Gender 4 STEM – Gender aware education and teaching
Erasmus+ project – 2017-1-LU01-KA201-023926

Intellectual Output 1 - Identifying gender stereotypes and unconscious biases in School Education using collaborative methods

O1A1 - Synthesis of gender stereotypes and role-models in STEM education

December 2017
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SPECIFIC NOTICE

Please be aware that this synthesis is not a scientific document. It was designed for the project’s needs and to raise awareness about gender stereotypes in STEM education of a large public. The document doesn’t aim to be exhaustive but aims to underline relevant points in line with the objective of the project. However, if you identify some missing added value contents, please let us know – contact: info@gender4stem-project.eu
INTRODUCTION: objectives and methodology of the synthesis

The project Gender 4 STEM
Gender 4 STEM aims to tackle the low representation of girls in STEM education (Science, Technology, Engineering and Mathematics) and subsequently women in STEM careers. One of the reasons why STEM disciplines are unappealing to girls might be persistent stereotypes. Teachers are not always equipped to manage gender diversity in their classrooms. Educational materials also lack female characters, role-models likely to stir young girls' interest in these subjects from a young age.

E-learning platform & reference materials
In order to spark greater interest in STEM disciplines among girls, the Gender 4 STEM project focuses on the creation of an e-learning platform where educational and awareness-raising materials can be uploaded for use by secondary-level teachers (of pupils aged 11 to 18).
As part of a co-creation model bringing together partners from five participating European countries, the project seeks to develop reference materials, tools and content enabling staff to teach these high-potential subjects and also ensure a better gender balance.
In each country, partners will go out and meet teachers and pupils (more information) to try to identify existing stereotypes in order to develop the best tools for debunking them.
The planned content includes awareness-raising campaigns, lesson plans, quizzes, videos, and so on. The digital platform will also include a self-assessment tool so that teachers can take stock of their own gendered education practices. Depending on each teacher's profile, the tool will recommend learning content to help them better manage gender diversity in their classrooms.

In the near future
The platform, tools and content produced at the end of the project will be made available to all teachers. Training and awareness courses for teachers will also be developed and taught. They aim to boost uptake of the platform but also to contribute to teaching that fosters gender diversity across the scientific disciplines. In the long run, the project hopes to increase the number of girls who choose to STEM education and plan STEM careers.
Partnership

- (Coordinator) Luxembourg Institute of Science and Technology - http://www.list.lu
- SMART VENICE SRL – www.smartvenice.org
- Consulio - http://www.consulio.co
- Women in Digital Initiatives Luxembourg Asbl - http://wide.lu
- Stichting VHTO - http://www.vhto.nl
- FUNDATIA PROFESSIONAL - http://www.professionalcentre.ro

Objective and methodology of the synthesis

The very important and first step of the project is to clearly determine the current state of STEM education in relation to gender stereotypes and role-models in Europe. The goals are

- to have an updated knowledge base,
- to identify European stereotypes that prevent girls to choose a STEM education
- to list relevant female role models who can inspire girls in planning a STEM career.

To write this synthesis of gender stereotypes and role-models in STEM education each partner collected studies, reports, figures dealing with gender and STEM education… (e.g. Eurostat survey, Gender Index survey, reports linked to women in digital, girls in ICT, STEM and Gender Advancement, EIGE-reports) and identified relevant role models. A geographical area of research was attributed to each partner so that the synthesis covers the EU28. Each partner was in charge of writing a key finding summary for his or her country listing the gender stereotypes in STEM education, compiling good practices/inspirational initiatives dealing with gender issue in STEM education and listing EU28 relevant female role in STEM.
EXECUTIVE SUMMARY: which are the gender stereotypes in STEM education in EU?

Stereotypes about girls and STEM (or girls in STEM) are one of the factors that are holding girls from pursuing a career in STEM or from choosing for STEM subjects in school.

**Stereotype 1: Women do not belong in STEM.**

*What are the underlying reasons for this stereotype?*

1. Especially in Southern European cultures such as Italy, Romania and Croatia, girls pursuing STEM careers can be seen as a **threat to the traditional picture** of caring women and men working hard jobs to provide for their families. In Romania, centuries-old mentalities place all domestic responsibilities with women. In Italy, this goes together with insufficient offer of childcare services as well as support for the elderly: the burden of caring for parents and children is mainly left with women, which makes it almost impossible for them to pursue a career (in STEM).

In Southern European cultures, there is often a weak support from parents and mothers to girls who would consider making the ‘nontraditional’ choice of pursuing a career in STEM. In France it is seen that especially in lower income families, it costs the girls extra effort to leave traditional roles and chose for STEM.

This stereotype is being illustrated also by the Netherlands where girls are sometimes afraid to be less feminine if they pursue their STEM interests. In Italy, gender equality is viewed as a threat to the ‘traditional’ family which could even ‘instigate’ youngsters to become homosexuals. Politics, especially from the conservative and religious wing, are negatively gender-biased.

2. Together with this, there comes the fear from Italian, Romanian and Croatian women that **they would be not equally treated in STEM** and that they would have to make more effort to get the same goal as men.

3. **Girls lack role models in STEM fields.** This seems to be true for all of Europe. It is hard for girls to imagine that they could follow a career in STEM, when there are no females around them show them that this is indeed possible for a woman. Since girls model themselves on other women, they never learn what *they* can achieve with STEM skills. A Microsoft study...
(2017) conducted across 12 different European countries reveals that the top reason that influence STEM interest amongst those European countries are role models.

This effect is reinforced by the science content in teaching curricula which is mainly tailored to boys: there are hardly any female scientists shown in science books. Even worse: sometimes women are shown in stereotyping roles, as the soft caretaker that is mainly occupied with love and family. These concerns are mainly voiced by French girls, while e.g. in the Netherlands, a trend towards more gender-sensitive books is seen with female construction workers and male nurses.

**What are possible interventions?**

Throughout their whole education, girls should be provided with female role models in STEM. There are already lots of good practices which deploy female role models (e.g. giving lessons, work shadowing, panels, speed dates, during practical sessions). Interventions should also include parents: their stereotypical attitudes and hopes and fears for their daughters should be openly discussed (with or without their daughters being present).

**Stereotype 2: STEM is nerdy, boring and dirty and thus not interesting for girls**

**What are the underlying reasons for this stereotype?**

**Girls have no realistic image of STEM.** Due to the lack of role models, girls mostly have no real life examples of what they could achieve with STEM skills. They do not know which professions, companies and working environments are actually part of STEM nowadays and that a job in STEM can very well entail creativity, lots of contact with co-workers (and travelling) and producing societally relevant products. This has for instance come forward during the WiSE (Women in Science and Engineering) colloquium held in Luxemburg in 2017: “We first of all need to bring science and research closer to society by making it part of our culture and talk a lot about it.”

**What are possible interventions?**

By letting girls get in contact with technical companies and female professionals, they should get a more realistic image of STEM professions.
Stereotype 3: Girls are hard-working, but do not have talent for STEM.
At school, there is the wide (unconscious) belief amongst teachers and students that girls are more hard-working, but have less talent at STEM, while boys are lazy, but more talented at STEM. There is also the belief that languages can be learnt (which is why girls are supposed to be better at languages) while STEM asks for innate talent (which is why boys are supposedly better at STEM). This is illustrated by the Microsoft study (2017) which showed that one of the top factors holding Dutch, German, Finish and Czech girls back from STEM is ‘perceiving that boys will always be better at STEM’. It seems that already at 5 to 6 years, girls implicitly associate mathematics more with boys and language with girls (Tomasetto, Mirisola, Galdi, & Cadinu, 2015).

What are the underlying reasons for this stereotype?
The general image that boys and girls are innately different is a difficult one. It develops into the stereotype that girls are less suitable for STEM and more talented at humanities, arts and caring professions, while boys are talented at STEM, but usually do not pursue humanities.

1. It has been shown that from a very young age, boys and girls are talked to differently (‘you are a nice girl’ vs. ‘you are a tough/brave boy’; Elliot, 2010) and different toys/activities are marketed to them (Elliot, 2010). This is illustrated by a clever study conducted by the BBC (2017) in which girls are clothed as boys and boys wear girls’. Adults who were asked to play with these children gave the ‘girls’ significantly more soft toys like dolls and stuffed animals while ‘boys’ were asked to play with hard toys such as cars and lego. Girls miss a chance to develop interest and abilities for STEM, when they are not exposed to toys promoting spatial awareness, persistence and other technical skills.

2. This leads to unconscious biases that are mirrored in gender-biased hiring and the publicity of the digital sector (computers are for boys).

3. In class, it happens then that boys are more likely to be asked to solve new problems, while girls are asked factual questions (Skelton, Francis, & Smulyan, 2006). At home, girls are also more often helped with their math homework, when they didn’t even ask for help (Bhanot & Jovanovic, 2005). Because boys and girls are judged from different standards, eventually, boys and girls are guided to different jobs and educations, even when they have the same grades.
4. It is then no wonder that girls become less and less self-confident of their STEM skills and are afraid of failing at STEM. This might lead to girls answering less questions in class and participating less in experiments (and letting boys take over). This might work as a downward spiral.

What are possible interventions?

Teachers should take part in trainings in order to raise their awareness of their stereotypical thoughts and be provided with tools to prevent these thoughts from influencing their teaching practices.

References

BBC (2017). Gender specific toys: Do you stereotype children?


