Review of the MSCA lump sum and unit contributions

Final report

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Unit C.2 — Marie Skłodowska-Curie Actions

Contact: Unit C.2 — Marie Skłodowska-Curie Actions

E-mail: EAC-MARIE-SKLODOWSKA-CURIE-ACTIONS@ec.europa.eu

European Commission
B-1049 Brussels

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Review of the MSCA lump sum and unit contributions

Final report

Edited by: Mantas Pupinis, Greta Kirdulytė, Omar F. Abozeid, Giedrė Makauskė, Debora Del Cogliano, Jurgita Butkevičienė, Manuel Souto-Otero

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Abstract

The Marie Skłodowska-Curie Actions (MSCA) fund excellent research and innovation and equip researchers at all stages of their careers with new knowledge and skills through five different actions: Doctoral Networks (DN), Postdoctoral Fellowships (PF), Staff Exchanges (SE), COFUND, and MSCA and Citizens. Costs under these actions are reimbursed on the basis of lump sum and unit contributions, the latter covering costs for recruited researchers, seconded staff members as well as institutional costs. The current rates were established in 2020 in the Decision of 11 March 2021 authorising the use of lump sum and unit contributions for MSCA under the Horizon Europe Programme.

The above-mentioned Decision requires the Commission to closely monitor the lump sum and unit contributions to ensure that they respect sound financial management and co-financing principles, do not contribute to double financing and remain sufficiently competitive and attractive to excellent researchers and institutions. Thus, the objective of this study is to carry out a mid-term review of the MSCA lump sum and unit contributions, and to recommend updated eligible researcher and institutional unit contributions for each Marie Skłodowska-Curie action.

1. Introduction

1.1. Nature of the supported actions

The Marie Skłodowska-Curie Actions (MSCA) fund excellent research and innovation, and equip researchers at all stages of their career with new knowledge and skills, through five actions[1] with different, but complementary, objectives:

- **Doctoral Networks (DN)** aim to train creative, entrepreneurial, innovative and resilient doctoral candidates and raise the attractiveness and excellence of doctoral training in Europe.
- **Postdoctoral Fellowships (PF)** aim to enhance the creative and innovative potential of researchers holding a PhD who wish to acquire new skills through advanced training, international, interdisciplinary and inter-sectoral mobility.
- **Staff Exchanges (SE)** promote innovative international, inter-sectoral and interdisciplinary collaboration in research and innovation through exchanging research, technical, administrative and managerial staff, and sharing knowledge and ideas at all stages of the innovation chain, and help turn ideas into innovative products, services or processes.
- **COFUND** co-finances new or existing doctoral programmes and postdoctoral fellowship schemes at national, regional or international level with the aim to spread the best practices of the MSCA including international, inter-sectoral and interdisciplinary research training, as well as transnational and cross-sectoral mobility of researchers at all stages of their career.
- **MSCA and Citizens**, through the **European Researchers' Night**, aims to bring research and researchers closer to the public at large, to increase awareness of research and innovation activities, to boost public recognition of science and research education, to show the role of the researcher in and for society and the economy, and the impact of researchers' work on

[1] Since Horizon 2020, several actions have been renamed: Innovative Training Networks (ITN) were renamed Doctoral Networks (DN), Individual Fellowships (IF) were renamed Postdoctoral Fellowships (PF), Research and Innovation Staff Exchanges (RISE) were renamed Staff Exchanges (SE), European Researchers' Night (NIGHT) were renamed MSCA and Citizens. The COFUND has not been changed.

citizens' daily lives, as well as to raise the interest of young people in research and scientific careers.

1.2. Rationale of the MSCA funding system and objectives of the study

In order to offer attractive working conditions for researchers from all over the world and reduce the administrative burden related to using reimbursement on the basis of real costs, the simplified funding system of the MSCA was established under the previous framework programmes and developed into the current unit costs system as of 2014. The unit costs system has proven to be flexible and efficient; therefore, it continues to be used in Horizon Europe.

The first MSCA unit costs Decision[2] required a mid-term review of the unit rates compared to real costs and researchers' salary developments in Europe and beyond. Based on the evidence provided in the consultancy study in 2017, the European Commission adopted a second Decision[3], which increased the monthly living allowance for early-stage and experienced researchers as well as the monthly top-up allowance for seconded staff members by 5%, to take account of inflation over the years 2014-2017.

In 2019-2020, the European Commission implemented another consultancy study[4] to review the MSCA funding system in preparation for the launch of Horizon Europe. This study recommended the following:

- To update the living allowance in both MSCA DN and PF by 4% based on the Belgian inflation over the years 2018-2020.
- To accordingly update the rates for the COFUND allowance, as it provides 70% of the combined living and mobility allowance of researchers funded under MSCA DN and PF.
- To increase the MSCA family allowance significantly from EUR 500 to EUR 660 (32% increase). This recommendation was based on rigorous

[2] European Commission (2013) *Commission Decision of 27.11.2013 authorising the use of reimbursement on the basis of unit costs for Marie Skłodowska-Curie actions under the Horizon 2020 Framework Programme, C(2013) 8194 final*. Available at: https://ec.europa.eu/research/participants/data/ref/h2020/other/legal/unit_costs/unit-costs_tna-infra_en.pdf

[3] European Commission (2017) *Decision amending decision C(2013)8194 authorising the use of reimbursement on the basis of unit costs for Marie Skłodowska-Curie actions under the Horizon 2020 Framework Programme, C(2017) 6855 final*. Available at: https://ec.europa.eu/research/participants/data/ref/h2020/other/legal/unit_costs/unit-costs_msca_en.pdf

[4] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/en/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-en

statistical analysis of survey data, which revealed that having a family has the highest statistically significant negative impact on the perceived satisfaction with the overall MSCA income.

- To keep the mobility allowance unchanged in Horizon Europe in order to secure the budget for a substantial increase in the family allowance (which was a clear priority, on the basis of evidence).
- To more ambitiously increase the SE top-up allowance (from EUR 2 100 to EUR 2 300 or by 9.5%) rather than just an increase based only on inflation. This was suggested in order to increase the attractiveness of the SE action, especially to third country secondees and those hosted in more expensive areas.
- To more equitably redistribute research, training and networking contributions between DN and PF by slightly decreasing the rate for doctoral students (from EUR 1 800 to EUR 1 600 or by 11%) while increasing the rate for postdoctoral researchers (from EUR 800 to EUR 1000 or by 25%).
- To rebalance the SE funding system so that it encourages the participating organisations to focus at least as much on secondments as on the research project. SE management and indirect unit contributions were increased from 700 EUR to 1000 EUR (by 42.9%), while research, training and networking unit contributions were decreased from 1800 EUR to 1300 EUR (by 27.8%).
- To revise the COFUND funding scheme to make it much more flexible. As a result, the scheme now has only one type of allowance, called COFUND allowance.
- To introduce two new types of unit contributions: special needs allowance and long-term leave allowance.
- To develop a simplified process to fund European Researchers' Night events (MSCA & Citizens) – lump sum contributions.

The outcomes of the previous study fed into the new Decision authorising the use of lump sum contributions and unit contributions for MSCA under Horizon Europe.[5] This Decision requires the Commission to closely monitor the lump sum and unit contributions to ensure that they respect the sound financial management and co-financing principles, do not contribute to double financing

[5] European Commission (2021) *Decision of 11 March 2021 authorising the use of lump sum contributions and unit contributions for Marie Skłodowska-Curie actions under the Horizon Europe Programme*. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/unit-cost-decision_he-msca_en.pdf

and remain sufficiently competitive and attractive for excellent researchers and institutions. Thus, **the objective of this study is to carry out a mid-term review of the MSCA lump sum and unit contributions in line with the above-mentioned Decision**.

1.3. Economic context since the previous review of the MSCA unit and lump sum contributions: very high inflation

High inflation has significantly re-shaped the economic landscape since the last review of the MSCA funding system at the end of 2020. This has had a profound impact on the purchasing power of salaries (including those of researchers) and other types of funding (e.g. funding for research materials, training and networking). Therefore, it is essential to consider its impact when reviewing the MSCA lump sum and unit contributions.

In order to assess the evolution of inflation in the period between January 2021 (when Horizon Europe and the current MSCA lump sum and unit contributions rates came into force) and October 2023 (the latest available data), we use the Eurostat's **Harmonised Index of Consumer Prices (HICP)**[6]. The HICP gives comparable measures of inflation for the countries and country groups for which it is produced. The HICP index for Belgium is used to update the salaries of the EU staff. It was also the metric used to measure inflation in the two previous consultancy studies that evaluated the MSCA funding system

Table 1 shows the change of the HICP index from January 2021 until October 2023 in all EU countries as well as the EU-27 average[7]. The last column of the table shows a very significant increase in prices in this period in many EU Member States, ranging from a 13.53% increase in Finland to a 40.81% increase in Hungary. The darker red colour in this column shows countries where the highest inflation took place; the lighter red colour shows countries where inflation was milder. It is notable that among the countries with the highest inflation many fall in the group of widening countries, for example: Estonia (36.5%), Lithuania (35.69%), Latvia (31.9%), Czechia (31.18%), Poland (30.14%), among others.

[6] Please refer to the Eurostat website for detailed definitions related to the HICP: https://ec.europa.eu/eurostat/cache/metadata/en/prc_hicp_esms.htm

[7] Please note that fully accurate and comparable data for this period are provided by the Eurostat only for the EU Member States.

Table 1. Inflation in January 2021 – October 2023

TIME	2021-01	2021-06	2022-01	2022-06	2023-01	2023-06	2023-10	Inflation 2021 01 - 2023 10
GEO (Labels)								
European Union - 27 countries (from 2020)	106.27	108.65	112.20	119.03	123.39	126.69	127.73	20.19%
Belgium	107.82	111.11	116.99	122.82	125.66	124.79	127.15	17.93%
Bulgaria	106.59	108.20	114.80	124.16	131.20	133.45	135.44	27.07%
Czechia	112.9	114.5	122.8	133.5	146.2	148.4	148.1	31.18%
Denmark	103.0	104.5	108.0	114.0	117.1	116.7	118.1	14.66%
Germany	106.8	109.1	112.3	118.1	122.6	126.1	127.2	19.10%
Estonia	110.22	113.76	122.39	138.79	145.16	151.30	150.45	36.50%
Ireland	101.0	103.1	106.1	113.0	114.1	118.4	119.5	18.32%
Greece	99.20	102.17	104.65	114.05	112.29	117.23	118.17	19.12%
Spain	103.87	107.46	110.26	118.22	116.72	120.13	121.69	17.16%
France	106.03	107.57	109.51	114.60	117.22	120.71	121.61	14.69%
Croatia	103.08	105.40	108.76	118.14	122.34	127.91	129.52	25.65%
Italy	102.6	105.2	107.8	114.1	119.3	121.8	122.2	19.10%
Cyprus	98.41	102.17	103.33	111.34	110.33	114.41	117.32	19.22%
Latvia	108.36	111.60	116.44	133.08	141.30	143.90	142.93	31.90%
Lithuania	111.05	114.74	124.68	138.31	147.75	149.67	150.68	35.69%
Luxembourg	107.33	109.35	112.30	120.65	118.78	121.81	124.12	15.64%
Hungary	115.12	118.93	124.26	133.90	156.81	160.55	162.10	40.81%
Malta	102.22	109.66	106.36	116.37	113.58	123.54	121.96	19.31%
Netherlands	106.51	109.27	114.61	120.13	124.23	127.78	129.56	21.64%
Austria	109.05	111.28	113.93	120.99	127.11	130.42	132.24	21.27%
Poland	110.8	113.7	120.4	129.9	139.5	144.2	144.2	30.14%
Portugal	102.76	104.91	106.25	114.37	115.44	119.79	120.65	17.41%
Romania	112.29	114.62	120.42	129.55	136.61	141.55	144.87	29.01%
Slovenia	104.20	107.03	110.48	118.61	121.47	126.43	128.05	22.89%
Slovakia	109.00	111.19	117.37	125.21	135.05	139.39	139.89	28.34%
Finland	104.76	105.75	109.10	114.31	117.69	118.96	118.93	13.53%
Sweden	108.73	109.87	112.98	119.61	123.81	127.17	127.29	17.07%

Source: Eurostat HICP - monthly data (index). See:
https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_midx/default/table?lang=en

To contextualise the inflation data presented above, and to demonstrate the severity of inflation in 2021-2023, Table 2 shows the change of HICP index (cumulative inflation) in the preceding 7 years, i.e., in 2014-2021. Comparison of the evidence provided in the two tables shows that in many EU countries inflation in 2021-2023 (3-year period) was twice as high as in the preceding 7-year period (2014-2021). This leads to the assumption that inflation in 2021-2023 must have had a severe impact on the purchasing power of researchers' salaries, including in the MSCA.

Table 2. Inflation in January 2014 – January 2021

TIME	2014-01	2015-01	2016-01	2017-01	2018-01	2019-01	2020-01	2021-01	Inflation 2014 01 – 2021 01
GEO (Labels)									
European Union–- 27 countries (from 2020)	99.05	98.46	98.71	100.35	101.75	103.22	105.00	106.27	7.29%
Belgium	97.82	97.20	98.99	102.03	103.82	105.69	107.17	107.82	10.22 %
Bulgaria	102.21	99.80	99.40	99.77	101.08	103.43	106.94	106.59	4.29%
Czechia	99.6	99.5	100.0	102.3	104.4	106.5	110.5	112.9	13.35 %
Denmark	99.2	98.9	99.3	100.0	100.6	101.8	102.6	103.0	3.83%
Germany	98.6	98.1	98.5	100.2	101.7	103.4	105.1	106.8	8.32%
Estonia	99.30	98.78	98.85	101.61	105.28	108.18	109.94	110.22	11.00 %
Ireland	99.1	98.7	98.7	98.9	99.2	100.0	101.1	101.0	1.92%
Greece	101.21	98.42	98.30	99.79	100.00	100.54	101.63	99.20	-1.99%
Spain	99.49	98.04	97.63	100.50	101.22	102.26	103.42	103.87	4.40%
France	99.09	98.70	99.02	100.57	102.06	103.52	105.24	106.03	7.00%
Croatia	99.40	98.77	98.60	99.51	100.75	101.32	103.12	103.08	3.70%
Italy	98.5	98.0	98.4	99.4	100.6	101.5	101.9	102.6	4.16%
Cyprus	99.04	98.31	97.25	97.92	96.47	98.53	99.22	98.41	-0.64%
Latvia	99.28	98.94	98.63	101.45	103.49	106.53	108.85	108.36	9.15%
Lithuania	100.33	98.96	99.62	102.15	105.87	107.60	110.81	111.05	10.68 %
Luxembourg	98.83	97.69	98.13	100.59	101.90	103.58	106.21	107.33	8.60%
Hungary	99.93	98.56	99.52	101.87	104.01	106.88	111.92	115.12	15.20 %
Malta	95.52	96.29	97.07	98.47	99.63	100.58	101.97	102.22	7.01%
Netherlands	98.48	97.82	98.03	99.64	101.12	103.13	104.85	106.51	8.15%
Austria	98.01	98.48	99.85	101.91	103.86	105.62	107.91	109.05	11.26 %
Poland	100.8	99.7	99.4	100.8	102.4	103.0	106.9	110.8	9.92%
Portugal	98.45	98.09	98.78	100.05	101.15	101.73	102.57	102.76	4.38%
Romania	99.96	100.46	98.95	99.28	102.66	105.98	110.09	112.29	12.33 %
Slovenia	99.80	99.08	98.32	99.84	101.56	102.78	105.15	104.20	4.41%
Slovakia	100.38	99.87	99.24	100.02	102.59	104.86	108.23	109.00	8.59%
Finland	99.63	99.49	99.52	100.41	101.26	102.48	103.72	104.76	5.15%
Sweden	98.35	98.71	99.96	101.50	103.10	105.13	106.73	108.73	10.55 %

Source: Eurostat HICP–- monthly data (index). See:
https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_midx/default/table?lang=en

Based on the established practice of adjusting the EU staff salaries and the MSCA living allowance according to the HICP index for Belgium, **whenever this study suggests adjusting any rate in terms of inflation, we will use the HICP inflation in Belgium in the period January 2021 – October 2023**, as shown in Table 1. Inflation in Belgium from January 2021 until October 2023 was approximately 18% (17.93%, to be precise).

1.4. Methodology

The methodological approach of this study included the following key components:

- Large-scale survey of MSCA researchers and organisations (6 572 complete and 2 056 partial responses)[8]. An overview of the validity and reliability of the data collected via the survey is provided in Annex 1. It presents a more in-depth analysis of the survey programme and explores the characteristics of respondents who completed the survey.[9]
- Interview programme (55 interviews) with key stakeholders, MSCA National Contact Points (NCPs), MSCA Programme Committee members, disability experts, and long-term managers of MSCA projects.
- Desk/market research to establish the real prices of various cost items incurred by MSCA researchers and organisations, and an analysis of financial conditions offered by other fellowship schemes.
- Analysis of monitoring data from the CORDA[10] and Compass[11] databases, which are used internally by the European Commission and the European Research Executive Agency.

Geographical sampling was applied to the analysis of the survey data. Countries were classified into six different country groups based on categories used in Horizon Europe[12]: (1) EU widening countries (abbreviated as “EU widening” in the tables and graphs below); (2) EU non-widening countries (abbreviated as “EU non-widening” in the tables and graphs below); (3) associated widening countries (abbreviated as “associated widening” in the tables and graphs below); (4) associated non-widening countries (abbreviated as “associated non-widening” in the tables and graphs below); (5) third countries automatically eligible for funding

[8] Completed responses mean that the respondents answered all questions of the survey, while partial responses mean that they answered some or many questions, but not all. The surveys targeted organisations and researchers that received funding under Horizon Europe, as well as those who received funding under H2020 but did not fall within the scope of the previous study/review.

[9] The survey was sent to all researchers and organisations participating in Horizon Europe projects, and to those researchers and organisations participating in Horizon 2020 projects, who were not surveyed in the previous review of the MSCA funding system (i.e., projects that started after 10 July 2019).

[10] It is a non-public database, which contains data on the applicants/proposals and signed grants/beneficiaries with regards to a specific Framework Programme for Research.

[11] It is an internal corporate workflow system.

[12] European Commission (2024) *List of Participating Countries in Horizon Europe*. EU Grants: List of participating countries (HE): V2.9 – 21.03.2024. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

(abbreviated as “third eligible” in the tables and graphs below); (6) third countries not automatically eligible for funding (abbreviated as “third non-eligible” in the tables and graphs below). To be in line with the current political context, wherever comparisons between Horizon 2020 and Horizon Europe were necessary in the analysis, the study team used classifications of countries as applied under Horizon Europe (do note that some of the countries fell into different country groups in Horizon 2020; see Annex 1).

1.5. Structure of the report

The final report is divided into eight main parts:

- This first section of the report provides .a brief introduction, setting the groundwork for the following content.
- The second section of the report provides an analysis of researchers’ unit contributions.
- The third section of the report focuses on the analysis of institutional unit contributions.
- The fourth section provides an assessment of the COFUND allowance.
- The fifth section looks at developing and testing methods to update unit contributions.
- The sixth section provides an analysis of costs incurred by beneficiaries of the European Researchers’ Night under Horizon 2020 and Horizon Europe.
- The seventh section provides an analysis of costs incurred by the MSCA beneficiaries and researchers for reducing the environmental impact of their research activities in line with the MSCA Green Charter.
- The eighth section provides the final recommendations on the future MSCA funding system.

