W-STEM Project overview at the International Leadership Summit

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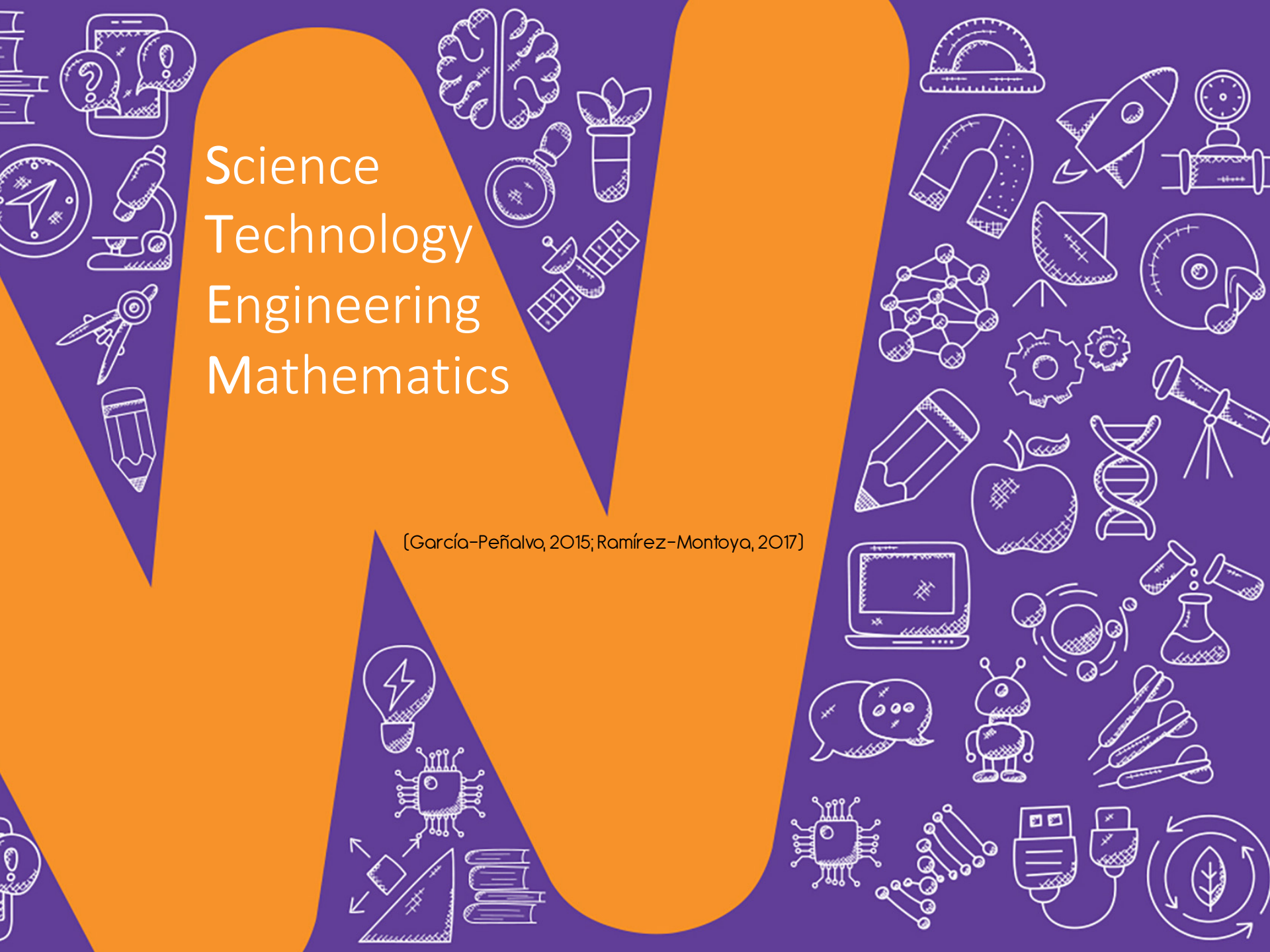


(García-Peñalvo, 2015; Ramírez-Montoya, 2017)

Outline

1. Project information
2. Consortium
3. Objectives
4. Target audience
5. Main actions
6. Results
7. Interviews
8. Mobile app and profiling tool
9. Website and social profiles
10. References

