areas where competencies are lacking as mentioned before (digital well-being, students with special needs).

Taking the above-mentioned existing and desired competencies into account it is surprising that hardly any participant has known about a framework to support the educational digital competencies, namely the DigCompEdu. DigCompEdu is a framework that supports the development of educator-specific digital competences. Developed by the European Commission's science and knowledge service, DigCompEdu details 22 competences organized in six areas. The focus is not on technical skills. Rather, the framework aims to detail how digital technologies can be used to enhance and innovate education and training. When asked if they know about this tool, more than two thirds (76%) of German respondents replied with no.

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Figure 4: Knowledge about DigiCompEdu. Source: RESET survey.

In all partner countries combined the number is still a little higher, adding up to 77%. It can thus be concluded that within the countries surveyed the DigCompEdu framework is known only to a very small portion of the VET personnel. Therefore, it is not surprising that when asked if the framework is used within the VET institution most Germans (71%) say no, while 19% say they do not know. Looking at all project countries they are still more unsure with half of the respondents saying they do not know if the framework is used in their institution. An amount of 38% still declines it. This leaves only 10% in Germany and 12% in all countries combined that use the DigCompEdu at all. The same pattern holds true when asked on which levels they use the DigCompEdu framework. Almost the same amount of people in Germany (70%) say they do not know.
The tactical level – short term planning to achieve strategic goals and the operational level – identifying gaps in skills and defining goals and targets for online pedagogy skills where only mentioned by 20% and 10% respectively. The unawareness in all partner countries combined rises even more and adds up to 80% here. So while some 30% know that the framework is used, they do not know how. Again, the framework does not seem popular or in practical use for that matter.

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The strategic level – improving digital competences and budget allocations (5%), tactical level – short term planning to achieve strategic goals (6%) and operational level – identifying gaps in skills and defining goals and targets for online pedagogy skills (9%) where only mentioned a couple of times each. It can thus be concluded that the many uses of the DigCompEdu Framework are as of now untapped in in European VET institutions. If this is due to the fact that the VET personnel is not aware of the framework or if it is deemed not practical cannot be judged at his point.

Taking all survey results into account, it can be said that while in Germany the use of digital tools in education was a little more popular before the pandemic, most VET institutions started to roll out more digital activities afterwards, just like in the other partner countries. All see themselves thus mostly as Integrator when asked about their digital competencies. It is worth noting, however, that German respondents picked Explorer as second most popular answer, indicating that in Germany the digital development does not leave the VET personnel as confident in their competencies as in the other partner countries, where they judged themselves to be experts as second most common answer. In Germany digital tools are used in education without a clear strategy behind it so far. Therefore, only 1-20% of their daily working time is spend on digital activities in all partner countries. While this can be due to the use of outside trainers for higher VET in Germany, it seems to be a general trend in the EU. Germany differs, however, in the outlook on the future, where over 40% expect the time spent on digital activities to rise in the coming 12 months while the country average expects it to stay the same. So, Germany, that offered more digital activities before the pandemic to begin with, plans to invest more time in it now. In terms of content all partner countries see their competencies in the organization of digital content and making it available to learners.

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Germany does stand out however with its second area of expertise of using digital technologies to address learners' diverse learning needs. This is rather underrepresented in other countries. Yet, all countries, Germany included, want to acquire more competencies in offering digital activities to learners with special needs. Another common aspect however is underrepresented in Germany, with cyber security not being a prominent theme. What is noteworthy is that in implementing digital resources and devices in the teaching process the German participants feel competent but also in need of further training. This combined shows the importance of this aspect in the German VET institutions. In general, Germans in this survey have also received more training in the last 12 months than the average participant from all partner countries (66% yes to 59% no). While topics are similar to the other countries, they did not have particular interest in cyber security and gamification. The focus is on what happens in the actual classroom as can be seen on the desired training topics for the coming 12 months in all partner countries. Finally, all this is done without the support of the EU framework DigCompEdu, which is not known and therefore also not used, neither in Germany nor in any of the other surveyed countries.

