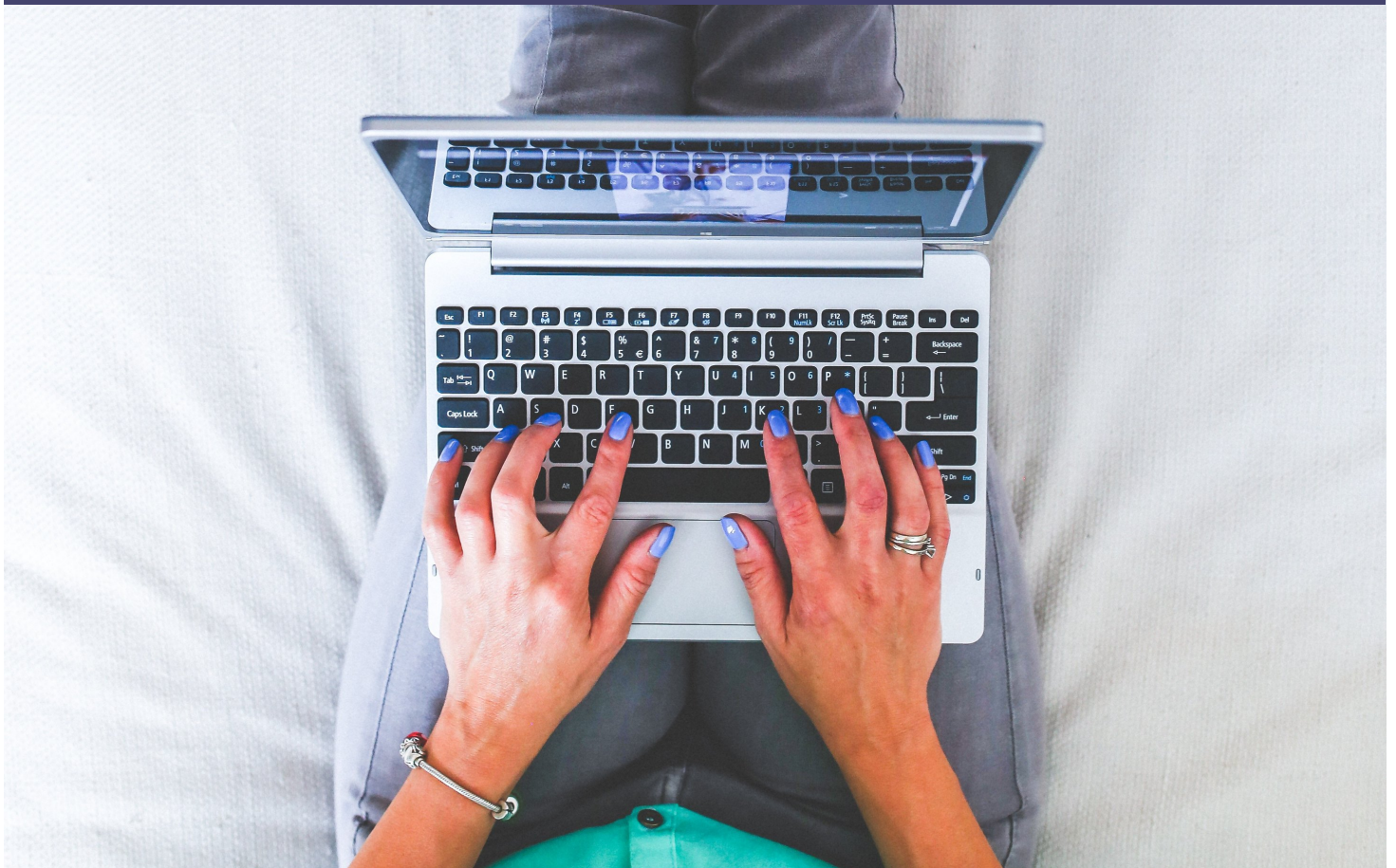


V/BES

COMPETENCE FRAMEWORK FOR VIRTUAL TEAMWORK

2021



Erasmus+

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0. Introduction

VIBES - Virtual business skills empowerment

The aim of the VIBES project: Enhancing competencies for working in multicultural virtual environments, to support the evolving business world.

Being able to work in virtual teams has become one of the basic employability skills. The challenges of working in virtual teams are multifaceted. Such teams cope with a lack of conventional trust-building mechanisms, barriers to communication & collaboration, diversity, technical challenges, and many more.

Project VIBES will develop a study module for enhancing virtual team working competencies. The overall aim of the project is to develop a study module that can be used in formal and informal education. The project is divided into five phases, whereas in the second phase of the project - virtual teamworking competencies were identified. The current report summarises the results.



AIM OF THE STUDY

To identify competencies needed to successfully lead and participate in virtual teams.



METHOD OF THE STUDY

33 in-depth interviews with experienced virtual team leaders from seven European countries: Croatia, Estonia, Finland, Italy, Spain, Germany and Switzerland



MAIN OUTCOMES

Analysis of the data revealed five main themes of challenges and related competencies: teamwork, communication, technology, self-management, and leadership. Successful virtual team players maintain a good balance between independence and team orientation. Also, independent learning skills, valuing technological innovation, and excellent (digital) communication skills are essential.



PARTNERS

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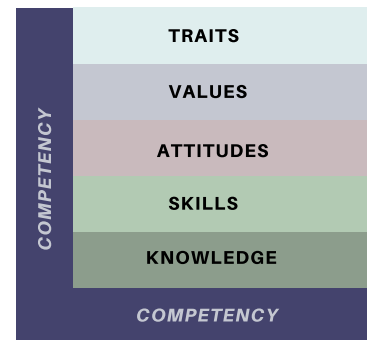
1. Research Methods

1.1. RESEARCH QUESTIONS AND DEFINITIONS OF THE MAIN TERMS

The main research questions in the current study were:

- 1) What are the main challenges that occur in virtual teamwork?
- 2) Which competencies help individuals to overcome challenges in virtual teams?

When identifying competencies, we were focusing on knowledge, skills, attitudes, values and personal traits that help individuals to be successful in virtual teams.



We based our approach on the Delamare et al., 2005 definition, where competencies are defined as: "a series of integrated capabilities consisting of knowledge, skills, and attitudes". When analyzing the data we realized that we need to add also values and attributes to the model, as those were strongly coming out from the data.