1. Project information

Building the future of Latin America: engaging women into STEM

Acronym

W-STEM

Funding body

European Union. ERASMUS + Capacity-building in Higher Education Call for proposals EAC/A05/2017

Reference

598923-EPP-1-2018-1-ES-EPPKA2-CBHE-JP

Dates

3 years, 15/01/2019 to 14/01/2022

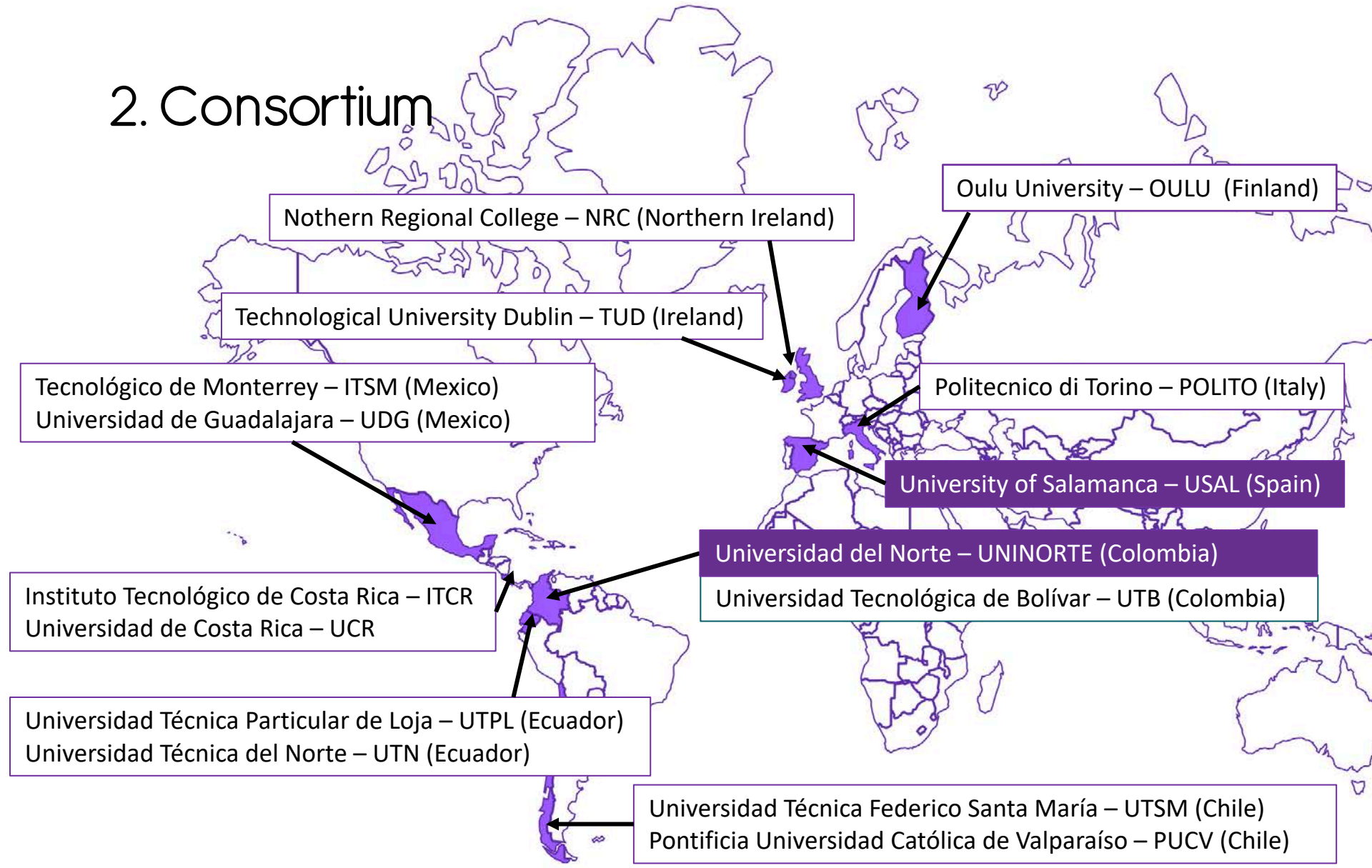
Budget

862.268€

Basic references

(García-Holgado et al., 2019a, 2019b; García-Peñalvo, 2019a, 2019b)