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B. Desk research – secondary level

When looking at the state of the German digital capabilities in research, the annual Digital Economy and Society Index (DESI) comes to mind. With this index, the European Commission monitors the Member States progress on digital doings. A respective report is published each year that analyses and compares countries on EU-level in the key digital policy areas. In this overall index, Germany is listed 11th out of the 27 EU Member States in the 2021 survey. It thus performs rather well in terms of broadband connectivity and above average on human capital. In integration of digital technology in business activities and digital public services Germany is below the average in its performance. It can thus be said that while Germany is generally doing well in terms of digital competencies, it does have several areas where work is needed. One such area are the more rural regions which are effected by a lack in planning and building capacities. This does most likely also affect the educational measures in these regions. Germany improved its fixed very high-capacity network coverage from 33% to 55.9% but is still below the EU average of 59.3%. Additionally, this does only apply to the fixed network, the mobile networks are still to be analysed.

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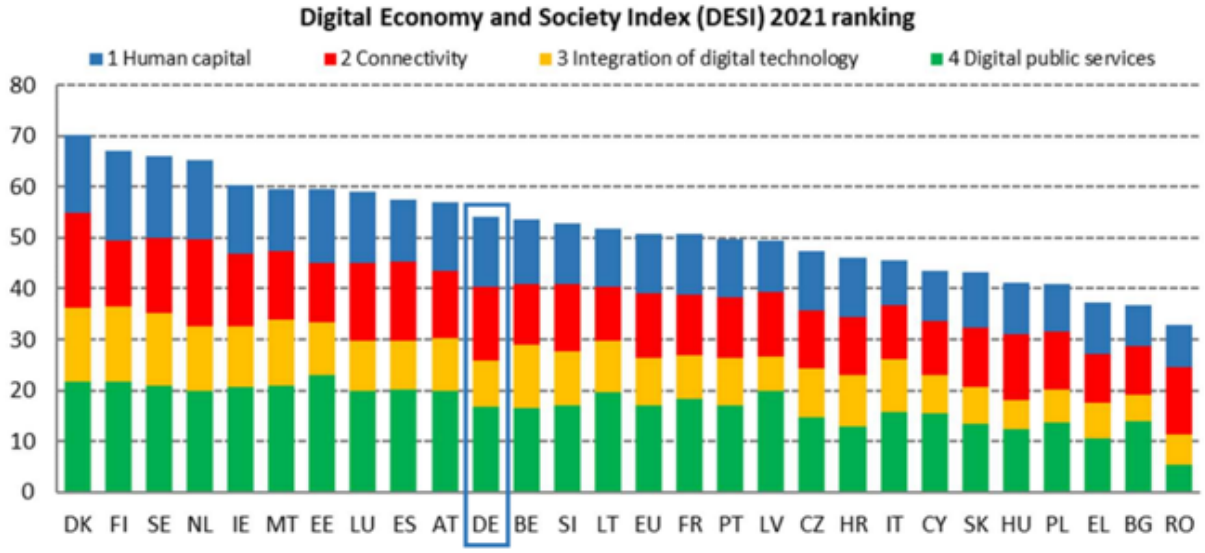

Figure 5: Germany ranks in top half of DESI 2021

On the bright side it can be mentioned that the German results are above average in all but one category (share of female ICT specialists) in the area of human capital. In the scope of this project this can be seen as an advantage as many developments and digital activities rely on the person executing them. It is therefore necessary to combine digital human capital and education. However, while, according to the analysis general digital and software skills are present in the majority of the country, sufficient ICT specialists are missing. This effects the business world and especially SMEs where only 29% distribute information electronically and 18% issue e-Invoices respectively. Considering that the vast majority of German businesses are SMEs and mostly train the apprentices in the country, these numbers indicate that digital business has not yet reached the VET system. Although Germany improved in these factors over the last years, the DESI index still advises the country to pursue continuous efforts such as the interoperability of the offered systems in its digital public services. (European Commission, 2021). As of right now, the German SMEs offering VET see a change coming in terms of digitalisation.

