



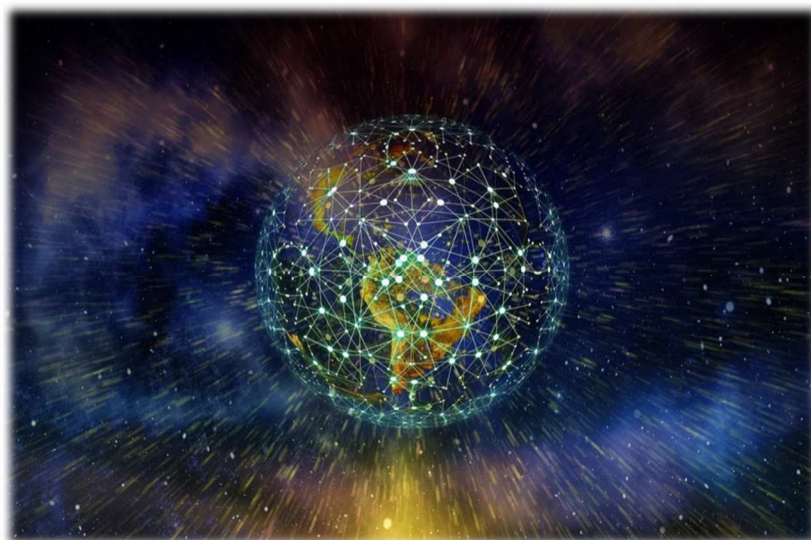
## **INTELLECTUAL OUTPUT 1**

Diagnostic Assessment

**Final Report on**

**the Environmental and Qualitative Needs Assessment**

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**Erasmus+ Strategic Partnership for Adult Education  
2017-1-IT02-KA204-036520**

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## **EUMentorSTEM**

**Creation of a European e-platform of MENTORing and coaching for promoting  
migrant women in  
Science, Technology, Engineering and Mathematics**

# **Intellectual Output 1 Diagnostic Assessment Final Report on the Environmental and Qualitative Needs Assessment**

**UNIBO**

May 2018

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# 1. SHEDDING LIGHT ON THE TRAINING NEEDS OF MIGRANT WOMEN WITH A STEM BACKGROUND AND PROFESSIONALS WORKING WITH THEM: THE COLLABORATIVE DIAGNOSTIC ASSESSMENT

## 1.1. Introduction

EUMentorSTEM aims at supporting the employability of migrant women<sup>1</sup> with a STEM background (Science, Technology, Engineering and Mathematics), either as employee or as entrepreneurs. This objective will be pursued by the Consortium through the development and testing of innovative and self-tailored Mentoring & Coaching (M&C) learning and training materials targeting both migrant women and the professionals<sup>2</sup> interacting with this highly specific group of beneficiaries. Training and learning materials will be available on a virtual hub hosted in the project website.

Up to now, support to migrant women in European societies has focused mainly on their basic needs. Few initiatives are specifically designed to support migrant women with a STEM background, who can face not only a double discrimination operating at the intersection of gender and ethnicity in the access to STEM professions (Grigoleit-Richter 2017), but also deskilling more broadly in the process of labour market inclusion in receiving country. Little is known, though, on this highly heterogeneous category who can include so called transnational élites and *middling migrants*<sup>3</sup>, but forced migrants (asylum seekers and refugees) and economic migrants as well.

In order to develop and adapt existing training and learning materials to the project's targets' real needs in the different countries of the Consortium (Italy, United Kingdom, Greece, Sweden and Hungary), partners – under the University of Bologna (UNIBO)'s coordination – carried out a Diagnostic Assessment – also known as pre-assessment – aimed at:

- outlining the background situation in each partner country;
- identifying structural and individual barriers preventing migrant women in STEM from becoming active in the labour market;

<sup>1</sup> As agreed by the Consortium during the Kick-off meeting in Sheffield (11th-12th of December 2017), the definition of migrant women includes: foreign born women, asylum seekers, refugees and women with a migratory background who may or may not have the citizenship of the receiving country (e.g. women whose parents were migrants). Migrant women in this broader sense, will be EUMentorSTEM mentees, that is the target group of the IO3 (Integration Circles and Learner's kit).

<sup>2</sup> A definition of professionals encompasses counsellors, career advisors, recruiters, educators, trainers and operators working both in the field of migration and labour market inclusion. Professionals in this broader sense, will be EUMentorSTEM *mentors*, that is the target group of the IO2 (Mentoring Circles and Trainer's kit).

<sup>3</sup> A group of migrants characterized by «their middle-class, well educated background, and mid-level career position» and whose decision to leave their home country «is not solely based on economic calculus» (Grigoleit-Richter 2017, p. 2740).

- collecting information on the available training and support opportunities and initiatives for migrant women in STEM, and on the M&C tools available to career advisor and educators in each partner country;
- better understanding the (potentially fluctuating) needs of both target groups so that the training and learning methodology can be adapted appropriately.

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The present report describes the methodology underpinning the Diagnostic Assessment and some of the results of both the Environmental and the Qualitative Needs Assessment carried out by the Consortium. A synthesis of the main points emerging from the qualitative research is provided in the following pages, while more details are available in the Country-level Reports elaborated by the each partner.

## 1.2. Methodology of the Collaborative Diagnostic Assessment

A quanti-qualitative methodology<sup>4</sup> was designed by UNIBO and agreed among partners to carry out a Collaborative Diagnostic Assessment that was articulated in the following phases:

- **Environmental Assessment** (December 2017- January 2018), consisting of a desk research through secondary data collection on:
  - a) migration flows – with a specific focus on female migrations – and immigration policies in each of the Consortium country.
  - b) relevant local or national stakeholders to be involved in the different phases of EUMentorSTEM implementation (and namely, in pilot training and dissemination) and belonging to four categories:
    - labour system: public institutions (agencies and centres for employment; public authorities involved in management of labour/employment issues); private institutions (private recruitment firms and intermediaries; trade and labour unions; Chamber of Commerce; business associations; microfinance institutions);
    - training/adult education system: public and private institutions engaged in training/education of adults and professionals (e.g., training centres; evening schools; professional training centre; VET organisations and associations);

<sup>4</sup> In December 2017, the University of Bologna (UNIBO) elaborated a Methodological Template to provide the Diagnostic Assessment with a sound methodology and assessment tools. Partners contributed to the Methodological Template and UNIBO finalized it by the end of January 2018.



- welfare system: public and private institutions engaged in providing assistance to vulnerable adults, especially migrants (e.g., social assistance programs; charity foundations; social cooperatives);
  - migrant-based associations: public and private institutions dealing with migration issues (e.g., migrant associations; inter-cultural centres; non-governmental organisations).
- c) relevant initiatives and projects carried out at the local and national level targeting migrants and migrant women with a STEM background in particular;

In January, each partner elaborated its own *Stakeholders' list* and started to get in touch with those organizations that facilitated the subsequent phase of the Diagnostic Assessment, that is, the Qualitative Needs Assessment.

- **Qualitative Needs Assessment** (February-April 2018) consisting of primary data collection aimed at investigating perceived obstacles and training needs for women with a STEM background.

To this end, The Consortium agreed to realize in-depth, semi-structured interviews (either individual or collective), and focus groups to reach at least ten migrant women with a STEM background in each country.

Moreover, each Consortium partner agreed to realize at least one in-depth semi-structured interview targeting professionals in order to gain further insight on barriers affecting migrant women positive inclusion in the labour market and to explore professionals training needs to be further inquired through the subsequent phase of the Collaborative Diagnostic Assessment, the Quantitative Needs Assessment.

UNIBO elaborated interview outlines aimed at exploring the following issues with the two target groups:

a) migrant women with a STEM background:

- the migratory project;
- education and work experience in the country of origin;
- impact with the receiving country;
- labour market integration in the receiving country and current professional condition;
- future aspirations.

b) professionals:

- educational background and current profession;

- role and type of work carried out with migrants;
- main difficulties in daily work experience;
- perception on the main difficulties experienced by migrants in the labour market and in the host society more broadly;
- experience on mentoring and coaching strategies.

- **Quantitative Needs Assessment** (April 2018- ongoing) consisting of primary data collection through an online survey aiming at investigating professionals' training needs.

In February 2018, partners shared the preliminary insights gained from the first two phases of the Diagnostic Assessment in order to allow UNIBO drafting the main issues to be explored through the questionnaire. Drawing on existing literature on the topic, the survey was progressively elaborated by UNIBO and translated by partners into national languages. Likert scales were used in order to facilitate data analysis by UNIBO.

The following specific issues are currently under inquiry through the online survey:

- a) important factors fostering the employability of migrant women with a STEM background;
- b) employability-related barriers for women with a STEM background;
- c) employability-related resources for women with a STEM background;
- d) professionals' training needs;
- e) professionals' self-efficacy;

The results of the online survey will be published at a later moment on the website as separate report on the Quantitative Needs Assessment.

## 2. A COMMON GOAL, BUT MANY CONTEXTUAL SPECIFICITIES: THE CONSORTIUM AS A HETEROGENEOUS PLAYGROUND

The United Kingdom, Sweden, Italy, Greece and Hungary have different migration histories, as well as specific immigration flows and policies addressing the challenges posed by international migration in terms of both social inclusion and cohesion.

The Environmental Assessment allowed partners framing those commonalities and specificities that must be taken into account in EUMentorSTEM implementation, in order to

make sure that all the project activities are grounded on the actual realities making up the Consortium.

Since post World War II, the United Kingdom and Sweden have become immigration countries; since that moment, in Sweden the number of immigrants has far exceeded the number of emigrants. Italy, Greece and Hungary, instead, have become immigration countries more recently (1980's and 1990's), after decades of massive emigration to other European and Extra-European countries. By progressively acknowledging the non-temporary nature of immigration processes, only in the last decade, have these countries begun to discuss issues related to so called "second generations" and "new citizens".

In more recent years, the European Union has faced the so-called "European Refugees Crisis": following the war in Syria and the difficult post-conflict transition in Libya, migration flows to Europe has steadily increased. For their geographical position, Italy and Greece were the two main entry points for thousands of persons who have crossed the Mediterranean and the Aegean Sea to escape violence and war, or to pursue better living conditions. Focusing on asylum seekers, the three main citizenships of applicants in the two countries are quite different, though: in 2016, most of the asylum seekers in Greece came from Syria, Iraq and Pakistan, while asylum seekers applying in Italy came in most of the cases from Nigeria, Pakistan and Gambia<sup>5</sup>.

Together with Germany, in 2016 the United Kingdom and Italy registered – in absolute terms – the highest numbers of foreigner residents (around 8.7 million and 5.6 million respectively). As far as the foreigners' incidence rate on the overall population is concerned, the lowest one is registered in Hungary (1.6%), while UK, Italy, Sweden and Greece present similar – although different – percentages: 8.6%, 8.3%, 7.8% and 7.4% respectively.

While in Sweden, Italy, United Kingdom and Greece foreigners are mainly coming from so called "Third countries", in Hungary most of the foreigner population was born in a EU28 state<sup>6</sup>. The main nationalities of foreigners living in the five Consortium countries, then, varies consistently (for more details, see Country-level Reports). Women represent the majority of the overall foreign population only in the UK and in Italy (about 52% in both countries).

Comparing the five partner countries, highly skilled migration appears to be as a varied phenomenon: the UK is the only European country where foreigners are more educated than natives, while Italy is one of the countries within the EU with the lowest levels of

<sup>5</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Five\\_main\\_citizenships\\_of\\_\(non-EU\)\\_asylum\\_applicants,\\_2016\\_\(number\\_of\\_first\\_time\\_applicants,\\_rounded\\_figures\)\\_YB17.png](http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Five_main_citizenships_of_(non-EU)_asylum_applicants,_2016_(number_of_first_time_applicants,_rounded_figures)_YB17.png)

<sup>6</sup> [http://ec.europa.eu/eurostat/statisticsexplained/index.php?title=Migration\\_and\\_migrant\\_population\\_statistics/it](http://ec.europa.eu/eurostat/statisticsexplained/index.php?title=Migration_and_migrant_population_statistics/it).



qualification in the migrant population. In a way, migrants' low qualification levels (only 12% have tertiary education) mirror the low qualification levels achieved by Italians aged 25-64 years old (only 17% have tertiary education). Hungary has the highest rate in Europe of non-EU born citizens participating in adult education and education is the second main reason reported by foreigners applying for residence permit.

The global economic crisis that has started in 2008 had an impact on the economies of all Consortium partners, but it stroke particularly Southern European countries such as Greece, Italy, Spain and Portugal. In Italy and in Greece, specifically, the crisis resulted in a dramatic increase of youth unemployment rates (over 40% in both countries) and in an increase of emigration flows. However, compared to the past, current emigration from Greece and Italy is characterized by increasing numbers of highly qualified young people in their 30's, who decide to pursue a career in Northern European nations. Contrary to Hungary – who has also experimented increasing emigration by native population during the crisis – the Greek and Italian labour markets seem to offer poorer, low-skilled job opportunities not only to migrants, but to the younger groups of the population more broadly.

Notwithstanding country-specific trends and features, some common elements emerged from the Environmental Assessments carried out by all partners (for more details, see Country-level Reports):

- migration issues are currently a sensitive topic in all the Consortium countries; a backlash towards immigrants and asylum seekers resulted in more restrictive immigration policies and in a public rhetoric celebrating “native values” vs multicultural ones;
- migrant women generally face deskilling and underemployment in all the receiving countries' labour market: they are frequently overqualified for the job they are actually employed for and they generally earn less than both native women and migrant men;
- migrant women are frequently employed in care-related professions (mid-wives, domestic workers, baby-sitters, nurses, etc.).

### 3. THE QUALITATIVE NEEDS ASSESSMENT IN THE CONSORTIUM

#### 3.1. Overview of the participants reached

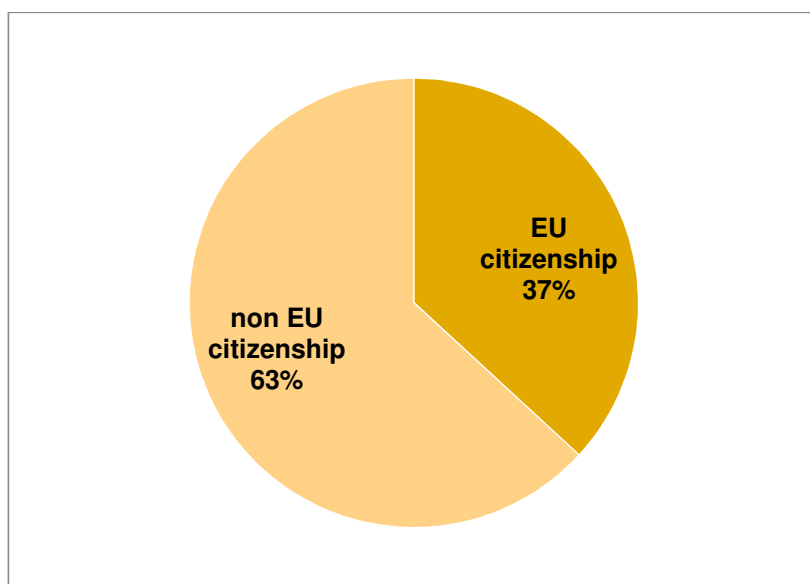
During the Qualitative Needs Assessment Phase, partners got in touch with several national and local stakeholders to introduce them EUMentorSTEM and to involve them in the project implementation. This contact-making phase enabled the realization of the Qualitative Needs Assessment: in fact, in many cases stakeholders collaborated as “gatekeepers”, facilitating the connection between the EUMentorSTEM Research Teams and the two target groups.

The Consortium reached an overall number of 57 migrant women with a STEM background; 4 of them can be considered as “second generation” immigrants, while one woman is a second generation emigrant, who was born abroad but who has come back to her parent’s EU country of origin in adult age. Partners also carried out interviews and focus groups reaching 25 professionals.

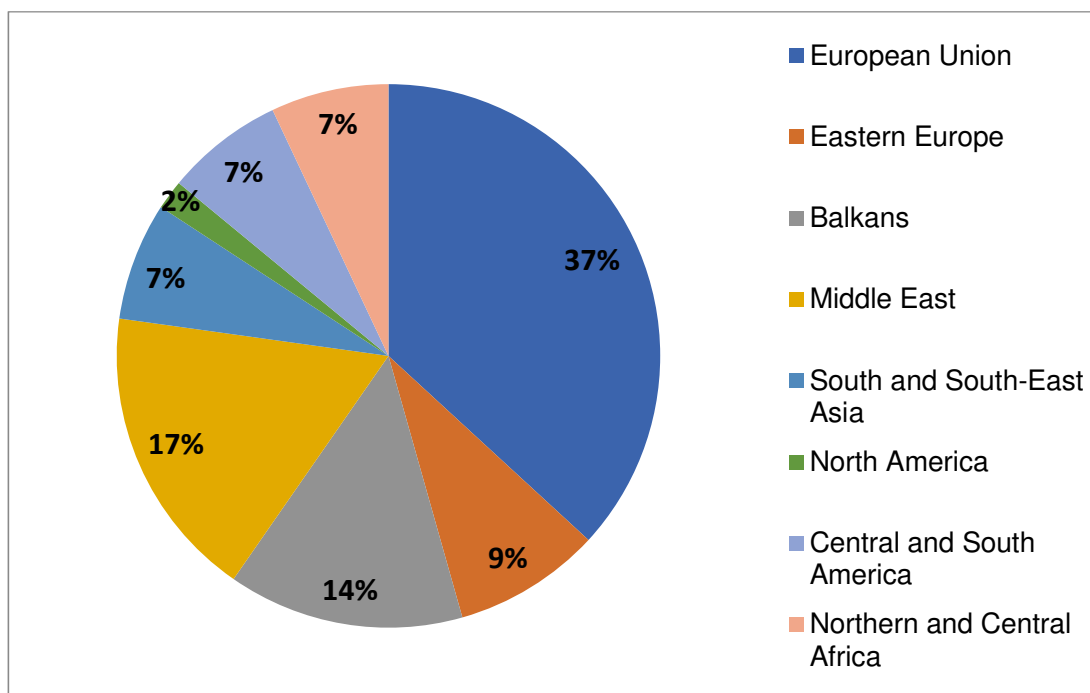
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PARTNER COUNTRY	WOMEN REACHED	PROFESSIONALS REACHED
GREECE	13	2
HUNGARY	10	2
ITALY	13	12
SWEDEN	11	8
UNITED KINGDOM	10	1
<b>TOT.</b>	<b>57</b>	<b>25</b>

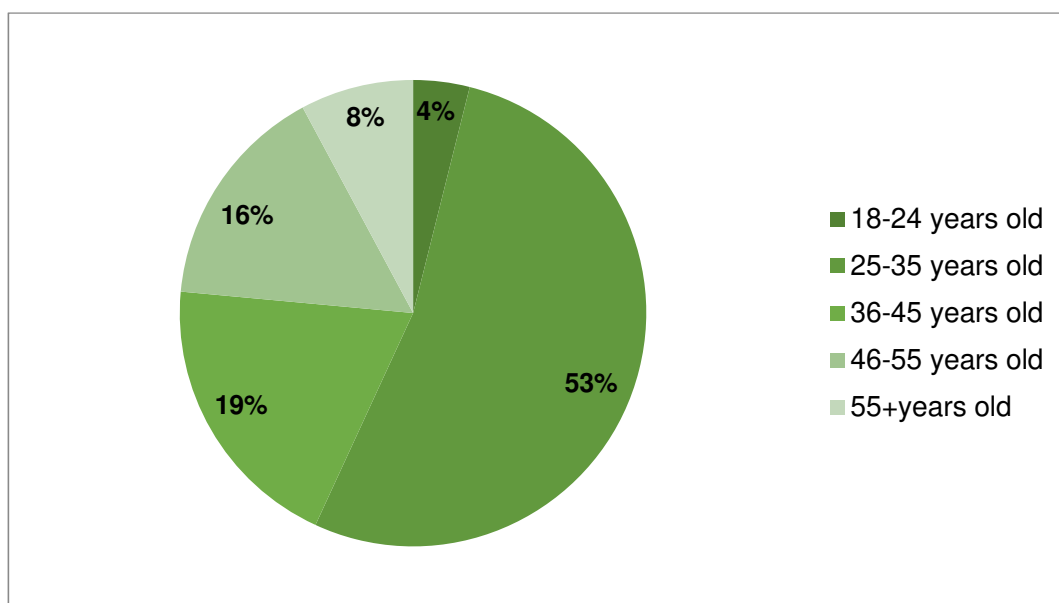
Out of the 57 migrant women, 21 have **citizenships from EU28 countries**, while 36 have **citizenships from 17 so called “Third countries”**.



The distribution of **migrant women per Regions of origin** is summarized in the graph below.



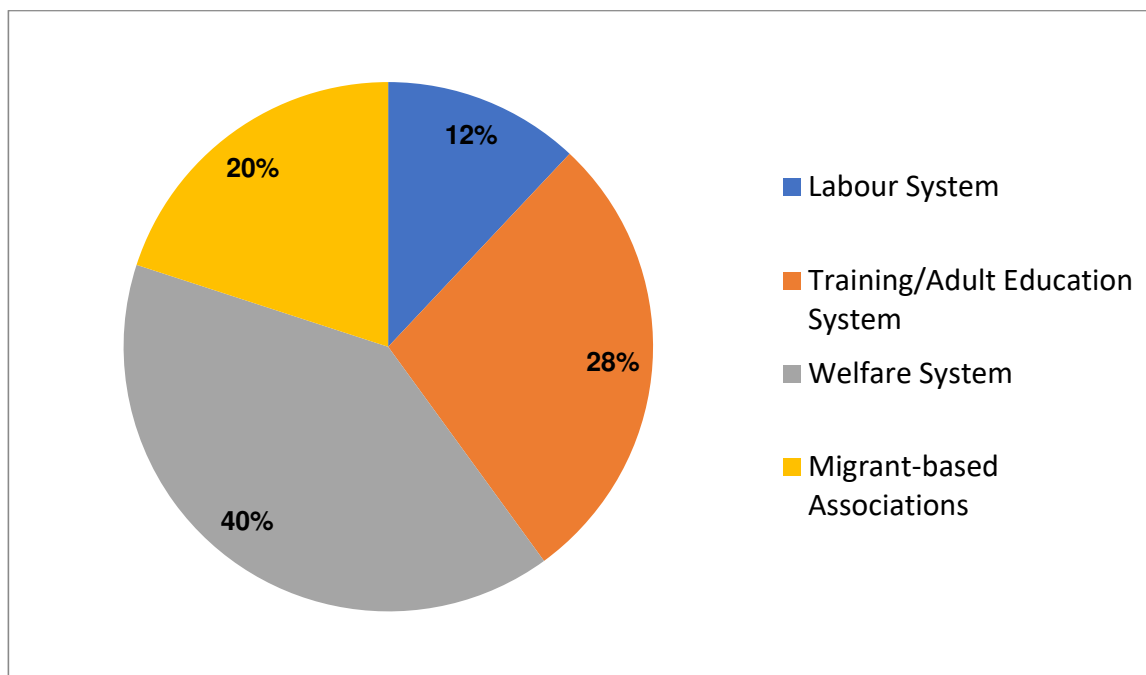
Most of the women who participated in the study were 25-35 years old<sup>7</sup>. A description of the overall interviewed **migrant women per age range** is summarized in the following graph.



<sup>7</sup> 51 out of 57 women provided full details on their age.

Professionals who participated in the Qualitative Needs Assessment are mainly women (78% vs 12% men). The organizations they work for belong to the four categories identified in the preliminary phase of the Diagnostic Assessment. **Professionals per type of represented organization** are presented in the graph below.

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For more details on the Qualitative Needs Assessment participants' profile in each Consortium country, see the Country-level Reports.

### 3.2 Access to the STEM labour market: barriers and resources for migrant women

Although the differences characterizing the five Consortium countries differently shape migrant women's experience in the receiving community, the Qualitative Needs Assessment allowed identifying common barriers jeopardizing the positive access of female immigrants to STEM professions (and access to high-skilled jobs more broadly), as well as potential resources that may sustain migrant women's employability.

Some of the barriers that emerged are structural: they have to do with bureaucratic and legal constraints and some of them were reported by both migrant women and professionals. Others are more related to individual difficulties. While most of the structural barriers lay

beyond women's and professionals' possibility to change effectively the *status quo*, individual barriers can be addressed.

	<b>STRUCTURAL BARRIERS</b>	<b>INDIVIDUAL BARRIERS</b>
<b>AS REPORTED BY MIGRANT WOMEN</b>	<ul style="list-style-type: none"> <li>▪ legal status and the different rights it entitles</li> <li>▪ bureaucratic procedures to get and maintain visa/residence permit</li> <li>▪ difficulties in the validation of the certificates achieved in the country of origin</li> <li>▪ a stagnant economy and poor job opportunities</li> <li>▪ uncertainty triggered by immigration policies perceived as more and more restrictive</li> <li>▪ ethnic prejudices and daily racism</li> <li>▪ gender discriminations and work-life balance problems</li> </ul>	<ul style="list-style-type: none"> <li>▪ lack of networking with natives supporting labour market inclusion</li> <li>▪ discouragement stemming from negative work experiences (and from the impact with the bureaucratic constraints of the host society) weakness in self-efficacy level (job search related)</li> <li>▪ lack of knowledge of the national labour market (how does the it work)</li> <li>▪ perception of a poor mastery of the receiving country language</li> </ul>
<b>AS REPORTED BY PROFESSIONALS</b>	<ul style="list-style-type: none"> <li>▪ legal status and the different rights it entitles</li> <li>▪ bureaucratic procedures to get and maintain visa/residence permit</li> <li>▪ difficulties in the validation of the certificates achieved in the country of origin</li> <li>▪ recruiters tend to underestimate skills and competences</li> </ul>	<ul style="list-style-type: none"> <li>▪ weakness in self-efficacy level (job search related)</li> <li>▪ weakness in soft skills levels (e.g. communication skills, time management, flexibility, openness, perseverance, etc.)</li> <li>▪ poor mastery of the language of the host country</li> <li>▪ lack of social networks</li> </ul>



An individual's positive psychological state of development is characterized by several factors (Luthans, Youssef, Avolio 2007, p. 3)<sup>8</sup>, including:

- a) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks;
- b) making a positive attribution (optimism) about succeeding in the present and in the future;
- c) persevering towards goals (hope) in order to succeed;
- d) When beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success.

The women interviewed in the Consortium shared two important resources that are crucial in fostering a positive labour market inclusion (and social inclusion in the receiving country more broadly): the ability to adapt to a new environment and resilience.

These two psychological resources represent important protecting factors against vulnerability. Structural – and sometimes overwhelming – barriers, though, can undermine them.

### 3.3 Emerging Training Needs

Most of the migrant women who participated in the Qualitative Needs Assessment carried out at the Consortium level reported that it is quite hard to understand how the labour market works in the receiving country: finding a job is a job in itself that requires active job search techniques that most of the women interviewed feel they lack. Moreover, it is challenging for them to accede proper recruiting channels. In this regard, both migrant women and professionals identified networking with “natives” as crucial in fostering job finding: many migrant women have few opportunities to establish relationships with native peers and lack professional role models.

While women acknowledged that improving their communication skills would help them succeeding in job finding, professionals pointed out that training on “how to realise a good job interview” could be necessary for women who are not familiar with those unwritten norms informing social interactions typical of the work domain in the receiving country.

Both migrant women and professionals identified improving self-efficacy and self-esteem as important factors in fostering a positive labour market inclusion. In the long end, repeated negative experiences in the receiving country, as well as failures in job finding can affect

<sup>8</sup> Luthans F., Youssef C.M., Abolio B.J., 2007 Psychological capital, New York, Oxford University Press.

women's perception that their efforts will help them pursuing their purposes, undermining their resilience and coping strategies.

As far as professionals are concerned, stress management emerged as a major issue: structural barriers (such as bureaucratic and legal constraints) and daily interactions with vulnerable beneficiaries may eventually trigger burnout processes. Moreover, many professionals pointed out their weakness in leadership, coaching and mentoring skills levels, as well as the need to improve their knowledge on active job search techniques to better support the beneficiaries they work with.

In some countries, the need to improve networking with other realities working with migrant women emerged: although most of the professionals reported collaboration with other institutions as a standard practice, in many cases the need to improve already established relationships arose during interviews and focus group. For some of the stakeholders' organizations involved in the Qualitative Needs Assessment, migrant women represent an almost unknown target and networking with other institutions dealing with them in other domains would help working with this very specific category of beneficiaries from a more integrated approach.

Migrant  
Women  
Training  
Needs

- **DEVELOPING SEVERAL SOFT SKILLS:**
  - Relationships area (interpersonal interactions, communication, role models)
  - Diagnosis area (analysing one's own career and making it useful in the new context)
- **IMPROVING SEVERAL PERSONAL RESOURCES:**
  - Self-efficacy
  - Self-esteem
- **INFORMATION ON THE LABOUR MARKET SYSTEM**
- **ACTIVE JOB SEARCH TECHNIQUES**

Professionals  
Training Needs

- **DEVELOPING SEVERAL SOFT SKILLS:**
  - Relationships area (interpersonal interactions, communication, leadership and coaching)
  - Coping area (stress management)
- **ACTIVE JOB SEARCH TECHNIQUES**
- **NETWORKING WITH OTHER INSTITUTIONS** working with migrant women in different domains (welfare, labour market inclusion, entrepreneurship, training)



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## **EUMentorSTEM**

**Creation of a European e-platform of MENTORing and coaching for promoting  
migrant women in  
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### **Annex 1**

#### **Intellectual Output 1**

##### **Diagnostic Assessment**

##### **Environmental and Qualitative Needs Assessment**

##### **Country-level Report GREECE**

**Greek Women's Engineering Association- EDEM**

**April 2018**

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## PART 1. ENVIRONMENTAL ASSESSMENT

### 1. INTRODUCTION

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Greece is a European country where migration issues are present continuously in its contemporary history in different forms depending on political and financial circumstances. So it sounds useful, before the presentation of nowadays situation, to have a look at the Greek migration history during the 20th century and share some of the social changes which played an important role in the integration of migrants reaching Greece since 1990 and on. The following short review of Greek migration history, also known as 'Diaspora' (=dispersion) is based on a variety of research references in Greek and in English [1]-[8], official statistical data [9] and /semi-official data [10]-[12].

#### 1.1 Migration background in 20th century

The end of the 19th century found the Greek state in bankruptcy. That resulted in an excessive wave of Greek emigration, mainly the USA, which reached the number of 450.000 Greek migrants when Greek population was approximately 5.500.000. Most of them suffered discrimination in payment and work conditions as those times labour rights were not respected, [1]-[6]

In two decades time, Greece, which had not been able to recover yet, had to give shelter to 1.500.000 Greek refugees, who reached Greece (Aegean islands, Piraeus, Thessaloniki etc.) in 1922, when the Greek army was defeated by Turkish troops in Asia Minor, [4]. All the Greek population (with Turkish citizenship) living there, had to leave their homes to save their lives under extremely fearful conditions. The male population was kept prisoned in the main land (their destiny is not clear until today) and women had to leave only carrying their children and grandparents. A part of them did not manage to get into the Greek rescue boats. The rescued people reached Greece's coast line with nothing but their lives. That was the first time Greek society faced a refugees crisis in their land.

Although that immigration population was Greek (same language, same, religion, approximately same culture), their integration lasted years mostly because of the difficult financial situation and the unstable civil status of the country. A large part of the refugees had to overcome very hard conditions to stand on their feet and gain their place in the society although they were given Greek citizenship. Those times, women and girls refugees (which



were the majority) found work as helping personnel in upper class families, while men and boys refugees were used as cheap labour personnel in industries. To have the whole picture, living conditions were quite the same for a large part of the local population, and Greek migration to USA continued. Greek state built houses for refugees, mostly in isolated areas and gave them neglected land to cultivate. There was lack of understanding of their culture and they were victims of social discrimination. As example, one can mention that their musical tradition known as 'rempetiko' was once forbidden by the state while later on was embraced by people and influenced Greek music production.

During World War II, all Greek people shared a common destiny: the war destroyed all country's structures and wealth, not to mention the extensive loss of human lives due to famine. After the end of the war, Greeks were emigrating again in thousands to the United States of America and later to western European countries (West Germany, Belgium etc.) in order to gain their families' cost of living. The same period, a cruel civil war was taking place in a large part of the country.

The bloody end of the civil war led to a second wave of civil migration of Greeks to eastern European countries (Eastern Germany, Hungary etc.) and Soviet Union (USSR). These civil refugees were not permitted to exit these countries, nor welcome to their birth country due to the iron curtain characterizing cold war period.

Migration of Greeks to western European Countries kept on until end of 60s, [2], [4]. Most Greek migrants left their birth country without any certified qualification, neither speaking the language of their destination country. This is why they were employed in low income and high risk jobs, [1]-[9]. Western economies were developing fast that period and Greek migrants took benefit ameliorating their economic and social status while they were sending money to their families in Greece. Meanwhile back in Greece, country population left their villages and migrate to large towns, looking for jobs in construction and industrial sector (steelworks, textiles industries, etc.). Large towns also received approximately 100.000 Greek people living in Istanbul, who were forced to leave Turkish territory.

In 1967 dictatorship was established by the Military Junta in Greece which lasted till 1974. During that period, distinguished politicians and promising young students managed to escape from the military state and were given civil asylum mainly in France and Italy. The dictatorship lost the power in 1974, after Turkish attack over Cyprus which created a migration wave of Cypriots in Greece.

The democratic period, which followed these crucial years, resulted in development both in economic indicators and in civil and labour rights. That period 2nd and 3rd generation of Greek migrants visited often Greece and some of them established their life in Greece. They had Greek nationality. These years, Greece started to be a destination country for small

communities of economic migrants from Africa citizens (e.g. Egyptians) and from Asia (e.g. Philippines).

In Greece there is also a large community of Roma Greek citizens (~250000) and a lot of projects took place for their integration in contemporary Greek society.

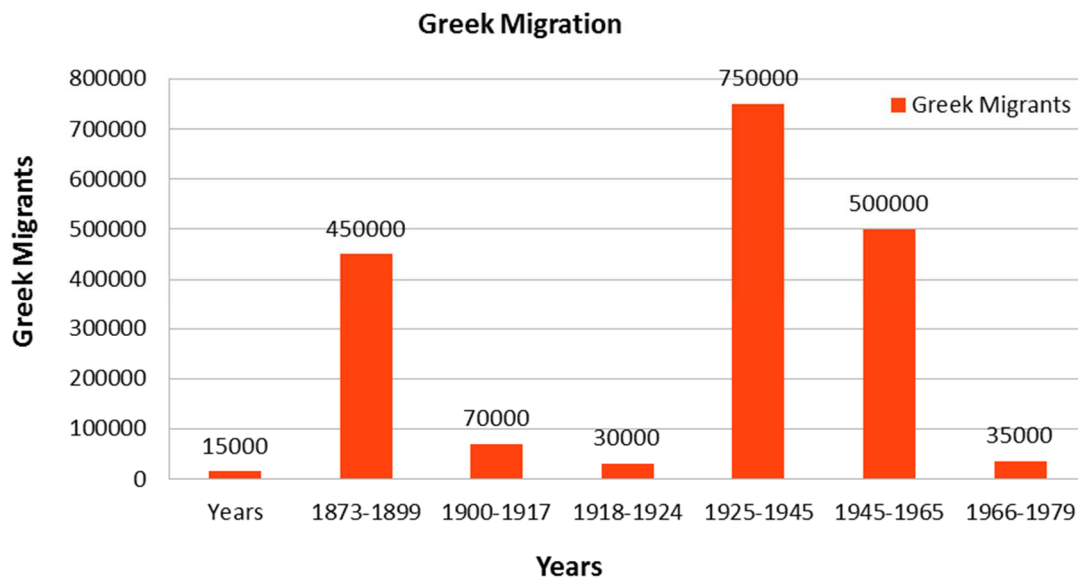


Figure 1. Greek Migration 1873-2004 (Gross numbers [3], [9], [10])

## 1.2 Migration background in 21st century

In 1990s the opening of the borders of eastern European countries influenced Greek Economy as a large number of migrants came to Greece from Balkans (Albania, Bulgaria, Romania) and central European countries (mainly Poland), [4], [6], [11], [12], [14]. Greek state had no established process to confront that enormous migration wave of people looking for better living conditions but Greek economy was in growth and these migrants found occupation: men in construction sector or in agriculture and women in housekeeping and agriculture. For most of the women migrants, occupation was independent from their educational level, which was much higher. It is still quite rare to be able to overcome their first job level.

The case of Albanian migrants is quite special because

a) their migrant population was increasing in high rate and soon reached a high number,

b) there was Greek population with Albanian citizenship ('homogeneis') living in northern borders near Greece, who all previous years were not allowed to visit Greece.

At the beginning, these migrants (men and women) faced discrimination in payment, but in a few years' time they managed to establish good rates and work for themselves. Balkan migrants were supported by Greek population who gave them occupation in their fields and in their houses. The state included all economic migrants in health care system (according to the law for people with low income) and their children in the educational system. It has to be mentioned that no providence was taken for any maternal language lessons for migrant children or support for the parents, [14], [15].

Except Balkan and central European migrants, a large wave of economic migrants from ex-Soviet Union Republics (e.g. Georgia, Ukraine, Estonia, etc.) reached Greece. A large part of them were female and they were occupied in housekeeping or nursing for the older members of families. That women migration wave covered a significant percentage of human trafficking via Greece (or in Greece) which still exists.

When the workhour rate of the Balkan migrants increased, a large number of new incoming male migrants from Pakistan arrived in Greece. They were occupied in large public works especially before the Athens Olympic Games (2004) and in large agricultural estates. Their working conditions in agriculture in some cases were extreme: very low payment, unhealthy living conditions. They even faced racist violence and one case was brought to the court.

Greece's economy is based mainly in building construction, tourism and agriculture. These sectors could not provide adequate employment for the Greek youth who in most of the cases are highly educated [28]. The youth and women unemployment in Greece was one of the higher in Europe when the international financial crisis stroke (2007-8). Greece was not able to overcome the impact of the crisis and the population (Greeks and migrants) faced the largest recession in Europe. The crisis proved to be long enough to burn off the state's and people's resources. Unemployment doubled in a few years [17].

A part of migrant population left Greece because of the total breakdown in technical sector. The majority of migrants decided to stay because their children were in the middle of their adaptation process in Greek educational system. Government had to increase taxes for all incomes and cut important part of social benefits. The web of social cohesion suffered serious gaps. Unemployment increased the number of Greek people who blamed migrants for the disability of the state to support Greek citizens. There was tolerance against racist behaviour for the first time after decades.