The report also has 10 annexes:

1. Remarks on the validity and reliability of the data collected via survey.
2. Analysis of researchers’ salaries in the EU and beyond.
3. Analysis of the datasets of the costs incurred by the beneficiaries of the European Researchers’ Night under Horizon 2020 and Horizon Europe.

4. Costs incurred in reducing the environmental impact of research activities in line with the MSCA Green Charter.
5. Overview of competing fellowships.
6. Analysis of rent prices and travel costs in the EU and beyond
7. Analysis of the prices of open access publications charged by the major journals
8. Analysis of the prices of training and networking activities
9. Analysis of the maternity, paternity, sick and special leave benefits paid by the employers in the EU
10. Analysis of disability services and costs incurred by researchers with disabilities

2. Review of researchers' unit contributions

2.1. Living allowance

According to the European Commission's *Decision authorising the use of lump sum contributions and unit contributions for MSCA under the Horizon Europe Programme*, the objective of the living allowance under the MSCA DN and PF is 'to cover personnel costs for the employment of researchers with full social security coverage'[13]. In principle, the living allowance can be interpreted as constituting a 'salary' for doctoral candidates and postdoctoral researchers taking part in MSCA projects. Therefore, it can be compared to salaries of researchers outside of the MSCA programme in order to assess the difference between MSCA and non-MSCA salaries.

There are many challenges in gathering fully comparable data on researchers' salaries across different countries. These stem from diverse and intricate taxation systems, collective and sectoral agreements, and institution-level regulations, among other factors. The study team used a variety of methods (desk research, survey, stakeholder interviews) to gather and triangulate data on salaries in order to maximise their comparability. As salary information was provided in different formats depending on the data source[14], **the study team consistently aimed to define gross salary rates for comparative analysis.**

The MSCA living allowance is in principle understood as a super gross salary**,** since it is generally used to cover all the costs relating to an MSCA fellow's salary. However, our analysis shows that the actual treatment of the living allowance differs in various organisations; for example, some organisations treat it as a gross salary and pay the employers' taxes themselves.

Annex 2 provides a detailed and thorough analysis of researchers' salaries in the EU and beyond based on desk research and large-scale survey of researchers and organisations participating in the MSCA. To validate the data on salaries, the study team also consulted, via interviews or emails, with some of the MSCA NCPs, the MSCA Programme Committee members and beneficiaries about gross and super gross salary levels in their countries. This analysis is likely the

[13] European Commission (2021) *Decision of 11 March 2021 authorising the use of lump sum contributions and unit contributions for Marie Skłodowska-Curie actions under the Horizon Europe Programme*. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/unit-cost-decision_he-msca_en.pdf

[14] Including super gross (including employers' taxes), gross and net.

most comprehensive examination of researcher'' salaries in Europe available to date, serving as a valuable resource beyond the scope of this study.

The reader should note that each MSCA doctoral and postdoctoral researcher also receives a mobility allowance, the purpose of which is 'to cover additional, private mobility-related costs, e.g. travel and accommodation costs'[15]. The mobility allowance is usually paid together with the living allowance, and these two allowances normally make up the monthly income of an MSCA researcher. One of the main functions of the mobility allowance is to help cover accommodation costs, which non-MSCA researchers normally pay from their salaries. However, this allowance should not be systematically considered as part of the researcher's salary for comparison purposes, since MSCA fellows, by definition, incur additional costs linked to their mobility, which is not the case for non-mobile researchers. In addition to this, surveys show that postdoctoral and doctoral candidates, and even organisations, usually do not think in terms of MSCA terminology (living and mobility allowances), but rather think in 'real world' terms, i.e., interpret the full monthly income they get as a monthly salary. **That being said, to deliver a thorough analysis in our research we always consider both scenarios: first, salary solely as a living allowance, which we will refer to as basic salary throughout this report; second, salary inclusive of living and mobility allowances, which we will refer to as inclusive salary throughout this report.**

The objectives of the living and mobility allowances have not changed since Horizon 2020 where the same types of allowances were provided under the MSCA Innovative Training Networks (ITN) and Individual Fellowships (IF). However, while the mobility allowance has not been increased since 2014, the rates of the living allowances were increased in 2018 and 2021 as a result of the recommendations provided by the consultancy studies[16]. Table 3 demonstrates the evolution of living and mobility allowances over the years 2014-2021.

[15] European Commission (2021) *Decision of 11 March 2021 authorising the use of lump sum contributions and unit contributions for Marie Skłodowska-Curie actions under the Horizon Europe Programme*. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/unit-cost-decision_he-msca_en.pdf

[16] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/en/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-en
European Commission (2017) *Mid-term Review of Marie Skłodowska-Curie actions unit costs*. Available at: https://op.europa.eu/en/publication-detail/-/publication/df75d3fa-5499-11e7-a5ca-01aa75ed71a1/language-fr

Table 3. Evolution of living and mobility allowances under Horizon 2020 and Horizon Europe (in EUR)

Funding scheme	2014-2017	2018-2020	2021-2023	Overall increase in 2014-2021
Doctoral Networks / Innovative Training Networks living allowance	3 110	3 270 (5.1% increase)	3 400 (4% increase)	9.3%
Postdoctoral Fellowships / Individual Fellowships living allowance	4 650	4 880 (4.9% increase)	5 080 (4% increase)	9.2%
Mobility allowance	600	600 (0% increase)	600 (0% increase)	0%

Source: Commission Decisions and consultancy studies.

How were the previous changes in the living allowance substantiated? After comparing the MSCA living allowance (and its change over time) to salaries of similar researchers outside of the MSCA programme, both consultancy studies in 2017 and in 2020 concluded that the MSCA living allowance in principle remains competitive and attractive. At the same time, to retain the purchasing power of the living allowance, both studies recommended updating the living allowance in line with the inflation trends observed since the last revision.

This study aims to provide evidence for defining the living allowance for the period starting in 2024.

There are **two main methodological approaches to compare the gross 'salaries' of the MSCA researchers** (basic i.e., living allowance; or inclusive i.e., living *plus* mobility allowance) with the gross salaries of researchers outside of the MSCA:

- **Snapshot comparison**. This approach compares the current (2023) gross salaries of the MSCA researchers to the current (2023) gross salaries of researchers outside of the MSCA programme.
- **Time series comparison**. This approach compares changes to the MSCA researchers' salaries with those of researchers outside of the MSCA programme over the same period of time (for our purposes, the most suitable timeframe is 2014-2023).

It is difficult to provide a proper time series comparison of researchers' salaries as there is no comprehensive and up-to-date source that allows directly

comparing the market-level salaries of researchers in Europe or in each European or non-European country relevant for Horizon Europe. At the national level, it is also extremely uncommon to gather data on salaries of researchers as a specific group (going even further, a formal statistical definition of a 'researcher' rarely exists in any country or at the EU level). In addition to this, there are no time series data collected according to the categories of researchers applied by the MSCA, i.e., doctoral candidates and postdoctoral researchers. This has been confirmed by the fact that most of the MSCA NCPs and Programme Committee members contacted by the research team of this study did not have any strong evidence as to what the salaries of doctoral and postdoctoral researchers are in their countries[17].

This is why all the consultancy studies to review the MSCA funding system implemented until this point mostly relied on a snapshot comparison approach, i.e., comparing the salaries of the MSCA and non-MSCA researchers at a point in time when each respective study was implemented (2017, 2020 and the current study in 2023). Furthermore, the consultancy studies in 2017 and 2020 did not measure the researchers' salaries outside of the MSCA in each country or at the EU (or Horizon 2020) level.

The current study (and Annex 2) takes a more in-depth approach as it gathers evidence on the indicative monthly gross salaries of non-MSCA researchers for the majority of the EU countries. This is achieved through a two-pronged method: desk research based on official national or institutional sources, and the survey of the organisations participating in the MSCA.

The study also draws on **Eurostat's labour cost index (LCI), which provides a rigorous proxy indicator to understand the change in researchers' salaries across Europe in 2014-2022.** The labour cost index, abbreviated as LCI, is an indicator showing the development of hourly labour costs incurred by employers. Table 4 shows the change over time in labour cost index (LCI) of the NACE M activities: professional, scientific and technical activities (LCI for 2020 = 100). Both academic and private researchers fall under these NACE classification activities. Therefore, the change of the LCI from 2014Q2 to 2023Q2 reflects the evolution of salaries in professional, scientific and technical activities in 2014Q2-2023Q2, a period relevant to our study.

The last column of Table 4 shows that salaries of researchers in the EU-27, on average, have risen by around 26.22% in the period 2014Q2-2023Q2. As presented earlier in Table 3, in the same period, the living allowances have increased by slightly more than 9%. This difference indicates a clear need to

[17] Some examples were provided by interview respondents, which usually included salary levels in specific universities (gross or super gross), rather than salary levels in a country.

update the MSCA researcher salaries (particularly living allowances) for the period starting with 1 January 2024 in order for them to match the EU average increase in the researchers' salaries outside of the MSCA programme.

Table 4 also shows large variations in the % increase of researchers' salaries in 2014-2022, with the lowest increase in Croatia (8.92%) and the highest increase in Turkey (803%). It should be noted that the increase in researchers' salaries was much more pronounced in the widening countries compared to the non-widening countries, where the increase was often close to the EU average. Table 4 also shows that in many widening countries there was a significant jump in LCI in the short period from 2021 to 2023.

Table 4. Change in labour cost index (LCI) of the NACE M activities: Professional, scientific and technical activities

TIME	2014-Q2	2015-Q2	2016-Q2	2017-Q2	2018-Q2	2019-Q2	2020-Q2	2021-Q2	2022-Q2	2023-Q2	% change in 2014Q2 – 2023Q2
GEO (Labels)											
European Union – 27 countries (from 2020)	91.9	93.6	93.8	98.0	100.4	103.7	104.2	104.8	113.3	116.0	26.22%
Belgium	98.2	98.2	98.5	99.6	101.1	103.5	105.5	106.5	111.6	121.9	24.13%
Bulgaria	58.4	65.6	69.1	77.3	83.8	91.4	101.1	103.3	118.9	134.1	129.62%
Czechia	68.1	70.8	72.3	77.1	81.9	88.6	95.1	98.1	106.8	114.5	68.14%
Denmark	95.1	96.7	98.0	100.7	102.6	104.6	104.3	110.8	111.2	113.9	19.77%
Germany	94.0	97.6	96.8	103.2	106.0	110.7	107.2	106.6	121.9	118.4	25.96%
Estonia	74.7	76.5	78.5	88.4	90.7	93.5	99.1	103.6	116.9	140.2	87.68%
Ireland	87.8	91.3	93.9	97.0	100.0	103.3	92.4	106.1	117.4	123.9	41.12%
Greece	98.1	91.1	81.6	86.8	86.0	92.6	97.4	105.3	119.6	123.6	25.99%
Spain	84.9	84.6	86.2	86.6	87.0	90.8	98.2	95.9	97.4	105.4	24.15%
France	89.3	90.2	92.0	93.7	96.8	97.3	102.6	99.7	102.7	105.9	18.59%
Croatia	119.8	121.8	93.2	99.0	107.0	108.5	100.4	105.5	112.5	130.5	8.93%
Italy	89.6	96.3	93.6	98.6	99.4	102.5	107.4	106.2	107.5	110.3	23.10%
Cyprus	91.6	90.3	90.7	92.8	94.4	98.1	87.3	97.4	105.0	116.1	26.75%
Latvia	64.0	66.4	70.8	78.1	85.6	94.3	103.8	111.3	124.6	139.9	118.59%
Lithuania	62.4	66.9	69.6	78.0	86.9	93.6	98.7	117.6	134.5	152.4	144.23%
Luxembourg	85.5	86.5	86.8	94.6	93.2	100.0	98.0	101.8	106.8	110.6	29.36%
Hungary	65.1	68.3	72.0	78.1	81.9	89.8	100.1	105.8	119.9	137.3	110.91%
Malta	72.8	71.2	72.8	87.3	91.5	93.9	103.5	99.8	96.8	106.4	46.15%
Netherlands	110.6	107.2	104.3	107.8	108.7	113.7	106.8	112.8	120.4	-	8.86% (data only until 2022Q2)
Austria	88.8	88.4	90.5	100.4	101.6	102.2	110.7	108.6	113.4	128.5	44.71%
Poland	73.4	76.4	79.8	83.4	88.1	94.3	97.0	106.2	119.5	132.9	81.06%
Portugal	84.0	86.7	94.7	92.1	97.8	95.9	101.0	102.2	113.5	116.9	39.17%
Romania	58.2	61.7	69.9	73.4	82.6	97.1	99.9	106.9	121.9	136.6	134.71%
Slovenia	78.1	82.3	80.8	81.8	90.2	94.2	99.1	102.1	108.2	123.2	57.75%
Slovakia	71.3	67.9	71.5	76.0	79.8	88.7	98.3	90.5	104.3	118.1	65.64%

Finland	109.1	107.7	104.5	106.3	106.6	105.7	105.9	114.5	117.2	124.3	13.93%
Sweden	88.1	90.2	92.2	97.2	98.0	98.7	96.0	105.6	112.2	116.2	31.90%
Iceland	81.9	87.5	85.7	97.3	99.4	109.2	109.2	122.3	131.3	142.2	73.63%
Norway	86.0	89.5	89.9	91.0	94.3	96.7	98.4	101.4	105.9	111.0	29.07%
Serbia	88.1	90.2	99.2	92.5	93.9	94.5	91.2	106.3	141.0	161.0	82.75%
Türkiye	43.1	45.5	55.1	61.6	72.8	88.7	106.2	108.7	174.5	389.2	803.02%

Source: Eurostat Labour cost index by NACE Rev. 2 activity – nominal value, quarterly data. Extracted on 12 November 2023.

Applying a snapshot comparison approach to the **inclusive MSCA salary**[18], the study reveals that the MSCA researchers continue to receive competitive and attractive salaries, which in many country groups are higher than salaries received by their peers. Although comparing inclusive MSCA salaries with non-MSCA salaries presents limitations, particularly because mobile researchers, especially more experienced postdoctoral fellows, may incur additional costs as a result of mobility not faced by non-mobile researchers, analytically such approach is more precise, especially in survey contexts.

Using this same approach to evaluate the **basic MSCA salary**[19]**,** salary solely as a living allowance, yields slightly different findings. Desk research on researchers' salaries in the EU and beyond[20] (see Annex 2) and competing fellowships (see Annex 5) alongside insights from our interview programme suggest that the MSCA living allowance is competitive and attractive, aligning with national salary levels in most countries. In most cases, the MSCA is also in line with or more generous than other competing mobility schemes (exceptions are indicated in Annex 5). However, in some EU and associated non-widening countries, such as Austria, Belgium, France, the Netherlands or Norway, the MSCA living allowance is not sufficiently competitive, does not meet the salary levels set in the collective agreements or is insufficient to cover high employers' taxes. Thus, as shown in the 2023 survey of MSCA organisations, around 2% of organisations under Horizon 2020 (N=3 861) chose to top up researchers' salaries, while this number increased to 8% in Horizon Europe (N=607).

In the EU widening countries, MSCA basic salaries generally continue to be more competitive than national researcher salaries. Nevertheless, according to the interviewed experts, once adjusted with CCCs, the living allowance in some of the EU widening countries is not competitive enough to attract researchers from countries with more developed research systems[21].

Interviewed organisations managing DN projects have also reiterated another well-known challenge that undermines the adequacy of the DN living allowance. In many countries across Europe, PhD programmes last longer than 36 months (usually 48 months) and some organisations face challenges in funding an additional year of the

[18] Inclusive MSCA salary refers to the living allowance and mobility allowance combined. The main reason to approach the MSCA salary as a combination of the living allowance and mobility allowance is because usually these two amounts are being paid to the fellows together as a single monthly income or salary. The survey implemented as part of this study showed that doctoral and postdoctoral candidates, and even organisations, usually do not think in terms of the MSCA terminology (living and mobility allowances), but rather think in 'real world' terms, i.e. interpret the full monthly income they get as a monthly salary.

[19] Basic MSCA salary refers solely to the living allowance. Mobile researchers may face additional costs as a result of mobility, which are not faced by non-mobile researchers. Thus, the mobility allowance is dedicated to cover additional, private mobility-related costs, e.g. travel and accommodation costs.

[20] When carrying out the desk research, the study team identified researchers' gross salaries in different EU countries from publicly available sources. To obtain more precise information, this data has been validated through interview with National Contact Points and the MSCA Programme Committee members. Since the MSCA living allowance can also be used to cover employers' costs, we have tried to identify employers' costs via desk research. However, due to different tax systems across the EU, we were only able to identify social security contributions in the analysed countries and included it in our analysis.

[21] E.g., findings from the interviews with Latvian and Slovak representatives.

MSCA doctoral candidates' salaries. To mitigate this, organisations usually use their own resources, look for additional external funding or require that PhD candidates themselves find alternative sources of funding.

Building on desk research, survey data and the interview programme (see Annex 2 for more details), Table 5 provides a qualitative comparison between what organisations are required to pay in different EU Member States and the inclusive salaries of MSCA researchers. The table indicates whether the inclusive MSCA salary is too low, about right or generous compared to the salaries in different countries. If in our analysis we consider only the living allowance, the competitiveness of the MSCA 'salaries' would be further reduced. As one of the findings, the table also shows that MSCA salaries are less competitive at the postdoctoral level, compared to the doctoral level.

Table 5. Generalised adequacy of the MSCA inclusive salaries compared to required researcher salaries[22]

MSCA inclusive salaries	Too low	About right	Generous
Doctoral students	Austria, Belgium, Denmark, Finland, Luxembourg, the Netherlands, Norway	France, Germany, Ireland, Malta, Sweden	Bulgaria, Croatia, Cyprus, Czechia, Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia, Slovenia, Spain
Postdoctoral fellows	Austria, Belgium, Denmark, Finland, France, Germany, Luxembourg, the Netherlands	Cyprus, Croatia, Estonia, Ireland, Malta, Norway, Poland, Portugal, Slovenia, Sweden	Bulgaria, Czechia, Greece, Hungary, Italy, Latvia, Lithuania, Romania, Slovakia, Spain

Source: compiled by the study team.

These findings were corroborated by the survey results, which indicate that, on average, the MSCA researchers receive more generous remuneration compared to their peers working at the same institutions[23]. Their gross income, based on the inclusive salary, on average, remains 12-29% higher than the gross income of their peers. Table 6 provides a more in-depth analysis of the situation in different country groups.

Survey data analysis suggests that, on average, the MSCA doctoral candidates in the EU and associated widening countries receive the most generous compensation compared to their peers, while the MSCA doctoral candidates in the EU non-widening countries receive compensation that is close to their peers but still slightly higher on average. For MSCA postdoctoral researchers, the remuneration is more generous in the EU widening countries and third countries automatically eligible for funding. However, the survey data also indicate that the MSCA postdoctoral researchers are compensated slightly less than their peers in the associated non-widening countries and third countries not automatically eligible for funding.

[22] Based on desk research and the interview programme.

[23] Ratio of gross monthly income of the MSCA researchers versus their peers was calculated based on the actual gross salary indicated by the surveyed MSCA researchers and the average gross monthly salary of researchers with similar experience in the same organisations indicated by the surveyed organisations.

