

SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY IN TRNAVA

External Gender Equality Assessment

Slovak University of Technology in Bratislava Faculty of Materials Science and Technology in Trnava



This research has been carried out by MTF - STU BA in the context of CALIPER project through the funded European Union's Horizon 2020 Research and Innovation under Grant Agreement No 873134.



Executive Summary

In the context of the Horizon 2020 project, <u>CALIPER</u>, the Faculty of Materials Science and Technology of Slovak University of Technology (MTF - STU BA) has conducted an analysis in order to investigate the external conditions such as the legal and cultural framework and the existing national innovation ecosystems in Slovakia and identify where gender imbalances occur, why they are created and by which factors they are influenced.

To perform this external assessment a quadruple helix approach was adopted, by involving stakeholders belonging to the following sectors:

- Academia and Universities
- Industry and Business
- Government and Public Sector
- Civil Society

The assessment focuses on the national legal and policy framework on gender equality. Moreover, it presents data about STEM students, researchers, patent registrations, innovative start-up founders within a gender perspective. Finally, it provides a mapping of the existing collaborations of MTF - STU BA with external stakeholders.

These findings may lay the grounds for the design of the MTF - STU BA Gender Equality Plan and its implementation and exploitation by the Institution as envisioned by the <u>CALIPER</u> project, as well as for the set-up of a Research and Innovation Hub by MTF - STU BA to transfer the knowledge and best practices attained during the project beyond academia.



Introduction

Methodology

The external assessment was aimed at investigating MTF - STU BA external conditions such as the legal and cultural framework and the existing local/national innovation ecosystems and identifying where gender imbalances occur, why they are created, and by which factors they are influenced.

A quadruple helix approach was adopted, by involving stakeholders belonging to the following sectors:

- Academia and Universities
- Industry and Business
- Government and Public Sector
- Civil Society

The first step of the analysis consisted , in defining the **national legal and policy framework** and in particular:

- the existence of any specific national (and/or regional) policies on gender in Higher Education and/or Scientific Research & Innovation;
- how the frameworks define the relationship between gender equality and quality/excellence in
 - research and/or in education;
- in case there are no specific frameworks, if broader national and/or regional policies on Research, Innovation, and Higher education include any measures on gender equality.

For exploring the national (and regional) policy frameworks two methods were proposed: a desk research/policy analysis and interviews with relevant stakeholders (complementary in case the desk research did not produce enough information).

The second step of the assessment focused on the **National and Regional Innovation Ecosystems**. A **context analysis** through a dedicated desk research eventually complemented with interviews with internal stakeholders was implemented. The aim of the context analysis was to have a clear picture of the challenges faced by MTF - STU BA in its own innovation ecosystem from a gender perspective. Indeed, the analysis was related to the identification of gaps and challenges related to gender inequalities at different levels (across education, scientific research and knowledge production, transfer to market of research outputs) within innovation ecosystems.

Besides the context analysis a **mapping** was conducted in order to identify existing and potential synergies with external stakeholders, through the following methods:

- a focus group with internal stakeholders¹;
- a survey for external stakeholders;
- a Social Network Analysis (SNA).

Both the focus group and the survey had the purpose of exploring the existing collaborations with external stakeholders from a gender perspective, as well identifying actions already undertaken by stakeholders in order to overcome gender inequalities, potential synergies and risks from further collaborations on gender issues.

¹ Suggested internal stakeholders to involve were: the President and/or vice president(s) research and/or innovation, professors leading researchers/coordinators of clusters or centres or subject areas with a high density of regional cooperation, the Head of administration and heads of research support office and technology transfer office, the Head of continuing professional development/continuing education office, the Head of start-up support service.





The focus group took place in Trnava on the 28^{th of} September 2020 and involved 6 internal stakeholders, while the survey was submitted by 16 external stakeholders.

Finally, the SNA was conducted by MTF - STU BA with the aim at providing a broad view of national/regional/local networking activities that took place around the Organisation through external projects or joint initiatives. It helped spotlighting gender gaps within every partner's institutions in the leadership of external interactions and identifying how frequently gender issues are taken into account in the external stakeholders' interactions. MTF - STU BA focused on collaborations on STEM, in order to narrow the analysis down.

The result of the SNA consists in visual maps spotlighting the collaborations in place with stakeholders belonging to the following categories:

- Academia & Universities
- Industry & Business
- Government & Public Sector
- Civil Society
- Schools
- Others

Per each category a map is created showing those collaborations having female leaderships (from the side of the MTF - STU BA) and those focusing and/or taking into account gender issues. KUMU² was used as tool in order to conduct the SNA.







Slovak University of Technology in Bratislava - Faculty of Materials Science and Technology in Trnava (Research Performing Organisation)

The Slovakian national legal and policy framework

Overall strategic gender equality policies at national level

The Slovak legislation does not specifically address the area of Higher Education and/or Scientific Research & Innovation.

Gender equality is addressed within Act no. 365/2004 Coll. on "Equal Treatment in Certain Areas and Protection against Discrimination, and on amending and supplementing certain other laws as amended (Antidiscrimination Act)"³, which regulates the application of the equal treatment principle and provides legal protection measures in the case the principle is violated. The law states: "Adherence to the principle of equal treatment consists in the prohibition of discrimination on of the sex, religion or belief, race, nationality or ethnic group, disability, age, sexual orientation, marital status and family status, colour, language, political or other opinion, national or social origin, property, gender or other status, or because of the reporting of crime or other anti-social activity". "Adherence to the principle of equal treatment also consists in accepting measures to protect against discrimination".

The principle of equal treatment in labour relations and similar legal relations is addressed in Act no. 311/2001 Coll. - Labour Code, which in Art. 6 states: "Women and men have the right to equal treatment regarding access to employment, renumeration and career growth, vocational training and working conditions. Pregnant women, mothers up to the end of the ninth month after childbirth and breastfeeding women are provided with working conditions that protect their biological condition in connection to pregnancy, childbirth, childcare after childbirth and their special relationship with the child after childbirth. Women and men are provided with working conditions that enable them to perform a social function in the upbringing and care of children".

There is also the "National Strategy for Gender Equality in the Slovak Republic for 2014-2019"⁴, approved by the Ministry of Labour, Social Affairs and Family of the Slovak Republic (2019a) (MPSVR) and approved by the Slovak Government. One of its strategic areas and priorities is the number 3 on "Education, science and research", whose aim is improve the application of gender equality in education, science and research and the s Objectives are: 3.1 To improve the level of knowledge in the field of women's human rights and gender equality by ensuring continuing and wide-ranging education within lifelong learning; 3.2 Eliminate negative gender stereotypes in education; 3.3 Create an environment and effective mechanisms for the implementation of gender equality in the fields of science, research and higher education; 3.4 To deepen knowledge of existing forms of inequality between women and men by strengthening research in this area and gender statistics.