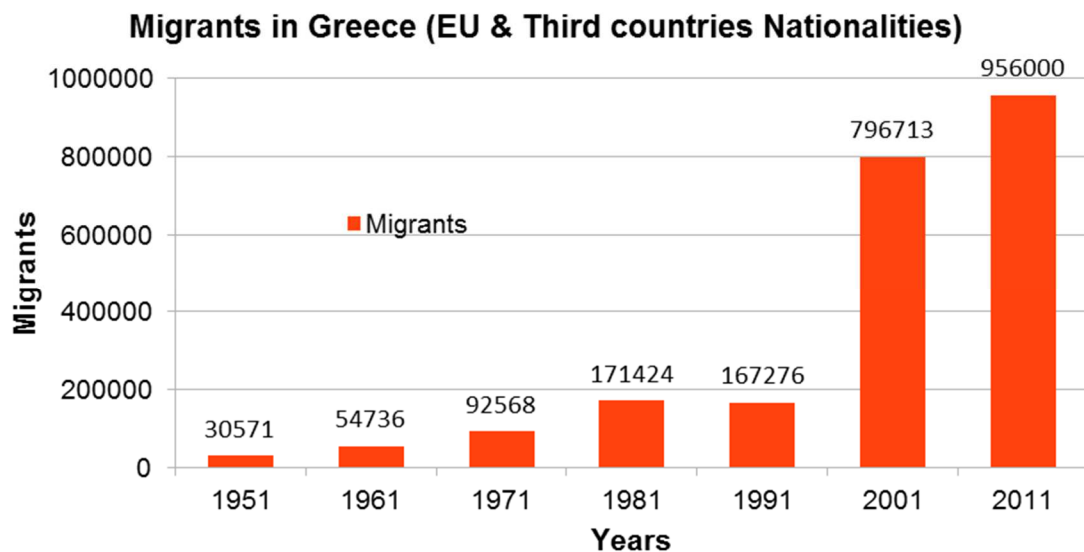


Figure 2. Migrants in Greece according Official Population Censuses [9], [14]

A part of Greek people decided to leave their birthplace and look for employment in European countries mainly in Germany, UK, Austria, etc. This 21st century Greek migration wave is totally different for any previous one. This time migrants were highly qualified men and women (engineers, medical doctors, scientists) in their 30s and resulted in a large brain drain, [16], [20]. This Greek scientists' migration had not ameliorate conditions for rest of the people. Financial conditions were strict enough and no new investments arrived.

### 1.3 The current refugees crisis

This was the background when, in 2014, due to continuous war in Syrian, refugees from Turkish camps reached Greek islands traversing Aegean sea on small boats, which were not supposed for such a trip. The number of boats and refugees arriving was increasing with high rates, as Greece seemed to be a door to peaceful countries and social care of Europe. Most of them were families, but there were also unaccompanied children. There was a humanitarian crisis because Greece had not the means to face effectively hundreds of desperate families. Together with Syrian and Afghan refugees, a variety of other nationalities (Moroccans, Nigerian, etc.) took benefit of gaps in security procedures and entered Greece declaring themselves as refugees). At the point of arrival in the Greek territory, it is not immediately possible to distinguish between the two categories of persons. Refugees as well as migrants use, today, the same routes of transit and entry. Greek people stood by the refugees in islands and in cities. All around the country, they were sensitive because

refugees' situation was so similar to the one their ancestors faced a hundred years before and a huge support was offered by Greek NGOs, Church initiatives and volunteers.

A large number of refugees found their way to European countries where their relatives already were established (Germany, Sweden, Austria etc.). In 2017, the 'European path' closed and Greek state had to host thousands of refugees in Greece for a long period. The central government decided to spread some refugees' communities around the country because living conditions in the islands campuses were exhausting. In some areas they were not welcomed, but in the majority of the cases the local authorities managed to calm citizens' doubts and with the support of NGOs offered them secure shelters, food and education for their children. Meanwhile, Greek officers managed to organize, with the support of the UNHCR, safe procedures in order to distinguish between the refugees who came from war areas and were entitled asylum, from migrants who were looking for work or better living conditions.

This procedure is time and (wo)men consuming and a large part of the personnel who served migrants' citizenship procedures are now occupied in the refugees' crisis. The result is that the citizenship procedures of migrants who were already established in Greece are getting slower and a large part of migrants are stuck without citizenship and full labour rights. This situation increases unregistered (black) occupation, so migrants have no health insurance and the state cannot receive taxes. There are people who complain because the state supports refugees and migrants, but that feeling is not shared by the majority of Greek society.

## 2. MIGRATION DATA

### 2.1 General Data on Migration

Data about migration and especially women migration are presented in the following paragraphs. All data presented below are based on official data [16]-[19] and on scientific researches done during national or EU projects [20]-[27]. A large investigation took place in order to find trustful data because as described below, Migrants' status (EU, nonEU nationalities & legal or not) changes rapidly and there are differences in data depending of the source (Ministries, Institutions, EUROSTAT, NGOs).

According to the Greek population census in 2001 [9] there were 796.713 foreigner inhabitants (migrants), with in Greece. The 690.000 of them did not hold EU nationality according 2001 EU member countries (Poland, Bulgaria and Romania were not included). Distinction between migrants with EU nationality and migrants without EU nationality is



important in Greece because EU citizens are covered by EU citizenship rights (community acquis). According to the 2011 population census [9] the permanent foreign inhabitants in Greece were 956.000 (8.5% of the total population). The ones without EU nationality were 803.000 (7.1% of the total population). It has to be mentioned that Poland entered EU in 2004 and Bulgaria and Romania in 2007 so migrants from these countries were not included in non-EU migrants. That migrant population consisted of 54% men and 46% women. A number of 4876 foreigner inhabitants did not declare any specific nationality.

In 2014, after 4 years of financial crisis, legal migrants without EU nationality were 473.124, [16]. Migrants from Albania were the majority (69%). The rest was covered by migrants from Ukraine, Georgia, Pakistan, Russia, India, Egypt, Moldova, Philippines and Armenia. According to Table 1 below, the 53% of migrants were men and 47% were women. There is variety of women to men ratio varies depending on nationalities. As far as Pakistani migrants are concerned only 9.6% were women. In contrary, as far as it concerns Ukraine migrants the 83% were women, 76% women in case of Russian and Georgian migrants and 70% in case of Moldavian migrants. A large number of migrants (especially men) left Greece because of the crisis and the recession. That percentage is higher in case of migrants with EU nationality.

Table 1: Migrants with non EU nationalities with legal status in 2014 [16], [20]

Legal Migrants without EU nationality in 2014			
Country	Men	Women	Total
Albania	183385	142143	325528
Ukraine	2936	14451	17387
Georgia	4684	10801	15485
Pakistan	13386	1237	14623
Russia	2091	10417	12508
India	9251	3079	12330
Egypt	8116	2753	10869
Moldova	2262	6807	9069
Philippines	2278	6420	8698
Armenia	2101	3443	5544

Total	230490	201551	432041
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According to EUROSTAT data [16], [20] all migrants (including EU and non-EU nationalities and persons without full legal status) reached 906.000 in 2014. The 158.000 of them hold EU nationality the rest (748.000) came from Third Countries (non-EU: Africa, Asia, etc). The majority of migrants were Albanians (577.000). Most of the migrants' families have at least 4 members. The 80% of migrants lives in cities. The 80% of migrants are in the age 15-64, while for the Greek population the 68% are in 15-64. Children in the migrant population are the 17%, while among Greek population they are the 15%. Albanian, Bulgarian, Romanian and Polish migrants are the majority in all ages, even considering migrants 85+. The changes in male and female migration from 2010 to 2014 are presented below in Figure 3.

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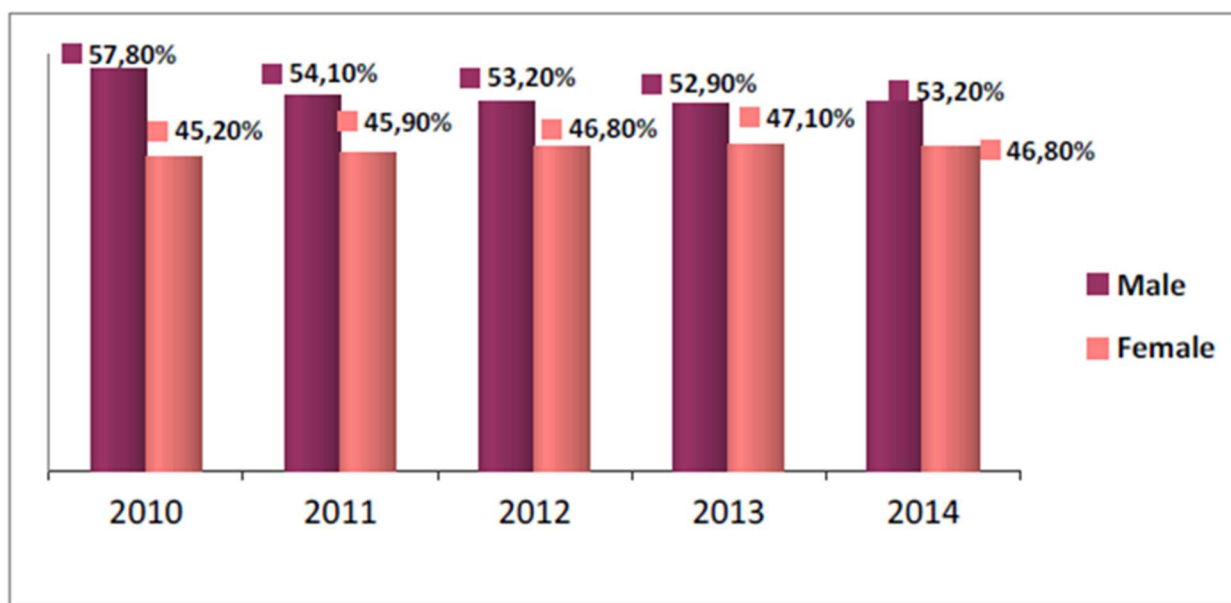


Figure 3. Male & female migration percentages 2010 – 2014, [20]

The latest available update data (January 2016) [16] about migrant population in Greece is the following:

Foreigners in Greece are 1.220.400, (11.3% of the total population). The 350.000 of them (3.2% of the total population) hold an EU citizenship and 870.300 (8.1% of the total population) hold citizenship of a Third Country; 798.400 (the 7.4% of the total population) of foreigners in Greece do not hold Greek citizenship. These people consist of 206.700 persons (1.9% of the total population) who have EU citizenship and 591.700 persons (5.5 of the total population ) who have not EU citizenship. During 2015, 13.900 persons acquired

Greek citizenship; the 95.6% of them came from Third Countries. Approximately, the 53% of foreigners are men and the 47% are women.

As far as it concerns their family situation, the majority of migrant women are married, while the half of migrant men is singles. The majority of migrants children are aged between 0-14 years old as it is presented in Figure 4. The ratio of girls and boys is presented in figure 5.

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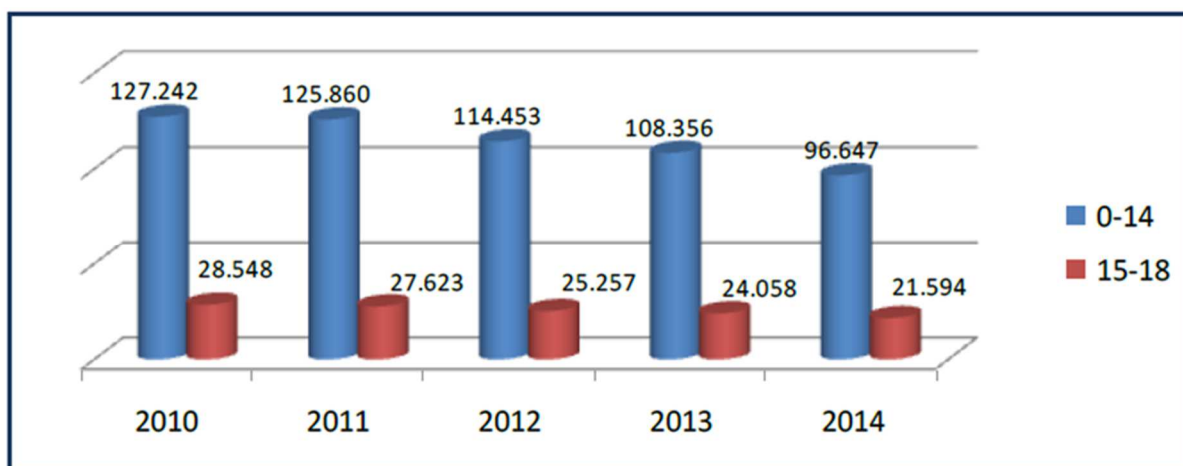


Figure 4. Age of migrants' children [20]

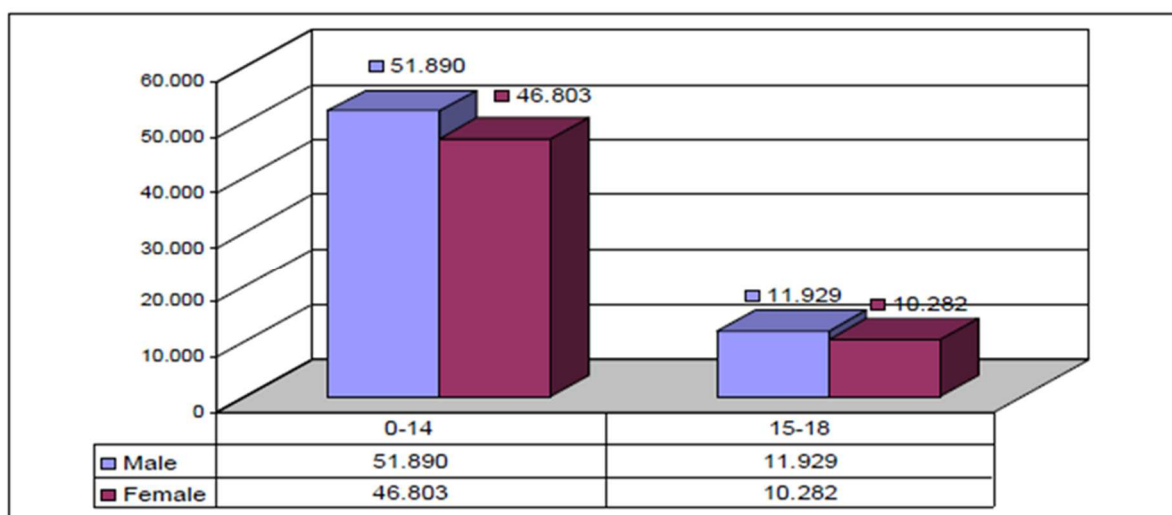


Figure 5. Male and female migrant children in 2014 [20]

## 2.2 Migration-Education-Employment Data

The research by the Greek Centre for Equality Research (K.E.TH.I.) on Women Migration in Greece -based on 2001 Greek population census -noted down important differences in the education level between men and women migrants. Women with higher education are more than men in migrant population and in the total. The following tables present information about the first large migration wave in Greece (2001 Population census). Those migrants formed the families for the 2nd generation of migrants: the migrant children who entered Greek educational system the following years.

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Table 3. Education level of Male & Female in Migrants and in Total Population (2001) [22]

	Migrant Population		Total Population	
Education level	Male	Female	Male	Female
6-12 years of education	89.9%	84.4%	83.4%	85.2%
Higher education	10.1%	15.8%	16.6%	15.0%

A research (published in 2007) [22] among a representative group of 612 migrant women all around Greece provided the results presented in Table 4. and Table 5.

Table 4. Education of Migrant Women in Greece (1st generation) depending on their Nationality [22]

Education level	Albania	Balkans	ex USSR	Other	Total
6 years	7.1	2.8	2.0	-	5.4
9 years	22.6	14.5	13.9	-	19.1
12 years	49.1	56.5	45.5	32.3	48.5
Higher education	20.9	26.1	35.6	67.7	26.5
No answer	0.3	0.1	3	-	0.5

The percentages of education level of Migrant women, varies according to the specific nationalities taken into account.

Table 5. Field of studies of Migrant Women in Greece per Nationality (2001), [22]

Field of Studies	Albania	Balkans	ex USSR	Other	Total
<b>Humanities</b>	21.4	26.1	17.3	35.0	22.1
<b>Art &amp; Music</b>	10.7	4.3	5.8	5	8.4
<b>Law</b>	2.3	4.3	1.9	-	2.2
<b>Socio-economic</b>	20.6	17.4	25.0	25.0	21.7
<b>Sciences</b>	6.1	8.7	5.8	-	5.8
<b>Engineering</b>	12.2	4.3	3.8	-	8.4
<b>Health</b>	6.1	-	17.3	25.0	2.7
<b>Other</b>	5.3	30.4	13.5	5	9.7
<b>No answer</b>	15.3	4.3	9.6	5	11.9

Recognition of Degrees in order to have a relevant job was not a choice for the majority of migrants because the available jobs for them (due to social distinction) did not require one, according to an ad hoc research in 2008, in Greece which is presented in Table 6,[18].

Table 6. Migrants attempting recognition of Degrees in Greece (2008) [18]



Recognition of Degrees in Greece – Resarch (2008)	Country of Degrees					
	EU-15		new EU-12		Third Country	
	Persons	%	Migrants	%	Migrants	%
No answer	4.527	14,6	10.671	16,8	52.089	12,9
Successful recognition of Degrees	1.579	5,1	1.216	1,9	5.771	1,4
Not successful recognition attemp	789	2,5	519	0,8	4.914	1,2
No,need (Degree in Greece)	11.540	37,1	4.330	6,8	35.473	8,8
Doesn't matter for the available jobs	9.538	30,7	39.226	61,6	254.207	63,1
No attempt, so far, for other reasons	3.127	10,1	7.699	12,1	50.321	12,5
Total	31.100	100	63.661	100	402.775	100

Migrants' children were included in Greek educational system. Participation of migrants' children in the Greek Educational system (2012) is presented in Figure 6 [20]. Approximately the 80% of migrants' children aged 15-21 years old participated in the Greek educational system in 2014 [20].

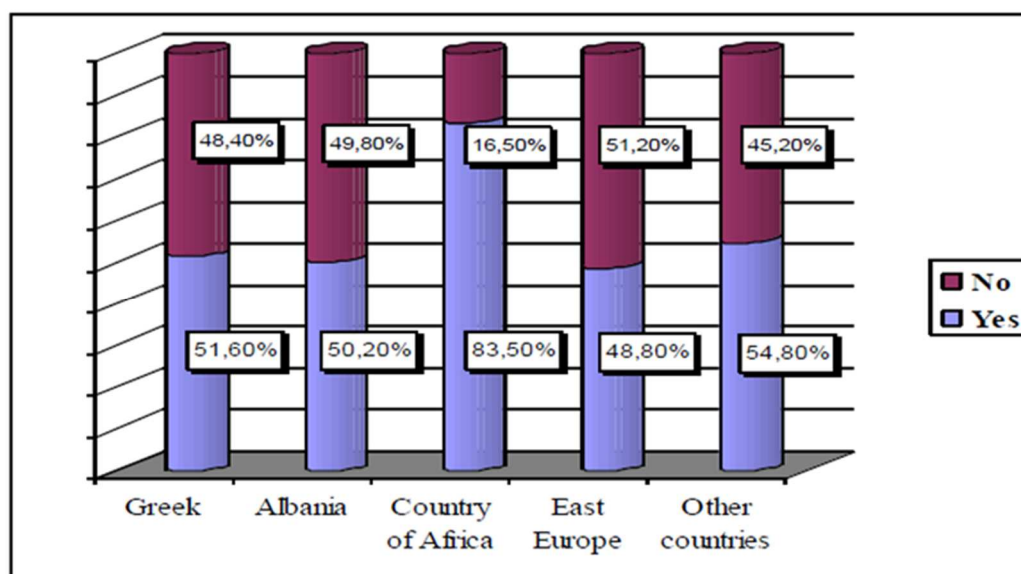


Figure 6. Participation of migrants' children in the Greek Education system (2012) [20]

The education level of migrants in comparison with the Greeks in 2014 is presented in Figure 7, [20]. In 2014, the participation of 2nd generation migrants in the Greek educational system is higher for the girls (61.4%) than for the boys (48.6%). There are cases in which girls do not finish their secondary education because their families don't support education for girls.

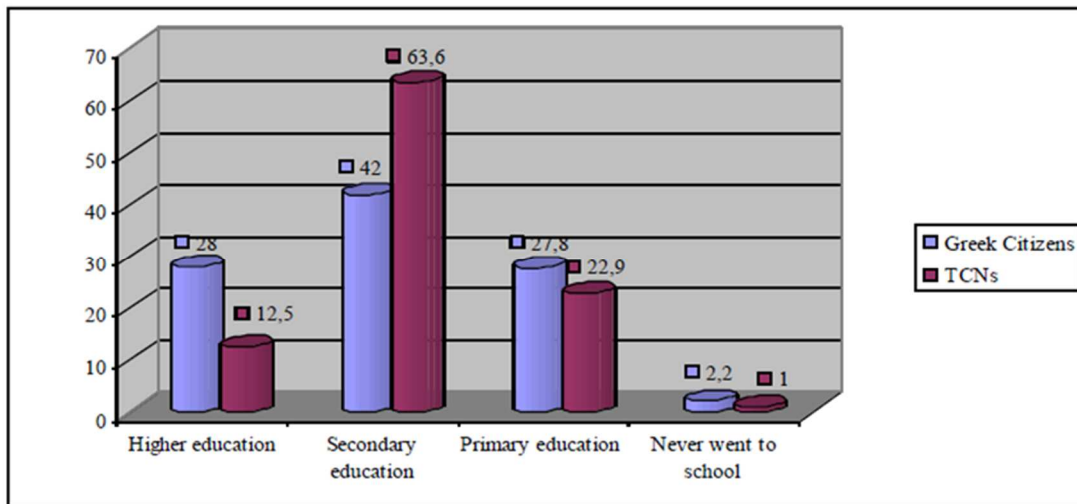


Figure 7. Education level of legal migrants with Third Countries' Nationality (2014) [20]

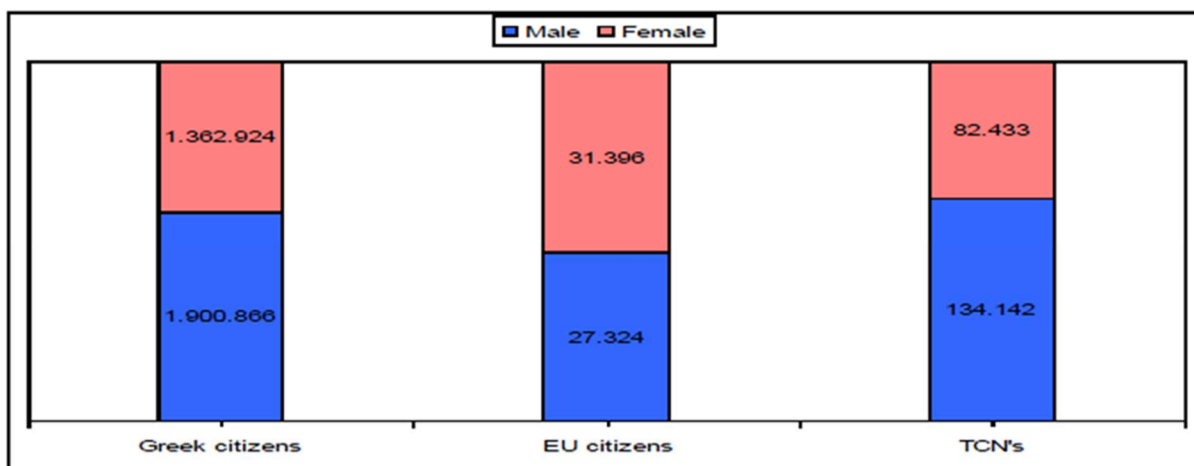


Figure 8. Employment rate in Greece in 2014, [20]

During the financial crisis in Greece, the employment rate of migrants was affected like the Greeks' one as it is presented above in Figure 8, according to 2014 statistics.

The 2017 OECD's report about Education and Employment indicators concerning Greece [17] resulted in the following conclusions:

- Among tertiary-educated 25-64 year-olds, 25% studied a STEM field, and 25% arts and humanities, social sciences, journalism and information. Combined, these fields of study represent half of all tertiary educated people in Greece,

6% more than the OECD average. In Table 2 male & female percentages of students in STEM (2017).

Table 2. Percentage of Male & Female students (2015) in STEM subjects, [9]

<b>Studies Categories (ISCED)</b>	<b>Total</b>	<b>Male</b>	<b>% Male</b>	<b>Female</b>	<b>% Female</b>
<b>Physics</b>	3676	2316	<b>63</b>	1360	<b>37</b>
<b>Chemistry &amp; Geology</b>	4900	1824	<b>37</b>	3076	<b>63</b>
<b>Mathematics &amp; Statistics</b>	8468	4473	<b>53</b>	3995	<b>47</b>
<b>ICT</b>	7179	5522	<b>77</b>	1657	<b>23</b>
<b>Engineering</b>	39440	24779	<b>63</b>	14661	<b>37</b>
<b>General Total in Higher Education</b>	<b>190962</b>	<b>81604</b>	<b>43</b>	<b>109358</b>	<b>57</b>

- However, the employment rate for tertiary STEM graduates is between 71% and 72%, only marginally above the average of 70% for tertiary-educated adults overall in Greece. This is lower than the OECD average, which ranges from 83% for natural sciences, mathematics and statistics, to 88% for information and communication technologies. Graduates who studied arts and humanities, social sciences, journalism and information have the lowest employment prospects of all fields of study in Greece, with an employment rate of 65% compared to the OECD average 81%.
- Only the 7% of tertiary-educated adults graduated from the field of education, although their employment rate is 73%, higher than the average rate for tertiary-educated adults in Greece. While teaching was once a popular profession in Greece, declining salaries and a freeze of new teachers recruitment that followed from the austerity measures implemented since the start of the debt crisis have negatively affected the attractiveness of the teaching profession.
- Comparatively, adults who studied health and welfare have the highest employment rates in the country, at 77% (OECD average, 87%), but only 12% of tertiary-educated adults have a degree in the field, due to the highly selective and competitive admissions process of health programmes in particular.



- In Greece, the 30% of 25-64 year-olds have attained tertiary education compared to an OECD average of 37%. More specifically, 25% have attained a bachelor's or equivalent degree (OECD average, 16%), 3% have attained a master's or equivalent degree (OECD average, 12%) and 1% have attained a doctoral degree, equal to the OECD average. Tertiary attainment rates have increased among the younger generation, with 41% of 25-34 year-olds having attained this level.
- Parents' educational attainment does significantly affect the likelihood of attaining a tertiary degree in Greece. The demanding entry exam to higher education created a flourishing shadow education sector, which left behind students from lower socio-economic backgrounds and unable to pay for additional tutoring.
- Tertiary education improves labour-market prospects, although unemployment rates remain high. Employment rates in Greece increase with educational attainment and continue to increase with further levels of tertiary education. The employment rate among adults with a post-secondary non-tertiary qualification in Greece is 61%, rising to 69% for a bachelor's or equivalent degree, 82% for those with a master's or equivalent degree and 88% for adults with a doctoral or equivalent degree.
- However, employment rates in general have been decreasing steadily since 2005 at all levels of educational attainment. Young adults with below upper secondary education have been hit the hardest, with a decline of 20 percentage points, compared to a decline of 14 percentage points for adults with upper secondary education or 13 percentage points for those with tertiary education. In 2016, Greek tertiary-educated 25-34 year-olds faced an unemployment rate of 28%, the highest among all OECD countries, which averaged at a 6.6% rate.
- Tertiary-educated adults can expect to earn 39% more than adults who achieved upper secondary education as their highest qualification level. This is a lower premium than the average of 56% across OECD countries.
- These lower labour market outcomes compared to other countries have driven a number of educated young adults to leave the country: 427 000 of them have left Greece between 2008 and 2013, half of them young professionals.



### 3. PROJECTS/INITIATIVES OF RELEVANCE FOR EUMentorSTEM

There are several initiatives/projects/NGOs for the support of Migrants; some of them concern special support for migrant women and children, some of them provide educational support (e.g. for Greek/English languages, Internet etc.), or inclusion activities (social networking, family support etc) or promoting entrepreneurship (e.g handcrafts etc).

Our research concludes that there is not any providence concerning migrant women with STEM background. It seems that Stakeholders ignore their existence and when asked they answered that these women are qualified enough and they have the educational background to plan their next step in a foreign country. Reality is disappointing because only a low percentage of these qualified migrant women have succeeded -after more than 10 years' work- in obtaining a job close to their studies and capacities.

Nevertheless, the following selected initiatives/projects/NGOs offer general and educational support to migrant youth and women:

#### 3.1.NGOs run by migrants

Greek Forum of Migrants (GFM) is a Network of Migrant Organizations and Communities in Greece. Founded in 2002. Mission: The promotion of migrant's integration by enhancing their individual and collective responsibility and participation, through collaboration with institutions, NGO's and society -on a national and European level.

Website: <http://www.migrant.gr> e-mail: [info@migrant.gr](mailto:info@migrant.gr)

Recent initiative: The "Youth engagement hubs - Greece" program has begun with the support of Mercy Corps, with duration 2 months, April - June 2018. This project offers:

- Information to refugees and migrants, for activities, services, legal issues, health, socio-psychological support and overall navigation.
- Greek and English conversation laboratories.
- IT laboratories: Basic computer literacy lessons, Employment skills (Writing CV, Job hunting online, Get ready for an interview).

For information: [greekforumofmigrants@gmail.com](mailto:greekforumofmigrants@gmail.com)



Women groups usually exist in each community e.g. Nigerian women's community etc. Their activities are focused in their members' relations and needs. Here only umbrella Organizations are mentioned:

African Women Organization : Funded on February, 2005. Aims and Objectives:

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1. To create awareness on various issues concerning the African women and their children living in Greece.
2. To support and fight for our rights especially for the second generation in general.
3. To create mutual bonds of solidarity between Africans and our host the Greeks.
4. To explore and incorporate the rich African woman heritage into the rich Greek heritage.
5. To work hand in hand with various social, NGOs and other Organizations that stand for justice, non- racial and friendly society for all.

Facebook: <https://www.facebook.com/pg/UnitedAfricanWomenGr/>

Migrant Women Network "Dimitra": a non-typical network of women key-persons in migrant's communities.

### 3.2. Initiatives run by Greek NGOs, volunteers or transnational groups

The Centre for Research on Women's Issues (CRWI) "Diotima" is a non-profit, non-governmental women's organization aiming at systematically highlighting discriminations against women on all levels of social, political and economic life. CRWI is a research centre specializing in gender and equality issues and a certified Centre for Counseling & Supportive Services, which plans and implements interventions and counseling activities for the support and empowerment of women in general and for the support of diversified groups of women (e.g. unemployed women, single mothers, victims of violence and trafficking, immigrants etc).

Immigrants' Sunday School : A special Sunday school in Athens which has hosted more than 6000 of refugees and migrants pupils, teaching Greek, English, German and computers in its free Sunday classes, with over 700 volunteers pitching in to teach, support and advocate.

Website: <https://www.ksm.gr/>

MELISSA : a network for migrant women in Greece, promoting empowerment, communication and active citizenship. e-mail: [melissa.mwnetwork@gmail.com](mailto:melissa.mwnetwork@gmail.com)

Facebook: <https://www.facebook.com/Melissanetworkgreece33/>

Antigone: is a nonprofit organization that was established in 1993. ANTIGONE's main offices are located in Thessaloniki with its branch in Athens. ANTIGONE develops activities on anti-racism and non-discrimination, human rights, social ecology, peace and non-violent conflict resolution. The aim of the organization is the promotion of equal opportunities for all without any discrimination -e.g. on the basis of sex, race, national origin, social/economic/educational status, disability, age, religion etc. Through its activities that are based on solidarity and active participation.

Website: <http://www.antigone.gr/gr>, e-mail: [info@antigone.gr](mailto:info@antigone.gr)

We Need Books: is an Athens based NGO that believes that multicultural spaces and books serve several important functions that can be of great benefit to all layers of the population of the city, including marginalized and vulnerable populations such as the approximate 55,000 refugees living in Greece. Over the last year, the organization has collected over 10,000 books, created small libraries

Website: <http://www.weneedbooks.org> e-mail: [info@weneedbooks.org](mailto:info@weneedbooks.org)

HARTS- HAnds on Refugees Talents and Sustainability: HAnds on, promotion and development of women refugees' talents and skills towards autonomy and inclusion in the Greek Society. HARTS is mainly about women empowering time and space where they design, train and support each other in their creations. It is also a recognition of what these women can bring to us and a way to encourage them to rely on themselves, to be autonomous. Facebook: <https://refugees.gr/harts-en/>

### 3.3. Academic Initiatives/Projects

The Centre for Gender Studies (Department of Social Policy, <http://www.genderstudies-panteion.gr/>) was set up in 2002 in Panteion University in order to launch research on gender in social and political sciences. The Centre co-ordinated the following two projects concerning Migration and Gender which sound quite prototype :

MIG@NET – 'Transnational Digital Networks, Migration and Gender': This project explored (2013-14) how migrant individuals and communities participate in the production and

transformation of transnational digital networks and the effect of transnational digital networks on migrant mobility and integration. Transnational digital networks were studied as instances of socioeconomic, gender, racial, and class hierarchies, where the participation of migrant communities entails the possibility of challenging these hierarchies.

Website: <http://www.mignetproject.eu>

Ge.M.IC 'Gender, Migration and Intercultural Interactions in South-EastEurope and the Mediterranean': This project was funded by European Commission within the FP7 (2008-2011). GeMIC explored the intersections between gender and migration in intercultural interactions as a critical nexus point where some of the most important contemporary socio-cultural developments are taking place. Ge.MI.C focused on the Mediterranean and South-East Europe as an intercultural space of migrant mobility and cultural diversity.

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### 3.4. Initiatives run by International NGO's in Greece

There are many international NGO's who run in Greece, projects supporting refugees and migrants especially concerning their everyday living, health care and languages courses. Career mentoring projects for migrant women is quite limited. One could mention 'ΕΠΙΚΕΝΤΡΟ' which is an empowerment Centre run in Athens by ActionAid's experienced staff and offers a variety of supporting activities to citizens and migrants such as: self-empowerment for women, mentoring for job seekers, support by law professional etc.

### 3.5. State Initiatives

Greek State focuses only in emergency issues concerning migrant and refugee women such as Safety: The General Secretariat for Gender Equality in Ministry of Interior, KETHI (Research Centre for Gender Equality) in cooperation with DIOTIMA (Greece), Differenza Donna ONG (Italy) and SURT Foundation, (Spain) run the project 'Building a safety net for migrant and refugee women' against violence towards migrant and refugee women in Greece, Italy and Spain.

### 3.6. Initiatives promoting STEM :

There is a lot of STEM initiatives/projects/NGOs run in Greece, these last years, some of them focus in girls and women but they do not mention migrants' needs. A quite prototype initiative concerning girls & ICT is the following:

Girls go Coding: an initiative run in Greece mainly by women qualified in ICT with aim to attract Greek girls and women towards Computer technology and digital applications and get them familiar with modern technology tools starting from primary school up to professional women who need additional ICT skills for their career advancement.

[https://www.facebook.com/pg/girlsGoCoding/about/?ref=page\\_internal](https://www.facebook.com/pg/girlsGoCoding/about/?ref=page_internal)

Back in 2014, the project 'Women and girls go digital in Greece' was launched by General Secretariat for Gender Equality, bringing together 17 Greek and 4 European stakeholders as partners under the same umbrella,

Website: <http://www.womengodigital.com>

EDEM participated in the following project promoting ICT networking applications to women 50+ : 'TYNET 50+: How young technological women can do network with women 50+' (2012-2014). During this GRUNDTVIG project EDEM contributed in the training of women not familiar with technology and older than 50 years, in the applications of new technologies, in order to get familiar with them and use them as part of their everyday life and their entrepreneurship plans.

EDEM is currently involved in ERASMUS + project 'Engineer for Future- ENGINE4F', promoting STEM at schools (pupils 13-15 years old) (<http://engine4f.aeva.eu/>). Good practices and tools resulting from these projects could be enriched with empowering material for migrant women and girls and used in training initiatives.

### 3.7. Women Mentoring Initiatives

There are a lot of mentoring initiatives/projects/ focusing in women run in Greece nowadays. Most of them focus in entrepreneurship and it wasn't possible to find anything designed for women Migrants with STEM qualification.

EDEM has gain experience in mentoring participating in the following projects:

'Women Educator in Mentoring - We: Mentor' GRUNDTVIG (2010-12). This project brought together experienced project co-ordinators of mentoring projects (particularly focused on women) and less experienced ones, in order to share knowledge and best practices.

'Women declare their active role for the protection of the Environment – the Gender perspective on the Environment' (2012-2014) funded by EU & Greece. EDEM organized mentoring sessions for young women engineers in order to empower them and present them career opportunities in Environmental applications of Engineering.

### 3.8. Conclusion

According, the above mentioned initiatives/projects/NGOs, it is clear that there is lack of initiatives in Greece focusing in Migrant women with STEM studies. So there is no social awareness about this issue and this could be the cause for their slow career progress in Greece and their disappointment.

## PART 2. QUALITATIVE NEEDS ASSESSMENT

### 4. INTRODUCTION

Summarising research results from the Environmental Assessment, Greece was the destination of a variety of migrant population in 1990s till 2005. That migrant population can be divided in two large groups: the first includes migrants coming from Balkan countries and migrants coming from ex USSR countries. The other group includes all migrants coming from Asia and Africa countries. The migrant women who entered labour market came mainly from the first group from Balkans and ex. USSR countries.

That period Greece was in development in construction, in agriculture and in tourism sections of the economy. Greece has also a large percentage of University graduates in Sciences, in Engineering, in Medicine etc.. So that period there was demand for cheap workers in the above mentioned sections of the economy: construction, agriculture, tourism. That demand was covered by the two groups of migrant population. There was no need for scientific personnel in Greece, so all coming migrants were employed in those fields. According to the Environmental Assessment (part 1), women migrants covered the demand of cheap workers in agriculture, in tourism and an equal part was occupied as assistant personnel in families for the care of older or children as Greek women worked outside home and there are not adequate social care structures. Most migrant women did not speak Greek language when entered Greece. They left their country due to failure of their state structures, lack of safety, assurance and freedom. The ones with relatives/connections in other European countries chose to search for a future in more industrial countries than Greece, such as Italy and Germany, for the others Greece was the closest country under EU. Most of the migrant women who entered Greece were in need of work to earn their basic living from the first day. Some of them were 'illegal' for a period of time. That period did not exist any social or national structure for their support.

### 5. NOTES ON METHODOLOGY AND PROFILE OF THE PARTICIPANTS

For EDEM's qualitative research, we formed a group of migrant women with STEM background (focus group). As it is described in Environmental Assessment (part 1) their number is not large and most of them are spread in a variety of jobs. The majority of our migrant women group comes from Albania as the majority of all migrants in Greece (higher



than 60%) come from Albania. As far as it concerns the educators' interviews, two professional were chosen. The first one is an Academician woman who had designed and undertaken research and training projects for migrant women for a lot of years and the second one is the Director of a supporting Centre for migrants in Athens, with long experience in dealing with migrant women.