Table 6. Ratio of gross monthly inclusive salaries of MSCA researchers vs their peers at the same institutions (breakdown by country group and level of experience)

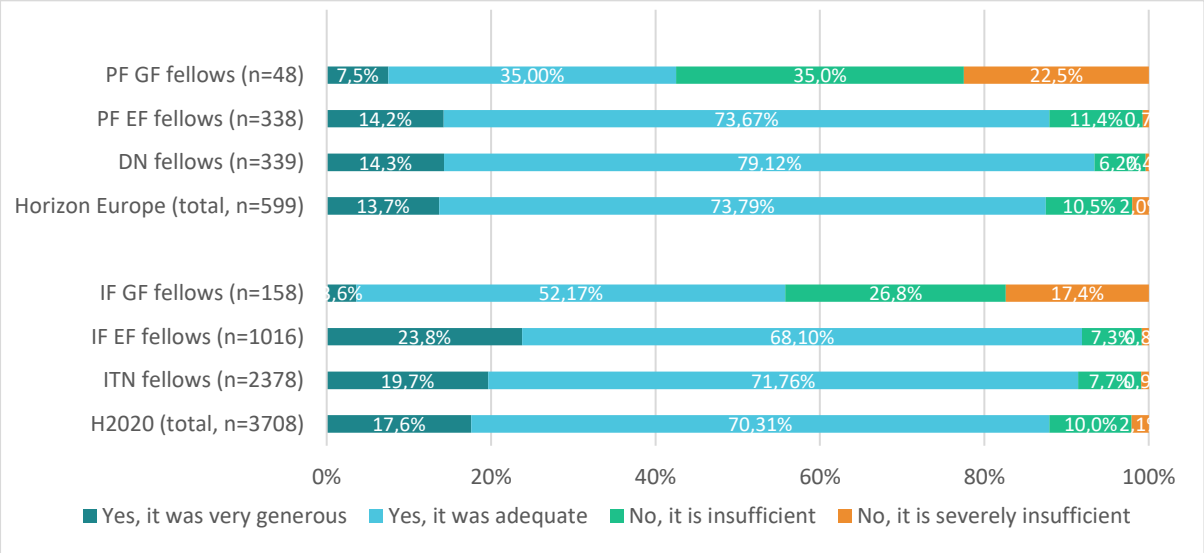
Country group	Horizon 2020		Horizon Europe	
	ESR	ER	ESR	ER
EU non-widening	1.05	1.13	1.12	1.26
EU widening	1.60	1.57	1.5	1.47
Associated non-widening	0.98	0.96	1.16	1.03
Associated widening	1.63	2.17	2.13	Insufficient data
Third eligible	1.71	1.50	Insufficient data	Insufficient data
Third non-eligible	1.21	0.93	Insufficient data	Insufficient data
Overall	1.12	1.15	1.16	1.29

Source: 2023 PPMI survey of researchers and organisations participating in MSCA Horizon 2020, (doctoral candidates N = 1662, Peers N=452, postdoctoral researchers N=841, Peers N=452) and Horizon Europe (doctoral candidates N=146, Peers N=228, postdoctoral researchers N=213, Peers N=146).

The 2023 survey of researchers participating in MSCA Horizon 2020 ITN and IF actions and Horizon Europe DN and PF actions shows that the majority of researchers participating in both Horizon 2020 (87.91%) and Horizon Europe (87.49%) consider their monthly income to be sufficient (see Figure 1). However, IF and PF global fellows indicated the lowest satisfaction with their income, compared to fellows participating in other actions. Furthermore, a downward trend in overall satisfaction levels can be noticed among Horizon Europe fellows, compared to Horizon 2020 fellows.

Global fellows expressed significantly lower satisfaction with their income both in Horizon 2020 and Horizon Europe. The survey answers from global fellows, who found their monthly income to be insufficient, pointed to high family costs outside of the EU (e.g. day-care costs or tuition fees), substantial healthcare costs, obligations to cover social security and pension in their home countries and higher living expenses in third countries.

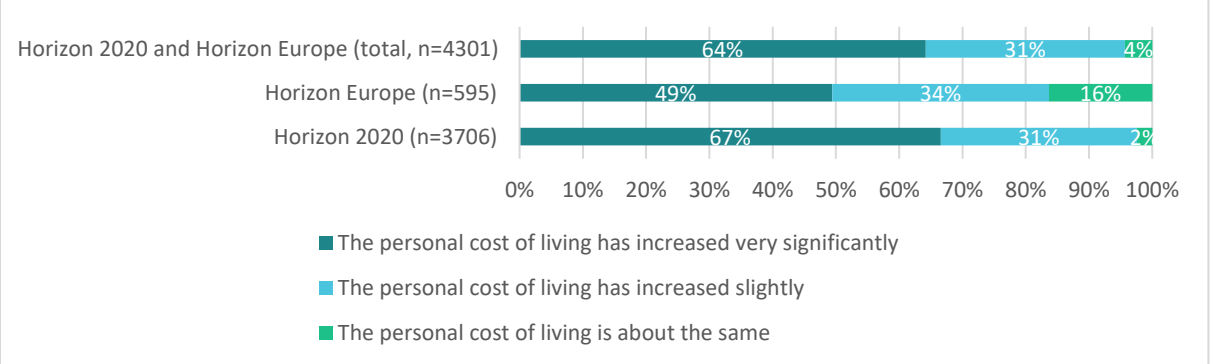
Figure 1. Was/is the average total monthly income paid to you by the host organisation during your MSCA fellowship period by and large sufficient to cover or significantly contribute to all of your personal costs?



Source: 2023 PPMI survey of researchers participating in the MSCA Horizon 2020 (N=3708) and Horizon Europe (N=599).

Even though the majority of researchers are generally satisfied with their income, many indicated that the cost of living has increased significantly (64%) or slightly (31%) in the last few years (see Figure 2). This was a consensus among both doctoral and postdoctoral researchers and no substantial differences between these two groups were identified. This was also confirmed by the interviewees, who strongly emphasised that the competitiveness and attractiveness of the living allowances have been impacted by high inflation in recent years.

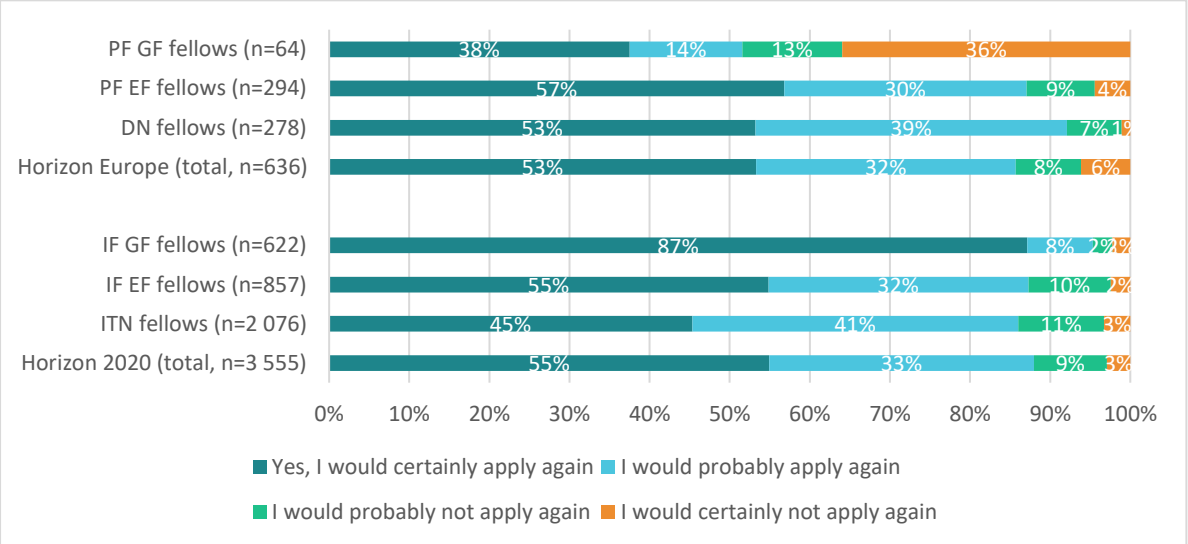
Figure 2. Researchers' assessment of the cost of living in 2019-2023 due to inflation



Source: 2023 PPMI survey of researchers participating in MSCA Horizon 2020 (N=3706) and Horizon Europe (N=595).

Moreover, when researchers were asked whether they would apply for an MSCA fellowship in the future even if the inclusive salary were to remain the same, a significant number (12% of researchers under Horizon 2020 and 14% of researcher under Horizon Europe) indicated that they would probably or certainly not apply again.

Figure 3. Having in mind the prestige of the MSCA fellowship, would you apply for an MSCA fellowship in the future if the renumeration (living and mobility allowances) were to remain unchanged?



Source: 2023 PPMI survey of researchers participating in MSCA Horizon 2020 (N=2076) and Horizon Europe (N=636).

2.1.1. Conclusions and recommendations

The time series and snapshot comparison methodologies applied above yield consistent conclusions and point towards the same recommendations. Overall, the MSCA inclusive salary remains competitive and attractive to applicants, though there are significant variations from one country to another. However, its competitiveness and attractiveness have been negatively affected by the rapid increase in prices and salaries of researchers outside of the MSCA in 2020-2023.

The previous revision of the MSCA living allowance took place before the recent inflation period in the very first months of COVID 19 pandemic in 2020. In the meantime, the MSCA living allowance has fallen behind the increase of salaries for non-MSCA researchers. While non-MSCA salaries of researchers in the EU-27, on average, have increased by around 26.22% in the period 2014-2023, the MSCA basic salary, has increased by slightly more than 9% in the same period. Desk research and survey data analysis also revealed that in a growing number of countries the MSCA living allowances are not sufficiently competitive, do not meet the salary levels set in the collective agreements or are insufficient to cover high employers' taxes.

Recommendation: Increase the living allowance based on inflation.

Based on the analysis above and to mitigate the impact of inflation, sustain the adequacy of funding, and, consequently, ensure the attractiveness and competitiveness of the programme, it is recommended to adjust the current unit contribution rate of the living allowance in line with the HICP inflation rate for Belgium from January 2021 to October 2023, as shown in the table below.

This recommendation should be considered together with other recommendations of this study and in view of the impact on the overall MSCA budget and on the number of projects and researchers that can be supported by the MSCA.

	Current amount	Inflation in January 2021 – October 2023 (HICP for Belgium)	Suggested living allowance unit contributions
DN living allowance, EUR	3 400	18%	**4 010**
PF living allowance, EUR	5 080		**5 990**

Source: calculations by PPMI.

Table 7 shows that our recommended increase of the living allowance for 2024 in line with the inflation rate for Belgium in 2021-2023 by 18% would ensure that the increase of the MSCA living allowance in 2014-2023 will be line with the EU average increase of researchers' salaries in the same period. The increase of researchers' average salaries in the EU, as revealed by the Eurostat LCI, was 26.22%, while adopting our recommendations would result in an average increase of MSCA researchers' inclusive salaries in the same period in 2014-2024 of around 26.7%. If we take into account only the basic salary, its increase would be even higher – around 29%, as shown in the table below.

Table 7. Evolution of the size of the living and mobility allowances under Horizon 2020 and Horizon Europe (in EUR), and the suggested increase

Funding scheme	2014-2017	2018-2020	2021-2023	Overall increase in 2014-2021	Allowances for 2024 recommended by this study	Forecasted increase in 2014-2024 if the recommendation is adopted
Doctoral Networks / Innovative Training Networks living allowance	3 110	3 270 (5.1% increase)	3 400 (4% increase)	9.3%	4 010 (17.9% increase)	28.9%
Postdoctoral Fellowships / Individual Fellowships living allowance	4 650	4 880 (4.9% increase)	5 080 (4% increase)	9.2%	5 990 (17.9% increase)	28.8%
Mobility allowance	600	600 (0% increase)	600 (0% increase)	0%	710 (18.3% increase)	18.3%

Source: Commission Decisions and consultancy studies; and study team calculations.

This suggestion would not fully solve the issue of a much larger increase in researchers' salaries in 2014-2023 in some of the widening countries (for example, 129.62% increase in Bulgaria, 87.68% increase in Estonia, 118.59% increase in Latvia, 144.23% increase in Lithuania, 110.91% increase in Hungary, 81.06% increase in Poland, 134.71% increase in Romania, among other examples). However, this issue is addressed in the next chapter with a further recommendation – to introduce more frequent updates of the country-specific correction coefficients (CCCs) to better reflect the constantly changing costs of living and to respond to the economic situation in a timely manner.

2.2. Analysis of country-specific correction coefficients

The MSCA living allowance is subject to country-specific correction coefficients (CCCs). This means that the rate of the MSCA living allowance is multiplied by the CCC of the country where the fellow is hosted. This reduces or increases the final amount of gross living allowance paid to the fellow in line with the costs of living in the country where the fellow is hosted. The CCC is set at 100% for Belgium and Luxembourg, which are considered as the basis for the calculation of the living allowance. CCCs for specific countries are set based on the difference in terms of cost of living between that specific country and Belgium/Luxembourg.

The current MSCA CCCs were calculated as the 7-year average of the CCCs used between 2014 and 2020 to adjust the remuneration of EU staff in different duty stations worldwide (intra-EU or extra-EU).

According to the MSCA unit and lump sum contributions Decision, CCCs shall be revised after 4 years to ensure that researchers' purchasing power parity remains comparable irrespective of where they conduct their research.

The survey results offer insights on how the CCCs assigned to specific countries are perceived by both the fellows and their host organisations. A total of 3526 fellows and 708 representatives of host organisations under Horizon 2020 and Horizon Europe were surveyed to provide their opinion about the extent to which the differences between the CCCs set for their locations and the CCC of 100% set for Belgium/Luxembourg reflect the true cost of living differences.

When it comes to the MSCA fellows, over half (57.2%) of the surveyed respondents (n=3 526) indicated that the CCCs applicable to their locations were set 'about right' in reference to Belgium/Luxembourg. However, over a third of respondents (37.3%) indicated that their CCCs were set either 'somewhat too low' (27.9%) or 'significantly too low' (9.4%). Respondents on the other end of the spectrum (i.e., those who considered their CCCs to be somewhat too high or significantly too high) stood at only 5.4%. The results reflect that there is a considerable group of fellows that are not fully satisfied with the rates of CCCs set for their host countries in relation to the actual cost

of living. PF fellows under Horizon Europe (n=320) were least satisfied with CCCs set for their host countries: 45.7% of them indicated that their CCCs were either somewhat too low (29.4%) or significantly too low (16.3%).

Another important trend observed was the difference between the level of satisfaction with CCCs of the MSCA fellows hosted in non-widening and widening countries: 34% of MSCA fellows hosted in non-widening countries (n = 2554) considered CCCs of their host countries to be somewhat too low or significantly too low, while a much higher percentage – 47.8% – of fellows hosted in the widening countries (n = 322) had the same opinion.

Responses from surveyed organisations managing ITN/DN and IF/PF projects (n=708) reflected higher levels of satisfaction with the assigned CCCs, compared to MSCA fellows, whereby 60.7% of respondents indicated that the CCCs were set 'about right' i.e., in line with their perceived living costs in the host country. However, a similar trend to that observed among fellows emerged regarding disparate satisfaction levels between non-widening and widening countries. Organisations in the widening countries were generally less satisfied with the assigned CCCs. As many as 48.6% of surveyed organisations in the widening countries (n = 72) were significantly or somewhat unsatisfied with CCCs set for their countries, while 27.5% of organisations were not satisfied in non-widening countries (n = 502).

Findings about different satisfaction levels with CCCs in widening and non-widening countries could be partially explained by the higher inflation in the recent period (2020-2023) in the widening countries compared to the non-widening countries, as shown in the previous sections[24].

Insights obtained from expert interviews and surveys responses of organisations and researchers provide valuable additional perspectives on the MSCA's current methodology for setting CCCs:

1. **A need to increase the frequency of CCCs updates** in response to the rapidly changing economic situation was stressed in both the interview programme and open survey responses.
2. **A need to account for national regulations that influence the net amount received by researchers**. CCCs for EU civil servants – on which MSCA CCCs are based – are subject to special tax arrangements that differ from those applicable to the MSCA fellows' living allowances.
3. **A need for swift adjustments to the rising cost of housing in more expensive locations**. While the Staff Housing Survey (SHS) is conducted every 5 to 7 years in different duty stations, rent prices tend to constantly increase with some locations being impacted more significantly than others.

[24] Eurostat (2023) *Annual inflation down to 5.5% in the euro area.* Available at: https://ec.europa.eu/eurostat/documents/2995521/17179282/2-19072023-AP-EN.pdf/bf200c74-48a4-e485-3372-c1fd1083c169

In order to assess the responsiveness of the MSCA CCCs to economic conditions, an in-depth country-level analysis was conducted. This analysis tracked the recent changes to MSCA CCCs[25] and compared them to the latest EU staff CCCs published by Eurostat (2022 S2) and the annual inflation rates in the EU and beyond published in June 2023. Researchers' and organisations' assessment of the adequacy of the set CCCs under both Horizon 2020 and Horizon Europe were also considered.

An integrated analysis of the data sources listed above offers strong evidence to support the need for more responsive system of CCCs. The share of researchers and organisations indicating that their respective CCCs were somewhat/significantly too low was higher under Horizon Europe compared to Horizon 2020 for all selected countries with the exceptions of Ireland, the Netherlands and Sweden. The degree of dissatisfaction was as high as 60.9% for Portugal and 57.7% for Switzerland under Horizon 2020 and 77.8% for the US and 48.2% for Germany under Horizon Europe.

When comparing the changes introduced to the MSCA CCCs between 2018 and 2023, CCCs have decreased for 18 out of the 29 analysed countries. When comparing the latest set of CCCs under the MSCA programme to those last published by Eurostat (CCCs for EU staff), for 23 countries the Eurostat CCCs are higher than those set for the MSCA. An in-depth examination of the changes suggests that for most of the widening countries the differences between MSCA CCCs and the latest Eurostat CCCs can be quite significant, for example 54.8% (MSCA) and 65.6% (EU staff) for Bulgaria, 84.3% and 94.2% for Portugal, 72.8% and 90.7% for Lithuania, and 79.1% and 95.9% for Czechia.

The analysis of the methodology for setting the CCCs for EU staff (which underlies the methodology for calculating the MSCA CCCs) also points to some differences in the way EU staff CCCs are calculated for intra-EU and extra-EU locations. The most notable examples include:

- **Data collection.** For intra-EU CCCs, surveys on prices and housing costs are conducted through the statistical offices of EU Member States. Meanwhile, for extra-EU duty stations, different sets of data collection instruments are used in collaboration with the diplomatic missions of the EU Member States.
- **Housing/accommodation costs.** For intra-EU duty stations, CCCs include rent and other additional costs. In third countries, the Eurostat CCCs do not include accommodation costs since EU staff are subject to special housing arrangements.

2.2.1. Conclusions and recommendations

The analysis above suggests that the current methodology for setting the MSCA CCCs does not allow the MSCA CCCs to properly function as an adjustment tool because it

[25] Between those set in the 2018/20 work programme and the ones in the latest work programme of 2023/24.

is not responsive and agile enough to account for rapid and unexpected fluctuations in prices and costs of living.

The current methodology for the MSCA CCCs functioned adequately when the main economic indicators (such as inflation and cost of living) were changing more gradually. However, with many countries experiencing significantly higher inflation in recent years than in the past decade, and certain groups, such as widening countries, facing even steeper increases, the current MSCA CCCs methodology cannot keep up. This is reflected in the decreasing satisfaction among organisations and fellows (and especially those in widening countries) with the MSCA CCCs.