2. Consortium



2. Consortium

Associated Partner

External evaluator

Columbus

3. Objectives

- Improve strategies and mechanisms for attracting, accessing and guiding women in Latin America in STEM higher education programs

- W-STEM aims to guarantee the transformation of the current situation in Higher Education Institutions in Latin America

Photo by Bradley Hook from Pexels
https://goo.gl/VbUxCx

4. Target audience

Higher Education Institutions

STEM programs

Secondary schools

Girls and young women

5. Main actions

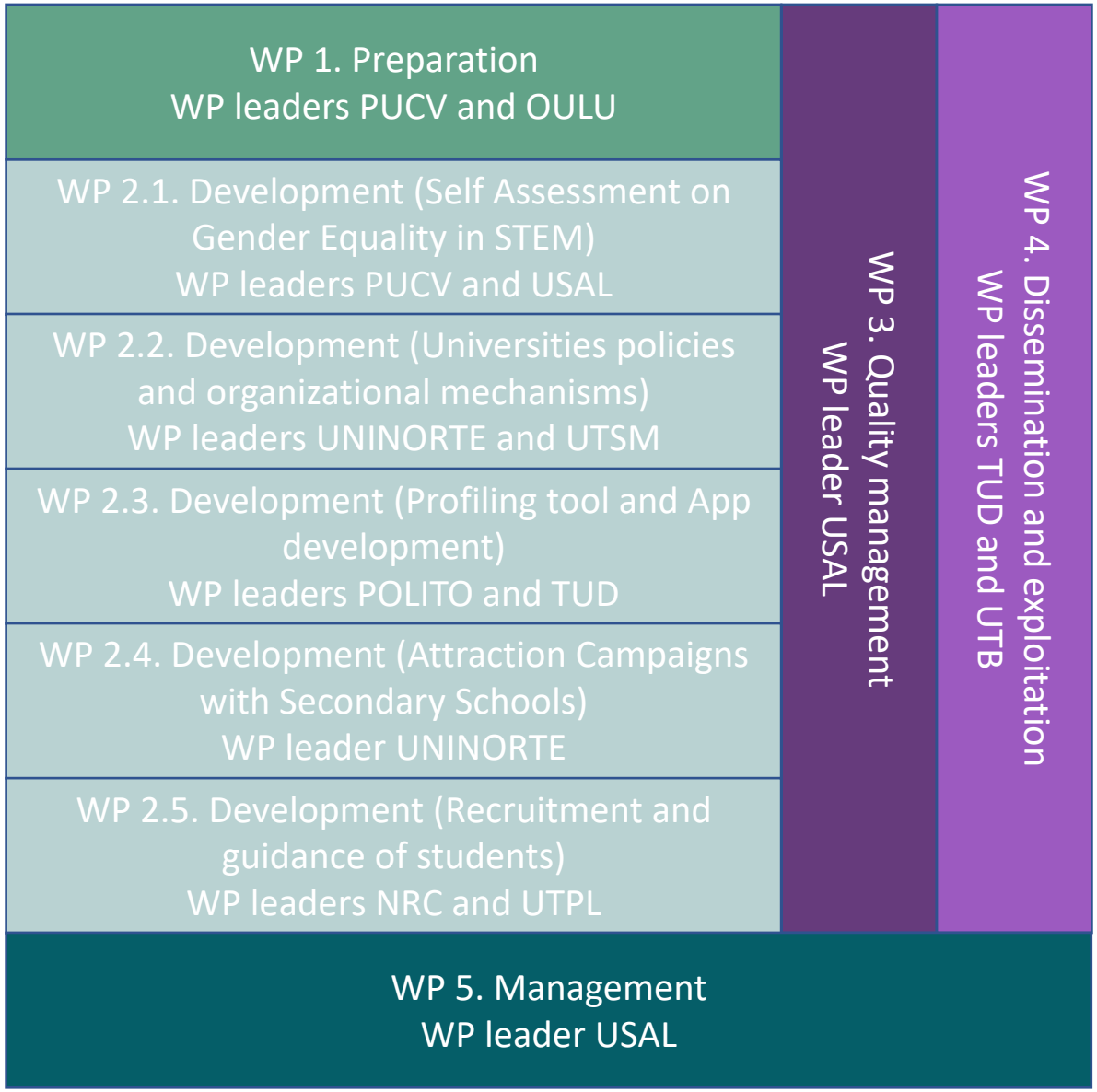
Measure the gender equality in enrolment and retention rates in STEM programs at undergraduate levels

Implement Universities' policies, strategies and organizational mechanisms for improving attraction, access and guidance at undergraduate levels in STEM programs

5. Main actions

Promote STEM studies vocation and choice in girls and young women in secondary schools as well as guidance in the first year of the STEM programs.

