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Digital Inclusion of Women from Refugee and Migrant Backgrounds into the Technology Workforce



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How to use this guidebook:

This booklet of guidelines is prepared by the <u>Code To Change Netherlands</u>, following an extensive study that took place around '<u>Inclusion for digital empowerment for migrant women</u>' in six European countries (Germany, the Netherlands, Greece, Bulgaria, Italy, and the Czech Republic). The purpose of the study was to assess the digital sectors, skills, and employment opportunities in the digital workforce and the barriers for underrepresented groups such as migrants and refugees, and in particular migrant and refugee women, in accessing the existing opportunities. We advise you to do a thorough research on the market needs and the skills shortages in your region.



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Background

"We're at a unique point in history where the things that we are building are going to significantly impact our social, political, economical, and personal lives.

If women want to ensure themselves a meaningful place in the future, they need to be among those determining how the technology will be used. They need to be among those deciding whether it will be the great leveler or simply serve to worsen social divisions" - Anita Borg

The RIDE project aims at including migrant and refugee women in the digital labour market, giving them the possibility to re-skill or upskill in the digital sector by specially designed courses and training enabling them to start working. A major part of the project will be dedicated to preparing them for the labour market in the host country and to raising awareness about women's rights in the host society.

RIDE has a strong focus on networking: this is one of the best practices women throughout the world are doing in their jobs or roles in society. Therefore, the main aim of RIDE is to boost economic participation by creating a platform where migrant women interested in the digital sector can learn from experts. This will also enable them to share experiences and support each other.

The Code to Change Netherlands is leading the stakeholder mapping of digital skills initiatives in the Netherlands and is the lead partner to develop a roadmap for digital inclusion of people from underrepresented backgrounds, especially women, in <u>6 RIDE</u> partner countries in Europe.

The project seeks to include migrant women in the digital labour market, enhancing the chance for migrant women to provide an income for their families while doing a fulfilling job and feeling more included in the host society.

This booklet is designed to support partners implementing digital skills programs in the communities they are serving. Please note that everything shared in this document is The Code to Change model that has been developed and implemented by The Code To Change since 2015.

"If we want technology to serve society rather than enslave it, we have to build systems accessible to all people - be they male or female, young, old, disabled, computer wizards or technophobes."



Launching a successful digital skills programme



Steps to launching a successful digital skills programme

SETTING UP A SUCCESSFUL DIGITAL SKILLS PROGRAM

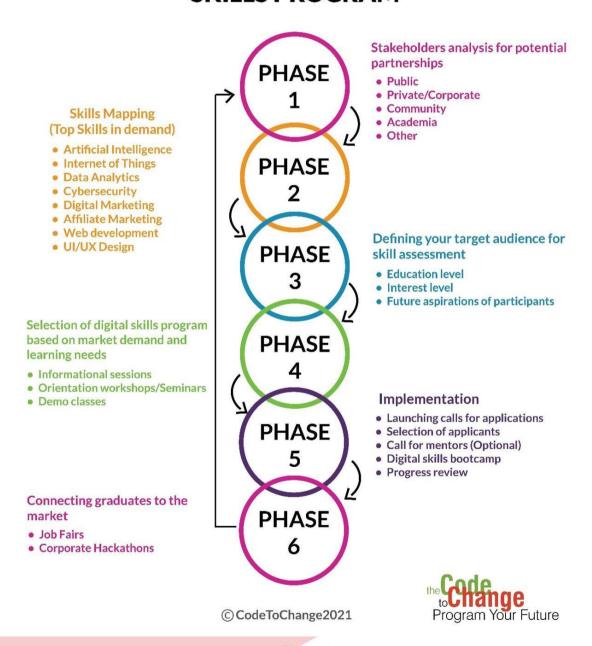


Figure 1





PHASE I - Stakeholder analysis and partnerships

Stakeholder analysis is key in understanding and develops the project's design, implementation, and progression. It aids in uncovering and removing potential barriers that may impact the project's progress. Understanding stakeholder viewpoints also helps in comprehending the needs and roadblocks and in designing successful projects to bridge the digital skills gap and facilitate the inclusion of underrepresented groups. It is important to understand the unique role every stakeholder is playing in the technology workforce and to understand the needs and strengths of the key stakeholders and players. Understanding the project stakeholders can play a huge role in the kind of support you can garner when making your financial plans for implementing specialized programs and training to re-skill and upskill underrepresented groups.