The analysis also revealed differences in the way EU staff CCCs are calculated for intra-EU and extra-EU locations, something that the MSCA programme needs to account for (for example, accommodation costs are not included in extra-EU countries). Therefore, the study recommends revising the CCCs calculation methodology to take into account accommodation costs in associated and third countries.

Recommendation:

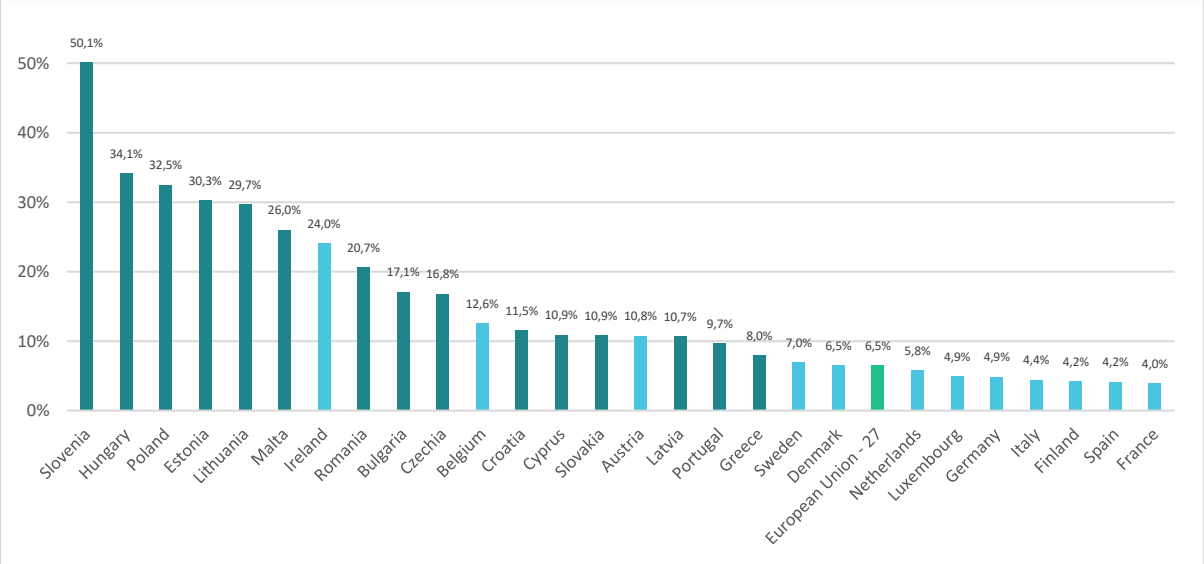
- **Introduce more frequent updates of the MSCA CCCs and consider a shorter time span for determining the MSCA CCCs.**
  The CCCs currently used in the MSCA are calculated as the average of the previous 7-years (2014-2020) of the respective CCCs used to adjust the remuneration of EU staff. This creates a situation where the MSCA CCCs are aligned with the estimated costs in the previous 7 years (2014-2020) and not with the actual prices (cost of living) currently incurred by the fellows. We suggest two actions to mitigate this situation:
  - Reduce the time span considered for calculating the current MSCA CCCs in order to take into account more recent economic developments. For example, the MSCA CCCs could be calculated as a 3-year average of the respective CCCs used to adjust the remuneration of the EU staff instead of the current 7-year average. This would better reflect the constantly changing costs of living and enable a more timely response to emerging economic challenges. It could be debated what exact time span should be considered for the calculation of the MSCA CCCs (1, 2, 3, 4 or more years). However, 3 years is the standard duration of most MSCA fellowships for which CCCs are used, and 3-year average would offer a much higher responsiveness to economic changes (compared to the 7-year average) while it would also maintain some stability (i.e., mitigate potential accidental annual variations in specific countries).
  - Revise the MSCA CCCs more often. We suggest that the updating of CCCs should be done biennially in alignment with each new MSCA work programme and start from the upcoming work programme. This system would be more responsive to inflation. Given the increased financial and administrative burden for the programme and its managers we would not recommend an annual update.
- **Revise CCCs calculation methodology to take into account accommodation costs in associated and third countries.** In collaboration with Eurostat, the Commission should revise the current methodology used to calculate CCCs to account for the accommodation costs in EU associated and third countries. The inclusion of accommodation costs in the associated and third countries can be done on the basis of housing surveys implemented by the contracted real estate or consulting agencies in associated and third countries and coordinated through the diplomatic missions of the EU Member States.

2.3. Mobility allowance

According to the MSCA unit and lump sum contributions Decision, the objective of the mobility allowance is to cover additional, private mobility-related costs, e.g. travel and accommodation costs[26]. The current monthly mobility allowance is fixed at EUR 600 and has not been increased since 2014[27]. Therefore, its purchasing power has decreased, especially with the substantial increase in prices of accommodation and travel costs in the last few years.

Analysis of the Eurostat HICP inflation data (actual housing costs) illustrates the significant impact of recent inflation on rent prices (see Figure 4**Error! Reference source not found.**). While the average inflation rate of rent in 2021-2023 for the EU stands at 6.5%, inflation in the widening countries (represented by dark green bars) was substantially higher reaching as high as 50.1% in Slovenia and 34.1% in Hungary. With the exceptions of Ireland (24.0%), Belgium (12.6%), and Austria (10.8%), inflation of rent prices in all other non-widening countries was below the EU average. The lowest inflation rates for rent were observed in France at 4.0%, Spain and Finland both at 4.2%.

Figure 4. HICP cumulative inflation rate of actual rentals for housing over the period January 2021 to October 2023 (by country)



[26] European Commission (2021) *Decision of 11 March 2021 authorising the use of lump sum contributions and unit contributions for Marie Skłodowska-Curie actions under the Horizon Europe Programme*. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/unit-cost-decision_he-msca_en.pdf
The mobility allowance is not expected to be the sole source of income that fully covers travel and accommodation costs; it is rather a contribution to the researcher's income to cover additional travel and accommodation costs resulting from the mobility.

[27] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/en/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-en

Source: Eurostat (Online data code: PRC_HICP_MIDX__custom_8614099).

In line with the analysis above, high and increasing rent prices were mentioned by the surveyed researchers as being one of the most important factors contributing to their dissatisfaction with the mobility allowance and one of the most important factors contributing to decreasing satisfaction with other types of researchers' unit contributions. Desk research (see Annex 6. Analysis of rent prices and travel costs in the EU and beyond) shows that the average rent prices in the EU and third countries are significantly higher than the mobility allowance and vary substantially across countries. For example, the rent for a 2-bedroom flat could be EUR 550 in Sofia, while a similar size flat could cost EUR 1 850 in Copenhagen (on average per month). Rent prices are considerably higher in the EU and associated non-widening countries and third countries not automatically eligible for funding compared to the EU and associated widening countries. The analysis of the survey results revealed that rent prices for Horizon Europe researchers increased on average by 9% compared to Horizon 2020 researchers[28] affecting, in particular, MSCA researchers hosted in third countries not automatically eligible for funding (29% increase), associated non-widening countries (28%), the EU non-widening countries (12%), and the EU widening countries (11%).

Table 8. The average rent prices in EUR paid by the MSCA fellows (by country group)

Host country group	Horizon 2020		Horizon Europe		Increase , %	
	EUR	Number of respondents	EUR	Number of respondents	EUR	%
EU non-widening	848	3063	953	608	104	**12%**
EU widening	621	360	693	47	71	**11%**
Associated non-widening	1078	130	1381	16	303	**28%**
Associated widening	557	39	350	1	n/a	n/a
Third, eligible	1195	461	517	1	n/a	n/a
Third, non- eligible	1365	373	1766	48	401	**29%**

Source: 2023 PPMI survey of researchers participating in MSCA Horizon 2020 ITN and IF (N=4426) and Horizon Europe DN and PF (N=732).

In addition to the increase in rent prices, travel costs have also risen. An analysis by Oxford Economics[29] has shown that the costs of international flights in the Eurozone have increased on average by 36% relative to 2019. Meanwhile, an analysis by IATA (International Air Transport Association)[30] found that average airfares in the EU27 in June 2023 were 16% higher than the corresponding pre-pandemic month (June 2019). Another relevant indicator of the increase in travel costs in the EU is the Commission Decision C(2023)4928, which authorises the use of unit costs to reimburse travel costs under actions/programmes funded in the 2021-2027 MFF period. The comparison of

[28] The table below represents how the costs increased for researchers participating in the 2023 survey.

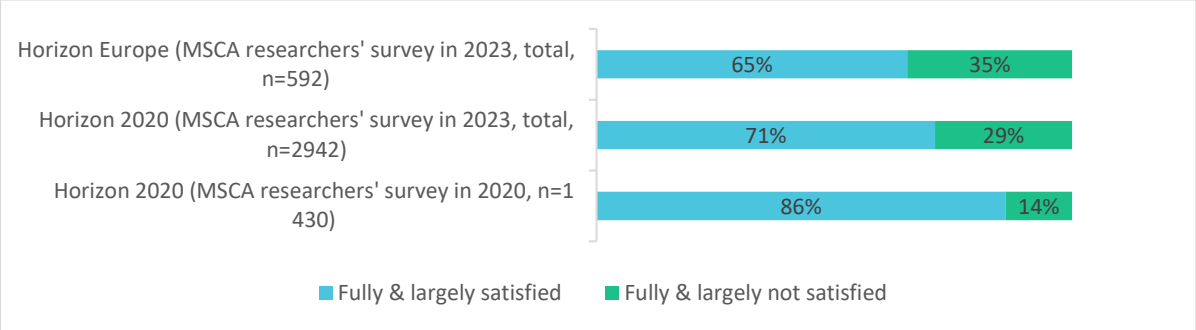
[29] Oxford Economics (2023) Higher prices not denting travel recovery in Europe. Available at: https://www.oxfordeconomics.com/wp-content/uploads/2023/09/European-inflation-RB-final.pdf

[30] IATA (2023) *European Air Fares Rising Slower than Inflation.* Available at: https://www.iata.org/en/pressroom/2023-releases/2023-11-14-01/

unit costs per distance band between 2021 (Decision C(2021)35) and 2023 (Decision C(2023)4928) indicates a 25% increase in the assigned unit costs (see Annex 6. Analysis of rent prices and travel costs in the EU and beyond).

Such increases in accommodation and travel costs were manifested in a downward trend in the satisfaction of researchers with the mobility allowance. As Figure 5 shows, satisfaction of the MSCA researchers with the mobility allowance decreased from 86% (H2020 researchers surveyed in 2019) to 71% (H2020 researchers surveyed in 2023) and to 65% (Horizon Europe researchers surveyed in 2023).

Figure 5. How satisfied are you with the size of the monthly mobility allowance as a contribution to cover your mobility-related costs?



Source: PPMI survey of researchers participating in MSCA Horizon 2020 ITN and IF in 2019 survey (N=1430), survey of researchers participating in MSCA Horizon 2020 ITN and IF in 2023 survey (N=2942) and Horizon Europe DN and PF (N=592) in 2023 survey.

Further analysis revealed a notable decline in the researchers' satisfaction levels with the mobility allowance across nearly all country groups. This decrease is more prominent for researchers hosted in the EU widening countries, decreasing from 79% (n=1982) in Horizon 2020 (n=40) to 63% in Horizon Europe, and in third countries not automatically eligible for funding, decreasing from 52% in Horizon 2020 (n=265) to 34% in Horizon Europe (n=38). According to responses to the survey and the expert interviews, this perceived insufficiency is linked to the following factors: significant inflation and the impact of the COVID 19 pandemic, due to which the prices for rent, energy costs, mortgage rates, travel and logistics expenses increased. Another factor, as indicated by both surveyed researchers and interview respondents, is that in many countries the mobility allowance is paid together with the living allowance and therefore is considered as a salary and subject to taxes. In the conducted survey, 77% of Horizon 2020 (n = 4426) and 76% of Horizon Europe (n = 732) researchers indicated that the mobility allowance together with the living allowance (and family allowance, for those with families) was paid as a single monthly income in one instalment as salary.

Researchers' survey responses reveal that one-off relocation and rent costs are an important part of the mobility-related expenses of the MSCA fellows (see Table 9 and **Error! Reference source not found.** for more in-depth analysis). One-off relocation c osts vary substantially depending on the distance between the home and the host country, the family situation and size or the requirements for visa and healthcare

insurance. As illustrated in Table 9, one-off relocation costs increased from Horizon 2020 to Horizon Europe across all country groups by 17%, on average[31]. Further analysis showed that one-off relocation costs were, on average, 50% (Horizon Europe) and 64% (Horizon 2020) higher for researchers with families.

Table 9. The average one-off relocations costs in EUR paid by the MSCA fellows (by country group)

Host countries' group	Horizon 2020		Horizon Europe		Increase in one-off relocation costs	
	EUR	Number of respondents	EUR	Number of respondents	EUR	%
Average for all countries	2160	4426	2520	732	360	**17%**
EU non-widening	1929	3063	2407	608	478	**25%**
EU widening	1595	360	2023	47	428	**27%**
Associated non-widening	2233	130	4018	11	1785	**80%**
Associated widening	2076	39	2110	2	33	**2%**
Third eligible	3515	461	3667	8	151	**4%**
Third non-eligible	3016	373	3903	48	886	**29%**

Source: 2023 PPMI survey of researchers participating in MSCA Horizon 2020 ITN and IF (N=4426) and Horizon Europe DN and PF (N=732).

2.3.1. Conclusions and recommendations

The analysis above reveals that satisfaction with the MSCA mobility allowance has been decreasing from 86% of satisfied fellows in 2020 to 65% in 2023. This decrease is most noticeable when researchers are hosted in the EU widening countries – from 79% in Horizon 2020 to 63% in Horizon Europe, and third countries not automatically eligible for funding, dropping from 52% in Horizon 2020 to 34% in Horizon Europe.

One of the main causes of the researchers' dissatisfaction with the mobility allowance was the increase in rent prices. The 2023 MSCA survey of researchers revealed that the rent prices reported by the surveyed MSCA researchers increased by 9% on average from Horizon 2020 to Horizon Europe period. MSCA researchers experienced the largest increase in rent prices when hosted in third countries not automatically eligible for funding (29%), associated non-widening countries (28%), the EU non-widening countries (12%), and the EU widening countries (11%). This was more prominent for researchers with families who reported almost 40% higher rent prices than researchers without families. In addition to this, the one-off relocation costs reported in the survey of researchers have increased substantially in the last few years and were on average 17% higher for all country groups in Horizon Europe compared to the Horizon 2020 period. This was again exacerbated for researchers with families.

[31] The table below represents how the costs increased for researchers surveyed in the 2023 survey.

For them, the relocation costs were 64% higher in Horizon 2020 and 50% higher in Horizon Europe, compared to the relocation costs for researchers without families.

Recommendation: Increase the mobility allowance based on inflation[32].

The mobility allowance has not been updated since 2014. The MSCA unit contributions review in 2017 indicated that the mobility allowance was in line with the market costs, therefore no changes were made. Even though the MSCA unit contributions review in 2020 already showed that the living costs had increased substantially since 2017, it was suggested that the mobility allowance not be changed in order to have sufficient budget to significantly increase the family allowance, which was a priority.

Given that the living and travelling costs increased substantially due to inflation and the mobility allowance has not been increased for almost a decade, we recommend increasing the current unit contribution rate of the mobility allowance in line with the HICP inflation rate for Belgium from January 2021 to October 2023, as shown in the table below. As suggested by the evidence presented above, this increase of the mobility allowance will also contribute to mitigating the burden of family costs related to mobility.

This recommendation should be considered together with other recommendations of this study and in view of the impact on the overall MSCA budget and on the number of researchers that can be supported by the MSCA.

	Current amount	Inflation in January 2021 – October 2023 (HICP for Belgium)	Suggested mobility allowance unit contribution
Mobility allowance, EUR	600	18%	**710**

Source: calculations by PPMI.

2.4. Family allowance

The objective of the MSCA family allowance is to contribute to mobility-related costs of researchers with family obligations[33]. In 2021, for the launch of Horizon Europe, the family allowance was increased substantially by 32%, or from EUR 500 to EUR 660[34]. The previous review of the MSCA funding system found that having a family was the primary factor contributing to the perceived inadequacy of the overall MSCA income.

Despite the substantial increase of the family allowance in Horizon Europe, the 2023 survey of researchers shows that a substantial number of researchers remain dissatisfied with the size of the monthly family allowance (see Figure 6). Moreover, survey results suggest that satisfaction with the family allowance correlates with family size – the bigger the family the lower the satisfaction. The share of researchers not satisfied with the family allowance, around 40% both in Horizon Europe and Horizon

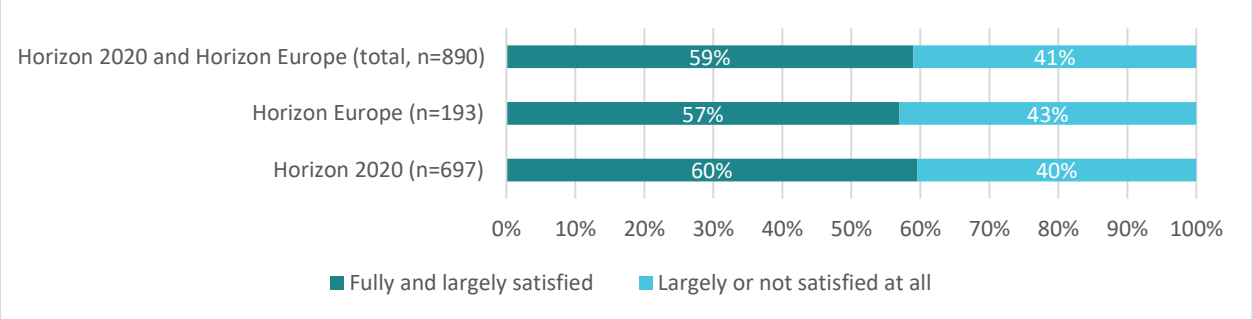
[32] As shown in the analysis in the section 1.3. of this report, the HICP inflation rate for Belgium in the period January 2021 – October 2023 was around 18%.

[33] European Commission (2021) *Decision of 11 March 2021 authorising the use of lump sum contributions and unit contributions for Marie Skłodowska-Curie actions under the Horizon Europe Programme*. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/unit-cost-decision_he-msca_en.pdf

[34] European Commission (2020) Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report. Available at: https://op.europa.eu/en/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-en

2020, is also much higher than the share of researchers not satisfied with the mobility allowance, 14-35% across the Horizon 2020 and Horizon Europe periods, as shown in the previous section (see Figure 5). It must be noted that only researchers with families were surveyed about the family allowance, while all MSCA researchers were surveyed about the mobility allowance. As shown in the previous section, researchers with families also tend to be less satisfied with the mobility allowance, compared to other groups of researchers.

Figure 6. How satisfied were/are you with the size of the monthly family allowance as a contribution to cover your family-related costs?