INSPIRING GOOD PRACTISES IN DEALING GENDER ISSUES IN STEM EDUCATION

Croatia
- Introducing **Croatian Makers**, the initiative fueling a STEM revolution in Croatia’s schools with the help of micro:bit technology. Croatian Makers aim to introduce an integrated Science, Technology, Engineering and Mathematics (STEM subjects) curriculum into the national school system, based upon real-world applications. 1,800 robots have already been donated to 360 Croatian schools, with more than 8,000 children benefitting and each of these schools now taking part in the Croatian Makers League competition. More information:  [https://www.calvertjournal.com/news/show/7560/support-the-stem-revolution-in-croatia](https://www.calvertjournal.com/news/show/7560/support-the-stem-revolution-in-croatia), [http://croatianmakers.hr/en/home/](http://croatianmakers.hr/en/home/)

- **Support the STEM revolution in Croatian Schools via Indiegogo** - Croatian Makers brings STEM activities to Croatian schools with a series of initiatives (a family of platforms), the most renown of which is the Croatian Makers League. It encompasses 1800 donated robots to 360 schools and institutions that work with children, with 8000 children involved.  [http://www.croatia.org/crown/articles/10945/1/BBC-microbit---Support-the-STEM-revolution-in-Croatian-Schools-via-Indiegogo.html](http://www.croatia.org/crown/articles/10945/1/BBC-microbit---Support-the-STEM-revolution-in-Croatian-Schools-via-Indiegogo.html)

Italy
- **Master Course Gender Perspectives in Teaching**. Run by the University of Bologna (Department of Educational Sciences) this course is open to teachers with an MA or with documented teaching experience and its goals are to provide teachers with knowledge, skills and tools to:
  - o acknowledge and analyse gender stereotypes which are at play in our society;
  - o develop critical reflections and practical tools for a gendered approach to schooling to practice education in view of gender equality principles
  - o develop educational projects (in and across disciplines) with a gender inclusive approach
  - o deconstruct the idea of gender “neutral” disciplines  
- **Nuvola Rosa (Pink Cloud)** - Microsoft Italy in partnership with Fondazione Mondo Digitale and GrowITUp has been promoting every year since March to December a series of training and raising awareness event and a communication campaign. Events take place in Lombardy and in the Rome Region, and in 2017 1,500 students were involved into IT literacy, coding, robotics and digital arts courses. [http://startupitalia.eu/agenda/nuvola-rosa-agenda](http://startupitalia.eu/agenda/nuvola-rosa-agenda)

- **Django Girls Python trainings for girls**. Django Girls is a global group of girls programmers who had the idea in 2014 to create a community to show girls that being a woman programmer is possible, that they don’t have to stop because of the gender gap in tech professions. They organise workshops locally and accessible to women who don’t necessarily have previous coding skills, using the Python programming language- The first Italian event took place in Rome in 2015, and more recently in Florence and Rimini [https://djangogirls.org/rome/](https://djangogirls.org/rome/)

- "**Donne nella scienza”/“Women in science”** portal is part of a project co-funded by the Ministry for Education and Research in 2012. It is dedicated to women, Italian women but not only, who were acknowledged for their contribution to science and technology, and collects their biographies, their scientific findings, the historical context they lived, stereotypes they have faced, through interviews which aim at being examples for girls who are choosing STEM studies. Resources are organised along 6 disciplines: anatomy and medicine; astrophysics; chemistry and physics; philosophy; technology. It also targets teachers, counsellors, Science and Technology Museums. [Donnenellascienza.it](http://donnenellascienza.it)

- **Ragazze Digitali Summer Camp** is organised by EWMD (European Women Management Development) from Modena e Reggio Emilia and the University in the same city. Beside dedicated raising awareness events, aimed at contrasting gender stereotypes in STEM/ICT and targeting an audience of students, school/university teachers and companies, its main activity is the annual summer camp, the first of its kind in Italy, where girls from the third and fourth grades in secondary schools can benefit of a one month immersive and hands on experience in coding. It started in 2014 and is supported by a multi-stakeholder partnership of public institutions, NGOs, and companies. The programme includes workshops, meetings, a contest and an annual award. It involves approximately 60 girls per year. [www.donnedigitali.it](http://www.donnedigitali.it), [www.ragazzedigitali.it](http://www.ragazzedigitali.it)

- **#TIMgirlsHackathon** has become one of the most renowned women’s technology competition in Italy at present. Promoted and carried out by TIM (the mobile branch of the biggest Italian telecommunications company) in collaboration with the edu-tech start up Codemotion, the project aims at bringing the female universe closer to coding through coding hackathons in the biggest cities of Italy (Rome, Bologna, Milan, Venice, Turin,
Naples, and Catania) involving almost 800 girls each year. During the 2016 Hackathon, girl coders (university students) worked in teams to create an application that could fight cyberbullying effectively. The challenge was not only about improving the coding abilities of girls but they were also encouraged to find a real solution to a problem that affects particularly young people. [https://codemotionworld.com/hakcathons/tim-girls-hackathon/](https://codemotionworld.com/hakcathons/tim-girls-hackathon/)

- **Scuola di Robotica (School of Robotics)** is a NGO founded in 2000 and intensively promoting educational robotics through national and EU funded projects, with a peculiar gender sensitive approach in the belief that an applied and more concrete approach to programming robots can be a good way for raising girls’ interest into technologies: in 2008 Scuola di Robotica became regional center for the EU project “Roberta: girls discover robots. They are promoting the FIRST LEGO Leagues competition, the NAO Challenge and a Summer School for Teachers. [www.scuoladirobotica.it](http://www.scuoladirobotica.it)

- **Informatica Sarà Lei (She will be Computer Scientist)**, it’s a project promoted by the Equal Opportunity Council of the Veneto Region and University Ca’ Foscari in Venice. It proposes a series of short biographies and video interviews of graduates in Computer Sciences who have pursued a career in ICT. It conveys the idea that computer sciences is creative, fun, and ‘the grammar’ of innovation crosscutting all other disciplines, and providing role models to girls. [https://www.youtube.com/watch?v=WbIr0YggW5E](https://www.youtube.com/watch?v=WbIr0YggW5E)

**Luxemburg**

- **Bee creative makerspaces** is an initiative in formal and non-formal education which supports youngsters in using technical tools and new Medias, and promotes creativity, talents and entrepreneurship in the area of ICT [http://www.bee-creative.lu/](http://www.bee-creative.lu/)

- **Bricks 4 Kidz®** was developed as a hands-on enrichment class where students build and design simple machines, famous landmarks, catapults, and robots using LEGO® Bricks. Building takes place after students have participated in a STEM based curriculum about the model of the day. [https://www.bricks4kidz.lu/?lang=en](https://www.bricks4kidz.lu/?lang=en)

- The **Girls’ and Boys’ Day** combines the encouragement for girls to choose STEM or other “atypical” occupations for women and the encouragement for boys to choose education and occupations in the health, old age, childcare or youth occupations for men. [http://www.girlsdayboysday.lu/fr/content/girls-boys](http://www.girlsdayboysday.lu/fr/content/girls-boys)

- **Megaspill** is a card game launched in 2013 and is directed to the children of the second and third cycles of fundamental education. [http://www.mega-spill.lu/#/app](http://www.mega-spill.lu/#/app)

- **Science.lu** is the scientific web site aimed at the general public (children, youngsters, adults and professional of education and research). [https://www.science.lu/fr](https://www.science.lu/fr)
- “Rails girls” is a Finnish initiative that originated in Helsinki in 2010, and provides girls and women with the necessary IT knowledge to develop and spread their ideas on the Internet, through the programming language Ruby [http://railsgirls.com/luxembourg.html](http://railsgirls.com/luxembourg.html)

- **Women in Digital Initiatives Luxembourg Asbl** is a non-profit organisation initiated in Luxembourg in 2013 and officially founded in 2014 currently acting as WIDE (Women in Digital Empowerment). The mission of WIDE is to offer practical support and activities to include more women and men in the field of digital and to contribute to build a more diverse workforce and a wider ICT talent pipeline for Luxembourg. [http://wide.lu/](http://wide.lu/)

- **Jonk-Fuerscher Fondation** aims to promote science with youngsters by encouraging them to take part to internships, competitions, visits... [http://www.jonk-fuerscher.lu/](http://www.jonk-fuerscher.lu/)

- **Kniwwelino** was built in the scope of the Bee Creative makerspace. The Kniwwelino hardware is the first micro-controller development platform entirely designed for children attending fundamental schools and “maisons relais” in Luxembourg. The name Kniwwelino is a composition of the luxembourgish word "kniwweln", that means to craft something, "ino" should show the deep affinity to the Arduino ecosystem and finally "Lino" as a name has a relation to lion, which is the heraldic animal of the Grand Duchy of Luxembourg. [http://www.kniwwelino.lu/en/](http://www.kniwwelino.lu/en/)

The Netherlands

- **Girls and women in IT: DigiVita**. Together with female IT-professionals, female students, and CIOs, VHTO aims to increase the number of girls/women in IT-study programmes and professions. VHTO’s activities for girls/women in IT are called ‘DigiVita’. In the Netherlands, programming is currently not yet part of the education curriculum. However, VHTO finds it very important that children learn IT skills from an early age. Several activities for girls are organised as a part of DigiVita, both inside and outside of school. For example, informatics guest-lectures by female IT professionals are given in secondary schools, and girls can participate in work shadowing or ‘speed dating’ with these professionals. VHTO also developed the website [www.digivita.nl](http://www.digivita.nl) (in Dutch) for girls in secondary school. The website contains a mix of short movies, pictures, and stories of women in IT, examples of innovations by (young) IT professionals, and information about IT studies/professions.

  - **DigiVita Code Events**. VHTO organises ‘DigiVita Code Events’ in several cities across the Netherlands to teach girls how to code. During the DigiVita Code Events, female IT-students and professionals teach girls from 8-18 years old how to programme. The girls are introduced to the world of possibilities that programming offers, such as building websites, apps, or games. Girls are active users of IT applications. With the programming events, VHTO wants to encourage girls to also become creators.
- **Gender Scan.** VHTO has developed a gender scan to map the opportunities for optimising policy and activities regarding gender/girls and STEM. The gender scan of STEM-study programmes within Vocational Education & Training (VET) and universities is performed together with key stakeholders involved in the study programmes (e.g., deans, programme managers, intake managers, public relations officers) female students, and science teachers from secondary schools. Based on the gender scan, VTHO develops and action plan with a focus on female students, a full day workshop on how to implement proposed actions, and the formation of a gender team. The main aim of a gender scan trajectory is to raise gender awareness, to formulate and implement relevant actions, and to create a group that feels responsible for pushing the gender theme forward within the school/university. The gender scan includes five themes, which together form the gender compass:
  
  o **Institutional policy:** focus on gender mainstreaming, quantitative awareness on girls in STEM education, staff policy, formation of a team with special focus on gender in STEM education).
  
  o **Outreach to female students** in secondary education with a focus on science and technology. Special attention is paid to parents and teachers. Universities are encouraged to organise “girls only” activities (e.g., a high tea with female STEM students, speed-date sessions, or guest lectures).
  
  o **Educational innovation:** educational restructuring or innovation is an excellent opportunity for gender mainstreaming. Impact of changes and their effect on intake, retention and drop-out of male and female students should be carefully monitored.
  
  o **Orientation** on professions and professional practice. Information about all career prospects is vital when it comes to recruiting and retaining female students, and encouraging them in the next step in their (educational) career. Female students
profit from contact with female professionals (e.g., in guest lectures and workshops).

- **Regional networks:** universities could be more successful in reaching out to girls with STEM potential, in influx, retention and successful transition to the labour market of female students, when they cooperate with partners from their “influx market” of schools for secondary education, and their “outflux market” of companies who might employ their students.

