

May 2023

## Femme Forward

The Femme Forward project trains and supports women from diverse backgrounds to kickstart either their digital careers or create new startups.

Deliverable 2.2  
Skills assessment tools

# About Femme Forward

## Project Overview

Femme Forward - *Fast-tracking women into new tech careers and supporting successful female-led start-ups* - is a two-year transnational project funded under the Erasmus+ Programme.

Through an innovative and comprehensive training programme, women with various backgrounds will be empowered to either start a career in tech or employ their experience and knowledge to set up a tech start-up.

Femme Forward will identify, develop and pilot high-quality digital education content that will tackle the current gender gap in the digital economy, enabling at least 500 women to start on the track to tech employment or entrepreneurship.

Femme Forward will offer an easy to use and extensive repository of tested, high-quality educational materials, available in multiple languages, and on a multi-device compatible learning platform: [femmeforward.eu](https://femmeforward.eu)

## Project Partners

The Femme Forward consortium is composed of 14 partners led by SIMPLON.co bringing together key industry, technology and education stakeholders in Europe.

### Full partners

1. SIMPLON.CO (France)
2. TOP-IX (Italy)
3. ENGIM PIEMONTE (Italy)
4. Tech and Teach GmbH (Germany)
5. BeCode (Belgium)
6. Big Blue Data Academy (Greece)
7. CYPRUS COMPUTER SOCIETY (Cyprus)
8. Asociatia ETIC (Romania)
9. Le Techspace (Belgium)
10. HOCHSCHULE HANNOVER (Germany)
11. Factoria F5

### Associated partners

1. AMAZON WEB SERVICES EMEA SARL
2. RANDSTAD NEDERLAND BV

3. FUJITSU SERVICES LTD
4. DIGITALEUROPE AISBL

## Subcontractors

1. Schuman SA

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## Disclosure statement

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# Introduction

The global objective of Femme Forward is to empower women, especially women in vulnerable situations to start a career in tech by providing them with a high-quality education programme for in-demand digital skills as well as a strong support network to guide them towards a first job in tech or towards a tech start-up.

The curricula development (work package 2) consists of three activities:

- Conduct an analysis of labour market needs for ICT specialists and women in tech participation in the eight countries involved; identify characteristics of each piloting scenario to ensure wide replicability and transferability post-implementation
- Set up an industry-backed skills assessment tool oriented towards skills shortages identified during the labour market analysis
- Collect, analyze and integrate existing course content within the consortium addressing the identified labour shortages and skills gaps for tech employability and tech entrepreneurship course tracks

This deliverable covers the second activity, i.e., providing an online assessment tool that supports the consortium members in the selection of appropriate candidates for their respective education programme.

We believe that this tool is a significant step forward in our mission to provide technical training to women across Europe. However, we recognize that there is always room for improvement, and we are committed to ongoing iteration and evolution.

Moving forward, we will continue to work closely with our stakeholders to gather feedback, analyze data, and identify areas for improvement. We are excited to see how our project evolves over time and look forward to sharing future updates with our community.

## Roles in the Work Package

The online assessment tool has been a collaborative effort between many consortium partners involved. Hochschule Hannover has been responsible for deliverable 2.2 and in charge of leading the work. In particular this means managing the completion of the task, obtaining feedback from various stakeholders involved, defining requirements as well as performing quality assurance.

Next to Hochschule Hannover, TOP-IX added important aspects regarding the start-up founders track of the Femme Forward project. Amazon Web Services

contributed by sharing their experience with assessing candidates for their education programmes.

## Connection to Previous Analyses

The work on the assessment tool is based on the analysis of labour market needs for ICT specialists and women in tech participation in eight countries (the first activity in work package 2). As the research in this analysis has shown, though there are some differences between women's involvement in the ICT sector, and of the development of the cloud sector within Europe, the differences are small.