Both parts of the research aim to point out:

- the difficulties/discriminations that migrant women faced during their efforts to find a job in STEM field,
- the skills or opportunities that helped some of them to succeed in STEM field and
- the tools/good practices that can be used by educators/mentors/NGO's to support them in planning a career in STEM.

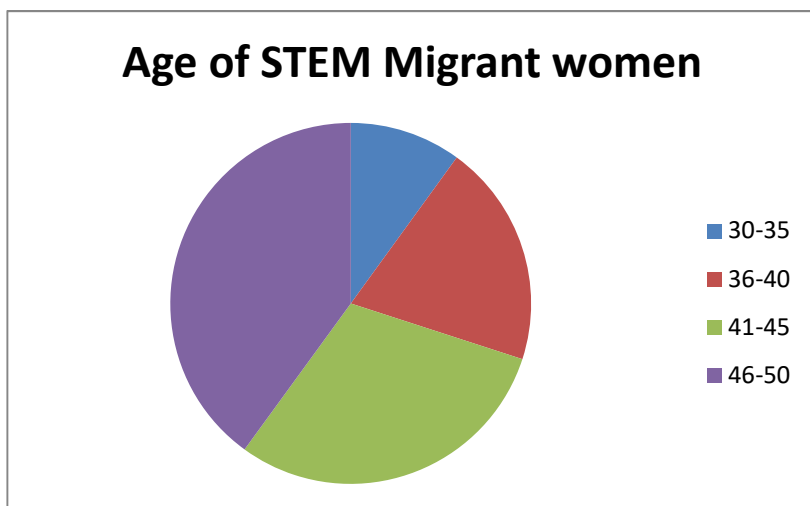
It was not possible to achieve the variety nationalities we would have liked in order to achieve more representative results, but we managed to have a variety of cases. Most of cases are women, 1<sup>st</sup> migrant generation coming from Balkan countries. When they arrived in Greece they had already finished their studies in STEM and they had some work experience in their field. Most of them didn't manage to find occupation in their field of studies in Greece. The ones with engineering and Maths background have careers close to their fields. The ones with chemistry studies were not able to be employed in their field even when they hold degree recognition from the Greek state.

The pie charts below (Figures 1-8) could offer a qualitative description of the profile of Migrant women with STEM background who participate in our research. It is a quite representative picture of the limited number of Migrant Women with STEM background who lives in Greece right now.

**Country of origin of STEM Migrant women**



Figure 1. Country of origin of focus group



25

Figure 2. Age of focus group

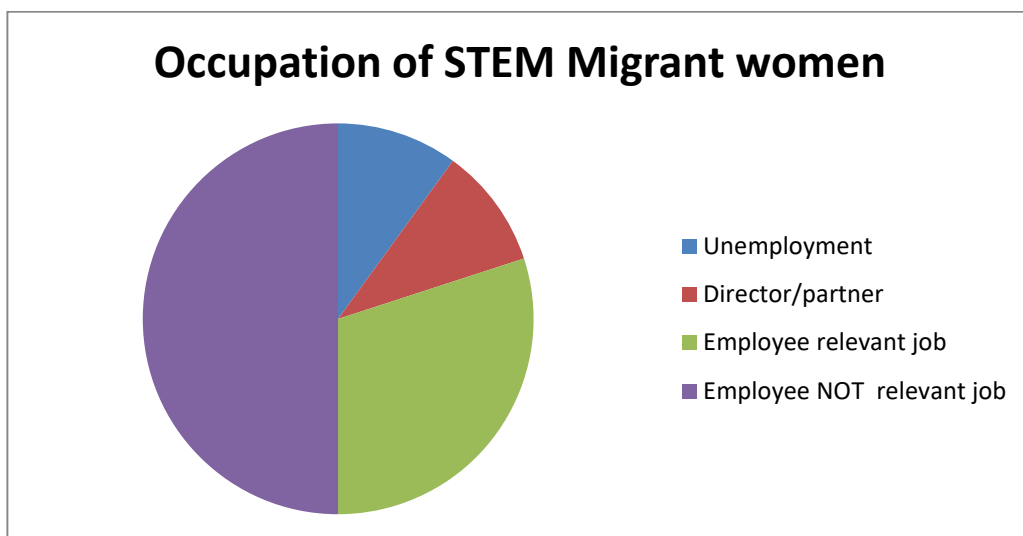
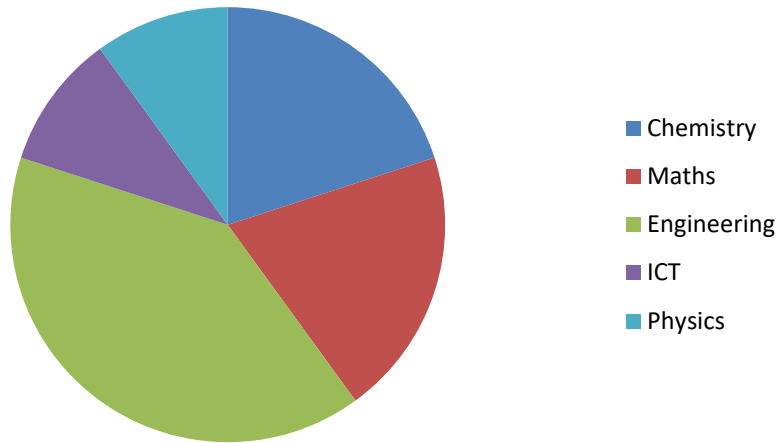


Figure 3. Occupation of focus group

## Studies of STEM Migrant women



26

Figure 4. Filed of studies of focus group

## Recognition of degree by STEM Migrant women

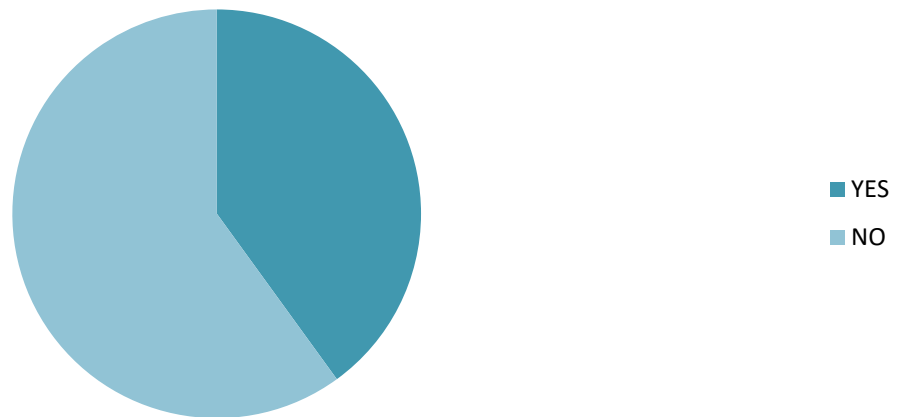


Figure 5. Percentage of focus group women who recognized their degrees in Greece

There are also some other differences between the above cases:

- Some of them have husbands who hold Greek Nationality or received Greek Nationality because of their origin. This offered their family better inclusion conditions.
- Some came from countries which entered EU so they could benefit of civil rights recognized for EU citizens (licence to work as Professionals, participate in EU employment projects etc.). Others cannot benefit because their country is not in EU yet.

### Country of studies STEM Migrant women



27

Figure 6. Country of studies of focus group

### STEM Migrant women's Husband Nationality



Figure 7. Husband's nationality of focus group

### STEM women's Migrant Generation



Figure 8. Migrant generation of focus group

In order to be able to compare the above cases (migrant women with STEM background in Greece) we discuss also with the following three women, representing three different cases:

- I) A 2<sup>nd</sup> generation female Migrant in Greece, STEM Graduated, in Greek academic system who has a satisfactory STEM occupation abroad (like Greek Scientists after studies she left Greece).
- II) A 1<sup>st</sup> generation female Migrant in Greece without STEM background who hasn't occupation relevant with her studies (representative of the case of a large part of migrant women in Greece)
- III) A 2<sup>nd</sup> generation migrant, who holds Greek citizenship because of her parents and who holds a STEM degree from a non-EU country and has a satisfactory STEM occupation in Greece.

This discussion offered us the opportunity to check:

- if STEM studies is an advantage to find an adequate occupation for migrant women
- if STEM studies is an advantage to migrant women to look for a career abroad
- if there is discrimination between women who came in Greece as graduated because of lack of Greek origin/nationality.

## 6. OUTCOMES OF THE INTERVIEWS AND FOCUS GROUPS

We had deep discussions and in some cases interviews with the above mentioned migrant women. The fact that we share the same studies' background was the crucial point that helped them feel comfortable to speak openly about their achievement during studies and their disappointment for the difficulties they faced in Greece.

The subject of EUMentorSTEM project, which was presented to them, gave them the feeling that some Institutions focused on their case and they are not just a number in migration statistics.

We can summarize the discussion results in the following points:

- They are conscious that their STEM studies offered them a higher level of thinking. They are confident for their studies level. They feel they deserve an adequate job. They feel they deserve a better life and they want to offer to their family and the Greek society via their professional work.
- The ones who do not have a job in their field are disappointed but they are confident that STEM studies are an advantage for ameliorating their life prospects.



- Most of them have good experience with Greek people and employers, but they report difficulties to get benefit by the Greek laws (e.g. to work for in the Public sector). After so many years (more than 15), they have established decent working conditions based on their continuous efforts and honesty.
- All of them learnt Greek and speak and write Greek fluently but a Greek person can understand they are migrants. In Greece is easy to point out 2<sup>nd</sup> generation migrants because their surnames are quite different from the Greek ones. These two facts could be a reason for discrimination during school years or job interviews.
- Only the ones with relatives in Greece were able to have a social network as soon as they arrived in Greece. The social network of most migrants was limited. Without a social network is very difficult to seek a STEM job in a country with poor industrial sector as Greece these years.
- It is the last years that they understood that Greece's labour market is quite full as far as it concerns STEM degree holders. Some of them mentioned that in other countries (e.g. Italy) women migrants with the same qualifications found easier appropriate jobs. They would leave Greece to go to another European country if they had not their children in Greek education system.
- The ones who accepted a lower level job because of urgent family needs did not manage to make the appropriate steps to seek a better job.
- The ones who did not come from an EU country (case of Albanians until now) have even now limited opportunities to enter support projects funded by EU & Greece or get a job in Public sector (even non-permanent).
- There was not, in any case, any typical mentoring or coaching. Local authorities (e.g. Municipalities) have poor means to support migrants to seek employment. There is a lack of support structures like mentoring, coaching in local communities. Migrants support is limited to personal initiatives.
- The ones who had an ethical support (not typical mentoring by persons with knowledge of STEM labour market and work opportunities) managed to catch opportunities for an adequate career. Local stakeholders had played positive role as 'mentors'.
- The ones with support (family, mentors, locals etc.) fulfilled the procedure to get recognition of their degree certificate and qualification by the Greek State and/or get training in ICT etc.
- The Engineering & ICT studies offer additional opportunities to young professionals to seek better opportunities abroad.
- On one hand, communication of Migrant women with STEM studies with other women in STEM will give them empowerment and self-confidence to see future with optimism. On the other hand, Greek women in STEM get to know that there are distinguished





migrant women with STEM studies that they deserve a job adequate to their qualification.

As far as educators' interviews are concerned, two professionals with extensive experience (more than 20 years) were chosen:

The first one is an Academician woman, a Sociologist, who had designed and undertaken research and training projects targeting migrant women for many years. She is now elected Vice Mayor of Athens and she is responsible for social welfare activities/services for Athens municipality. Previously she was appointed as Head at the Secretariat for Gender Equality in Ministry of Interior. The second one is the Director of a large supporting Centre for migrants and vulnerable people in Athens. This Centre belongs to a large International NGO which supports migrants and vulnerable people. She had a longstanding experience working for this NGO in dealing with migrant women and running projects to support them.

Discussion and interview with so experienced persons were very helpful to understand the psychological status of migrant women when they first arrived in Greece and how they get wrapped in a working routine that does not help them to make the appropriate steps (bureaucracy, training, etc.) to be able to seek an appropriate job with good results. They mainly mentioned the following:

- Migrant women need support during their first period in a foreign country in order to understand the new conditions, culture, administration and the way things run. The expectations were high and Greek economy and state provisions cannot fulfil them. Now there are newly built structures and procedures, but they cover the basic needs of migrant women.
- There are many categories of Migrant women. The ones with STEM education seem more qualified and more able to look for themselves and their family. They can be integrated in Greek society easier than others who are limited by lack of skills and by religious/family barriers.
- There is not any provision or network for women neither with higher education background nor with STEM studies in order to be supported to seek for adequate jobs.
- There were mentoring projects funded by Greece and the EU in favour of migrant women, but none of them focused on Migrant women with STEM studies and skills.
- There is not any project supporting migrant girls who want to study STEM subjects.
- Migrant women with STEM studies need mentoring and coaching in order to demand a respective job for their qualification and skills.

- There are still existing social prejudices and professional stereotypes among Greek employers and in the society more broadly, especially in male dominated sectors (Engineering, ICT etc.).
- Educators and professionals supporting migrant women have to be sensitive to migration issue and get training on how to deal with women coming from different cultures than the Greek or European (open labour market etc.). Mentoring relationship is based on principles like devotion, acceptance, etc. which have to be discussed with mentors-to-be.
- Educators and professionals to mentor migrant women with a STEM background have to be aware of the procedures for recognition of their degree certificate and qualification by Greek State and Professional Chambers, as well as of the new trends in STEM jobs.
- It could be useful if mentors are women working in STEM sectors (after get trained in mentoring), they will serve as role models as well and they can introduce migrant women in their social and professional network. In case there are migrant women working already in STEM positions they can serve as mentors as well (after receiving training in mentoring).
- Large part of the Greek society and Stakeholders, including entrepreneurs and Small Medium Enterprises and Industries, are not conscious about the qualifications migrant women may hold and the positive work force that migrant women with STEM background can offer in the society and the labour market. There is need for initiatives to tackle this view.
- 2<sup>nd</sup> generation migrant women with STEM studies could find useful some mentoring and coaching in order to be able to plan a career in Greece or abroad without being limited by family or social barriers.

## 7. CONCLUSION

The qualitative research was surprising fruitful in results concerning the conditions that migrant women with STEM background face in Greece during their efforts to get employment in their field of studies and the tools available to support them. Each of the above mentioned points in paragraphs 4 and 5 need to be taken into account in order to design the necessary supporting initiatives for Migrant women with STEM studies. Mentoring and networking are two tools that may help these women to stand on their feet and claim the professional life they deserve in Greece or abroad.

Mentoring in their case is a new challenge because they have the mentality of a STEM educated person but they need empowerment and introduction to the new era trends (some

of them left their field more than a decade). The interviews with migrants' educator pointed out that mentoring is a good practice, but mentors-to-be need training if they are not professional in mentoring/coaching. Women working in STEM (Greek and migrants, if available) could be successful mentors if trained and be devoted to the mentoring concept.

Networking is an additional need of migrant women with STEM background who live in Greece. They complain they are stuck in a limited social and professional circle which cannot offer them opportunities to show their capabilities and qualification. Women already working in STEM (Greek or Migrants) could introduce them into their professional networks and circles of acquaintances. Events organized by institutions, local authorities, etc., can help in this direction and sensitize society, stakeholders, human resources directors and other players in the labour market.

A sensitive issue which we think that has also to be taken into consideration during the above mentioned initiatives is the high unemployment in Greek society (30% in general) which is worst for women and young people. Engineering and construction are two of the sectors with the higher scores in unemployment. Initiatives focused only in the support of migrant women with STEM studies may cause negative emotions among migrant women and among some sectors of the Greek society. So, we think it is necessary trust-building initiatives to be organized together with Institutions, migrant NGOs and local authorities.

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**Erasmus+ Strategic Partnership for Adult Education**  
**2017-1-IT02-KA204-036520**

## **EUMentorSTEM**

**Creation of a European e-platform of MENTORing and coaching for promoting migrant women in**

**Science, Technology, Engineering and Mathematics**

### **Annex 2**

#### **Intellectual Output 1**

##### **Diagnostic Assessment**

##### **Environmental and Qualitative Needs Assessment**

##### **Country-level Report-HUNGARY**

**Óbuda University**

**April 2018**



**In this study** we are focusing on the core working-age foreign born people divided into the following groups (1) non-EU-born (hereafter referred to as persons born outside the EU) (2) EU-born (in other words, those born in another EU Member State from the one where they were living) and (3) native-born individuals residing in their Member State of birth. From this population we had to highlight the Hungarian women' **subpopulation** with STEM educated background.

**Data be used:** Source of information for these data are secondary data, such as statistics (e.g., available online or on specialized publications) and reports from governmental and non-governmental bodies. Secondary data sources are detailed in references chapter but Hungarian data are from Hungarian Statistical Office (Központi Statisztikai Hivatal).

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## **9. INTERVIEW WITH EDUCATORS WORKING WITH FOREIGN-BORN PEOPLE**

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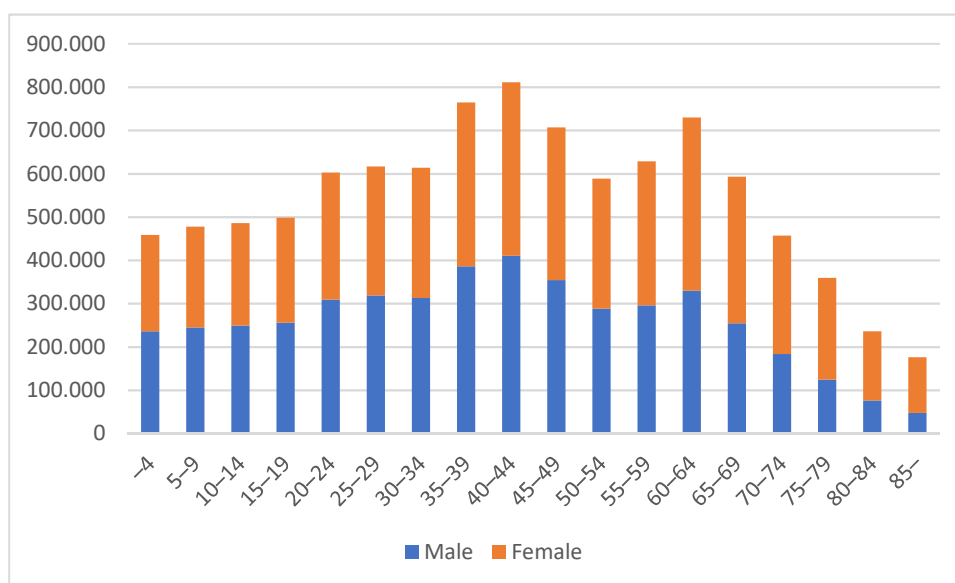
## PART 1. ENVIRONMENTAL ASSESSMENT

### 1. INTRODUCTION

#### 1.1. Hungary in a nutshell

Permanent **population** in 2016 was 9 803 837 citizens, resident population was 9547 thousand, with 4021 thousand number of households.

4



Population by age group and gender in 2016. Source KSH

Population by citizenship and sex divided into the following: Hungarians total number 9 653 712 (male 4 600 122 and Female 5 053 590); Non-Hungarians are 149 111 (male 76 958 and female 72 153), finally Stateless 1014 (male 462 and female 1014). Population by place of birth 942 0342 were born in Hungary (male 4 498 795 and female 4 921 547) and 383 495 were born abroad (male 178 747 and female 204 748).

In this study we examine the possibilities and situations of women in STEM area.

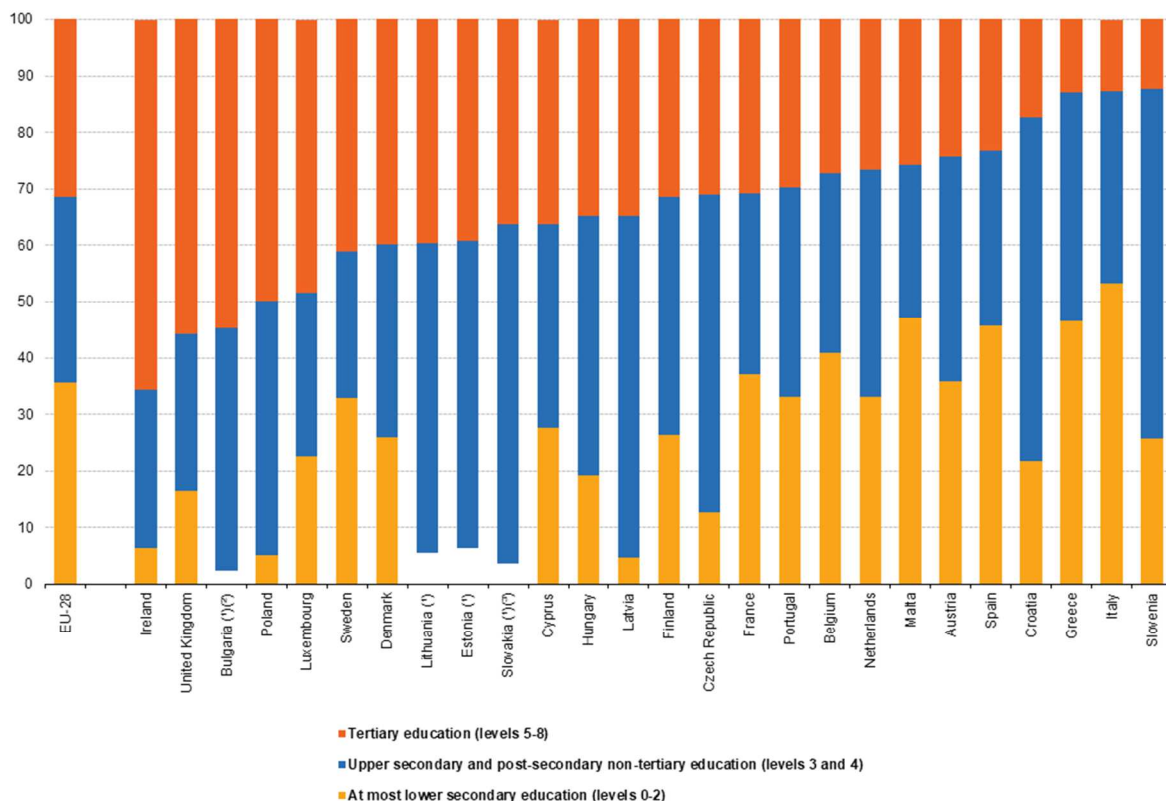
### 2. DATA OF FOREIGN BORN



## 2.1. Education and training system

5

Almost 90% of EU states members have heard about the possibility of studying abroad and nearly one third of them live or lived with it.<sup>1</sup> According to the Migration Data Portal (2014)<sup>2</sup> Human Development Index Ranking (between 1 = High - 100 = Low) was 83, it means that still the level of the anti-discrimination was favourable but the education system related to the foreign born students' situation was no favour<sup>3</sup>. In order to encourage this achievement a favourable environment was created. That is why in 2016<sup>4</sup> the Eurostat states that in Hungary those born outside the EU recorded one of **the highest participation rates for adult learning** (Note that participation in language courses and other integration-focused learning activities are included in the concept of adult learning)<sup>5</sup>. That is over the EU 28 average and nearly the Europe 2020 target.



Note: Germany and Romania, not available.

(\*) Pre-primary, primary and lower secondary education: confidential or of low reliability and therefore not available.

(\*) Upper secondary and post-secondary non-tertiary education and first and second stage of tertiary education: low reliability.

(\*) First and second stage of tertiary education: low reliability.

Source: Eurostat (online data code: edat\_its\_9912)

<sup>1</sup> Cedefop opinion survey on vocational education and training in Europe

<sup>2</sup> [https://migrationdataportal.org/data?i=stock\\_abs\\_&t=2017&cm49=348](https://migrationdataportal.org/data?i=stock_abs_&t=2017&cm49=348)

<sup>3</sup> <http://www.mipex.eu/hungary>

<sup>4</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Migrant\\_integration\\_statistics\\_-\\_education](http://ec.europa.eu/eurostat/statistics-explained/index.php/Migrant_integration_statistics_-_education)

<sup>5</sup> Successful personal stories can be found here: <http://migrantcommunity.blog.hu/>



Analysis of the population born outside the EU and aged 25-54, by educational attainment level, 2016  
(%). Source Eurostat

According to L. Rédei (2006)<sup>6</sup> who observed **the migration for studying** on global level and in Hungary, “the international migration with the purpose of studying abroad is an increasing phenomenon in accordance with globalisation, demographic changes, the mainly economic interests of countries of departure and destination, those of multinational companies and individuals taking part in this kind of migratory flows.” (p. 249) This phenomena also becomes more popular in Hungary, Hungary is one of the most liked place for the Erasmus + foreign students in middle of Europe.

6

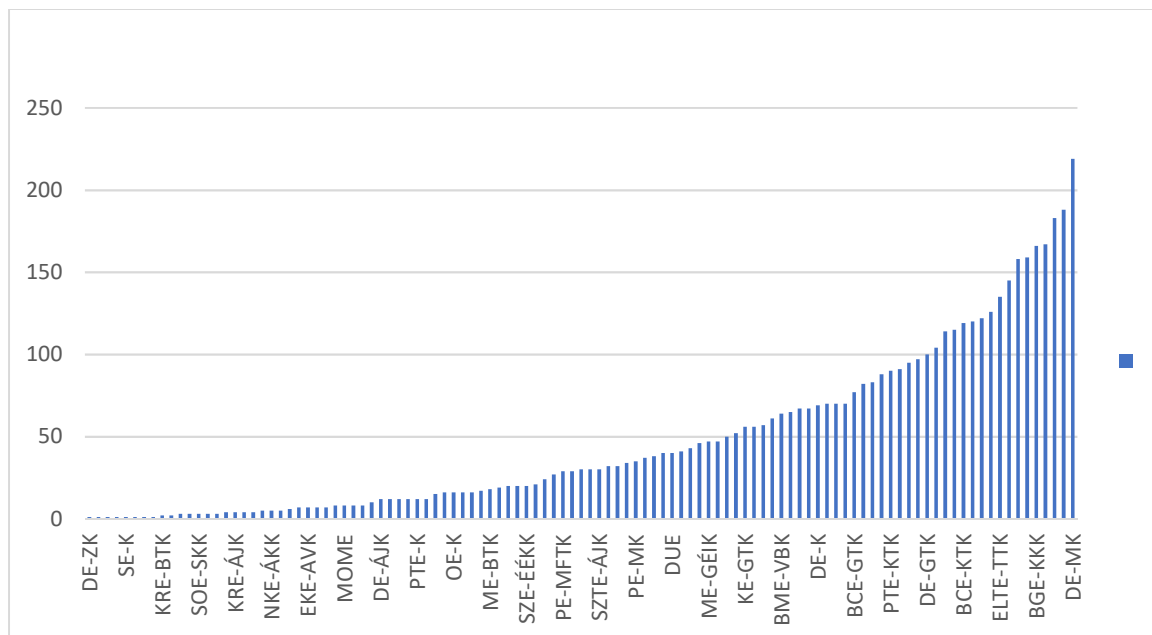
**Budapest and Pest county** account for a **major part of regional distribution of foreign**, while the micro-regions along the border for a smaller part. Budapest is a main destination for learning purpose foreign born students accounting for the majority of non-European citizens.<sup>7</sup> **The most of the students arrived** from Romania, Serbia, Ukraine and Slovakia in Hungary, it means from the border areas of neighbouring countries.

Today, there is a growing demand of international students to study in Hungary and we provide high quality education. Therefore, **Stipendium Hungaricum Scholarship Programme**<sup>8</sup> was launched in 2013 by the Hungarian Government. The core mission of the programme is to increase the number of foreign students in Hungary and to encourage Hungarian higher education institutions to attract top foreign students. The Programme is managed by **Tempus Public Foundation**. The program is very successful with yearly increasing number of participants. More than half of the program is related to the STEM area.

<sup>6</sup>L. Rédei, M. (2006): Tanulási célú migráció a világban és itthon. Demográfia, 2006. 49. évf. 2–3. szám 232–250.

<sup>7</sup>Takács, Z. – Kincses, Á. (2015): A Magyarországra érkező külföldi hallgatók területi jellegzetességei. TERÜLET STATISZTIKA 2013, 53(1): 38-53.

<sup>8</sup><http://www.tka.hu/palyazatok/2962/stipendium-hungaricum>



Number of the Stipendium Hungaricum Foreign Students depending on applied Universities (2017/18 autumn semester) Source Tempus Stipendium Hungaricum Statistics 2017/18 autumn semester

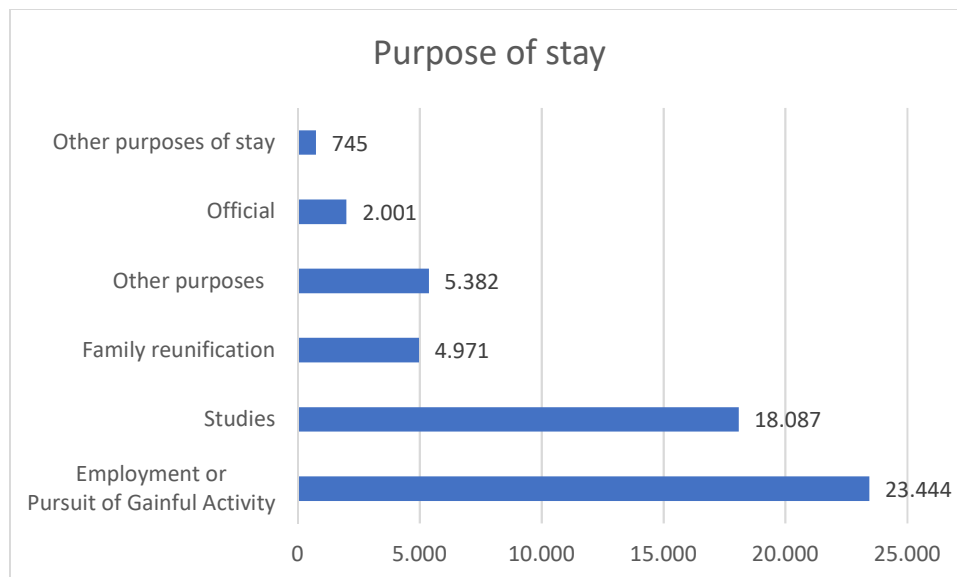
During the 2017/2018 autumn semester 5148 foreign students applied for the program, most of them are from the non-EU member border neighbours because of the Hungarian heritage they are speaking Hungarians, like Ukraine but there are many students from Africa or Asia. Students from the EU member countries are nominated to a different scholarship and they are mainly arriving in frame of **Erasmus + program**.

The Hungarian Statistics<sup>9</sup> show that the number of applicants who request residence permit due to the Act II. of 2007, according to the main purposes of stay (time period 01/2017-11/2017). **The second main purpose of stay was studies in Hungary.**

<sup>9</sup>Immigration and Asylum Office latest statistics (2017)





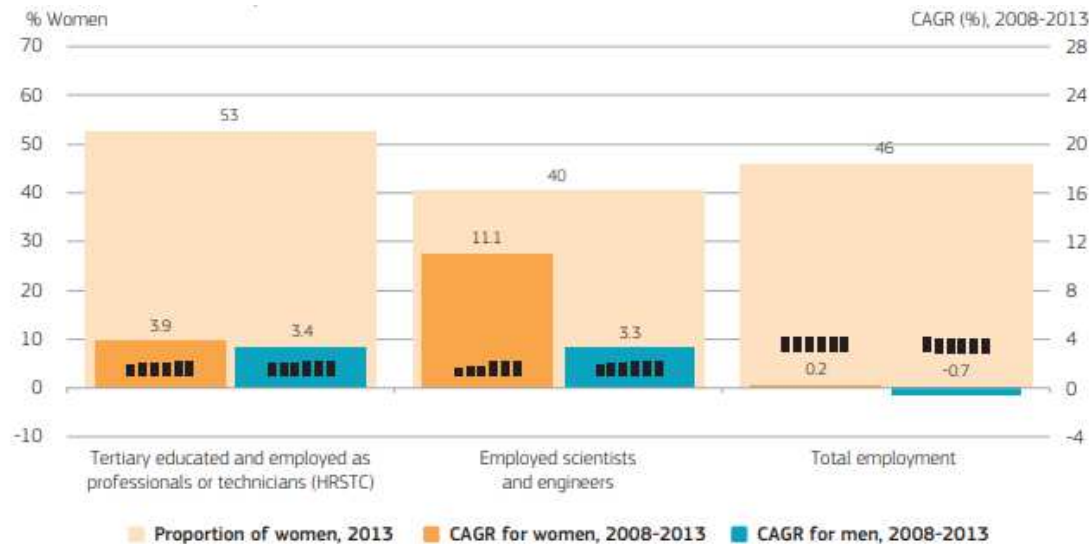


Number of applicants who request residence permit due to the Act II. of 2007, according to the main purposes of stay I-XI. 2016 - I-XI. 2017 Source Immigration and Asylum Office latest statistics (2017)

## 2.2. STEM area

European Commission (2015) underlined that in more than half of the countries **women are under-represented** relative to men, making up less than 45% of scientists and engineers. At the level of the EU-28, women scientists and engineers made up 2.8% of the total labour force in 2013, whereas men made up 4.1%. However, there has been some progress in this area – the number of women amongst employed scientists and engineers grew by an average of 11.1% per year between 2008 and 2011. Despite that, the next step is labour market participation is along the science & technology (S&T) career path, following the successful completion of postgraduate education.





Notes: Proportions show percentage, whereas compound annual growth rate (CAGR) shows percentage growth. The 'trends' represent the actual changes in the number of women and men researchers each year (headcount). This differs from the CAGR, which shows the average yearly change over the whole period. Break in time series: 2005; 2011; Others: Age 25-64.

Source: Eurostat – Human resources in science and technology (online data code: hrst\_st\_ncat) and Eurostat – Labour Force Survey – Employment by sex, age and nationality (1 000) (online data code: lfsa\_egan)

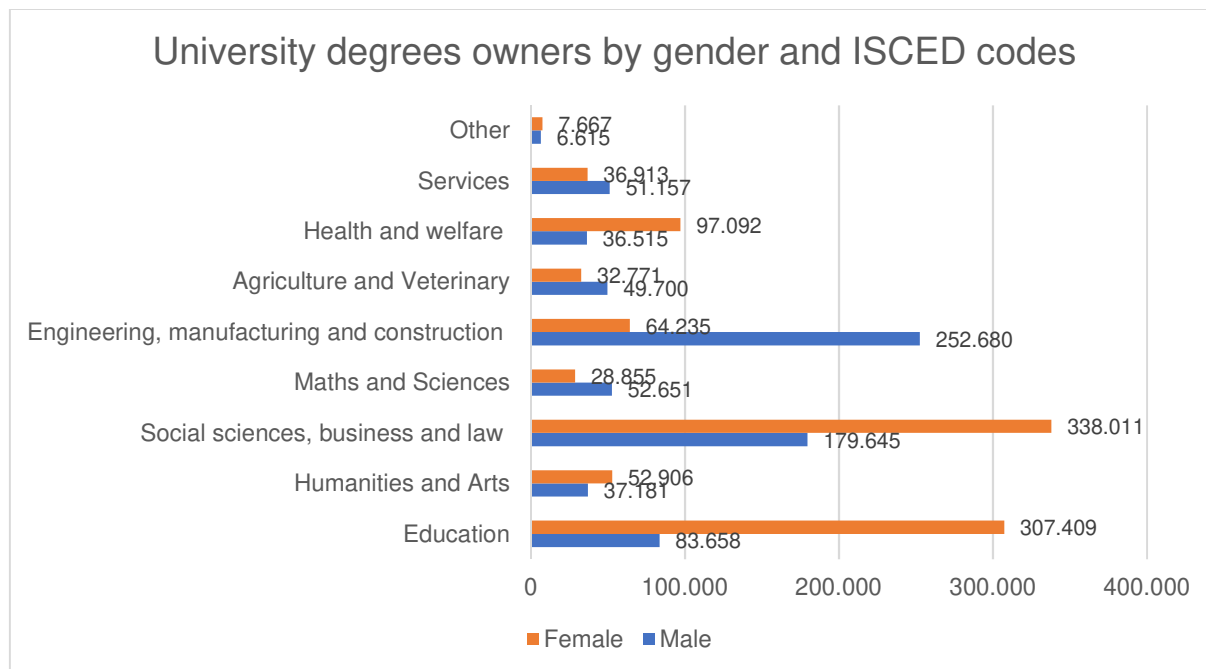
The proportion of women in the EU-28 compared to total employment, the population of tertiary educated professionals and technicians (HRSTC) and the population of scientists and engineers, in 2013, and compound annual growth rate for women and men between 2008–2013 Source European Commission (2015)

**In category of scientists and engineers women represent only 40% of employees in the EU.** This may be in part explained by the under-representation of women within the fields of science, mathematics and engineering in postgraduate education above master's level.

**STEM area in Hungary** covers deeper and more expanded fields of sciences. Hungarian Statistical Office uses the so called **ISCED (International Standard Classification of Education)**. The main cross-classification variables of ISCED are levels and fields of education for fields of education). Related to fields of education three main terms are used Academic / Professional / Orientation unspecified. ISCED classifies education programmes by their content using two main cross-classification variables: levels of education and fields of education. Within ISCED levels, programmes and qualifications are further classified by complementary dimensions. The fields of studies<sup>10</sup> are the following: 0 General programmes 1 Education 2 Humanities and Arts 3 Social sciences, business and law **4 Science** **5 Engineering, manufacturing and construction** 6 Agriculture 7 Health and welfare 8 Services 9 Not known or unspecified. Related this ISCED codes STEM areas can be identified with 4 and 5 codes.

<sup>10</sup> [http://ecahe.eu/w/index.php/ISCED\\_Fields\\_of\\_Study](http://ecahe.eu/w/index.php/ISCED_Fields_of_Study)





University degree owners Source: KSH Microcensus (2016)

According to the latest microcensus in Hungary<sup>11</sup>, the following distribution can be realized. Although ISCED 5 namely, Engineering, manufacturing and construction is very characteristic by males **but females also choose these studies often**. Seemingly, with these studies people are **successful and almost fully employed**.