Whenever a program or project is launched, understanding market needs and the respective skills required is important. This information is best delivered by corporations/technology companies, startups, scaleups, and specialized public bodies who have a sound knowledge of what is needed to expand their workforce. The public sector can often help to understand the shortage in skills and the initiatives in the region that are tackling it. Therefore before launching a program or project, understanding the demands of the industrial ecosystem will support the achievement of a successful outcome.



PHASE II - Skills mapping

Before starting a program, it is highly important to understand the demands of countries in terms of skills. Mapping the high-in-demand skills is recommended as it gives greater clarity and insight into country-specific needs and demands.

In the Netherlands for example, there is an increased demand for data protection officers and growth hackers, thus making it a necessity to train and educate people so that they can enter the respective workforce. Training people with a skill that is not in demand means more uncertainty and a lack of job opportunities. Skill demands vary from country to country and thus appropriate mapping will help reduce the gap.

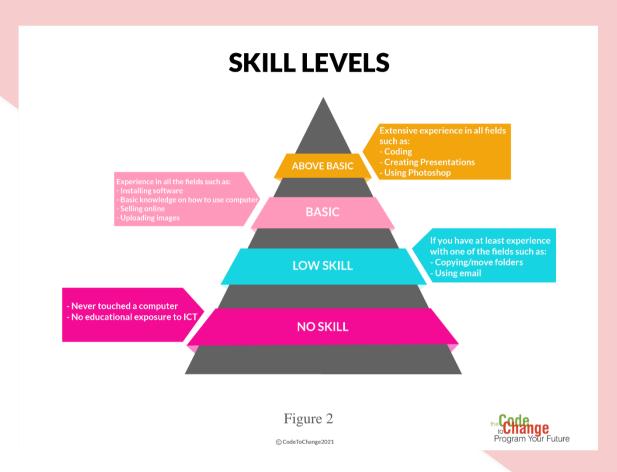
Digital Skills

Digital skills or digital competencies encompass the "knowledge and skills required for an individual to be able to use ICTs to accomplish goals in their personal and professional life." 1

¹ <u>Building digital competencies to benefit from existing and emerging technologies, with a special focus on gender and youth dimensions -UNCTAD</u>



The pace at which the technology and digital work opportunities, the broad spectrum of (digital) skills, and what they signify may change over time. Digital skills include "a combination of behaviors, expertise, know-how, work habits, character traits, dispositions, and critical understandings.2" They include not only technical skills but also cognitive skills as well as non-cognitive soft skills such as interpersonal skills and communication skills.





PHASE III - Defining target audience for skill assessment

Skill assessment is necessary to help understand the skills of individuals and identify areas where training is needed. However, it is equally important to define a target audience, since everyone, depending on their background and/or personal circumstances, has different needs. For example, if you are targeting teenagers (16 years to 18 years), their needs are specific. Their purpose might be to have a basic understanding of digital skills before joining professional universities. Professional women, on the other hand, have totally different

^{*}https://broadbandcommission.org/Documents/publications/WG-Education-Report2017.pdf



needs. Their purpose could be changing career paths or upgrading their skills to get better positions. The group that we are targeting, refugees and migrant women, are mostly highly educated but do not have the social and professional network to enter the job market. They thus have completely different needs.

If your target audience is survivors of domestic violence, then you would have to work closely with relevant stakeholders and specialist organizations to accommodate them and meet their specific needs. You might need to pay extra attention to make the learning spaces more welcoming and safe for them.