Virtual teams were defined in the current study as teams, who rely on information and communication technologies to accomplish the organizational tasks (Hertel, Geister, & Konradt, 2005; Berry, 2011; Krumm et al., 2016). It is important to note, that the mere fact of using ICT, does not make the team virtual, as ICT tools are deeply embedded in everyday operations in most of the today's organizations. According to Berry (2011) teams can be considered virtual, when their reliance on electronic communication increases, e.g. when team members do not have the option to communicate and collaborate in face-to-face conditions.

1.2. Data Gathering & Sample

The research question was answered by applying a qualitative research approach – namely by conducting semi-structured interviews in seven countries: Croatia, Estonia, Finland, Italy, Spain, Germany, and Switzerland.

A semi-structured interview protocol for conducting the interviews was used (see appendix 1). The interviews were conducted during the period of three months: June 2021 – August 2021.

The research sample consisted of 33 individuals, who are the key players in the employee selection or who have profound experience in leading virtual teams. The roles of the respondents were for example head of human resources, board member/CEO, leadership development manager, head of the department, relationship manager, etc.

Virtual teamwork played a crucial role in the everyday operations of the companies where the interviewees worked. We were looking for companies, where virtual teamwork was not just an added benefit for the employee (e.g. allowing employees to take occasional home-office days), but a firm measure for overcoming physical distance. Examples are companies operating or having subsidiaries abroad, companies where employees are expecting flexible working arrangements (e.g. IT and Telecom and companies).

1.3. DATA ANALYSIS

The data was analyzed by using thematic analysis. While analyzing the data, the focus was first on identifying bigger themes emerging in the data (e.g., the need for virtual team building competency) and moving to more specific (e.g., which elements – knowledge, skills, attitudes, and values – support the identified competency).

when analyzing the results we followed the 6- step approach described in Brown and Clarke (2006):

- familiarizing with the data
- reading data and developing initial codes
- mapping potential themes
- revising the themes and adding more details where needed
- naming the themes
- creating a report

2. Results

The analysis of the data revealed many challenges that virtual teams face daily, for example developing and nurturing team feelings and relationships, developing good working culture, sharing information effectively, finding a balance between work and personal life, etc. After careful analysis it was concluded that virtual teamwork-related challenges and related competencies fall into five interrelated themes: teamwork, leadership, self-management, technology and communication (see figure 1 below)..

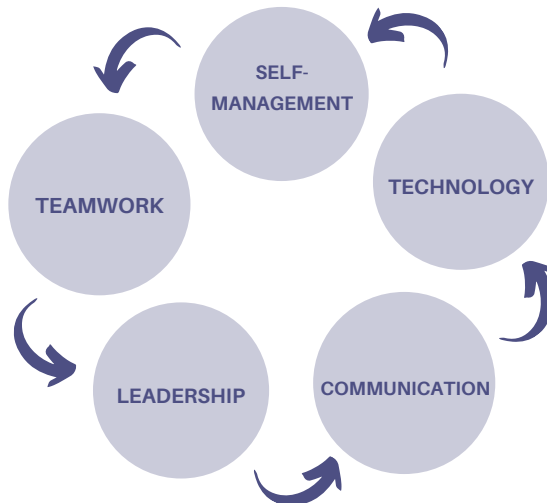


Figure 1 - Five themes of virtual teamwork related challenges and competencies

Following are detailed results of the challenges and related competencies based on the five categories identified.

2.1. Leadership

2.1.1. CHALLENGES RELATED TO LEADERSHIP

The analysis of the results revealed that leadership-related challenges can be divided into four categories: motivating; coordinating, leading virtual meetings, and virtual team building.

Coordinating: Coordinating everyday workflow is more challenging in virtual teams. Setting goals, measurable tasks, sharing roles and responsibilities, and making sure that everyone is aligned is challenging without the opportunity to see team members. Also, without the traditional overview of how far are the team members in their work, there is a risk that work/tasks get distributed unevenly.

Motivating: Virtual team leaders find it difficult to maintain an overview of both - how are their team members doing and how are they doing work-wise, but also emotionally. Capturing the "red flags" is tricky, where there is no opportunity to meet the employees. Thus, virtual team leaders find it harder to provide the necessary emotional support to the team members. Also, without seeing team members it might be difficult to notice/promote them based on their effort/good work.

Leading virtual meetings: Virtual leaders find it difficult to run virtual or hybrid meetings. As the virtual environment poses many distractions and it is harder to "read" team members' body language, it becomes harder to engage and include everyone in the meetings. Also, it has been found harder to run creative tasks and brainstorm in the virtual environment.

Team building: respondents shared that it is much harder to build team feeling and collaborative and supportive team culture without the opportunity to meet each other in face-to-face settings.