- **Mentoring Circles™ and transition to the labor market.** VHTO offers Mentoring Circles for Science, Technology, Engineering & Mathematics (STEM) students in the last phase of their study, in order to support students in the transition from their study to the job market. At the moment, VHTO only offers Mentoring Circles for students of STEM studies in Vocational Education & Training (VET), but we are currently developing a Mentoring Circle programme for students in higher STEM education as well. Although the number of women in STEM studies is increasing (both in VET and higher education), this increase is not as visible on the job market. Many female students don’t have a clear idea of their options after they graduate. They also indicate that they don’t know much about the variety of possible STEM jobs, and what a career path typically looks like in the technical sector. VHTO has developed mentoring activities together with several VET institutions, in order to support women in the transition from education to profession, to decrease the drop-out of young women in STEM professions, and to increase their level of identification with a STEM profession. Mentees are typically part of a Mentoring Circle from six months before graduation, until (up to) a year after entering the job market. The Mentoring Circles take place in groups, but it’s also possible participate in a personal (one-on-one) mentoring programme. Mentoring Circles™ are a product of Inova Consultancy (United Kingdom). VHTO is the only organisation offering Mentoring Circles in the Netherlands.

- **Primary education: ‘Talent Viewer’**. Talent Viewer is a project for elementary schools. With a series of lessons, both boys and girls explore their talents, meet female STEM professionals, and discover what talents are needed for a variety of jobs in STEM. VHTO and Amsterdam-based Science Centre NEMO have developed and implemented a primary school (grade 5 & 6, 9-12 years) project (Talent Viewer, ‘Talentenkijker’ in Dutch) since 2011. During a series of lessons, both boys and girls explore their talents, meet STEM professionals, and discover what talents are needed for a variety of jobs in STEM. The pupils are also given a practical assignment. Over the past two years, more than 3500 classes in elementary school participated. Talent Viewer aims to:

  - provide pupils, teachers, and parents with a broader and more comprehensive picture of professions in the STEM domain (e.g., with assignments that encourage studying STEM-proessions and a guest lecture by a female STEM professional);
encourage pupils to develop their individual skills rather than those that fit gender stereotypes and create awareness on this matter among parents and teachers;

- make pupils, parents, and teachers aware of their (gender) stereotypes about STEM-studies and professions;

- offer STEM role models. Parents and teachers are actively involved in Talent Viewer.

The first evaluations of Talent Viewer show enhanced gender awareness in teachers, as well as enhanced and more up-to-date knowledge about STEM education and STEM professions among children, teachers and parents. Furthermore Talent Viewer serves as an eye-opener for both pupils and teachers, demonstrating that STEM professionals can be female as well. Fewer pupils consider STEM as ‘something for boys’ after participating in Talent Viewer. VHTO and NEMO also developed a gender awareness training for teachers in primary education. The training focusses on gender awareness in general, with respect to developing STEM-skills, interaction with pupils, etcetera. The training is designed for school teams. The training and the project can be purchased separately. Besides Talent Viewer, girls in the age 10-14 can visit STEM companies and businesses by participating in the annual Girlsday. They can also participate in Code Events that VHTO organises especially for girls.

- Projects in secondary education. Find out more about our projects in secondary schools.

- Role models. Although the past few years have shown a positive trend, the number of girls choosing for STEM in the Netherlands is much lower than the European average. An important reason for this is the lack of role models that girls can identify with. Girls often have a limited representation of the variety of Science, Technology, Engineering & Mathematics (STEM) professions and what it means to work in STEM. Therefore, activities for girls in secondary education mainly focus on bringing girls in contact with female role models. Spiegelbeeld, or ‘Mirror Image’ is VHTO’s online role model database, and contains more than 2000 female STEM professionals and students. Together with VHTO, they have one goal: to make more girls enthusiastic about a future in science, technology or IT!

- ‘Speed dating’. VHTO’s role-models visit secondary schools at defining moments (i.e. before subject-cluster choice, and before choosing a higher education study programme). Meetings with the role models are usually organised as ‘speed-dates’. In a speed-date session female STEM professionals talk with small groups of girls. They talk about their working life, about their aspirations and attainment. The aim is to show the variety and diversity of STEM professions and provide girls with an image they could identify with. The role models demonstrate that not only they are good at what they do in their work or study, but that they enjoy doing it! Many role models also participate in Girlsday.
Teacher training. The training programmes for teachers in secondary education focus on creating gender awareness among (science and math) teachers, on changing stereotyped ideas concerning gender and STEM, and on gender-inclusive science teaching and career guidance. The training explicitly covers topics such as girls’ self-confidence, stereotyped associations regarding gender & STEM, and the effect of communication (e.g., girls with an average grade are often advised not to go into science because it supposedly is too difficult for them, whereas boys with the same grade would be encouraged to go into science). Recently VHTO developed a lesson series in which girls practice with handling a growth mindset instead of a fixed mindset. Teachers learn how they can make their lessons more gender inclusive, how they can foster a growth mindset, and how they can create a positive image of career potential in STEM for girls. VHTO has developed a website with images (photos and films) and stories of male and female STEM professionals for this purpose. Teachers can use the website ‘This is what I do in STEM’ as a tool explore the possibilities of STEM together with their students (www.ditdoeik.nl).

Girlsday. During Girlsday, technical companies, (non-)governmental organisations, and research institutes open their doors for 10-15 year old girls, in order to awaken/increase their interest in science, technology, engineering and mathematics (STEM). Based on the “Take our daughters and sons to work” initiative launched in 1993 in the United States, Girlsday has been organised in several European countries for more than 10 years to promote girls’ interest in STEM careers. Germany was the first country to organise Girlsday in Europe, followed by (among others) the Netherlands, Hungary, Denmark and Norway. VHTO has organised Girlsday in the Netherlands annually since 2010. In 2016, more than 10,000 girls participated in Girlsday. During Girlsday, technical companies, (non-)governmental organisations, and research institutes open their doors for 10-15 year old girls, in order to awaken/increase their interest in science, technology, engineering and mathematics (STEM). The activities that take place during Girlsday are diverse, but can consist of (a combination of) a tour, hands-on activities/workshops, a quiz, and of course an encounter with female technical professionals. The central goal is to provide girls with a better/more comprehensive image of what it’s like to work in STEM, to show that women can also be successful in STEM professions, and that it can be a lot of fun! In 2016, Neelie Kroes (former E.U. commissioner), Jacqueline Prins (Director Gender Equality at The Ministry of Education, Culture and Science), and Ans Hekkenberg (STEM ambassador) attended the opening ceremony of Girlsday 2016 at the ANWB Headquarters and Salesforce.

Role model database: Mirror Image. The Mirror Image is a database with more than 2000 female STEM professionals. Female STEM (science, technology, engineering and mathematics) professionals and students play an important role in boosting the
involvement of girls and women in STEM. Role models can show the broad range of STEM-study programmes and professions, demonstrate that they enjoy their work and that it fits their aspirations and attainment. They support the growth of girls’ self-confidence and interest in STEM-related subjects. The support of female professionals as role models is integrated in many of VHTO’s activities. The women who participate signed up for the role-model data base Spiegelbeeld ("Mirror Image"), containing more than 2000 female STEM professionals and students. VHTO takes great care in selecting role models for speed-dates, guest lectures, work shadowing, mentoring etc. Not all female STEM professionals are good role models; girls have to be able to personally identify with a role model. For this reason, VHTO’s role models receive a special training to prepare them for their important job. VHTO organises meetings between role models and children throughout the entire chain of education (from primary to higher and vocational education) to provide counter stereotypes that children can identify with. Additionally VHTO has been committed to make teachers, parents and career advisors aware of stereotypical associations and behaviour. VHTO offers them tools to avoid this and helps them encourage girls to develop their talents in a STEM gender-inclusive environment. STEM companies, institutes and universities are also involved. This results in a comprehensive, longitudinal approach, tackling the issue from different perspectives and on different levels.

- **Share my Day in Tech.** In the ‘Share my Day in Tech’ project, pre-service teachers from teacher preparation programmes will participate in a day of work shadowing with female technical professionals. In the ‘Share my Day in Tech’ project, 225 pre-service teachers from teacher preparation programmes will participate in a day of work shadowing with 75 female technical professionals. The aim of the project is to give future teachers a broader and more comprehensive picture of technical professions. In the Netherlands, less girls than boys choose for a technical career. One of the reasons for this is the limited representation of what it means to have a technical profession. Teachers play a crucial role in this. A study performed among 500 elementary school teachers participating in the Talent Viewer project demonstrated that teachers have remarkably gender stereotypical expectations regarding the future of their male and female pupils. During Share my Day in Tech project, pre-service teachers from teacher preparation programmes visit a technical company, where they meet female professionals who shows them what the company does, and the technical aspects of her work within the company. The pre-service teachers follow her for a day, and get the opportunity to ask her questions about her career choice and profession. Together with her, they make a school assignment, based on a real-life problem or challenge that the female professional encounters in her work. The pre-service teachers then work on this assignment with the pupils of the school where they do their teaching internships. The pre-service teachers are prepared for Share my Day in Tech with a guest lecture and a preparation course.
Image and video database: This is what I do in STEM. ‘This Is What I Do in STEM’ (‘Dit Doe Ik’ in Dutch) is the VHTO image and video database with pictures, short videos and personal stories of men and women with a career or study in STEM. The goal of the database is to break the stereotypes about STEM professionals. Teachers, mentors, deans, and parents are actively involved.

Romania

- FRONT Association: Non-profit organisation whose members fight the cause of women. It aims to promote and support human rights in a broad sense and feminism as an ideology and social action to support women’s rights in a narrow sense, to promote and support equal opportunities for women and men, to promote and support policies and projects aimed at empowering women in public and private life; improving the status and image of women in Romania; raise public awareness of women’s discrimination in Romania, bring public awareness of the problems faced by women in Romania, promote and support the social inclusion of women from disadvantaged groups, cooperation and partnership with other organisations, foundations, associations in similar fields. [www.feminism-romania.ro](http://www.feminism-romania.ro)

- Center for Curriculum Development and Gender Studies – FILIA: has as main objective the promotion of gender studies through an integrated, multidisciplinary approach of gender in academic research, as well as in the analysis of other aspects of Romanian culture and society. The FILIA Center actively supports political or civil society actions meant to contribute to the improvement of the situation of women in Romania and Eastern Europe and to the awareness of the importance of the gender dimension at all levels of the Romanian society. The FILIA Center provides master students, PhD students and young researchers and researchers with the only Library in Bucharest with materials that discuss the gender dimension of public society, culture and politics. [http://www.centrulfilia.ro/](http://www.centrulfilia.ro/)

- Foundation Center for Equality Partnership (CPE): promotes the integration of the principle of equal opportunities for women and men into public policies and associated practices as a component part of open democracy and society in order to redefine the status and improve the condition of women in Romania. [http://www.cpe.ro](http://www.cpe.ro)

- Association for Equal Chances: The main purpose of the association is to educate the Romanian society by promoting affirmative policies aimed at supporting the participation of women in the decision-making process and in public life. [http://www.sanseegale.eu](http://www.sanseegale.eu)

- The Pro Women Foundation: main mission is to support the participation of women in the development of society by increasing self-confidence and personal development. [http://www.prowomen.ro](http://www.prowomen.ro)
- **Women's Association of Romania**: first post-communist organisation founded in the Revolution of December 1989. It has an impressive number of members (over 9,000) working in Bucharest and the 20 county branches. [http://www.afr.ro](http://www.afr.ro)

- **Association of Female Entrepreneurs in Romania**: The Association was founded in December 1998 as a private, non-governmental, nonprofit private legal entity, having as main mission the encouragement of women in order to increase their entrepreneurial and managerial potential. [http://afir.ro](http://afir.ro)

- **Innovation Camp (Bucharest, 7-9 February 2016)**: Within the Innovation Camp, adolescents met and participated in non-formal education workshops supported by the School's Trainers, such as self-knowledge, goal setting, leadership, teamwork, design and project planning. One day was reserved for the creation of projects with a clear implementation plan to help young girls in Romania.