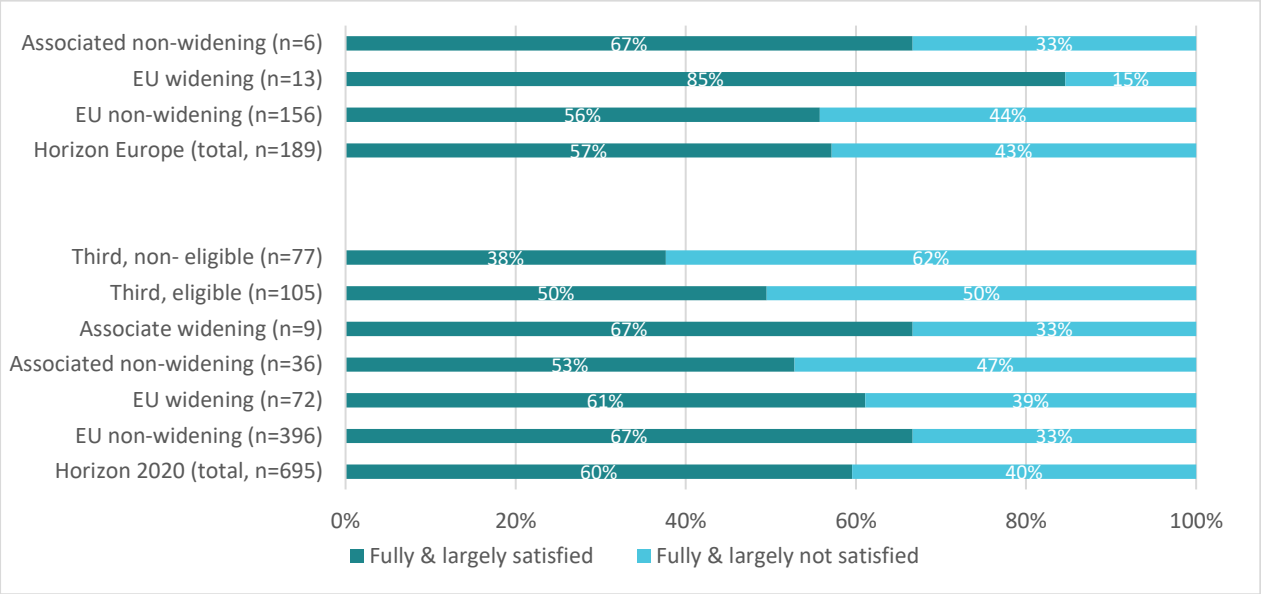


Source: 2023 PPMI survey of researchers participating in MSCA Horizon 2020 ITN and IF (N=697) and Horizon Europe DN and PF (N=193).

According to the survey results, researchers hosted in third countries tended to be the least satisfied with the family allowance in Horizon 2020 (50% and 62% not satisfied, respectively, in third countries not automatically eligible and third countries automatically eligible for funding). Under Horizon Europe, the least satisfied researchers with the family allowance were those hosted in the EU non-widening countries (44% of the surveyed researchers were not satisfied).[35]

[35] For Horizon Europe, data is not sufficient to evaluate the satisfaction rates of researchers in third countries.

Figure 7. How satisfied were/are you with the size of the monthly family allowance as a contribution to cover your family-related costs? (by country group)



Source: 2023 PPMI survey of researchers participating in MSCA Horizon 2020 ITN and IF (N=695) and Horizon Europe DN and PF (N=189).

Our survey gathered data on the monthly costs in EUR that researchers incurred to cover the real costs related to family (see Table 10 for more detailed information). According to the surveyed researchers, the estimated family-related expenses can be approximately two or more times higher than the family allowance in associated non-widening countries and third countries not automatically eligible for funding. In some cases, survey results show that family costs decreased for researchers under Horizon Europe. This could be partially explained by the smaller average family size of the surveyed researchers participating so far in Horizon Europe[36]: under Horizon 2020 the average family size of the surveyed researchers was 3.3 members (N=698), while under Horizon Europe the average family size of the surveyed researchers was 2.6 members (N=443).

Table 10. The monthly amount in EUR spent to cover family-related costs

Host country group	Horizon 2020		Horizon Europe	
	EUR	Number of respondents	EUR	Number of respondents
EU non-widening	1387	367	1025	358
EU widening	1254	59	822	30
Associated non-widening	1367	34	2068	8
Associated widening	776	9	1000	1
Third eligible	1968	100	560	6

[36] The table below represents how the costs increased for researchers surveyed in 2023 survey.

Host country group	Horizon 2020		Horizon Europe	
	EUR	Number of respondents	EUR	Number of respondents
Third non-eligible	2045	76	1617	21

Source: 2023 PPMI survey of researchers participating in MSCA Horizon 2020 ITN and IF (N=645) and Horizon Europe DN and PF (N=403).

The surveyed researchers and the interviewed experts highlighted that the main sources of the perceived dissatisfaction with the family allowance were linked to the significant childcare, travelling and health insurance expenses for family members, as well as the high costs incurred after relocation, especially in cases when partners could not quickly find employment. In addition, the survey revealed that the family allowance was often subject to taxation and the final amount received by a researcher was usually much lower than the fixed rate of EUR 660. The survey of the MSCA researchers revealed that around 88-90% of researchers received the family allowance together with other MSCA allowances, which means that the whole amount received was subject to taxation.

It is important to highlight that the MSCA family allowance provides financial support to families that is often unavailable in other competing fellowships. This aspect greatly enhances the inclusiveness and attractiveness of the MSCA funding system and sets an example for others to follow (for detailed analysis of conditions offered by competing fellowships, please refer to Annex 5).

2.4.1. Conclusions and recommendations

Based on the analysis described above, around 40% of surveyed researchers remain dissatisfied with the rate of the family allowance, despite its significant increase before the launch of Horizon Europe. Notably, the perceived dissatisfaction with the family allowance is more pronounced among researchers hosted outside of the EU, particularly in third countries not automatically eligible for funding and associated non-widening countries and is linked to high childcare, travelling and health insurance costs.

The share of researchers not satisfied with the family allowance is also much higher than the share of researchers not satisfied with the mobility allowance, though the gap has narrowed as according to survey results mobility allowance dissatisfaction has increased to 35% in Horizon Europe from 14% in the early stages of Horizon 2020. As shown in the previous section, however, researchers with families also tend to be less satisfied with the mobility allowance compared to other groups of researchers.

Nevertheless, given the substantial increase in the family allowance in 2021 and that the lack of adjustment in the mobility allowance since 2014, **we recommend to maintain the current level of the family allowance, while prioritising the increase of the mobility allowance**. This assessment is aligned with the need to strike a

balance between the competitiveness of the allowances and accessibility of the programme, which implies taking into account the programme's objectives in terms of number of individuals and projects to be supported.

Furthermore, this recommendation is supported by the main overarching conclusion of this study, which highlights inflation as the predominant issue for all researchers and organisations in the period 2021-2023. Therefore, this mid-term review of the MSCA unit contributions prioritises across-the-board increases of funding for all MSCA participants rather than fine-tuning specific unit contributions for defined groups of participants. Importantly, our suggested adjustment in line with inflation in 2021-2023 of the living and mobility allowances will also benefit researchers with families.

Recommendations:

Option a (preferred): Keep the family allowance unchanged.

Option b: Increase the family allowance based on inflation.

Alternatively, if the MSCA budget could accommodate such a change, the family allowance could be increased in line with the HICP inflation rate for Belgium in January 2021 – October 2023, as shown in the table below[37].

This recommendation should be considered together with other recommendations of this study and in view of the impact on the overall MSCA budget and on the number of researchers that can be supported by the MSCA.

	Current amount	Inflation in January 2021 – October 2023 (HICP for Belgium)	Suggested family allowance unit contribution
Family allowance, EUR	660	18%	**780**

Source: calculations by PPMI.

2.5. Top-up allowance in Staff Exchanges

The objective of the top-up allowance under the MSCA Staff Exchanges (SE) is to 'contribute to travel, accommodation and subsistence costs related to the secondment'[38]. The SE top-up allowance is different from the living allowance provided under DN and PF actions. Researchers and staff going on secondments of 1 to 12 months under SE action are expected to continue receiving their salary from their home organisation in addition to the SE top-up allowance.

The objective of the top-up allowance has not changed since Horizon 2020 where the same type of top-up allowance was provided under the MSCA Research and Innovation Staff Exchanges (RISE). However, the amount of the top-up allowance was

[37] As shown in the analysis in the section 1.3. of this report, the HICP inflation rate for Belgium in the period January 2021 – October 2023 was around 18%.

[38] European Commission (2021) *Decision of 11 March 2021 authorising the use of lump sum contributions and unit contributions for Marie Skłodowska-Curie actions under the Horizon Europe Programme*. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/unit-cost-decision_he-msca_en.pdf

increased in 2018 and in 2021 following recommendations from the consultancy studies[39]. Table 11 shows the evolution of the top-up allowance over the years.

Table 11. Evolution of the top-up allowance under Horizon 2020 RISE and Horizon Europe SE

2014-2017	2018-2020	2021-2023
2000 EUR	2100 EUR (5% increase)	2300 EUR (9.5% increase)

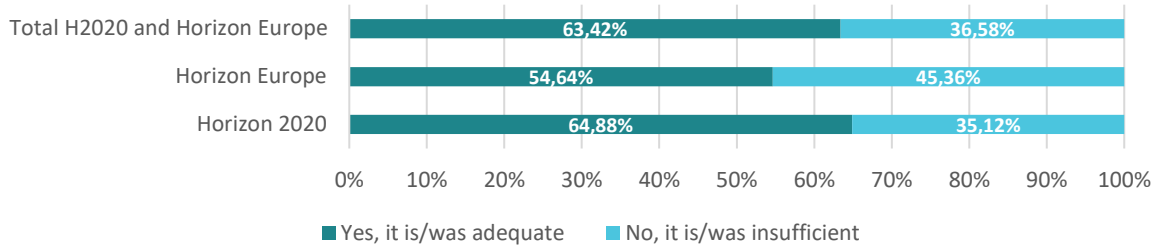
Source: Commission Decisions and consultancy studies.

The consultancy study in 2017 concluded that the top-up allowance paid under RISE action in 2014-2017 was in principle adequate and competitive, and it only recommended adjusting the allowance in terms of inflation in 2014-2017 (5% inflation in total in that period). The 2020 consultancy study suggested adjusting the top-up allowance beyond just accounting for inflation to better support secondments to expensive regions of staff members coming from lower-income countries. This responded to one of the key objectives of the SE action – namely, to foster international mobility among European and third countries. This study aims to provide evidence for defining the SE top-up allowance for the period starting in 2024.

According to the 2023 survey results, a larger share of the surveyed Horizon Europe SE researchers (around 45%) consider the top-up allowance insufficient to cover travel, accommodation and subsistence costs relating to their secondment compared to Horizon 2020 RISE researchers surveyed within the context of this study (around 35%) (see Figure 8), despite of the increase in top-up allowance. In the consultancy study implemented in 2020, 31% (N=1 150) of the surveyed Horizon 2020 RISE researchers did not consider their top-up allowance sufficient. Even considering the differences in the sample sizes, the evidence points to a downwards trend over time in terms of satisfaction with the top-up allowance.

[39] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/en/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-en
European Commission (2017) *Mid-term Review of Marie Skłodowska-Curie actions unit costs*. Available at: https://op.europa.eu/en/publication-detail/-/publication/df75d3fa-5499-11e7-a5ca-01aa75ed71a1/language-fr

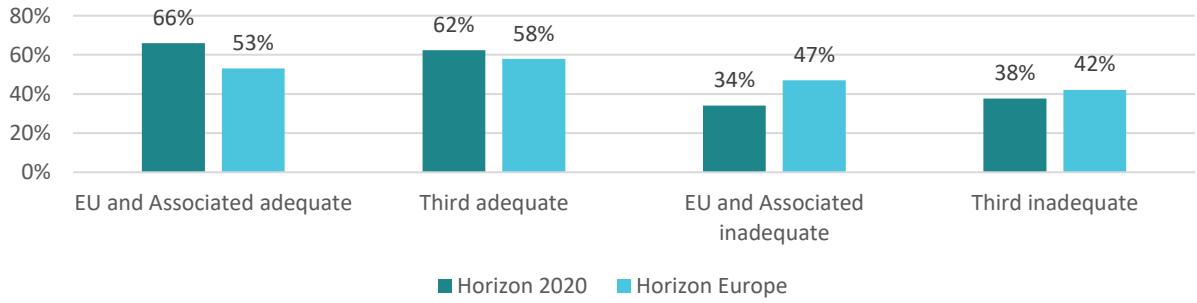
Figure 8. In your opinion, was the top-up allowance paid during your MSCA secondment period by and large sufficient to cover all your travel, accommodation and subsistence costs relating to the secondment? (by period of the Framework Programme)



Source: 2023 PPMI survey of researchers and staff participating in MSCA Horizon 2020 RISE (N=1 099) and Horizon Europe SE (N=183).

Figure 9 reveals that the Horizon Europe SE seconded researchers, both in the EU and associated countries and in third countries, tend to be less satisfied with their top-up allowance than the Horizon 2020 RISE seconded researchers. The drop in satisfaction levels was more prominent for researchers hosted in the EU and associated countries.

Figure 9. In your opinion, was the top-up allowance paid during your MSCA secondment period by and large sufficient to cover all your travel, accommodation and subsistence costs relating to the secondment? (by host country group: EU and associated countries vs. third countries)

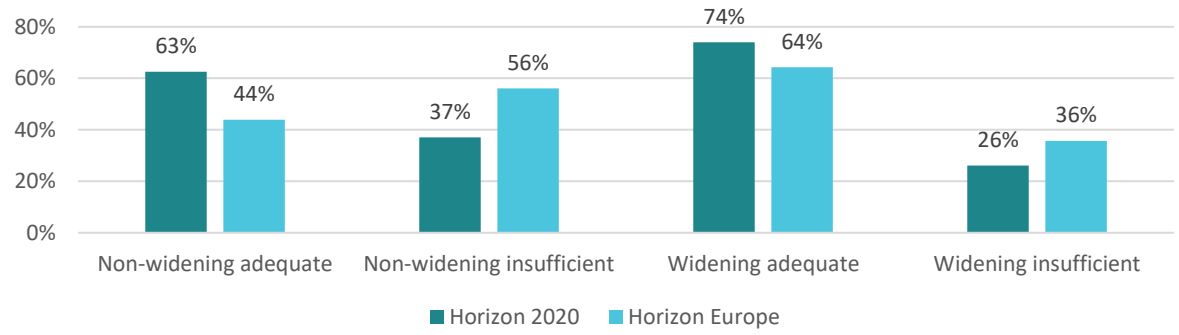


Source: 2023 PPMI survey of researchers and staff participating in MSCA Horizon 2020 RISE (N=1 099) and Horizon Europe SE (N=183). To enable standardised temporal analysis, this chart uses Horizon Europe classification of countries.

Figure 10 and Figure 11 reveal that researchers hosted in countries with a tendency to have a higher cost of living (EU and associated non-widening countries and third countries not automatically eligible for funding) were less satisfied with the top-up allowance compared to researchers hosted in other countries; and the share of less satisfied researchers in countries with higher cost of living has increased more than in countries with lower cost of living. These findings confirm the key conclusions of the

previous consultancy study[40]: while the top-up allowance was perceived as less satisfactory in Horizon Europe than in Horizon 2020 across all country groups, this issue is especially pronounced for researchers going from less costly to more costly countries. Even though the top-up allowance has been increased in Horizon Europe, the increase was not sufficient enough to mitigate the effects of the high inflation of the last few years, especially in terms of the travel and accommodation costs. First, short-term accommodation tends to be more costly compared to long-term accommodation. Second, if the duration of the secondment is rather short (1-2 months), the costs of traveling fall under only 1-2 months' worth of top-up allowance. Desk research (see Annex 6) has confirmed that the accommodation and travel costs have increased in the last few years. Additionally, as indicated by some interviewees, representing both the NCPs and beneficiaries, the sufficiency of the top-up allowance largely depends on where and from which countries researchers and staff are traveling, and whether organisations are willing to supplement the top-up allowances from their own resources or institutional unit contributions.

Figure 10. In your opinion, was the top-up allowance paid during your MSCA secondment period by and large sufficient to cover all your travel, accommodation and subsistence costs relating to the secondment? (by host country group: widening and non-widening countries)

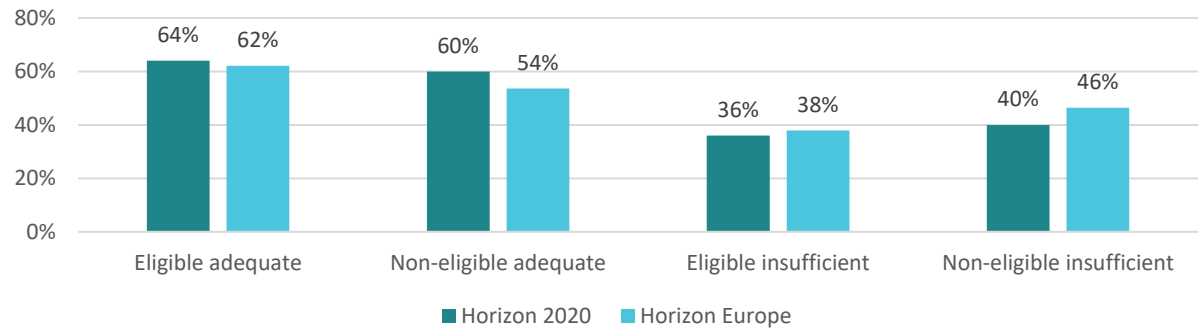


Source: 2023 PPMI survey of researchers and staff participating in MSCA Horizon 2020 RISE (N=787) and Horizon Europe SE (N=122). To enable standardised temporal analysis, this chart uses Horizon Europe classification of countries.

Figure 11. In your opinion, was the top-up allowance paid during your MSCA secondment period by and large sufficient to cover all your travel, accommodation and

[40] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/en/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-en

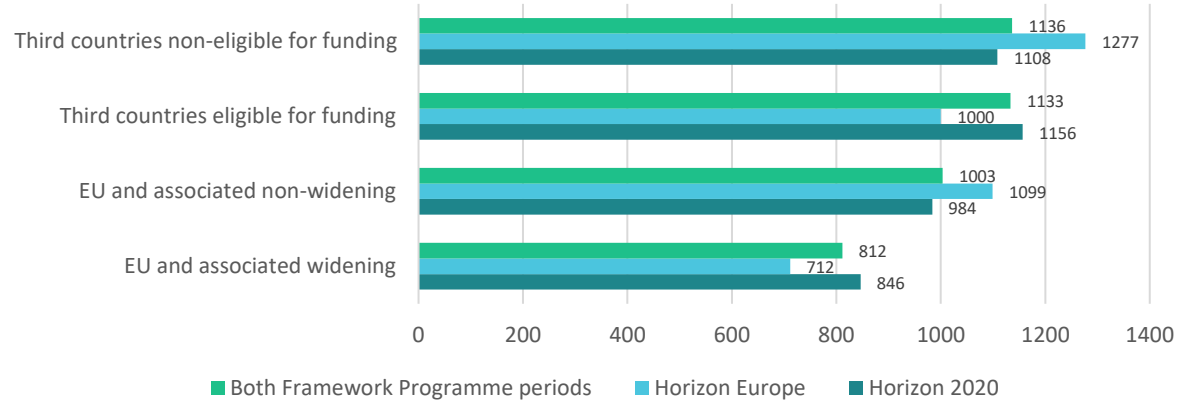
subsistence costs relating to the secondment? (by host country group: third countries automatically eligible and not automatically eligible for funding)



Source: 2023 PPMI survey of researchers and staff participating in MSCA Horizon 2020 RISE (N=311) and Horizon Europe SE (N=57). To enable standardised temporal analysis, this chart uses Horizon Europe classification of countries.

Figure 12 shows that those researchers who considered that the top-up allowance was insufficient reported that they would have needed on average an additional monthly income of more than EUR 1 000 to fully cover their expenses in third countries (both automatically eligible for funding and not automatically eligible for funding) and in the EU and associated non-widening countries. Researchers, who were hosted in the widening countries and considered that the top-up allowance was insufficient, would have needed an additional amount of around EUR 800 every month.