You may also come across individuals with little to no educational experience. Training them and meeting their needs would be a challenge since companies hire such individuals.

An overview of your participant's basic digital literacy level, educational level, and prior professional experience is necessary, both to define your target audience and to select the training program that is right for them.



PHASE IV - Selection of digital skills programme based on market demand and learning needs

Once you set your target audience and have done relevant research on market demands, then you can select the kind of digital skills program you want to deliver. This aids in deciding the nature of the training.

Selection of digital skills programs based on market demand and learning needs is therefore important to ensure that after completion of training, the individuals enter the respective market. With constant technological advancements, the demand for specialized digital skills training has become very important. With country-based needs, you should organize programs that will help individuals find a way to the market. This is done through informational sessions, orientation workshops/seminars, and demo classes.

In many countries, there is a lot of digital training already; some have more training and some have less, and that also depends on their respective market needs.

In the Netherlands, for example, RIDE is working with The Code to Change and Cisco academy to deliver the necessary training in compliance with market needs.

Accreditation: For some countries, you can only work with organizations or tech academies that are accredited by the relevant authorities. Please check your country's local regulations on this when selecting a program partner or academy.

PHASE V - Implementation

Implementing all the phases based on needs and demands, our first step starts off with launching calls for applications. Registration of applicants opens two or three months prior to the start of the digital skills boot camp. A questionnaire or application form is published through our channels of advertisement which collects the basic personal information, professional background, motivation, and experience/previous knowledge in the subject of



the boot camp. Channels of advertising include social media pages like Facebook, Instagram, and LinkedIn; website; and blogs of companies and partner companies involved in the boot camp.

Participants are selected after a detailed review of the applications and their motivational statements. Depending on the number of applications, you can select participants based on their skill set, motivation to learn, and access to technology. This step is usually done by the boot camp lead and technical advisors of the relevant boot camp. Participants are selected based on the following iterations based on the score given by them.

<u>Iteration 1</u>: Participants are shortlisted based on their motivation and priority is given as yes/no by the chief advisor and facilitator of the camp. The number of candidates shortlisted here would be 1.5 times the expected number of participants.

<u>Iteration 2</u>: Participants from the above iteration are further shortlisted based on other inputs with the first preference given to learners with less professional background and experience in the subject.

For advanced-level boot camps, it is important to ensure that the educational level of participants matches the skills they intend to learn. They need to be able to grasp the concepts and already have basic digital knowledge.

Another key factor in selection is access to technology. It is crucial that the participants have access to a computer and a stable internet connection. We cannot accommodate all the participants with that, but in case most applicants express the lack of it, we need to find centers where we can train them.

Bootcamps and digital skills programs can be week-long or 3-months, depending on the learning needs of the target audience and their availability. Sometimes, specialized boot camps can also be organized on weekends. Organizers would also need to plan in time for assessing and evaluating the performance of the participants. Some boot camps can also have special features at the end, like competitions and hackathons. These are designed to work on capstone projects where participants are given time to solve a real-life challenge from partner organizations or develop a new business model that would disrupt the world.

Mentors are needed for participants to assist them in solving the challenges. Partner organizations presenting their challenges will also provide mentorship in providing domain knowledge to solve the challenges. Subject experts are identified in professional networks like LinkedIn and Xing, open-source communities, and a one-pager containing the information about boot camp and mentor expectations is sent out to them. Interested candidates apply for it and selection is done based on requirements.



When courses come to an end, the student's progress is reviewed. It is important to assess the success and impact that our boot camps were able to deliver.

Access to technology

Planning a boot camp required a lot more creativity and pivoting since the pandemic. With more programs adopting a hybrid model for training, it is important to keep in mind that some participants may not have access to a stable internet connection or a laptop. If you are not using a physical location for your digital skills boot camps and training, check with your participants at the registration level if they have good access to the internet and the tools required for the training. If your participants need this support, it is worthwhile to start looking at partnership possibilities with corporations who can become your 'technology partners.'