- **Living Library in Bucharest (10-12 February 2016)**: ‘Exceptionals’ are a non-formal education project that is under the sign of values, passion for Science and knowledge, people who want to live meaningfully, and are willing to offer what they are and what they know. On 11th of February girls from Upper-secondary schools contacted 14 leading companies and institutions in Bucharest, interested in investing in youth and education. Thus, the extraordinary people have learned insights about various areas, answered their curiosities and learned the key elements that underpin the success of some organisations.

- **BootCamp Kaufland România for girls**: It is very important to know yourself, to know your values, to know your limits and to learn to overcome them, to have a clearer idea of your personal life, both professionally and professionally. BootCamp for girls offers you the necessary plus.

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**Slovenia**

The Slovenian government has strengthened the role of women in science in line with the national Action Programme on Gender Equality and the Research and Innovation Strategy of Slovenia 2011-2020. Under a project [https://www.interregeurope.eu/ERUDITE/](https://www.interregeurope.eu/ERUDITE/) is promoting STEM. This also resulted making FabLabs, both for girls and boys. Preparation of Slovenian national reference FABLAB network project is underway. As one of the results of ERUDITE project, the idea to establish Slovenian FABLAB network is being adopted by national policy makers, municipalities across the country as well as other important stakeholders.
With the national initiative FEMtech, the Federal Ministry for Transport, Innovation and Technology (BMVIT) supports women in research and technology and promotes equal opportunities in industrial and non-university-research, at universities of applied sciences and in focus areas of research and technology. Women should be specifically supported for this purpose and the framework conditions in industrial and extra-faculty research should be changed in such a way as to equally correspond to the needs of both women and men. By increasing the share of women and by improving their professional position in these facilities, FEMtech strives to render a contribution towards the increased realisation of female innovative potential and more equal opportunities for women and men in society. FEMtech supports activities designed to raise awareness and enhance the visibility of women in research and technology. Activities include: FEMtech’s database of female experts, FEMtech’s female expert of the month, FEMtech’s networking meeting, FEMtech knowledge [http://www.femtech.at/en/femtechs-database-female-experts](http://www.femtech.at/en/femtechs-database-female-experts).

- re-ment – Reverse-Mentoring as Means for the Deconstruction of Gender Stereotypes in ICT (FEM-Tech project funded by the Austrian Ministry for Traffic, Innovation an Technology; Coordination: Dr. Zauchner-Studnicka). In applying a reverse mentoring approach, the project ‘re-ment’ aims at raising the interest of female students for Information and Communication Technology (ICT) professions and at contributing to the deconstruction of gender stereotypes in this field. This approach offers a completely new and innovative perspective in the field of gender equality and advancement of girls in technology. The project implements reverse-mentoring programmes in four partner schools, the main result being a comprehensive course for teacher education. [http://www.re-ment.at/](http://www.re-ment.at/)

- MIT-MUT – Girls and ICT – Girls and Entrepreneurship (FEMTech Project; Gender Consultancy: Dr. Zauchner-Studnicka, Mag. Gindl) The aim of the project MIT-MUT – coordinated by MAKAM Research GmbH – is to encourage girls to develop entrepreneurship skills in the ICT-sector and to promote their technical and entrepreneurial skills. This aim will be achieved by the implementation of a game based learning approach within a Social Enterprise Network. [http://www.mitmut.at/](http://www.mitmut.at/)

- fe|male – Gendersensitive and Participative Design of Technologically Supported Learning Scenarios (Austrian Ministry of Science: Sparkling Science; Coordinator: Dr. Zauchner-Studnicka) fe|male analysed the use of Web 2.0 technologies, and explored their didactical potential with respect to gender sensitive education in schools. The project involved pupils – i.e. their different views and perspectives – throughout the whole life time of the project and focussed on the integration of the participants’ ideas for the implementation of Web 2.0 technologies in education.
- **Gender-Analysis of the IT-Infrastructure in Austrian Schools** (Austrian Ministry of Education and Culture; Coordination: Dr. Zauchner-Studnicka) Within the Gender-Analysis of IT-Infrastructure in Austrian Schools the information technology facilities in all Austrian Schools were quantitatively analysed with regard to gender effects and their contextual factors. The study aimed at recommendations for next steps.

- **ADVANCE – Advanced Training for Women in Scientific Research** (European Commission, 6th. EU-Framework Programme- Science and Society; Lead of work packages by Mag. Gindl and Dr. Zauchner-Studnicka). Within the project ADVANCE an international training, mentoring-and coaching programme for female junior researchers was developed. The Project was awarded with the “egov ebusiness award Lower Austria 2008” – „Equality in IT“.

- **SITCOM – Simulating IT Careers for Women** (European Commission Sokrates – Minerva; Coordination Dr. Zauchner-Studnicka) The aim if the SITCOM Project was the development of an internet platform. The core element of this platform was a role play for girls in which they could experience days in the lives of women in technological occupations. The girls get familiar with technical jobs in solving tasks, embedded in stories of working days of architects, landscape engineers, IT project managers etc. The Project was awarded with the „Comenius EduMedia Award 2007“.

  [http://www.webeducation.cc/sitcom-simulating-it-careers-for-women/](http://www.webeducation.cc/sitcom-simulating-it-careers-for-women/)

- **CBT Evaluation– Equal Projekt (Learn Forever) – Evaluation of Learning Software for Educationally Disadvantaged Women** (study commissioned by ABZ Austria (http://www.abzaustria.at/); Coordination Dr. Zauchner-Studnicka) In the scope of this project CBTs (Leaning software for less educated women) were evaluated along a specifically developed criteria catalogue.

- **Evaluation of Advancement Measures for Women of the Ministry of Science and Research** (cooperation Mag. Michaela Gindl). Within this project, the measures and activities set by the Ministry of Science and Research in the context of gender equality and women’s advancement were evaluated. The study was conducted by the „Institut für Höhere Studien (IHS)“, „der Fakultät für Interdisziplinäre Forschung und Fortbildung (IFF) der Universität Klagenfurt“ and the „Joanneum Research Wien (JR)” (2003-2004).

- **Guideline für Gender Sensitive Didactics** (ESF, Ministry of Education and Culture, „IFF – Fakultät für interdisziplinäre Forschung und Fortbildung“ of the University of Klagenfurt”, Women`s Bureau of the City of Vienna; collaboration Mag. Michaela Gindl) The guideline „Universität und Arbeitsmarkt – Berufsorientierung und prozessorientiertes Lernen an Universitäten“ was developed within the project. Further, a formative evaluation of the course „occupational orientation“ was made. Based upon the data of the study – commissioned by the Women’s Bureau of the City of Vienna – the guideline for gender sensitive didactics was developed.

O1 – Identifying gender stereotypes and unconscious biases in School Education using collaborative methods
Analysis of Models for „Mentoring of Female Graduates of Technological Studies“ (FFG; collaboration Mag. Michaela Gindl) The study was conducted in collaboration with the „Institut für Gestaltungs- und Wirkungsforschung“ of the Technical University of Vienna. It focussed on an analysis of mentoring programmes for women in technology. The programmes as well focussed on the transition phase from University to employment as on mentoring in companies employing technicians.

France

- **Digigirlz**: since 2013 Microsoft France and the association Zup de Co have organised the „Digigirlz“day. This event gathers about 300 girls from „priority“ colleges to raise their awareness about the digital sector and related jobs for which they can feel excluded from. Among the programme activities: coding awareness, presentation of current technological trends, forum e-jobs,...
  - [https://rslnmag.fr/jeunesse/sensibiliser-les-filles-aux-cultures-du-numerique-le-pari-de-digigirlz/](https://rslnmag.fr/jeunesse/sensibiliser-les-filles-aux-cultures-du-numerique-le-pari-de-digigirlz/)
  - [https://rslnmag.fr/jeunesse/digigirlz-regards-adolescentes-numerique/](https://rslnmag.fr/jeunesse/digigirlz-regards-adolescentes-numerique/)

- Launch of the 1st class „woman's ambition“ in frame of the „Web@cademy“. To strengthen the gender parity in the digital sector, Microsoft France, the association Zup de Co and Epitech launched this first class in 2016. During 2 years, 19 girls and 4 boys took part to this free programmes in order to become web developer.
  - [https://rslnmag.fr/jeunesse/femmes-numerique-rencontre-promotion-ambition-feminine-webcademie/](https://rslnmag.fr/jeunesse/femmes-numerique-rencontre-promotion-ambition-feminine-webcademie/)

- **UPSTI** ("Union des Professeurs de Sciences et Techniques Industrielles") – teaching sciences for innovation is a network of more than 700 French Professors. UPSTI takes part to debates about scientific and technological education and contribute to fit scholar teaching to future industries' challenges. [https://www.upsti.fr/](https://www.upsti.fr/)

- **The association “women and mathematics”** aims to encourage girls in participating in STEM curricula, to act for the gender parity in mathematics and for hiring more women in mathematics in the Universities and to raise awareness in scientific communities about gender equality [http://www.femmes-et-maths.fr/](http://www.femmes-et-maths.fr/)

- **The association “women and physics”** aims to attract, encourage and promote women in Physics. [www.sfpnet.fr](http://www.sfpnet.fr)

- **The association “women and sciences”** aims to promote sciences among women and women in sciences area, to attract more girls to consider a scientific and technic career, to strengthen statutes and career perspectives of women who have a scientific and technical

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1 In French: "REP: réseaux d’éducation prioritaire"
jobs and to develop knowledge about the women situations in scientific and technic
careers and education. http://www.femmesetsciences.fr/