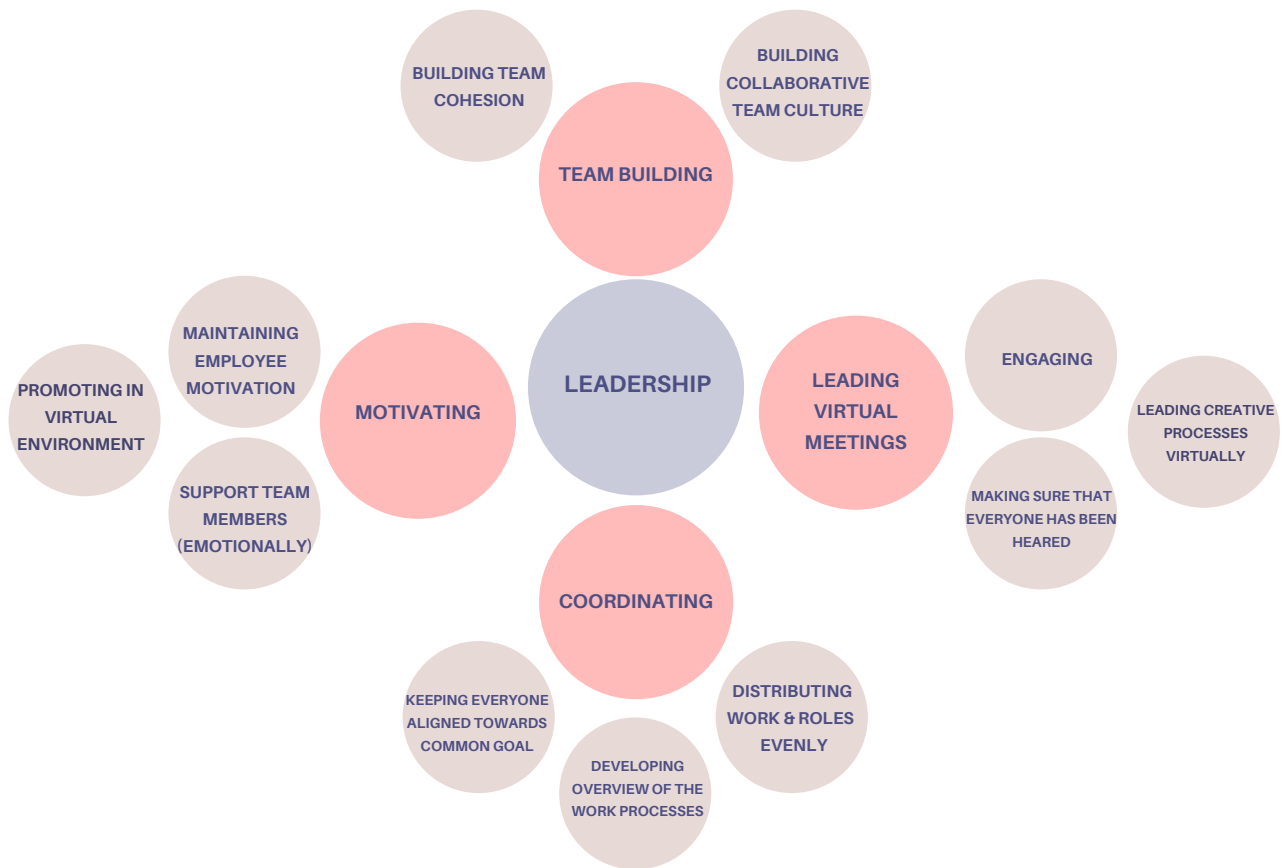


Figure 2 - challenges related to leadership

2.1.2. VIRTUAL LEADERSHIP COMPETENCY

The analysis of the data revealed that there are several traits, values, attitudes and skills related to effective self management in the virtual environment. An overview of the results can be found in the table 1 below.

Virtual team leaders must be genuinely interested in how their people are doing. Being attentive and empathetic helps to overcome the physical distance by creating a trustful relationship with team members. When there is trust between team leaders and team members, team members are expected to open up and share openly if they are struggling with something. This way virtual team leader knows when and how to support the people in his/her team.

Table 1- competencies related to leadership

Competency:	Virtual leadership
Traits <i>Is...</i>	attentive, empathetic
Values	(technological) innovation, teamwork, flexibility, employee well-being,
Attitudes <i>Likes to...</i>	include employees; give feedback; support other people; share personal experiences (including failures); experiment & try out new ways of working
Skills <i>Can...</i>	identify "red flags", lead virtual team meetings (prepare, moderate & follow up); give effective feedback, use mentoring & coaching tools, create a collaborative working environment, set up infrastructure & develop a culture for virtual collaboration, facilitate virtual brainstorming/creative work.
Knowledge <i>Knows....</i>	challenges and best practices of virtual teamwork (for example the importance of 1:1 meetings); how to set up team rules for virtual teamwork, how to share roles and set up clear (measurable) goals (from bottom-up); change management theories and tools; how to organize effective knowledge sharing in virtual teams; how to onboard virtually, what is psychological safety and how to create it in virtual teams, different human types and how to lead them virtually; the building blocks of org/team culture development.

Virtual team leaders must value employee well-being. This ensures that they will not overburden their team members and provide sufficient support where needed. The support might be substantial - like providing financial support for employees to set up ergonomic home-offices. However, the support may also take place in a more invisible manner - like organizing breaks during meetings, sending out messages only during official working hours, etc.

To build effective virtual teams, leaders must value teamwork and the flexibility that virtual teamwork allows to themselves and team members. As the virtual environment increases employee autonomy in where and when to work, it is essential that leaders trust their employees.

Successful virtual team leaders like to include team members in discussion and decision-making. They are willing to share personal experiences - also failures - for creating a culture where failures are treated as a natural part of everyday work from which to learn.

Old-school leading or management techniques tend to fail in the virtual environment. Without the opportunity to look over the shoulders of employees, it becomes vital to set goals and measurable objectives using the bottom-up approach. Self-driven and self-motivated virtual team members most likely perform at the desired level - thus it is important to give employees more freedom and autonomy. This can be done by engaging and including them in the process of setting goals and objectives both for themselves and for the team.

Virtual team leaders are expected to give constructive feedback and be ready to receive one too. It would be even better if the virtual leaders would be familiar with mentoring and coaching tools, and able to use them in an effective way.

Virtual team leaders are expected to set up an infrastructure for effective collaboration and information exchange. This includes also the ability to effectively facilitate virtual team meetings. As it takes more time to discuss during virtual meetings, then it is important that virtual meetings are well-prepared. It must be clear for all members what is the desired result of the meeting and how to get there. Virtual leaders must also know which tools and methods to use to brainstorm, engage and nurture creativity during virtual meetings.

There are many aspects that are good-to-know when leading virtual teams. Firstly, it is good to know the main challenges and best practices of virtual collaboration - for example how to onboard virtually and how to set up team agreements to collaborate effectively. This would be the minimum expected from the virtual team leaders. However, there are many other theories and know-how that support leading virtual teams - for example change management theories and tools, theories of different human types, the building blocks of an innovative company/team culture, psychological safety, etc.

2.2. Communication

2.2.1. CHALLENGES RELATED TO COMMUNICATION

Although communication is a vital part of teamwork, challenges to communication came out so strongly that it was decided to handle communication as a separate topic. Challenges related to communication can be divided into three main categories: task-related communication, team meetings, and socializing.

Task-related communication: Task-related communication and information exchange was found challenging, as in virtual settings information tends to get scattered. Also, there tends to be too much information, which makes it hard to find that piece of information, that is needed. In virtual settings, it is harder to ask quick questions. This might lead to misunderstandings, a decrease in productivity, and the need to re-do some work.

