

# Creating a paradigm shift in the educational sector and research and innovation



Transport  
Innovation  
Gender  
Observatory

**TInnGO Multistakeholder Forum**  
**22 October 2020**



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# Panelists



**Francesca Ciuffini**

Head of Marketing and Integrated  
Services Development at RFI (Italian  
Railway Infrastructure Manager)



**Elisabeth Young**

Founder and President of WAVE  
(WoMen and Vehicles in Europe)



**Natasha Sachiko**

**Matsushima Carstens**  
Owner and Consultant at Carstens  
Climate Consulting



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# Women, Smart Mobility & STEM



<https://universityequipe.com/>

## Smart Mobility

Transport Engineering  
Mechanical Engineering  
Computer Engineering  
Management Engineering  
Energetics Engineering  
Telecommunications Eng.  
Land-use  
Urban planning  
...

Competencies found in **STEM** courses of study

Starting point to address **gender gaps** in transport sector:  
analysis of gender-related educational issues in those sectors

## Gender-biased domain



[www.chemistryworld.com](http://www.chemistryworld.com)

**Barriers** for the participation of women in STEM: stereotypes, social norms and cultural practices, welfare policies, family backgrounds, absence of women role models, limited access to networks, information, funding or institutional support



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# Data collection approaches

- Focus on a selection of STEM **universities** and **secondary schools** covering STEM subjects in TInnGO countries to gain knowledge on **staff** and **students** gender composition + other indicators related to Smart Mobility

## TEACHING, RESEARCH AND STAFF

1. Gender staff composition in Universities, irrespective of the covered role.
2. Gender staff composition in Secondary schools, irrespective of the covered role.
3. Gender staff composition in Universities, only considering the personnel employed in teaching and/or research.
4. Gender composition in Universities, only considering the personnel employed in teaching and/or research in the transport and smart mobility field.

## STUDENTS

1. Gender composition - Secondary school students
2. Gender composition - Students taking part in university admission tests
3. Gender composition - First year students (university)
4. Gender composition - First year students (university) in subject related to transport and smart mobility
5. Gender composition - University students (all levels)
6. Gender composition - Bachelor's degree students

- Desktop review of **practices** for encouraging and supporting women in transport sector education
  - Title of the initiative
  - Type
  - Geographical level (national or local)
  - Initiative in progress or concluded (start and end years)
  - Promoter & funder
  - Target group
  - Type of source for the information
  - Method used to support and encourage women in STEM
  - Main results (if already available)



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# Main insights

- **Availability** of data differs across TInnGO countries (numbers publicly available/ collected but not available/ not collected; found at national level/ school level)
- Influence in data gathering given by the possibility of **accessing** specific academic databases
- Most of the information available only in the relevant **national language**
- Difficulties in a straightforward **comparative analysis** of the situation at the European level

**Difficulty** emerged in finding specific and relevant initiatives in the field of **transport**



Not favorable for the promotion of gender balance in this sector (**visibility** is important!)



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# Examples of practices for encouraging STEM studies

#WeAreHERE is now on  
WhatsApp and Skype!

Politecnico di Torino's new service to get in touch with the girls studying engineering. Would you like to receive information on the educational offer of the Politecnico di Torino and find out about the actions that the university reserves for female students?

✉ Text 3357662618 on WhatsApp  
💬 Send a message on Skype to "weareheropolito"



robotikos  
akademinė

Informacija • Paslaugos • Naujienos • Kontaktai

## Mergaičių stovykla

Tępk kūrėja

Kiekviena mergaitė yra kūrėja

Išskirtinai mergaitėms paruošta programa į visumą sujungia technologijas, draugystę, socialinius įgūdžius ir programavimo pagrindus. Didelės idėjos įgyvendinime kartu su mergaitėms gerai pažįstamomis Lego Friends herojėmis ir spalvingomis bei išmaniomis detalėmis.

STEMettes

Home Events for Stories About Contact Swag Outbox

Stemettes is an award-winning social enterprise working across the UK & Ireland and beyond to inspire and support young women into Science, Technology, Engineering and Maths careers (known collectively as STEM).