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A study by the Federal Ministry of Education indicates that 78.8% of German companies expect that the digital developments will change the work and require employees to learn new competencies. Nevertheless, only 38.9% analyse the qualification needs of their staff regularly. (Risius, 2020). When analysing their digital readiness, the study finds that in 2020 23.4% of companies can be called digital laggards, 45.6% second movers and 30.9% digital pioneer. This presents only a small change from the last survey and mostly affects the development of the second movers to pioneers. (Risius, 2020). Consequently, these companies were the ones most affected by the pandemic, facing „infrastructure issues, limited digital literacy of users, and cost aspects in training their employees online“ (German Office for International Cooperation in Vocational Education and Training (GOVET), 2022).

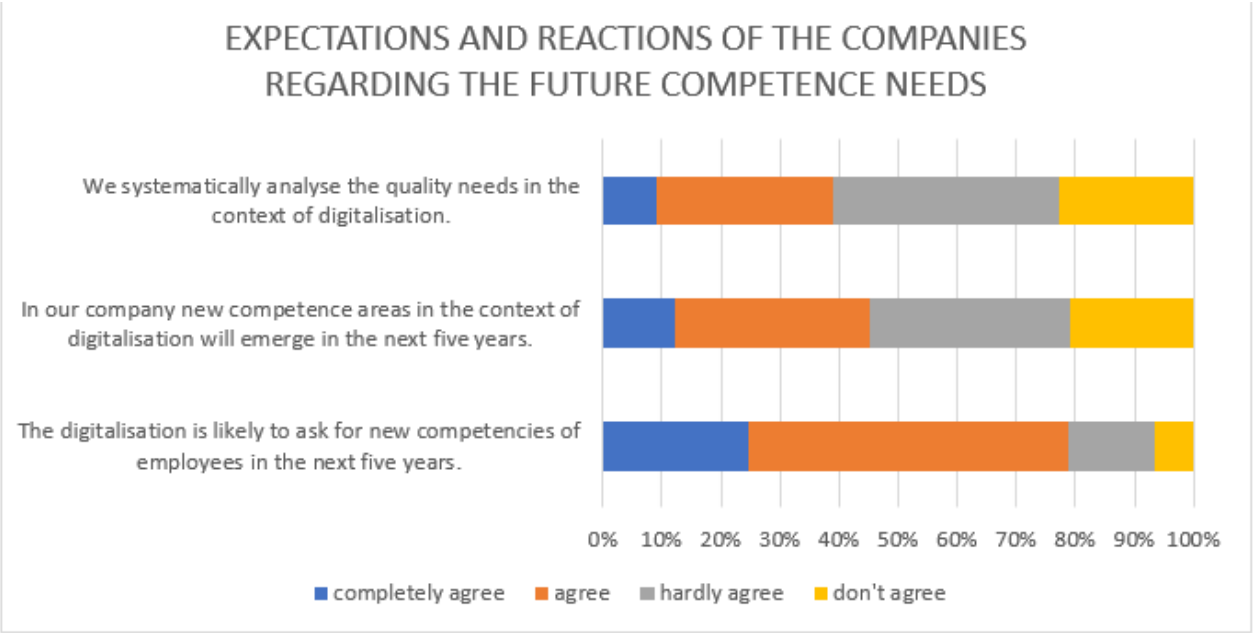

Figure 6: Competence needs of companies. Source: Own design following Risius 2020.