Figure 12. Question only for those researchers, who said that their top-up allowance was insufficient. Insufficient by how much? (average numbers per country group)



Source: 2023 PPMI survey of researchers and staff participating in MSCA Horizon 2020 RISE (N=364) and Horizon Europe SE (N=82). To enable standardised temporal analysis, this chart uses Horizon Europe classification of countries.

The surveyed researchers, who found the top-up allowance insufficient, considered **the price of short-term accommodation**, either rent or hotel, to be the major source of this insufficiency. It is also evident that the shorter the secondment, the higher the accommodation cost (researchers coming for a month may need to live in a hotel for

the whole duration of the secondment). High travel costs, in particular for those **travelling to harder-to-reach countries,** is another key source of the perceived insufficiency of the top-up allowance, as revealed by the survey responses.

As demonstrated by the survey addressed to Horizon Europe SE and Horizon 2020 RISE organisations (N=351), 25% of respondents decided to complement the top-up allowance received by the seconded researchers either from their own resources or from the MSCA institutional unit contributions to mitigate the insufficiency of the top-up allowance.

2.5.1. Conclusions and recommendations

Analysis of the satisfaction levels of the Horizon Europe SE and Horizon 2020 RISE seconded researchers with the top-up allowance reveals a downward trend. Specifically, in Horizon 2020 around 3 in 10 seconded researchers were not satisfied with the top-up allowance they received, while in Horizon Europe around 4 in 10 seconded researchers consider it insufficient. The overall conclusion holds across all country groups, with this issue being especially pronounced for researchers going from less costly to more costly countries (EU non-widening countries and third countries not automatically eligible for funding).

Based on the responses of SE seconded researchers to the survey, in order to respond to the two key sources of insufficiency of the top-up allowance – the price of short-term accommodation and the price of travelling to more difficult-to-reach places – the required adjustment of the top-up allowance would be EUR 800-1 000 per month, as indicated by the analysis of real costs. However, the impact of such increase would lead to a significant reduction in the number of supported secondments.

Having considered all of the above, **we recommend increasing the amount of the SE top-up allowance in line with inflation in the period 2021-2023**.

Recommendation: Increase the SE top-up allowance based on inflation.

In view of the decreasing purchasing power of the top-up allowance, and to mitigate the impact of increasing prices in particular of short-term accommodation and the price of travelling to more harder-to-reach places, the study recommends adjusting the current values of the SE top-up allowance in line with the HICP inflation rate for Belgium in 2021-2023, as shown in the table below [41].

	Current amount	Inflation in January 2021 – October 2023 (HICP for Belgium)	Suggested top-up allowance unit contribution
Top-up allowance, EUR	2 300	18%	**2 710**

Source: calculations by PPMI.

[41] As shown in the analysis in Section 1.3. of this report, the HICP inflation rate for Belgium in the period January 2021 – October 2023 was around 18%.

2.6. Long-term leave allowance

A long-term leave allowance has been introduced in the MSCA under the Horizon Europe programme to cover personnel costs incurred by the beneficiary organisations in case of researchers' long-term leave, including maternity, paternity, parental, sick or special leave longer than 30 consecutive days[42]. Overall, desk research on long-term leave in the EU countries shows that these types of leaves are in many cases covered by social security. However, in some countries they are fully or partially covered by the employer, or by both social security and the employer. In some cases, the employer might be asked to cover the leave in advance, receiving a reimbursement from the state later. In many countries, benefits for such leaves cover a percentage of the salary, while the duration of the paid leave varies considerably. Therefore, the aim of the MSCA long-term leave allowance is to cover a full salary consisting of living and mobility allowances for the whole period of absence of the fellow, where this coverage is not guaranteed by social security. In this regard, all interviewed programme coordinators have stressed that the allowance is very positively received. The allowance is viewed as particularly helpful in countries where social security does not fully or partially cover different types of long-term leaves.

In the survey, MSCA fellows of different Horizon 2020 and Horizon Europe actions were asked whether they had made use of any kind of long-term leave during the implementation of the project. Fellows were also asked about any problems they faced when on long-term leave. The purpose of these questions was to understand the importance and the usefulness of the long-term leave allowance and to evaluate if this allowance can mitigate problems arising while on leave.

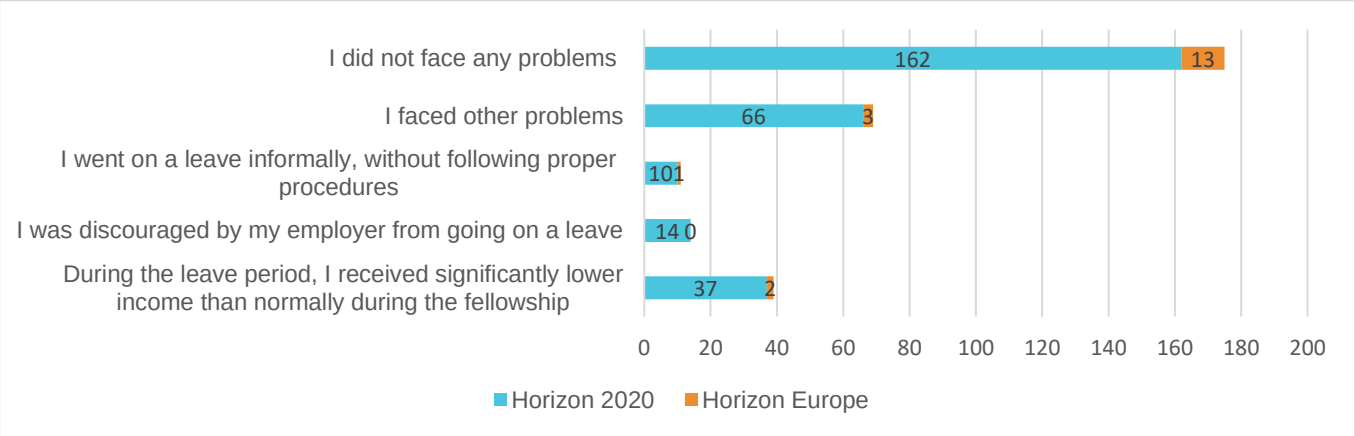
A significant number of the surveyed fellows took long-term leave during the implementation of their MSCA project. Out of 5158 respondents employed in both Horizon 2020 and Horizon Europe projects, **282 fellows declared that they went on at least one kind of long-term leave during their MSCA project**, with **maternity and sick leave being the most common categories**. A total of 318[43] long-term leaves were reported in the survey. The majority of reported long-term leaves (n=292) were taken under Horizon 2020 and have therefore not been covered by the long-term leave allowance. The surveyed Horizon Europe researchers reported 26 long-term leaves. Even if the long-term leave allowance has not yet been used substantially under Horizon Europe, the number of long-term leaves reported by surveyed researchers under Horizon 2020 can be regarded as considerable and suggests that the inclusion of the long-term leave allowance under Horizon Europe is welcome.

[42] European Commission (2021) *Decision of 11 March 2021 authorising the use of lump sum contributions and unit contributions for Marie Skłodowska-Curie actions under the Horizon Europe Programme*. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/unit-cost-decision_he-msca_en.pdf

[43] Please note that one fellow might go on more than one leave during a MSCA project. For this reason, the number of fellows who took long-term leave is lower than the total number of requested leaves.

Figure 13 indicates that the majority of fellows who went on a long-term leave did not experience major problems under either Horizon 2020 or Horizon Europe. The category labelled 'other problems' emerges as the second most frequently selected option by respondents. Within this category, respondents mentioned: problems related to bureaucracy; discrepancies between social security systems of different countries; improper use of funds by the beneficiary organisation; declined extension of the research contract after the leave period. Notably, 39 fellows responding to the survey declared that they received less than their regular income while on leave.

Figure 13. Most common problem faced by MSCA fellows who went on long-term leave (in numbers)



Source: 2023 PPMI survey of MSCA researchers (N=308).

Desk research analysis (see Annex 9) revealed that, across all analysed countries, the employer is generally required to pay a sum corresponding to the full wage or a percentage of it, periods are longer than 30 days and can last up to 5 months (e.g. in Italy). In some countries the exact duration cannot be specified as it depends on the collective agreements or employment contracts (e.g. Denmark, Finland, France, Sweden). Given that the MSCA long-term leave allowance does not currently foresee a maximum extension and covers a full salary, the allocated contribution seems sufficient to cover any kind of long-term leave whose payment falls on the employer. Also, as previously suggested, the majority of interviewed experts representing beneficiaries, the MSCA Programme Committee and NCPs welcomed the inclusion of the allowance as it enhances equity among researchers. At the same time, some concerns about the maximum length of the leave were expressed by an interviewed programme coordinator[44], who highlighted that it would be beneficial to clarify if the long-term leave allowance extends for the leave period established by the respective country's national legislation longer. According to the programme coordinator, very long periods of absence of a fellow might hinder the effectiveness and the success of the MSCA project.

[44] PPMI interview programme. Programme coordinator from Belgium, Flanders.

2.6.1. Conclusions and recommendations

Overall, the long-term leave allowance is very positively evaluated. The allowance constitutes an essential contribution to organisations, allowing them to cover expenses incurred as a result of researchers' leave regardless of the national social security system in place. This favourable assessment has been almost unanimously shared in interviews with the MSCA programme coordinators, MSCA NCPs and MSCA Programme Committee members. Additionally, it has been confirmed by the survey data that the majority of researchers and organisations were satisfied with the level of funding offered. **However, it is too early to conduct a fully comprehensive evaluation of the long-term leave allowance's perception and effectiveness**. Data are still scarce because many MSCA projects under Horizon Europe are still in the early stages.

Recommendations:

Option a (preferred): Keep the current long-term leave allowance system unchanged, re-evaluating it at a later stage. Considering the positive feedback on the existing long-term leave allowance, as well as the current scarcity of data regarding the use of the allowance in the MSCA Horizon Europe, it does not seem necessary to implement any substantial change to the current system. However, the system should be reassessed once more data on the use of the long-term leave allowance in Horizon Europe is available.

Option b: Consider the family allowance (where applicable) when calculating the long-term leave allowance.

To ensure that the income of researchers with families does not change during their leave, it is possible to re-imagine the funding system for long-term leave in a way that it considers the different needs of people with family responsibilities. In this case, the formula to calculate the long-term leave allowance would be as follows:

{(long-term leave allowance (i.e., living allowance + mobility allowance + family allowance))

x (% of long-term leave allowance incurred by the beneficiary (=costs incurred by the beneficiary/long-term leave allowance))

x (number of months)}

Introducing this option would mean higher funding for long-term leave allowance and could have an impact on the number of researchers funded. Although the impact may, at this stage, be minor as according to the current survey, the number of researchers going on long-term leaves is relatively low. Additionally, as all the feedback received regarding this allowance is positive, the introduction of a new formula to calculate the long-term leave is not considered to be the preferred option at this stage.

2.7. Special needs allowance

In 2019, a special needs *lump sum* was introduced to cover higher costs of mobility faced by researchers and staff members with disabilities. Under Horizon Europe, in 2021, a special needs allowance was introduced as a *unit contribution*. The amount for the new special needs allowance is based on 10 different cost categories

corresponding to the different levels of financial burden created by different disabilities[45], which were set based on the results of a consultancy study[46]. The study showed that the level of funding needed to support fellows with disabilities can vary significantly depending on the type of disability and the services needed. Solutions are often individualised and can encompass assistive equipment, accessible software, hiring assistants and caretakers, as well as modifications of infrastructure.

In the survey, a small number of the MSCA researchers declared that they have special needs related to disability. Out of 6 735 fellows who replied to the survey question about special needs allowance[47], only 82 declared that they have some form of special needs related to disability, corresponding to 1.2% of all respondents. Given that Horizon Europe projects are still in their initial stages, most of the responding researchers with disabilities were involved in Horizon 2020 projects. Only 9 out of 82 researchers with disabilities, who responded to our survey, are participating in Horizon Europe projects and none of them declared that they are receiving the special needs allowance.

Among the fellows who declared to have special needs related to disability, only 7 respondents said that they received the MSCA special needs lump sum available under Horizon 2020 (8.5% out of all respondents with disabilities). Special needs allowances received by these researchers consist of monthly amounts ranging from EUR 120 to EUR 1 000, and of single instalments ranging from EUR 6 200 to EUR 37 062[48]. Four of the above-mentioned respondents indicated that the allowance they received was sufficient to cover the costs related to their special needs while the other three indicated that it was insufficient.

The allowance was insufficient in cases where researchers required care services, especially for covering travel and accommodation costs of accompanying persons. In one case a researcher had to reduce their work hours due to the high costs of care services. This is corroborated by the evidence gathered through desk research and interviews, which indicates that care services create the highest costs for researchers with special needs. In this regard, the majority of interviewed disability experts[49] emphasised that in the wider academic context organisations often overlook the costs of accompanying caregivers and assistants as well as of special means of transport, particularly during secondments. This oversight hampers accurate assessment and provision of disability-related contributions.

[45] The following cost categories are available: EUR 3 000, EUR 4 500, EUR 6 000, EUR 9 500, EUR 13 000, EUR 18 500, EUR 27 500, EUR 35 500, EUR 47 500, EUR 60 000.

[46] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/en/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-en

[47] Researchers in ITN, IF, RISE, COFUND in Horizon 2020 and PF, DN, SE and COFUND in Horizon Europe. These data come from both fully and partially completed questionnaires.

[48] The indicated monthly amounts are EUR 120, 250, 1 000. The lump sum amounts are EUR 6 200, 10 000, 21 600, 37 062.

[49] 3 out of 4 interviewed disability experts.

An intriguing finding is that those researchers who considered the special needs allowance as insufficient could have requested a higher special needs amount.[50] This raises a question: why did these researchers not ask for more funding? As an answer, the majority of interviewed disability experts highlighted that communication between host organisations and researchers with disabilities can, at times, be incomplete, leading to a miscalculation of the researcher's needs and related costs. Interviewed experts suggested that, in an ideal case, organisations could provide fellows with special needs with dedicated staff that could help them navigate different available equipment, tools, and services options as well as their costs. This would allow a better assessment of the amount of funding necessary to support their needs.

Survey data presented above highlight that the number of researchers with disabilities who made use of the special needs allowance is very low. Interviewed NCPs and programme coordinators have also confirmed that instances when a disabled researcher requests the special needs allowance are currently quite rare. Additionally, different interviewed project coordinators were unaware of this kind of financial support for researchers with disabilities. In this regard, all disability experts consulted for this study have indicated that researchers with disabilities are often unaware that funding to support their special needs exists.

Furthermore, two of the interviewed experts also pointed out that application procedures might lack confidentiality. This aspect could cause a fellow with disabilities to fear stigmatisation and discrimination based on their disability, jeopardising their access to the allowance. This is particularly important as 52.4% of surveyed researchers (N=43) with disabilities indicated that it would have helped if they had received a special needs allowance. According to the open survey responses by these researchers, the allowance would have been especially useful to cover expensive medications and medical appointments (including counselling and therapy sessions). The allowance would also have been used to cover additional training, the purchase of specific software and equipment (e.g. subscription to assistive technology software; special glasses; ergonomic furniture), the employment of professional caregivers and assistants and expenses related to transportation.

The survey of the MSCA researchers also aimed to gather evidence on individual perspectives of researchers as to the amount of the special needs allowance that would be sufficient to cover disability-related costs. When asked about this, only fellows who did not receive a special needs allowance gave an opinion. These respondents indicated monthly amounts ranging from EUR 50 to EUR 5 000[51] and a lump sum amount ranging from EUR 360 to EUR 36 000[52], leading to an average monthly allowance of EUR 457.57 and lump sum of EUR 7 153.34.

[50] 2 out of 3 respondents who declared they were not satisfied with the received allowance indicated the amount they received. The two indicated amounts are two lump sums of EUR 120 and EUR 21 600.
[51] Due to inconsistencies in reporting by respondents, the following values have been excluded: EUR 30, EUR 35.
[52] Due to inconsistencies in reporting by respondents, the following values have been excluded: EUR 7, EUR 35, EUR 100.

Additional elements concerning researchers with disabilities emerge from the survey that targeted MSCA organisations of different Horizon 2020 and Horizon Europe actions[53]. Out of 1893 surveyed organisations, only 133 organisations reported hosting or employing researchers with physical, sensory, mental, or intellectual impairments in the previous 5 years, both within and outside of MSCA projects. The representatives of these organisations were asked about the items needed to accommodate researchers with disabilities. Table 12 provides an overview of their answers.

Table 12. Actions and expenses undertaken by surveyed organisations to accommodate researchers/staff members' with disabilities

Action	Cost (in EUR)
Mentors for mental health impairments	1 000 / month
Counselling	1 200 / month
Extra training for intellectual impairments	2 000
Special chair for evacuation, stairs signalisation	5 000
Accessible University website	1 000
Adaptive IT equipment for dyslexic researchers	200
Special computer monitors, adjusted lighting	500
Special hardware for sensory impairments	1 000
Elevators and ramps for physical disabilities	10 000 – 30 000
Facilities adaptation for accessibility	10 000 – 50 000
Promotion and awareness of accessibility and disability	1 000
Personal support worker/assistance	6 087 - 32 875
Taxi rides and assistance for transportation	500
Instalment of height adjustable tables	15 000
Specialised seating equipment and enhanced accessibility to labs	2 000
Speech-to-text software and smartphone package	21 200
Adaptation of the work conditions and environment for mental impairment	1 100
Indications and labels for sensory impairments	1 500

Source: 2023 PPMI survey of MSCA organisations.

Organisations generally did not specify whether the indicated amounts refer to monthly, yearly, or lump sum costs. However, it is still possible to observe that expenses related to special needs faced by organisations vary greatly, as confirmed by both desk research (see Annex 10) and experts' evaluations. It can also be seen that the costs of needed items and services vary significantly between countries.

[53] Organisations in IF, COFUND, ITN, RISE in Horizon 2020, and in PF, COFUND, DN, SE in Horizon Europe.

Nevertheless, costs indicated in Table 12Table 12 imply that the current special needs allowance can accommodate most of the costs of researchers with disabilities.

2.7.1. Conclusions and recommendations

The evidence stemming from the survey, expert interviews, and desk research suggests that the special needs allowance established in Horizon Europe is appropriate for covering a wide variety of disability-related needs. Even though the costs related to disabilities vary significantly, the categories available under Horizon Europe are adequate to cover these costs.

Desk research suggests that the costs of items and services aimed at accommodating the needs of researchers/staff members with disabilities are generally lower than the maximum contribution that can be provided by the MSCA special needs allowance. Survey data confirm these findings as expenses incurred by organisations to support researchers with disabilities seem to be well within the range of the MSCA special needs allowance. Additionally, respondents who have benefitted from the allowance but did not find it sufficient have not requested the full available amounts. This means that in principle the special needs allowance could have accommodated their costs.

Since the funding seems to be sufficient, it is possible that insufficient communication about the special needs allowance among researchers and host organisations is hindering its efficacy. Survey and interview data indicated that the information about the special needs allowance does not necessarily reach the target audience. This underscores the need for increased efforts to improve communication and promote awareness of the special needs allowance, especially by host organisations.