Women in the participating countries generally face the same barriers to entry into the digital labor market, with different intensities of complexity depending on the country. With that in mind, the recommendations made by the analysis are general, and mainly applicable to all piloting scenarios. This will contribute to a pedagogical curriculum, training setup and even training materials that are stable from one country to another.

Of course there will be differences - some quite major - between training scenarios. These differences have however much more to do with the context within which the training provider works (legal framework, type of organisation, habitual beneficiaries etc.) rather than the context of women in Tech within their country.

One important difference refers to the sourcing of women for cohorts. This is one of the main challenges for training providers, which we of course work on as a consortium, but remains specific to each training provider as it can be understood as a primarily local activity. For example, some countries have very centralized systems for sourcing trainees. An example of this would be France, where relationships with the local employment centers are key to sourcing all trainees, including women. Contrary to this, in Spain for example, the training provider usually addresses the target group itself, e.g., by communicating directly with potential trainees via social media. Training providers within the consortium should therefore first of all maintain their existing practices for attracting trainees. If they are responsible for attracting and choosing female programme participants, our assessment tool can serve as a part of this procedure.

Furthermore, training providers differ with respect to in person vs. online cohorts. Here again, training partners should provide the type of training that best suits their current practices, needs and expertise. The curriculum and training materials should reflect this potentiality for online or onsite training. Therefore, our online assessment tool also can be used for both educational settings.

# Target Audience for the FF Educational Programmes

There is no ideal profile for a Femme Forward learner. There are characteristics that make learners positioned for success in the startup founders area or in the cloud field. The list below is a guide only, based on feedback from the partners in the consortium and on experience from the AWS training programs.

Aptitudes well suited for entry-level cloud roles or startup founders:

- Ability to operate computers, navigate the internet and use common business software (e.g., Windows or Mac operating systems, word processing and spreadsheet software)
- Ability to perform basic math functions without a calculator (e.g., addition, subtraction, multiplication and division)
- The ability to write and type a multiple paragraph document using generally correct paragraph structure, sentence, grammar and spelling. [Note: can be in languages other than English]
- The ability to read English to the B2 level, for those countries where the exam is not in a learner's preferred language.
- The ability to present projects, initiatives and to engage people in new businesses.
- Demonstrated history of curiosity and desire to figure out how things work (e.g., a tinkerer, builder, inventor)
- Demonstrated ability to identify patterns and sequences (e.g., number string puzzles and behavioral interview questions)
- Demonstrated ability to follow instructions and select the correct outcome (e.g., sample exercise or behavioral interview questions)
- Demonstrated ability to interpret text and data to come to correct conclusion (e.g., data and question set or behavioral interview question)
- Demonstrated experience addressing complaints (e.g., customer service or sales - - identify issue, probe details, provide solution/options, maintain composure)
- Demonstrated learning or growth mindset (e.g., in behavioral interview questions)
- Demonstrated previous experiences in the tech sector or in any entrepreneurial activities.

Women interested in applying for one of the two tracks offered by the Femme Forward project are also usually between 18 to 45 years old, and they have a rough idea of what they want to achieve professionally.

These women are highly motivated and curious, and they are looking for opportunities to enhance their skills and knowledge. They may have a background in a particular field or industry, or they may be looking to acquire

new skills in a new area. They are also interested in networking and connecting with like-minded individuals in their industry.

They value flexibility and convenience and are looking for ways to balance their professional and personal commitments. They are also interested in learning about job opportunities and career advancement possibilities that may be available through the project and its network.

## Stages of the Application Process

In the course of applying for an educational programme offered by one of the Femme Forward partners, a woman may go through different stages.