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The need to develop digital skills is also addressed in the first Data Strategy of the Federal Government which was introduced in January 2021. It includes over 240 measures to foster the innovative use of data and addresses such points as data infrastructure, use of data and data competency. This strategy is based on the European data security standards and focuses on the legal, ethical, quality and security principles (Federal Chancellery, 2021). Specific measures that are taken are the establishment of "a national digital educational campaign to expand and consolidate teaching and learning provision on the key topics of digitalisation" as well as open standards, infrastructures and governance models and digital certificates that focus on the user for all areas of education. The connection between the federal states' systems (responsible for education in Germany) is to be enabled through a platform that shall cater to all educational sectors. (Federal Chancellery, 2021). Furthermore, the strategy aims at monitoring the data skills of the general public and including these results into a National Educational Panel Study. The public is then also to be educated in these fields through the digital education campaign. Already available is an online service for information for basic and further vocational training that shall be made more accessible to the focus group. (Federal Chancellery, 2021). All the various platforms shall be put into one outlet for VET to "provide greater transparency, make user-focused training opportunities accessible and contribute significantly to increasing participation in further training in Germany" (Federal Chancellery, 2021). As of now this is not fully embedded into the school education and its curriculum and syllabuses, neither as one single subject nor as part of other courses. The first initiatives have already started for teachers and parents but are not yet quality-controlled (Federal Chancellery, 2021).

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The same is true for teachers who have not been trained in digital skills, especially when it comes to handing them down to the learners. "As regards basic and further training of teachers as possible facilitators of data skills in schools, it should also be stated that data skills have not yet been systematically or comprehensively integrated into teacher training" (Federal Chancellery, 2021).
In relation to the Covid-19 pandemic the German government introduced the so called "Corona Recovery Plan 'Fighting Corona Consequences, Securing Prosperity, Strengthening Future Capability'" in June 2020. It includes an investment of EUR 130 billion to fight the pandemic's consequences in several areas of society, according to the DESI. Digitalisation plays a role in these when it comes to "public administration, culture, forestry, learning, mobility (such as shipping), artificial intelligence, quantum technologies, 5G, fibre roll-out, smart cities, digital sovereignty, and modernisation of hospitals" (European Commission, 2021). This list puts learning and thus also the digital competencies of learners and tutors in the forefront. It can be assumed that the crisis is therefore used to foster the digital education in all fields. An international cooperation is aspired to reach the digitalisation goals in Germany which include two „multi-country projects on digitalisation: the Important Project of Common European Interest (IPCEI) Microelectronics and Communication Technologies, and the IPCEI Next Generation Cloud Infrastructure and Services (IPCEI-CIS)" (European Commission, 2021). Especially the latter seems to be of interest in terms of educational digital competencies as offering a cloud infrastructure for the next generation requires digital competencies from the tutors. This is thus specifically mentioned within the DESI with the so called "Component Digitalisation of education" (European Commission, 2021).

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The plan therefore includes not only technical equipment but also courses and expert centres to ensure the teachers and VET personnel know how to use this new technology. Nevertheless, the plan does not focus solely on the educational institutes but also on the businesses which in the context of the German VET system play a decisive role in the education of the young adults. With the "Component Digitalisation of the economy" [...] "[d]igitalisation of businesses and the development and integration of advanced digital technologies are addressed" (European Commission, 2021). The digital measures need to be embedded into the daily work in businesses to be used to the advantage of the company and the learners in VET. These developments are also not limited to the initial education but specifically include continuing education and training networks. Nevertheless, more than half of the money for digital development is still concentrated on the digitalisation of public services and thus does not support the digital competencies in education. However, it is worth noticing that in terms of human capital almost a quarter (24%) of companies offer ICT training to their staff (European Comissionco, 2021). This provides at least a base for digital competencies in the business world but can still be developed further, especially when looking at the female specialists as mentioned before. Nevertheless, with 4.5% ICT graduates among all graduates in Germany the country lies above the EU average of 3.9% (European Commission, 2021). It can thus be assumed that the numbers in Germany will get better in the future and the lack of ICT specialists will at least become smaller. As of right now although the country has more specialists then the EU average, it also needs more to fill its higher need (European Commission, 2021).

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This is further supported by the National Skills Strategy. An implementation report published in June 2021 indicates that a significant amount of measures has already been implemented or at least started. This includes the establishment of networks for continuing education and training which especially support SMEs in their training needs and also includes AI. The strategy also started the competition INVITE as digital platform for professional development where chosen projects support further education through the use of digital platforms and measures. The German partner IHK-PG is part of one of these projects.

