

R&D programme ZETA

Gender-Matrix: framework for promotion of gender equality and career development of young researchers

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ABSTRACT

The ZETA programme focuses on young researchers who are interested in development of their career path in applied research. One aim of the programme is to support appropriate working environment providing equal opportunity for career development of men and women. This article refers to terms of support and evaluation criteria based on the so called Gender-Matrix which helps to incite gender diverse composition of research team and balanced distribution of research activities and responsibilities. The impact of the gender-related measures and evaluation will be shown on the 1st call for proposals together with several points for the ongoing discussion and feedback.

Key words: *gender equality, human resources, R&D programme, young researchers*

INTRODUCTION

The ZETA Programme

The Funding programme for applied research ZETA [ZETA programme 2016], adopted by the Government of the Czech Republic on 17th April 2016 (hereinafter ZETA programme), supports young generation of researchers up to age¹ of 35 in applied oriented research projects and in equal opportunity for men and women for development of their carrier path in research. The programme accepts market-oriented research projects based on principles of “applied research and development” according to the Frascati manual [OECD 2015]: the research solution must be practice oriented, novel, creative, uncertain, systematic and reproducible/ transferable. The gender-related measures of the programme implementation are based on the Gender policy of the Technology Agency of the Czech Republic which will “develop, attract and retain the best talent regardless of age, gender, religion, sexual orientation or origin” [Gender policy 2015, 1] and are in line with the Action Plan for Human Resources Development and Gender Equality in Research and Development in the Czech Republic for the years 2018-2020 [Action plan 2018] and the Government Strategy for Equality of Women and Men in the Czech Republic for 2014 – 2020 [Strategy for equality 2014]. The duration of the programme is set from 2017 to 2025, i.e. 9 years with the total costs of CZK 720 million (EUR 27.7 million) of the state aid. The maximum amount of financial support spent per project is limited to CZK 5 million. The maximum permissible aid intensity per project is 85% of the total eligible costs. The ZETA programme is implemented under the Act [Act 2002], with regard to the Regulation (GBER) [EC 2014] and the State Aid Framework [Framework 2014]. The programme is not provided in the *de minimis* mode.

¹ The age limit of 35 years can be shifted, see below.

Mission, Vision, Objectives

Mission: The mission of the program is to develop application culture and culture of equal opportunities of men and women by young generation of researchers. Vision: The vision of the programme is both motivated researchers to solve practice oriented research projects linked to real needs of the application sphere, and non-discriminatory and balanced opportunities for men and women in applied research in the academia or businesses. Objectives: The objectives of the programme are:

1. **Application culture:** to involve students and young researchers in research and development activities aimed at putting the results in practice, increase interest of students and young researchers in projects with a specific practical impact and support such projects in the academic sphere in general, in relation to the economy.
2. **Culture of equal opportunities of men and women²:**to support the equalization of opportunities for young researchers - women and men - to address applied research projects funded under this programme [ZETA programme 2016].

Eligible applicants and team members

Eligible applicants for funding must have a registered office in the EU, the European Economic Area or the Swiss Confederation and must meet the definition of the following entities:

- **Research and knowledge dissemination organisations.** The research organisation can be supported up to 100% of their eligible expenditure on R&D activity within the collaborative research project. Yet, the maximum intensity of support per project is 85% of total expenditure. The co-financing can be ensured from private or other public sources.
- **Enterprises.** The maximum of the allowable funding intensity is set up with the respect of their size and financial performance according the *Regulation* [EC 2014]. Enterprises carrying out the project alone or in collaboration with other participants must demonstrate the ability to co-finance the project only from private sources.

There are two targeted groups of the ZETA programme:

- **Young researchers:** students of secondary schools, university students (bachelor or master), doctoral students, post-graduate and other young researchers under 35 years of age.
- **Mentors:** person aged over 35 possessing relevant experience from the academic and/or application sector.

The research team consists of a minimum of four members incl. the mentor. The amount of mentors is unlimited, though must be justified for the evaluation purposes.

Age limit and relevant career breaks

The age limit of 35 years can be shifted in case of relevant career break such as: maternity or paternity leave, child care, long-term illness, care for a close person, foreign non-scientific stay, volunteering etc. The request for shifting the age limit and explanation is documented in the project proposal through declaration of honour. Taking into account professional or study break, the members of the team report about their max. 5 research outputs and max. 5 research projects related with the project proposal merit. In order not to discriminate against those with career breaks, the age of these references is not relevant. Researchers without significant experiences report about their competencies or study achievements.