You can also choose to build your own computer lab or facility, however, it is important to keep in mind that sometimes, course participants also need to practice their learnings at home.



PHASE VI - Connecting graduates to the market

This is the most crucial step to assess the progress of your participants. The last phase determines the success rate of your digital skills training. This is when theory comes into practice. Participants take particular courses based on their needs and are later connected with the respective network, market, and IT professionals.

There are many ways to achieve this. One way is through running a mentorship program in parallel to your program so that the students and graduates can work directly with an industry professional to expand their exposure to different tech challenges in the mentor's company.

Another way is to organize job fairs and hackathons with corporate partnerships. Hackathons in particular give students hands-on experience to solve real-world problems and they get the chance to build technological solutions either for their side project or for other stakeholders.

For example, the Code to Change graduates from the spring/summer AI & machine learning bootcamp was given the challenge to show women's participation in tech and startups and to build the interactive dashboard for RISE Amsterdam. This interactive dashboard is able to generate a chart based on parameters selected and we did the word cloud on investors that shows the top investors who support female-founded startups. The challenge partner We-RISE Amsterdam was very satisfied with the work done by the participants.



Inspiring action



The stereotypes around the participation of women in technology hinder them from taking advantage of the opportunities available to them. This is why it is important to inspire action through motivational and informational talks, info days, and tech talk sessions.

Most women from refugee and migrant backgrounds lack professional networks in the host countries. Due to this, they never become aware of the programs and possibilities available that they can join. Therefore, it is important to reach those women through the places they frequent or hang out in.

These key places include their community social hangouts, neighbourhood centers of the local councils, and social media groups that already engage them.

Every tech career story starts from somewhere. Many IT professionals start from scratch, they build up their skills and continue learning in order to succeed. All these professionals come from diverse educational backgrounds. This should be the message in the inspirational talks where the participants can relate to the concept of starting from scratch.

The key goal at this step is to introduce them to the world of technology through the eyes of women like them – role models, who started in the technology field from scratch and are now successful.

Team Code To Change Inspiring Action at the firstever Women's hackathon at Booking.com headquarters, Amsterdam.





Safe spaces



A safe space is a formal or informal place, where women and girls feel physically and emotionally safe. It is a space where women and girls, being the intended beneficiaries, feel comfortable and enjoy the freedom to express themselves without the fear of judgment or harm.³

Safe spaces are even more crucial when it comes to learning new skills. Such a space should provide them with the opportunity to socialize and

rebuild their social and professional networks to learn and grow. It should be a space where they feel comfortable to build relationships with their peers who are going through the same journey and start building their own communities.

In this context, a safe space is also a place that is equipped with the right technology and connectivity (computers, internet connectivity, printers, etc.) for the participants to learn, work and network.

The concept of 'safe spaces for learning' is deeply rooted in the fact that most of the existing infrastructure makes women feel unwelcome. They feel that those spaces are not for them. This is particularly true for technological spaces like innovation hubs etc.

Therefore, it is important to either make those spaces more accessible and inviting for our target group, (which in this case are women from refugee and migrant backgrounds) or we need to repurpose new spaces for their use.



³ Women and Girls Safe Spaces – UNFPA





The way you inspire action in your target audience plays a great role in the professional development of the participants. The environment and the learning sphere you create will motivate people to start sharing their stories, experiences, and aspirations!

Here are a few commonly asked questions by potential participants and newcomers to the tech ecosystem.

FREQUENTLY ASKED QUESTIONS



Figure 3



Topics for info days

The world of technology is full of opportunities. You just need the right skills to access those opportunities. And the skills can be learned!

OPPORTUNITIES IN THE TECH WORLD





Here are a few examples of the introductory sessions that can be offered to beginners. This allows the participants to orient themselves and start evaluating how their existing skills can match with the existing tech fields and what steps they need to take to build their existing skills further.