<sup>11</sup> [http://www.ksh.hu/mikrocenzus2016/kotet\\_4\\_iskolazottsagi\\_adatok](http://www.ksh.hu/mikrocenzus2016/kotet_4_iskolazottsagi_adatok)



ISCED areas	Male					Female				
	employed	unemployed	inactive	dependent	total	employed	unemployed	inactive	dependent	total
<b>Matured High Schools</b>										
Education	752	9	43	94	898	10 515	632	2 060	739	13 946
Humanities and Arts	15 474	1 232	1 720	1 214	19 640	15 832	1 350	4 673	2 808	24 663
Social sciences, business and law	67 376	3 584	5 167	4 402	80 529	299 283	15 356	90 917	23 089	428 645
<b>Maths and Sciences</b>	<b>40 127</b>	<b>2 553</b>	<b>931</b>	<b>4 969</b>	<b>48 580</b>	<b>13 563</b>	<b>707</b>	<b>3 199</b>	<b>1 206</b>	<b>18 675</b>
<b>Engineering, manufacturing and construction</b>	<b>953 136</b>	<b>47 895</b>	<b>132 012</b>	<b>38 488</b>	<b>1 171 531</b>	<b>174 586</b>	<b>9 614</b>	<b>65 995</b>	<b>13 415</b>	<b>263 610</b>
Agriculture and Veterinary	49 121	2 436	6 228	2 485	60 270	28 313	1 468	10 567	2 681	43 029
Health and welfare	9 424	515	452	709	11 100	93 448	3 091	19 568	5 038	121 145
Services	106 997	5 902	7 056	7 070	127 025	123 392	8 324	33 988	12 828	178 532
Other	315 585	21 062	21 948	127 699	486 294	379 289	24 609	107 934	148 474	660 306
Unknown	14 224	650	1 762	974	17 610	13 162	629	4 029	1 287	19 107
Total	1 572 216	85 838	177 319	188 104	2 023 477	1 151 383	65 780	342 930	211 565	1 771 658
<b>Universities Colleges</b>										
Education	58 340	1 228	3 318	1 478	64 364	203 210	3 291	40 222	6 639	253 362
Humanities and Arts	26 271	796	989	2 793	30 849	35 848	1 825	4 488	5 454	47 615
Social sciences, business and law	140 150	5 179	5 057	6 316	156 702	242 195	5 839	41 985	13 058	303 077
<b>Maths and Sciences</b>	<b>42 289</b>	<b>1 187</b>	<b>1 045</b>	<b>2 787</b>	<b>47 308</b>	<b>19 030</b>	<b>580</b>	<b>3 035</b>	<b>2 759</b>	<b>25 404</b>
<b>Engineering, manufacturing and construction</b>	<b>174 934</b>	<b>3 684</b>	<b>10 910</b>	<b>6 227</b>	<b>195 755</b>	<b>37 482</b>	<b>1 136</b>	<b>8 739</b>	<b>2 919</b>	<b>50 276</b>
Agriculture and Veterinary	32 787	484	2 277	866	36 414	22 098	518	4 691	1 319	28 626
Health and welfare	26 368	405	417	507	27 697	66 710	1 146	10 140	2 195	80 191
Services	34 555	1 042	4 479	1 288	41 364	26 402	1 067	4 655	2 303	34 427
Other	4 381	183	185	712	5 461	4 712	166	860	685	6 423
Unknown	540 075	14 188	28 677	22 974	605 914	657 687	15 568	118 815	37 331	829 401
Total	1 080 150	28 376	57 354	45 948	1 211 828	1 315 374	31 136	237 630	74 662	1 658 802

Population by ISCED and Gender Source: KSH Microcensus (2016)

## 2.3. Labour market characteristics

Hungarian labour market is not a so called target market for foreign born persons; mainly the neighbouring countries' citizens target this market, because of the language. But the Hungarian employees really prefer working in abroad.

Gödri (2008)<sup>12</sup> examined in her paper, the role of network resources for incomers – **arriving from neighbouring countries and settling in Hungary** – in their **integration into the labour market**. She found that typically in Hungary there is a difference between the roles of mobilized and potential network capitals. The first is beneficial in finding a job within a short time following immigration, while the second may have a controversial effect: the presence of family members and relatives who arrived earlier increases the probability of unemployment of new foreigners by supporting them during the first period of their stay. The success influencing factors shaping foreign born guests' labour market integration are the following: the country of origin, especially during the early period of residence, and **gender differences**.

<sup>12</sup> Gödri, I. (2008): Bevándorlók munkaerő-piaci integrációját meghatározó tényezők Magyarországon — a kapcsolati erőforrások szerepe. Statisztikai Szemle, 86/6. 533-563.



In 2015 Lakatos<sup>13</sup> highlighted a new type of migration in employment. Until recently, Hungary has been hardly affected by intra-EU migration processes, resulting from the economic crisis started in 2008, and facilitated by the lifting of Austrian and German labour market restrictions in spring 2011; the number of **Hungarian people working abroad has increased**. Bodnár and Szabó (2014)<sup>14</sup> detailed the effects of emigration from Hungary on the labour market and its other economic implications. Reasons for emigrations were the following: (1) cyclical reason (unemployment caused by the crisis) (2) structural reason like wage differences, welfare expenditures and cultural environment. Related to their findings, the percentage of women within cross-border commuters is far smaller than within the total active domestic population, although the number of women foreign born has also increased since the beginning of the crisis. The percentage of Hungarian born migrants holding a university or college degree lags behind the corresponding domestic figure. These affect the Hungarian labour market as well, emigration changes the composition of the domestic population and labour force, and alters the behaviour of companies and the domestic active population. But all of these changes as the researchers mentioned “By promising greater labour market flexibility, increased international mobility may be a positive development in and of itself from the aspect of Hungary’s future accession to the euro area.” (p. 26)

## 2.4. Women in Hungary

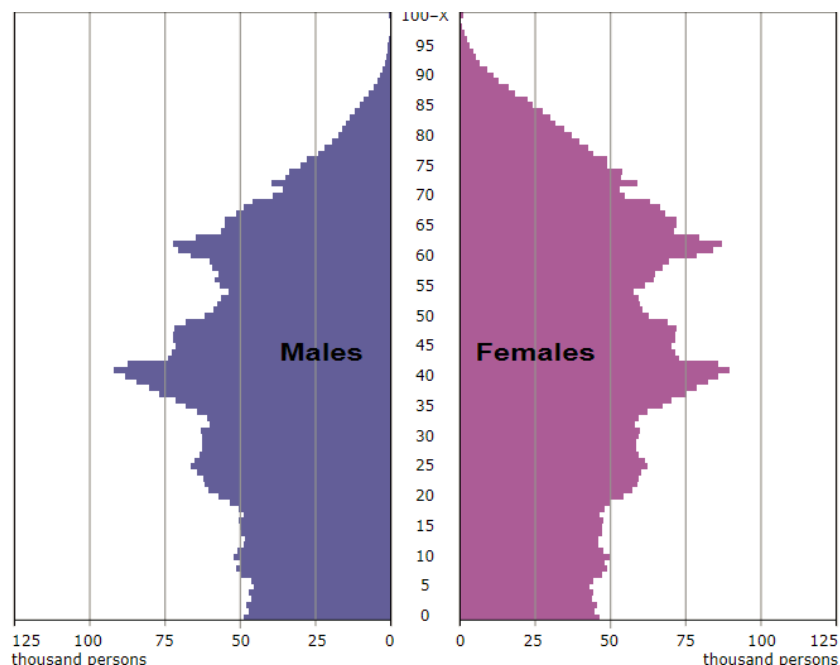
**Hungary<sup>15</sup> has an ageing population;** the population pyramid in 2017 is contracting. Here is a significant difference between women and men in life expectancy like in all Member States.

<sup>13</sup> Lakatos, J. (2015): Külföldön dolgozó magyarok, Magyarországon dolgozó külföldiek. Statisztikai szemle. 93/2. 93-112.

<sup>14</sup> Bodnár, K. – Szabó, L. T. (2014): The effect of emigration on the Hungarian labour market. MNB Occasional Papers, No. 114

<sup>15</sup> [http://www.ksh.hu/interaktiv/korfak/ország\\_en.html](http://www.ksh.hu/interaktiv/korfak/ország_en.html)



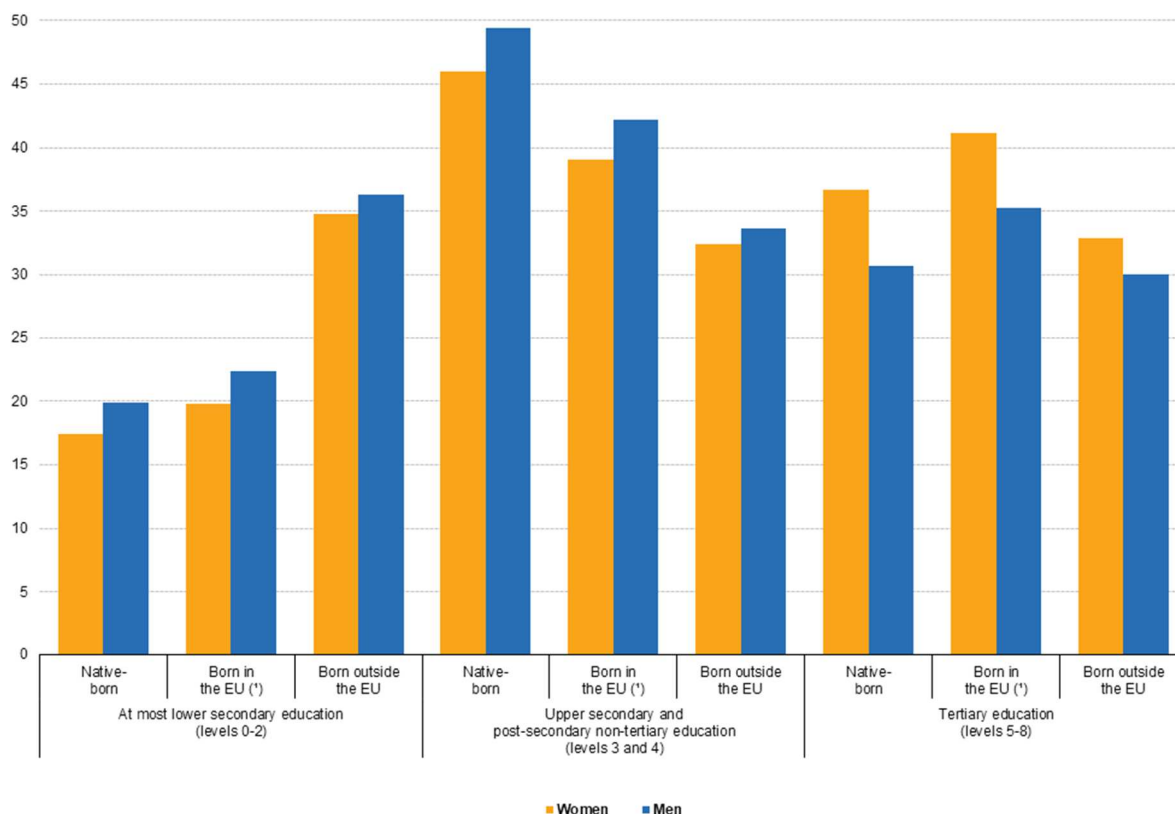


Population number of Hungary by sex and age Source KSH

When we want to detail the position of the females in education, firstly the EU shares show gender differences.







(\*) Other than in the reporting Member State.  
Source: Eurostat (online data code: edat\_ifs\_9912)

Share of the population aged 25-64, by educational attainment level,  
by place of birth and by sex, EU-28, 2016  
(%) Source Eurostat

In Hungary the population aged 7 years and older by highest education completed and sex in 2016 was the following:

Not even the first grade of general (primary) school completed	General (primary) school				Secondary level without final examination , with final vocational exam	Secondary level with final examination	University , college, etc. with degree	Total
	the 1–3 <sup>th</sup>	the 4–5 <sup>th</sup>	the 6–7 <sup>th</sup>	the 8 <sup>th</sup>				
	grade completed							
Male								
42 033	164 562	118 471	140 606	822 150	1 132 198	1 179 465	749 802	4 349 287



Female								
41 251	162 749	132 423	211 201	1 165 268	617 594	1 519 796	965 859	4 816 141
Total								
83 284	327 311	250 894	351 807	1 987 418	1 749 792	2 699 261	1 715 661	9 165 428

Population aged 7 years and older by highest education completed and sex in 2016. Source KSH 2016

Students enrolled in Tertiary **undergraduate (BA/BSc) and postgraduate (MA/MSc)** training were in sum **250 707** in the Academic Year 2016/17, ; **98245 were women, while 25346 were foreigner students**. Number of female students is decreasing yearly in undergraduate (BA/BSc) and postgraduate (MA/MSc) training programs<sup>16</sup>, but most of the women aged 25-35 (69.1%) studied at universities or colleges. Female population by **language knowledge** (spoken as not mother tongue) shares between English (45%), German (31.6%) and Hungarian as not native (2.3%), other languages (21.1%)<sup>17</sup>. Of course, most of them are younger and the highest education level achieved is university or college, but almost half of the female population is only mother tongue speaking. But what happens with them after the education?

**Stereotypes** shape behaviour and gender roles. The largest numbers of studies focused on the low representation of women in science and engineering degree courses and/or professional fields. Girls' and boys' gendered educational and professional choices were found to be connected with stereotypes and the social construction of identity.<sup>18</sup> In the next part, we try to summarize the Hungarian situation.

According the latest Eurostat report<sup>19</sup>, **men generally occupy higher positions** than women. For example, one can see that only **a third (39 %) of managers** in Hungary in 2016 **was women**. Women **earned 14 % less** than men when comparing their average gross hourly earnings<sup>20</sup>.

<sup>16</sup>[http://www.ksh.hu/docs/eng/xstadat/xstadat\\_annual/i\\_zoi008.htm](http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_zoi008.htm)

<sup>17</sup> [http://www.ksh.hu/nepszamlalas/tables\\_regional\\_00](http://www.ksh.hu/nepszamlalas/tables_regional_00)

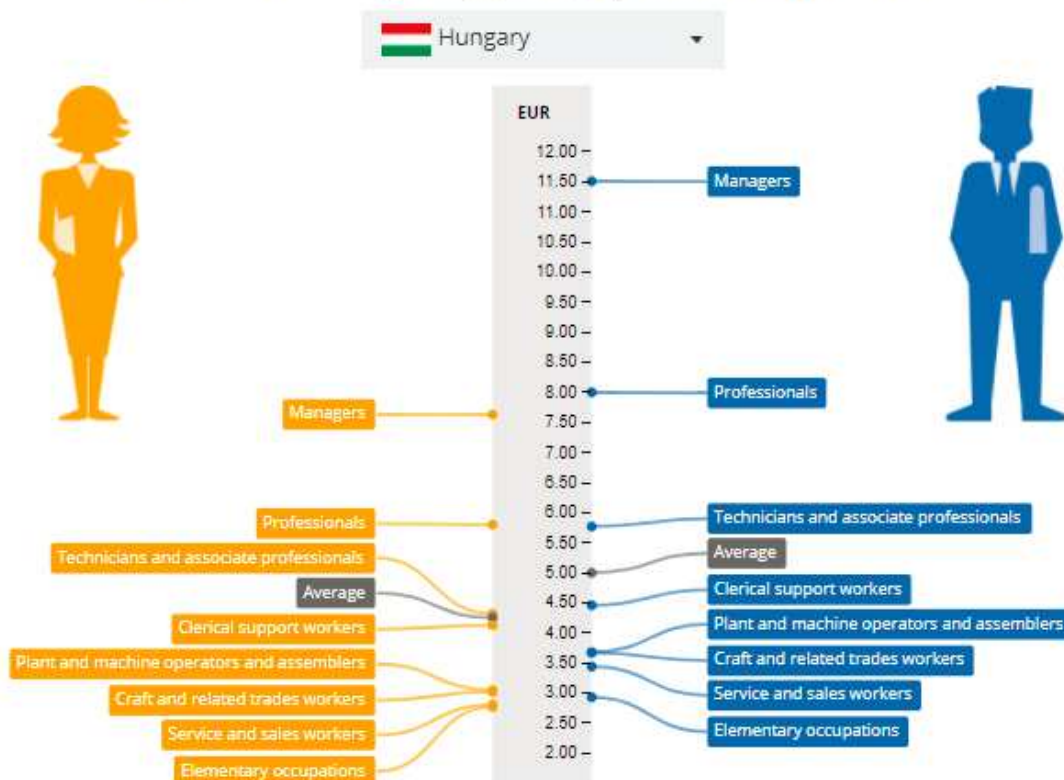
<sup>18</sup>[http://www.eif.gov.cy/mlsi/dl/genderequality.nsf/All/08B8BA4C3CB8E10EC22579A700319CDE/\\$file/TR3\\_Stereotypes.pdf](http://www.eif.gov.cy/mlsi/dl/genderequality.nsf/All/08B8BA4C3CB8E10EC22579A700319CDE/$file/TR3_Stereotypes.pdf)

<sup>19</sup> [http://ec.europa.eu/eurostat/cache/infographs/womenmen/mt\\_en/index.html?lang=en](http://ec.europa.eu/eurostat/cache/infographs/womenmen/mt_en/index.html?lang=en)

<sup>20</sup> <https://www.ksh.hu/interaktiv/eurostat/womenmen/index.html>



## Mean hourly wages by profession, 2014



16

Mean Hourly Wages by professions in Hungary 2014 Source: Eurostat

And these differences are typical in fields of STEM as well. The results of Sagabier and Cupeiro (2010) showed interaction effects of gender and region on student beliefs and attitudes. First, the gender differences in **students' beliefs about women in math and science changes significantly** depending on the location of the school. Second, when region was considered, significant effects on students' choice of mathematics and science-related **careers were identified**.

**In Hungary this gap is decreasing annually.** Gender segregation in occupations and in economic sectors is acceptable, but the European Commission (2017) mentioned that in the Hungarian **parliament** women accounted for **less** than 10 % of members, and no women were in the government at all. Therefore, the proportion of women among senior ministers in national/federal governments was 0 %. In the **Academic Sector** (NIH 2013) only the 7% of the professors are women. **Thanking to** the EU Horizon 2020 or other Platforms the rights and possibilities of females are growing. In 2012 a special program promoted STEM area among young women in associations with Central European Centre for Women and Youth





in Science (CEC-WYS)<sup>21</sup> As Dora Groo, the **President of the Association of Hungarian Women in Science** told “Every year on **the last Thursday of April** technical enterprises, enterprises with technical departments and technical training facilities, universities, and research centres all over Europe are invited to organize an open day for girls – **the Girls’ Day**. Hungary, through the initiative of the Association, has been participating in the Girls’ Day since 2012. Last year, in 2015, more than 1400 girls from grades 9-10-11 registered to the action website and visited a total of 42 programs in 13 cities of Hungary. NaTE is the beneficiary of the “STEM Girls Go Hard” project funded by the ALCOA Foundation. The project aims at influencing the career choice of high-school girls toward science and technology. The activities are: developing a strong and sustainable Ambassador Network for High School girls; Father-daughter Day where the parents receive strong input to support their girls in choosing education and career in science, informatics and technology; Teachers’ visits to companies to introduce them the future hosts of career orienting actions, like Girls’ Day or Shadowing days; Engineer Camps where girls can meet women role models from universities and companies and visit potential future workplaces.

In the Plan: **Smart Future for Girls project**, supported by the American Association of University Women, NaTE is initiating a local and regional discussion between stakeholder groups (including STEM employers, policy makers, STEM educators, students and parents) resulting in a shared vision about the inclusion of young women in STEM work fields. Female students aged 12-15 have been engaged in a locally available educational program and intense capacity building with the aim to increase female participation in STEM studies and careers in Hungary’s Székesfehérvár region<sup>22</sup>, **NaTE collaborates with European Platform of Women Scientists EPWS**.

Kováts and Poim (2015) mentioned other triggers, (anti-gender discourse and the mobilisation against the so-called “gender ideology”) in Hungary. However, the topic has appeared several times in the last few years with more or less intensity.

Luckily there are more successful women in R+D (Research and Development) sector, the Hungarian NIH (2013) details some “**herstories**”. Szekeres, V. – Takács, E. – Vicsek, L. (2013) studied the Hungarian female students, who are learning STEM at a Hungarian university, and they found out that they not only met with hostile attitudes, but told about their **positive experiences and they lived as advantages** of their **female being**.

<sup>21</sup> <http://www.genderportal.eu/organisations/central-european-centre-women-and-youth-science-cec-wys>

<sup>22</sup> <https://epws.org/interview-of-the-month-association-of-hungarian-women-in-science-012016/>



### 3. PROJECTS AND INITIATIVES OF RELEVANCE FOR EUMENTORSTEM

In this chapter we try to organise the state of the art in Hungarian based on chronological literature review. Melegh and Sárosi (2015)<sup>23</sup> analysed in detail the historical migratory link of Hungary in the last 65 years based on secondary data, here we report the most important stages, specifically focusing on foreign born women.

18

**KSH Népeségstudományi Kutatóintézet**<sup>24</sup> started migration research with the emergence of migration in the late 1980s in Hungary. One of their related projects was “Needs for female immigrants and their integration in ageing societies” (FEMAGE)<sup>25</sup>. They<sup>26</sup> looked at the different types of biographies in their study in 2007 based on depth interviews, they found that women see their movement in terms of being related to families left behind or created during the migration process. They nominated two types of incomer women. “Traditionalist” women want to integrate to foreign-born men and to recreate something of the original familial society left behind. In this integration, the social position of not being active in the labour market is a crucial point regardless of the fact that these women are very proud of any kind of regular work. The “emancipation” women are not looking for a marriage with a new meaning and substance, but they cling to the institution itself for fulfilling their individual goals.

**Huzdik (2014)** studied the influence of migration on social and human capital in her **PhD dissertation**; she suggested that globalisation (movement of goods, services and capital) affect - through demographic trends - the composition and volume of workforce, thus the economic growth capacity of countries in short, medium and long-run as well. The main problem is caused by ageing society in Hungary because it means that the number and ratio of dependent population is increasing, requiring the reform of the pension system, new employment educational and health policies, finally there will be a scarcity of workforce. Indeed, young people typically with higher educational attainment, good mastery of languages, typically not tied to own property, are more willing to migrate. The number of Hungarian emigrants permanently increased during 2000 and 2010. The primary target country of Hungarians within Europe is Germany, the second one is Austria. Other significant targets are Spain, the Netherlands and the United Kingdom.

<sup>23</sup>Melegh, A. – Sárosi, A. (2015): Magyarország bekapcsolódása a migrációs folyamatokba történeti struktúrális megközelítés. *Demográfia*, 2015. 58/4, 221–265.

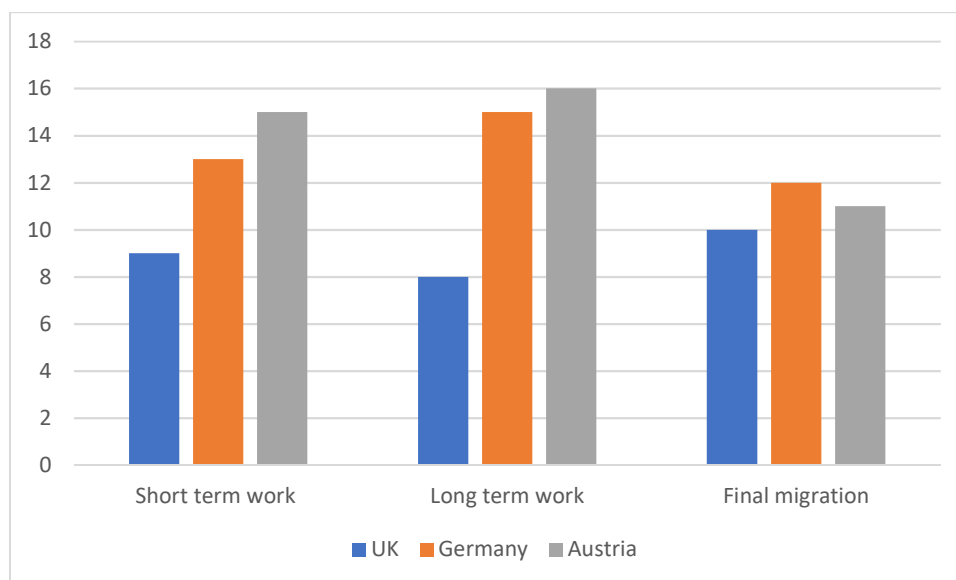
<sup>24</sup><http://www.demografia.hu/en/>

<sup>25</sup><http://www.demografia.hu/en/femage>

<sup>26</sup>Melegh, Attila - Kovács, Éva (2007): In a Gendered Space. Forms and Reasons of Migration and the Integration of Female Migrants. In: *Demográfia – Special English Edition* 50,5: 26-59



**TÁRKI**<sup>27</sup> studied this willingness on a representative sample.



19

Migration Willingness from Hungary to the target country depending on time period in 2015 (%) Source Tárki

Most of the foreigners coming to Hungary are from Europe (Huzdik, 2014), typically from the neighbouring countries. Out of them, the presence of foreign-borns with Romanian citizenship is clear and determinant in the Hungarian immigration. Out of Western-European countries, the migration of German citizens can be observed. In respect to Asian countries, the number of Chinese citizens is considerable.

**European Migration Network**<sup>28</sup> Hungary carried out scientific activities, prepare and publish studies, organized the most important legal and loyal background in any areas of migration in 2014. EMN Hungary has collected the relevant legislation from the field of immigration and asylum<sup>29</sup>.

From 2015 the **Migration Research Institute**<sup>30</sup> aims to provide complex exploration of migration phenomena affecting Hungarian region. According to latest issues, the Institute states that restrictive and protective policies such as border enforcement are obviously effective as technical solutions to stop and manage mass migration and handle nowadays refugees “problem”. In particular, the Hungarian fence has contributed to stop mass migration, but an effective strategy can only work if it addresses the problem in the downstream.

<sup>27</sup> [http://old.tarki.hu/hu/news/2015/kitekint/20150511\\_migracio.html](http://old.tarki.hu/hu/news/2015/kitekint/20150511_migracio.html)

<sup>28</sup> [http://www.emnhungary.hu/en/halozati\\_adatbazis](http://www.emnhungary.hu/en/halozati_adatbazis)

<sup>29</sup> <http://www.emnhungary.hu/en/content/corresponding-law>

<sup>30</sup> <https://www.migraciokutato.hu/en/about-us/>





Like in the most EU Member States, citizenship and aliens policing issues are managed by one institution so in **Hungary the Immigration and Asylum Office** <sup>31</sup> was established as a nationwide, independent budgetary authority under the Ministry of Interior as Office of Immigration and Nationality on 1 January 2000. After the 1<sup>st</sup> of January 2017, cases of nationality and requests of name changes will be proceed by Budapest Metropolitan Government Office; while cases of native registry including requests for approving new forenames will be proceed by Prime Minister's Office.

Currently, seven regional directorates and 24 offices are dealing with the applications of foreign citizens in Hungary. The significant number of beneficiaries is proved by the fact that the annual caseload of the Office has been over 1.2 million. The public officials of the Office are responsible for the entry, stay and settlement of foreign citizens, and for the asylum applications. Furthermore, the Office is responsible for making decisions in the cases of foreigners, who stay illegally in the territory of Hungary or commit other criminal offences, organising forced returns of or providing assistance to return from a humanitarian point of view. The Office provides recognised refugees living in Hungary different supplies and subsidies in order to facilitate their successful integration. The Office manages the migration to Hungary with close collaboration with the Police, as well as the civil and military security services. The Office has built up a well-functioning cooperation with the Ministry of Foreign Affairs and Trade and foreign representations on issuing visas for foreign citizens; with the educational institutions on enrolling foreign students; with the employment centres on hiring foreign employees and with the professional representative bodies on handling cases of foreign investors as well. The Office has an outstanding relationship with the Regional Representation of the UNHCR and the National Office of the IOM and it keeps improving its cooperation with civil organisations, which provide assistance primarily in the field of integration, housing, service and legal protection of foreigners.

## 4. CONCLUSION

In Hungary the **average population is decreasing year by year, but the International Migrant Stock is growing** <sup>32</sup>. The following tables provide an overview about the Hungarian situations.

<sup>31</sup> <http://www.bmbah.hu/index.php?lang=en>

<sup>32</sup> [https://migrationdataportal.org/?i=stock\\_abs\\_&t=2017&cm49=348](https://migrationdataportal.org/?i=stock_abs_&t=2017&cm49=348)





2.1.11 Foreign citizens by country of their citizenship, age group and sex, 2016												
Country of citizenship, continent	Male				Female				Total			
	−14	15-64	65-	together	−14	15-64	65-	together	−14	15-64	65-	total
	years				years				years			
Europe												
Romania	1 354	8 750	683	10 787	1 040	8 089	1 822	10 951	2 394	16 839	2 505	21 738
Germany	190	5 720	3 870	9 780	423	5 811	3 503	9 737	613	11 531	7 373	19 517
Slovakia	1 204	5 762	256	7 222	656	8 628	545	9 829	1 860	14 390	801	17 051
Ukraine	476	1 116	331	1 923	66	1 935	1 042	3 043	542	3 051	1 373	4 966
Austria	33	1 546	1 219	2 798	19	1 157	501	1 677	52	2 703	1 720	4 475
Russia	138	931	135	1 204	62	2 423	719	3 204	200	3 354	854	4 408
United Kingdom	209	2 063	760	3 032	141	857	304	1 302	350	2 920	1 064	4 334
Poland	16	1 225	179	1 420	120	1 523	446	2 089	136	2 748	625	3 509
Serbia	44	1 324	106	1 474	146	1 304	114	1 564	190	2 628	220	3 038
Other European countries	491	10 732	2 089	13 312	444	6 793	1 483	8 720	935	17 525	3 572	22 032
Europe together	4 155	39 169	9 628	52 952	3 117	38 520	10 479	52 116	7 272	77 689	20 107	105 068
of which												
EU- 28	3 275	32 703	8 616	44 594	2 596	31 052	8 118	41 766	5 871	63 755	16 734	86 360
Africa	165	2 746	12	2 923	56	1 478	15	1 549	221	4 224	27	4 472
America												
United States of America	240	1 767	235	2 242	159	1 012	110	1 281	399	2 779	345	3 523
Other American countries	187	1 075	26	1 288	—	1 243	50	1 293	187	2 318	76	2 581
America together	427	2 842	261	3 530	159	2 255	160	2 574	586	5 097	421	6 104
Asia												
China	1 252	5 485	141	6 878	800	5 439	162	6 401	2 052	10 924	303	13 279
Vietnam	163	1 841	22	2 026	438	1 948	100	2 486	601	3 789	122	4 512
Other Asian countries	697	7 414	249	8 360	784	5 893	98	6 775	1 481	13 307	347	15 135
Asia together	2 112	14 740	412	17 264	2 022	13 280	360	15 662	4 134	28 020	772	32 926
Australia and Oceania	39	215	35	289	7	176	69	252	46	391	104	541
Total	6 898	59 712	10 348	76 958	5 361	55 709	11 083	72 153	12 259	115 421	21 431	149 111

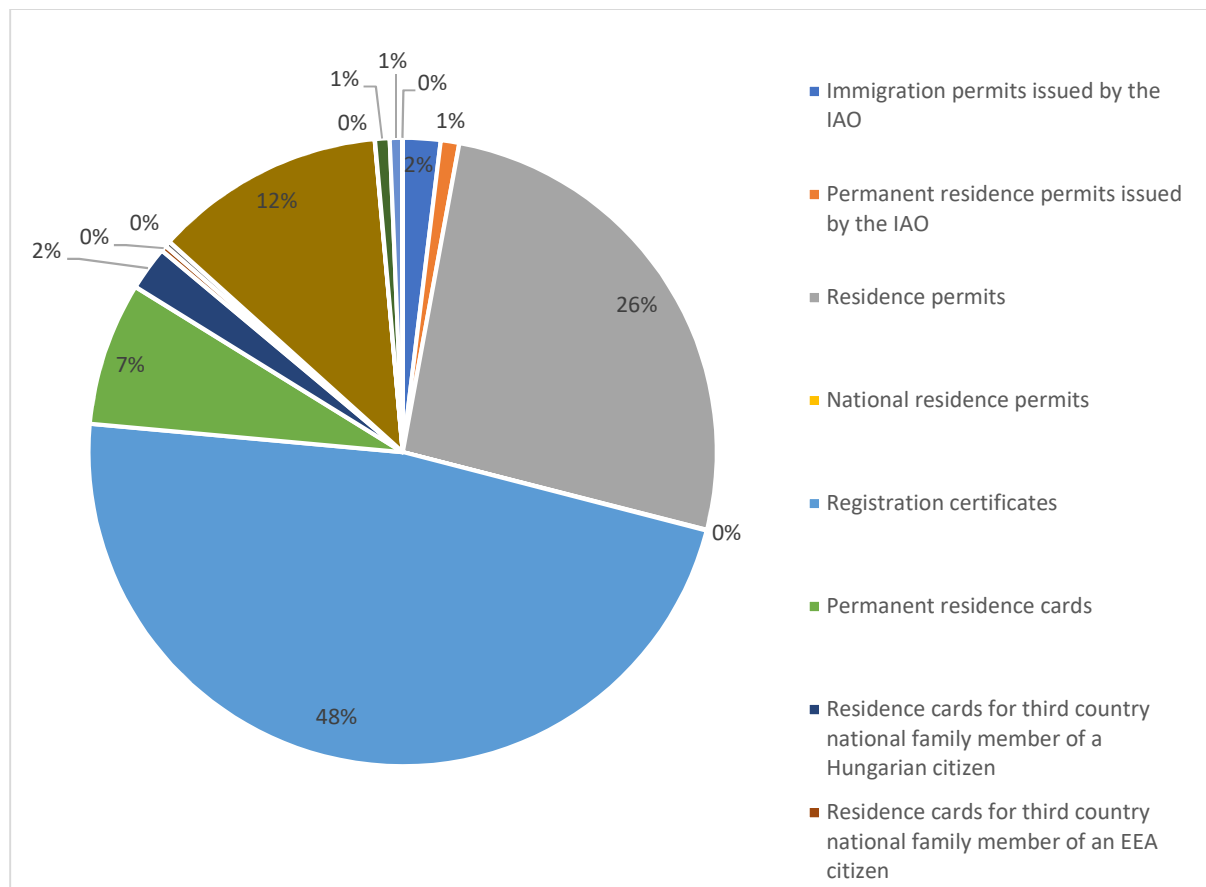
Foreign citizens by country of their citizenship Source: [www.ksh.hu](http://www.ksh.hu) population censuses, 2016 micro-census

Foreign citizens are mainly from **the Hungarian border areas** (because of the Hungarian **historical heritages**) like Romania or Slovakia. Most of them are foreign born but **native Hungarian speakers**. That is why they deeply prefer and live with the possibilities offered by the Hungarian education system. The second generation of **Asian families** are also common.

The Hungarian Statistics<sup>33</sup> show the latest distribution of valid residence permits issued by Hungary in 2017 shared. Almost half of them belong to the registration certificates.

<sup>33</sup>Immigration and Asylum Office latest statistics (2017)





Number of valid residence permits issued by Hungary 30. 11. 2017  
data Source Immigration and Asylum Office latest statistics (2017)

Regarding the **genders, the distribution** of male and female foreign person is almost **equal**. **FEMAGE** (2017) summarized the **needs for female immigrants** and their **integration** in ageing societies. Based on their primer research, female immigrants need gender-specific support. Foreign women need to obtain access to affordable **language courses** and **to general information about values and norms of the host country**. The depreciation of skills – with which immigrant women arrive – leads to a loss of human capital, for the immigrant as well as for the host society. For economically-active women there is a growing need for portability of pension rights, i.e. taking along pension rights and social benefits from one country to another.” Hungary also joined FEMAGE Project (Melegh – Kovács, 2007).

Increasingly, with globalisation, the people of the world are mobile and on the move; and most of these foreigners are seeking a happier life **Where foreign born people are welcome and where they integrate well, immigration works well**. A more tolerant attitude in the host country proves best for non-locals and also for locals. According to the





**latest World Happiness Report<sup>34</sup>**, this mainly focuses in the 2018 edition on migration within and between countries. It measured and compared the happiness of foreign born and the locally born populations of their host countries by dividing the residents of each country into two groups: those born in another country (the foreign-born), and the rest of the population (using 95% confidence interval). In this ranking Hungary takes on the 63. place (from 117 countries). Although **Hungary is among Top 10 countries with the most significant changes in happiness** over a decade. In Hungary incomers are seemingly happier in general than the original residents (5,7 against 5,6).

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## PART 2. QUALITATIVE NEEDS ASSESSMENT

### 6. INTRODUCTION

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Women scientists are underrepresented in the STEM (Science, Technology, Engineering and Mathematics) fields in the EU and in Hungary as well (EC, 2015, KSH, 2016).

In the framework of EUMentorSTEM project's Intellectual Output 1, Óbuda got in touch with 10 foreign born women and 2 professionals to explore the training needs of both target groups.

All of the foreign born women interviewed achieved their qualification in Hungary. The most of the foreign born citizens, who apply for university education in Hungary, are Hungarian native speakers due to Hungary's historical heritage. They have arrived from the surrounding countries, such as Romania, Serbia, Ukraine and Slovakia. Besides that, the number of the Asian-Hungarian students is notable, who are part of the "second generation" foreign students. The main reason for that can be the Hungarian language, because there are mainly Hungarian courses, and only a few English ones at the universities, however, the number of English courses are rising.

We would like to highlight the different motivations that informed foreign-born women's educational choices and, why they choose Hungary as an educational destination. A further research question refers to that: why STEM could be their choice. After that the job searching circumstances and the foreign women's situation at their workplace are explored. To represent our results regarding the research questions, we build up models, which enable the deeper understanding of the results.

We have also asked organizations that integrate women of foreign origin with the most varied tools: besides developing labour market competences, community building, leisure activities, volunteering programmes, etc. We will find among them the trainers who are involved in the methodological training developed by the project.

### 7. RESEARCH METHOD AND AIM

The Hungarian member of the project interviewed ten women with STEM educational background, who switched their field of interests compared to their original STEM qualification (except one of them). The aim of the interviews was to explore their preferences, difficulties, in order to better understand their situation and to contribute to the development of a tool-kit enabling better employment opportunities for them. The main aim

is to create tools and educational methods that can sustain women's employment and integration into the labour market in the field of technical sciences.

The professionals interviewed have extensive experience and large domestic and international professional networks. They have been involved for 20-25 years in the work of support and integration of foreigners.

In our qualitative, exploratory study, we interviewed ten women between the 3<sup>rd</sup> of March and the 27<sup>th</sup> April. We made a phone semi-structured and further nine online structured interviews. The open interview questions were sent to the respondents via e-mail. The importance of the first semi-structured interview was that we could gain experience from the pilot interview, in order to finalise the structure of the guide and the questions.

According to Malhotra (2010) interviews can be applied in case of sensitive questions. Since our interviewees were not available during day-time, Obuda research Team decided to use online sent interview questions, using open questions. Individual interviews provided respondents with the possibility to answer the questions, by avoiding discussing sensitive issues among other interviewees.