² All measures are implemented with respect to results of the GEECCO project (grant agreement No 741128), where TACR is a leader of WP *Implementing gender equality in Research Funding Organisations*

MEASURES FOR GENDER EQUALITY AND CAREER DEVELOPMENT

I. Gender-Matrix: man, woman and balanced division of work = up to 30 points +

Measure: The evaluation of gender equality in the project proposals is based on the so called Gender-Matrix which helps to assess the research team’s composition in terms of sex (Table 1), as well as of the distribution and type of research activities and responsibilities in the team. The assessment of this criterion is based on three non-consecutive pillars:

Pillar 1: The composition of the team is gender-various

Pillar 2: The composition of the team is gender-balanced (35%)

Pillar 3: The team is led by female researcher

A gender-various team consist of man and woman, when one sex doesn’t exceed 35%. A gender-balanced team has at least 35% of one sex presented. When evaluating the gender variety or balance of the research teams, mentor(s) are included. If the project is led by a woman, other 3-4 point are added to the respective project proposal. The table below provides indicative guidelines how to assign points for this criterion.

Table 1: Gender-Matrix: bonus for gender diversity of the research team

	Pillar 1	Pillar 2	Pillar 3	
Research team	Gender-variety	Gender-balance (35%)	Female leadership	RECOMMENDED EXTRA POINTS
Project 1	YES	YES	YES	10
Project 2	YES	YES	no	7
Project 3	YES	no	YES	7
Project 4	YES	no	no	3
Project 5	no	no	YES	3
Project 6	no	no	no	0

The first two pillars are not intended as positive measures. The criteria of gender-diversity and gender-balance affects men as well as women, i.e. neither a team of women will meet the criterion of gender-variety, nor the team in which men would be represented less than of 35% will meet the criterion of gender-balance. On the contrary, the third pillar offers to the young research generation an affirmative measure, as it provides an extra point in case of female leadership. This positive measure goes back to the Government Strategy for Equality of Women and Men in the Czech Republic for 2014 – 2020, which specific objective is “positive measures to promote higher representation of women in science and research” [Strategy for equality 2014, 21]. The number of extra points in the table is not fixed, but recommended. The final amount is not based on the absolute preference of one sex, but leaves the possibility to objectively assess the involvement of male and female team members into the research work on the basis of the comparable level of workloads (e.g. persons-month) or the role of similar importance (e.g. women are not primarily dedicated to auxiliary or administrative work, etc.).

Evaluation: The degree of the bonus fulfilment is assessed by three reviewers³ independent of each other. When all points are added from three reviewers, applicants can earn up to 30 extra points for this criterion. Composition of research team should not raise suspicion that there is someone misrepresented in order to create impression of a higher ratio.

Aim: The aim of this criterion is to equalize involvement of under-represented sex in research activities and provide a balanced opportunity for a development of managerial and leadership competencies for both, men and women. A side positive effect of the Gender-Matrix may be greater sensitivity to issues of equal opportunity for men and women during the research work. It might lead also to bigger and more gender-diverse professional network with possible impact on team building in future career paths.

Background: The maximum achievable points for one project proposal are in total 391. This bonus might contribute to the total score up to 7.8 %. Unlike the rest of the evaluation criteria where 0 points means rejection of the project proposal from evaluation process – the submission for this criterion is optional and 0 point doesn't mean disqualification.

Sustainability: Based on the Contract of Support, the beneficiary must keep the same gender composition in the research team during the whole project lifecycle based on which extra points were provided. Otherwise, it must be clarified within the change procedure, what was the reason for the undesirable change, what was done to maintain the ratio or why it was not possible to maintain it.

II. Bonus for advanced Human Resources Policy = 10 points +

Measure: To be qualified for the bonus, the main applicant must meet at least 1 out of 4 options listed in the Table No. 2. Multiple options may be selected, but points are not multiplied.

Evaluation: The bonus criterion is evaluated not by the (three) reviewers, but by one external expert in the area of human resources and gender equality. Points for the bonus will be added to the sum of the points that the project proposal received from all three reviewers.

Aim: The aim of this criterion is to motivate eligible applicants (research organisations/ faculties or businesses) for targeted improvement of their HR policy and management in terms of gender equality and career development of young researchers. Other effect might be a development of high quality of environment enabling to identify, attract, develop and retain best researchers.