- 1) Online application for one of the events on the Femme Forward gateway platform (<https://femmeforward.eu>): The website collects basic information (location, age, employment status, depending on what is applicable to cohort audience requirements) and delivers the data to the respective partner organization. The partner checks the basic eligibility for the programme.
- 2) Online assessment delivered by the partner, optionally using the tools provided in this work package: This assessment is to ensure the general aptitude for an IT job. It may include logic and math problems (basic math/logic assessment to measure aptitude for success in Program and subsequent employability). The online assessment tool described here may be adapted by the training provider to meet its specific needs.
- 3) Motivation assessment and case study conducted by the partner organization: This may take the form of a written application including an explanation of personal interest in the startup founders programme or in a career in the cloud. In this stage, the motivation of the applicant may become clear.
- 4) Applicants complete case study and in-person interview conducted by the partner organization: This is the first stage where a labour-intensive individual communication takes place. This may happen in the form of one-to-one interviews focused on problem-solving and group tasks focused on collaborative working. Applicants may be given a case study example of a tricky situation and must compose email response to client (shared in advance of in-person interview). This stage is to ensure important aspects of general employability: communication skills, professionalism, and interpersonal skills.
- 5) Partner organization invites applicant to participate: This may include giving a self-selection opportunity after receiving realistic insight into the educational programme and into the results of the previous stages of the assessment. As a result, the woman commits to completing the educational programme.

# Goals of the Skills Assessment Test

The partners of the Femme Forward consortium need guidance on what to look for across a pool of eligible applicants. Some of them don't have the financial resources to purchase an assessment tool and, if they do, it isn't calibrated against the required aptitudes mentioned above. Other partners leverage manual or hand scored assessments that don't scale as applicant pools grow.

Thus, we aimed at an optional online assessment tool calibrated to the curriculum, mobile-friendly for applicants, and including automatic scoring aligned to validated characteristics that help make a learner positioned to success with our educational programme and eventually ready to perform a job in a professional setting. Learners don't need previous IT or technical experience to start the programme, but they need to be able to learn and apply common technical concepts. The online assessment should serve not as a decision gate, but rather as one of many inputs into the decision process.

The skills assessment is located in stage two of the application process, after the initial expression of interest to take part in an educational programme and the submission of basic information.

The benefits of this assessment are twofold:

- Test takers get to know the general requirements of the subject they want to study. This allows prospective students a realistic assessment of whether they can successfully complete the course.
- Training providers receive information about a candidate applicant that can serve as one of many factors in the decision if she is accepted or not. The goal (stated in objective 4 of the project proposal) is to have an average of 60 skills assessments for each of the 17 training sessions. This means that about 1020 assessments conducted during the two years of the project.



# Structure of the Skills Assessment Test

After evaluating experiences with the assessment test used for AWS courses, we selected exercises that are related to the aptitudes we expect for the target audience. These exercises include:

1. Email Simulation: Respond to realistic situations related to collaborating and communicating with others. Evaluates ability to understand information and create detailed strategies.
2. Problem Solving: Use multiple sources of information to answer questions requiring data evaluation and drawing from inferences.
3. Logical Reasoning: Complete a logical reasoning puzzle based on a set of rules. Assess the ability to interpret information, apply logic to solve problems, and draw relevant conclusions.
4. Troubleshooting: Troubleshoot a system and identify which component is malfunctioning based on a set of rules. Assesses ability to use abstract reasoning to solve problems.
5. Work Style: Assesses personality characteristics that are related to performance in the program (e.g., desire to learn, self-efficacy).

The screenshot displays a digital assessment interface with the instruction: "For each pair of statements, select which is more like you." It contains 12 pairs of statements, each with a "Most" and "Somewhat" selection button. The selected options are highlighted in teal. The pairs are:

- 1. "I prefer a job in which I always have to learn new skills" (Somewhat selected) vs. "I prefer a job that is well-suited to my skills and abilities" (None selected).
- 2. "The harder I work, the more I succeed" (None selected) vs. "Hard work does not always lead to success" (Somewhat selected).
- 3. "People cannot always expect others to help them with their work" (None selected) vs. "I am always willing to lend coworkers a helping hand" (Most selected).
- 4. "I prefer to work on familiar tasks" (None selected) vs. "I welcome new, unfamiliar tasks at work" (Somewhat selected).
- 5. "I can handle whatever comes my way" (Somewhat selected) vs. "Some obstacles are too great to overcome" (None selected).
- 6. "I enjoy working on things I am good at" (None selected) vs. "I prefer tasks that require me to learn new skills" (None selected).
- 7. "Rewards are usually well-earned" (None selected) vs. "Rewards sometimes go to those who don't deserve them" (None selected).
- 8. "I often sacrifice my own time to help others at work" (None selected) vs. "At work, I focus on getting my own job done" (None selected).
- 9. "I do my best to avoid mistakes when trying a new task" (None selected) vs. "I expect to make mistakes when trying a new task" (None selected).
- 10. "I have full confidence in my ability to succeed" (None selected) vs. "There have been times when I doubted my ability to succeed" (None selected).

The recommendation on program fit is based on the "Overall Assessment", "Produces Quality Work" and "Communicates Effectively" scores.

The "Work Style" part of the assessment refers to soft skills when interacting with other people, for example, how well you work in a team. It consists of a number of questions concerning your social behavior in a work setting. In an assessment situation, the applicant may tend to give answers that are "desired" by the training provider in order to enhance her chance to be accepted. Therefore, the questions approach aspects of the applicant's personality from different sides, so that it is more difficult for the user to give a consistent picture of a fake personality.

The figure below illustrates other exercises related to the aptitudes mentioned above. The questions are available in English, French, Spanish, German, Italian, Greek (i.e., the languages of the participant organization's countries). Applicants taking the English assessment should have a B2 English proficiency. It is



Diagnostic Area	Example
<p><b>Work Style</b></p>	<p>I question decisions, even if they were decided by a majority</p> <ul style="list-style-type: none"> <li>(A) is very unusual for me</li> <li>(B) is rather atypical</li> <li>(C) this happens occasionally</li> <li>(D) is more typical for me</li> <li>(E) is very typical of me</li> </ul> <p>I know what I want in every situation</p> <ul style="list-style-type: none"> <li>(A) is very unusual for me</li> <li>(B) is rather atypical</li> <li>(C) this happens occasionally</li> <li>(D) is more typical for me</li> <li>(E) is very typical of me</li> </ul> <p>You will then receive a profile of your personal team skills (strengths)^</p>

**Diagnostic Area**

**Example**

**Problem Solving**

### Instructions

In this game you'll stow items at the top of the screen on the shelves at the bottom.


Click or tap an item to select it.

Once you've selected an item, all available spots where you can stow it will display a plus sign.

To move the item, select the plus sign in the spot you would like to stow it.

You can move an item from one place to another, or back to where it started, in the same way.

Select an item and place it on the shelves while following the stowing rules.



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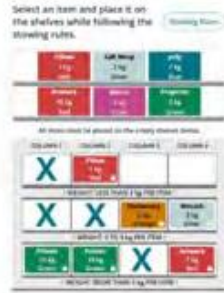
### Stowing Rules

- Blue items can never be right next to green items.
- Blue items can never be in the same column as green items.
- Silver items are only allowed in Column 4.
- Violet items are only allowed in Column 1.
- Orange items are only allowed in Column 3 or 4.

Duplicate items: only immediately next to one another.

Back to Question

Select an item and place it on the shelves while following the stowing rules.

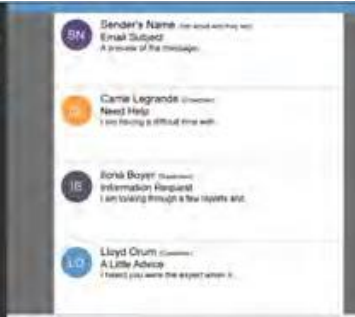


## Email Simulation

You can go back and review the email as many times as you like by using the Back button.

If you wish to respond to an open email at a later time, you can select the Back button until you return to your inbox.

Once you have replied to all 4 messages, you will automatically advance.



## FEMME FORWARD TEAM

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