SKILLS IN HIGH DEMAND

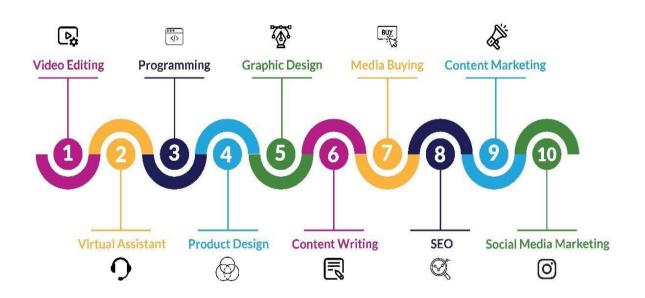


Figure 5

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Trainer's profile

High-quality instructors and coding mentors

Coding instructors lead the learning journey whereas mentors provide support to students where needed.

Coding mentors and instructors need to combine a solid background in coding with teaching experience. Having a good grasp of coding and web development is something that comes from professional work experience at a great tech company.

Teaching experience comes from hours of explaining complicated technical details to somebody with a very little technical background and understanding. Mentors and instructors who have this kind of teaching ability are able to accelerate the learning of any student.

Many digital skills academies often hire trainers on part-time help while they hold full-time jobs at another place. It is important to ensure that the educational outcomes and attention to every single student are ensured. That is why it is recommended to have a good budget to recruit high-quality and dedicated trainers for your programs where possible.

Profile

- The trainer should have both academic and industry experience that helps candidates to get value out of the course in terms of their jobs or building anew business
- Adopt a suitable teaching framework to deliver educational and enjoyable classesfor students.
- Great communication and interpersonal skills with a strong sense of responsibility
- Ability to inspire students to persevere through challenging lessons
- Patient and level-headed to handle students
- Facilitate an inclusive and collaborative classroom environment
- Engagement skills to involve all the participants during the session
- Advanced research skills
- Enthusiastic to be a lifelong learner
- Adaptability to pace based on student understanding
- Hands-on with Instructional design



Competencies

- Ability to think on your feet to tackle unforeseen problems
- Good team-player
- Communicate and present effectively
- Understand oneself and the ability to manage oneself
- Effective communication and interpersonal skills
- Strong presentation capabilities
- Ability to work well under pressure
- Fluency in English and the language of instruction in the project country.



Selection of speakers

Stories are a powerful tool to create an impact in people's lives. But the most important aspect of storytelling is: who is telling the story. This is why it is important that the stories of careers and capacity building are told by people that the target audience can relate to. And they should be told in a way that invites women to start their learning journeys.

Engaging industry professionals play a great role in inspiring a shift in the thinking of people who are considering a career change or embarking on a new learning journey.

"One of the speakers mentioned that given the rate technology develops everyone has to keep learning or they are left behind ... This means whenever you start learning you can be as up to date as the next person. That was a big Aha! moment for me" - 2016 Digital Skills Bootcamp participant

Here are a few approaches The Code To Change takes in their events when designing info sessions:

CODE TO CHANGE MODEL FOR INSPIRATIONAL EVENTS

LIGHTNING TALK SERIES:

- HOW I STARTED MY CAREER IN ICT

Technologists with diverse areas of expertise and educational background explain their ICT journey and express many roads that can lead to a successful career in ICT.

- HOW I STARTED CODING

Successful women coders share their journey, struggles, challenges, and success throughout their careers.

- LOOK WHAT I MADE!

Women in tech display their projects and are a source of inspiration to those who want to become developers of apps and software.

- HOW I GOT HERE!

Inspiring female industry leaders, who made it to the top, tell their inspiring stories to motivate and help other women who dream of a similar path.



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Figure 6



Online earning resources

Online learning is an umbrella term for any form of distance learning that is not taking place in a traditional classroom. Most of the learning is now moving to a hybrid learning model where participants can combine offline and online learning. Online learning provides greater control to users through the use of minimal infrastructure, the learners can personalise their learning and learn almost from anywhere and anytime.