Team meetings: Respondents reported that it is much harder to participate in virtual meetings. Firstly, during virtual meetings, nonverbal cues are missing - which makes it harder to understand the other party. Also, people have to speak in turns, which means that explaining things takes much more time. Also, without the opportunity to quickly draw something, it is much harder to deliver complex information/thoughts. As a virtual meeting facilitator, it is harder to include and engage team members. Many people tend to be quieter during virtual meetings as they do not feel comfortable talking in the virtual environment. On the other, those who are talkative in real life, tend to speak even more in virtual settings. Thus, it is a challenge to make sure that everyone is included and has a chance to speak up. Additionally, there are many distractions (such as e-mails popping up), which steal the attention of the members in the meetings. Thus, it is a challenge to engage people and to avoid distractions in general.

Socializing: Interviews revealed that virtual communication tends to be much more task orientated, and thus there are fewer opportunities and time for socializing. For socializing, people have to book time in advance, which reduces spontaneity. Also, respondents reported missing emotions and nonverbal cues while socializing virtually.

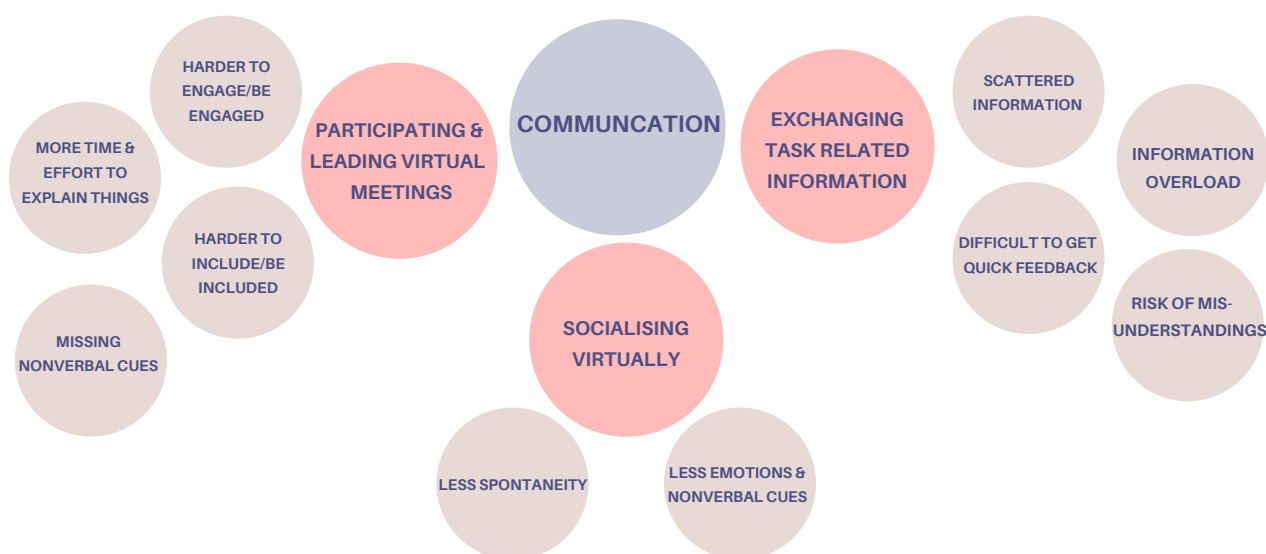


Figure 3- challenges related to communication

2.2.2. VIRTUAL COMMUNICATION COMPETENCY

The analysis of the data revealed that there are several traits, values, attitudes and skills related to effective virtual communication. An overview of the results can be found in the table 2 below.

Table 2 - competencies related to communication

Competency:	Virtual communication
Traits <i>Is...</i>	outgoing, proactive, flexible (not rigid), social intelligence, tolerant
Values	clarity, open communication, other peoples time (e.g. responds fast) and opinions
Attitudes <i>Likes to...</i>	share information openly, take initiative, share his/hers thoughts, hear other people's thoughts, use video.
Skills <i>Can...</i>	prepare, moderate and document virtual meetings, talk in turns, use ICT, clarify (ask reflective questions) & argument clearly, listen carefully, analyze information critically.
Knowledge <i>Knows....</i>	the pros and cons of different communication methods (verbal, written, video, e-mail) and ICT tools; essentials of virtual meetings (for example why it is important to use video); the basic features of different ICT tools (how to switch off the camera, set up a meeting, etc.)

Virtual team members are expected to be outgoing, proactive, flexible, and tolerant, with a high degree of social intelligence. People, who value clear & open communication, generally make good virtual team members. Virtual team members must also value other people's time, and thus respond asap. Even, when they cannot give an answer to the posed question yet, it is good practice to let others know that you have received the message and also the time when you can respond.

Virtual team members must be ready to share information openly - even negative things, such as delays in work, etc. Open communication is the fundament of any teamwork - but in virtual teams, it is especially important - as it is much harder to see the so-called red flags. Also, it is important that virtual team members take initiative - e.g. when something needs to be done, they raise their hands and offer help. Also, virtual team members should like to share their ideas and feel comfortable doing it in the virtual environment - otherwise, it might happen that they won't be heard.

Holding effective virtual meetings requires the meeting leaders to moderate and document virtual meetings effectively. Virtual team members must be able to talk in turns, use clarifying questions for avoiding misunderstandings, and express themselves in a clear way. As a virtual environment poses its members with a lot of information from different channels - they must also possess the ability to critically analyze information and select the most important parts to focus on. All virtual team members are expected to be digitally savvy - e.g. have the skills for using modern information and communication tools.

Virtual team members are expected to know the best practices of running a successful virtual meeting. Finally, virtual team members are expected to know the pros and cons of different communication methods and tools to select the most suitable based on the situation. It is good to know for example that e-mails are a good tool for exchanging formal information (e.g. contracts) - whilst collaboration tools like Teams, Slack, Discord, etc., are good for exchanging daily information related to different projects. Instant messaging tools - like WhatsApp or Messenger are good for socializing, and finally, video calls when the aim is to discuss something, brainstorm, or get people on the same page. Also, conflicts are best to resolve during phone calls.

2.3. Technology

2.3.1. CHALLENGES RELATED TO TECHNOLOGY

The analysis of the results revealed that technology-related challenges can be divided into three categories.:

- security
- software, and
- hardware



Security: Using WiFi in public places, or taking part in team meetings in public can lead to severe data leakages. At the same time, very strict security measures can decrease efficiency - for example, when access to certain data is forbidden while meeting customers in their offices.