The Ministry of Labour, Social Affairs and Family of the Slovak Republic submitted also the "Action Plan for Gender Equality in the Slovak Republic for 2014-2019"⁵, approved by the Ministry itself and the Government

⁵ https://www.tsk.sk/buxus/docs/Akcny plan rodovej rovnosti v Slovenskej republike na roky 2014-2019.pdf



³ Act no. 365/2004 Coll. on Equal Treatment in Certain Areas and Protection against Discrimination, and on amending and supplementing certain other laws as amended (Antidiscrimination Act) (Zákon č. 365/2004 Z. z. Zákon o rovnakom zaobchádzaní v niektorých oblastiach a o ochrane pred diskrimináciou a o zmene a doplnení niektorých zákonov (antidiskriminačný zákon) https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2004/365/20160102

⁴ Ministry of Labour, Social Affairs and Family of the Slovak Republic. (2014a). National Strategy for Gender Equality in the Slovak Republic for 2014-2019" (Celoštátna stratégia rodovej rovnosti v Slovenskej republike na roky 2014-2019). https://www.gender.gov.sk/wp-content/uploads/2015/05/Strategia-RR.pdf



of the Slovak Republic. Education is defined in 3th area: "Improving the application of gender equality in education, science and research", with the objective number 3: To improve the application of gender equality in education, science and research and sub-objective and in particular 3.3: To create an environment and effective mechanisms for the implementation of gender equality in the field of science, research and higher education. Tasks have been set as follows:

- Task n. 32: Encourage universities and research organizations to adopt and strengthen equality strategies in their organizations, including measures to work-life balance (responsible MPSVR in cooperation with The Ministry of Education, Science, Research and Sport of the Slovak Republic (MŠVVaŠ).
- Task n. 33: To support an increase of women representation in management positions and decision-making positions in institutions of science, research and higher education (responsible MŠVVaŠ)

The "National Strategy for Gender Equality in the Slovak Republic" and the "Action Plan for Gender Equality in the Slovak Republic" have not yet been approved for the next period.

Existence of specific mechanisms to promote the under- represented gender in Higher Education and/or Scientific Research & Innovation at national or regional level

There is no national legislation, but the targets for increasing the number of women in Higher and/or Scientific Research & Innovation are stated in:

- the "National Strategy for Gender Equality in the Slovak Republic for 2014-2019"6;
- the "Action Plan for Gender Equality in the Slovak Republic for 2014-2019".

However, specific support mechanisms are not but according to our findings there is no specific support mechanism.

Existence of national policies on implementation of quotas or targets for promoting the underrepresented gender in management positions and committees

There is no national legislation on such matters. As already mentioned above, in the Slovak Republic there is a "National Strategy for Gender Equality in the Slovak Republic for 2014-2019". In the Strategic area and interest number 2 called "Participation in decision-making in public and economic life", the goals are set as follows:

- Objective 2: Reducing gender differences in the participation of women and men in decision-making positions.
- Operational objectives:
 - 1. To increase the representation of women in decision-making positions in political life, including their motivation and opportunities to candidate and participate;
 - 2. Promote and support the women's entrepreneurship by creating systemic measures, including the work-life balance;
 - 3. Increase the representation of women in economic decision-making positions.

Within the "Action Plan of Gender Equality in the Slovak Republic for the Years 2014-2019", and its Objective n. 2 "To reduce gender differences in the participation of women and men in decision-making positions", goals and tasks are partially the followings:

⁷ Ministry of Labour, Social Affairs and Family of the Slovak Republic. (2014b). Action Plan for Gender Equality in the Slovak Republic for 2014-2019. (Akčný plán rodovej rovnosti v Slovenskej republike na roky 2014-2019)



⁶ Ministry of Labour, Social Affairs and Family of the Slovak Republic. (2014a). National Strategy for Gender Equality in the Slovak Republic for 2014-2019" (Celoštátna stratégia rodovej rovnosti v Slovenskej republike na roky 2014-2019). https://www.gender.gov.sk/wpcontent/uploads/2015/05/Strategia-RR.pdf



- 1. To increase the representation of women in decision-making positions in political life, including their motivation and opportunities to candidate and participate:
 - To set as a long-term goal of the policy the increase of women's representation and initiate
 a society-wide and professional discussion on increasing the participation of women in the
 policy.
 - To introduce temporary compensatory measures in accordance with the ADZ and Article 4
 CEDAW as part of the necessary strategy for the accelerate achievement of real equality between women and men.
 - o To motivate political parties to adopt targets to increase women's representation.
- 2. To support and promote women's entrepreneurship by creating systemic measures, including the work-life balance:
 - o To create and implement programs aimed at supporting women's entrepreneurship.
 - o To support the networking of businesswomen and cooperation with the state administration.
- 3. To increase the representation of women in economic decision-making positions:
 - At the level of companies, professional unions and social partners to sequentially initiate selfregulatory measures to increase gender diversity in governing bodies with set goals and periods;
 - o To carry out research on the obstacles that women face in their career grow.
 - To carry out awareness-raising and information activities on the topic of women's representation in decision-making.

Worth to mention is the competition "Employer friendly to the family, gender equality and equal opportunities"⁸, which is organized by the Ministry of Labour, Social Affairs and Family of the Slovak Republic and its aim is to increase awareness and sensitivity on the issues of work-life balance and support for the employment of women in top positions. At the same time, it is an motivation for employers to create measures that are friendly to the families of employees, but also to gender equality and equal opportunities, and thus offer examples of good practice.