These conclusions remain substantial despite the scarcity of data concerning researchers with disabilities who benefitted from the special needs allowance in Horizon Europe. This scarcity might be due to the fact that many Horizon Europe MSCA projects are only in the initial stages, as well as the limited awareness about the special needs allowance. In light of the desk research, interviews, and survey data, the funding rates of the special needs allowance under Horizon Europe seem to be adequate to cover disability-related costs of researchers with special needs. For these reasons, the study does not propose any changes to the current unit contributions system for the special needs allowance.

Recommendation: Consider additional efforts to raise awareness and improve communication to encourage host organisations to take further proactive steps in contacting hosted researchers and proactively inquiring about any needs they may have.

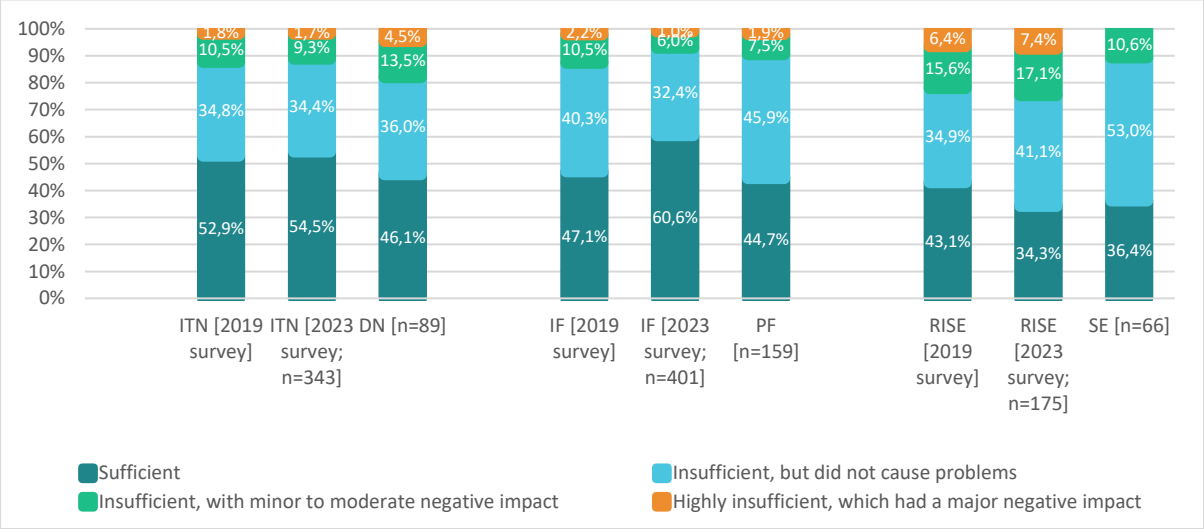
Additional communication efforts could, for example, take the shape of an MSCA Presidency conference focusing on researchers with disabilities, a panel during the research & innovation days, or even an MSCA Charter on Researchers with Special Needs (taking as example the MSCA Green Charter).

3. Review of institutional unit contributions

3.1. Research, training and networking unit contributions

Based on survey data, Figure 14 shows that satisfaction by organisations with research, training and networking (RTN) unit contributions in all types of actions fluctuated over time. Organisations participating in DN/ITN tend to be most satisfied with RTN unit contributions, while organisations participating in SE/RISE actions tend to be least satisfied.

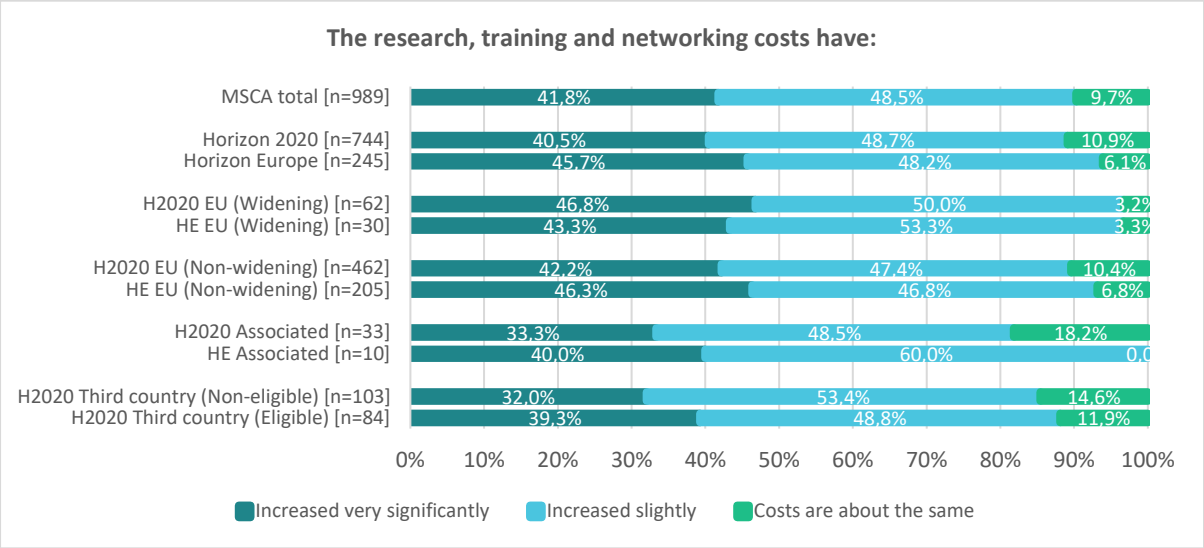
Figure 14. Overall, were resources allocated to fund research, training and networking costs of your organisation incurred during this project sufficient, insufficient or highly insufficient? (by action)



Source: 2023 PPMI survey of MSCA organisations participating in Horizon 2020 (N=919) and Horizon Europe (N=314), and 2019 PPMI survey of MSCA organisations (N=1016).

The survey of organisations also revealed the impact of the recent wave of inflation on RTN costs. As many as 90.3% of all surveyed MSCA organisations (N=989) reported that, due to inflation, research, training, and networking costs have increased either very significantly (41.8%) or slightly (48.5%) (see Figure 15.).

Figure 15. In 2019-2023 many countries in the world faced high inflation. Please assess the cost research, training and networking since the start of your MSCA project until this moment (by country group)

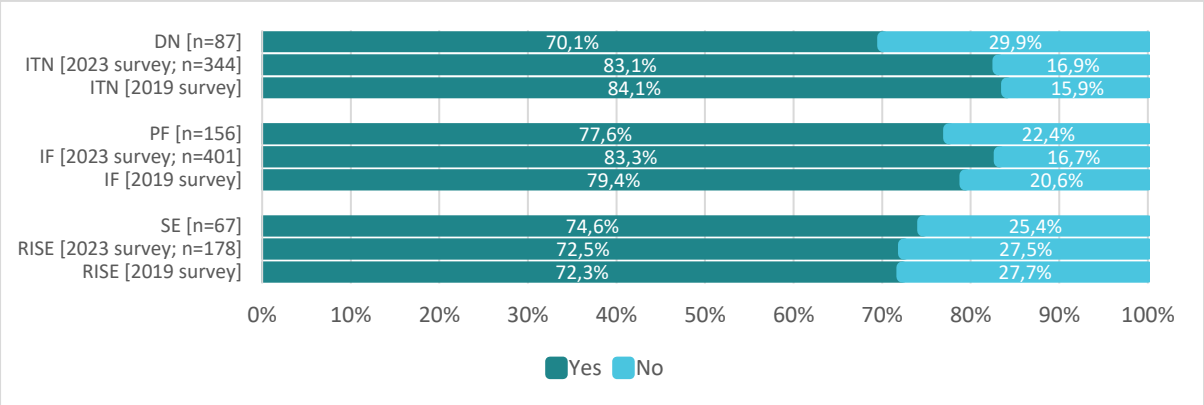


Source: 2023 PPMI survey of MSCA organisations participating in Horizon 2020 (N=744) and Horizon Europe (N=245).

When it comes to the different actions under Horizon 2020 and Horizon Europe (N=989), organisations managing Horizon Europe DN projects reported a more significant increase in costs (51.7%) compared to Horizon 2020 ITN (45.1%), and the same pattern was also identified for organisations managing Horizon Europe PF (42.3%) compared to Horizon 2020 IF projects (36.5%). In contrast, the trend is reversed in RISE/SE as Horizon 2020 RISE organisations reported a higher increase in costs (56.2%) compared to Horizon Europe SE organisations (51.5%).

Survey data also show that 25.2% of the surveyed organisations did not manage to fund all desired research, training and networking activities under Horizon Europe MSCA projects (N=310) compared to 18.9% under Horizon 2020 (N=923). Figure 16 provides a deeper historical view of how organisations participating in different types of MSC actions assessed whether they were able to fund all expected RTN activities. Notably, the share of organisations, who said that they could not fund all the desired RTN activities, increased the most for the DN action (from around 16% in Horizon 2020 to around 30% in Horizon Europe).

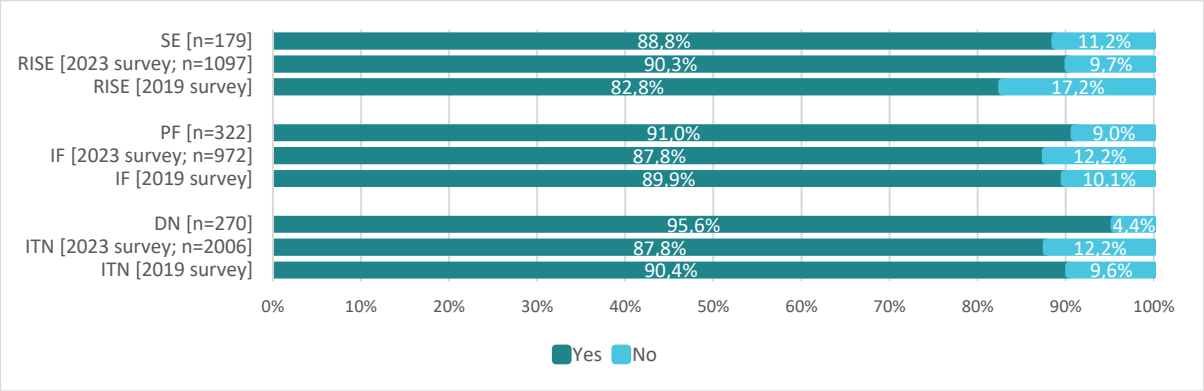
Figure 16. During this MSCA project, were you able to fund all research, training and networking activities relevant to research implemented during the project?



Source: 2023 PPMI survey of MSCA organisations participating in Horizon 2020 (N=923) and Horizon Europe (N=310), and 2019 PPMI survey of MSCA organisations (N=1016).

For the surveyed researchers, the levels of satisfaction with funding for RTN activities for all types of actions are not significantly different between Horizon 2020 and Horizon Europe, remaining very high (see Figure 17).

Figure 17. During your fellowship, were you able to receive funding for all research, training and networking activities relevant to your research? (by action)



Source: 2023 PPMI survey of MSCA researchers participating in Horizon 2020 (N=4075) and Horizon Europe (N=771), and 2019 PPMI survey of MSCA researchers (N=1659).

For those researchers and organisations that said they could not fund all research, training, and networking activities, the survey also asked what specific items they could not fund. The top four items reported by the MSCA researchers were participating in conferences or other events, accessing research-relevant materials/inputs, taking relevant training, and publishing in open access. Meanwhile, organisations reported the difficulty of accessing research-relevant materials/inputs, publishing in open access, funding conferences or other events, and accessing research infrastructures.

Respondents to the interview programme pointed out that the adequacy of RTN contributions can vary depending on the scientific discipline of the project and the specific research activities undertaken. For instance, field research, laboratory equipment, and consumables, particularly in life sciences, were considered the most

substantial expenses. Consequently, projects in life sciences were perceived by many interviewees as most resource intensive and likely to experience greater costs compared to those in some branches of the humanities and social sciences. Moreover, the recent wave of inflation was noted by the interviewees to significantly affect research, training, and networking costs. Additionally, several respondents in the interview programme highlighted that open access publishing, especially in gold open access journals, entails considerable costs, requiring careful consideration of where to publish based on the available funds. This aligns with desk research findings, which show that the average cost of an open access publication was EUR 1 978[54] in 2019. In 2023, the analysis of the incurred costs of publishing in open access journals (see Annex 7. Analysis of the prices of open access publications charged by the major journals) indicates a 5.3% increase relative to 2019 (EUR 2 082). Moreover, a very recent analysis of the Article Processing Charges (APCs) of over 20 000 titles[55], with a focus on open access, has shown that costs of publishing in open access journals in 2024 have increased by 9.5% relative to 2023. Desk research on the average prices/costs of participating in research and networking events (see Annex 8) highlighted the increases in these costs relative to 2019[56]. The average cost of attending training events in the EU and internationally in 2023 was EUR 408 compared to EUR 374.76 EUR in 2019, indicating an 8.9% increase. Meanwhile, the average cost of attending networking events in the EU and internationally went from EUR 324.80 EUR in 2019 to 373 in 2023, indicating a 14.8% increase.

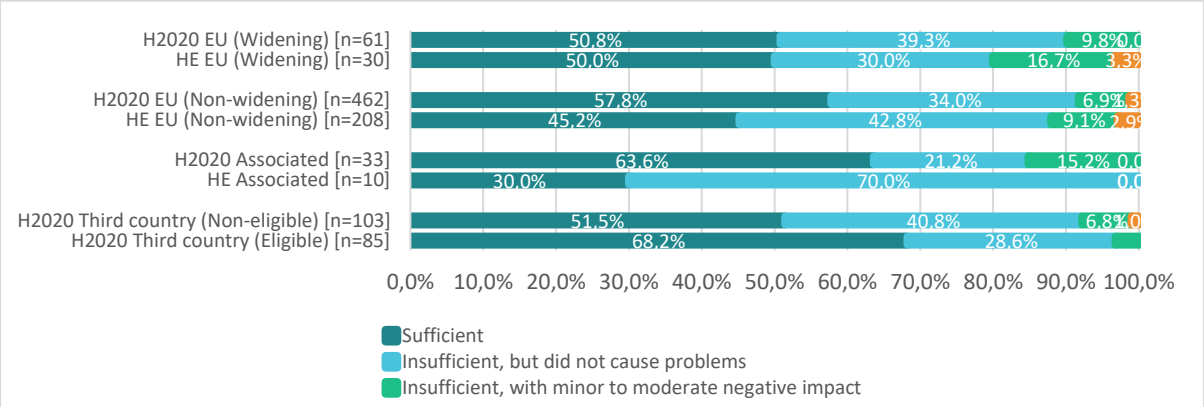
However, survey evidence indicates the strong capacity of the MSCA beneficiary organisations to co-fund the MSCA contribution in cash or in kind in order to ensure that the research is not negatively affected. Over one third of surveyed organisations (34.8%) under Horizon 2020 (N=919) and 44.6% under Horizon Europe (N=314) reported that funding was insufficient, but it did not cause problems related to the quality of research being implemented. Figure 18 shows how organisations from different country groups assessed whether RTN funding was sufficient or not and if shortages in funding harmed research quality. Organisations from the widening countries participating in Horizon Europe (N=30) most often said that RTN funding was insufficient and that it negatively affected research quality.

[54] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/mt/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-fr

[55] Delta Think (2024) *Open Access Charges – Continued Consolidation and Increase.* Available at: https://deltathink.com/news-views-open-access-charges-continued-consolidation-and-increases-3/

[56] European Commission (2020) Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe. Luxembourg: Publications Office of the European Union. Available at: https://op.europa.eu/mt/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-fr

Figure 18. Overall, were resources allocated to fund research, training and networking costs of your organisation incurred during this project sufficient, insufficient or highly insufficient? (by country group)



Source: 2023 PPMI survey of MSCA organisations participating in Horizon 2020 (N=744) and Horizon Europe (N=238).

Furthermore, 39.1% of the surveyed organisations under Horizon 2020 (N=764) as part of this study reported using their own resources or having received co-funding from other sources to cover research, training, and networking costs and 42.7% reported the same under Horizon Europe (N=267). This means that the **surveyed organisations had options to tap into resources other than the MSCA funding to ensure that sufficient budget is available to implement high quality research**.

3.1.1. Conclusions and recommendations

Satisfaction of the MSCA beneficiary organisations with research, training and networking unit contributions has fluctuated over time. Beneficiary organisations reported high negative impact of recent inflation on RTN costs (this is also supported by desk research). However, the survey results also show a very substantial capacity of organisations to contribute to co-funding MSCA RTN activities in kind or in cash. Furthermore, satisfaction of researchers with RTN unit contributions remains high (over 90% are satisfied).

Taking into account the very high satisfaction of the MSCA researchers with RTN activities and the ability of organisations to tap into their own resources to co-fund these activities, we suggest keeping RTN unit contribution rates unchanged.

Recommendations:

Option a (preferred): Keep the research, training and networking unit contributions unchanged.

Option b: Increase research, training and networking unit contributions based on inflation.

If there is scope in the MSCA budget for further increases, it would be advisable to consider an increase of the research, training and networking unit contributions for all types of actions in line with the HICP inflation rate for Belgium in January 2021 – October 2023 in order to sustain their purchasing power.[57] However, because of the need to balance the attractiveness of unit contributions and the number of projects and researchers funded, increasing the living and mobility allowances is a clear priority at this point in time.

	Current amount	Inflation in January 2021 – October 2023 (HICP for Belgium)	Suggested research, training and networking unit contributions
RTN unit contributions for DN, EUR	1 600	18%	**1 890**
RTN unit contributions for PF, EUR	1 000		**1 180**
RTN unit contributions for SE, EUR	1 300		**1 530**

Source: calculations by PPMI.

3.2. Management and indirect unit contributions

Management and indirect unit contributions are expected to contribute to expenses related to the technical implementation of the MSCA projects. Such expenses may include hiring project managers, paying higher salaries to current administrative employees, operating and maintaining the premises, departmental administration of grants, and other similar types of costs.

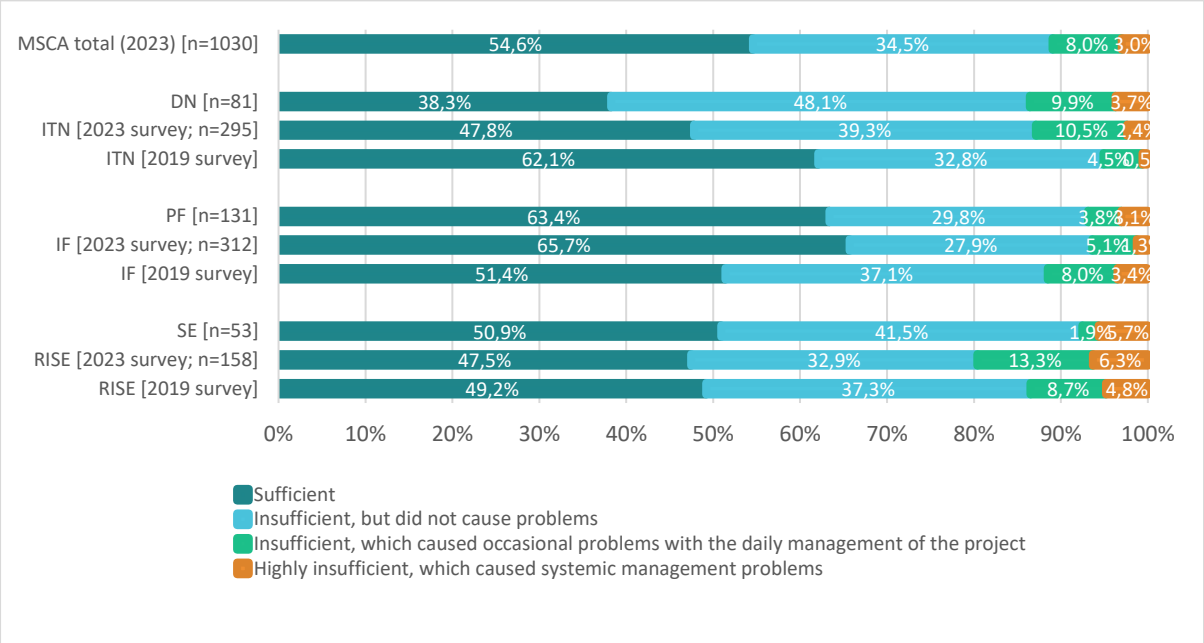
The survey and interview programmes examined the levels of satisfaction with the management and indirect unit contributions for both organisations and researchers. Figure 19 shows that over half (54.6%) of the surveyed organisations in all types of MSC actions (N=1 030) said that resources allocated to fund management and indirect costs were sufficient. Around one third (34.5%) of organisations in all types of actions reported that, while they deemed the funding insufficient, it did not cause problems related to the daily management of the project. However, 11.0% of the surveyed organisations indicated that management and indirect unit contributions were insufficient to the extent that it resulted in either occasional (8.0%) or systemic (3.0%) problems with the daily management of projects.