- **The association of “Women Engineer”** aims to promote engineers’ jobs among girls, to
  highlight engineer women in the labour market and to strengthen the role of women in
  the boards of directors. http://www.femmes-ingenieurs.org/

- **Together, the associations “women and mathematic”, “women and physics”, “women
  and sciences” and “Women Engineer” developed 17 propositions to prepare for the
  future.** These propositions deal with 4 themes: rethink the place of science and
  engineering in the education sector, encourage youngsters and especially girls to consider
  scientific and engineer curricula, fight gender stereotypes in sciences and facilitate women

- **The Foundation “La main à la pâte”** aims at improving the quality of science and
  technology teaching in primary and middle schools. It is a foundation for scientific
  cooperation founded in 2011 by the Académie des Sciences, the École Normale Supérieure
  (Paris) and the École Normale Supérieure of Lyon. The Foundation’s activities are carried
  out within France and internationally, providing assistance and professional development
  for teachers. Programs are designed to help them implement inquiry-based learning which
  stimulates a scientific spirit in pupils, understanding of the world and capacities for

- **Center of promotion of men-women equality** https://www.centre-hubertine-auclert.fr/
  
  o Publication of a leaflet which aims to promote digital education and career for boys
    but also for girls. Digital is not only for boys. https://www.centre-hubertine-
    auclert.fr/sites/default/files/fichiers/hubertinea-bat-a5-8pagescouv.pdf
  
  o An analyse grid which can support teachers to diagnose female and male
    representations in scholar manuals. https://www.centre-hubertine-
    auclert.fr/sites/default/files/fichiers/vigie-grille-2014-web-0.pdf

- **Pedagogical tools which raises awareness about gender stereotypes in secondary school
  and how to fight them.**
  https://cache.media.eduscol.education.fr/file/Valeurs_republicaines/19/0/Guide_Cliches
  _en_tous_genre_clermont_206190.pdf,  https://www.reseau-canope.fr/outils-egalite-
  filles-garcons/agir-en-classe314.html#bandeauPtf
Belgium

- The **Procrustes research** (see [http://www.procrustes.be](http://www.procrustes.be)) focuses on the mechanisms underlying girls’ and boys’ demotivation, underachievement and dropout in education in Flanders and on ways to improve the ways girls and boys benefit from education.

- The **STEM-action plan** (science, technology, engineering & mathematics – in partnership with the ministers for Work & Social Economy, Economy, Science & Innovation) aims to increase the number of women (and students with a migration background) in STEM-education and sectors.

- **Website/educational tool GENDER CLICK FOR BOYS 1.0**: The project developed a flexible learning trajectory in cooperation with schools. Through interactive learning processes with groups of boys and girls in secondary school, the project searches for how and in what terms youngsters regard masculinity. These processes are the basis to create a website accompanied by educational tools to provide youth with insights on how gender stereotypes about men influence their lives. Ultimately, the project wants to render the impact of stereotypes about masculinity recognizable and debatable and help young people to make “gender-click” [http://www.genderklikvoorjongens.be/#sitemap](http://www.genderklikvoorjongens.be/#sitemap).


- **Role Model Programme** (Ghent University). Several inquiries have vouched that lower inflow rates and higher dropout rates of ethnic minority students are – amongst other reasons - caused by the absence of role models. UGent takes an inspiring proactive role in seeking a solution to this major societal challenge by organising an academic intercultural Role Model Programme. This programme targets middle school students in local geographic communities. The role models participate in secondary school visits to inspire final year pupils with their own story of success. As such, these volunteers raise awareness about the importance of education. Their goal is to share the cultural backgrounds and key experiences that allowed them to achieve their professional goals. The main objective is to encourage vulnerable young people to develop to their fullest potential. The pupils recognise themselves in the role models and envision the possibilities of determining and achieving their own dreams. [https://www.vitae.ac.uk/researcher-careers/researcher-career-stories/list-of-vitae-career-stories-on-film/vitae-career-stories-on-film-list](https://www.vitae.ac.uk/researcher-careers/researcher-career-stories/list-of-vitae-career-stories-on-film/vitae-career-stories-on-film-list), [https://www.vitae.ac.uk/researcher-careers/researcher-career-stories/what-do-research-staff-do-next-career-stories](https://www.vitae.ac.uk/researcher-careers/researcher-career-stories/what-do-research-staff-do-next-career-stories)

- “**Jeunesses Scientifiques**” aims to promote sciences through Youngsters in order to increase their interest. [www.jsb.br](http://www.jsb.br)

- The **Flemish STEM platform** is an independent group that advises the STEM Steering Committee and the government of Flanders about the STEM Action Plan. The members of the STEM Platform are appointed by the government based on their expertise and their
ability to create a broad support base for STEM. These members share the concerns about the too short amount of youngsters that are interested in STEM studies and are willing to share their knowledge, experience and network in order to meet the set goals of the STEM Platform. They do so by giving advice and suggest priorities for the STEM Steering Committee. http://www.stem-academie.be/

- **STEM Framework for Flemish Schools Principles and Objectives**

- The mission of **Technopolis** is to bring science and technology closer to people. Technopolis, the Flemish Science Centre, is a permanent platform for science and technology in Flanders, and grew out of Flanders Technology International vzw. All initiatives have the same goal in mind: to inform and raise awareness about the importance of science and technology and to increase enrolment, graduation and advancement in the exact and applied sciences. https://www.technopolis.be/en/schools/
  The gender EXPERIMENT is one these initiatives. The gender EXPERIMENT answers the questions that lead to discussion: are girls really better at multitasking than boys? Do boys have a better sense of direction? Are boys better at putting out fires and girls at taking care of people?

- **Digital Champions.be** targets pupils from secondary schools. Digital Champions.be is ensuring that education itself, the course content and methodology are digitised and are preparing pupils for subsequent study or for the employment market. The digital skills that pupils acquire at the secondary level can then be put to the test in the business community. Digital Champions.be is creating a positive attitude amongst pupils, teaching staff and schools surrounding digital learning, but is also outlining what the pitfalls are.
  http://www.digitalchampions.be

**Germany**

- **National Pact for Women in MINT-Careers „Go-MINT“** brings together politics, business, science and the media, is designed to change the image of MINT professions in society. "Go MINT" is part of the federal government’s qualification initiative and was launched in 2008 at the instigation of the Federal Ministry for Education and Research, with the aim of increasing young women's interest in scientific and technical degree courses and attracting female university graduates into careers in business. More than 220 partners are already supporting this aim with a wide range of activities and initiatives to advise young women on their studies and career. The growing number of partners indicates that business and science are unable and unwilling to do without the potential offered by

- **The German Association of Women Engineers (deutscher ingenieurinnenbund e.V.- dib e.V)** is an association of and for women that work in engineering or study engineering. The association is dedicated to achieving equal opportunities for women in education and employment and provides the opportunity to exchange experiences with women in similar situations. [http://www.dibev.de/english.html](http://www.dibev.de/english.html) With its TOP25 campaign, the pact partner dib e.V. has developed an initiative with a significant public impact to attract attention to particularly successful female engineers and the wide range of fields in which they work with distinction. The aim of the TOP25 campaign was to present the 25 most influential female engineers in Germany and thus point out the potential of women in a field that is still dominated by men to companies, associations and chambers of trade and industry in particular. [www.dibev.de/top25.html](http://www.dibev.de/top25.html)

- **The “Girls' Day – future prospects for girls”**. Every year technical enterprises, enterprises with technical departments and technical training facilities, universities, and research centres are invited to organise an open day for girls – Girls’Day. Girls’Day – ‘Future Prospects for Girls' initiated a large campaign in which a wide range of professions and activities is presented to girls of 10 years upwards. The vocational choices of girls are influenced in a very positive way. For companies, Girls’Day has evolved as an important instrument of their recruitment policy. Girls'Day encourages the surroundings of the young women – i.e. families, school, media and employers – to participate in the campaign and change their common attitudes towards vocational orientation. Information material, an all-embracing interactive website and an individual advisory service provide support for all target groups. The campaign includes a scientific evaluation. [https://www.girls-day.de/Ueber_den_Girls_Day/Das_ist_der_Girls_Day/Ein_Zukunftstag_fuer_Maedchen/english/Girls_Day_Future_Prospects_for_Girls](https://www.girls-day.de/Ueber_den_Girls_Day/Das_ist_der_Girls_Day/Ein_Zukunftstag_fuer_Maedchen/english/Girls_Day_Future_Prospects_for_Girls)

- **Competence Centre Technology-Diversity-Equal Chances (Kompetenzzentrum Technik-Diversity-Chancengleichheit e.V.).** The main objective of the non-profit organisation Competence Center Technology-Diversity-Equal Chances is to actively help shape Germany's path towards becoming an information- and knowledge-based society. To this end, it develops and carries out a wide range of initiatives and projects that exploit the potential of women as well as men to make equal opportunity a reality in all spheres of society and work. The strategy of equal opportunity presupposes recognition of people's diversity, their varied biographies, lifestyles and capabilities and promotes the development of the potential and opportunities this diversity entails. It uses diversity as a success factor in achieving gender and generational equality in social development. [https://www.kompetenzz.de/English-Information](https://www.kompetenzz.de/English-Information)
Spain
- Asociacion Mujeres, Ciencia y Tecnologia  [http://www.womenteck.org/]
- yes we tech  [www.yeswetech.org]
- Wisibizalas  [https://www.upf.edu/web/mdm-dtic/wisibilizalas]
- Mentoring for women at RAI (Real Academia de Ingegneria) ref. Sara Gomez  [http://www.raing.es/es/actividades/acto-de-clusura-del-programmea-de-mentoring-profesional-mujer-e-ingenier]
- Mentos - mentoring for newly enrolled female students in engineering  [https://www.upf.edu/web/mentos]

Portugal
- Portuguese Women in Tech. A portrait of the women that help make the difference in the industry, by FES Filling Empty Spaces Conceptual Agency.  [https://portuguesewomenintech.com/]
- IBM - EX.I.T.E Camp - Exploring Interests in Technology & Engineering.  [https://www.youtube.com/watch?v=xtf9eK5ZgOQ]

Greece
- Code Girls Programme, funded by US Embassy in Athens  [https://www.youtube.com/watch?v=zbzNVDFzcWI]
- Science Workshops for girls by the Herakleia Museum  [http://herakleidon-art.gr/en-us/Children/Workshops/STEM-science-for-girls]
- IBM - EX.I.T.E Camp - Exploring Interests in Technology & Engineering  [https://www.youtube.com/watch?v=xtf9eK5ZgOQ]
- codeitlikeagirl.com
Malta

- University of Malta Dept. Gender Studies is partner in the “GENDER equality in the ERA Community To Innovate policy implementatiON” (GENDERACTION, H2020)

- Eskills Malta Foundation www.eskills.org.mt

- She Started IT. A documentary on women tech founders http://www.maltachamber.org.mt/en/she-started-it-a-documentary-on-women-tech-founders


Cyprus

Recent National Level Policy 2014-2017 (Strategic Planning for Gender Equality in Education) to contrast gender segregation targeting of the entire universe of educators and school counsellors, a first ever time attempt to reach these high numbers. By the end of 2015, a total of 10,000 educators of pre-school, primary and secondary education will be trained, in addition to 130 vocational counsellors and 5,000 parents. Revision of educational and vocational guidance materials; work on role models

The main direct target groups are: teachers from nursery level up to secondary education; teacher trainers and vocational guidance counsellors. The Guides are geared towards the intersection of gender equality with key thematic areas in the national curriculum and in education policies. They also cover educational and vocational guidance, aimed at eliminating gender bias, particularly in the Guide addressed to the 3rd cycle of basic education, in which specific sections cover topics such as Gender and ICT, Gender and Leadership, and Gender and Health, for example.