Existence of national legislation promoting equality and non-discrimination in employment

There are several laws in the Slovak Republic concerning equality and anti-discrimination. In particular:

- Constitution of the Slovak Republic No. 460/1992 Coll⁹
- Act no. 365/2004 Coll. on "Equal Treatment in Certain Areas and Protection against Discrimination, and on amending and supplementing certain other laws as amended (Antidiscrimination Act)" ¹⁰
- Act no. 311/2001 Coll. Labour Code¹¹
- Act no. 5/2004 Coll. Act on Employment Services and on amending to certain acts¹²

Existing policies at national level for reducing unequal gender division of labor related to housework and family care

In order to support a more balanced division of responsibilities for the family households and a greater involvement of fathers in childcare, the paternity leave was successfully introduced in the Slovak Republic. In particular, the Labour Code acknowledges to both women and male employees the right to maternity and

¹¹ https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2001/311/20200730

¹² https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2004/5/20200929



⁸ https://www.gender.gov.sk/aktivity/zamestnavatel-ustretovy-k-rodine-a-rodovej-rovnosti/ https://www.nadaciapontis.sk/projekty/via-bona-slovakia/zamestnavatel-ustretovy-k-rodine-k-rodovej-rovnosti-a-rovnosti-prilezitosti-via-bona-slovakia/

⁹ Constitution of the Slovak Republic No. 460/1992 Coll (Ústavný zákon č. 460/1992 Z. z. Ústava Slovenskej republiky) https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/1992/460/20190701

¹⁰ ibid



parental leave. However, women and men cannot jointly receive the maternity leave (to take care of the same child). After the end of maternity leave, the parent is entitled to receive parental allowance (maximum till the child is 3 years old or 6 years old in case the child who has a long-term health issue).

Existing framework conditions regarding childcare facilities

Childcare is provided in:

- the child's family environment;
- environments specifically dedicated to childcare,
- the family environment of the personal entity providing childcare.

Kindergartens are a typical example of a childcare facility in the Slovak Republic. The problem with kindergartens is their insufficient capacity. Due to the lack of capacity in kindergartens, many municipalities and cities are forced to give preference to some children and reject others¹³. Another issues is related to the placement of children with health and social disadvantages in kindergarten. The legislation allows kindergartens to refuse the admission of a child with a disability, in case the kindergarten does not have suitable personnel, space, materials and other conditions. As a result, there is up to 40% of children with disabilities in Slovakia who do not attend kindergarten and parents have to take care of them¹⁴. In general, there is an insufficient coverage of kindergartens or special social service facilities for disabled children, therefore the care usually remains in the hands of the mothers, who are therefore limited or need to leave their job.

In September 2020, STU was the first university in Slovakia opening a private kindergarten called STUBAčik¹⁵, meant to be used by STU employees' and students' children.

Employment conditions at university and research organization

In Slovakia, university job positions are connected with the fulfilment of the accreditation conditions of the study programs of the university. Accreditation conditions are approved by the Ministry of Education of the Slovak Republic. The list of accredited study programs is kept in the register of study programs. Entries in the register of study programs are made by universities, the Slovak Accreditation Agency for Higher Education, and the Ministry of Education, Science, Research, and Sports of the Slovak Republic. The register also records decisions of the Minister made on the basis of previous legal regulations of the Accreditation Commission. The enrolment of student programs depends on the creation of job positions for which potential employees apply through a selection procedure (tender). The job positions are divided into the position of teacher (assistant professor, associate professor, or professor), whose subject of work performance is the pedagogical area as well as research activities, and the position of researcher, whose main subject of performance is active research. In the case of scientific research staff, the selection procedure (tender) is not mandatory. Career progression (growth) is related to the achievement of a set criteria by the candidate. As far as the employment contracts are concerned, the problem is related to permanent contracts, since, often, a space for the employees' development and fulfilment of tasks / duties / criteria for their career academic development is not provided. In the case of a university teacher and researcher, the advantage in terms of work-life balance consists in the number of holidays which is of 45 days.

¹⁵ https://www.stuba.sk/sk/fakulty/ine-pracoviska/materska-skolka-stubacik.html?page id=13400



¹³ MESA10. (2018). Few kindergartens, many obstacles on the way to them. (Málo materských škôl, veľa prekážok na ceste k nim). Tlačová správa https://todarozum.sk/aktualita/210-malo-materskych-skol-vela-prekazok-na-ceste-k-nim/

¹⁴ BANKY,sk. (2018). In Slovakia, we have few kindergartens and many obstacles on the way to them, experts agree. (Na Slovensku máme málo škôlok a veľa prekážok na ceste k nim, zhodujú sa odborníci) https://banky.sk/na-slovensku-mame-malo-skolok-a-vela-prekazok-na-ceste-k-nim-zhoduju-sa-odbornici/



Existence of national programs which promote the integration of gender in the content of scientific research

The reference document is the "National Strategy for Gender Equality in the Slovak Republic for 2014-2019", which as already mentioned above, in Objective 3 reports: "To improve the application of gender equality in education, science and research" and in particular at point n. 3.4 "To deepen knowledge of existing forms of inequality between women and men by strengthening research in this area and gender statistics".

National/policies and legal frameworks on sexual/gender harassment in the workplace

The reference document is the Act No. 365/2004 Coll. on "Equal Treatment in Certain Areas and Protection against Discrimination, and on amending and supplementing certain other laws as amended (Antidiscrimination Act)"¹⁶. According to the Act, observance of the equal treatment principle also consists in the adoption of measures to protect against discriminations¹⁷.

Also Act no. 311/2001 Coll. Labour Code¹⁸ is applicable, which is the basic legislative norm of employment in Slovakia. The main principle enshrined in this legal norm is that natural persons have the right to work and to a free choice of employment, to fair and satisfactory working conditions, and to protection against arbitrary dismissal in accordance with the principle of equal treatment established by a special law in the field of employment relations: "Equal Treatment in Certain Areas and on Protection against Discrimination and on the Amendment of Certain Acts" (Anti-Discrimination Act). All workers should enjoy these rights, without any restriction or discrimination on grounds of sex, marital or family status, sexual orientation, race, colour, language, age, adverse health condition or disability, genetic characteristics, creed, religion, political or another opinion, trade union activity, national or social origin, nationality or ethnic group, property, gender or another status, unless the difference in treatment is justified by the nature of the activities pursued in the employment or the circumstances in which those activities are pursued, if that reason constitutes actual and a decisive requirement for employment, provided that the aim is legitimate and the requirement is proportionate.

Women and men have the right to equal treatment as regards access to employment, pay, and promotion, vocational training, and working conditions. Pregnant women, mothers up to the end of the ninth month after childbirth, and breastfeeding women are provided with specific working conditions.

Funding opportunities for collaborative actions on gender equality at national and regional level

The main founding source is represented by the European Regional Development Fund (ERDF / ERDF). However, at the time this report is elaborated, no opportunities/calls were identified focusing or taking into account gender equality.

However, other opportunities/calls targeting gender equality coming from other sources were identified. In particular, projects about this issue are addressed under dedicated calls of the Operational Program Human Resources¹⁹, within the Priority Axis 3 "Employment"²⁰, such as:

- National projects on the prevention and elimination of gender discrimination

Specific objective 3.2.1: "By improving conditions for work-life balance increase the employment of people with parental responsibilities, especially women"



¹⁶ https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2004/365/20160102

¹⁷ Discrimination is considered as direct discrimination, indirect discrimination, harassment, sexual harassment and unjustified punishment; discrimination is also seen an instruction to discriminate and incitement to discrimination.