VILNIUS GIRLS CODE

Vilnius Girls Code  
@vilniugirlscode

Home  
Informazioni  
Foto  
Video  
Events  
Post  
Group  
Community  
Crea una Pagina

Informazioni

INFORMAZIONE AZIENDALI

Fondazione: 20 marzo 2015

Mission

Our aim is to write all women develop educate and be more active in our technologies.

Informazioni di contatto

✉ m.melinis@girlscode.it  
✉ vilnius.girls.code@gmail.com  
🌐 http://vilniugirlscode.com  
📧 @girlscode  
📄 Più informazioni

Informazioni  
Community for women developers

Program Coaches & Mentors Sponsor

## FUTURE HEROES

Be your own hero

Most Inspirational Organisation of 2017  
Awarded by the Network of European Nonprofit Organisations

Entrepreneurship Promoter of 2018  
Awarded by the Ministry of Economic Affairs and Communications

Promoting Entrepreneurial Spirit of 2018  
Shortlisted at the European Enterprise Promotion Awards 2018

TECHNOVATION Girls

Get Started Curriculum Impact

## GIRLS FOR A CHANGE.

Every year, Technovation invites teams of girls from all over the world to learn and apply the skills needed to solve real-world problems through technology.

Join us and Lead the Change.

Sign Up!

WOMEN GO TECH

About programme Mentors Timeline Projects News Our team

## Projects

Besides the mentorship programme, Women Go Tech is glad to be involved in projects with like-minded organisations, which hold onto similar values and believe in the same vision. Working together, we are able to achieve a more global impact and this way to empower even more talents to discover tech.



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# Desktop review results and insights