Poland


- Lean in STEM www.leaninstem.pl
- **Mentoring programme for women** *Lean In High Tech.*
- **Series of webinars** for students aged 12-18 with female role models.
- **Lean in STEM meetings** about career opportunities in STEM.
- **Conference** (in 2016 „STEM Education for Innovation – Women in the forefront”).

- **Geek Girls Carrots.** Various workshops in coding, worldwide working organisation. [http://geekgirlscarrots.org](http://geekgirlscarrots.org)


- **Dziewczyny na politechniki** - [http://www.dziewczynynapolitechniki.pl/](http://www.dziewczynynapolitechniki.pl/)
  - Very successful programme encouraging high-school female students to pursue higher studies at technical universities, supported by four Ministries and private parties
  - during the programme high-school girls nationwide can meet female students of technical universities, talk to scientists, visit tech universities - special open days for girls with experiments and various events during whole day,
  - Offering scholarships for talented women in STEM with Intel and the most important magazine about job/educational opportunities Perspektywy [https://www.stypendiadladziewczyn.pl/o-programmeie](https://www.stypendiadladziewczyn.pl/o-programmeie)

- **IT for she** - [http://www.itforshe.pl/](http://www.itforshe.pl/)
  - The biggest camp in Europe for girls in IT - Women in Tech Camp,
  - Mentoring programme led by tech companies managers,
  - Promoting coding amongst women, with emphasis on those living in small towns and the countryside

- **Gender Equality programme at Motorola Solutions.** Motorola Solutions in Cracow started gender equality programmes in 2000. The company engaged in numerous partnerships with schools and technical universities in order to encourage more young women to pursue careers in STEM. The company introduced its own recruitment process leading to increase the share of women in its IT and related departments. Motorola implemented some amenities for parents - guarantee of promotion after maternity/paternity leave, flexible schedules (which are disproportionately less popular in Poland than in any European country) and minimising number of business trips. Thanks to these practices number of female engineers increased from 8% to 11% and managers - from 5% to 14%.

  - Initiative that promotes women experts on various panels, conferences,
- Interactive database with female experts on numerous subjects encouraging journalists and event organisers to invite them to participate in their programmes,
- Reports on women in finance, technology,
- List of top 10 women in ICT management in Poland, Ada Lovelace festival

- Magazine ‘Kosmos’. Crowdfunded magazine for girls, raising girls’ interest in science, fighting with gender stereotypes. [https://fundacjakosmos.org](https://fundacjakosmos.org)

Czech Republic

**Czechitas** helps women, girls and children to explore the world of information technologies. They teach them to code in various programming languages, test their software, or analyse complex data. They organize workshops and courses on different levels of expertise, focused on particular knowledge or technology, summer IT camps, requalification and evening courses. Their aim is to inspire and empower new talents for stronger diversity and competitiveness in. [https://www.czechitas.cz/en/](https://www.czechitas.cz/en/)

Ireland

- **Ireland Fast Track Into Information Technology Ltd (FIT)**. An industry-led charity that works in close collaboration with Irish government departments, national education and training agencies, local development and community-based organisations. FIT provides ICT skills training at different level (at entry, intermediate and expert levels) to ensure it outreaches to various segments of the Irish population. From a Skills Audit that it conducted in 2014 among some of the largest, but also small and medium sized companies, FIT argues that 75% of immediate vacancies are for employees able to exercise skills at the competent and entry levels, compared to 25% at the expert level (FIT, 2016). FIT launched its ICT Professional Associate apprenticeship style pilot programme offering a two-year education based on 6 months of in-school training and 18 months of work-based learning. [http://fit.ie/](http://fit.ie/)
- **Coding Grace**. Coding Grace are a group of developers based in Ireland who love to code and do other geeky and not necessarily crafty activities. We provide female-friendly workshops and events in an environment for developers and aspiring developers mentored by diverse instructors from the industry. Where many events tend to have more males than females, we aim to encourage many females to come along to our workshops and learn to code and more. We also encourage any females who want to mentor technical material to help out, it’s not that scary after all. [https://codinggrace.com/](https://codinggrace.com/)
- **Illuminate Herstory**. Illuminate Herstory is a new Irish cultural movement created to tell the life stories of historical, mythological, and contemporary women. Herstory discovered
that there are over one thousand remarkable women featured in the Irish Dictionary of National Biography. It is a movement promoting the visibility of women in all areas of life, including STEM. Herstory is a global light festival celebrating women and girls all over the world. [http://www.herstory.ie/home/](http://www.herstory.ie/home/)

- **Siliconrepublic.com** is Ireland’s no. 1 resource for technology news. They are the go-to destination for those seeking to be informed on all things tech and innovation in Ireland, Europe, and elsewhere. They provide their audience with information on jobs and careers in STEM with initiatives like the Women Invent campaign and Inspirefest, an international sci-tech event with over 70% women leaders on-stage. [siliconrepublic.com](http://www.siliconrepublic.com)

- **Women Invent Tomorrow.** Women Invent Tomorrow is Silicon Republic’s campaign to champion the role of women in science, technology, engineering and maths. It has been running since March 2013, and is kindly supported by Accenture Ireland, Intel, the Irish Research Council, ESB, Twitter, CoderDojo and Science Foundation Ireland. [https://www.siliconrepublic.com/people/women-invent-tomorrow-2014-celebrating-women-in-stem](https://www.siliconrepublic.com/people/women-invent-tomorrow-2014-celebrating-women-in-stem)

- **I Wish.** A foundation promoting STEM careers for women and girls. They believe that the answer to many problems humanity will face/is facing (over-population, world hunger, urbanisation, etc.) lies in STEM. Rather than fighting girls’ perceptions of STEM careers, I Wish embraces them and tries to work with them. They hold an I Wish Conference which seeks to inspire, encourage, and motivate young secondary school female students to pursue careers in STEM- [http://www.iwish.ie/about-us/](http://www.iwish.ie/about-us/)

- **Science Foundation Ireland (SFI).** SFI is working to break down barriers for women in STEM careers. They want to increase the proportion of female award holders from 21% to 30% by 2020. One of their goals is the retention of excellent female researchers within academia, which, in turn, will increase excellence in research regardless of gender. They have a streamlined gender initiative across all their programmes, which is outlined in their SFI Gender Strategy 2016-2020 [http://www.sfi.ie/resources/SFI-Gender-Strategy-2016-2020.pdf](http://www.sfi.ie/resources/SFI-Gender-Strategy-2016-2020.pdf), [http://www.sfi.ie/about-us/women-in-science/](http://www.sfi.ie/about-us/women-in-science/)

- **Engineers Ireland** is a professional body for engineers in Ireland. It has over 23,000 members from every discipline of engineering. They were created in 1835, making them one of the oldest and largest professional bodies in Ireland. Among their goals are the promotion of knowledge in engineering, the establishment and maintenance of standards of professional engineering, and the providing of opportunities for engineers all over the country. They hold many events promoting female engineers, such as “Celebrating Successful Women in Engineering”, and they have audio-visual material promoting the same: [https://www.engineersireland.ie/Communications/Engineer-TV-Archive/webcasts/2017/Women-in-Engineering.aspx](https://www.engineersireland.ie/Communications/Engineer-TV-Archive/webcasts/2017/Women-in-Engineering.aspx), [http://www.engineersireland.ie/About.aspx](http://www.engineersireland.ie/About.aspx)
- **Inspirefest** is a unique international festival of technology, science, design, and the arts. It’s a two-day conference with one stage for more than 60 speakers. The conference usually hosts more than 3000 attendees from 38 countries. Inspirefest hosts many women from all different areas of STEM, giving them the chance to make their voices heard and inspire and motivate other women to join them in a STEM career. [https://inspirefest.com](https://inspirefest.com)

- **Outbox Incubator.** As the name suggests, Outbox Incubator is an incubator for startups based in the UK, which has a branch in Ireland. The difference to other incubators is that they specifically promote startups run by women. They facilitate the necessary means to women who want to create a successful company but who lack the experience or tools to do so. They offer intensive mentorship and support to talented girls and women to realise their STEM potential. [http://outboxjourney.com/incubator/](http://outboxjourney.com/incubator/)

- **Women Are Boring.** WAB is a project created in 2016 by two DCU PhD students. Both women were very invested in bringing women closer to STEM careers, employing only women for their team. Their blog is dedicated to sharing fascinating research by women in all fields of academia from all over the world. They feature a different woman in research every week. [https://womenareboring.wordpress.com/](https://womenareboring.wordpress.com/)

**United Kingdom**


- **Pretty Curious by EDF.** Pretty Curious aims to inspire teenage girls to imagine a future where they use STEM – science, technology, engineering and mathematics - to help make a difference. The program contains series of workshops held in whole UK, big advertising campaign and various partnerships. [https://www.youtube.com/watch?v=D_1SDEYiBbM](https://www.youtube.com/watch?v=D_1SDEYiBbM)

- **Women in STEM UK** Inspirational Website about women in STEM with a “break the stereotypes” section. [http://www.womeninstem.co.uk/](http://www.womeninstem.co.uk/)
- **Women's Engineering Society.** The Women's Engineering Society is a charity and a professional network of women engineers, scientists and technologists offering inspiration, support and professional development. Working in partnership, we support and inspire women to achieve as engineers, scientists and as leaders; we encourage the education of engineering; and we support companies with gender diversity and inclusion. Also offer a database of role models. [http://www.wes.org.uk](http://www.wes.org.uk)


- **ScienceGrrl** is a broad-based, grassroots organisation celebrating and supporting women in science; a network of people who are passionate about passing on our love of science on to the next generation. [http://sciencegrrl.co.uk/](http://sciencegrrl.co.uk/)