¹⁸ Act no. 311/2001 Coll. - Labor Code (Zákon č. 311/2001 Z. z. Zákonník práce) https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2001/311/20200404

¹⁹ Ministry of Labour, Social Affairs and Family of the Slovak Republic. (2019a). Operational Program Human Resources (Operačný program Ľudské zdroje). Vyzvanie OP ĽZ NP 2019/3.2.1/02 – Rodová rovnosť na pracovisku. https://www.employment.gov.sk/files/slovensky/esf/op-ludske-zdroje/vyzvania-2019/vyzvania-2019/vyzvania-rodova-rovnost-pracovisku.pdf

²⁰ Investment priority 3.2: "Equality between men and women in all areas, including access to employment, career progress (development, grow), work-life balance and the promotion of equal income for equal work".

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- Call "Advice and education in the field of prevention and elimination of discrimination II"
- Call "Promoting the reconciliation of family and professional life"



The innovation ecosystem context analysis at STU BA

The following table presents the results of the context analysis conducted by STU BA in terms of quantitative and qualitative indicators.

Area	Indicator	Results
Talents and workforce education and acquisition	High School and Higher Education students in STEM by gender, at regional and national levels	STEM Higher Education students (year 2019) ²¹
	Researchers in STEM by gender	males females STEM researchers in 2018 ²² :
	in R&I, at national and regional levels	30,87 % 69,13 % males females
	Evolution of employment rate in R&I by gender	Evolution of employment rate in R&I by gender (2014-2018) ²³

²¹ Higher education institutions by group fields of study – universities. The term STEM is not clearly defined in the Slovak Republic, and therefore, the groups of disciplines were used are: 1 Sciences 2, 3 Technical sciences and theory. Source: the Statistical Office of the Slovak Republic, 2020 http://datacube.statistics.sk/#1/lang/en

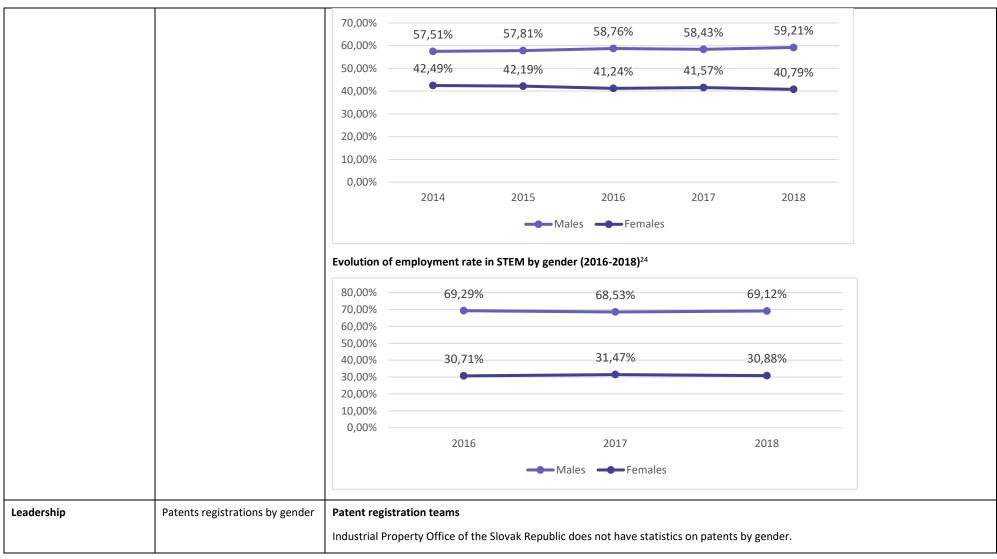
²³ Statistical Office of the Slovak Republic, 2020 http://datacube.statistics.sk/#!/lang/en



²² Only researches are included (excluding technicians and equivalent staff, support staff). The term STEM is not clearly defined in the Slovak Republic, and therefore, the scientific fields of Natural sciences and Technical sciences were used.

Source: the Statistical Office of the Slovak Republic, 2020 http://datacube.statistics.sk/#!/lang/en





²⁴ ibid.





	Founders and leaders of innovative enterprises and	Founders and leaders of start-ups by gender. Data of 2016 ²⁵ :
	start-ups by gender	23,50% 76,50% • Males • Females
		Number of start-ups in 2016: 253 ²⁶
Knowledge and tech production issues	Level of integration of gender as a scientific research dimension	Several projects funded by the Scientific Grant of the Agency of the Ministry of Education, Youth and Sports of the Slovak Republic and the Slovak Academy of Sciences (3 out of 1250 funded in 2020) are being worked out at universities ²⁷ . In particular, such projects concern: - "Gender perspectives in political sciences in Slovakia (Faculty of Social and Economic Sciences, Comenius" University) - "Financial position of the household sector in relation to gender-sensitive budgeting and social inequality" (Faculty of Economics, EU) - "The gender aspect of mathematical anxiety regarding children of lower classes at schools" (Faculty of Education, Comenius University) The Slovak Research and Development Agency financially supports the following projects: - "An approach to gender integration in the research ecosystem through synergies between research" (PEDAL Consulting, s.r.o.) - "Towards a healthy life of research institutions via the implementation of Gender Equality Plans" (Alexandra Dubček University in Trenčin) - "Gender Equality Standards for AHMSSBL institutions throughout Europe" (Faculty of Arts, Comenius University) in Bratislava, where since 2001, a Center for Gender Equality exists. This center follows a ten-year tradition of similarly oriented pedagogical and research activities carried out at the Department of Philosophy, Faculty of Arts, Comenius University in cooperation with experts from other disciplines (Comenius University, 2020). Other higher education and research institutes in Slovakia offering courses in the field of

²⁵ Steigertahl. L. & Mauer, R. (2018). EU STARTUP MONITOR. 2018 REPORT. http://startupmonitor.eu/EU-Startup-Monitor-2018-Report-WEB.pdf

²⁸ Slovak Research and Development Agency. (2020). Databáza financovaných projektov. https://www.apvv.sk/databaza-financovanych-projektov.html?select_index=281&order_by=project_demander_foreign-desc_



²⁶ Slovak Business Agency. (2018). Analýza start-upov na Slovensku. Strategická časť. http://www.sbagency.sk/sites/default/files/5_analyza_start-upov_na_slovensku.pdf