Background: It can be submitted optionally and concerns only the main applicant in the project (coordinator). Organizations playing the role of other partners are not entitled to this bonus. For the evaluation of a certain institution included in several project proposals, only information present in a particular project proposal will be considered for the assessment.⁴The bonus for the advanced performance of the HR policy and management is 10 points or 0 points in case the applicant fails. The 0 points doesn't mean rejection from the evaluation procedure. Compared to the maximum of achievable points (391 in total), this criterion might contribute to the total score of 2,5%.

Sustainability: This criterion is meant to increase the interest in achieving the HR Excellence in Research Award in the Czech Republic, which is supported under the Operational Program Research, Development and Education implemented by the Ministry of Education, Youth and Sports.

³ Each project proposal is assessed by three different evaluators.

⁴ Information from one project proposal cannot be taken into account by evaluating another one.

Table No. 2 Bonus for Advanced HR Policy

Options	EXTRA POINTS
1. HR Excellence in Research Award*	10
2. Company of the Year: Equal Opportunities**	
3. Gender Equality Plan in charge***	
4. Submission and description of <u>2 or more</u>¹below listed measures: <ul style="list-style-type: none"> - Aspiration to receive the HR Excellence in Research Award - Mapping and planning to the Gender Equality Plan - Operation of a kindergarten or children's group, provision of care allowance to parents after maternity / parental leave - Collection and evaluation of gender statistics - Employment of a person responsible for gender equality - Employment of the ombudsman for the employees - It has transparent career growth rules (such as distribution of institutional posts, successive fixed-term contracts, return and interruption of project investigation, equal employee rights of persons with institutional engagement and persons employed on the project) - Considering the research breaks when assessing or extending contracts - Active support of young researchers (e.g. mentoring) - Wilde card: other implemented measures considered as a sign of an advanced level of human resource management that also contributes to the development of equal opportunities for men and women and the involvement of young researchers in research 	

¹ For the 2nd call for proposals, the number of measures was reduced from 4 to 2

* The Human Resources Strategy for Researchers of the EC (also known as HRS4R)

** Award of the Gender Studies o.p.s. (NGO) for equal working conditions and culture at the workplace

*** Set of actions aiming to change institutional culture

III. Other terms of support related with better working conditions in research

Good working conditions for research of young generation of men and women are supported not only on the institutional level (HR policy) but on the level of the research team, too:

- **Protecting team members of the labour law:** Each young researcher must be employed by the applicants or, in the case of support, she or he must become an employee. Scholarships are not eligible cost for the ZETA programme. Salary conditions must comply with the respective internal regulations of the applicant. Each mentor can claim personal expenses up to 50,000. CZK (ca 1,900 thousand EUR) per year⁵.

⁵ On the contrary to the 1st call for proposals where personal costs for mentors were not eligible.

- **Work-life balance as an eligible cost**

- a) *Flat rate*

In the ZETA programme, the usual 20% overheads were lifted up to 30% for each project proposal, respectively for each organisation of main applicant using this cost reporting method. Although these costs do not need to be documented and submitted to TACR, we strongly recommend that these resources shall be used to cover the costs of work-life balance and career advancement such as training for managerial competencies, costs related to return from maternity / parental leave, additional travel expenses for the child when attending a conference or coordination meeting related with the research project, cost for babysitting/ care for close person outside of working hours, costs of education in leadership and managerial competencies, entrepreneurial competencies, competences in management of a diversified team etc.

- b) *Full cost*

This method is intended for organisations with an existing system and internal rules assigned overheads to the individual projects. Such a cost must be based on calculations, accounting protocols and documents. Under this method, the amount of overheads is not limited. The above mentioned costs related to work-life balance or career development are considered eligible only if the possibility of their calculation is already included in the internal rules of the applicant. The internal rules might be updated based on this measure.

IMPACT OF THE MEASURES AND DISCUSSION

State of the art

As of 31 January 2017, the TACR supported 1,134 men (89%) and 134 women (11%) in positions of principal investigator, out of a total of 3,400 men and 700 women as members of the research teams⁶[TACR 2018]. According to European Commission [EC 2016], compared to the EU Member States, the Czech Republic finds itself mostly in the last positions in the representation of women in research (34% in higher education, 15% private sector) and in leading positions of woman in research (15% female professors, Glass Ceiling Index 2.12 = 22 position in EU28). The Czech Republic has a high share of precarious work in research, but full-time jobs are more likely to be given to men: successive fixed-term contracts have 8% of men and 17% of women. Gender Pay Gap in research is 21%, which puts the Czech Republic on third place from the end of the EU28. Moreover, the insufficient working conditions and remuneration for doctoral and postdoctoral jobs in academia makes the start of the career in research difficult [ČAD 2017].