Hardware: Virtual team members work mostly in isolation with little or no opportunity to ask someone for quick help when they face issues with technical tools, for example connecting their laptop with headphones. Also, finding working places with sufficient WiFi speed can be a challenge, when working somewhere else than the office.

Software: Selecting the right applications for the tasks but also using the applications can be challenging as there are so many programs and applications available.

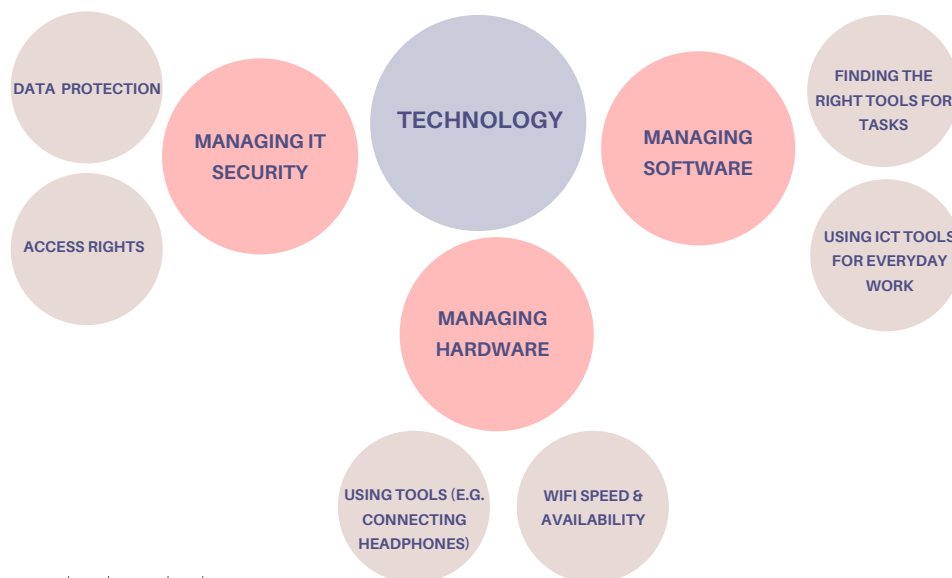


Figure 4 - challenges related to technology

2.3.2. TECHNOLOGICAL COMPETENCY

The analysis of the data revealed that there are several traits, values, attitudes and skills that support using technologies in the virtual environment. An overview of the results can be found in the table 3 below.

Table 3- competencies related to technology

Competency:	Technological competency
Traits <i>Is...</i>	creative, curious
Values	technological innovation
Attitudes <i>Likes to...</i>	try new technologies (hardware & software)
Skills <i>Can...</i>	use contemporary ICT (Slack, MS teams, Zoom, Miro, Confluence etc.,.); hardware (connecting Bluetooth devices, etc.,); presentation tools (PowerPoint, video, audio).
Knowledge <i>Knows....</i>	netiquette, digital hygiene, basic and organization related security rules/standards

According to the respondents, technological competencies include first and foremost openness to new technologies. When virtual team members value technological innovation and are curious to try out new tools, they will naturally acquire the necessary technology-related knowledge and skills needed in virtual teamwork. Virtual team members are also expected to know netiquette - e.g. the best practices of communicating through virtual tools. For example, it is best to always reply in the same thread - not to create a new message (e-mail) as a reply. Virtual team members are also expected to know the company policy related to security and data protection. Last, but not least, virtual team members should be able to possess digital hygiene - e.g. the ability to keep their files in order, switch off notifications if those start to have an impact on their focus and/or rest time, etc.

2.4. Self-management

2.4.1. CHALLENGES RELATED TO SELF-MANAGEMENT

The analysis of the results revealed that technology-related challenges can be divided into three categories. The first category includes challenges related to mental health. For example, virtual team-working has a tendency to blur the boundaries between work and rest time, which means that people are at risk of burnout. The risks of burnout also increase, as leaders have less overview of team members workload, and can overload their employees. Moreover, working remotely increases the need for virtual meetings (for catch-up and overview), which can lead to overwork, as the only time to do actual work is after the workday and meetings have ended. Finally, remote working increases the possibility to work on several projects (and employees) at the same time, which again increases the risk for burnout. Also, working in isolation increases several psychological risks - such as depression.

Secondly, virtual teamwork increases risks to physical health. Working anywhere else than the office (home, coffee) means that the workplaces might not be as ergonomic as they should be. Also, increased workload leads to too much screen time and fewer exercises, which again increase physical health-related risks.

Thirdly, the respondents reported that maintaining motivation, discipline and focus are harder in a virtual environment. Both, the virtual environment as well as the physical location may pose several distractions (e-mail coming in, laundry that needs to be washed), which make it harder to keep focus. Also, respondents said that without seeing their peers it is harder to start working and maintain motivation at work. Also, maintaining discipline for both - starting your workday, but also for ending it - is harder in the virtual environment.