²⁷ Source: Ministry of Education, Science, Research and Sport of the Slovak Republic. 2020. Rozpis dotácií na nové a pokračujúce projekty VEGA na rok 2020. https://www.minedu.sk/rozpis-dotacii-na-nove-a-pokracujuce-projekty-vega-na-rok-2020/



		gender studies are the Faculty of Education and the Faculty of Social and Economic Sciences, Comenius University in Bratislava, and the Faculty of Arts of the University of Prešov. In the academic year 2013/2014, the Faculty of Arts, Pavel Jozef Šafárik University in Košice opened a Gender studies and Culture Bachelor's degree (Glosár rodovej terminológie, 2017 ²⁹).
	Level of consideration of the gender dimension in product/service development	The only sector which was found to designe products with consideration of the differences between men and women, was the one related to safety clothes and footwear for workers and ergonomics (i.e. personal protective equipment are available in enterprises – gloves sizes, shoe sizes, masks, goggles). In certain businesses, the ergonomics of the workplace are applied to correspond to the anthropometric conditions of people/employees based on their gender (author's own knowledge and experience in teaching the subject of Ergonomics and in research activities regarding Ergonomics) ³⁰ .
Broader issues featuring the R&I 'cultures	Gender sensitiveness/family friendliness of supporting services to start up and entrepreneurship	According to a survey conducted in 2017 ³¹ , both women and men agreed on negatevely perceiving the support given by the local and national government in terms of entrepreneurship, while as concerns the access to the market no differences are pointed out. Start-up help provided by banks and other investors is well perceived by women, whereas men consider it as insufficient. 4 out of 10 female entrepreneurs reported that they did not receive any sort of assistance when starting up a business. Sources of the little help obtained were mainly coming from their partners. Parents and other family members are also an important source of assistance. Standard forms of assistance (specialized institutions, NGOs, mentors) were used only minimally by female entrepreneurs. Only the 10% of businesswomen have completed entrepreneurial professional courses or training. If they did get training, it was mainly focused on the subjects of the business and accounting.
		When starting up a business, female entrepreneurs reported encountering mainly obstacles regarding social isolation and access to finance. One out of 5 women also encountered issues of credibility. Based on the survey, it was found that men in the business environment perceive that women bring a significant degree of "emotion" to the business, which make them feel obstacles in a more intense way. Businesswomen did not consider cultural and social attitudes to be a significant obstacle in their start-ups, despite their negative evaluation rankings. The obstacles perceived at most by women are the tax and levy burden, business legislation, and the overall unfavorable economic situation. Access to finance is not a significant hurdle for Slovak female entrepreneurs. To ease the facilitation of their businesses, women entrepreneurs would most commonly request for an increase in clarity and less frequent changes in business legislation, together with a reduction in taxes and tax burden. Thus, businesswomen, in particular, would generally prefer widespread beneficial conditions rather than selective supporting instruments. Men entrepreneurs require a similar support.
		Around the 75% of both men and women entrepreneurs claimed they did not have sufficient financial resources at the start of their businesses. Despite that, most of them did not perceive any negative consequence of such shortcoming. Even if they did, it most often regarded a slowdown in the pace of business development and growth. In relation to access to finance in start-ups, women entrepreneurs would welcome more assistance and expert advice regarding the initial business stages (especially financial), planning,

³¹ A. Pilková (26 - Pilková, A. et al. (2017). Inkluzivita podnikania na Slovensku: stav a vývojové tendencie. Bratislava. Univerzita Komenského v Bratislave, Fakulta managementu: KARTPRINT



²⁹ Glosár rodovej terminológie. (Glossary of Gender Terminology) (2017). Rodové štúdiá. (Gender studies). http://glosar.aspekt.sk/default.aspx?smi=1&ami=1&vid=176

³⁰ https://www.employment.gov.sk/sk/praca-zamestnanost/bezpecnost-ochrana-zdravia-pri-praci/



		 business plan elaboration, as well as with administrative application processing. An analysis of parents' entrepreneurship and the potential success of students in their parents' businesses shows that parents tend to involve more boys than girls in their enterprises³². The following projects aiming to support women's entrepreneurship were implemented in Slovakia: the CrossEUWBA project³³ (Enhancing the cross-sector emergence of new women business angels across Europe), co-financed by the EU. The project aims to support entrepreneurial women and to facilitate the financing of women's entrepreneurship with the help of business angels (primarily, but not exclusively, women), and thus contribute to promoting private investment in entrepreneurship in Europe. the SUPPORT OF WOMEN'S BUSINESSES IN SLOVAKIA project³⁴. the Women Entrepreneurship Forum project³⁵, in which Sloval female entrepreneurs have the opportunity to innovate and improve their business environments under the supervision of well-founded mentors from the USA. 			
	Perception of existing stereotypes/bias on gender and innovation/ entrepreneurship	With regards to balancing and reconciling family and work life, significant shortcomings and barriers still occur in the Slovak Republic. The most frequently introduced and used measure to reconcile work and family is the adoption of flexible working hours; other measures are largely absent. Due to persistent stereotypes, to a large extent, women in Slovakia remain responsible for childcare or for taking care of other family members. Compared with their growing business role in the world, women need to face a double burden. Many women provide care for their elderly family members without the adequate facilities or services at their disposal ³⁶ . In Slovakia, a division into typical female (restaurants, hotels, education, recreational services, fashion, etc) and typical male businesses still dominates ³⁷ . Active as well as passive innovation gets manifested mainly in male entrepreneurs, such as the use of modern technologies ³⁸ . Stereotypes about women lacking of entrepreneurial skills, such as self-confidence, managerial skills, assertiveness, and willingness to take risks still prevail, while men are considered better in leading and managing companies (Pilková et al., 2017, Slovak Academy of Sciences, 2018 ³⁹).			
	Table 1. Results of the context analysis conducted by STURA				

Table 1_Results of the context analysis conducted by STU BA

³⁹ Slovak Academy of Sciences. (2018). Na Slovensku stále prevláda tradičný rodový stereotyp. https://www.sav.sk/index.php?doc=services-news&source_no=20&news_no=7464/7464



³² Pilková, A. et al. (2017). Inkluzivita podnikania na Slovensku: stav a vývojové tendencie. Bratislava. Univerzita Komenského v Bratislave, Fakulta managementu: KARTPRINT. ISBN 978-80-223-4442-5. http://www.cem-uk.sk/uni-magazin/publikovali/inkluzivita-podnikania-na-slovensku-stav-a-vyvojove-tendencie/?IDe=47088&IDcheck=6c7b200f446aee176f105e03654ec46f

³³ Slovak Business Agency. (2020a). Výzva na zapojenie sa do medzinárodného projektu CrossEUWBA. http://www.sbagency.sk/vyzva-na-zapojenie-sa-do-medzinarodneho-projektu-crosseuwba#.Xzr HOgzZPZ