With advanced and upgraded technology, this mode of learning has been made easier for those who cannot obtain the traditional education for one reason or another. Most of such online learning platforms are the MOOCs that are used by learners worldwide such as Coursera, Udacity and Udemy. To give a few examples,

Coursera.org (data visualization), edX.org (Data analytics for Managers),
Udacity.org (Introduction to Programming), Udemy.com (AWS Certified Advanced
Networking Specialty), Google (Artificial intelligence), and Stanford University online
(Network Security) among many others. These online platforms provide a plethora
of digital skills or ICT courses based on your needs and demands.

Many corporates and technology companies have also launched their own platforms that help people acquire necessary skills relevant to the companies' talent needs. TrailHead by Salesforce helps people to acquire salesforce skills and become a part of a community.

<u>Google Digital Garage</u> provides free and practical education in the form of 'crash courses' or end-to-end courses on a variety of digital skills. <u>Microsoft Build</u> provides certification programs for jobs in tech and cloud industries. They are accessible online and some courses are offered for free.

Microsoft resources for refugees provides free training and curriculum resources to help humanitarian organizations deliver training that will help refugees gain digital literacy and computer science skills. Cisco Networking Academy aims to create a bridge to employment opportunities by providing courses, both online and in-person, in the fields of technology and digital skills. IBM courses aim to enable students, teachers, and professionals to build timely digital skills that are key to today's technology sector. The courses are free and available to anyone to access online. Oracle University provides online courses for indemand digital skills. Intel Courses provides online AI certificate programs in AI, theory, and practice.



Sources of funding

Horizon Europe

Is the EU's key funding program for research and innovation. The program facilitates collaboration and strengthens the impact of research and innovation in developing, supporting, and implementing EU policies while tackling global challenges. It supports the creation and better diffusion of excellent knowledge and technologies.

https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

Digital Europe Programme:

The Digital Europe Programme (DIGITAL) is a new EU funding program focused on bringing digital technology to businesses, citizens, and public administrations.

The Digital Europe Programme provides funding for projects in five crucial areas:

- supercomputing
- artificial intelligence
- cybersecurity
- advanced digital skills
- ensuring the wide use of digital technologies across the economy and society

The program is designed to bridge the gap between digital technology research and market deployment. It will benefit Europe's citizens and businesses, especially SMEs.

https://digital-strategy.ec.europa.eu/en/activities/digital-programme

Erasmus+

Erasmus+ is the EU's program to support education, training, youth, and sport in Europe. It has offered a life-changing experience to more than 10 million participants over the last 30 years and will continue offering opportunities to a wide variety of individuals and organizations for the next seven-year lifecycle (2021-2027).

https://ec.europa.eu/programmes/erasmus-plus/



European Social Fund+

ESF+ aims to support the Member States to tackle the crisis caused by the coronavirus pandemic, achieve high employment levels and fair social protection, and foster a skilled and resilient workforce that is ready for the transition to a green and digital economy

The ESF+ finances the implementation of the principles of the European Pillar for Social Rights through actions in the area of employment, education & skills, and social inclusion.

https://ec.europa.eu/european-social-fund-plus/en

Asylum, Migration, and Integration Fund:

The Fund aims to further boost national capacities and improve procedures for migration management, as well as to enhance solidarity and responsibility-sharing between the Member States, in particular through emergency assistance and the relocation mechanism. The Fund is governed by the Common Provisions Regulation.

https://ec.europa.eu/home-affairs/funding/asylum-migration-and-integration-funds/asylum-migration-and-integration-fund-2021-2027 en

Code Week EU:

EU Code Week is a grassroots initiative that aims to bring coding and digital literacy to everybody in a fun and engaging way. If you are organizing an activity on digital skills for the first time, their website has excellent resources on how to get started. If you are not sure how to organize an activity, visit their <u>teaching resources page</u> and <u>learning bits training</u> materials for guidance and tailored lesson plans.

https://codeweek.eu/



Conclusion

Digital skills programs are very specific to the local technology ecosystem in your region and country.