It came up against a difficulty to arrange the answerers, because we had to select them very carefully with the above mentioned specifics. At the beginning of the online interviews we reassured our respondents about anonymity and having the possibility to opt out in case of too sensitive questions. We also confirmed that wrong answers do not exist in order to encourage them expressing themselves freely. The research was open in style, because we informed our participants about the aims of the study.

The interviews are analysed by content analysis, using narratives to depict the situation and to report the interviewees' point of view.

### 7.1. Data

The respondents were born in five different countries, and only one interviewee belongs to the second generation, because her father was born outside Hungary (Table 1.). Most of them are young adults and part of generation Y, because they are 25-30 years old. Only one interviewee belongs to generation X, because she is 51 years old, and although she was born before the launch of the Internet, but she has an IT degree, so she also prefers online connections. The Y generation is characterized by less personal contact, because they rely on internet connections and use social media platforms and devices (Hidvegi and Kelemen-Erdős, 2016, Kolnhofer-Derecskei and Reicher, 2016).

The interviewees graduated in the past eight years as a BSc student in Hungary, two of them have already earned their master degree. They are predominantly technical managers, but there also were a light industry engineer, an environmental manager and a mechanical



and safety engineer included in the sample. The interviewees have working experiences, most of them have a job, but there is a respondent, who is at home with her baby, and another one is unemployed.

Two interviewees have also other degrees, one of them is a sport trainer, and the other one is an electronic engineer.





**Table 1: Sample description**

	COUNTRY OF ORIGIN	FACULTY	EDUCATIONAL LEVEL	TYPE OF EDUCATION	PROFESSION
I1	Romania	technical manager	BSc, graduated	full time	global customer full sales specialist
I2	Romania	light industry engineer	BSc, graduated	correspondent	account manager
I3	Romania	IT engineer	BSc, graduated	full time + evening course	software tester
I4	Slovakia	environmental engineer	BSc, graduated	correspondent	receptionist
I5	Slovakia	technical manager business development	MSc, graduated	full time	financial controller
I6	Slovakia	technical manager	BSc, graduated	full time	costume designer assistant
I7	Slovakia	electronic engineer	BSc graduate	full time	Production optimizer engineer
I8	Hungary (second generation)	technical manager	BSc, graduated	full time	project manager
I9	India	mechanical and safety engineer	MSc graduated	full time	designer for tools; automation engineer
I10	Vietnam	technical engineer	BSc graduated	full time	marketing and selling

Source: Own construction



## 8. RESULTS

### 8.1. Reasons for Choosing Hungary as an Educational Place

The main targets reported of having had affordable and better quality education and working possibilities in a more developed country or region compared to the home country, but also emotional preferences, such as liking Budapest, Hungary, or love (Figure 1.). The most often mentioned reasons can be summed as “Acquiring professional knowledge. Ensuring employment and livelihoods.” (I3), from another perspective, it can be: “I come from a village of 300 people, compared to that there is everything in Budapest.” (I5), and even more expressively: “There wasn’t any workplace in our surrounding area.” (I4).

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Reasons for Choosing Hungary				
Economic attributes	Cultural motivations	Education	Job opportunities	Emotional factors
Low living costs	Budapest and its facilities	Lack of the chosen higher education faculties in the home region	Acquiring expertise	She likes Hungary
Underdeveloped home country		Better quality of higher education		Love

**Figure 1: The model of Choosing Hungary as Educational Place**

Source: Own construction based on the interviews

Although they have chosen Hungary as their new home, they face difficulties, so they are not always satisfied with their choice. Thus, „I like living here, but sometimes not, because people always deal with others and not with themselves...and they are always pessimist.” (I6). We could evaluate it as a stereotype, but negative thinking of Hungarians can be confirmed by researches (e. g. Malota – Gyulavári, 2015).

More respondents returned, or would like to return to their homeland later, or used to have ambivalent feelings. “I wanted to go back at the age of twenty, but somehow I got used to it, and I cannot imagine living there (in the mother-country).”(I1).

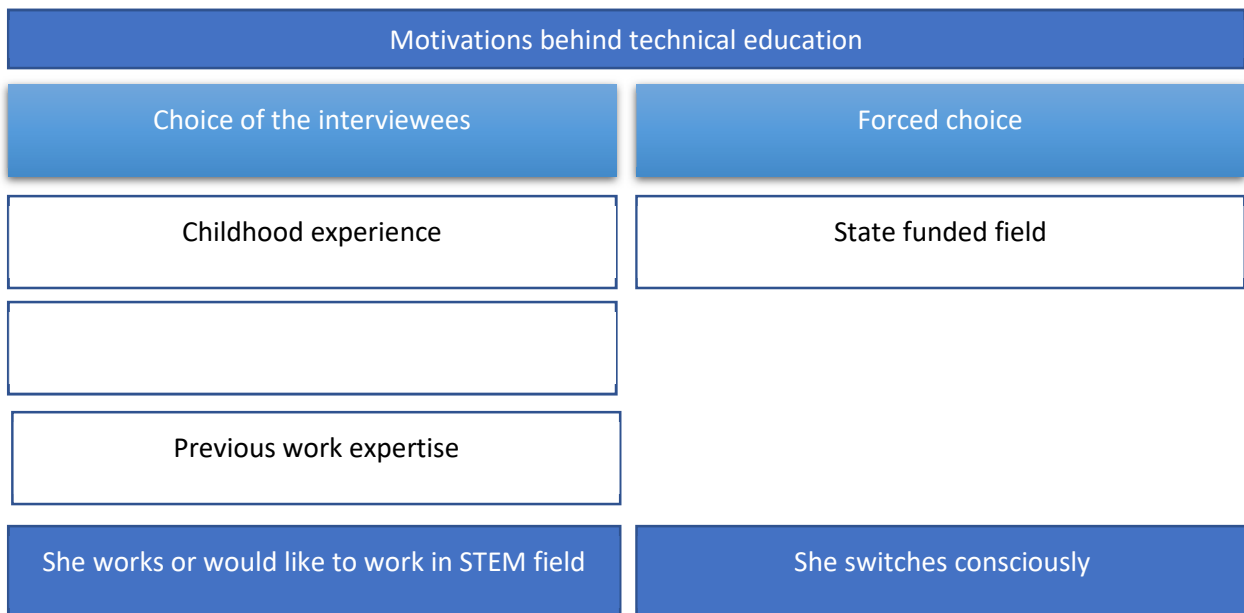
The study results of the respondents are diverse and range from the best students till satisfactory. “I always got a scholarship; it took only three years to receive the first diploma.”

(I5).“I did not invest too much energy into learning, but I participated diligently and actively in those lectures, in which I had an interest.” (I9).

## 8.2. The Motivations behind Women’s STEM Education

The motivations behind STEM education choice can be classified into two groups (Figure 2.). Some were really engaged in STEM, but others were ‘urged’ to be STEM students.

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**Figure 2: The model of Women’s STEM Motivations**

Source: Own construction based on the interviews

Three interviewees were really emotionally involved from their childhood on, because they like the related subjects, such as mathematics, physics, chemistry, biology and informatics: “I was engaged with computer science since I was 11 years old and interested in it.” (I3); “I am a kind of study loving student who likes to go to classes then responsible for the tasks, taking participate in industrial visits. I am active in labs. I love to solve the problems in technology issues with the instruments.” (I9); “I have always been interested in technical sciences and before applying, I looked into the curriculum and I found that most of the subjects (biology, chemistry, and physics) included were used to be my favourites in the primary school.” (I4); “I was always involved in technical profession, and the salary is also good as an engineer.” (I7); or experienced technical enthusiasm in her family: “My mother was a ‘doing everything yourself’ type”. (I6). Another respondent applied for a STEM field





because of her previous work expertise, “I had been working in the printing industry for several years...After earning my degree, I work also for the same company.” (I2).

Two of the interviewees did not want to choose a STEM field originally, but it was due to the Hungarian educational system, because in case of economic fields, there are mainly self-financing places or the candidate should have very high scores, but in case of STEM fields almost the minimum point level is enough to have a state-funded course.

There are also notable differences in the evaluation of women’s proportion in STEM fields. Some of them do not see differences related to gender, others find it from another point of view: “I do not know anything about female engineers, because I hadn’t got one neither as a trainee, nor now.” (I7); “We are too few.” (I9).

### 8.3. Job Searching Circumstances

The most used job seeking platforms are mainly job fairs, acquaintances, and social media, such as LinkedIn and other job advertising portals. In a conducted case, e.g. the recommendation of a teammate contributed to having a position. Another important method is to take part in trainee programmes, after which the respondent could stay at the same company.

The respondents mention only a few, but very diverse gender related issues, while job seeking, however, it was directly asked. “I have the same opportunities at the workplace as men.” (I1). I6 mentioned that she could feel that men are preferred while job seeking for technical engineering. “No job placement is possible (for a woman).” (I5). “Hungary is characterised by sexism ... Girls are not encouraged in the primary school to be open for these (STEM) studies. So, there are only a few women, who apply for such university degree, graduate from there and stay in the field.” (I9). I10 noticed that according to overall thinking: “The place of women is at home in Asian countries. [...] Men are always preferred.”

Most of the respondents had not any serious problem in finding a job, although they managed to do it from the period of one day, through two-four weeks, till half a year, which can only partly confirm our secondary research results in the Environmental assessment, according to which to find a job with STEM qualification is easy. It is rather challenging, but possible.

The main problem was the lack of long-term work experience as a career starter (I3, I6) or the lack of English knowledge (I1), however, in this later case the interviewee had the possibility to improve it at the workplace. A further difficulty was that “I could not decide what I would like to do.” (I5).

I9 states, that the job opportunities for foreign-born are getting better. At the beginning she had difficulties in finding a job because of language problems, as she did not speak





Hungarian. I10 has language difficulties. Furthermore, I7 stressed the importance of language mastery (she was looking for a job in Germany, and German knowledge was required).

Further problems were related to job seeking generally:

- to understand the job advertisements
- job advertisers do not understand the new generations' needs
- to realize that you won't be called for a job interview, if you do not have the required papers, even though you have appropriate competences.

One of the interviewees adds that in her home country, corruption determines the workplace and the position.

#### 8.4. Foreign STEM Women's Situation at Workplace

More respondents are satisfied with their job, thus they like their profession. They did not mention any problem related to their workplace. "I would not call them problem, rather a challenge, in every situation you have to find the right solution for your work." (I2); "There is such a lack of workforce that I have very good opportunities (also in the future)." (I7).

Women can have difficulties in case of hard physical work, e.g. while moving products, as adds an interviewee (I6). Moreover "Under-estimation, aggression, humiliation, and lack of communication" (I6) and stress (I5) can occur. However, I6 added, that she faced with more serious problems in film industry, such as presented by the '#metoo' campaign in Hollywood, which is a struggle for women actors' equality.

I10 reported that "Internal conflict and the lack of team spirit are the main problems." at her workplace. In addition to that, language problems are mentioned also related to working.

Two of the interviewees reported on discrimination related to being "foreigners", either because of their skin colour, either because being foreign born.

I4 likes her job, however, she wanted to establish herself in a STEM job, but she couldn't. In the future she would prefer a STEM job with flexitime.

Among the 'dream jobs' of the respondents, we can find a chief financial officer, entrepreneurs and a NASA researcher, but there is also an interviewee, who said "The dream work for me, which I have now." (I2), or someone would like to have the same job with better conditions: "Project manager at my current job." (I7); "Software tester (or test manager) with greater responsibility and higher salary." (I9).

"I always wanted to ground an enterprise. I like start-ups." (I10)

"I would like a job that is exciting, meets my interest, and where I can continually improve my knowledge. It should give me the opportunity to travel a lot, and I should get appreciation





for my work, and provide a harmonious working environment where I can also appreciate my colleagues, my employees.” (I6)

All respondents reported that they can return to their previous workplace, if they will have a baby. “Everyone at my workplace can work one day a week at home, but with permission even two days. This colleague (who has children) works twice a week at home and sometimes comes early to go home earlier [...] so, this will be my right place also with a baby.” (I1)

“I like my work, but I feel dissocialized myself.... People have low emotional intelligence, and low stimulus and motivation threshold. [...] I would like to be an entrepreneur; I can’t imagine anything else in long-run.” (I9)

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## 9. INTERVIEW WITH EDUCATORS WORKING WITH FOREIGN-BORN PEOPLE

We made interviews with the two professionals working in two of the largest and oldest organizations that are specialized in helping foreigners. They have developed a comprehensive range of activities over the last 20-25 years. Our interviewees were 2 women, both in the first half of their 30s; both are sociologists by educational background with the same age; they were working as a mentor and as professional manager. Their special expertise was gained during their work within the framework of the organization and related trainings also were received there. Organizations typically employ social workers, trainers, as permanent staff; they do not have HR-experts.

These organizations have a reputation for their work in the field of support for foreigners, and they have the widest range of professional relationships. We contacted them to find women interested in STEM, those who are studying, working or looking for work in the field.

The professional services are based on community programmes, individual and group counselling services. They liaise closely with other organizations in the field, cooperating to improve their beneficiaries living conditions and integration possibilities.

Both organizations have developed methods developed through their own international collaborations, and both organizations are striving to share the acquired expertise. The first organization helps its beneficiaries entering the labour market, by using a Swedish methodology of competence assessment. They organize volunteer mentoring programmes in which Hungarian citizens help foreigners’ integration individually. The other organization summarizes its unique professional knowledge in policy proposals, and uses it as a multiplier role: they are organizing trainings for professionals working in the social field, the Police, the Immigration Office and employers. In addition, they also have a mentoring programme that





supports children's integration. The latter offers an opportunity in the long run to orient girls to STEM areas.

Activities include personal assistance, diversified methods (psychodrama, coaching, etc.) for acquiring language skills as well as community programmes, language courses and leisure programmes (e.g. yoga and creative crafts). They collaborate with other organization of the social field to improve living conditions for foreigners, help organize their housing and provide legal assistance.

Both organizations operate labour market programmes, which develop the competences of their beneficiaries related to work, prepare them for dealing with cultural differences, different working environment, and occasionally they are helping in individual job search. They may also be able to pay scholarships for trainees, but only 10% of those who have been in traineeship programmes stay in the given workplace, partly due to legal obstacles.

There is a significant lack of workforce in Hungary, mainly in the STEM field requiring high level qualifications and in low-skilled physical jobs. Foreign beneficiaries of the organizations work mainly in the construction industry doing low-skilled work, or in the restaurants as dishwashers etc.

Most of the organizations' beneficiaries are men, even though it has been the case for both organizations that they had programmes launched specifically for women, which were/are mainly a community development programme. For example, one organization holds a separate Hungarian language lesson for women, separate female leisure programme (city walks, gastro workshops, clothes market, cultural programmes, etc.).

They have implemented also labour market programmes, currently involving 50-100 women. There are very few graduates among women; none of them had degree in STEM.

In addition to language proficiency, primary social, interpersonal skills are the key factors of the successful labour market integration. Traditional gender roles may affect specific groups of women. In these cases, it is particularly important to recognize their values, to support their initiatives.

The daily work of the organizations is hampered primarily by project-based funding and prejudices of the host society. The experts consider that certain soft skills are crucial for their professional work with foreigners, and these are the same competences that help a foreigner to succeed: such as flexibility, innovation ability, stress tolerance, patience, humour, openness, endurance, motivation. Professionals emphasized also their personal dedication without which no social work could be done. They consider, however, that their beneficiaries' difficulties were more serious than their own problems.

The interviewees consider STEM as an effective area of integration, and emphasized that they can identify themselves with the goals of the project. They have not received gender-





based training yet, which both interviewees would be interested in. They are opened to develop their knowledge of coaching, supervision, and more effective advocacy, will be flexible on the form of training, but will decide upon the quality of the training programme.

## 10. CONCLUSION

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The research method is inappropriate to draw an overall conclusion, but the results can be interesting to highlight the main problems, which foreign born women face in STEM fields, and improve their possibilities and integration into the labour market.

Hungary is preferred by the neighbouring countries, because the most of the higher education courses are still in Hungarian, although the proportion of English education is increasing. Another reason for that are Budapest's facilities, including job opportunities, which are more favourable than in the sub-regions of the surrounding countries, where Hungarian minorities are living.

STEM women face problems similar to men. Foreign born can have difficulties only because of the language, so language courses can contribute to finding a job easier for them. Other problems are related to conflict management and team work, which can be improved by trainings.

In order to integrate foreign women into the field of STEM, it is necessary to fight gender and ethnical stereotypes and prejudices at the same time. However, if the knowledge gained in STEM field, is coupled with personal competencies that facilitate the individual's carrier, the area offers a promising opportunity to integrate foreign women and thereby bridge cultural differences.

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**Erasmus+ Strategic Partnership for Adult Education**  
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## **EUMentorSTEM**

**Creation of a European e-platform of MENTORing and coaching for promoting  
migrant women in  
Science, Technology, Engineering and Mathematics**

### **Annex 3**

### **Intellectual Output 1**

#### **Diagnostic Assessment**

#### **Environmental and Qualitative Needs Assessment**

#### **Country-level Report-ITALY**

**UNIBO**  
April 2018



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## PART 1. ENVIRONMENTAL ASSESSMENT

### 1. MIGRATION DATA

2

#### 1.1 From an emigration, to an immigration country: international migrations to Italy

In the second half of 1980's, Italy acknowledged its transition from an emigration, to an immigration country: after more than one century of emigration fluxes and internal South-North migrations, Italy turned into a country in need of migrant labour force coming from North Africa, South-East Asia and South America (Grillo, Pratt 2002). On the other hand, the increase in female participation to the labour market fuelled the “global care chain” (Hochschild 2000; Ehrenreich, Hochschild 2003), and care – in particular of elder people – has become one of the main employment sector for women migrating to Italy.

Like other countries affected by the so called “post-World War II second immigration wave”, Italian society faced a sort of “immigration shock” (Grillo, Pratt 2002), but – even though in the public debate it is frequently addressed as an “emergency” issue<sup>1</sup> – immigration is now a stable and structural phenomenon, thanks also to reunification policies and laws (Tarabusi 2014). In fact, Italy scored 72 in the Migrant Integration Policy Index in 2015, achieving the 6<sup>th</sup> rank out of 38 countries<sup>2</sup>.

On the 1st of January 2017, there were 5.047.028 foreigners<sup>3</sup> legally residing in Italy, 2.642.899 (52,4%) of whom were women<sup>4</sup>.

<sup>1</sup> Immigration is the focus of a heated debate. After the recent increase in the number of asylum seekers that followed the crisis in Libya, immigration is frequently depicted in terms of “invasion” by mainstreaming media and by right-wing and extreme right-wing political parties.

<sup>2</sup> <http://www.mipex.eu/italy>. It is important to stress that the possibility to remain in the receiving country for spouses who arrived to Italy through marital family reunification is strictly connected to the marital status. For many women who reunited with their husbands, divorce turns into a difficult option in that they can lose their residency permit.

<sup>3</sup> The Italian Institute for Statistics (ISTAT) defines as “foreigners” those people registered in General Registration Offices across the country who are stateless or do not have the Italian citizenship.

<sup>4</sup> <http://stra-dati.istat.it/>. Although there is a general gender balance among immigrants, the gender composition within specific migrant communities can vary considerably.

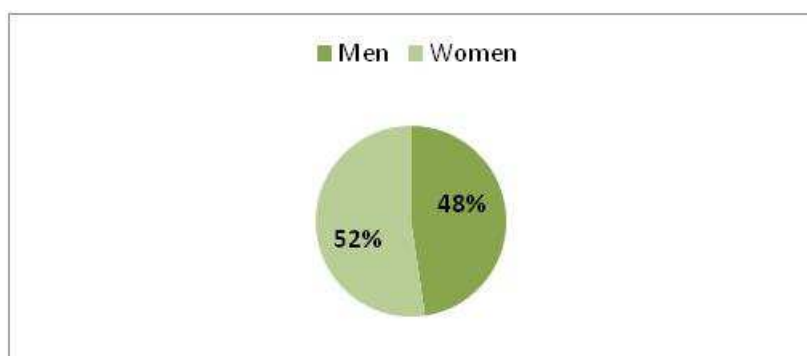


Fig. 1 Foreigner residents in Italy per sex (elaboration from Istat data)

Foreigners currently represents about the 8,3% of the total amount of the resident population and the main migrant communities are represented by Romanians (23,2% of the total foreign population), Albanians (8,9%) and Moroccans (8,3%)<sup>5</sup>.

In 2016, the Italian Institute for Statistics (Istat) registered a +7% increase in the number of residents who enrolled from abroad in the Italian municipalities General Register Offices (+ 301.000, 263.000 are foreigners) and an overall increase of the number of immigrants coming from African countries such as Guinea, Ivory Coast, Nigeria, Ghana and Gambia. This phenomenon is strongly connected to the increase of asylum seekers from the abovementioned countries that has affected Italy in the last five years (ISTAT 2017). In 2016, most of the asylum seekers that asked for International Protection in Italy (123.600) came from Nigeria, Pakistan and Gambia. Although women – and, specifically, Nigerians – are increasing, asylum seekers crossing the Mediterranean to reach Europe are mainly men (ANCI, Caritas Italiana, Cittalia, Fondazione Migrantes, Servizio Centrale dello Sprar 2017).

In 2016, there was also an overall increase of emigration (+7% in comparison to 2015): the persisting economic crisis produced a dramatic increase in young people unemployment rate<sup>6</sup> – and although this phenomenon involved mainly Italian, highly educated residents<sup>7</sup> – 42.533 foreigners left Italy and cancelled from the General Registration Offices to enrol abroad (ISTAT 2017).

According to the report “SAME-Promoting the economic integration of migrants” issued in 2017:

<sup>5</sup> <https://www.tuttitalia.it/statistiche/cittadini-stranieri-2017/>.

<sup>6</sup> In 2014 the unemployment rate of young people aged 15-24 reached the 42% (<https://www.istat.it/it/lavoro-e-retribuzioni>).

<sup>7</sup> The number of graduated Italians who decide to emigrate is increasing. In 2016, they represented one third of the overall number of Italian emigrants (115.000, 73% of the overall number of emigrants from Italy).

«In Italy employment rates for foreign-born tend to be higher than for natives. However, the distribution among age groups, sectors, type of jobs and geographical areas is extremely uneven. The largest share of non-EU migrants is employed in the North West (especially in Lombardy) and in the North East, while in the Centre there is a prevalence of EU-born migrants. In both the manufacturing and the agricultural sector, the employment dynamic has been positive for migrants in the last few years, even if most of their jobs are actually low skill, in general exceeding the corresponding growth trends of employment for natives. Looking at migrants' qualification and skills, Italy is one of the countries within the EU with the lowest levels of qualification in the migrant population, with 47% having at most primary education and only 12% with tertiary education. It is important to underline that in Italy the rate of population (25-64 years old) with tertiary education in general is 17%, while the OECD average is 36%, and the UK one for instance is higher than 40% (OECD, 2016a)» (p.17)

The *Fondazione Leone Moressa* as well highlights the low levels of qualification of immigrants living in Italy: only 1 out of 10 holds a University degree, and 4 out of 10 did not continue their studies after Secondary School<sup>8</sup>.

It is important to stress that in Italy it is difficult to get the acknowledgment of the educational qualification achieved in the country of origin: bi-lateral agreements between Italy and the different countries, in fact, make the recognition of educational qualifications a complex process and produce highly heterogeneous outcomes according to the countries involved and the qualifications to be acknowledged.

Other studies report the problem of over-qualification among educated migrant workers: according to Istat, the 29,9% of employed foreigner citizens aged 15-74 years old, declares that his/her job does not correspond to his/her educational background, nor to the professional skills acquired in their work experience. Women – especially women from Poland, Ukraine, Philippines, Peru, Moldova and Romania – more often than men declare that they are “underemployed”<sup>9</sup>. In 2017, 187.000 out of the 1.360.000 foreign women employed, were graduated or had a post-graduate qualification.

<sup>8</sup> [http://www.fondazioneleonemoressa.org/newsite/wp-content/uploads/2014/10/06\\_10\\_2014\\_Titoli-di-studio\\_Sole24Ore-articolo.pdf](http://www.fondazioneleonemoressa.org/newsite/wp-content/uploads/2014/10/06_10_2014_Titoli-di-studio_Sole24Ore-articolo.pdf).

<sup>9</sup> [http://www.istat.it/it/files/2015/12/Lavoro\\_stranieri.pdf](http://www.istat.it/it/files/2015/12/Lavoro_stranieri.pdf).

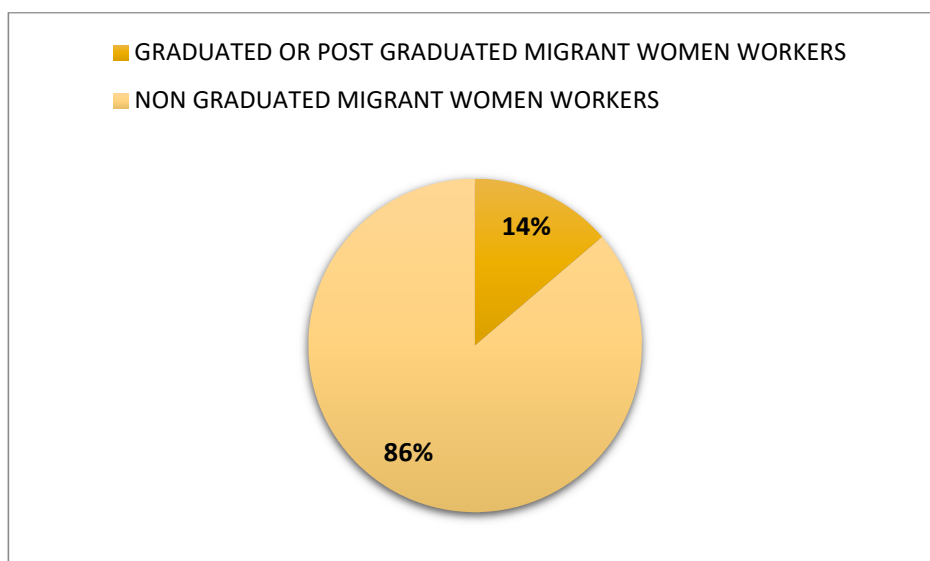


Fig. 2 Migrant women workers holding University Degrees (elaboration from Istat data)

Between 2008 and 2014, immigrants' unemployment rate increased more than the natives' one (+ 7,1 points vs + 5,2 points)<sup>10</sup>, but in 2017 unemployment rates slightly decreased (the overall number of unemployed immigrants decreased from 456.000 to 437.000 units). In 2016, though, foreigners in a working age (15-64) who were "inactive" – that is, not employed, nor unemployed – amounted to 1.181.000 units, the 72% of whom were women<sup>11</sup>.

In this regard, we have to account for the fact that the Italian labour market has been stagnating during the last couple of years, while in 2017 the number of available jobs in Italy has reached the highest levels since 2010 (0.9%) (Istat 2018). To date, the increase in the available jobs might point to a period of economic growth, but it could also hide a mismatch between job supply and demand because companies are not able to hire people with the necessary qualifications (Il Sole 24 Ore 2017). For instance, this seems particularly relevant in digital industries (the so called "Industry 4.0"), where several reports highlight the need for an increasing number of highly qualified profiles in Italy and in Europe (e.g. Censis, Confcooperative 2017; Unioncamere 2018). However, while some of these reports highlight the gendered nature of these labour market gaps (CEDEFOP 2018), we believe that the potential impact of these phenomenon on women is still largely unknown.

According to the above-mentioned report "SAME", ethnic entrepreneurship has been growing:

<sup>10</sup> [http://www.istat.it/it/files/2015/12/Lavoro\\_stranieri.pdf](http://www.istat.it/it/files/2015/12/Lavoro_stranieri.pdf).

<sup>11</sup> <http://www.ismu.org/wp-content/uploads/2017/12/Comunicato-23esimo-rapporto-ISMU.pdf>



«Italy is the country with the highest rate of native self-employment compared to the EU countries, and it is one of the few (notably, Southern European) countries in which the level of entrepreneurship among migrants is lower than among natives, as shown in Table 2. (Migration Observatory, 2017). At the same time, the growth rate of migrant businesses in Italy is much higher than the native one: a general reduction of 0.9% in the overall number of firms in the country between 2011 and 2015 is in fact the combination of a 2.9% decrease of firms owned by natives and a 21.3 increase of migrant owned ones (Intesa SanPaolo, 2017). In addition, 10% of non-EU born migrants is selfemployed in Italy, mainly in the service and commerce sectors. In this field, there is a significant difference in the segmentation of age groups: only 7.7% of Italian born residents under 34 is selfemployed, while the rate rises to 25.5% for migrants (Direzione Generale dell'Immigrazione e delle Politiche di Integrazione, 2016a)» (p. 17)

## 1.2 Immigration in Emilia-Romagna

As suggested by Sebastiano Ceschi, the scientific literature as well as the broader civil society consider migration and work as two strictly interrelated phenomena (Ceschi 2014): finding better job opportunities allowing better living conditions is, in fact, a crucial determinant triggering mobility. Emilia-Romagna is not only one of the most prosperous regions in Italy in the economic field, but it is also one of the leading administrations in the enactment of welfare policies targeting migrant populations (Grillo, Pratt 2002; Tarabusi 2014). It is important to stress that Regions and local government bodies hold a regime of autonomy in welfare, education and health policies that are frequently implemented by a “welfare mix arena” that brings together local government and Third Sector organizations<sup>12</sup>. This aspect makes the immigration policies Italian landscape – and related initiatives and actions – highly heterogeneous. The 24<sup>th</sup> of March 2004 Regional Law n. 5<sup>13</sup> represents the framework for interventions fostering migrants’ social and economic inclusion in the receiving context. The law establishes, in fact, a three-year action planning to be carried out in the following domains:

- social inclusion (work, education and vocational training, supporting parents, health, housing, policies to contrast to poverty);
- equity and civil rights (policies related to international protection and asylum seekers, contrasting human trafficking, promoting gender equality and preventing violence, supporting sentenced migrants, supporting voluntary repatriation);

<sup>12</sup> Third sector organizations include associations, social cooperatives and private foundations.

<sup>13</sup> “Rules for the social integration of foreigner immigrant citizens”, [http://demetra.regione.emilia-romagna.it/al/articolo?urn=er:assemblealegislativa:legge:2004:5&dl\\_t=text/xml&dl\\_a=y&dl\\_id=10&pr=idx,0;artitc,0;articparziale,1&anc=cap1](http://demetra.regione.emilia-romagna.it/al/articolo?urn=er:assemblealegislativa:legge:2004:5&dl_t=text/xml&dl_a=y&dl_id=10&pr=idx,0;artitc,0;articparziale,1&anc=cap1).

- citizenship (fostering social and civil engagement, promoting cultural and sport policies, international cooperation);
- anti-discrimination.

Foreigners officially registered in the municipalities' General Register Offices amount to 531.028 units<sup>14</sup>. If we consider as well foreigners who have the residency permit, but who have not yet enrolled in the Register Offices across the region, the overall amount of immigrant citizens rises to 579.000 units. Although in the last two years the number of immigrants has slightly decreased, Emilia-Romagna is the second Italian Region for number of immigrants and the first one for the incidence rate of the foreign population on the overall resident population (11,9%)<sup>15</sup>. The incidence rate of foreigner citizens is even higher in the provinces of Piacenza (14%), Parma (13,5%), Modena (12,9) and Reggio Emilia (12,3%)<sup>16</sup>.

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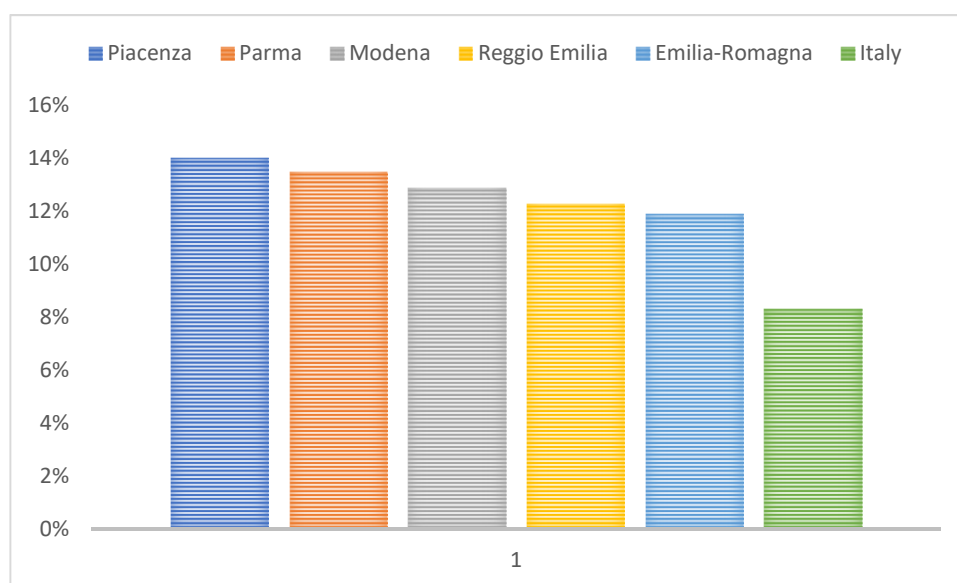


Fig. 3 Foreigner citizens incidence rate on the overall resident population (elaboration from Regione Emilia-Romagna, Osservatorio Regionale sul fenomeno migratorio data)

In the last decade, immigration strongly contributed to the overall increase of Emilia-Romagna population and it has helped contrasting the ageing process, as well as the

<sup>14</sup> <http://sociale.regione.emilia-romagna.it/immigrati-e-stranieri/temi/archivio-dati/focus-2/view>.

<sup>15</sup> <http://assr.regione.emilia-romagna.it/it/servizi/pubblicazioni/rapporti-documenti/immigrazione-straniera-ER-rapporto-2017>.

<sup>16</sup> <http://sociale.regione.emilia-romagna.it/immigrati-e-stranieri/temi/archivio-dati/focus-2/view>.

declining birth rates affecting the Region, and the country more broadly. Since 2010, though, the number of new-borns with a foreign citizenship has decreased.

The economic crisis and its impact on occupation dynamics, had a negative effect on the number of new residency permits released for work reasons; residency permits released for humanitarian reasons, on the other hand, increased (+ 104,3% from 2014 to 2016).

About 300.384 immigrants are stable in Emilia-Romagna: the number of long-term residency permits is increasing<sup>17</sup>, as well as the number of “new citizens”, that is, immigrants who acquired the Italian citizenship: while in 2002 there were only 1.153 cases, in 2016 “new Italians” amounted to 25.200 units<sup>18</sup>.

In 2017, women amounted to 284.114 units and they represented the majority (53,5%) of the foreigners living and residing in both the Region, and in all the nine Emilia-Romagna provinces. It is important to stress that while in 1997 women represented only the 40% of the overall foreigner population, since 2009 they have become the majority.

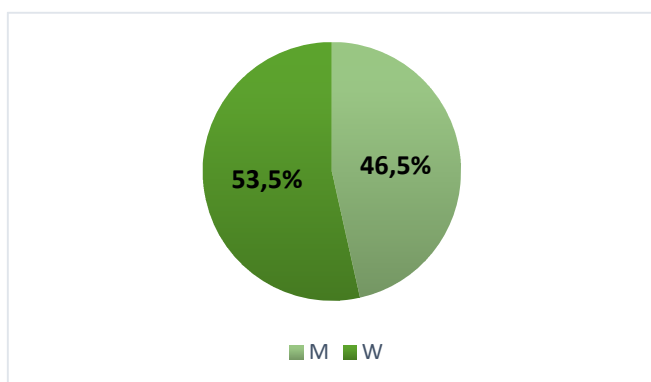


Fig. 4 Immigrant population in Emilia-Romagna Region per sex

<sup>17</sup> <http://assr.regione.emilia-romagna.it/it/servizi/pubblicazioni/rapporti-documenti/immigrazione-straniera-ER-rapporto-2017>.

<sup>18</sup> <http://sociale.regione.emilia-romagna.it/immigrati-e-stranieri/temi/archivio-dati/focus-2/view>.

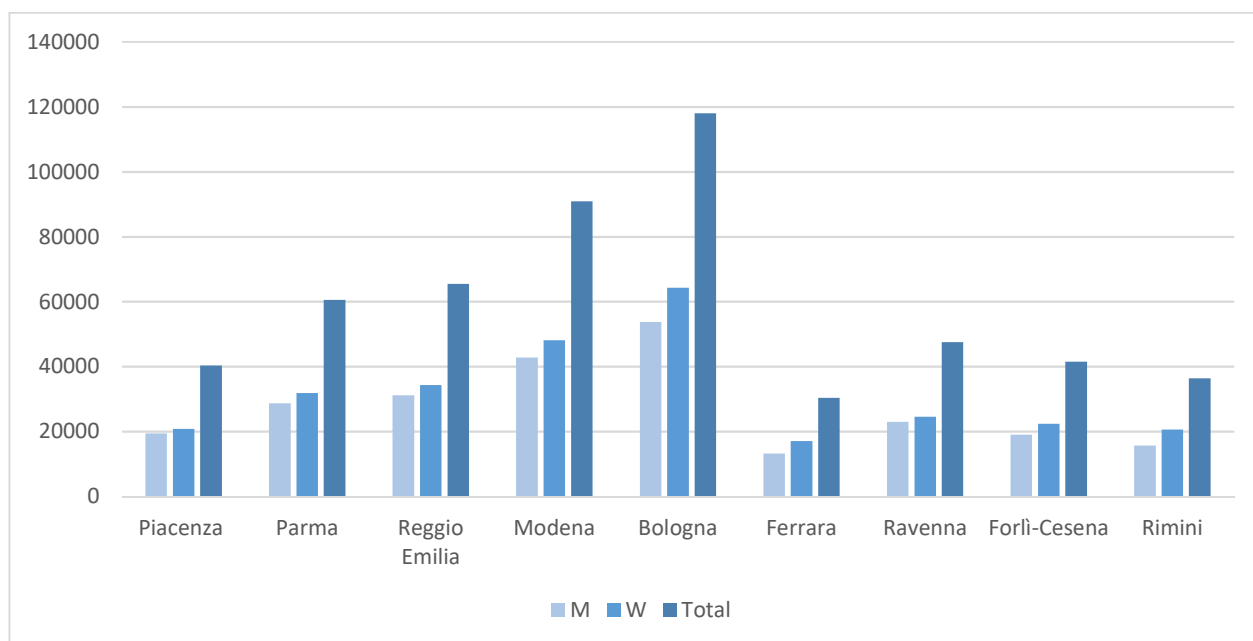


Fig. 5 Immigrant population per sex in the Emilia-Romagna region Provinces (elaboration from Regione Emilia-Romagna, Osservatorio Regionale sul fenomeno migratorio data)

Foreigners from about 170 countries live in Emilia-Romagna, but the main migrant communities are reported in the figure presenting the first ten citizenships of foreigner residents.