³⁴ Slovak Business Agency. (2020b). Podpora podnikania žien na Slovensku. http://www.sbagency.sk/podpora-podnikania-zien-na-slovensku

³⁵ Ambasadorka. (2014). WEF http://www.ambasadorka.sk/realizovane-projekty/wef/

³⁶ Ministry of Labour, Social Affairs and Family of the Slovak Republic. (2014a). National Strategy for Gender Equality in the Slovak Republic for 2014-2019" (Celoštátna stratégia rodovej rovnosti v Slovenskej republike na roky 2014-2019). https://www.gender.gov.sk/wp-content/uploads/2015/05/Strategia-RR.pdf

³⁷ Pilková, A. et al. (2017). Inkluzivita podnikania na Slovensku: stav a vývojové tendencie. Bratislava. Univerzita Komenského v Bratislave, Fakulta managementu: KARTPRINT. ISBN 978-80-223-4442-5. http://www.cem-uk.sk/uni-magazin/publikovali/inkluzivita-podnikania-na-slovensku-stav-a-vyvojove-tendencie/?IDe=47088&IDcheck=6c7b200f446aee176f105e03654ec46f

³⁸ Pilková, A. et al., (2016). Komerčné, sociálne a inkluzívne podnikanie na Slovensku. Bratislava. Univerzita Komenského v Bratislave, Fakulta managementu: KARTPRINT. ISBN 978-80-223-4230-8. https://www.fm.uniba.sk/fileadmin/fm/Veda/projekty/GEM 2015 kniha.pdf



STU BA Mapping of external stakeholders and SNA

Results of the focus group with internal stakeholders

At STU BA, the **focus group** took place in Trnava on the 28th September 2020 and involved 6 internal stakeholders (2 males and 4 females), covering the following positions: researchers, technology transfer managers and mid-level managers.

About the existing or prospective collaborations on broader areas with stakeholders, participants reported that within the MTF STU, cooperation take place at two levels: at the faculty level and at the overall institute level. A concrete example of collaboration is represented by the MTF STU Industrial Council⁴⁰, which mission is a deeper connection of the faculty with the industrial enterprises and the creation of a platform for joint solutions of strategic cooperation between academia and industry, by involving major companies and organizations of the Trnava Self-governing region (TTSK).

Generally speaking, cooperation is based, on the professional side, on providing teaching and consultation to students in professional practice and final theses. At the level of participation and joint solution of projects, instead, collaboration focuses on the creation of various professional and advisory boards and bodies, as well as teaching activities.

About the ways gender inequalities are perceived as a **challenge for the external stakeholders**, participants reported that gender inequality, generally speaking, is not perceived as an issue in Slovakia. However, the Statistical Office of the Slovak Republic reports the existence of gender inequalities on the basis of the periodic evaluation of the average wages in the industrial sector divided per gender. In addition, gender inequalities are starting to be perceived at the level of large corporations, where the topic is faced. Such issue is also starting to be added to other values of intellectual capital within enterprises and other institutions in other spheres of the national economy. There is undeniable potential in the growth of values and awareness by companies, which can have benefits in terms of human values and quality of life for the whole society. According to participants, the issue of gender equality should be addressed from the initial stages of the educational process and thus become taken into consideration in everyday life.

Concerning **actions** put in place to address gender equality, participants reported that according to their knowledge, stakeholders are aware of the issue and have identified the need to address it, as well as the willingness to engage in the change process. Participants explained that STU BA will involve stakeholders in in research activities and data collection connected to the CALIPER project, inviting them to cooperate, participate in workshops etc. Also, it was highlighted that some companies do not perceive having a problem with gender inequalities. However, they expressed the interest in taking a new perspective and motivation to improve the quality of their internal environment, and improving their own image outside.

About **complementarities and synergies** with STU BA, participants pointed out that being gender equality not directly addressed within the internal culture of external stakeholders, it is difficult to create new synergies with them around this area.

With reference of **risks** related to collaboration, participants see as a risk the current situation featured by the **COVID-19** spread, since the virus has reassessed the priorities for stakeholders, which are primarily focused on maintaining their market position and their employees. It is not possible to predict when the situation will be back to normal and stakeholders will be able to focus again on gender in their internal processes.

During the focus group participants identified the followings as external stakeholders to involve in the R&I Hubs:



⁴⁰ https://www.mtf.stuba.sk/sk/diani-na-mtf/aktuality/zasadnutie-novokreenej-priemyselnej-rady-mtf-stu.html?page_id=15153



- TTSK Trnava Trnava Self- governing region
- Mesto Trnava City Trnava
- SPU Nitra Slovak University of Agrigulture Nitra
- UKF Nitra Constantine The Philosopher University in Nitra
- FPEDAS Zilina University of Zilina, Faculty of Operation and Economics of Transport and
- SAV Slovak Academy of Science
- FPT TNUNI Puchov Faculty of Industrial Technologies in Púchov
- FGERG EIT Raw materials Hub EIT RawMaterials Hub Regional Center Kosice
- FVT Presov TU Kosice ACULTY OF MANUFACTURING TECHNOLOGIES
- of the Technical University of Košice with the seat in Prešov
- UCM University of Ss. Cyril and Methodius in Trnava
- UGaK Geodesy, Cartography and Cadastre Authority of the Slovak Republic
- VÚB Leasing
- Ministerstvo práce a soc.vecí a rodiny The Ministry of Labour, Social Affairs and Family of the Slovak Republic

Results of the survey to external stakeholders

STU BA submitted the survey to 23 external stakeholders, 16 of them participated. Overall 20 responses we collected (some stakeholders filled the survey more than once). STU BA also conducted 7 interviews with representatives of companies and of a regional public institution posing the same questions of the survey. The answers provided during the interviews will be jointly analysed with the results of the survey.

Concerning the kind of stakeholders participating 9 were universities/faculties, 5 companies and 3 public institutions.

About the kind of **collaborations already in place** with MTF STU, universities/faculties reported that they are mainly related to:

- Pedagogical activities
- Participation of teachers in commissions for state final examinations, dissertations or qualifications
- Inauguration proceedings
- Publications
- Participation in scientific conferences
- Projects related to gender equality or other projects within H2020
- Exchange of experiences

Collaborations with companies instead refer to consultation and education projects (for instance related to students' Bachelor's and Master's theses), organization of the summer children's camp within the "Automobile Academy"⁴¹. A company are part of the Industrial Innovative Cluster⁴². Some companies did not report any collaborations in place.