Develop an online training package for Higher Education Institutions to implement effective strategies to enhance attraction, access and guidance of Women in STEM programs


WP 1. Preparation
WP leaders PUCV and OULU
WP 2.1. Development (Self Assessment on Gender Equality in STEM)
WP leaders PUCV and USAL
WP 2.2. Development (Universities policies and organizational mechanisms)
WP leaders UNINORTE and UTSM
WP 2.3. Development (Profiling tool and App development)
WP leaders POLITO and TUD
WP 2.4. Development (Attraction Campaigns with Secondary Schools)
WP leader UNINORTE
WP 2.5. Development (Recruitment and guidance of students)
WP leaders NRC and UTPL
WP 3. Quality management
WP leader USAL
WP 4. Dissemination and exploitation
WP leaders TUD and UTB
WP 5. Management
WP leader USAL

6. Situation of the institutions

- Three process to analyse the situation of the institutions involved in the project
  - Self-assessment matrix
  - Process mapping of attraction, access and guidance
  - Identification of good practices

6. Situation of the institutions

Indicators

- The aim is to know the situation of Latin American universities through indicators related to gender equality in STEM programs
- It has been applied in Europe in order to have valuable data to implement possible initiatives beyond the W-STEM project
- The self-assessment survey or matrix is based on the SAGA toolkit (UNESCO, 2017), a set of tools for monitoring and evaluating gender equality and integrating gender aspects into science, technology and innovation policies
- The instrument has been applied after the end of the academic year 2018-2019 in order to be able to work with the 2018 admission data

6. Situation of the institutions

Indicators

W-STEM institutional data collection survey																														
RAPPORTEUR/-s INFO																														
Firstname Lastname		Skype	E-mail	Mobile	Address	Zip	City	Country																						
ISCED-F 2013 variants	BROAD FIELD -->	05 Natural sciences, mathematics and statistics									06 Information and Communication Technologies (ICTs)			07 Engineering, manufacturing and construction														INDUSTRIAL ENGINEERIN	OTHER
ISCED-F 2013 variants	NARROW FIELD -->	051 Biological and related sciences		052 Environment		053 Physical sciences			054 Mathematics and statistics		061 Information and Communication			071 Engineering and engineering trades						072 Manufacturing and processing				073 Architecture and construction				OTHER
ISCED-F 2013 variants	DETAILED FIELD -->	0511 Biology	0512 Biochemistry	0521 Environmental sciences	0522 Natural environments and wildlife	0531 Chemistry	0532 Earth sciences	0533 Physics	0541 Mathematics	0542 Statistics	0611 Computer use	0612 Database and network design and	0613 Software and applications develop	0711 Chemical engineering and processe	0712 Environmental protection technolo	0713 Electricity and energy	0714 Electronics and automation	0715 Mechanics and metal trades	0716 Motor vehicles, ships and aircraft	0721 Food processing	0722 Materials (glass, paper, plastic and	0723 Textiles (clothes, footwear and leather)	0724 Mining and extraction	0731 Architecture and town planning	0732 Building and civil engineering		Please specify
INSTITUTIONAL BACKGROUND INFO	COLUMN FOR TEXTUAL COMMENTS																													
INSTRUCTION: Please provide information on formal structures that could provide some insight on institutional purpose i.e. special activities and policies. These questions on programmes, staff and students will help us to understand the	WRITE YOUR ANSWER HERE																													
PROGRAMMES																														
INSTRUCTION: Mark all ISCED-F 2013 variants that you offer programmes	*INSTRUCTION: If you do not have ISCED-F 2013 disaggregated data you may fill information to this column.*																													
P.1. Which programmes / courses are you using for data collection, by field of study?																														
P.2. Do you have unique multidiciplinary STEM programmes that intend to attract especially female students?	WRITE YOUR ANSWER HERE																													
P.3. Lenght of programmes (years / months)	WRITE YOUR ANSWER HERE																													
4. STAFF	Teacher play an important role as models for students at all levels of education.																													
INSTRUCTION: Fill in the total and share of female staff by field of study (STEM-variant of ISCED-F 2013):	*INSTRUCTION: If you do not have ISCED-F 2013 disaggregated data you may fill information to this column.*																													
4.1. Provide the total number of teaching staff members for first year of programmes in your university by field of study in 2018.																														
4.2. Provide the total number of female teaching staff members for first year of programmes in your university by field of study in 2018																														
4.3. Provide the total number of staff trained on gender issues in education.																														
4.4. Provide the total number of female staff trained on gender equality issues in education.																														
Related policies:																														
4.5. What, if any, training on gender issues education does your university provide for its staff in STEM programmes?	WRITE YOUR ANSWER HERE																													
4.6. What, if any, benefits does your university provide for its staff advancing their gender competence?	WRITE YOUR ANSWER HERE																													
5. STUDENTS																														
INSTRUCTION: Fill in the total and share of female stUDENTS by field of study (STEM-variant of ISCED-F 2013)	*INSTRUCTION: If you do not have ISCED-F 2013 disaggregated data you may fill information to this column.*																													
5.1. Provide the total number students by field of study in 2018 in your institution.																														
5.2. Provide the total number of female students by field of study in 2018.																														
6. ATTRACTION	How interested women are to apply to study in STEM programs?																													
INSTRUCTION: Fill in total and share of female applicants to university by field of study (STEM-variant of ISCED-F 2013)	*INSTRUCTION: If you do not have ISCED-F 2013 disaggregated data you may fill information to this column.*																													
6.1. Provide the total number of applicants for first year of programmes in your university by field of study in 2018.																														
6.2. Provide the total number of female applicants for first year of programmes in your university by field of study in 2018.																														
Related policies:																														
6.3. What, if any, policies, processes and activities does your university implement as part of its attraction campaigns for	WRITE YOUR ANSWER HERE																													
6.4. What, if any, policies, processes and activities does your university implement as part of its attraction campaigns specifically for female applicants for STEM programmes?	WRITE YOUR ANSWER HERE																													