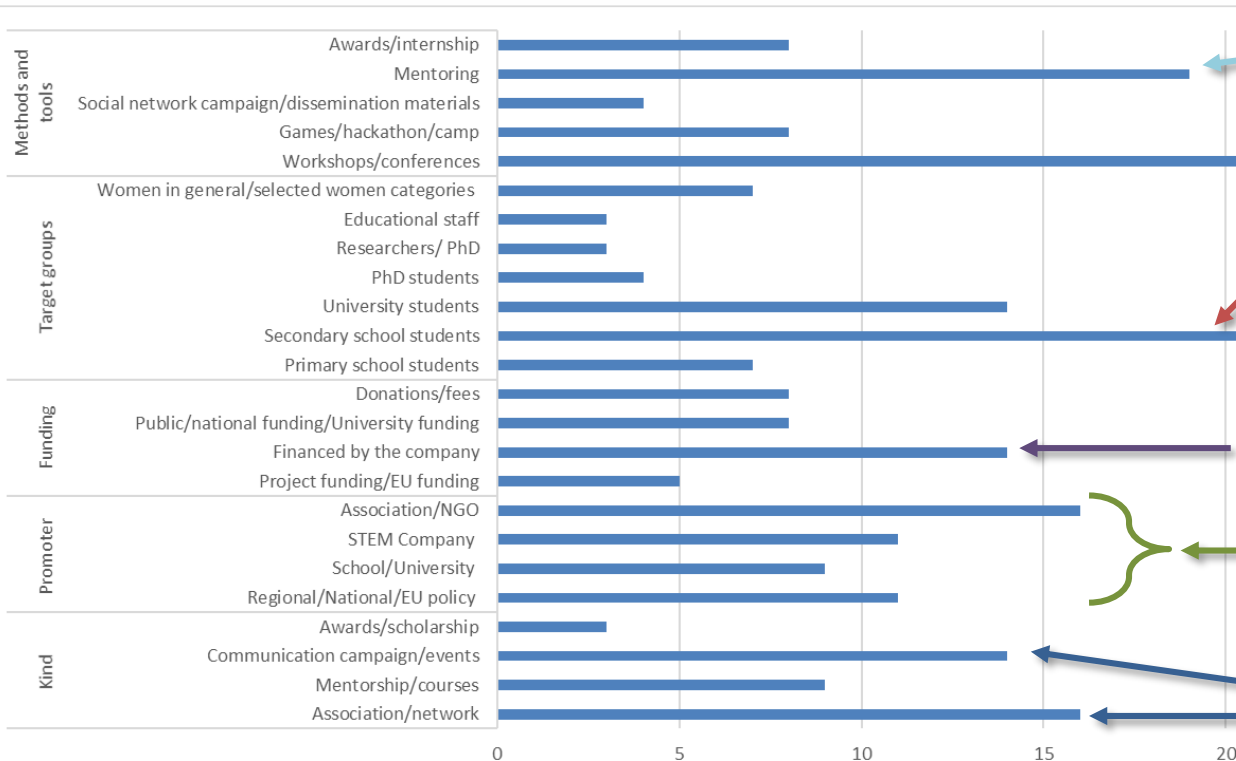
Main ways of proposing initiatives

Age when decisions about future are typically taken

Interest of STEM companies in those practices

Rather uniform distribution of promoter types

Increase in the use of social media and networking



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# Case study: FEMTEC

Kind	Network
Promoter	STEM company
Implementer	EAF Berlin, TU Berlin
Temporal extension	2011 - ongoing



- Initiative to **connect** female STEM students in business and science, to **support** them in their personal career development, to **establish** diversity in the teams of companies so that male-dominated structures are broken up
- Femtec Alumnae e. V., **association** encouraging schoolgirls to decide on a career in the STEM sector
- **Career Building Programme** prepares female students who are enthusiastic about STEM for professional practice and future management



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# Case study: PoliWo – PoliTO for Women

Kind	Project
Promoter	Politecnico di Torino (University)
Implementer	Staff of the university
Temporal extension	2018 - ongoing

- Project **funded** by the university aimed at encouraging **female students** to enroll in Engineering courses
- **Communication campaigns** for secondary schools
- **Mentoring** (for newcomers) and **tutoring** (for secondary schools students) activities
- Bimonthly **meetings** for the teaching staff
- First **results**: historical **peak** of female enrolment in Engineering during the a.y. 2019/20 (26% of the total), +5% over previous year



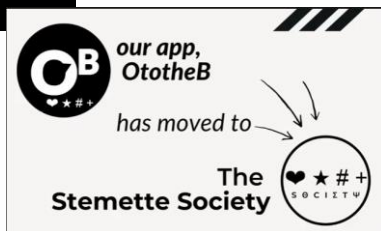
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# Case study: STEMettes

Kind	Public events/ school trips/ mentoring / app
Promoter	STEM company – social enterprise
Implementer	National Social Enterprise STEM Company
Temporal extension	2013 - ongoing

- Social **enterprise** which encourages girls aged 5–22 to pursue **careers** in STEM in a new way
- Launch of an **app** as a free online platform for young female students interested in STEM and entrepreneurship
- **Outbox programme** for girls <22 y.o. as an intensive residential programme during the school summer holiday to create girls' start-ups
- One of the most important outcomes of this programme was the **spirit of collaboration** between all the girls



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# Final discussion

The **desktop review** in TInnGO countries to evaluate imbalances in educational provision in the STEM domain revealed

- Female presence in the **personnel** employed in teaching and research in technical universities is **lower** compared to national averages
- Lower number of **female students** in technical studies
- A wide network of **associations** and **mentoring** is operating through workshops and communication campaigns trying to make female aware of their potentialities in a deeply gender-biased field like the STEM one

Important: **combined work** of educational institutions and companies



<https://www.labmanager.com>



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# Education for Women & Girls

According to **UN numbers**:

*the world is home to more than 1.1 billion girls under age 18, who are poised to become the largest generation of female leaders, entrepreneurs and change-makers the world has ever seen*

**11 October, International Day of the Girl Child:** TinnGo project marked this day producing a series of **fun science videos** to promotes STEM education for girls

It is important to avoid the risk of **not exploiting** the contribution that the “**other half**” of the population would bring in all fields



<https://www.un.org>



TinnGo promotes [#stemeducation](#) for girls to celebrate [#DayOfTheGirl](#). Visit our YouTube channel to see the fun science experiments you can do with your girls.



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DELIVERING DISTINCTIVE SOLUTIONS

LGi  
sustainable innovation



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