Citizenships	M	W	Total	%
Romania	36.481	52.325	88.806	<b>16,7</b>
Morocco	31.621	30.212	61.833	<b>11,6</b>
Albania	30.019	28.162	58.181	<b>11,0</b>
Ukraine	6.498	25.947	32.445	<b>6,1</b>
China	14.692	14.661	29.353	<b>5,5</b>
Moldova	9.479	19.821	29.300	<b>5,5</b>
Pakistan	13.724	7.604	21.328	<b>4,0</b>
Tunisia	10.738	7.396	18.134	<b>3,4</b>
India	9.596	7.612	17.208	<b>3,2</b>

Fig. 6 First 10 foreigners' citizenships per sex. Source: Osservatorio Regionale sul fenomeno migratorio

The slightly decrease of immigrant population is the product of different processes, including both the acquisition of Italian citizenship, and the emigration to other Italian regions or to other countries, but the latter seems to be a mainly male phenomenon.

As far as education is concerned, the Emilia-Romagna region presents the highest rates of foreigner University students, whose incidence rate on the overall number of registered students is 6,3% (the national incidence rate is 4,4%). The majority of foreigner students are women (58,7%). The main countries of origin of non native University students are the following: Albania (13,4%), China (10,3%), Cameroon (10,1%), Romania (7,6%) and Moldova (4,9%). Foreigner students privilege the following disciplinary fields: Economy and Statistics; Engineering; Medicine; Political Sciences; Humanities<sup>19</sup>.

## 2. PROJECTS/INITIATIVES OF RELEVANCE FOR EUMentorSTEM

The following paragraph presents a selection of project and initiatives carried out at both national and local level that address EUMentorSTEM issues and targets.

- ARISE – Appetite for enterprise (<http://cesie.org/en/project/arise/>)

The project is financed by DG Home Affairs – Asylum, Migration and Integration Fund (AMIF) and aims at promoting the social and entrepreneurial capacities of migrant women through development and exploitation of food-related knowledge and skills that provide possibilities for income-generating activities.

The main activities are:

- research based on quantitative and qualitative data collection on migrant women's social, economic and learning needs, and analysis of business climate and preconditions for food-related business establishment
- providing Training Course for 18 social workers/trainers/intercultural mediators
- implementing 20 Local Workshops targeting 12-15 migrant women per country on (I) development of personal and soft skills; (II) entrepreneurial education, entrepreneurial culture, entrepreneurial civil education; (III) visits to migrant-led enterprises and meetings with successful migrant entrepreneurs;
- producing a toolkit for organizations promoting economically sustainable food-related innovative business ideas and cultural initiatives, the "Appetite for Enterprise" Toolkit.

<sup>19</sup> <http://assr.regione.emilia-romagna.it/it/servizi/pubblicazioni/rapporti-documenti/immigrazione-straniera-ER-rapporto-2017>.



- **ATLAS SOLIDARITY:** Percorso di avvio all'imprenditorialità (<http://www.atlassolidarity.org/index.php/progetti/tutti-i-progetti/aiutiamoli-in-italia>)  
The project consist of a training (11 meetings) with the aim to support the start up and the effective management of a new business activity.
- **ESPAR – European Skills Passport for Refugees** (<https://www.espar.it/>)  
The project aims at developing a tool to support work counselling with refugees, based on “balance of competence” approach, which describe the portfolio of competences gained by migrants in previous training and working experiences.
- **FESTIVAL DELLA CULTURA TECNICA** (<http://www.festivalculturatecnica.it/>)  
The Festival is co-financed by the European Union and it is promoted by different local national and government bodies and by a network of Secondary Schools. It aims at promoting education in Science and technical training.
- **FONDAZIONE GRAMEEN ITALIA** (<http://www.grameenitalia.it/>)  
Grameen Foundation Italy is devoted to the promotion of social business and microcredit programmes based on Grameen methodology. It operates in the following domains: planning, training, mentoring, research. Grameen Italy developed the “Social Farm Model” which aims at addressing economic, environmental and social needs of agricultural contexts in order to prevent rural areas depopulation.
- **MYGRANTS. Opportunity in adversity** (<http://mygrants.it/it/>)  
It is a web-app and an online platform conceived to:
  - support recently arrived migrants and asylum seekers providing them with information on administrative procedures and informing them about their rights and duties in the receiving country;
  - map migrants and asylum seekers' interests and background to design tailored training aiming at strengthening their skills;
  - support migrants and asylum seekers' labour market inclusion and independence (even through entrepreneurship).
- **MONEY GRAM AWARDS** (<http://www.moneygramaward.com/>)  
The Money Gram Award was established in 2009 and to date it is the only national award that recognizes the excellence of companies run by foreign entrepreneurs. The jury is composed of leading personalities from the Italian economic, social,



journalistic and institutional fields and it assigns prizes for five specific categories: Profit growth, Occupation, Innovation, Youth entrepreneurship and Social Responsibility.

- PLOTINA. Promoting gender balance and inclusion in research, innovation and training (<http://www.plotina.eu/>)

The H2020 project (GA 66608; Scientific Coordinator: Tullia Gallina Toschi, University of Bologna) is carried out by a Consortium of ten European and Extra-European partners from seven countries (Italy, Austria, Spain, Slovenia, Portugal, Turkey). It aims at fostering excellence and promoting social values in innovation and research by strengthening women's talents – especially in STEM fields – and by ensuring a diversification of views and approaches – taking into account gender dimensions – in research. Specifically, The overall objective of PLOTINA is to enable the development, implementation and assessment of self-tailored Gender Equality Plans (GEPs) whose actions will support systemic and sustainable changes within PLOTINA's research performing organizations.

- RAVENNA CPI (Employment Center) - Experimental Workshop on Job Search  
With the technical assistance of ANPAL SERVIZI and in collaboration with SPRAR System (Protection for asylum seeker and refugees System), the Ravenna CPI (Employment Center) organised and experimented a workshop targeting asylum seekers, refugees and victims of human trafficking. The workshop was carried out in vehicular languages (such as English and French), and it aimed at providing this vulnerable target with tools and strategies supporting them in the process of job search in the receiving country.

- RE-STARTUP (<http://www.programmaintegra.it/wp/wp-content/uploads/2014/08/P.-Re-Startup-report-2014-web1.pdf>)

The project was co-financed by the European Union and aimed at promoting the entrepreneurship of refugees (in particular women). The project encouraged the creation of 12 new companies (9 cooperatives and 3 individual companies).

- REVaLUE – Refugees Empowerment through VET in an inclUusive Europe (<http://www.programmaintegra.it/wp/programma-integra/progetti/revalue-refugees-empowerment-through-vet-in-an-inclusive-europe/>)

The project will design a toolkit for the migrants' skills assessment and organise 2 training courses that meet the specific learning needs of refugees, particularly regarding the language barrier. They will also implement workshops to develop

work-related skills, in these workshops they will simulate a real work environment and play out the different dynamics that normally take place in the workplace.

▪ **SINGA ITALIA** (<https://www.singaitalia.com/>)

Singa has the goal of promoting the creation of new spaces for meeting, exchange, and collaboration between migrants and Italian society. It favours migrants' socio-economic inclusion through the selection of mentors, matching with migrants, creation of a working program and of a community.

▪ **VERSO IL FUTURO** (<http://www.cnaversoilfuturo.it/il-progetto/>)

The project is promoted by the Confederazione Nazionale dell'Artigianato of Bologna (National Craft Trades Federation), ECIPAR (the vocational training section of the NCTF) and the Bank of Bologna. It aims at sustaining entrepreneurship through training targeting more than 300 students from Secondary Schools,

▪ **WORK FOR INTEGRATION** (<http://www.work4integration.org/>)

The project promotes the socio-occupational integration of migrant citizens and aims to improve their working conditions. The project aims to facilitate access to information, training and job placement of migrants with activity of:

- counselling and psycho-social and legal support for accompanying migration and job placement;
- orientation towards active job search;
- inclusion in vocational training courses;
- start-up to work at companies, through job placement placements with a possible employment outlet;
- following through and monitoring the trends and paths of the trainings and of the job placements;
- raising awareness about the migratory phenomenon in Italy.

▪ **WORK WIDE WOMEN** (<https://workwidewomen.com/>)

Work Women Women is the first social learning platform in Italy. It provides women with training connected to new technologies and web related professions. It also helps companies developing social innovation and investing in women workers. Its main fields of interventions are the following:

- tailored training targeting women to foster talent acquisition
- inclusive welfare
- training on diversity management

## PART 2. QUALITATIVE NEEDS ASSESSMENT

### 3. INTRODUCTION

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After the identification of the potential stakeholders to be involved in EUMentorSTEM and the elaboration of the project stakeholders' list (December 2017-January 2018), the UNIBO Research Team has directly got in touch with approximately 40 persons from 26 organizations and institutions. While representatives/members of 14 stakeholder organizations were met in formal meetings, the others were reached through mails, and subsequent communication was carried through several phone calls.

Some strategic stakeholders facilitated the connection with other realities operating in the field of migrations, women's empowerment and labour market inclusion. The organizations and institutions involved from the 22nd of January to the 15th of March 2018 belong to the four "macro categories" identified in the Methodological Template issued in December 2017 and – although sometimes their actions overlap with other fields of intervention – they can be grouped and described as follows:

- 13 labour system organizations (private and public);
- 3 training/adult education system organizations;
- 4 welfare organizations and institutions (social cooperatives, associations and local government bodies);
- 6 migrant-based associations.

Moreover, the UNIBO Team got in touch with the University Cattolica of Milan and the University of Parma who provided quantitative data on foreign-born female students who has graduated in STEM in the last three years (2015, 2016, 2017).

Getting in touch with stakeholders operating in these domains was an opportunity not only to promote EUMentorSTEM with strategic actors, but also to get information on experiences, projects, initiatives fostering migrants' social and economic inclusion in the local and national context and to collect preliminary insights on the issues that the project addresses.

In general, all the representatives that the UNIBO Research Team has met agreed that they sometimes intercept this specific category of migrants; few systematic information and data on migrant women with a STEM background are collected or available, though.

Discussing the issue of migrants' deskilling in the labour market, they highlighted that the persisting effects of the global economic crisis narrowed migrants' career advancement chances, while reducing job opportunities more broadly. In this regard, according to most of the stakeholders, Italy is no longer considered by migrants as an attractive country from the economic point of view. As described in the following sections of the present report, this assumption was confirmed by some migrant interviewees, who highlighted the dramatic changes that have affected the Italian labour market in the last ten years<sup>20</sup>. Representatives of organizations working within or collaborating with the Refugees Protection System reported that asylum seekers – and especially highly skilled ones – tend to leave Italy (legally or irregularly) for Northern Europe as soon as they can, supported by their horizontal networks (family members, friends, acquaintances already living in northern European countries). Compared to other states, the Italian welfare system is considered less generous and most of the asylum seekers are aware of both the difficulties in finding a job and in getting their qualifications recognized by the Italian University system. Italy is, thus, conceived as the “temporary stop” of a broader migratory project whose privileged – and sometimes idealised – destinations are Germany, the UK and Sweden. According to some stakeholders, this may have a negative effect on the motivation in learning the Italian language. As a representative of a training organization reported:

«Even those women who hold a University degree prefer finding an immediate a job as cleaners or domestic workers rather than learning the language and investing their time in training. They want to gain enough money to move somewhere else as soon as possible».

Most of the representatives or members of the stakeholder organizations emphasised that migrant women who want to stay in Italy as well do not even mention the qualifications they achieved in their countries of origin because they assume that recruiters would not consider them.

Meeting stakeholders was essential to get in contact with EUMentorSTEM target groups: 5 stakeholders were the “gatekeepers” that allowed identifying migrant women with a STEM background and professionals willing to participate in the Qualitative Needs Assessment.

On the whole, from the 15th of February to the 28th of March the UNIBO Research Team reached 13 migrant women with a STEM background and 12 professionals in Parma and Bologna<sup>21</sup>.

<sup>20</sup> As one interviewee put it: «If the Italian government would turn crazy allowing migrants achieving citizenship, Italy would soon be empty- No foreigner would remain here».

<sup>21</sup> Meeting with stakeholders and professionals progressively disclosed the possibility to get in touch with more informants than those originally foreseen by both the proposal and the “IO1 Methodological Template” (10

#### OVERALL NUMBER OF PEOPLE REACHED

- 25 representatives/members of stakeholders' organizations
- 13 migrant women with a STEM background
- 12 professionals

## 4. NOTES ON METHODOLOGY AND PARTICIPANTS' PROFILES

Because of time constraints and multiple organizational issues, only 5 women and 10 professionals could participate to the three focus groups organized by the Team. All the other informants were involved in in-depth, semi-structured interviews (one individual and one bringing together two women).

	MIGRANT WOMEN WITH A STEM BACKGROUND (N)	PROFESSIONALS (N)	OVERALL PARTICIPANTS (N)
<b>FOCUS GROUP (N 3)</b>	5	10	15
<b>IN-DEPT, SEMI- STRUCTURED COLLECTIVE INTERVIEW (N 2)</b>	2	0	2
<b>IN-DEPT, SEMI- STRUCTURED INDIVIDUAL INTERVIEW (N 16)</b>	6	2	8
<b>TOT.</b>	<b>13</b>	<b>12</b>	<b>25</b>

Fig. 7 Participants per research strategy used

Using both focus groups and in-depth interviews was strategic not only to respond to our target groups' organizational and practical requests, but also to diversify the research strategies. From a methodological viewpoint, it turned into an added value for the Qualitative Needs Assessment.

On the one hand, the focus group and the collective interview facilitated an exchanging dynamic among participants: they had, in fact, the possibility to discuss and (re)think about

migrant women with a STEM background and 1 professional). Specifically, the Team reached 5 persons (4 migrant women and 1 professional) in Parma, and 20 persons in Bologna (9 migrant women and 11 professionals).



the issues explored during the conversation, considering the different perspectives progressively emerging, and using other participants' observations as a stimulus to approach the topics addressed. Moreover, both migrant women and professionals decided to exchange their details at the end of the focus group. For recently arrived asylum seekers meeting more experienced “fellows” was an opportunity to get in touch with other women who could act as brokers of the host country, while for professionals working in different domains sharing experiences, difficulties and strategies was an opportunity to broaden-up their professional networks.

On the other hand, in-depth, individual interviews allowed participants expressing themselves more freely and researchers devoting more attention to single life histories and experiences.

Women with a migratory background qualified in STEM who participated to the Qualitative Needs Assessment have different juridical statuses: asylum seekers (2), refugees (1), foreigners who hold different kinds of residence permits (8), long-term residents who achieved the Italian citizenship or dual citizenship holders (2); a “new Italian” candidate, who is currently applying for Italian citizenship after 14 years spent in this country. Only one woman who accomplished part of her education in Italy can be described as a “second generation”. The framework of the residence permits issued by the Italian government is quite varied and complex<sup>22</sup>, but it is important to stress that each juridical status entails the possibility to enjoy specific rights and it shapes foreigners' *room for manoeuvre* in the receiving country. For instance, the long-term permits (the former carta di soggiorno and the EU Blue Card) allow greater mobility within the European Union and give more time to unemployed foreigners to find a new job – and being employed is a precondition to stay in Italy. Residence permits issued for study reasons, instead, must be annually renewed and limit migrants' possibility to work (20 hours per week for fifty two weeks or 1040 hours per year). Residence permits issued for family reunification can be revoked in case of the couple's separation or divorce.

Although two interviewees arrived in Italy between the mid '70s and the mid 80's, most of them arrived more recently, between 10 and 2 years ago. A part from the 4 women who have arrived more recently, all the interviewees have a good mastery of the Italian language. All the interviewees come from so called “High migratory pressure countries”: Nigeria (2), Cameroon (1), Tunisia (1), Moldova (2), Syria (2), Romania (1), Russia (1), Ukraine (2), India (1) and Argentina (1).

<sup>22</sup> Residence permits can be issued for work, study or humanitarian reasons. They can be temporary or long-term, and their duration, as well as the rights they entitle, can vary significantly.



### PARTICIPANTS FOR REGION OF ORIGIN (WOMEN STEM BACKGROUND)



Fig. 8 Participants for Regions of origin

The youngest interviewee was 26 years old when the research was carried out, while the older one was 67 years old.

### PARTICIPANTS FOR AGE RANGE (WOMEN STEM BACKGROUND)

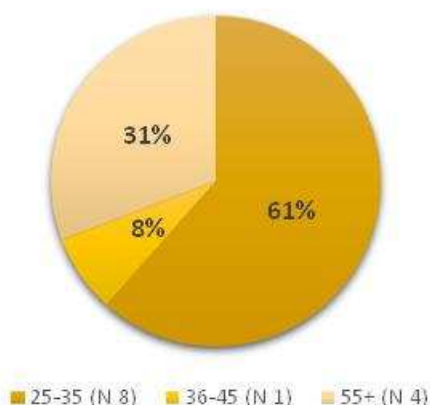


Fig. 10 Participants (migrant women) per age-range

Women reached Italy for different reasons and through different juridical tools: family reunification (4), international and humanitarian protection seeking (3), study (3) and work/economic related reasons (3). Reproducing the broadest categories in which

immigrants are placed by the bureaucratic apparatus, this partition actually obscures the deepest motivations that shaped interviewees' migratory project: in some cases, cosmopolitan attitudes overlapped with the need to reach one's husband or the need «to make a living».

Only one woman has a Secondary School degree, all the others have BA or a MSc in STEM (3 in Engineering; 1 in Physics; 2 in Mathematics; 1 in Geology; 2 in Food Sciences; 3 in Medicine and Pharmacy). One woman achieved a PhD in Italy after graduating in her home country. Apart from two women who graduated in Italy, most of the interviewees achieved their degrees in their home countries, but only 4 out of 11 got their qualification officially recognized by the Italian School and University system.

When interviews and focus groups were realized, 2 women were working in STEM; 3 were doing a stage (2 were stages in STEM fields); 5 were looking for a job; 3 were employed in sectors other than STEM, although 1 of them had in the past two work experiences in the field she was qualified for.

#### MAIN RESOURCES

- ability to adapt to a new context
- resilience
- ability to face changes
- support of the national community

As far as the 12 professionals are concerned, all but one are women; 7 work in one of the organizations that supported the UNIBO Team in getting in touch with migrant women who participated to the focus group. All but one professional – who did not report the information in the attendance form – have a BA or a MA (Law, Education Studies, Political Sciences, Business). Their average age was about 34 years old when the Qualitative Needs Assessment was carried out.

### PARTICIPANTS PER AGE RANGE (PROFESSIONALS)

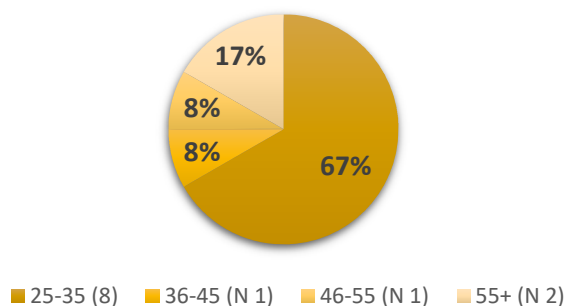


Fig. 11 Participants (Professionals) Per Age-Range

Participants can be described also according to the organizations they work for as follows:

### PARTICIPANTS PER ORGANIZATION TYPE (PROFESSIONALS)

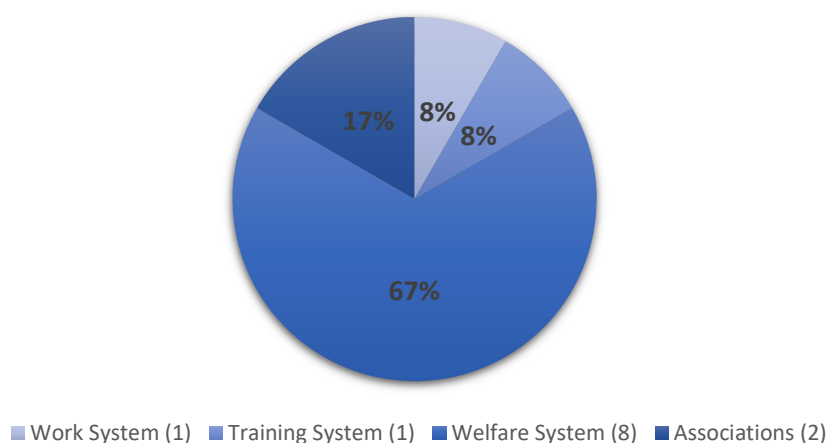


Fig. 12 Participants (Professionals) per type of organization represented

It is important to stress that most of their organizations carry out different activities and projects that make this categorization quite too rigid. For instance, an association working in the field of women's empowerment promotion, is currently delivering welfare services for women asylum seekers; a foundation working in the field of microfinance or a trade-union may offer as well training and mentoring services to their beneficiaries.

## 5. OUTCOMES OF THE QUALITATIVE ASSESSMENT

### 5.1. Migrant women

#### 5.1.1 *Expectations prior to immigration*

For most of the women, expectations related to the receiving country were strictly connected with multiple aspects ranging from individual factors (women's biographies and life trajectories) to "macro" level ones (home country economic and political situation; international migration policies). Two interrelated factors emerged as particularly relevant in shaping informants' expectations: their motivation to leave and their prior knowledge of the receiving country.

The reasons that triggered migration (reaching one's partner or family, looking for a better life and for better economic opportunities, fleeing war or violence) represent key elements for understanding both the expectations and the impact with the receiving country. For those women who crossed the Mediterranean Sea escaping from conflict or widespread violence in the broader framework of so called forced migrations, Italy represented – at least at very beginning – a possibility to reach Europe to start a new life or, as a Nigerian women put it: the only chance «to have a life for me and my child». In most of these cases, bureaucratic constraints and country specific features (namely, poor job opportunities, "Catch 22" rules on residence permits<sup>23</sup> or few possibilities to speak international languages or languages other than Italian) collided with sometimes idealised visions of "Europe" fostered by relatives, friends and acquaintances already living in the European Union<sup>24</sup>. In a case, the impact with the bureaucratic system and, specifically, with the rules of International Protection was quite dramatic: an interviewee, in fact, ignored what the status of "refugee" meant from the juridical viewpoint because when she was applying for International Protection in a transit country, nobody explained to her what this would have actually entailed. Although she reported that she likes Italy and its people, now she feels as "trapped" in a country where little job and career opportunities are available for her<sup>25</sup>.

In most of the cases previously presented, a limited and partial knowledge of the receiving country contributed to misleading expectations that fuelled disillusion, discouragement and frustration feelings.

<sup>23</sup> To get the residence permit you need a regular job, but to be regularly employed you need the residence permit.

<sup>24</sup> As reported by a welfare professional, immigrants' associations can be a resource for recently arrived asylum seekers, but sometimes they can also fuel distorted representations of the receiving country welfare system, undermining operators-beneficiaries trust relationship.

<sup>25</sup> Once a person achieves the refugee status, she/he cannot move to other countries for 5 years.

For other women who escaped political turmoil or war, as well as for women who migrated to reach their partners or their relatives, migration was not conceived exclusively as an imposition (by the family or by the broader situation in the home country). For them, migrating represented as well possibility to start a new experience and to know and live in a different country. A woman who migrated with her Italian husband in the mid '70s described her arrival in terms of “cultural shock”. The stereotypical representation of Italy that her family had been transmitting to her since her childhood, progressively collapsed and it took her some time to familiarise herself with the new context.

Only one woman from Moldova reported that she had no expectations before leaving. She knew nothing about Italy, she just decided to do what many other fellow countrywomen were doing: leaving her country and family to join “the global care chain” (Hochschild 2000; Ehrenreich, Hochschild 2003). In a way, this woman too had no choice and she conceived migration as the only way to make a living and to sustain her family.

Compared to other interviewees, women who migrated for study-related reasons had for sure more room for manoeuvre in that their migration was the product of a free and deliberate choice. Enrolling in Italian University was valued as an opportunity to achieve high quality Tertiary Education. In two cases, the choice to continue studying in Italy rather than in other states was fostered by previous study experiences in this country (namely, through the Erasmus Exchange Programme), or by the existence of a consolidated network of fellow country students. In these cases, a more cosmopolitan attitude emerged: some interviewees were considering to move again to pursue their career.

Although for many interviewees' life in Italy proved more difficult than what expected, most of them decided to stay and to make this country their new home.

### *5.1.2. Work experience in the receiving country and main problems faced in the labour market inclusion*

All but two interviewees – who have arrived more recently – had working experiences in Italy, both in the formal and in the informal labour market. As previously mentioned, only 4 women were working or doing stage in STEM, while a woman who is currently working in a different sector had in the past two job experiences as an Engineer. All but one had their qualification legally recognized in the receiving country as well. A Tunisian woman, who in the past applied for a job in STEM, reported that her previous work experience was valued more than the “piece of paper”: although she did not get the job – she was pregnant at the time of the job interview – she claimed:



«If I were a man, they would have hired me. [...] Skills do count. During the job interview, the recruiter did not ask for my certificate. He understood that I knew what we were talking about.»

In most of the cases, the recognition of the qualification achieved in the home country, though, was a necessary – but not sufficient – factor that favoured the possibility to find a job consistent with education and/or previous work experience. But for many interviewees the qualification recognition procedure was too complicated<sup>26</sup>, time consuming and expensive. It is important to stress that qualification recognition may become a stressful and frustrating process. First of all, you need to provide the original copy of the certificate; this is very difficult not only for asylum seekers who fled from their country<sup>27</sup>, but also for other women who need to come back to their home country to retrieve their documentation<sup>28</sup>. Second, the certificate must be officially translated by the Embassy and this might be quite expensive. Finally, the specific University Degree Programme Director have to compare the teaching programmes to decide whether or not recognising the qualification, totally or in part<sup>29</sup>. Moreover, information on procedures are not easily available and many interviewees reported high degrees of discretionality: it was not uncommon among our informants getting contradictory information from different operators. Only one woman did not even consider the possibility to get her qualification recognized: her fellow countrymen/women informed her that their degrees were «of no use here», so she decided not to further inquire. All the other informants tried to achieve information on the procedure, but were progressively discouraged and finally gave up. Few of them, though, found alternative ways to use their skills. As a Russian interviewee suggested, a migrant Engineer who cannot work as an Engineer in Italy because her certificate is not recognized, should find alternative possibilities, using her skills to translate machines and equipment user guides, for instance. As mentioned, the qualification – either the one achieved in Italy, or the one officially recognized by Italian Universities – was not sufficient to find employment in STEM fields (and sometimes to find a job at all). Many interviewees, especially those living in Italy since a longer time, reported that the labour market is currently more closed and selective: because of the economic crisis, there are fewer job opportunities even in low-skilled sectors.

<sup>26</sup> There may be bi-lateral agreements between some countries and Universities that make the qualification recognition easier, but in most of the cases, the procedure remains out of reach for many migrants.

<sup>27</sup> As a Nigerian woman put it «I came by the *barcone* [the unsafe boat used by North and Sub Saharian Africa migrants to reach European coasts], I fled for my life, I didn't think about my certificate».

<sup>28</sup> As highlighted by a professional who supports Romanian immigrants' inclusion in Italy, retrieving the whole documentation related to the Degree Programme may take months and frequent travels back to the home countries. For migrants who are already working – and particularly for women working in the care domain – in the receiving country can be very difficult asking work permits.

<sup>29</sup> In the latter case, the candidate is asked to do specific exams (the number can vary) and to elaborate a final thesis.



Although many agreed – somehow reproducing it – with the dominant rhetoric that «For Italians as well is hard now», for migrants it has become even more difficult to find a job, as suggested by a woman from Cameroon:

«[Before the crisis] being a woman and a migrant was not a problem. Now selection procedures are based on inconsistent criteria: what's the use of looking for a native language speaker for a dishwasher position?!»

The current economic contingency was acknowledged by all the interviewees as one of the main problems hampering their labour market inclusion and it was identified as one of the main sources of daily racism. Some informants reported overt racism – based on the skin colour or on the foreign accent – as one of the determinants of their unemployment. Other women did not mention overt racism, but they stated that when they were looking for a qualified position they were frowned upon, as if being migrant should limit aspirations only to low-skilled jobs. As a Syrian woman reported:

«Once I was told: 'Our Engineers cannot find a job...how can you think to find one?!'»<sup>30</sup>

In this framework of both real and perceived crisis, many interviewees highlighted that it would be helpful to know which are the present leading sectors of the labour market<sup>31</sup>. Counselling on job search techniques and on the main recruiting channels, as well as information on self-employment possibilities were also mentioned by many women as pivotal in favouring labour market access and inclusion.

According to many of our informants, work-life balance can be a problem for women workers and recruiters reproduce gender discriminations in job selection. An Indian woman reported that for her it was quite astonishing when during a job interview the recruiter asked whether she was married and whether she was planning to have children<sup>32</sup>:

«I come from a developing country, I would have never imagined to find this unbalance here. In India, companies...especially those working in the field of

<sup>30</sup> Another woman, who had research experience in her home country, reported that she proposed to a University professor to collaborate with him to improve her expertise, but he told her that she could not take the place of an Italian researcher.

<sup>31</sup> For instance, one woman stated that some years ago it was useful investing time and money in a Nursing Degree because this qualification allowed finding an immediate job, but now things have changed.

<sup>32</sup> It is formally prohibited to ask such questions during job interviews. Unfortunately, it is still a widespread practice among recruiters.

Electronic Engineering, usually prefer recruiting women because they are more... perfect. [...] Companies also are not concerned about woman getting pregnant, woman as a married one [...] Most of the highly, good companies have daycares for their children.»

Only two women claimed that STEM professions – especially those requiring frequent transfers and fieldwork – may be more challenging in the negotiation between career and care-related duties, assuming the latter as a “women’s business”. In this regard, one woman regretted her Education choice because she admitted that as a woman she felt forced to choose between family and career.

Since in Italy it is quite uncommon to find people speaking international languages, all interviewees identified poor mastery of the Italian idiom as a paramount obstacle in finding a job. In this regard, many informants reported that while it is quite easy to find first-level courses, few opportunities at reasonable prices are available for those who would like to attend advanced ones.

All interviewees reported that in Italy networks and recommendations – that is the intercession of friends and acquaintances – are essential to find a job. If some women maintained that also in their home countries recommendations are common, other claimed that this practice makes recruitment and job selection a less transparent procedure, particularly disadvantaging foreigners who may lack social ties in the host society.

#### MAIN BARRIERS HIGHLIGHTED BY WOMEN

- Difficulties in getting qualification recognised
- Poor mastery of the Italian Language
- Economic crisis → fewer job opportunities
- Gender discriminations and work-life balance problems
- Ethnic stereotypes and racism
- Lack of networks supporting labour market inclusion
- Lack of knowledge of the national labour market (leading sectors, occupational trends)
- Lack of knowledge in job search techniques and recruiting channels

#### 5.1.3. Future career/aspirations

Many interviewees were not confident about their future career and about their future more broadly. As some women explained, Italy is perceived as lacking opportunities and the few jobs available for migrants are generally low-skilled ones. They demonstrated to be aware that many young, highly qualified Italians are looking for better jobs abroad, just like many

of their fellow countrymen/women who are leaving Italy for other European states or to come back to their home countries. Those who spent decades in Italy reported to be worried about their future pension, insufficient to make a living. A sense of disillusion and discouragement emerged from interviews and focus group, but some interviewees acknowledged that increasing self-confidence and self-esteem could favour a more pro-active approach to career (re)construction.

Younger and more recently graduated women, though, were more optimistic and were more willing to take into consideration becoming entrepreneurs. Although risky – «Without risk there is no gain» stated a Nigerian woman – self-employment was depicted as a possible strategy to overcome both unemployment and underemployment, as well as an opportunity to engage in more satisfying working activities.

## 5.2. Professionals

### *5.2.1 Main problems and barriers faced by migrants' in the process of labour market inclusion*

As previously mentioned, the professionals involved in the Qualitative Needs Assessment work for different organizations; they all intercept migrant women, but they offer different services and support. Although the specific needs of their beneficiaries can vary<sup>33</sup>, professionals reported common perceptions about the main problems hindering their targets' labour market inclusion.

In many cases, they highlighted the same problems reported by migrant women. Just like them, in fact, professionals identified in bureaucracy (e.g. residence permits procedures, qualification recognition), poor mastery of the Italian language, broader economic situation as key factors affecting migrants' positive inclusion in the labour market. As far as the language is concerned, some professionals claimed that in order to access higher positions or positions closer to their qualifications, migrants should achieve a more advanced level of language mastery because a basic course in Italian would not be sufficient.

Many professionals agreed that for mothers – especially single ones – the lack of networks supporting their parental role is a problem in both finding and maintaining a job.

Some interviewees reported that, according to their experience, other elements could affect labour market inclusion. For instance, unrealistic ideas about the welfare system, as well as the lack of knowledge of the Italian labour system (e.g. the difference between formal and informal economy) can fuel discontent and mistrust towards Italian institutions and to

<sup>33</sup> For instance, professionals working in the welfare arena reported that asylum seekers are frequently reluctant in attending training courses that would facilitate their access to the labour market because they would prefer finding an immediate job feel to sustain their families back home.

suspicious attitudes towards those operators who are trying to support them. Some informants reported that mistrust undermined their work and in some cases, it resulted in a failure of the multiple actions undertaken to foster migrants' inclusion in the receiving context more broadly.

Other factors may obstacle a positive inclusion in the labour market, such as some migrants' attitudes during job interview or during training stage (e.g. being late, improper dressing, using smartphones during working hours).

Two interviewees reported that it is not unusual for Eastern European women to have high qualifications in STEM. Deskilling, though, is very common and most of the women they work with prefer accepting low-skilled – but somehow “sure” – jobs in the care domain, rather than investing economic and psychological efforts in training. Older women, in particular, do not think it might be worth devoting their spare time to study when the possibility to achieve a better job remains uncertain. For the same reason, most women renounce to the recognition of their qualification. As a professional working as a volunteer in a national-based association stated:

«They give up, either because they had children meanwhile, either because they are blocked, they have self-esteem problems... they are afraid to leave their comfort zone [...] The situation around them does not encourage them...nobody tells you, 'Come on, it's plenty of jobs out there, you just need to ask!' So they ask themselves, 'Why should I do all this when I'll end-up cleaning anyway?'»

### 5.2.2 Training needs

Professionals acknowledged that their work with migrant would benefit from an implementation of the networking with other organizations and institutions dealing with the issues of migrations, women's empowerment, training and labour market inclusion.

During the Qualitative Needs Assessment, the following training needs – to be further inquired through the online survey – emerged:

- Developing competences in providing migrant women with information and assessment methods supporting them in autonomously assessing how suitable particular training and vocational opportunities are for them;
- Developing competences in explaining the work, vocational and training systems, as well as trends and developments in the labour markets and training systems;
- Developing competences about job search techniques and placement activities;
- Developing competences in empowering migrant women;
- Developing competences in stress management and burnout prevention.



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## **EUMentorSTEM**

**Creation of a European e-platform of MENTORing and coaching for  
promoting migrant women in  
Science, Technology, Engineering and Mathematics**

### **Annex 4**

#### **Intellectual Output 1**

##### **Diagnostic Assessment**

##### **Environmental and Qualitative Needs Assessment**

##### **Country-level Report- UNITED KINGDOM**

**Inova Consultancy**

April 2018



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## PART 1. ENVIRONMENTAL ASSESSMENT

### 1. INTRODUCTION

As part of the EUMentorSTEM project's Intellectual Output 1, Inova conducted a Diagnostic Assessment in order to shed light on the specific training needs of migrant women with STEM background. The methodology of the Diagnostic Assessment included desk research, collection of statistics regarding migrants, and more specifically female migrants in the UK, and collection of available initiatives and organisations (local and national) helping women with STEM background. As part of the Qualitative Needs Assessment Inova interviewed 6 migrant women with STEM background, organised a focus group with 4 women with STEM background and interviewed a trainer who has been working with migrants for 10 years. The results of the qualitative research analysis are available in the following chapters.

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### 2. MIGRATION DATA

Migrant women travel around the world in search of a better life for themselves and their families. Some women move in search of better jobs, better government, better education; and others to escape vulnerable situations in their home countries such as war, poverty or famine. The underlying impetus for these women is a want to gain employment, to have better lives and to contribute to their host society. As workers, these migrant women play a vital role in socio-economic spheres in both sending and receiving countries. This can often be blocked, however, by a difficulty in entering the labour market.

The integration of migrant women is quite complex and is dependent on a number of factors. It depends on the attitudes of the host country, the community in which they are based, the immigrant community and the women themselves<sup>1</sup>. Integration depends also on the women's willingness to accept new social and cultural norms to what they are perhaps used to. It is common for migrant women to experience social exclusion. Women are also vulnerable to situations of coercion or violence, which sometimes takes the form of forced marriage, honour crimes or Female Genital Mutilation (FGM).

The host country may also make the integration process more challenging by creating barriers to their access to employment, public services or economic independence. These

<sup>1</sup>BAKOWSKI, P, (2010), 'Third-Country Migrant Women in the EU: Host-Country Barriers to Integration', 3<sup>rd</sup> March 2010, [http://eige.europa.eu/docs/2045\\_LDM\\_BRI\(2010\)100026\\_REV2\\_EN.pdf](http://eige.europa.eu/docs/2045_LDM_BRI(2010)100026_REV2_EN.pdf), pg. 2.

barriers could come in the form of policy or regulations or merely in the everyday norms of the host country<sup>2</sup>. These barriers are accompanied by a higher likelihood of exposure to poverty, marginalisation and a lack of access to economic and development opportunities in host countries.

Being female migrants, their gender often means these women are faced with a double discrimination: gender-based discrimination and migrant-based discrimination. Underemployment is more common among migrant women than native-born and also more common among migrant women than migrant men<sup>3</sup>. This will be demonstrated later on in this report.

Another barrier migrant women often face when being integrated into society, is their lack of legal status. If the migrant woman has legal status and employment, she has the best chance of integration into the host country, but often migrant women do not yet have legal status.

If a woman is migrating for reasons of family reunification, which is more common amongst female migrants, this may also present issues with their integration because women may maintain harmful relationships in order to remain in the host country. This is due to the fact that the migrants' legal status is formulated based on the relationship between them and their spouse or partner.

## 2.1. General data on migration

Between 1993 and 2015 the foreign-born population in the UK has more than doubled with an increase from 3.8 million to around 8.7 million<sup>4</sup>. This huge increase has meant that immigration has dominated British politics and has become one of the most important topics to the British public. Migrants who come to the UK are more likely to be female rather than male, and the most common country of birth for migrants is Poland. Polish and Indian citizens are the largest groups of foreign nationalities in the UK<sup>5</sup>.

<sup>2</sup> BAKOWSKI, *op cit.*, pg. 2.

<sup>3</sup> RUBIN, J. et al., (2008), 'Migrant Women in the European Labour Force: Current Situation and Future Prospects', Prepared for the European Commission, DG for Employment, Social Affairs and Equal Opportunity, RAND Europe, <http://ec.europa.eu/social/BlobServlet?docId=2098&langId=en>, pg. 7.