6. Situation of the institutions

Process mapping

- Mapping of the internal process of Attraction, Access and Guidance of students in STEM programs

- This mapping is useful for each institution to determine all the steps involved in the last three processes (attraction, access and guidance) for women into STEM programs, the main actors involved in these processes, and the requirements for introducing improvements

- Complements the information collected through the indicators

6. Situation of the institutions

Good practices

- Collect good practices in each institution
- They must be related to any of the three main processes: attraction, access, and guidance/retention
- These good practices will be using during the benchmarking in Barranquilla

Dr. Maria Biola Javierre Martínez, 2019 International Rising Talent (España). Biological Sciences, Molecular Biology, Genomics

Prof. Karen Hallberg, 2019 Laureate for Latin America (Argentina). Bariloche Atomic Center, CNEA/CONICET

Dr. María Molina, 2019 International Rising Talent (Argentina). Chemistry, Physical chemistry, Molecular biology

Dr. Ana Sofia Varela Gasque, 2019 International Rising Talent (México). Chemistry, Electrochemistry, Catalysis

7. Interviews

7. Interviews

- A single protocol has been defined for all institutions
- Each institution has to conduct 25 interviews with women in STEM areas
- The protocol has been tested in Spain and Mexico

Example: https://drive.google.com/file/d/118XK5VNgBgoWsGNT6LUBSw7Xhk5JwMEv/view

8. Mobile app and profiling tool

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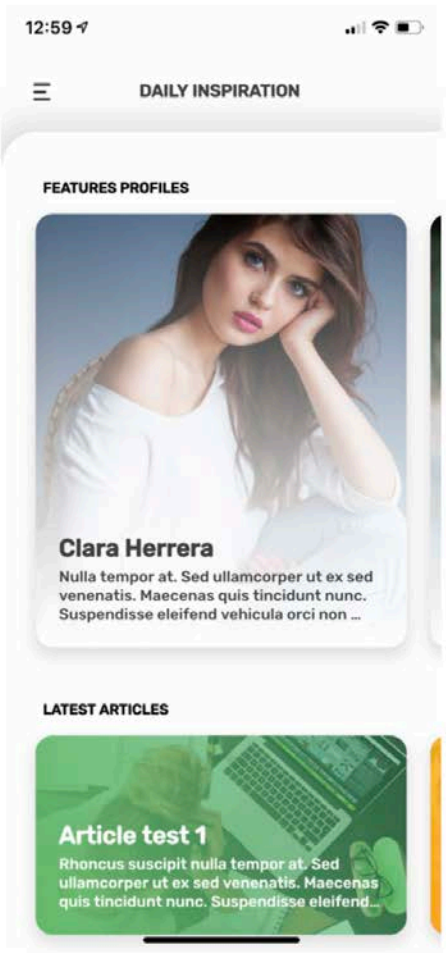