- **Inspiring the Future.** Organisation connecting state schools and colleges with employers and people from the world of work. One of their sections, Inspiring Women, is a campaign to highlight STEM careers and how to get into those positions. [https://www.inspiringthefuture.org/](https://www.inspiringthefuture.org/)

- **Codefirstgirls.** Code First: Girls is a not for profit social enterprise. Since 2013 we’ve delivered £2.5 million worth of free education to young women across the UK. We have one purpose - to increase the number of women in tech. We do this to help address the gender imbalance in the tech industry, where women currently only represent about 17% of the workforce. [http://www.codefirstgirls.org.uk](http://www.codefirstgirls.org.uk)

- **Girls can code**, a talent show by BBC Three, 2015. Talent show, where girls can unleash their potential in digital skills. [http://www.bbc.co.uk/programmes/b06cnbbc](http://www.bbc.co.uk/programmes/b06cnbbc)

**Denmark**

- **DigiPippi:** The target group for the online DigiPippi initiative comprises girls aged 7-13. Every three weeks, the DigiPippi TV channel broadcasts a programme of relevant technology and IT topics which girls communicate to one another. This peer-to-peer
approach supports girls in learning together and experiencing that they share an interest in IT and technology, whereas many girls have previously found it difficult to find other girls who were similarly inclined. The website has short articles about IT and technology. In 2016, a number of workshops will be held where girls can acquire various skills, in areas such as 3D, iPad animation, blogging and programming. A sense of community, encouragement and a venue where it is acceptable to make mistakes are basic learning elements. To support the enthusiasm and desire to learn about science and technology subjects, the initiators have chosen to involve a broad segment of the local community, and a number of libraries have contacted the project and are interested in taking part.

- **Jet-net.dk – school– business collaboration.** In Jet-net.dk, 4 Danish businesses are involved in a school–business collaboration that brings students and businesses together on science and technology. The purpose of the network is to create more application-specific teaching and give students insight into the businesses’ activities, as well as provide knowledge about their job options. The network focuses on both primary school and institutions providing secondary education.

- Jet-net.dk is coordinated by the **House of Natural Sciences**, and each year a “**Girls’ Day in Science**” is held where businesses all over Denmark open their doors to primary and upper-secondary girls and give them an opportunity to work on practical assignments. At the same time, the girls encounter women employees who can help inspire them and get them to see new possibilities in the field.

**Sweden**

- **The equality initiative TechEq network.** In 2014, the equality initiative TechEq3 was formed in Sweden by four major IT companies to increase the percentage of women, particularly within IT and technology sectors. Since then, more than 70 businesses have joined the network and signed the “TechEq Agreement” which is binding. After the first year, a pamphlet of specific initiatives implemented by the businesses was published.

- **Pepp! – a platform and mentoring programme.** The Pepp! initiative, developed by Sweden’s technical universities (Royal Institute of Technology and Chalmers University of Technology) provides a platform comprising girls enrolled in upper-secondary schools, university students and businesses. One of the important activities is a formal mentoring programme aimed at girls enrolled in upper-secondary school who “are given an opportunity to talk about all sorts of issues with a personal mentor, a women engineering student from RIT or Chalmers”.

- [http://www.witec.se/](http://www.witec.se/): WiTEC was formed as a network in 1988 and after more than ten years of networking and project activities related to women and Science, Engineering and Tecnology, established itself as a non-profit European association in May 2001.
Finland

- TASUKO – Gender Awareness in Finnish teacher training programmes. Over the past three decades in Finland, a number of projects have actively worked to widen and develop gender awareness in Finland’s teacher training programmes. The lessons learned in Finland seem to indicate that educational institutions which train teachers are not necessarily receptive to demands and expectations when there is a top-down attempt to implement them. The TASUKO strategy was therefore to take a networking and ambassador approach where interested trainee teachers could form different networks to establish work groups and work on the issues relating to the gender perspective that they felt were relevant to their educational institution. The many projects in Finland which have had this focus prompted a change in the curriculum of Finland’s teacher training programmes to involve the gender perspective to a greater extent. Moreover, a website has been set up where interested students can find information about the gender perspective in the programmes. This was important because many trainee teachers felt that they ran into a brick wall if they sought supervision for assignments dealing with the gender perspective.

- Network: http://helsinki.girlsintech.org/: Girls in Tech (GIT) is a global non-profit focused on the engagement, education and empowerment of girls and women who are passionate about technology. Adriana Gascoigne founded GIT in 2007 to create a support framework to help women advance their careers in STEM fields.

Estonia

- Rails Girls Estonia: Their aim is to give tools and a community for women to understand technology and to build their ideas. They do this by providing a great experience on building things and by making technology more approachable. www.railsgirls.com

- Superheroes Estonia: Superheroes is a growth mindset driven entrepreneurship & leadership program for 13-17-year-old girls to unlock their potential and build true grit for a superhero life. During 4 months of program girls get to test their superpowers, boost their life skills, grow their sisterhood and be inspired by diverse role models. Most importantly, they get to make their dreams a reality by running projects they are passionate about in squads of five! www.superheroes.ee

Bulgaria

- Electronic Platform for Science Education in Secondary Schools: The electronic system for science education is based on the open-source Moodle learning platform. The platform provides many different functionalities, easy to be used by both teachers and students. It
contains learning materials (presentations, movies, tests, statistics of the performance etc.). The scientific content of each lesson and each section of the textbook is represented in the platform in an attractive and understandable interactive way. Each interactive lesson is followed by a test of the knowledge acquired by the students.


- **Equality Pays Off**: The initiative supports large companies in diversifying the pool of (potential) employees by gaining better access to the female labour force. The initiative supports companies in Europe to increase female participation, to support employees that involuntarily work part-time due to family obligations, to motivate students to enter atypical fields of education and to reduce horizontal as well as vertical segregation. Consequently, the initiative contributes to a reduction of the gender pay gap in Europe.


**EU and international good practises**

- **Research Network Gender and STEM**: [www.genderandSTEM.com](http://www.genderandSTEM.com). In 2009, VHTO founded the international Gender & STEM Network ([www.genderandSTEM.com](http://www.genderandSTEM.com)) together with Helen Watt (Monash University in Melbourne, Australia). Its members are researchers from all over the world.

- **European Association for Women in Science, Engineering and Technology (WITEC)**: European association with 30 years of history of promoting studies and activities related to empowering women in the field of science, technology, engineering, art and math. [http://www.witeceu.com/](http://www.witeceu.com/)

- **European Centre for Women and Technology (ECWT)** [http://www.ecwt.eu/en/home](http://www.ecwt.eu/en/home): European multi-stakeholder partnership of more than 130 organisations working together to measurably and significantly increase the number of girls and women in technology and ICT in specific.


- **Microsoft study by Martin Bauer**. Why Europe’s girls aren’t studying STEM? [https://news.microsoft.com/europe/features/dont-european-girls-like-science-technology/#sm.0000ic6qfa49pcyzyrw1ko2ofeyp0#Ei1Af3xv3UxJbAbQ.97](https://news.microsoft.com/europe/features/dont-european-girls-like-science-technology/#sm.0000ic6qfa49pcyzyrw1ko2ofeyp0#Ei1Af3xv3UxJbAbQ.97)
- This UNESCO report aims to ‘crack the code’, or to decipher the factors that hinder or facilitate girls’ and women’s participation, achievement and continuation in STEM education, and what can be done by the education sector to promote girls’ and women’s interest in, and engagement with, STEM.


- Girls and Women in Science, Technology, Engineering and Mathematics in Asia – this UNESCO brief highlights the importance of stimulating, encouraging and supporting fair and equal opportunities for girls to engage in STEM-related subjects at school, and to draw more girls and women into STEM fields of study and professions.

http://unesdoc.unesco.org/images/0024/002457/245717e.pdf

- She figures study 2015 investigates the level of progress made towards gender equality in research & innovation (R&I) in Europe.


- The European Centre for Women and Technology (ECWT) is a European multi-stakeholder partnership of more than 130 organizations and a rapidly growing member of individuals representing high-level expertise in women and technology development from government, business, academia and non-profit sectors working together to measurably and significantly increase the number of girls and women in technology and ICT in specific.

http://www.ecwt.eu/en/home

- Hypatia is an EU Horizon 2020 funded project that aims to develop a theoretical framework on gender inclusive STEM education and to produce, test and promote a toolkit with practical solutions and modules for schools, businesses and science centres and museums across Europe.

http://www.expecteverything.eu/hypatia/

- STING – STEM TEACHER TRAINING INNOVATION FOR GENDER BALANCE. The STING project promotes the integration of gender awareness into STEM education using a modular teacher professional development program. The program has been developed as a toolkit that teacher trainers and teachers can use to raise gender awareness in STEM teaching and learning, as well as to support other teachers to build gender awareness into their professional practice.

https://stingeuproject.com/
INSPIRING FEMALE ROLE MODELS IN STEM

Croatia

Snježana Šlabek: Innovation & Digital transformation Expert
Suzana Delić: Teacher counselor at Primary school Horvati
Ivana Križanac: Teacher at Elementary School Brodarica

Italy

Nadia Berloffa: student in Engineering – University of Trento
Ilaria Capua: Virologist (Science it’s a girl thing)
Barbara Cominelli: Director Commercial Operations & Digital at Vodafone Italy
Barbara Labate: CEO Restore
Mary Franzese: CEO Neuron Guard
Floriana Ferrara: Master Inventor at IBM. Coordinator of the NERD project
Chiara Daraio: Full professor Physics and Areonautics California institute of technology.

Luxemburg

Simone Niclou: Oncologist at the Luxembourg Institute of Health. President of the Board of Directors of the Laboratoire National de Santé.
Prof Dr Ines Thiele: FNR ATTRACT Fellow and Head of the Molecular Systems Physiology group at the LCSB at the University of Luxembourg.
Professor Mahulena Hofmann: Professor at the Faculty of Law, Economics and Finance and University of Luxembourg in Satellite Communication and Media Law (International, European and comparative).
Julie Distel: Mechanics Engineer.
Sandra Domagala: Development Engineer.
Dr. Nathalie Valle: Researcher in Material sciences.
Dr. Patrice Caire: Researcher in Artificial Intelligence.
Anna Heintz: Microbiologist.

Conny Mathay: Biologist.

Renata Obiala: PhD and Senior Researcher at the University of Luxembourg within the Chair of Steel and Façade Engineering supported by ArcelorMittal Luxembourg.

The Netherlands

The following role models are the Leading Ladies of VHTO. More information on them can be found on the Dutch website of VHTO: https://www.vhto.nl/over-vhto/leading-ladies/. VHTO has a database of more than 2000 other role models.

Anneke Burger: CIO, Advisory Board Member at CIONET

Aukje Doornbos: Personal Assistant to the CEO at DSM. Studied Chemical Technology at TU Eindhoven.