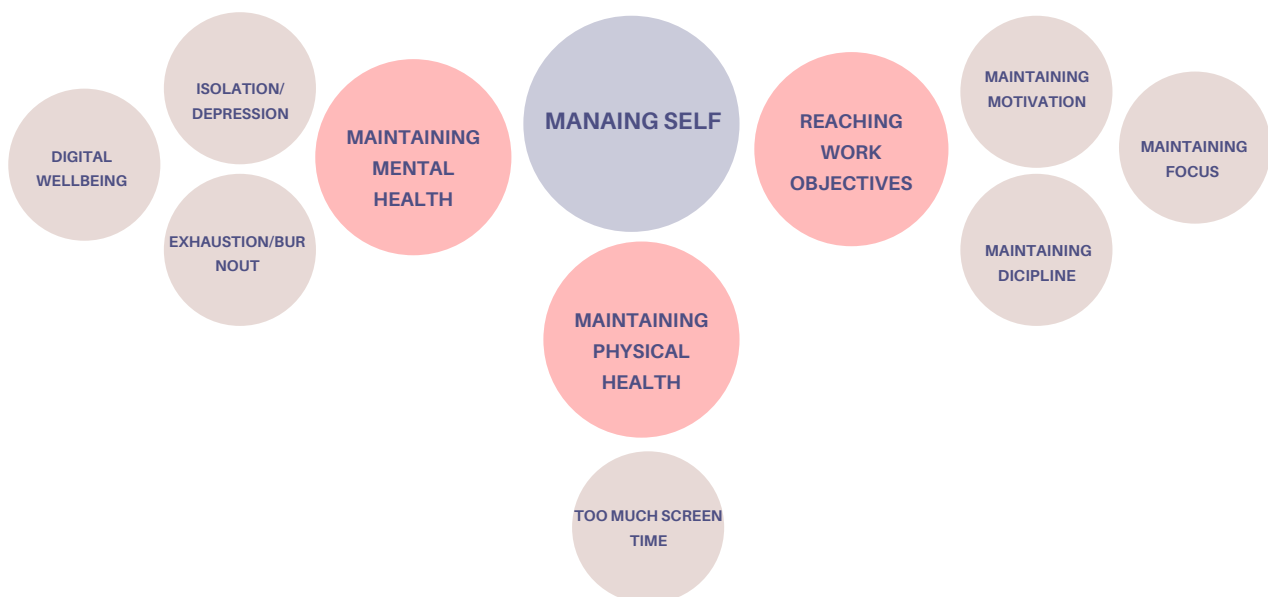


Figure 5 - challenges related to self-management

2.4.2. SELF-MANAGEMENT COMPETENCY

The analysis of the data revealed that there are several traits, values, attitudes and skills related to effective self management in the virtual environment. An overview of the results can be found in the table 4 below.

Table 4- competencies related to self-management

Competency:	Self-management competency
Traits <i>Is...</i>	accountable, determined, disciplined, open-minded, organized, confident, creative, self-starter, tolerant
Values	life-long learning, flexibility, autonomy
Attitudes <i>Likes to...</i>	take initiative & responsibility; make decisions independently; test and try out new thing; mix personal life with work life (e.g. work from home); be part of changes
Skills <i>Can...</i>	solve problems creatively; learn independently; prioritize, adapt with changes, manage time effectively; set (measurable and reachable) goals; analyze information critically; maintain focus
Knowledge <i>Knows....</i>	the importance of keeping mental and physical well-being, challenges of working virtually/remotely

According to the respondents, virtual team members must have a high sense of accountability and determination. They must be self-driven, well-organized, and disciplined to achieve the work-related objectives, but also, for maintaining a good work-life balance. Working in isolation requires virtual team members the ability to self-start and be self-motivated. Isolation also means, that there are fewer opportunities to get mental support from peers and managers - thus it is important to have a high sense of confidence - but at the same time maintain openness to admit and learn from own mistakes.

Life-long learning is one of the fundamental values that help keep up with the changes related to new ways of working. Having blurry boundaries between work and personal life is inevitable- therefore virtual team members must also value the flexibility (in time and place) that virtual work offers. Virtual team members must also value autonomy - the opportunity to decide on their own how to reach the goals set, when and where to work, etc. At the same time, as flattering as a high sense of autonomy feels - it also comes with a burden - increased responsibility of reaching milestones, avoiding distractions, and taking care own physical and mental health.



Virtual team members are expected to be able to adapt to changes, solve problems creatively and learn independently. Goal-setting, prioritizing and time management skills are useful when working in virtual teams.

From the knowledge side, it is good if virtual team members are aware of the biggest challenges and best practices of working remotely. Also, it is important that virtual team members are aware of the importance of keeping mental and physical health and best practices of doing so (e.g. digital hygiene, taking breaks, etc.).

2.5 Teamwork

2.5.1. CHALLENGES RELATED TO TEAMWORK

The analysis of the data revealed that when individuals are collaborating virtually, they are posed with many challenges, which can be organized into three main categories: dealing with diversity, working together virtually, and developing virtual bonds.

Dealing with diversity: Virtual teams are often much more diverse than traditional teams (cross-functional, cross-organizational, cross-cultural, etc). And, even if the team is quite homogeneous at first glance, still people have different working styles, which have more impact in virtual settings than in the traditional ways of working. Firstly, working at the same location makes people lean towards each other and slowly sync their working styles, whereas working virtually and in isolation people tend to develop even more personalized working styles which might be difficult for others to grasp and adapt to. Also, it is much harder in the virtual environment to figure out how to deal with diversity - since the contacts with teammates are much shorter and more task orientated. Differences in working styles, cultures, etc., may lead to misunderstandings that potentially lead to conflicts that are much harder to resolve in the virtual environment.

Developing virtual bonds: Belonging to a group or a team is more abstract in a virtual environment than in the traditional ways of working. Without the opportunity to see face-to-face it is much harder to develop the relational bonds that glue the team members together. Thus, individuals working in virtual teams might feel less committed to the team and thus lose the motivation and enthusiasm to invest their effort/time to the project at hand.

Working together virtually: Virtual environment tends to support working on individual tasks - as it is much easier to focus and work without anyone interrupting. However, when it is needed to work together, then many challenges arise. To start with, virtual team members find it harder to be aware of what other people are doing. This might lead to doing double work, or even worse - loss of trust (as individuals might feel that they are the only ones putting a real effort into the team tasks). When new teams are formed, or a new member joins, it is harder to understand own and other people's roles in the team - and thus to know to whom to turn to with a question. In a virtual environment, it is much harder to deliver the messages and get other people on the same page with you. Also, it is found to be more difficult to get quick feedback on your work - as it takes extra effort to reach out and find out other people's availability. Last, but not least, since people develop different working rhythms then it is harder to synchronize to find mutual times for meetings, etc.