Another important measure to support digital development in education is the "DigitalPact School" which has been in force even before the pandemic. The programme was upgraded in 2020 to counteract the consequences of Covid-19 and has now a budget of 6.5 billion EUR. The increase of 1.5 billion EUR is aimed at enabling „staff supporting technical services in schools and terminal equipment for pupils and teachers" (European Commission, 2021). This measure shows that the teachers receive specific attention to enable digital competencies in education. However, these measures cannot be limited to the initial schools but have to include all levels of education.

The technological basis in terms of connectivity is available for it with the tempo of the broadband connections getting higher. According to DESI, this is especially important for all citizens having to perform many tasks digitally in times of lockdown etc. With 95% of broadband coverage the groundwork is substantially laid. In terms of connection and prices, Germany ranks 8th in the EU and can thus rely on a stable network. Nevertheless, while above the EU average of 60% Germany still has to deal with a digital divide between rural and urban areas (81% of coverage in rural areas) (European Commission, 2021).

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When looking at the mobile networks – something that is of particular interest for many pupils and learners – Germany scores a 100% in 5G readiness, with 18% coverage yet in populated areas (above the EU average of 14%) (European Commission, 2021). Especially the latter number indicates that while Germany is performing slightly better in comparison to other countries, the divide between the readiness and the actual coverage is significant and is targeted with further programmes that also include private investment.

While the overall business activities do not seem to be digitalised in most SMEs, the aspect of Social Media has reached the companies so that 23% of them use the platforms which is the same as the EU average. In other factors such as cloud services (Germany: 20%, EU: 26%), big data analysis (18%, 14%), AI technologies (28%, 25%), and medium/high intensity of green actions through ICT (57%, 66%) Germany ranks either a little below or above the EU average, showing no significant differences (European Commission, 2021).

When looking at the digital public services Germany ranks 16th in the EU with a varying performance. Digital public services and open data are well, while pre-filled forms and digital public services for citizens are below average. This has to be developed further as the German 'Online Access Act' requires all German federal and state governments to enable online access to all administrative services at the end of 2022. (European Commission, 2021).

In terms of education and especially VET, online services are already offered with the start of the MIKA Campus in August 2022. In six competency modules basic knowledge about the use of digital media in VET is offered. These range from communication, to feedback and data security. It is even possible to create own digital media with it and get inspired by other projects. (MIKA-Tools, 2022).

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This is necessary because even through the pandemic and the related lockdown, the use of digital media in companies has only increased in those that have used digital media before. An amount of 14.7% of companies have used no digital media in VET before and after the pandemic. This study also recollects that educators and VET providers are not offered sufficient training and that companies are not aware of the existing measures. Therefore, own or external workshops and process learning at work are also used as well as self-directed learning with classical and digital media. (Risius, 2020). The need to constantly develop digital skills is not limited to VET but also includes further education.

The digital learning methods shall thus contain also the generation and analysis of data during the learning process itself to ensure a tailored teaching. Right now this is mostly done in university education but starts to develop in VET as well. Another important factor is to create motivational material to compensate the lack of physical tutors. (Ertl, 2022).

In summary it can be said that Germany is on a good path to digitalisation but still has some way to go to rank higher in the EU comparison.

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C. Partners' digital competences and needs

Within the company of the German partner IHK-Projektgesellschaft, digital competencies play an important role – now more than ever before. With the Covid-19 pandemic and the resulting lockdown, we had to adapt digital measures quickly and did so fully. This resulted in a stable online offer that is here to stay. At present and also in the future we are offering online classes in all fields. However, we still favour face to face sessions with everybody on our premises. Nevertheless, to ensure accessibility to all, we also offer hybrid seminars where some participants can be in our main office, some in another office in the region and still others at home. This offers everyone the flexibility to participate according to their own wishes and also when they are sick – be it with Covid or anything else. To enable such a teaching process, all relevant personnel has been trained to use the new technology in form of media boards, digital hubs, VR glasses and programmes. This knowledge is handed down to the external trainers that are hired so ensure a stable quality in all offers. However, the amount of digital measures used in teaching does also highly depend on them. Additionally, we also work with external cooperation partners who only offer online classes, be it as recordings or live online seminars. In all cases those have been offered already before the pandemic but are now even more popular. It can thus be said that within our organisation, all forms of further education are present and the participant can individually chose what is best for them. The arrangement of these different forms has well developed within the last years and does now cover everything within our organisation.