One of the two public entities involved has in place a collaboration related to environmental analysis, another reported having a cooperation on pedagogical activities, participation in domestic and international conferences and in projects, while the other did not report any.

About the way gender equality represents a **challenge** for their own organizations, some universities/faculties reported that at their institution gender equality is a priority and it is respected, both in management positions and other job positions (professors and administrative staff), since both genders are represented and there is no difference in salary conditions. Others claim that at the university (not

⁴² https://www.industryinnovationcluster.sk/; https://www.zapsr.sk/



⁴¹ https://ajakademia.sk/



faculty) level there is a big issue in terms of gender discrimination (especially from the female employees side) and the challenge is represented by the fact that there is resistance among the university staff in the promotion of this agenda, since people feel that "there are no gender issues" at the university, so it is not necessary to address the topic. Some universities report the need of keeping on addressing gender equality also in the evaluation procedures of students and staff in order to take the performance and the achievements into consideration and not the gender and guarantee equal opportunities for women at all levels of work and in their social and private life. In addition some universities pointed out the need of raising the involvement of women in scientific research. Companies, in general, reported not having issues regarding gender equality since they have both men and women covering all roles, also at managerial level. The same was reported by one of the public institution, while another claimed the challenge is related to the equality of work performance.

Concerning **potential benefits** in solving the mentioned challenges, universities/faculties reported that addressing gender equality / inequality in the workplace always means improving working conditions for both women and men and increasing the work (academic) culture. Other benefits identified are the following:

- To have a more balance representation of men and women in leading positions helps in having a different approach to management, to "softer" the communication and take more into account employed mothers needs
- A more balanced view about current issues
- Diverse working teams work better
- The same level of recognition in terms of performances
- More success in technical projects
- A more just environment ensure that everyone, regardless of gender, can engage in the activities they prefer
- A higher rate of women increases the attractiveness of studying STEM subjects by women
- Equal salaries.

Companies, instead, reported as benefits a better setting of responsibilities and tasks of employees and a better coordination of the work, as well as a greater use of the potential of women and men in the work activities. Others again stressed not having problem related to gender equality. One of the three public institutions instead identified a more consistency between performance and evaluation as benefit, while another one reported that gender equality in job positions leads to the application of the principle of equal treatment of individuals in all the different spheres: wages, social benefits, etc.

Moving to the actions/measures already in place in order to overcome gender inequalities, some universities/faculties reported not having dedicated measures already in place at the university level, but having implemented gender fair processes at the faculty level. Other still reported not having measures in place but being willing to introduce some (for instance a "code of ethics"). An university explained that thanks to the acquisition of the HR Excellence in Research label, the University also has the task of creating a Gender Action Plan. In order to support the plan, they set up a Working Group, which was however suspended due to the Coronavirus crisis. They are planning to organize focus groups, an online survey and then draft an action plan for a university-wide debate, with the aim of having the GAP by 2021. Another university implemented a gender equality plan containing various types of activities thanks to an international project and is leading the "My TOP Scientist Competition". Other respondents reported not being aware of any measures. No ad hoc measures were reported by companies filling the survey, with some of them stressing they do not need any measure. One of the two public institutions answered having specific measures but did not explicit which kind of measures, while another one reported having implemented the "Smart Region TTSK project" which also deals with human resources management for improving the principle of gender equality.

About **potential actions/measures** to adopt, some universities/faculties explained being willing to take measures to ensure gender equality, for instance to be incorporated in internal documents, others reported not feeling the need of implementing further measures since gender equality is already present within their own organizations or internal formal documents fighting gender inequalities already exist. Others just reported not being aware of it. Some companies would keep on with the existing measures or implement





additional activities, others feel there is no need to apply any measures since men and women already have the same rights and conditions about performance in their work. Only one public institution answered to this question by mentioning as possible activities the improvement of the management of quality processes which take into account the expertise of the individual and foster the development of human resources on the basis of the acquired professional experiences, skills and knowledges.

Concerning the stakeholders interest in continuing to **cooperate with MTS STU** in order to overcome gender inequalities, universities/faculties would continue cooperating on the topic through publications, sharing of experiences, mutual cooperation on other projects and research in gender mainstreaming, training for young students and researchers, organization of events, join forces in order to put pressure at the Senate level but also at the Ministry of Education and grant agencies level about the importance to address the topic. Companies did not provide any relevant feedback on this aspect. While one of the public institutions explained being interested especially in the area of research, development and innovation.

Concerning the possible **risks** coming from the collaboration, all universities/faculties and companies reported not being aware of any, while of the public institutions involved, one mentioned as risk the difference between vision and practice and another one reported investments risks, managerial risks, organizational risks and technical risks.

Results of the SNA

The mapping of external stakeholders for the SNA took place at the premises of the Faculty of Materials Science and Technology in Trnava (MTF STU BA), which is directly involved in the CALIPER project as part of the Slovak University of Technology in Bratislava. STU BA is one of the largest universities in Slovakia and consists of seven faculties (including MTF STU BA) and another university, therefore creating an extremely large number of working relationships and cooperation.

The applied procedure consisted of a desk research by using the Academic Information System (AIS), which contains the information required for the SNAs. The system gather the information about the activities of two departments: the Department of Knowledge Management (at the level of national cooperation) and the Department of International Cooperation. The activities of the departments are ongoing and new information is added based on their findings and availability. In this system, information is recorded with the forms of contractual cooperation, solved projects, project work teams, solution time, etc. The second phase of the process consisted in finding out web pages of stakeholders in order to gather additional information. As final step, interviews were conducted with some institutions.

Overall **33 external stakeholders** were included in the mapping. The majority of collaborations are with "academia & universities" stakeholders (20, representing the 61%), followed by "industry & business" stakeholders (6, representing the 18%), "government & public sector" stakeholders (6, representing the 18%) and "civil society" stakeholders (1, representing the 3%). The form of cooperation takes various forms. The primary approach to cooperation with universities is cooperation at the level of teaching in the form of mutual exchange of pedagogical or research staff and their participation in final state exams, final theses, as well as the performance of guest lectures. The second form of cooperation is the participation in projects within interdepartmental teams.

It is worth to mention that National projects are funded by two kinds of funds. The first one is represented by the national grant agencies operated by the Ministry of Education of the Slovak Republic. The second source are the industrial enterprises, which fund universities in order to conduct dedicated research over a specific topic ("transfer of knowledge").

About the **intensity** of collaborations with external stakeholders, most of them (22 out of 33, representing the 67%) are "solid" collaborations (more than 3 projects), 9 are "one time" collaborations and 2 "frequent" collaborations. Among "solid" collaborations, 13 are with "academia & universities" stakeholders, 5 with





"government & public sector" stakeholders, 2 with "industry & business" stakeholders and 1 with the "civil society".