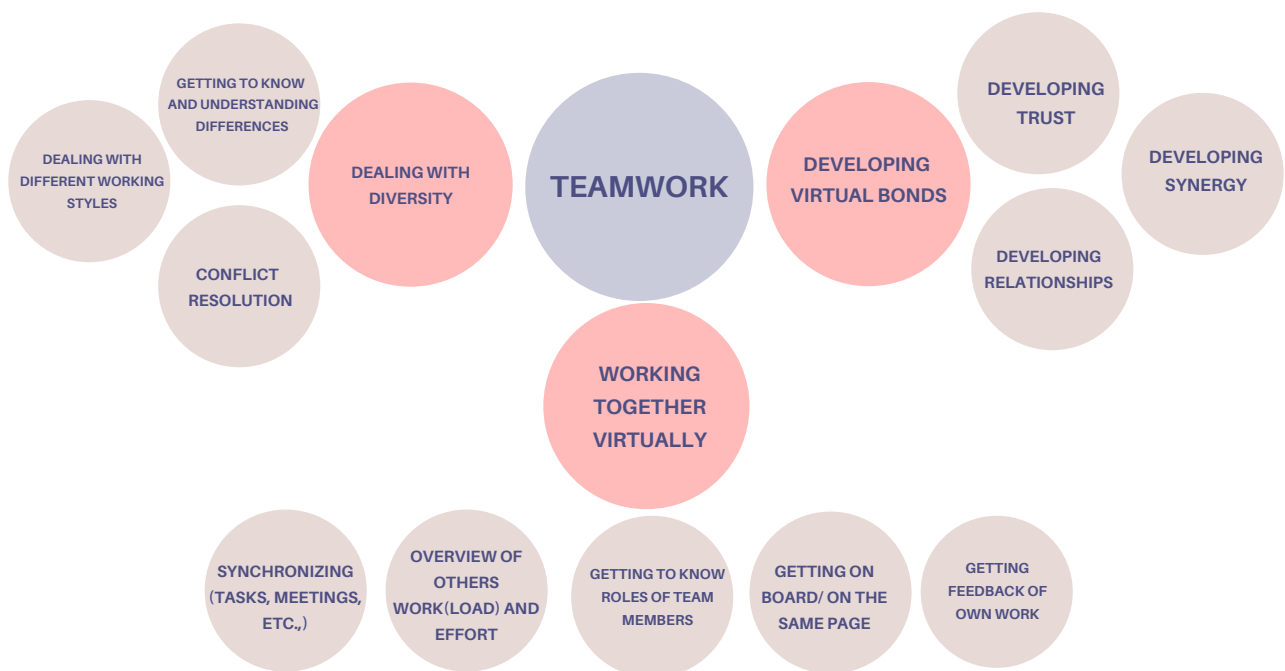


Figure 6 - challenges related to teamwork

2.5.2. VIRTUAL TEAMWORKING COMPETENCY

The analysis of the data revealed that the competencies that help to solve teamwork related challenges can be divided into two categories: teamwork and diversity/culture. Each competency includes specific traits, values, attitudes, skills and knowledge that are vital to be successful in an virtual team. The below table highlights the main findings.

Table 5 - competencies related to virtual teamwork

Competency:	Teamwork	Diversity/Culture
Traits Is...	outgoing	tolerant
Values	teamwork, structure, feedback (giving and receiving), ethics (not taking pride for other peoples work).	diversity of cultures, opinions, experiences, etc.
Attitudes Likes to...	build new relationships, explore new approaches for virtual collaboration, help colleagues, and be part of a team	learn about new cultures and get to know new people.
Skills Can...	use ICT tools for virtual networking, collaboration, brainstorming, coordination & relationship building; manage information; give and receive feedback.	communicate & collaborate in an intercultural setting
Knowledge Knows....	how we as a team work together (team rules); how agile processes work; how to nurture creative processes	main challenges of diversity (e.g. diverse working styles) and cross-cultural communication.

Virtual team members must be first and foremost tolerant towards other people's ideas, values, work styles, cultural differences, etc. They must also be willing to share openly their ideas, worries, progress at work, even their mood. In a virtual environment, others do not feel and see the same that one person feels, so it is important to make implicit things explicit.

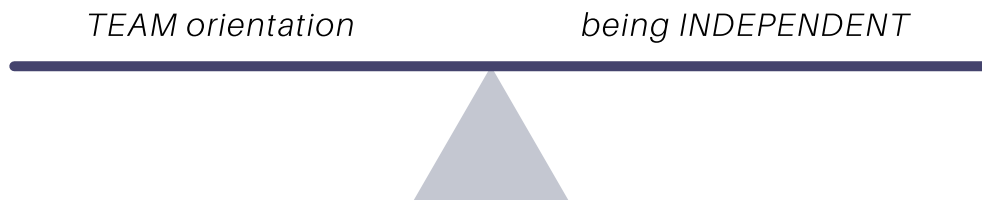
Virtual team members should value teamwork and see value in having different people involved in the project/task. They should be open to building and nurturing relationships in the virtual environment. That means, that virtual team members must be able and willing to trust other people even without having the opportunity to see them face-to-face. This takes a different type of mindset - believing and trusting that other people are essentially good people and working as hard as you are, even if it might look like the opposite from time to time. Thus, when doubts and dark clouds start to shadow collaboration - effective virtual team members are not afraid to openly share their worries and ask for clarification and feedback before the situation(s) escalate into conflicts.

Virtual team members must have soft skills for communication and collaboration (e.g. cross-cultural communication skills, good argumentation, and reflections skills), but also hard skills (e.g. which tools to choose for different occasions, how to work with those tools effectively, how to use social media for socialising).

From the knowledge side, it is good when virtual team members have a general understanding of how agile processes work and are able to practice agile working style in their everyday work (e.g. testing and pivoting). This ability to test and experiment makes virtual team members more flexible and able to find solutions to teamwork-related problems when they occur. It is generally a good practice when virtual team members establish a guideline or agreement of how to work together, and it is important that everyone is aware of those agreements and willing to follow them. Finally, it is good when virtual team members know the main challenges that the virtual environment poses to (cross-cultural) communication and collaboration and best practices for overcoming them.

3. Summary of the main findings

To sum up, it can be said that virtual environment expects its members much higher managerial competencies, as they must be *the managers of themselves* - making sure that they have the necessary tools for working and get work done on time, have the opportunity to relax, socialize, and take time off. Moreover, virtual team-working requires its member's ability to manage relationship building, communication, and collaboration virtually. Thus, virtual team members and leaders must find the balance between independence (being their own boss and getting things done on their own) and team orientation (sharing with others, asking for help, etc.).



Also, traditional activities, like getting to know each other, building trust & relationships, communicating on tasks, and other topics have all moved to the virtual environment - expecting virtual team leaders and members to know how to run these processes smoothly in the digital world avoiding possible obstacles. Virtual team members are expected to be open to many things, whereas the most important aspects to highlight are technological innovation, diversity & changes.

Some basic knowledge and skills of how to use technological tools and work in virtual settings are fundamental. However, individuals who like to learn and try out new things will likely adapt to the advancements in technological tools.