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In terms of technical equipment the IHK-Projektgesellschaft is well equipped with computers, tablets, smartboards, cameras, microphones and even VR glasses to ensure a smooth and realistic teaching process. The responsible persons call this a good basic equipment which can be developed even further and that is updated regularly. After the initial phase when equipment had to be bought quickly and without much research (relying on the expertise of the employees), more is now tested and tried properly before it is bought on a large scale. This is done to ensure that an overload of technical equipment does not harm the actual use of it and everyone knows how to use the material. This is especially true for communication equipment on which the company puts much focus. Classes in hybrid or online format shall offer the same level and quality as those in presence. Thus the participation of all as well as the ability to ask questions and discuss amongst each other shall be given. To do so a new mobile camera is now tested for example. Since this is not only done for the tutors but also for the learners, feedback from the participants is desired at all times.

At this time the issues we are facing do not concern the inability to deal with the technical equipment but the sheer amount of different systems. Each partner and some customers deal with a different system so we as a organisers as well as the external tutors have to adapt to the requirements of the system again every time they connect. This makes the whole process more complicated and requires additional effort. An overall cloud and communication system in all educational facilities is thus desired. According to our experience however, this can only be realised through a national initiative or offer. Otherwise it will lack the obligation to use it and everyone picks what fits best into their existing system.

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For the tutors to be familiar with the system used they have to learn new methods and didactics and especially digital competencies. While many do so in their free time and bring the expertise into our company, we also have to train others to be able to use the available systems and to work with the learners on site and remotely. The new skills required are digital competencies for the most part since this form of hybrid teaching is still new to most of them and only now develops during and post Covid. Within our company we have quite a large scale of digital knowledge available which is due to the involvement of the person responsible for the IT in the further education department. Furthermore, colleagues within the sector have a personal interest in developing their skills and learn much on demand, in other national projects and even in their free time. For them to have easier access to the skills, webinars with hands-on practices are desired. It is necessary that they do not only hear about the new technology and receive a theoretical input, but that they can test it out themselves and apply it to a specific problem with the learning unit. Additionally, a multiplier system is desired which uses practitioners as sharing points of the new technology and ensures a discussion among people from the field. According to our experts it is much easier to understand a new tool and make an educated decision about whether this is needed when it is applied within a similar company already and when experiences are shared and analysed together.

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While more technology is always welcome and each new product is analysed and tested for usability in the department for further education, many high-end technical solutions are still too complicated for the daily use within our company. This includes gamification which is currently rated as too complicated to be professional. The general understanding is that technical equipment shall only be used when it can be done so in a qualified and skilful way. There is no use in applying new technology and then not mastering it or looking unprofessional. This seems to be the case for gamified content at this point. For our tutors to use it a partner is needed that takes care of the development and maintenance. The responsible people within the company do not have the time to dive in sufficiently and require more training. In general the tool is seen as more suitable for self-directed learning and could be applied there if a proper instruction is given. In the form it is in right now it is too big for us to handle.
To decide which technical development and new programme is useful for our company, the colleagues in the department for further education use a platform called time4you (www.time4you.de) which provides information and free webinars on tools and techniques for further education, digital learning solutions and employee development. Through news and checklists as well as events they receive additional information and can thus select what is usable and what is not. Right now the offers are manyfold and surpass the need by a large extent. There are more than enough tools out there so the question to answer is what needs to be used when and what practical application does it have. Tools that are worth acquiring and receiving training for have to have an obvious benefit for the courses to be used. It is not only about transferring the learning to the digital sphere but about making it better and easier for everyone involved.