Prof. dr. Vanessa Evers: Professor Social Robotics at the Universiteit Twente.

Ing. Heske Groenendaal: CEO of Metaglas BV.

Prof. dr. Lynda Hardman: Professor Multimedia Discourse Interaction at Universiteit van Utrecht, member of management team at the Center for mathematics and informatics in Amsterdam. She studied mathematics and physics in Glasgow.

Prof. dr. Patricia Lago: Professor at the Vrije Universiteit Amsterdam (VU) and head of the research group Software and Services at the faculty of Informatics.

Ir. Karianne Lindenhovius: Engineer of the Year 2014. Studied Industrial Design at the Technische Universiteit Delft. She works as innovation manager at Pontes Medical at the UMC Utrecht.

Jannie Minnema: Jannie Minnema is senior Director Business Operations & Strategy EMEA for Business Development Technologie and Systems at Oracle.

Pien Oosterman: Pien Oosterman studied Commercial Economics at the Universiteit van Amsterdam. She is Chief Sales Officer (CSO) at Sogeti Nederland.

Louise Out-van Staveren: Louise Out-van Staveren is Client director at IBM.

Drs. Micaela dos Ramos: Micaela dos Ramos studied Chemical Technology at TU Delft and Universiteit van Amsterdam. She is CEO of the Koninklijk Instituut Van Ingenieurs (KIVI).

Drs. ir. Mirjam Verhoeven: Mirjam Verhoeven is CIO of the Volksbank.
Romania

**Anamaria Effler**: won **Nobel Prize for Physics** in 2017. The project has made observations in the field of **gravitational waves**.

**Diana Mirza**: The 17-year-old Romanian Diana Mirza **won the World Schools Chess U17**.

**Eugenia Reuss-Ianculescu**: was a **feminist activist** in Romania and founded the Female Emancipation organisation in 1911.

**Elisa Leonida Zamfirescu**: was the **first female engineer in Europe**.

Slovenia

**Emilija Stojmenova Duh**: [https://www.linkedin.com/in/emilija-stojmenova-duh-b62b821b/](https://www.linkedin.com/in/emilija-stojmenova-duh-b62b821b/)


Austria

**Mag. Dr., MSc Sabine Zauchner-Studnicka**: [http://www.femtech.at/user/12746](http://www.femtech.at/user/12746)

**Alexandra Negoescu**: Scientific Program Manager at TU Wien Innovation Incubation Center

**Marion Marschalek**: Independent Security Researcher

**Maja Pivec**: Prof. & Key Researcher at University of Applied Sciences FH JOANNEUM

**Lise Meitner**: Austrian physicist, who did important work in beta and gamma radiation.

France

**Claire Voisin**: Mathematician.

**Claudie Haigneré**: First French astronaut.

**Gabrielle-Emilie Le Tonneur de Breteuil**: Mathematician

**Sophie Germain**: Mathematician

**Yvonne Choquet-Bruhat**: Mathematician and physician

**Marie Curie née Sklodowska**: Physicist

**Irène Joliot-Curie**: Chemist

**Rose Dieng**: Computer scientist specializing in artificial intelligence
Christine Petit: Professor at College de France, Chair of Genetics and cellular physiology. L’Oréal-UNESCO 2004 award.

Salima Rafaï: CNRS Researcher, prix de la Jeune physicienne de la Ville de Paris 2005

Marie-Françoise Roy: Mathematician, Irène-JoliotCurie 2004 award

Anne Claire Pottin: Chemist

Solenne Rey: Physics and materials

Fanny Langevin: Engineer

Sophie Rocca: Engineer Excellencia 2006 award

Belgium

Baroness Ingrid Daubechies: Physicist and mathematician

Christine Van Broeckhoven: Molecular biologist and professor in Molecular genetics at the University of Antwerp

Véronique Gouverneur: Professor of chemistry at the University of Oxford in the United Kingdom.

Conny Aerts: Mathematician and astrophysicist. She obtained the award Francqui, the Belgium Nobel prize in 2012

Tatjana Parac-Vogt: Professor at KUL and president of the association BeWise (Belgian Women in Science)

Yaël Nazé: Astrophysicist (FNRS ULg)

Saskia Van Uffelen: CEO of Belux at Ericsson

Joke Van der Auwera: Leading lady of the On Wheels project, has devoted her life to working with people with disabilities.

Katrien Strubbe: Associate Professor at Ghent University and works in the Laboratory for Physical Chemistry.

Germany

Angela Merkel: Former Research Scientist and German Chancellor since 2005

Olivia Njinjoh: Electrical engineer

Christiane Nüsslein-Volhard: Developmental biologist and 1995 Nobel Prize-winner.
Ulrike Beisiegel: Biochemist and university professor who in 2011 became the first woman to serve as president of the University of Göttingen

Dr. Eva-Maria Neher: Scientist in the fields of biochemistry and microbiology. She founded the Göttingen Xlab and has been its Executive Director since 2000

Karin Büttner-Janz: Medical doctor who won world and Olympic gold medals in artistic gymnastics for East Germany

Angelika Brandt: World leader in Antarctic deep-sea biodiversity

Monika Schäfer-Korting: Pharmacologist and Toxicologist

Sabina Jeschke: University professor for Information Sciences in Mechanical Engineering at the RWTH Aachen University. She is also the director of the Cybernetics Lab IMA/ZLW & IfU

Johanna (Hanna) Neumann: Mathematician who worked on group theory.

Emmy Noether: Noted mathematician.

Maria Goeppert-Mayer: She was the second female Nobel Prize Winner for proposing nuclear shell model of nuclear atomic nucleus.

Dr Amaia Zurutuza: She has been Scientific Director at Graphenea, S.L since joining in April 2010. Dr. Zurutuza worked in the research of novel polymers for biomedical applications. At the beginning of 2004, she joined Controlled Therapeutics Scotland Ltd. (UK) where she was a Senior Polymer Scientist working in the R&D of new controlled drug delivery systems. Her research contribution in Controlled Therapeutics lead to the publication of 3 patents in novel biodegradable.

Spain

Nuria Oliver Patrici: Computer Scientist, ACM distinguished scientist, over 40 patents

Fuentes Montoya: Senior Software Engineer at TomTom

María Garaña: Microsoft

Fuencisla Clemares: Google

Marta Martínez: IBM Spain, Portugal, Greece

Sara Gomez: Escuela Universitaria de Ingeniería Técnica Industrial de la Universidad Politécnica de Madrid
Portugal

Luisa Pereira: Genetist IPTIMUP

Susana Sargento: 1st price Women Innovators Award 2017. Associate Professor with Habilitation at the University of Aveiro, Portugal and the Institute of Telecommunications

Greece

Maria Filippousi: https://www.theguardian.com/sustainable-business/women-technology-greece-gender-stereotypes-female-role-models


Malta

Angele Giuliano: CEO and Founder Across Limits Entrepreneur IT sector

Christine Falzon: Business Development Manager at ICON


Cyprus

Ioanna Dyonisiu: Associate Professor Computer Science, University of Nicosia

Poland

Paulina Gorska: "New technologies for girls" Scholarship program, Intel Technology

Renata Kaczoruk: Girls in Tech

Izabela Disterheft: CEO at INTERIZON: ICT Cluster

Ola Syrocka: STEM Curriculum Developer at RoboCAMP.eu
Czech Republic

**Dita Přikrylová:** CEO & Founder ve společnosti Czechitas

**Tania Le Moigne:** Country Director, Google Czech Republic & Slovakia

**Vladka Knihová:** Education online - PhDr, MBA

**Pavlina Sedlarikova:** [https://www.linkedin.com/in/pavlina-sedlarikova-23762b5/](https://www.linkedin.com/in/pavlina-sedlarikova-23762b5/)

Ireland

**Niamh Scanlon:** 15-year-old Irish girl who was *EU Digital Girl of the Year* in 2016, and she has won several awards for her apps.

**Tarah Wheeler:** Author of the book *Women in Tech*. She has her own non-profit organisation (Fizzmint) and she’s a successful poker player.

**Sylvia Leatham:** Heads the STEPS program at Engineers Ireland. She works together with Science Foundation Ireland.

**Anne-Marie Imafidon, Mary Carty:** Founders of the Outbox Incubator.

**Lesley Tully:** Head of design at the Bank of Ireland (BOI) and board member of Illuminating History, which is a light projection festival to celebrate women over the weekend of Nollaig na mBan (Women’s Little Christmas).

**Vicky Twomey-Lee:** Active advocate for diversity in the tech industry. Co-founder of Coding Grace (an homage to the American computer scientist Grace Hopper), providing female-friendly workshops and events.

**Catherine Connolly & Grace McDermott:** Created the blog *Women Are Boring*.

**Gillian Keating, Caroline O’Driscoll, Ruth Buckley:** Creators of the *I Wish Conference*, encouraging young women to pursue careers in STEM.

**Tanya Levingstone:** Postdoctoral researcher in the Tissue Engineering Research Group (TERG) at Royal College of Surgeons Ireland (RCSI).

**Niamh Shaw:** Engineer, scientisy and performer. Core lectures chair of the Space Studies Program 2017 at the International Space University. She recently worked on a simulated Mars mission project in the Utah desert for the Mars Desert Research Station.

**Aine Behan:** Founder of Cortech, an e-health startup.
United Kingdom

**Rosalind Franklin**: Headed the pioneering work which lead to the discovery of the structure of DNA.

**Sue Bailey**: British psychiatrist and academic specialising in children’s mental health.

**Helen Patricia Sharman**: British chemist who became the first woman to visit the Mir space station in 1991 and the first woman (out of 59 altogether) to journey to space in general.

**Prof. Dame Susan Margaret Black**: Professor of Anatomy and Forensic Anthropology at the University of Dundee. She’s also a founder of the British Association for Human Identification and the British Association for Forensic Anthropology.

**Victoria Foster**: PhD as a cancer researcher. She’s done much to support the research done in the cancer field, such as fundraising for Cancer Research UK, The Christie, and Everyman Appeal.

**Goedele A.M. De Clerck**: Marie Sklodowska-Curie Fellow and is affiliated with the Social Research with Deaf People (SORD) at the University of Manchester.

**Lesley Yellowlees**: PhD in Inorganic Electrochemistry. She is the first female president of the Royal Society of Chemistry in July 2012.

**Alice Bentinck**: Co-founder of Entrepreneur First, a start-up accelerator in London, as well as Code First: Girls

**Eleanor Harding**: Works in Product Design at Twitter and has won numerous hackathons including the prestigious TechCrunch Disrupt Hackathon. Harding has created an indie game which won the Microsoft Imagine Cup and she is the founder of a product development consultancy called Rigby/Rose.