The following figure (7) captures the competencies and sub-competencies identified in the current study. Also, on the next page, the reader can find a summary of all competence elements - traits values, attitudes, skills, and knowledge - identified in the current study (see table 6). The identified competencies and related elements form a foundation for developing the study module for enhancing virtual teamworking competencies in the current project. They can also be used as an HR tool in employee selection and training in virtual teams.



Figure 7 - virtual teamworking competencies and sub-competencies

Figure 6 - all elements related to virtual teamworking competencies

TRAITS IS...	attentive, empathetic, outgoing, proactive, flexible (not rigid), socially intelligent, creative, curious, accountable, determined, disciplined, open-minded, organized, confident, creative, self-starter, tolerant.
VALUES	(technological) innovation, teamwork, flexibility, employee well-being, clarity, open communication, other peoples time (e.g. responds fast) and opinions, life-long learning, flexibility, autonomy, teamwork, structure, feedback (giving and receiving), ethics (not taking pride for other peoples work), diversity of cultures, opinions, experiences, etc.
ATTITUDES LIKES TO...	include employees (team members); give feedback; support other people; share personal experiences (including failures); experiment & try out new ways of working, share information openly, get involved (in projects/tasks), share his/hers thoughts, hear other peoples thoughts, use video, try new technology (hardware & software), take initiative & responsibility, make decisions independently, test and try out new things, mix personal life with work-life (e.g. work from home), be part of changes, build new relationships, explore new approaches for virtual collaboration, be part of a team, learn about new cultures and get to know new people.
SKILLS CAN...	identify "red flags" in virtual collaboration, lead virtual team meetings (prepare, moderate & follow up); give effective feedback, use mentoring & coaching tools, create a collaborative working environment, set up infrastructure & develop a culture for virtual collaboration, talk in turns, clarify (ask reflective questions) & argument clearly, listen carefully, analyze information critically, use contemporary ICT (Slack, MS teams, Zoom, Miro, Confluence, etc.) for networking, collaboration, brainstorming, coordination & relationship building, use contemporary hardware (connecting Bluetooth devices, etc.), use presentation tools (PowerPoint, video, audio), solve problems creatively, learn independently, prioritize, adapt with changes, manage time effectively, set (measurable and reachable) goals, maintain focus, manage information virtually, give and receive constructive feedback, communicate & collaborate in an intercultural setting.
KNOWLEDGE KNOWS....	challenges and best practices of virtual teamwork (for example the importance of 1:1 meetings); how to set up team rules for virtual teamwork, how to share roles and set up clear (measurable) goals (from bottom-up); change management theories and tools; how to organize effective knowledge sharing in virtual teams; how to onboard virtually, what is psychological safety and how to create it in virtual teams, different human types and how to lead them virtually, the building blocks of org/team culture development, the pros and cons of different communication methods (verbal, written, video, e-mail) and ICT tools, essentials of virtual meetings (for example why it is important to use video), the basic features of different ICT tools (how to switch off the camera, set up a meeting, etc.), netiquette, digital hygiene, basic and organization related security rules/standards, the importance of keeping mental and physical well-being, challenges of working remotely, how we as a team work together (team rules); how agile processes work, how to nurture creative processes virtually, main challenges of diversity (e.g. diverse working styles) and cross-cultural communication.

4. References

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4. Appendix 1: Interview protocol

Interviewee profile:

1. Name:
2. Sex: female/male
3. Work title:
4. Company/organization where working:
5. Short description of the work role:
6. How many years of experience you have working in a team, where people cannot or prefer not to meet physically and work over distance using ICT: 0-1; 1-5; 5-10; 10-15, 15, and more

Understanding the main terms:

The purpose of questions 7-9 is to make sure, that the interviewees' thinking and experience regard virtual teamwork is aligned with our understanding and project needs. If not, then the results from this interviewee should be declined.

1. What does teamwork mean to you? How would you describe it?
2. What does virtual teamwork mean to you? How would you describe it?
3. Describe the role that virtual teamwork plays in your everyday work?

Challenges:

1. Description of a situation: Imagine a person who has to suddenly start working in a virtual team. In your opinion, are there or are there not any challenges/obstacles that s/he faces (in the short run, in long run) that are different from traditional teamworking situation?

Guiding questions, if the interviewee runs out of ideas:

Have you experienced/witnessed challenges related to: coordination of work between team member, trust and relationships between team members, communication/team meetings, using Technology / ICT, physical and mental health, leadership.

2. Is there anything you would like to add thinking about the latest pandemic - Covid-19?

Competencies:

Now think about the challenges discussed, when answering the following questions:

1) (VALUES) In your opinion, are there or are there not any specific values that help virtual team members to be successful in virtual teams? *Note to the interviewer: values can be for example valuing technology, valuing teamwork, and also goals, that overarch individuals' behavior in different situations, for example wanting to keep good relationships or ensure lifelong learning, etc.. Can you bring concrete examples of how a person holding these values you mentioned usually acts?*

2) (ATTITUDES) In your opinion, do the virtual team members' liking and disliking certain activities or behavior have an impact on their pursuit of overcoming the aforementioned challenges? *Note to the interviewer: we are looking for likes and dislikes about certain activities and behavior, for example liking to learn to use new applications, liking to try out new technological tools, places to work, etc).*

3) (SKILLS) In your opinion, is there or is there not, anything specific that the virtual team members must master/know how to do that helps them to be successful in virtual teams? *Note to the interviewer: we are looking for specific skills, e.g. something specific that the virtual team members are able to do on a daily basis - for example using certain applications, being a good communicator in written format, a good storyteller, etc. General good communication skills is not enough for us - need to dig deeper. Can you bring concrete examples of the skills mentioned? OR Can you bring concrete examples of how a person holding these skills you mentioned usually acts?*

4) (KNOWLEDGE) In your opinion, is there or is there not anything specific that the virtual team member knows that helps them to be successful in virtual teams? (note, we are looking for specific knowledge - for example, essentials of good teamwork, tips of how to run effective virtual meetings, etc.). Can you bring concrete examples of the knowledge mentioned? OR Can you bring concrete examples of how a person knowing these things you mentioned usually acts?



**More information: <https://www.virtualskills.eu/>
or contact us through info@smartwork.ee.**