<sup>4</sup> RIENZO, C., and VARGAS-SILVA, C., (2017), 'Briefing. Migrants in the UK: An Overview, (6th Revision)', *The Migrant Observatory*, 21st February 2017, [http://www.migrationobservatory.ox.ac.uk/wp-content/uploads/2017/02/Briefing-Migrants\\_UK\\_Overview.pdf](http://www.migrationobservatory.ox.ac.uk/wp-content/uploads/2017/02/Briefing-Migrants_UK_Overview.pdf), pg. 3.

<sup>5</sup> Ibid., pg. 6.

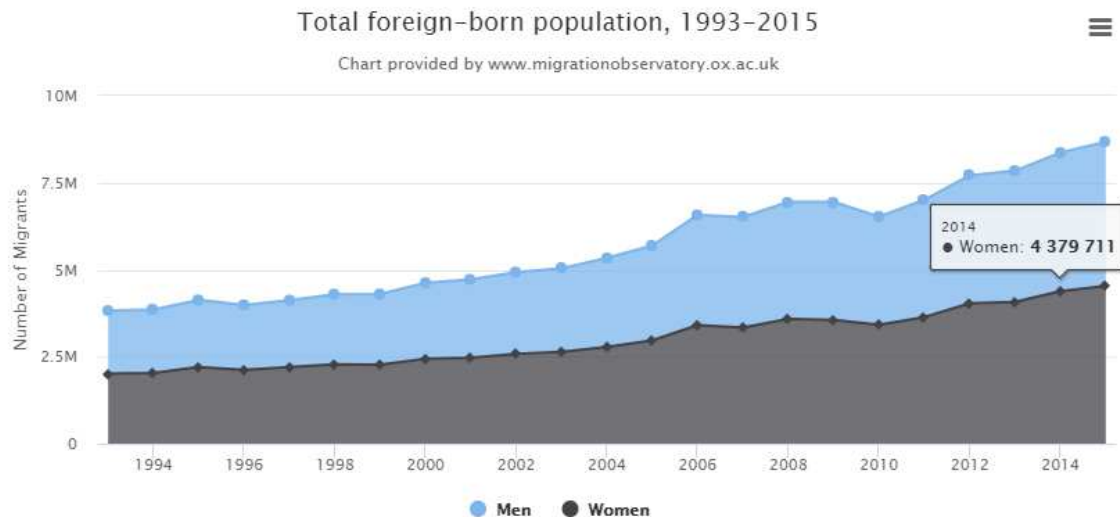
Country of birth	Percentage share	Nationality	Percentage share
Poland	9.5	Poland	15.7
India	9.0	India	6.4
Pakistan	5.9	Ireland	6.0
Ireland	4.5	Portugal	4.1
Germany	3.3	Romania	4.0
Romania	2.6	Italy	3.7
Nigeria	2.3	Lithuania	3.3
Bangladesh	2.3	Pakistan	3.2
South Africa	2.2	France	3.1
Italy	2.1	Spain	2.8

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Each year the amount of foreign-born people in the UK has increased. The highest growth in the population of foreign-born people was during 2005-2008 coinciding with 'the significant inflow of East European migrants following EU enlargement in 2004'<sup>7</sup>.

The number of both female and male migrants has increased over time but women have made up the majority of the UK's migrant population since 1993. In 2015 for example, 52% of the foreign-born population were women<sup>8</sup>.

9



As  
shown  
in the  
chart

above, the UK 'foreign-born population' has increased over time, for both women and men. The total number of men in 2015 was 4,143,034 and of women was 4,536,041.

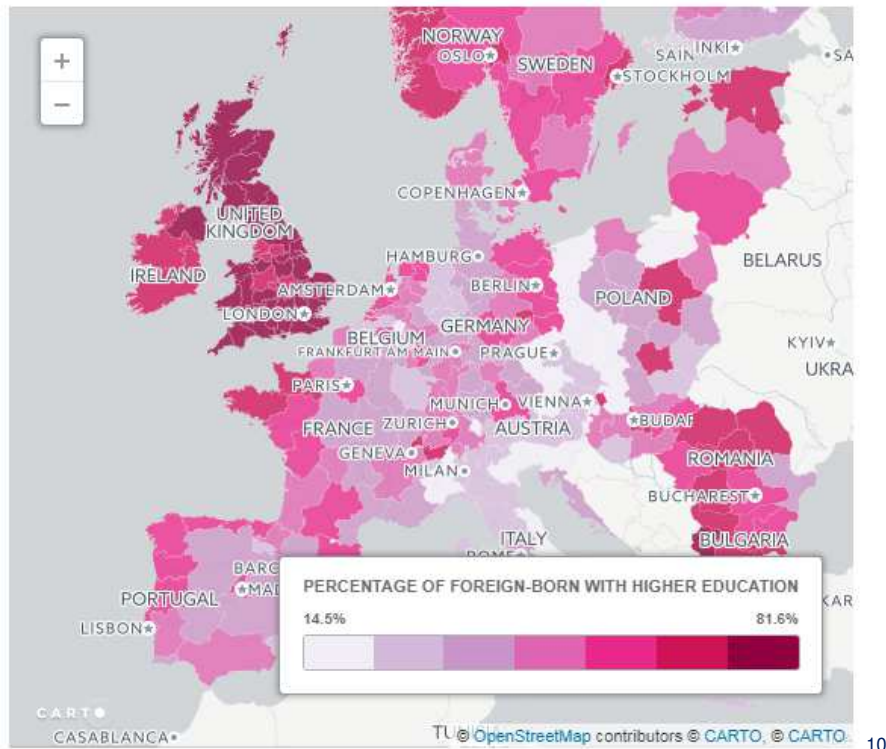
<sup>6</sup> Ibid.

<sup>7</sup> Ibid. pg. 3.

<sup>8</sup> RIENZO and VARGAS-SILVA, *op cit.*, pg. 3.

<sup>9</sup> Ibid.

## 2.2. Personal Profile: Nationalities, Level of Education/Training



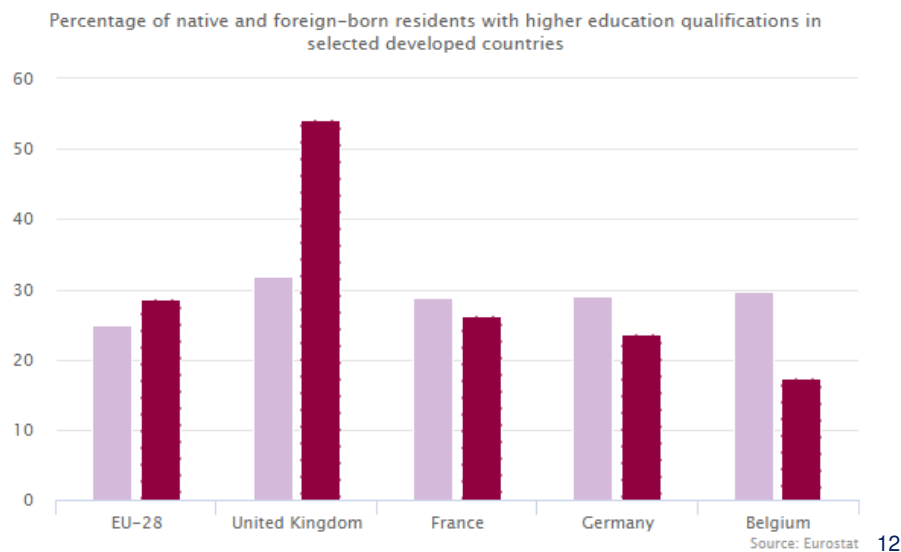
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As can be seen in the Figures above, the UK has one of the highest proportions of highly educated foreign-born residents in the EU. According to the Telegraph, compared to the EU, 'Britain is the only one where the migrants are better educated than the locals'<sup>11</sup>. The figure below, produced in 2016 shows the percentage of native (lilac) and foreign-born (maroon) with higher education qualifications. In the UK 54% of foreign-born residents have higher education qualifications compared with only 31% of UK natives.

<sup>10</sup> DUNFORD, D. and KIRK, A., (2016), 'Mapped: How Britain has the most university educated migrants in the EU', *The Telegraph*, 8<sup>th</sup> Jun 2016, <http://www.telegraph.co.uk/news/2016/06/08/mapped-how-britain-has-the-highest-level-of-skilled-migration-in/>

<sup>11</sup> Ibid.





Education is fundamental to employment. A number of migrant women lack formal qualifications, language skills or adequate education and this means that they can be restricted with regards to employment<sup>13</sup>. Being unable to speak English is a barrier to well-being, to family access, to healthcare and to the exercise of rights as well as to successful integration into wider communities and to career progression.

For those migrant women who do have qualifications, many of them struggle with getting these recognised<sup>14</sup>. For example, one study of a group of migrant women who were in the UK on a spousal visa showed that 92% of the group had been enrolled in formal education prior to coming to the UK and nearly 58% had one or more graduate and post-graduate degrees. Despite this, the majority of these women were not in paid employment. The few that were in employment, were working mostly in part-time jobs which were well below their academic abilities. One of the women, a Turkish senior director of an engineering company, could not find a job in Britain<sup>15</sup>.

As the migration observatory notes 'there can sometimes be a mismatch between an individual's educational attainment and the skill level required for his or her job in the UK'<sup>16</sup>. Migrants from Eastern Europe, Bulgaria and Romania are likely to work more hours and earn lower wages than other workers, partly reflecting their numbers in lower-skilled jobs.

<sup>12</sup> Ibid.

<sup>13</sup> BAKOWSKI, *op cit.*, pg. 3.

<sup>14</sup> Ibid.

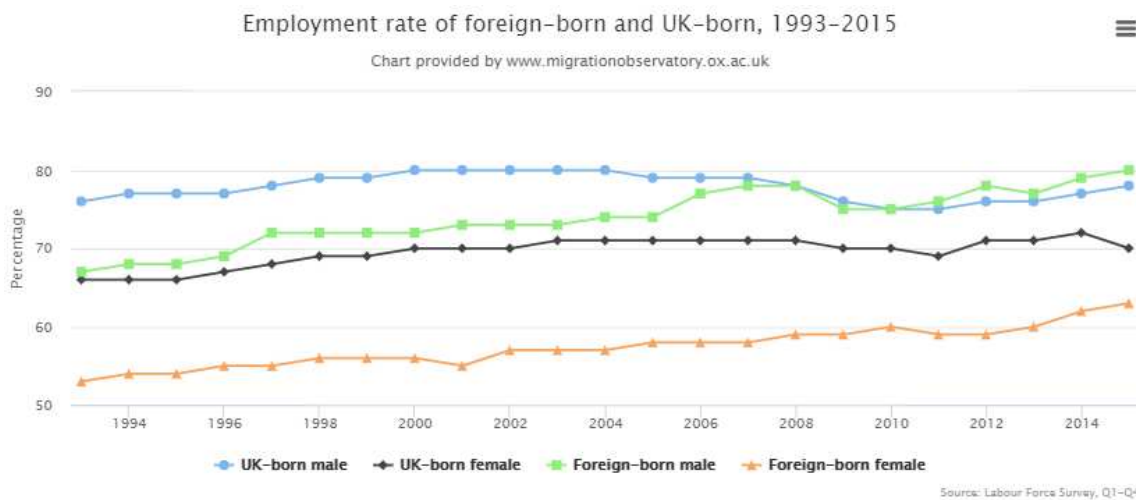
<sup>15</sup> GUPTA, R., (2015), 'Migrant women in the UK: settling for rather than settling in' *Open Democracy*, 23<sup>rd</sup> June 2015, <https://www.opendemocracy.net/5050/rahila-gupta/migrant-women-in-uk-settling-for-rather-than-settling-in>.

<sup>16</sup> RIENZO, C., 'Characteristics and Outcomes of Migrants in the UK Labour Market', (5th Revision), The Migrant Observatory, 23<sup>rd</sup> March 2017, <http://www.migrationobservatory.ox.ac.uk/wp-content/uploads/2016/04/Briefing-Characteristics-and-Outcomes-of-Migrants-in-the-UK-Labour-Market-1.pdf>, pg. 5.

Many EU migrants are also more likely to be over-educated for the jobs they are in and are likely to be underemployed, i.e. working in jobs they are overqualified for.

### 2.3. Employment profile: Employed vs. Unemployed.

The employment rate of foreign born females in 2015 was 63%. Compare this to 70% for women born in the UK, 78% for UK born men and 80% for foreign born men. It is clear to see that migrant women are positioned significantly lower in terms of employment rate.



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Although many female migrants are well qualified, their opportunities for work are often limited to gendered labour markets of domestic and care work, the services industry, and commercial sex work<sup>18</sup>.

However, a 'greater share of female migrants is employed in professional, and at the low-skilled end in elementary and processing occupations.

About 29% of the female migrants in the professional occupations are nurses and midwives.<sup>19</sup>

<sup>17</sup> Ibid. pg. 4.

<sup>18</sup> KONTOS, M. (2011), 'Between Integration and Exclusion: Migrant Women in European Labor Markets' *Migration Policy Institute*, 23<sup>rd</sup> March 2011, <https://www.migrationpolicy.org/article/between-integration-and-exclusion-migrant-women-european-labor-markets>

<sup>19</sup> RIENZO, *op cit.*, pg. 6.

### Occupational distribution for female foreign-born and UK-born workers in 2015

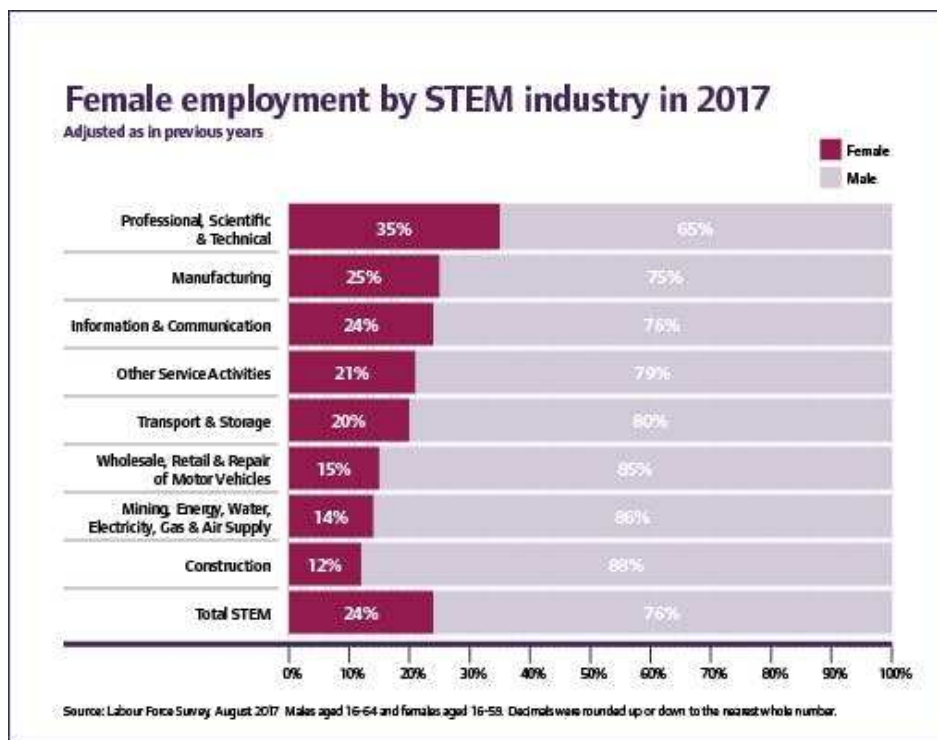
Chart provided by [www.migrationobservatory.ox.ac.uk](http://www.migrationobservatory.ox.ac.uk)



Source: Based on Labour Force Survey, Q1-Q4. Occupational categories derived from the Standard Occupational Classification (SOC 2000)

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## 2.4. Women in the STEM sector



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<sup>20</sup> Ibid, pg. 6.

<sup>21</sup> WISE (2017), 'Women in STEM workforce 2017', 24<sup>th</sup> October 2017, <https://www.wisecampaign.org.uk/resources/2017/10/women-in-stem-workforce-2017> (accessed on 26/01/2018).

Statistics show that women are highly underrepresented in the STEM sector in the UK. The proportion of women working in STEM was 24% in total in 2017. However, according to statistics, there is a positive trend because women's involvement in STEM is growing, while men's is declining.<sup>22</sup> According to the author's knowledge statistics specifically about migrant women involvement in STEM occupations are not available.

### 3. PROJECTS/INITIATIVES RELEVANT FOR EUMENTORSTEM

#### 3.1. Local Level

There is general support available for migrants in Sheffield, there are several organisations identified in the list of stakeholders that are available to support female migrants coming to Sheffield.

Organisation	Location	Website
<b>Ashiana</b>	Sheffield	<a href="http://www.ashianasheffield.org/">http://www.ashianasheffield.org/</a>
<b>Assist</b>	Sheffield	<a href="http://www.assistsheffield.org.uk/">http://www.assistsheffield.org.uk/</a>
<b>Buzz</b>	Sheffield	<a href="http://buzzsheffield.co.uk/">http://buzzsheffield.co.uk/</a>
<b>City Hearts</b>	Sheffield	<a href="http://city-hearts.co.uk/">http://city-hearts.co.uk/</a>
<b>Meeting Point</b>	Leeds	<a href="http://meetingpointleeds.wordpress.com/">meetingpointleeds.wordpress.com/</a>
<b>Migrant Support</b>	Manchester	<a href="http://www.migrantsupport.org.uk/">http://www.migrantsupport.org.uk/</a>
<b>Migration Yorkshire</b>	Leeds	<a href="http://www.migrationyorkshire.org.uk">www.migrationyorkshire.org.uk</a>
<b>Snowdrop Project</b>	Sheffield	<a href="https://snowdropproject.co.uk/">https://snowdropproject.co.uk/</a>
<b>Volunteer Centre</b>	Sheffield	<a href="http://www.sheffieldvolunteercentre.org.uk">http://www.sheffieldvolunteercentre.org.uk</a>
<b>Women Centre</b>	Halifax and Huddersfield	<a href="http://www.womencentre.org.uk">www.womencentre.org.uk</a>

It is recognised locally that there is a need to support women with STEM background, so there are organisations to support them with bursaries and organising activities to raise awareness about women in STEM.

Organisation	Location	Website
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<sup>22</sup> Ibid.

<b>WEST</b>	Sheffield	<a href="https://www.westskills.org.uk/">https://www.westskills.org.uk/</a>
<b>WICAT</b>	Sheffield	<a href="http://www.wicat.org.uk/">http://www.wicat.org.uk/</a>
<b>WISE</b>	Leeds	<a href="https://www.wisecampaign.org.uk/">https://www.wisecampaign.org.uk/</a>
<b>Women in Science, Engineering and Technology</b>	Sheffield	<a href="https://extra.shu.ac.uk/cse/wiset/">https://extra.shu.ac.uk/cse/wiset/</a>

### 3.2. UK level

On 14 August 2017, the UK Government published a Guide to assist migrants to find help related to health needs.<sup>23</sup>

There are also several organisations assisting migrants nationwide.

Organisation	Location	Website
<b>Migrants' Rights Network</b>	London	<a href="https://migrantsrights.org.uk/">https://migrantsrights.org.uk/</a>
<b>Integration Support Services</b>	Harlow	<a href="http://www.iss.org.uk/">http://www.iss.org.uk/</a>
<b>Refugee Action</b>	London	<a href="https://www.refugee-action.org.uk/">https://www.refugee-action.org.uk/</a>
<b>Migrants Resource Centre</b>	Several locations	<a href="https://www.migrantsresourcecentre.org.uk/">https://www.migrantsresourcecentre.org.uk/</a>
<b>Joint Council for the Welfare of Immigrants</b>	London	<a href="http://www.jcwi.org.uk/">http://www.jcwi.org.uk/</a>
<b>Migrant Help</b>	Several locations	<a href="http://www.migranthelpuk.org/">http://www.migranthelpuk.org/</a>

There are organisations nationwide also to raise awareness about women's involvement in the STEM sector.

Organisation	Location	Website
<b>Cambridge AWiSE</b>	Cambridge	<a href="https://camawise.org.uk/">https://camawise.org.uk/</a>
<b>Tech UK (Women in Tech)</b>	London	<a href="http://www.techuk.org/">http://www.techuk.org/</a>

<sup>23</sup> UK GOVERNMENT (2017), 'Vulnerable migrants: migrant health guide' (14<sup>th</sup> August 2017), <https://www.gov.uk/guidance/vulnerable-migrants-migrant-health-guide>.

Women in Tech	London	<a href="http://www.womenintech.co.uk/">http://www.womenintech.co.uk/</a>
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### 3.3. Involvement of available initiatives and stakeholders

After discussing when and how the identified stakeholders can be involved in the project, the Inova team decided that due to the national context in the UK they can be involved the most sufficiently when IO1 qualitative questionnaire is ready, and prior email communication is not necessary at this point.

Inova's strategy to involve stakeholders:

- Adding them to our newsletter
- Arranging one to one phone calls to inform them about the project
- Mutual dissemination of our websites
- Referrals to each other's programmes

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## 3. PART 2. QUALITATIVE NEEDS ASSESSMENT

### 4. INTRODUCTION

As part of the EUMentorSTEM project's Intellectual Output 1, Inova Consultancy assessed the needs of the project's target group - migrant women with STEM background - and interviewed a trainer working with migrants to shed some light on the training needs women have.

In total 4 women attended the focus group organised on 14<sup>th</sup> February 2018 and further 6 women were interviewed in the period of 15<sup>th</sup> February to 15<sup>th</sup> March. The target group of the project is very specific, thus it was challenging to collect information from 10 migrant women. In order to gather information, individual interviews needed to be conducted instead of purely gathering information through focus groups.

The focus group and 4 interviews were organised in person, and 2 interviews were conducted online. The aim of the interviews and focus group was to identify the potential barriers and factors that women face in employment or while looking for employment.

At the beginning of the interviews and focus group all participant (except the ones conducted online) received an information sheet about the project, and some statistics about female employment by the STEM industry in 2017 in the UK in order to stimulate the conversation.



## 4.1 Profiles of the participants

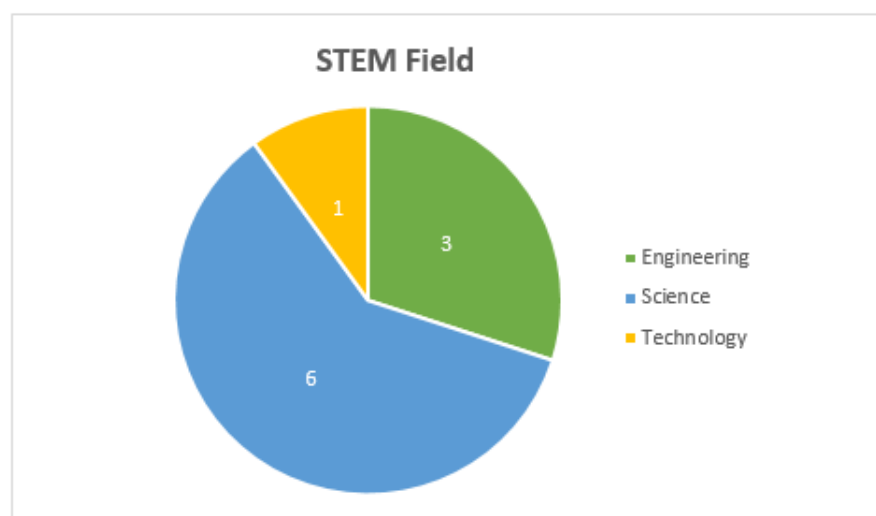
In total 10 migrant women with STEM background attended the focus group or an interview organised by Inova on the following dates.

Reference	Type of interaction	Date of the focus group/interview
A	Focus group	14/02/2018
B	Focus group	14/02/2018
C	Focus group	14/02/2018
D	Focus group	14/02/2018
E	Interview	15/02/2018
F	Interview	15/02/2018
G	Interview	15/02/2018
H	Interview	21/02/2018
I	Interview	15/03/2018
J	Interview	15/03/2018

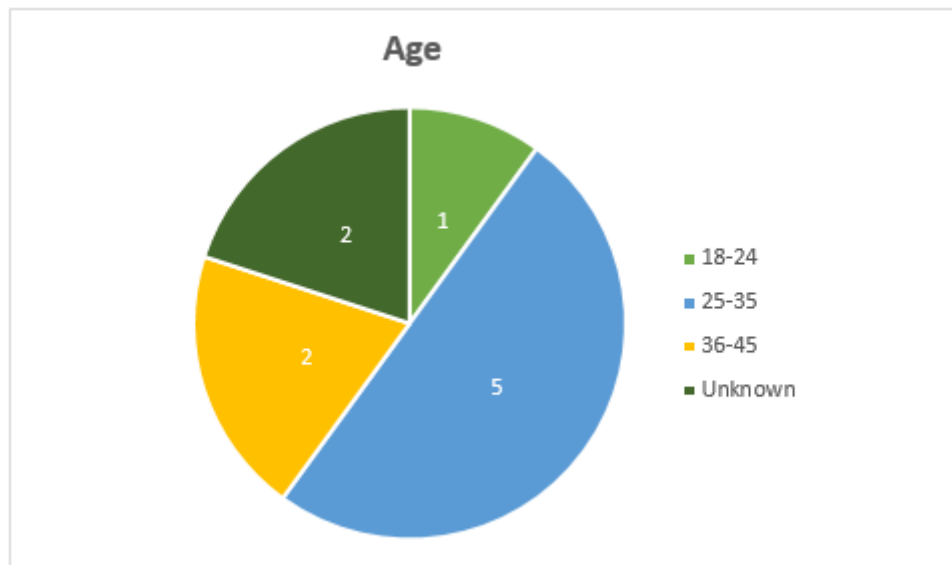
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In order to protect participants' anonymity and privacy, personal information such as age, or country of origin is aggregated separately.

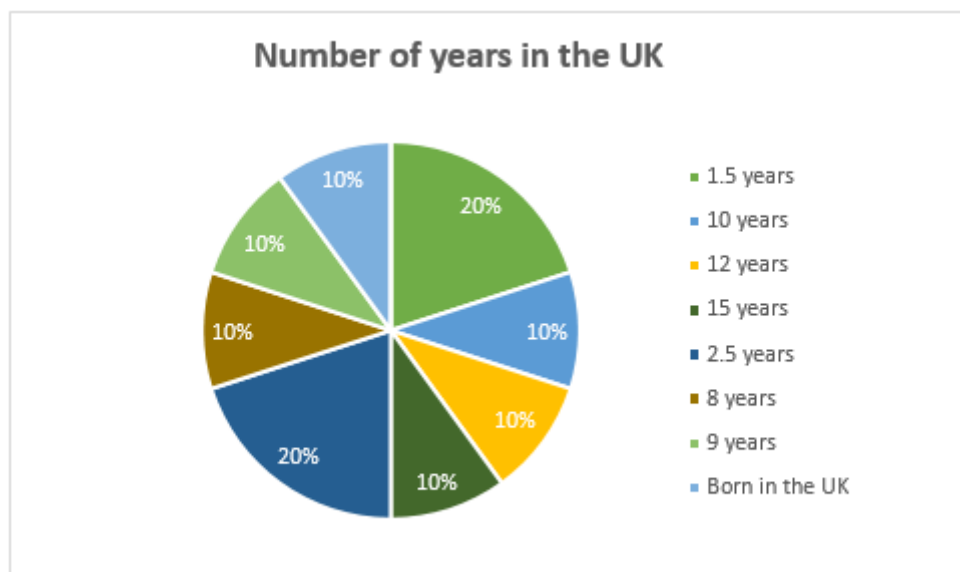
### 4.1.1 Participants' professional background



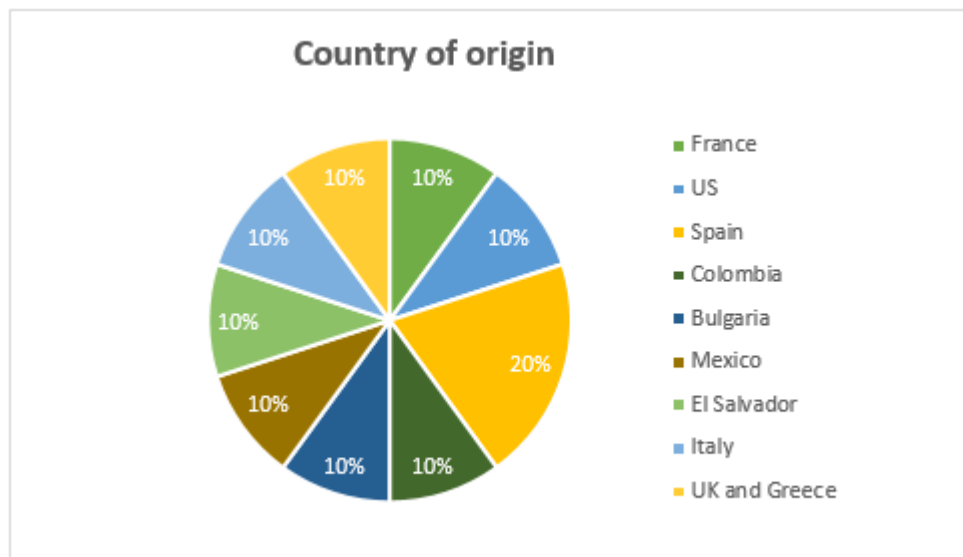
### 4.1.2 Age of the participants



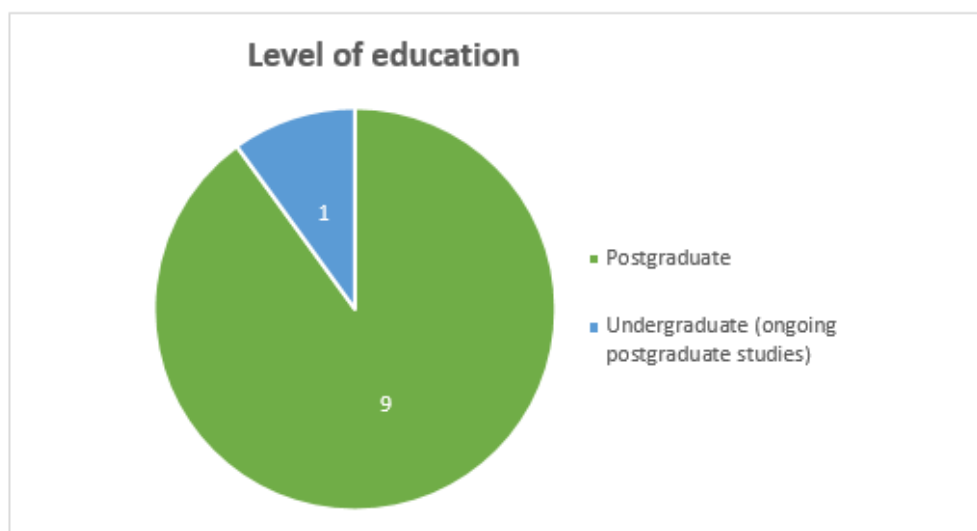
#### 4.1.3. Length of stay in the UK



#### 4.1.4. Participants' country of origin



#### 4.1.5. Participants' level of education



There were 9 foreign born participants and 1 participant (J) who is a second generation migrant (her mother was born outside the UK). All participants were highly skilled and all of them arrived in the UK at least 1.5 years ago. Questions related to the knowledge about the UK and the difficulties as a newcomer were not asked from participant J as she was born in the UK.

## 4.2 Outcomes of the focus group and interviews

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### 4.2.1. Expectations and knowledge about the UK

As part of the interviews and focus group, participants were asked about the expectations they had before coming to the UK and what they knew about the country beforehand.

Participant D had a lot of expectations when she arrived in the country. She specifically mentioned one: “living in peace”.

Attendee E mentioned that she did not know much about the country before coming here other than the usual stereotypes (e.g. rainy weather), and she was worried that coming after the Brexit referendum could have an effect on her experience as an international person. Luckily, she found the opposite, people are friendly but she is in contact with many international people at the university as a teaching assistant and PhD student.

Participant B spent a year in the UK 5 years ago as a Spanish teacher and assistant in a school before coming back to the country as a PhD student. Her main expectation was to get quality education which she found but she expected more guidance in her studies with regard to her career progression.

Participant I had a “fairy tale” expectation before coming to the UK in 2009 because she heard great things about the UK from previous colleagues who arrived in the UK in 2005, before the economic crisis. She arrived in 2009, so her experience was not as smooth as the previous stories she heard, she struggled to enter the job market.

Participant H mentioned that she expected a more developed country with more resources in academic research than in Latin-America (El Salvador). When she arrived in the UK she did not know much about it because she did not plan to come here but she found a scholarship opportunity.

### 4.2.2. Educational background

Inova also explored participants’ satisfaction with their study’s choice and work opportunities for women in STEM in their home countries.

Most participants were satisfied with the educational choice they made, however there were some women who mentioned that they would choose a different programme today. Participant D studied law in Colombia and became a lawyer. Currently she is self-employed in the field of technology. If she could choose a profession today, she would not study law.

Participant C’s dream is to be an electrical engineer, so if she would have a choice today to pick a university course, she would choose straight away electrical engineering.

When participants were asked about the work opportunities in their home countries – mainly for women in STEM – their answers varied. Participant H lived in Chile for a while before coming to the UK. She mentioned that the main factor that can help finding a job is to use networks. In El Salvador it is difficult to find a job because there are not many of them, in Chile it would be easier.

Participants E and F reported that in their home countries there are not many job opportunities in science due to limited funding. Furthermore, women are not only underrepresented but underpaid as well.

Participants B and C shared their own personal experience towards women in STEM. Participant B was not encouraged by her family to become an engineer. Participant C experienced the low number of women in the field, when she was the only woman during her first physics class.

Participant J was highly satisfied with her educational choice. According to her experience women were not equally represented in the business, however, on the graduate intake there were more female engineers than men.

#### 4.2.3. Difficulties they faced when arriving in the UK

##### Main difficulties highlighted by participants:

- Understanding the system
- Language
- Social life
- Opening a bank account
- Accommodation

We interviewed 4 women whose countries of origin were outside the EU and 6 participants from EU countries. When it comes to difficulties they faced when arriving in the UK, **EU and non-EU participants** did not report about very different difficulties. Participant G mentioned that due to visa requirements, she is not allowed to have a job while doing her PhD, although she has previous work experience from her home country.

5 participants (B, C, D, F, I) reported difficulties regarding **understanding the system**, finding opportunities and finding jobs. Participant F mentioned that the more people progress in their careers (after Master's and PhD studies), the less help they receive.

5 women (A, B, D, E, F) mentioned that **language** was a challenge when they arrived in the UK, although they had a very good level of English. Using the language in their day to day life at the workplaces with native speakers was a challenge at the beginning. On the other hand, the challenge was not always the level of English the participants had. One of the participants mother tongue is English, and she felt that there were cultural differences in using the language. It took a while for her to get used to the way people use the language in the UK and used cultural codes.

Another difficulty that was mentioned by some participants (A, B, C) was the challenge to find local friends and have a **social life**. Many of their friends are international and they only have a few local friends.

Participants E, F, G, H are currently pursuing a PhD but have previous work experience. Two of them (E, F) mentioned some difficulties they faced in day to day life, such as **opening a bank account** or finding **accommodation**. They specifically mentioned the challenges people face when they want to find a private accommodation after being in a student accommodation. On the other hand, participant H reported an easy process of finding an accommodation.

Another difficulty participant I mentioned is the validation of study certificates from abroad. Although her level of education and degree in Italy is very good, it is not seen the same in the UK.

It was also mentioned by some participants (A, B, H) that they did not arrive to the country alone which helped mitigating the difficulties they faced.

#### 4.2.4. Work experience in the UK

All participants have had previous work experience in STEM. Currently 4 of them (E, F, G, H) are working on their PhD in STEM, 1 is unemployed (A), 2 are self-employed in STEM (B, D), 1 (participant I) is employed but not in STEM, and 1 (J) is employed in STEM. Participant C is currently doing a Master's degree in computer science to requalify herself.

When asking Participant I if she would like to find a job in STEM, she said no because she worked in a different sector the last 6 years and she would have to start all over again from a junior position although she got work experience in STEM in her home country.

Participant A had a job secured when she arrived in the UK but she stopped working some years ago because academic research and family life with children was not doable for her together because of her working schedule. Thus, she is not looking for going back to academic research.

Participant J has had a very positive, challenging and enjoyable work experience. She has not had any issues finding a job until recently. She is looking for a senior role now and based on her experience men do have the majority of senior roles in her field.

#### 4.2.5. Professional career in the future

There were some factors identified by the participants that could influence the job they want to have in the future. Two factors that might hold them back are work-life balance (having kids), and financial matters. Participant J furthermore mentioned geographical constraints and confidence. Some of them (A, C, G) are thinking of setting up their own business and becoming self-employed, three of them already started their business (B, D, J). Participant J mentioned the lack of financial safety net that holds her back to give up her professional job and work as an entrepreneur full time. The focus of the business would not necessarily be in STEM (A).

One of them is happy in her current job (I) but would move on due to the limited funding the organisation has, however in the process of Brexit, they are all facing much uncertainty. She also mentioned that she knows migrants and she is also one of them who are highly skilled but accept lower salaries than native people would.



4 of them (E, F, G, H) would like to embark upon a career in academic research.

### **4.3. Interview with an educator working with migrants**

As part of the IO1 research of the project, Inova interviewed an educator working with migrants. She has been self-employed for 10 years. Her professional background is in community development and as a trainer she has delivered courses related to confidence, self-esteem, cultural awareness, and safe guarding.

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She mainly works with vulnerable adults. The difficulties people encounter in the process of labour market inclusion can vary. Migrants with low level English might face different problems than highly skilled migrants with a degree. However, the latter group also suffer from trauma and it can be difficult for them as well to be in a foreign country. The main difficulties she mentioned are the following: lack of confidence, feeling of not belonging, breaking down stereotypes, broader cultural awareness.

Based on her experience, men and women face the same problems, and also vulnerable adults from the UK have the same challenges.

Based on her experience, pivotal skills for migrants to succeed in the labour market are having self-belief, good level of English (e.g. be able to read instructions and basic writing skills in English), and general employability skills, such as communication skills, time keeping, being friendly, being respectful.

## **5. CONCLUSION**

The conducted interviews and focus group showed that regardless of the country of origin women faced similar problems as newcomers to the UK: lack of networks, difficulties in finding jobs which will use their talent and knowledge and challenges in the progression of their professional career. However, not everyone faced major difficulties or experienced the same ones. Furthermore, not all participants arrived alone in the UK and that affected their experience as a newcomer.

Participants' professional paths are quite different, thus general conclusion cannot be drawn about the situation of migrant women in STEM, however it can be reported that all of them mentioned women's underrepresentation in the field in their home countries and very often not been able to use all their talents and knowledge in a work setting in the UK.