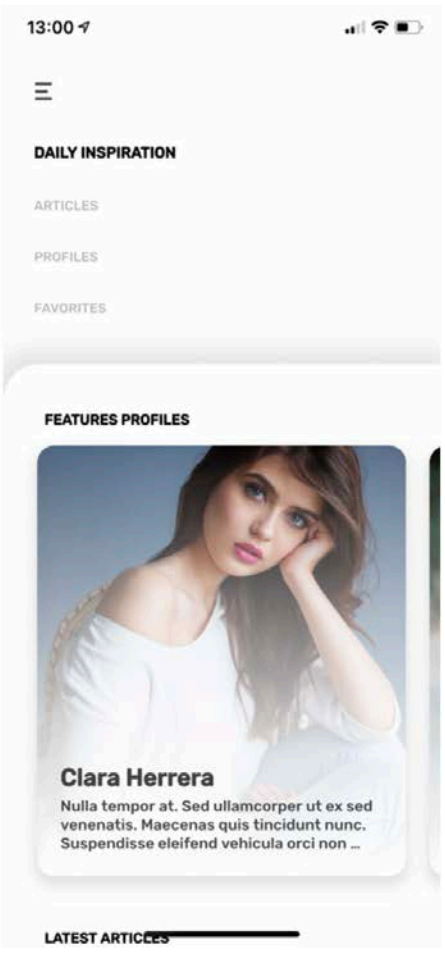

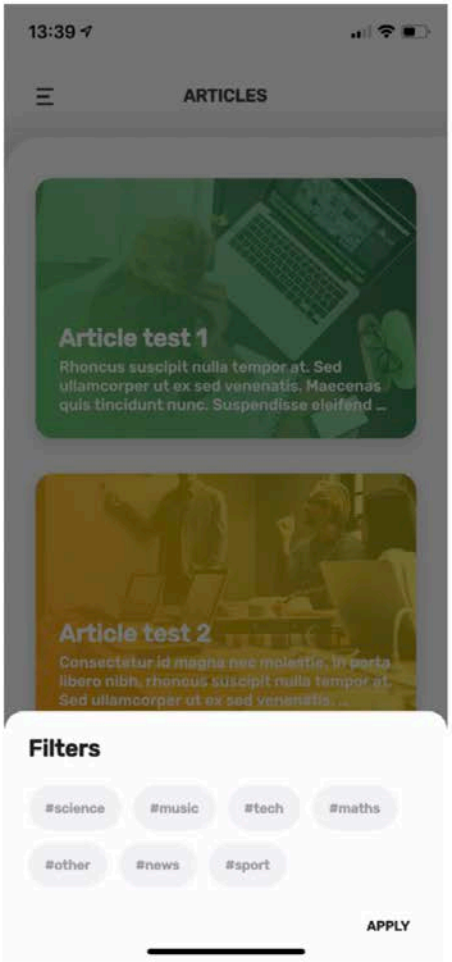

Iñaki Tajes

9. Website and social profiles

https://wstemproject.eu

wstemproject@gmail.com

Twitter

@WSTEMProject

Official hashtag

#WSTEMproject

Instagram

@wstemproject

Facebook

https://www.facebook.com/wstemproject

YouTube

https://www.youtube.com/channel/UCS1EzRQqziO3AEYWSFMER_Q

10. References

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Disclaimer

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Wstem

Universidad de Guadalajara

Politecnico di Torino

Universidad de Costa Rica

UTN Universidad Técnica del Norte

UTPL Universidad Técnica Particular de Loja

Universidad Tecnológica de Bolívar

Universidad del Norte

Universidad de Salamanca

Dublin Technological University

Northern Regional College

Tecnológico de Monterrey

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