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Being best informed about new developments and their use thus requires exchange between different users. Colleagues in our company value fairs and exhibitions, where they can test material and listen to talks and use cases – with the practical application at its forefront. These events provide a great overview of new developments and are best in a face to face manner where questions can be asked directly and the tool can be seen in action. A constant circle like that outside of the fairs or a more frequent practical update is desired by our experts and would supposedly make their digital work easier and faster.

Another thing they desire but lack the time and possibly also the skills for right now is the development and construction of an own learning platform. Such a platform should have individual rooms for different skills and would be tailor-made to the needs of our company and the department for further education. In this context the use of gamification is possible again for which the colleagues at this point still lack skills. Such a platform would have to be carefully constructed and designed with the help of experts to have a long lasting impact. At this point in time the company's daily work does not leave sufficient time to dive into such a development, therefore toolkits and other information making this work easier would be beneficial. However, according to the colleagues, it shall not be done in a rush to avoid putting time and effort into something that is not worthwhile in the long run.

All in all it can thus be said that the German partner IHK-Projektgesellschaft has started well into the sphere of digital learning and is constantly developing its skills, methods and products. Due to the nature of the centre for further education and its external tutors, much of the digital learning depends on others and factors outside the immediate control of the staff. However, they do quite a lot and sometimes even invest their personal time into learning about new tools and structures to improve the learning experience in our facility.

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The main challenges right now are on the one hand to decide which technical development is needed and what works best within the framework of the courses offered and on the other hand to have sufficient time to invest into developing personalised tools that look professional and can lift the learning on a new level.
Helping would thus be anything that saves time, makes work more efficient and provides best practices and examples from other use cases. Uniting the (German) education providers behind one cause, providing a single system and platform and enabling exchange and discussion between them seems to be what is really needed most at the moment.

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D. Summary

The results of the survey underlined that the situation in the education and VET sector in Germany is rather similar to that in the other partner countries.
While in Germany the use of digital tools in education was a little more popular before the pandemic, most VET institutions started to roll out more digital activities afterwards, just like in the other partner countries. In terms of personal competencies German VET personnel is not as confident as those in the other partner countries. The use of digital tools in education does generally lack a clear strategy so far and not too much time of the day is spent on them. In contrary to the other countries, Germany expects a rise in the time spent on digital activities.
So, just like the other nations, Germany was not prepared for the sudden disruption the Covid19 pandemic presented and in the near future the following is needed:

- A clear strategy to use digital tools and measures in education
- Training for a raised confidence level in education personnel
- A national system to integrate digital activities and a networking base
- Better technical equipment, especially in more rural areas
- A rise in ICT experts – especially female one

This also covers the results of the desk research and the exemplary analysis of the German company. So far, all this is done without the support of the EU framework **DigCompEdu**, which is not known and therefore also not used. An application strategy with practical implications could help here.

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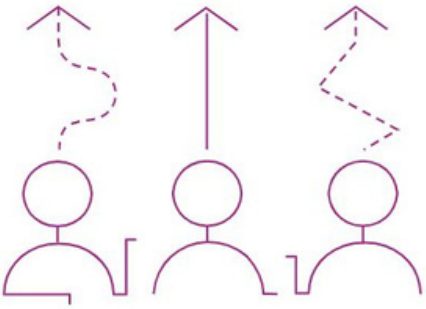

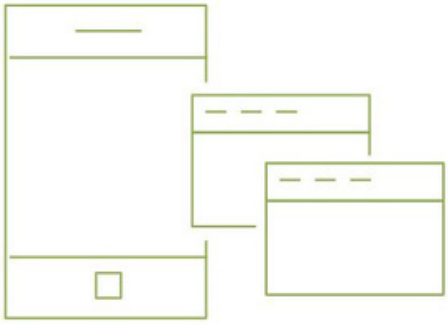

reset

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