As part of the research, the interview with the educator working with migrants highlighted some skills that can be important for the successful labour market inclusion of migrants. However, it needs to be noted that while the trainer mainly works with vulnerable groups who have low level English, all migrant women interviewed in the research were highly skilled.

The research aimed at identifying training needs of migrant women in STEM. The following factors will be taken into account when developing the Training Programme:

- Several participants mentioned that they struggled to understand the job market and how the system works in the host country, thus it is recommended to include in the Training Programme practical information about the labour market (job portals, CV writing, head-hunters, etc.) in each participating country.
- Participants also mentioned that lack of confidence and how their feeling of not belonging to the host country affects their social life, therefore it is recommended to foster participants' confidence and provide training in self-efficacy and building networks.
- As migrant women with a STEM background often think about starting their own business (some of the participants of the needs analysis have already started their business), it will be useful to include entrepreneurship and self-employment modules as part of the training.

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**Erasmus+ Strategic Partnership for Adult Education  
2017-1-IT02-KA204-036520**

**EUMentorSTEM**

**Creation of a European e-platform of MENTORing and coaching for promoting migrant  
women in  
Science, Technology, Engineering and Mathematics**

**ANNEX 5**  
**Intellectual Output 1**  
**Diagnostic Assessment**  
**Qualitative Needs Assessment**  
**Country-level Report SWEDEN**

**WiTEC SWEDEN**  
**April 2018**

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## **PART 1. ENVIRONMENTAL ASSESSMENT**

### **1. INTRODUCTION**

Sweden is known internationally for being one of the most advanced countries in terms of equality of opportunities and incentives for women. The society and the policies are shaped bearing in mind women's rights and therefore there are equal opportunities for all. This is also the case for inclusiveness of most of minorities present in Sweden. One category challenging Sweden's social inclusion capacity is migrant women. It is a group that brings to Sweden upon arrival a number of culture related aspects (gender roles, etc.) that make the integration process very complex. Furthermore, Arbetsfömedlingen's statistics show that 30% of all working women are working part time (investing the rest of the time to caring after children) comparing to just 11% in the case of men.

Sweden scored 78 in the Migrant Integration Policy Index in 2015 being a favourable country for migrants (MIPEx, 2017). As Dahlstedt and Vesterberg (2017: 228-243) highlight in their work, Sweden's international reputation for its generous immigration policies has changed after the 'refugee crisis' (Sweden.se, 2017). Authors continue with discussing how the policy developments and political discourse in Sweden dramatically intensified the 'racialization of inclusion and exclusion' putting accent on 'Swedish values'.

After 2015's refugee challenge, Sweden has taken measures to limit immigration in order to be able to focus on the integration and employability of those already in the country (Sweden.se, 2017). These measures touched mainly upon restrictions to enter the country without documents and more complicated process of reuniting families. The effects of these measures can be seen in the figure below.





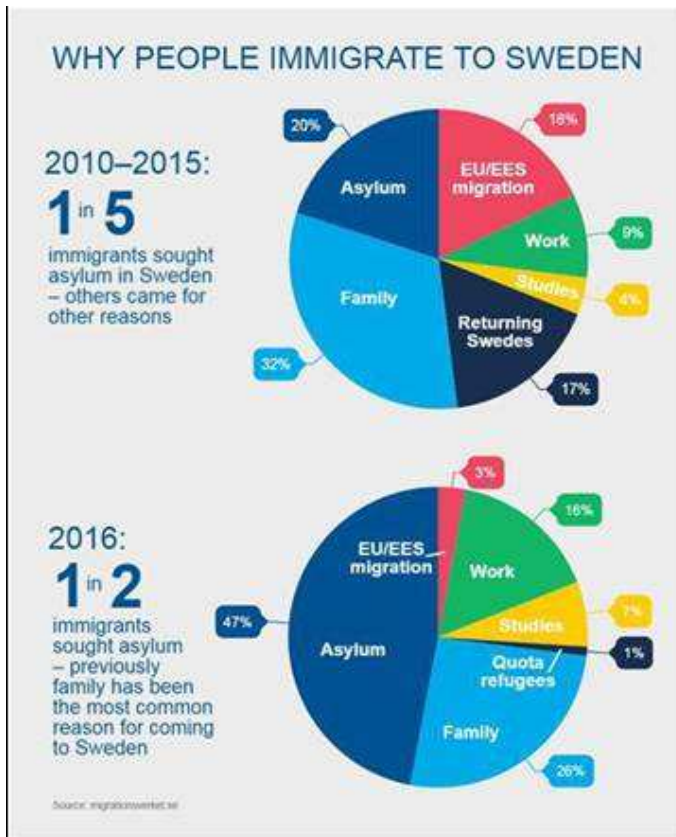


Fig.1: Reasons for migrating to Sweden

## 2. NATIONAL LEGISLATION / POLICIES / FUNDING / INITIATIVES SUPPORTING MIGRANT WOMEN'S SOCIAL INCLUSION AND EMPLOYABILITY

After the Second World War and still today, the number of people migrating to Sweden far exceeds that number of Swedes emigrating. On average, the rate has been 3 migrants to every 1 emigrant. Sweden has seen peaks in immigration in the 1970, the middle of the 1990 and all the years after 2011. The highest peak was in 2016 with an increase of 21% from the previous year. The number of migrants that came to Sweden in 2016 was 163 005 people, out of which 44 % were female migrants. The majority of the migrants came from Syria but also from other countries like Eritrea, Somalia, Afghanistan, Poland and Iraq (Skatteverket, 2017).



Sweden's Migration office (Migrationsverket) defines a migrant as a person who has the intent of staying in Sweden for more than 12 months, who has been granted residency and has been permanently registered. However, it is important to acknowledge that there is a large number of women and men staying in Sweden but yet not qualifying for the above definition.

For a person to be able to benefit from any assistance (aiming at integration and employability) from the side of the government it is important to be registered in the population register (receive the personal unique social security number issued by Skatteverket – the national tax agency). In this sense men and women are equally treated and have the exact same conditions when applying. For the most part, the migrants are offered the same support system as the persons born in Sweden; however, there are several programs within the support system that are especially adapted for migrants.

In order to support migrant social inclusion and employability, The Swedish government has a number of national legislation and policies. The most significant ones were adopted since 2010 and 2013. Such policies refer to, for example, children arriving with undocumented parents being entitled to pursue their education up through secondary level under the Education Act. Hellgren (2014: 1180) mentions that since 2013 undocumented migrant patients are entitled to benefit from the same healthcare as asylum-seekers. Swedish policies respond to specific needs trying to reach deep into migrant groups aiming at a maximal inclusion.

Knowing Swedish language increases the chances of integration and employability of migrants considerably. As of 1994 there is a school law giving all migrants the opportunity to study Swedish for free (Svenska för invandrare (SFI). It is a national legislation but the responsibility for arranging the SFI have been delegated to municipal level. For migrants who are illiterate SFI offers classes to learn how to read and write. The classes are also offered at different times of the day so that the migrants can combine with other social inclusion activities such as job seeking.

Swedish Unemployment Office (Arbetsförmedlingen) aims at all job seekers in Sweden who have the legal right to work (including migrants). The Agency recognizes in its presentations that the services they are offering are tailored more to the person's needs instead of letting gender influence. On the other hand, Arbetsförmedlingen recognizes that women lacking complete high school studies are very difficult to integrate. This fact is proven once again by the latest data on joblessness in Sweden (Fig.2) showing higher unemployment rate for immigrants compared with the persons born in Sweden as well as higher rates of joblessness among persons with lower education. Therefore, the Swedish Unemployment Office has a special program as of 2010, supporting migrants (the



Establishment Assignment Program). The role of the program is to either get the migrant into a job, or an education as soon as possible after registering. Each migrant can participate in the program for a maximum of 24 months. A financial contribution is paid to the participant until they get a fixed income from a job. The program helps with the job or internship search, learning the language, taking up more education, and learn about the specifics of Swedish culture and society, and how things function in the country. As of October 2017, 44% of the participants in the establishment assignment program are migrant women.” (Arbetsförmedlingen, 2017).

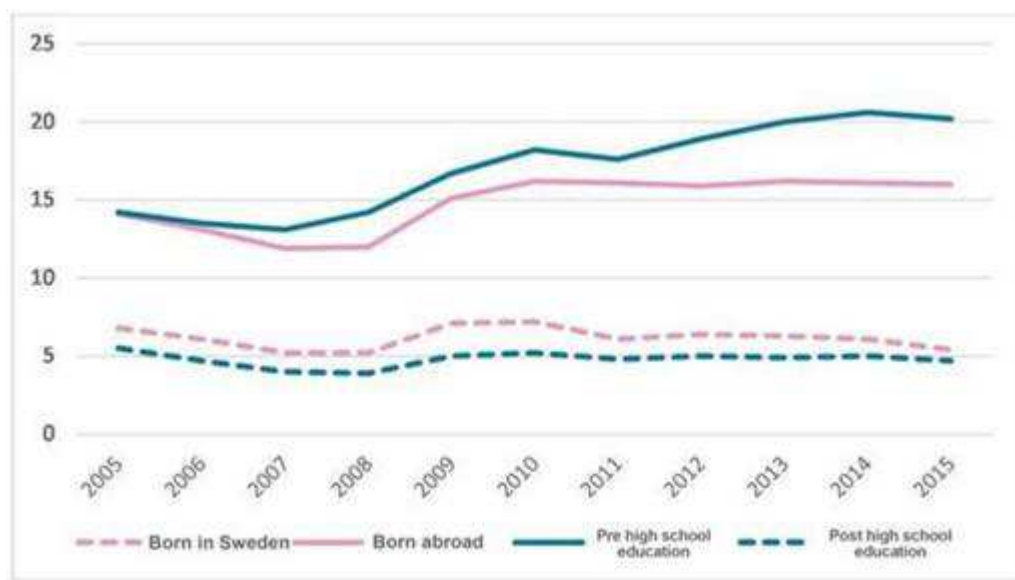


Fig.2. Unemployment among different groups present in Sweden Source: Arbetsförmedlingen<sup>1</sup>

Sweden has a comprehensive social security program by Swedish Social Insurance Agency (Försäkringskassan) mainly financed by high tax paid to the government by individuals and organizations in different ways. As with the Swedish Unemployment Office, a migrant has the right to access the national social security plan (Arbetsförmedlingen, 2017).

A migrant has the same right to receive a study allowance (CSN Centrala Studiestödsnämnden) as a national born person. Study allowance is a collective name for the grants financed by the government and the allowance a person can receive to study at

<sup>1</sup> Available at: <https://www.arbetsformedlingen.se/Om-oss/Statistik-och-publikationer/Rapporter/Arbetsmarknadsrapporter/2016-06-14-Arbetsmarknadsrapport-2016.html>

upper secondary school (university, vocational college, municipal adult education, etc). It is possible to choose to only take the grant (MIPEX, 2017).

The Swedish government has identified the gap between the number of national born women versus migrant women working as unacceptable. If the ratio of migrant women working were to be the same as for national born women the BNP would increase by 1,5% or 37 billion Swedish crown. Therefore, the Swedish national budget proposal 2018 contains a number of policies such as extended Swedish language studies during maternity leave, financing organisations and companies to accept migrant women in different work related programs and special programs aimed for migrant women to start their own businesses.

### 3. MIGRATION DATA

There is unfortunately no official statistics on the mother languages spoken in Sweden. The government feels that it would be discriminating to officially ask a migrant or equally a national born person about their mother tongue. However in the book “The languages of Sweden; which languages are spoken and by how many” Mikael Parkvall gives the result of his research regarding the subject. “It is thought to exist between 150 – 200 different languages in Sweden. In 2012 Finnish was the second most common mother tongue spoken and Arabic was the third. However, due to the large migration from Syria, Arabic is now thought to have taken over the second place in 2016”. Other large language groups according to Mikael Parkvall are the Balkan languages, Kurdish, Polish and Somali. There is no information specific regarding migrant women to be found (Sweden.se, 2017).

The 2016 official statistics from the Swedish National agency for statistics “Statistiska centralbyrån (SCB) “show there are 195 different nationalities represented by migrant women age 25 to 64 years old. In 2016 out of 1,7 million of the persons living in Sweden but born abroad, the majority came from Iraq, Finland, Poland, Syria and Iran. Breaking it down into age groups, the majority of migrant women age 25 - 44 are from Iraq. Whereas the majority migrant women aged 45 -64 are from Finland, however the second largest nationality in that age group is also from Iraq. A more general look at the background of the persons migrating to Sweden emphasizes that the majority of them fled from wars (Afghanistan, Iraq, Somalia, Eritrea and Syria). One in every three migrants in 2016 was coming from Syria [2]. This reminds of the two biggest categories of migrants to Sweden: refugees/asylum seekers and economic migrants.

Moreover, looking at Fig. 3, one can say that most migrant women come from a Muslim country.

Birth country	Number of total women migrants age 24 -65
<b>Iraq</b>	44 371
<b>Finland</b>	41 127
<b>Poland</b>	33 471
<b>Syria</b>	33 386
<b>Iran</b>	27 797
<b>Thailand</b>	25 420
<b>Former Yugoslavia</b>	24 307

*Fig.3: Origin of migrant women in Sweden in 2016, aged 24-65  
Source: Statistiskservice, Statistiska centralbyrån (SCB)*

In terms of education level Eurostat makes reference to the fact that among non-EU born migrants aged 25-54 (the main working ages) about 35,5% have completed at most a lower secondary level of education. [4] On the other hand, the migrant women residing in Sweden are well educated with 75% of the women in age group 25 – 64 who have continued to study after elementary school. 43% have a university degree or higher. The majority of these, 58%, are in the age group 25 – 44. The statistics show that out of the 43% who have a university degree or higher, 17% have chosen an education within health and social welfare,



another 17% have chosen social science, administration and law. Both sectors that have a large need for in the Swedish labour market (Statistikdatabasen, 2017).

Highest education level	Percent of migrant women
Elementary school maximum ten years	20%
Upper secondary school	32%
University or higher vocational education	41%
Unknown education level	6%

Fig.4. Unemployment among different groups present in Sweden Source: Arbetsförmedlingen

The unemployment rate of migrant women is a staggering 43% in Sweden. Larger numbers are among the women aged 20 – 34 as well as the women aged 60 – 64 years old (Statistikdatabasen, 2017).

Unemployment migrant women	
20-24 year	64%
25-34 year	49%
35-44 year	37%
45-54 year	33%
55-59 year	40%
60-64 year	51%
TOTAL	43%

It is important to mention at this stage that all the data represented are about the individuals that are in Sweden's population register (SCB. 2017). Due to strict criteria and duration of





the process of registering newly arrived persons, one must be aware that there may be a number of persons relevant for this study that are not represented in the statistics below.

In the report “The labour market for foreign born persons with higher education” (SCB, 2015) statistics show that the proportion that had work as their main activity differed considerably between foreign-born persons and Swedish born persons. Among foreign-born persons, roughly six out of ten persons had work as their main activity, while nearly nine out of ten Swedish born persons had work as their main activity.

The difference regarding the match between work and education was also considerable among foreign born and Swedish born persons. About half of all of the foreign-born persons who had work as their main activity during the measurement week also had employment that matched with their education while eight out of ten Swedish born persons had employment that matched their education. Foreign-born persons also had work that did not require post-secondary education to a much greater extent than Swedish born persons. Nearly 30 percent of the foreign-born persons had employment that was not assessed to require post-secondary education while the corresponding proportion among Swedish born persons was around 6 percent.

Foreign born persons with an educational orientation towards health and medical care were unemployed to a lesser extent and had employment that matched with their education to a much greater extent than the other groups. Persons with an educational orientation within teaching, the humanities and social sciences had the least agreement between education and employment. In this group, about 35 percent had employment that did not require post-secondary education.

The number of years in Sweden affects whether a person had work as their main activity. Among those who immigrated to Sweden during the period 2003 – 2006, nearly 8 out of 10 persons had work as their main activity, while slightly more than half of those who immigrated to Sweden during the period 2011 – 2014 had work.

Those who had foreign certificates that were assessed as comparable with the corresponding Swedish ones had a job that matched with their educational background to a greater extent. The same applied to those who had work within their educational area before they came to Sweden. Those who assessed their language skills to be deficient gave this as a reason why it was difficult to find work to a much greater extent than those who assessed their language skills to be good.

When DELMI (Delegationen för migrations studier) published their report “Vägen till arbete” (the road to employment) in 2017, they organized a round table talk where representatives





from authorities, recruiting firms, employer organisations and representatives from academia participated. The notes from this talk show that:

- About 50% of foreign born lack the education needed
- There is a great interest to recruit foreign born but due to high legal demands on knowing the Swedish language makes this difficult.
- One way of opening up employment opportunities from foreign born would be to arrange work practice as part of the validating process
- It is hard to find the foreign-born women that has higher education due to cultural background where the women stay home and do not work after their education is done.

#### 4. PROJECTS AND INITIATIVES OF RELEVANCE FOR EUMentorSTEM

There are a number of initiatives, presented on the Arbetsförmedlingen website, to help migrant women integrate by diverse means, some of them are the following:

- Sisters in Business - in place to assist migrant women to create their own businesses;
- Java4women – aims at ensuring a quick way for women to obtaining jobs within the IT branch;
- ESF-projekt Mirjam (2016-01-11 – 2019-01-10) – is an EU funded project aiming at facilitating the establishment in the labor market for newly arrived women aged 25 to 64;
- KISA -Kortare Integration, Snabbare till Arbete (Shorter Integration, Faster Towards a Job) (February 2016 - January 2019) – EU funded project aiming at complementing efforts directed at integrating newly arrived migrant women;
- Korta väggen - by Folkuniversitetet in collaboration with Arbetsförmedlingen, is an initiative in place to help migrants with an academic background better integrate by offering them useful learning courses;
- DELMI Deligationen för migrationsstudier “Konsten att bli anställningsbar, is a study that focuses on foreign born and their employability in Sweden compared to their education.
- DELMI, Deligationen för migrationsstudier, “Vägen till arbete”, is a summary report of six different studies related to the topic foreign born and interation and employability.





## 5. OPPORTUNITIES FOR MIGRANT WOMEN

In Sweden the usage of Social media for finding the right talent to employ is very high. Companies and organizations use mainly Facebook and LinkedIn to advertise job openings. Equally they use the social media to check up on the candidates. If you understand social media and how to use it and market yourself, the chances increase. Moreover, recruiting agencies use LinkedIn as a search tool to find potential candidates for their customers.

With the Swedish social welfare system offering migrant women as previously described, there is an existing foundation for accessing the job market and learning the language and the culture at the same time creating an opportunity for early access to the job market. From a financial point of view, the same system offers both the migrant and the employer financial contributions of various kind making it easier for employment to happen.

Most of the skills that migrant women bring with them are sought after by the Swedish labour market.

## 6. MAIN CHALLENGES FOR MIGRANT WOMEN

Learning the Swedish language is extremely important for social inclusion and employability. A challenge can be finding the time to go to classes and activities when a woman has young children to take care of.

The Swedish culture takes time to understand and most Swedes keep to themselves making social inclusion more difficult.

Swedish culture is definitely different than the cultures of most migrant women, therefore it takes time and effort for both sides to understand and adjust.



## **PART 2. QUALITATIVE NEEDS ASSESSMENT**

### **7. INTRODUCTION**

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The identification of potential stakeholders for EUMentorSTEM in connection with WiTEC SWEDEN started by identifying already known connections within the WiTEC SWEDEN network. It soon became clear that if we were to find the targeted migrant women with a STEM background it was through personal connections within our network we would find them. Mainly due to the fact that we needed our contacts to introduce the EUMentorSTEM project to the migrant women so that they felt safe with the purpose and the fact that not speaking perfect Swedish was not a barrier for participation.

We chose to work with two NGOs who work with migrant women specifically, a trust sent funded by both the local government and the regional unemployment office and officials at integration offices at local city hall.

We found 8 professionals willing to be interviewed and 11 migrant women. The findings from the focus groups and the in-depth interview held will be presented below.

### **8. NOTES ON METHODOLOGY AND PARTICIPANTS' PROFILE**

In order to find both the migrant women and the professionals target groups, we identified two points of contact, an NGO working with migrant women and a trust working with training and matching young people. This helped us not only widen and finding the professionals and their organisations, but also opened the door directly to migrant women with a STEM background through personal contacts.

The methodology used is both focus group interview, in-depth one-to-one interview and in-depth interview in groups of two participants and an interviewer.

The focus group interview was carried out among four migrant women. The open questions and the recognition of similar experiences gave the interview a depth and broadened the discussion.

The seven one to one in-depth interviews with the migrant women became very personal and at times emotional. It gave the opportunity to build trust and openness that was not felt in the same way in the focus interviews.

There were two group in-depth interviews carried out where each interview had two participants from the same organisation, but the participants had different positions, hence giving different perspectives.

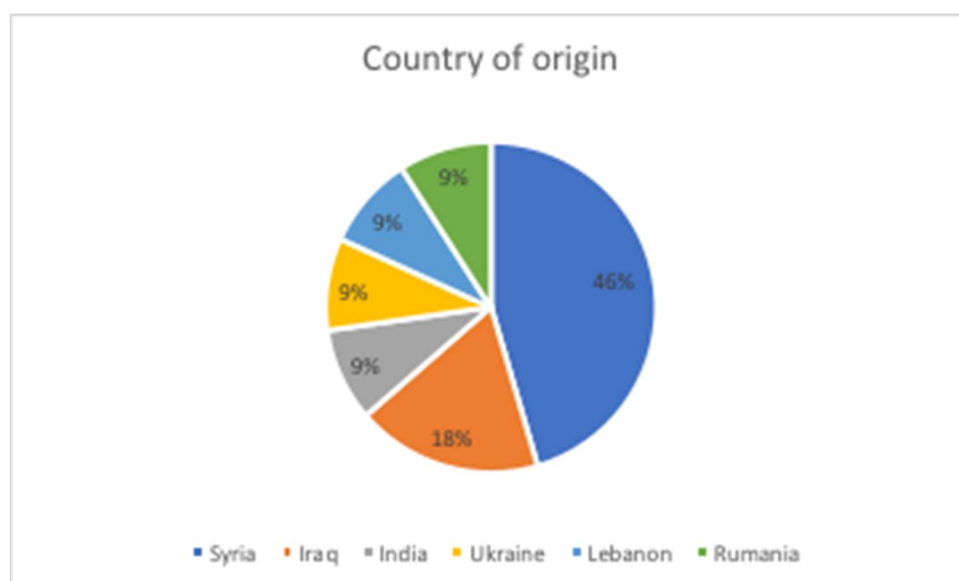
The one to one in-depth interviews with the professionals were of very different character, depending on the positioning of the interviewee (a government official or professional from the private sector).

### 8.1. Participants profiles – Migrant women

The migrant women that we got in touch with were, to our delight, all very willing to participate in the qualitative assessment phase of the project. All of the migrant women also expressed their appreciation to be of use in the project and hoped that their contribution would lead to improvement for all migrant women. When asked why they wanted to participate, the first reason was to be listened to with the hope that it would lead to change.

Furthermore, all migrant women showed an interest in participating in the project training phase through mentor circles during the fall. Many of them also asked if they could spread the information regarding EUMentorSTEM among other migrant women with a STEM background.

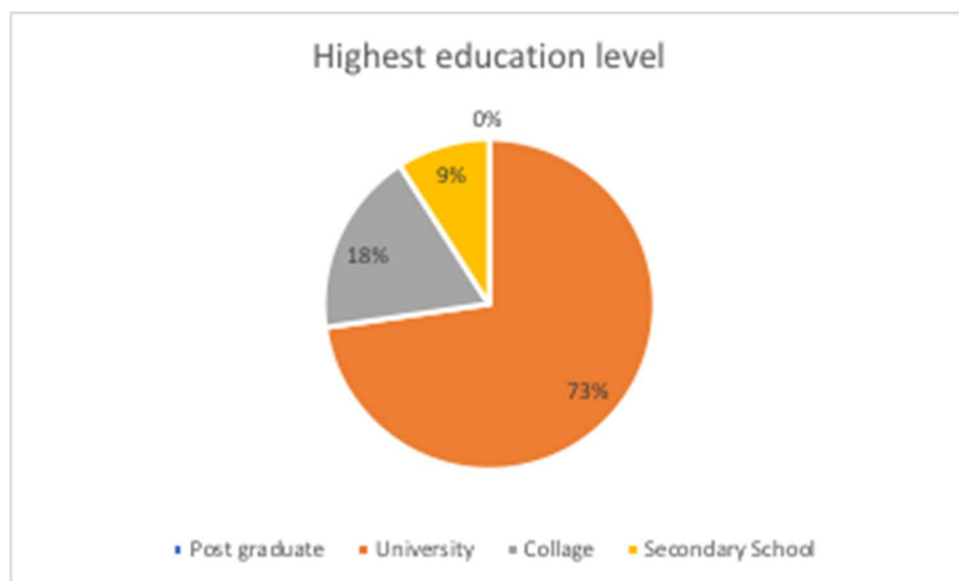
Due to large difficulty as to geographic location, time and family situation of the migrant women, only one focus group with four participants of migrant women was carried out in that format. The contact with the other seven migrant women were done over the telephone in one to one meetings. The majority of the migrant women came from Syria or Iraq. However, India, Ukraine, Lebanon and Romania were also represented as country of origin.





All of the migrant women are highly educated with 73% of the migrant women having a university degree in STEM subjects. 18% have a college degree and 9% have secondary school as the highest education degree. The secondary school degree holders has complemented the education with waste work life experience, rating themselves as very competent with their field of work.

All of the migrant women that participated have a degree from their country of origin or from the country they stayed in prior to coming to Sweden. They are all very happy with the quality of the education they have received. Even though they all have great difficulty finding employment, none of the migrant women want to change their profession, they all dream of working within STEM.

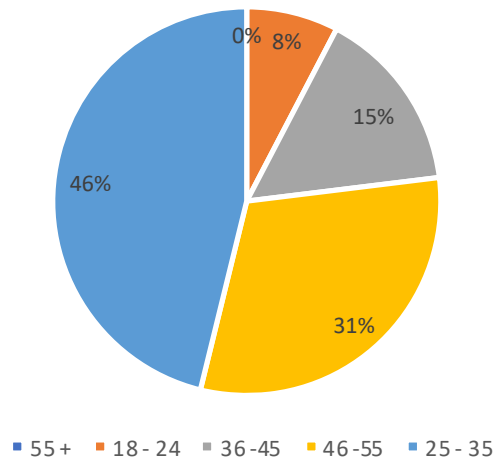


The majority of the women are between 25 - 55, with an average age of 38,6 years. None of the participants where in the age group 55+, also the age group of 18 -24 had little representation. All but three of the women had children of their own. All of the women are or have been married.





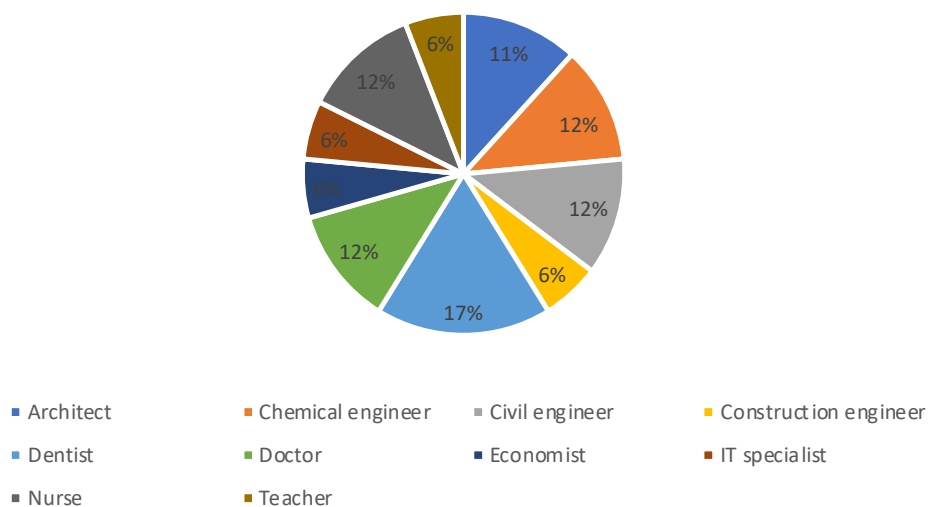
Migrant women age distribution



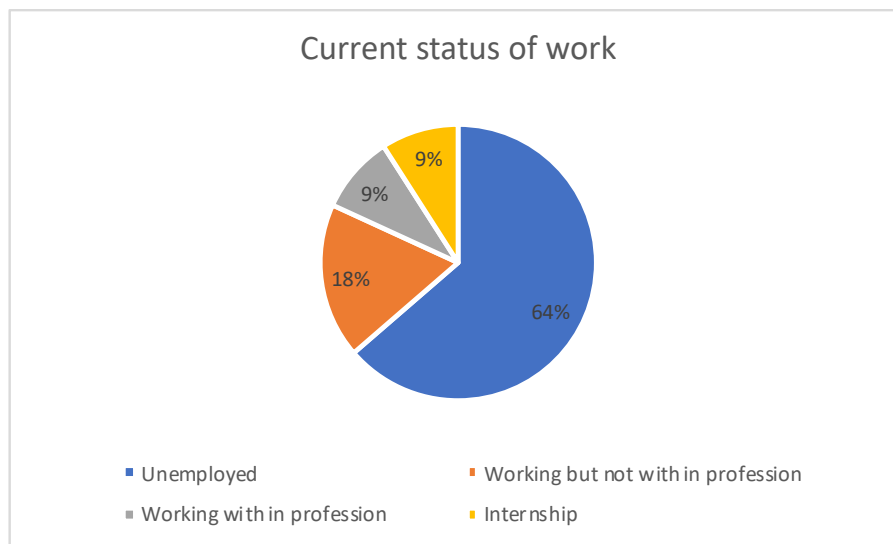
All of the women have had some sort of work experience from their chosen STEM profession prior to coming to Sweden. Two of the women have had their own very successful businesses.

The majority of the women are either in the medical profession, or engineering. Architecture, analyst, educator and IT specialist is also represented among the professions.

Migrant women occupation



All of the migrant women express that they want to work and contribute to Swedish society rather than being, as they see it, a liability to it. Most of the migrant women, 91% are actively trying to find employment with their profession. Only 9 % of them are working within their STEM profession. 9% are on an internship with in their chose profession and hope that it turns into employment. 18% are working but in low paying jobs and under their education level.



## 8.2. Participant profiles - Professionals

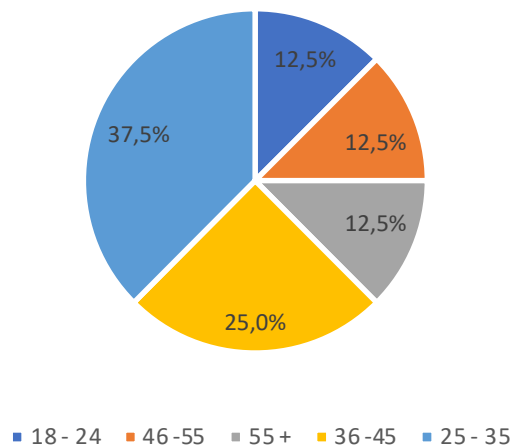
After doing the first interview of a selected professional, it became clear that there was a need for more interviews in order to get “both sides of the story” so to speak. Therefore, eight interviews were conducted. Four were one to one interviews and two were group interview with two participants in each group. The professionals represent the age span from 18 – 55+ years, with a dominance of the age group 25 – 45. Out of the eight, there are six women and two men.

The organisations represented are a total of five. Two NGO focusing only on migrant women, one foundation focusing on matching young people (domestic born and foreign born) with the right employer through either internship or employment, one representative from the official state unemployment office and one representative from the integration office at city hall.

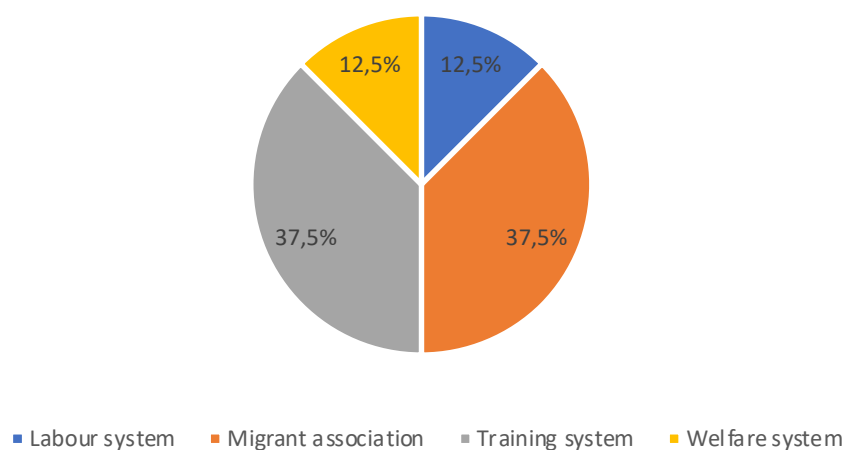
All professionals and their organisation contributed with migrant women whom we interviewed. They and their network are very important to the project. Without them, it would have been very difficult to find the target group of migrant women.

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Professionals age distribution



Organisation representation



## 9. OUTCOMES OF THE QUALITATIVE ASSESSMENT

### 9.1. Migrant women

#### 9.1.1. Expectations prior to immigration

The reasons for coming to live in Sweden are different from migrant woman to migrant woman. However, we can see in the group that there are two major factors. As there is a large group of migrant women from Syria, the primary reason for these women is survival. To get away from the war and create a safer and better future for themselves, but mainly for their children. The second group of migrant women have come to join their husbands (all of which are foreign born), who in their turn have migrated either for economic reasons or on refugee status. Only one migrant woman came on her own for a leisure trip, liked it so much she decided to stay.

The most common expectation for all of the women is to have a better life. The highest definition of this is to live a life without fear and to feel safe. Many of the participants also express an expectation of true democracy and to have equal value.

All of the women expected to be able to carry on their careers within STEM and to find employment and to be able to contribute to society. None of the women expected it to be this hard and for official administration to take such a long time.

A majority of the migrant women also express that there was an expectation of social inclusion and to be able to integrate easily with the Swedish society.

#### 9.1.2. Work experience in the receiving country and problems faced

Most of the migrant women have been in Sweden for two to six years. Two of the migrant women have been in Sweden for over 15 years. Out of all the women, only one have gotten a job matching her qualification for STEM profession. All of the women have had internships, but it is rare that it has been within their educated profession or at the same level as previously held in their country of origin. Instead, they have had internships in a lower ranked STEM position such as dentist assistant, nurse assistant, or in a totally different profession such as a cook, cleaning lady or clerk. The internship has only been for a few months and most of the times it has been given to them through private initiatives or on their own account.

One of the biggest issues that the migrant women in the medical professions face is to get their degree and practising licence approved by the Swedish Government "Social Styrelsen". The handling times are very long and on top of that, they need to take an exam. Work life experience is not taken in to account. This is a very big obstacle. The migrant women coming from so-called "Extra European Countries" or "Third Countries" and having a medical

profession experience feel that they are treated differently than the same category of migrant women who come from within the European Union.

There is also a sense that there are many applicants to each position and that recruiters do not carry out the recruitment process in a sufficient way. A feeling of their application not being read is common among the women. Seldom they get a reply back. Even more seldom, they are called for an interview. There is a feeling and a fear among the women that their foreign name is the reason for not being selected for interview. There is also a feeling that the language is a barrier.

None of the migrant women expected that a huge part of the success in getting in to the job market lies in networking, and networking with national born Swedes. That a reference from a national born can open doors that were previously closed.

Further, that it takes about a year or two to just understand how the system works with regards to job searching and internship. That not all information can be found on the internet and that it is a job in itself to learn where on the internet things can be found. Some of the women expected the official unemployment office to guide them in this.

The language is also a hurdle to get over. It is not so much the everyday language used to get by, but rather the work specific language used in a construction site for example or at the doctor's office.

All of the migrant women study SFI Swedish as a foreign language, which is free for all migrants. However, as it is hard to find Swedish friends and there is a need to practise more the development of the language is challenging.

### 9.1.3. Future career and aspirations among the migrant women.

All of the migrant women are very focused to succeed in getting a job and very resilient. This will be their biggest drivers according to themselves. Many of the migrant women describe that they have a very clear structure of what needs to be done in order to succeed. Language and creating networks are in the top but also getting back to study more if needed. Many of the women said that they need only one hand of Swedish origin to hold on to and find support therein.

The positive outlook on life reflect in the answer to the question "What do you see yourself doing in five years time?". All of the migrant women answered that they will have a job within their educated profession.

When asked "what is your dream profession?" all but one migrant woman answered "I already have my dream profession, now all I need is employment". The one who did not

answer that was a nurse who aspires to become a doctor and is already taking steps towards that dream.

## 9.2. Professionals

### 9.2.1 Main problems or barriers faced by migrant women

After talking to the professionals, the problems and / or barriers faced by migrant women in the process of labour market inclusion can be divided into two categories; internal and external.

The internal barriers are those that lay within the migrant women's development areas or responsibility.

First, is language and it can be seen from different angles. The first is to study and acknowledge that Swedish is hard language to learn. Once the language studies have advanced, it is the self-consciousness and belief that I as a migrant woman speak good enough language for employment. According to the professionals' experience, most employers are willing to hire a migrant that does not speak perfect Swedish as long as there is no risk of accidents due to misunderstanding due to language.

Second is the ability to believe in themselves and their experience and competences. Third is the ability to communicate their experience and enhance their competences in the field.

The external barriers are those that lay outside the control of the migrant women.

The biggest hurdle is to get foreign education and certificates approved and translated into the corresponding Swedish level. It takes time and to the professionals in the private sector they do not understand why it takes such a long time. The professionals employed in the government sector time is not an issue to them; however, it is recognised as an important barrier to overcome.

According to professionals working in the private sector, the second largest barrier is that it is too complicated of a system from an administrative point of view to accept an internship or to accept different kinds of funding programs offered by the government to pay for employing a migrant. This results in an employer either not hiring anyone or choosing a national born instead because it is easier.

The third barrier is for the migrant woman to try to build a network of national born connections. The SFI classes (Swedish as a second language) is often the first space where migrant women make friends. The barrier is that they meet other migrant women and therefore do not integrate in the way wished.





The fourth barrier according to the professionals is that there is very little guidance in how the Swedish labour market works, where to find the jobs, how to apply and so on.

### 9.2.2 Training needs

According to the professionals, their training needs when it comes to migrant women with a STEM background is first and foremost to understand their education background and how that corresponds to the Swedish education system. Secondly, to understand the work experience the migrant women have, based on role and responsibility. Lastly, they feel a need to better understand the cultural background of the migrant women and especially the work culture.

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