Impact of the measures in the 1st call for proposals⁷

In the 1st call for proposals, 240 projects were submitted of which 119 received support (success rate 47,8%). The ratio of men and women in ZETA programme is balanced: 119 research teams consisting on average of 46% women (370 persons) and 54% men (439 persons) with 7 members of the research team in average. Moreover, 66% of supported projects are led by female principal investigators (79 projects), while 34% are led by male principal investigators (40 projects). Concerning the advanced HR policy, 36 projects received 10 points for working environment of their main applicant out of which 13 projects were supported.

⁶ Core members in the team according to the project proposal. Supporting members of the team are not individually monitored and statistically calculated.

⁷ All calculations have been processed on the internal database of the Technology Agency of the Czech Republic

Table No. 3 Impact of the bonus for gender diversity of the research team

		Without bonus		With bonus	
		All TACR's running R&D projects*		ZETA programme 1 st call for proposals	
		Number	%	Number	%
Team members**	Men	3.400	83%	439	54%
	Women	700	17%	370	46%
Principal investigators	Men	1.134	89%	40	34%
	Women	134	11%	79	66%

* valid as of 01/2017

** with duplicities

Discussion

Based on experience with the implementation of the 1st and 2nd calls for proposals the following points remain challenging:

- Discriminatory versus non-discriminatory treatment of researchers
- Internal and external resistance against implemented measures

Most of the criteria of Gender-Matrix concept are designed to touch both sexes evenly, neither men nor women are addressed to fulfil the criterion, but both of them. Neither a team of women will meet the criterion of gender-variety, nor the team in which men would be represented less than of 35% will meet the criterion of gender-balance. Should we take into account different proportions of men and women in each scientific discipline, and if so, to what extent? It might be difficult to reach 35% for those scientific disciplines where one of the sexes is significantly under-/ or over-represented. But bearing in mind current share of men and women in research disciplines, would that not be a preservation of the inequitable status quo? The results of the 1st call for proposals show that, in average, achieving the targeted share of men and women in research teams is possible. Moreover, the share of 35% allows to develop benefits arising from gender-based diversity which would not be effective at lower proportion [Šprincová 2016]. The positive measure is the bonus for teams led by women which might result in elimination of reasons for previous discrimination practices. How else could be explained that overwhelming majority of research teams are led by men so far (89%), but after the introduction of the bonus criterion, two thirds of principal investigators are women? This fact might indicate a structural discriminatory-based defect in research ecosystem affecting women. Nevertheless, majority of those measures cause internal (reluctance of some TACR's employee) and external (opposition of researchers) resistance. The resistance is based not only on assumption that the positive measure means discrimination of men, but also that to men and women are given same chances, and how they will be used is not determined by gender-biased environment but by personal dispositions or decisions. Once the existing barriers for equal opportunity of man and woman vanish, the positive measures will not be needed anymore. So until then, why cannot public (!) money be spent in a non-discriminatory way so that it affects career development for both men and women equally? In this respect, it is necessary to continue to inform actors of the research ecosystem how to develop, attract and retain the best research talents regardless of age, gender, religion, race, sexual orientation or origin. Thus, it would be helpful to explain and introduce measures for gender equality and career development not only among the commissioning bodies affecting the tasks of research funding organisations but also make them visible in the next funding period Horizon Europe more than previously.

CONCLUSIONS

Although the measures for gender equality and career development of young researchers are implemented through bonus criteria, the effect on the programme objective achievement seems to be significant. The system of the so called Gender-Matrix brings not only more balanced participation of men and women in research projects (54% and 46%) but particularly also higher number of women in leadership positions (66%, 79 projects). The assessment is not based on the absolute preference of one sex, but leaves the possibility to objectively assess involvement of male and female team members into the research work on the basis of the comparable level of workloads or the role of similar importance. Moreover, the working conditions of the researchers are promoted on the level of HR policy (bonus for advanced HR management) as well as on the level of the day-to-day work in the research team (work-life balance costs are eligible as well as costs for career development). Challenging is change of the mind-set towards this type of measures of the internal stakeholders (employees of TACR, highest management level) as well as external stakeholders (beneficiaries, researchers). Thus, greater political attention of the commissioning bodies should be paid to removing barriers for equal participation of men and women in research and innovation at both national and European level.

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