Concerning the **topic** of the collaborations, many of them (12 out of 33, representing the 36%) are about "education", 10 about "scientific research", 5 about "science communication", 4 are about "raising awareness" and 2 about "transfer to market".

Overall, **24** collaborations are led by women (representing 72% of the total) on the side of MTF STU BA. Such collaborations mainly concern the implementation of specific research projects.

The majority of the collaborations led by women (13 out of 24, 54%) are collaborations with "academia & universities" stakeholders, 6 with "industry & business" stakeholders (25%), 4 with "government & public sector" stakeholders (17%), and 1 with "civil society" (4%). It is worth to point out that the **all collaborations with "industry & business" stakeholders are led by women** (6 out of 6).

No project until 2020 focused on the content of gender equality. Gender equality is only taken into account in one project⁴³ related to the involvement of girls between 12 and 15 years old into STEM subjects and their enrollment in STEM school.

The following pictures represent the results of the SNA conducted by the Faculty of Materials Science and Technology in Trnava (MTF STU BA) according to the kind of stakeholders. Therefore, 4 different maps are displayed, one for each category of stakeholders: "academia & university", "industry & business", "government & public sector" and "civil society". No collaborations with schools were included.

Per each map it is possible to identify the collaborations having female leaderships (the yellow nodes). As already mentioned, no collaborations focusing or taking into account gender were registered.



⁴³ The JUNIOR Automobile Academy https://ajakademia.sk/

External Gender Equality Assessment - MTF - STU BA



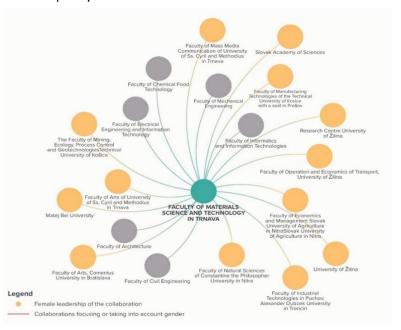


Figure 1_MTF STU BA collaborations with "Academia & University" stakeholders

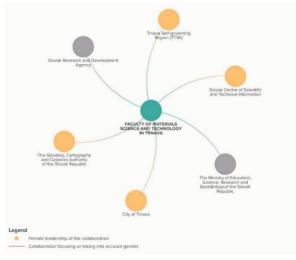


Figure 3_MTF STU BA collaborations with "Government & public sector" stakeholders

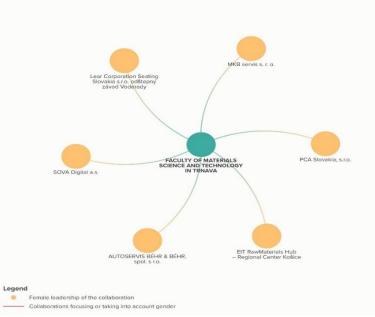


Figure 2_MTF STU BA collaborations with "Industry & business" stakeholders

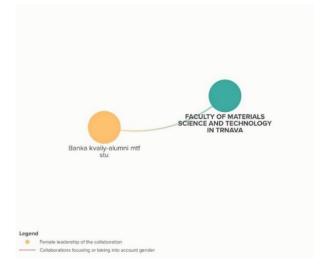


Figure 4_MTF STU BA collaborations with "Civil society" stakeholders





Final remarks on the external assessment of STU BA

In the Slovak Republic, the principle of equal treatment and the prohibition of discrimination based on sex, gender or other status are addressed at national level. Women and men have the right to equal treatment as regards access to employment, pay, and promotion, vocational training, and working conditions. However, no specific provisions are foreseen for what concerns the area of Higher Education and/or Scientific Research & Innovation. The improvement of the application of gender equality in education, science and research is anyway a priority for the Slovakian government and it is states in the national strategies and action plans in which objectives such as the increase of representation of women in decision-making positions and the promotion and support of women's entrepreneurship are pursued.

Pregnant women, mothers up to the end of the ninth month after childbirth, and breastfeeding women are provided with working conditions that protect their biological condition in connection with pregnancy, childbirth, childcare after childbirth, and their special relationship with the child after childbirth. In order to support a more balanced division of responsibilities for the family households and a greater involvement of fathers in childcare, the paternity leave was introduced, while in terms of childcare facilities, a lack of capacity of kindergartens is registered, generating negative effects in terms of equality. In general, measures for balancing and reconciling family and work life are considered as not sufficient, since significant shortcomings and barriers still occur in the Slovak Republic. Indeed, due to persistent stereotypes (e.g. lack of entrepreneurial skills, such as self-confidence, managerial skills, assertiveness, and willingness to take risks), women in Slovakia remain responsible for childcare or for taking care of other family members. As far as female entrepreneurship is concerned, many obstacles are faced by women and the support provided by the local and national government is perceived as insufficient, also in terms of financial sources.

Concerning the collected data, a great imbalance is visible concerning both STEM higher education students and researchers (the female share is around the 30% in both cases). Also, the evolution of employment rate in R&I even if higher than the EU average, is not very encouraging, and registers a decrease of the female share in the 2014-2018 time frame (from the 42,49% to 40,79%). Female funders of start-ups are a minority with respect to males (23,50%). The integration of gender as a scientific research dimension only happens at the moment through dedicated projects funded at national level and research activities, but an overall strategy is still missing.

Concerning the analysis of the collaborations in place with external stakeholders, at STU BA collaborations take place at two levels: at the faculty level and at the overall institute level.

About the ways gender inequalities are perceived as a **challenge for the external stakeholders**, it resulted that many stakeholders do not perceive gender inequalities as an issue in Slovakia. Different is the approach of other universities which, instead, claim that gender inequalities are a priority for their own organizations and they are visible both at the structural side and in the involvement of female students. Some of them reported **resistances** from the internal staff in addressing the issue. Only a couple of stakeholders reported having implemented some measures (GEPs). Stakeholders are willing to keep the cooperation with STU BA on the topic through publications, sharing of experiences, mutual cooperation on other projects and research in gender mainstreaming, training for young students and researchers, organization of events, as well as joint collaboration for involving the Ministry of Education and grant agencies.

The SNA resulted with the identification of 33 external stakeholders, the majority of them belonging to the "academia & universities" sector. Overall, the majority of **collaborations are led by women (24)** on the side of MTF STU BA, and the totality of those with industry/business sectors. Such collaborations mainly concern the implementation of projects. No collaborations focusing or taking into account gender were identified.