Digital transformation and technology trends drive rapid changes in the labour markets. These changes affect all aspects of people's lives, from agriculture and education to health. Digital technology has the potential to change the future of work through digital entrepreneurship, freelancing, and offshore services. It is important to keep an eye on the changing landscape of your country's digital skills gaps and requirements. These changes create an increasing need for countries to develop a digitally skilled population to be competitive and employable in the global society and economy. Stakeholders working to include underrepresented groups into the digital workforce should see this as a huge opportunity to upskill and reskill their target audience in the skills that are in high demand in your region's economy.

Assessing the need for existing digital skills is key to determining the current demand and the level of skills required. This, in combination with the existing skill level of your potential participants, will help you determine which digital skills programs you want to introduce initially.

This guidebook is designed to get the partners started on the journey to launch their own digital skills programs for their target audiences from underrepresented groups. The approach shared in this guidebook worked for us and our students in many countries. However, there is no one-size-fits-all method. We advise partners to work with approaches that best suit their needs and goals.

The digital skills assessments are not one-off activities, and you may have to repeat them for almost every new program that you introduce. This is because the needs and demands can change rapidly and are why it is important to keep an eye on how the graduates of your programs are performing in the market after going through your training. We advise an annual review of all your ongoing digital skills programs. This is necessary to keep track of both the technological developments and the skills demand and supply.



Our partners

The RIDE consortium is composed of 9 local and international organizations which have been working with migrant-related issues for several years.















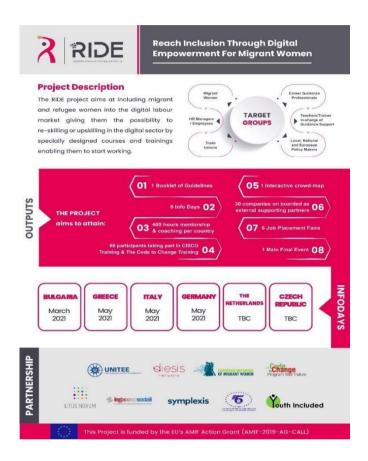






Annex

In this section, you will get an overview of the project followed by a sample online form for skill assessment of the students/participants.





Sample online form

- 1. Name
- 2. Mobile number (We will keep this confidential)
- 3. Email address
- 4. City
- 5. Country
- 6. Education
- 7. Age group
 - Under 18
 - 20-25 years
 - 25-30 years
 - 30-35 years
 - 35-40 years
 - 40-45 years
 - 45-50 years
 - Over 50 years
 - Other
- 8. Do you believe in investing in learning new skills?
 - Yes
 - No
 - If it's worth investing
- 9. If you invest in learning, what would be the biggest reason behind it?
 - To seek better options in career
 - To learn new skills and expand areas of earning
- 10. Currently, what is your major source of earning or managing expenses?
 - Salary
 - Business
 - Freelancing
 - Monthly allowance from family

- Monthly allowance from spouse/husband
- Other
- 11. What major role are you currently playing?
 - Studying
 - Housewife
 - Job holder
 - Business
 - Other
- 12. If you were to join a digital skills Bootcamp, how much time can you commit to it?
 - One month
 - Three months
 - Six months
 - Other
- 13. Are there any specific topics or skills that you would like to learn?
- 14. Have you attended any IT or digital skills training before?
 - Yes
 - No
- 15. Do you have access to computers/internet and internet at home?
 - Computer/laptop at home (with internet)
 - Computer/laptop at home (no internet)
 - No computer/laptop at home (I have internet)
 - No computer/laptop (no internet)
- 16. One of your favorite personal quotes...
- 17. Any other information you feel we should know about you?



Feedback?

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