When looking at different MSC actions under both Horizon 2020 and Horizon Europe, as compared to the results from the 2019 survey of MSCA organisations, DN organisations are the least satisfied with the available resources. Only 38.3% of organisations managing DN projects indicated that management and indirect contributions were sufficient compared to 47.8% for ITN in 2023 and 62.1% for ITN in 2019. Considering that the same allocated management and indirect contributions

[57] As shown in the analysis in Section 1.3. of this report, the HICP inflation rate for Belgium in the period January 2021 – October 2023 was around 18%.

were maintained for DN in Horizon Europe, the decreasing satisfaction with management and indirect unit contributions by DN organisations should be seen as a significant negative trend. The respondents in the interview programme explained that managing doctoral networks and international doctoral candidates tends to be especially complex and resource-intensive compared to managing grants in other actions. Meanwhile, organisations managing PF projects had a considerably higher satisfaction rate (compared to DN) at 63.3% followed by SE at 50.9%.

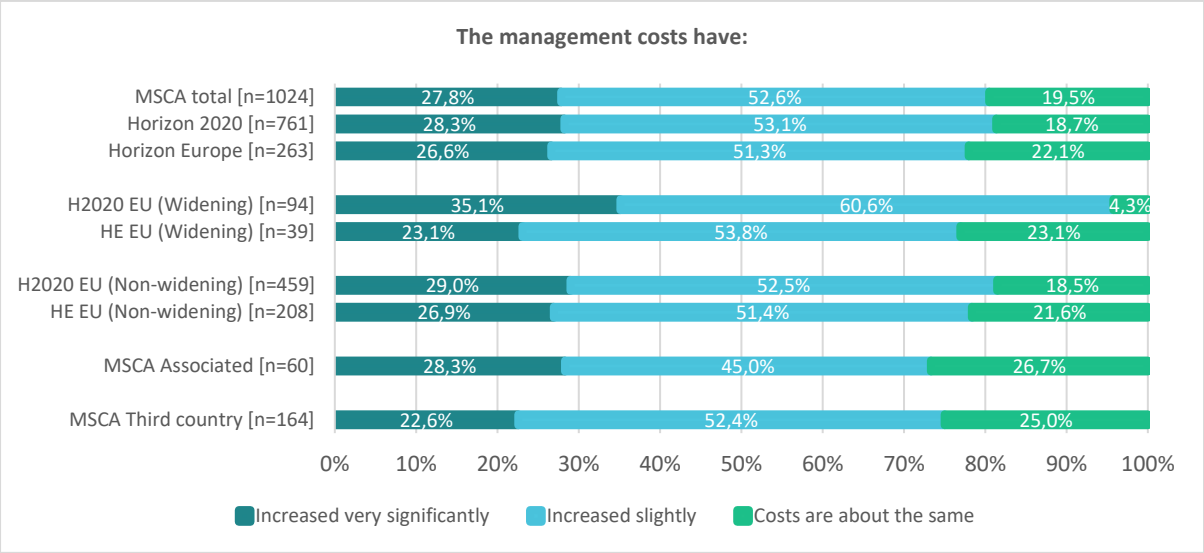
Figure 19. Overall, were resources allocated to fund management and indirect costs of your organisation sufficient, insufficient or highly insufficient? (by action)



Source: 2023 PPMI survey of MSCA organisations participating in Horizon 2020 (N=665) and Horizon Europe (N=265), and 2019 PPMI survey of MSCA organisations.

Moreover, both interview and survey respondents indicated that inflation had an impact on management costs such as salaries of project managers, maintenance of the physical infrastructure, utilities, travel expenses, and even consumables. Over 80% of the surveyed MSCA organisations indicated that the management and indirect costs have increased either very significantly (27.8%) or slightly (52.6%), as shown in Figure 20. Such increases were most strongly emphasised by organisations in the EU widening countries under Horizon 2020, where 95.7% of the surveyed organisations reported either a slight or a significant increase in management and indirect costs.

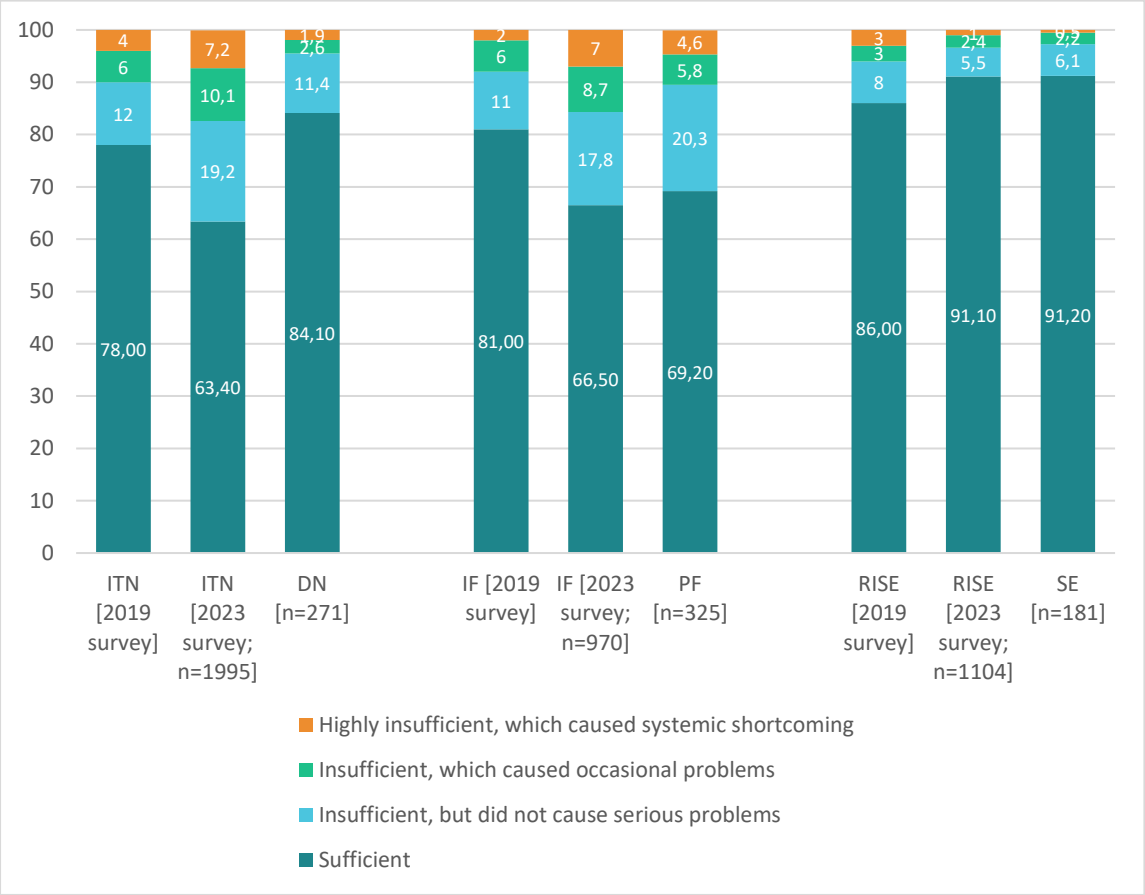
Figure 20. Please assess the management and indirect costs since the start of your MSCA project until this moment



Source: 2023 PPMI survey of MSCA organisations participating in Horizon 2020 (N=761) and Horizon Europe (N=263).

Researchers, on the other hand, were generally satisfied with the attention dedicated by their host organisations to ensuring effective daily management of their fellowships or secondments (see Figure 21). This satisfaction serves as an indirect indicator that organisations possess the required resources to offer adequate management of their MSCA grants. Looking at different types of actions, RISE/SE seconded researchers continue to be the most satisfied with the management of their MSCA projects. Around 90% of seconded researchers were satisfied both in Horizon 2020 and in Horizon Europe. A negative trend can be perceived in the case of PF researchers, where around 70% of postdoctoral fellows were satisfied with the management of their grants by host organisations in Horizon Europe, compared to around 81% in Horizon 2020.

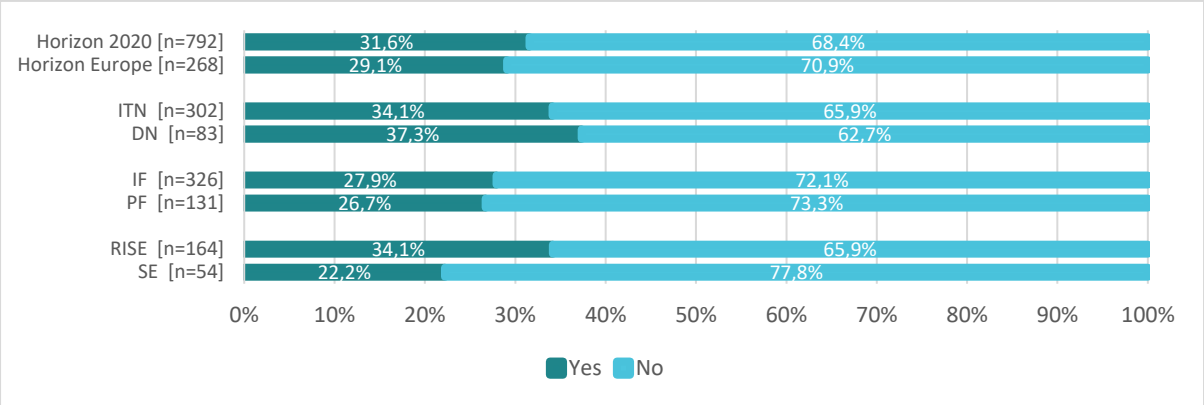
Figure 21. Was/is the attention dedicated by your host organisation to ensuring effective daily management of the issues related to your fellowship sufficient?



Source: PPMI survey of MSCA researchers in 2023 (N=4846) and PPMI survey of MSCA researchers in 2019 (N=1674).

Organisations were also asked if they have used their own resources or have received any co-funding from other sources to cover management and indirect costs of their MSCA projects (Figure 22). Around one third of the respondents (31.6% under Horizon 2020 and 29.1% under Horizon Europe) provided a positive response, which again confirmed high capacities of the MSCA beneficiary organisations to contribute in kind or in cash to the successful management of MSCA projects. This effect was most notable in ITN/DN projects where 34.1% of organisations under Horizon 2020 and 37.3% of organisations under Horizon Europe reported using resources other than those provided by the MSCA to cover management and indirect costs of their projects.

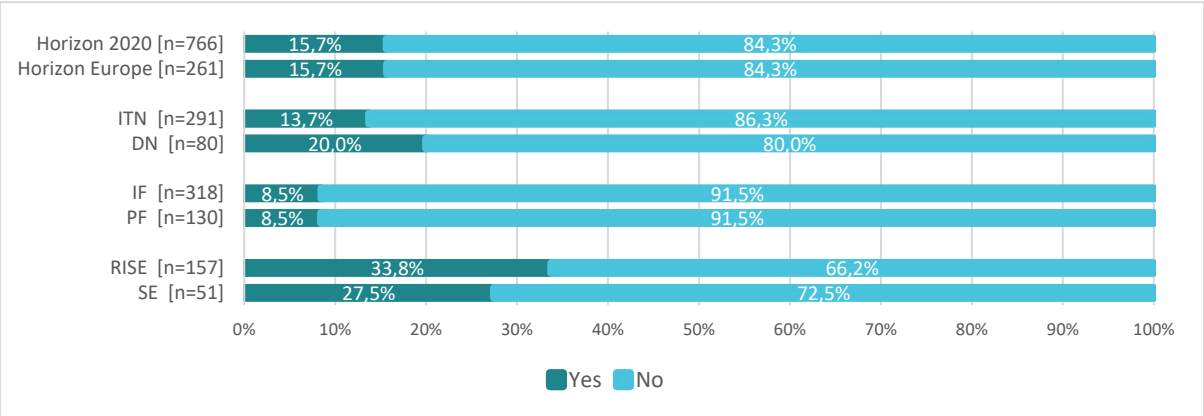
Figure 22. Have you used your own resources/received any co-funding from other sources to cover the management and indirect costs of this MSCA grant?



Source: 2023 PPMI survey of MSCA organisations participating in Horizon 2020 (N=792) and Horizon Europe (N=268).

The survey also asked organisations whether they used management and indirect unit contributions to top up researchers' salaries (Figure 23). Around 16% of all MSCA organisations responded affirmatively. This was particularly prevalent among RISE/SE organisations where 33.8% under Horizon 2020 and 27.5% under Horizon Europe confirmed this practice. Among the other projects, this practice was more prominent in ITN (13.7%) and DN (20.0%) compared to 8.5% for IF/PF. Using management and indirect unit contributions to top up researchers' salaries was also relatively more common in the EU widening countries (21.8%) compared to EU non-widening countries (15.4%), associated countries (15.8%), and third countries (12.9%).

Figure 23. Have you used management and indirect unit contributions to top up researcher(-s) salary(-ies)? (by action)



Source: PPMI 2023 survey of MSCA organisations participating in Horizon 2020 (N=766) and Horizon Europe (N=261).

3.2.1. Conclusions and recommendations

Over 80% of the surveyed MSCA organisations reported a very significant (27.8%) or slight (52.6%) increase in management and indirect costs in the recent period (since the start of their MSCA projects). DN emerged as the action most affected by the

increase in prices. Only 38.3% of the surveyed organisations implementing DN projects in Horizon Europe indicated that MSCA management and indirect unit contributions were sufficient, compared to 62.1% of ITN organisations saying the same in 2019.

At the same time, the survey revealed significant capacity among the beneficiary organisations across all types of actions to co-fund management of the MSCA projects in kind or in cash. This resulted in a large share of researchers and organisations saying that there were no significant problems with the management of the MSCA projects.

Recommendations:

Option a (preferred): Keep the management and indirect unit contributions unchanged.

Recognising the capacity of organisations to contribute to co-funding management and indirect costs incurred under the MSCA projects, and the need to find the right balance between the competitiveness of the unit contribution rates and accessibility to the programme, we recommend keeping management and indirect unit contributions unchanged for all types of actions. This will allow prioritising a significant increase of living and mobility allowances, justified in the previous sections.

Option b: Increase only DN management and indirect unit contributions according to the HICP 2021-2023 cumulative inflation rate for Belgium (to reach EUR 1 420 in 2024).

As shown above, DN emerged as the most affected action by the increase in management costs. Furthermore, DN fellows are the least satisfied of all researchers with the management of their projects. The highest level of co-funding from beneficiary organisations was also necessary in DN projects.

4. Review of COFUND allowance

According to the Commission Decision, the COFUND allowance can be used flexibly to contribute towards covering expenses related to recruited researchers and institutional costs.

The survey of COFUND beneficiary organisations received a total of 47 replies[58], where 38 replies came from organisations under Horizon 2020 and 9 replies from organisations under Horizon Europe. The survey that targeted COFUND researchers received 881 responses, of which only 7 fellows were participating in Horizon Europe. To summarise, the analysis of the survey data has yielded three insights:

- Organisations seem to have received enough funding to sustain project costs.
- Co-funding level varies and mostly derives from internal resources or public funding.
- Most fellows are satisfied with their remuneration and research funds available to them, even though inflation seems to have reduced the attractiveness of the action.

In order to understand the level of co-funding needed to run COFUND projects, beneficiary organisations involved in both Horizon Europe and Horizon 2020 programmes were asked about the funds allocated to cover management and indirect activities as well as research, training and networking activities. Funding used to cover research, training and networking costs, in addition to the MSCA funding, was indicated to range from EUR 112 000 to EUR 6 000 000, with an average of EUR 1 597 847.39. As for management and indirect costs, the level of funding added to the grant provided by the MSCA was indicated as ranging from EUR 20 000 to EUR 1 360 128, with an average of EUR 376 261.47[59]. **The survey revealed that organisations use the MSCA COFUND allowance flexibly to cover various costs, depending on the needs of a specific project: researchers' salaries, management costs or research-related costs.** Survey data suggest that the majority of surveyed organisations find that the funding they receive is sufficient to cover research-related (N=29, 60%) and management (N=25, 52%) costs.

As confirmed by the interview programme, research-funding organisations and research-performing organisations who are already running researchers' mobility programmes are most willing to apply to COFUND. This inclination stems for their ability to rely on existing resources or secured funding from other sources. **The main sources of co-funding come from organisations' own resources or public**

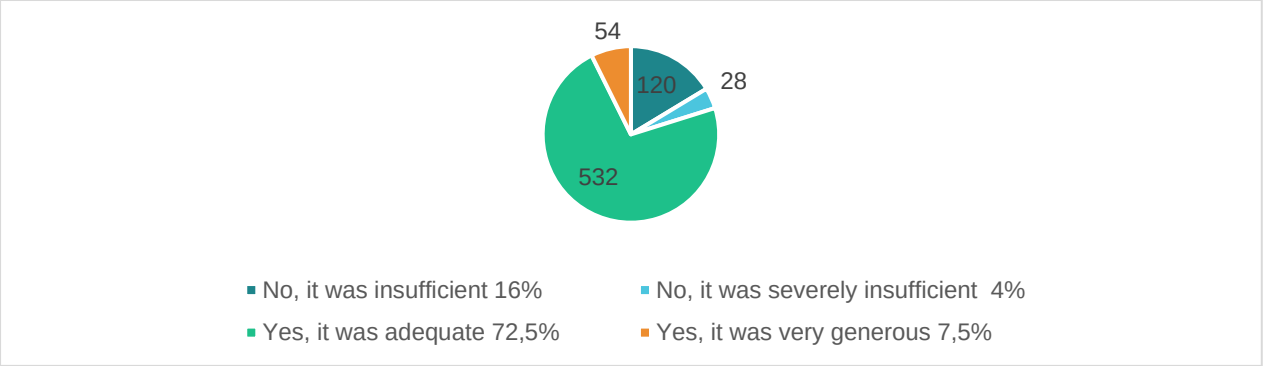
[58] The replies include both full and partial responses. Most of the partial responses include replies to most of the survey questions and are being considered in the analysis. A response is considered to be partial when the survey was closed before pressing the final button to close the survey.

[59] The analysis excluded the following values indicated by the respondents (EUR 145, EUR 400 and EUR 800) as they are too low for the purpose of the projects.

funding. Out of the 25 organisations, who replied to the question concerning co-funding sources, only two declared that co-funding also comes from industry partners.

COFUND fellows, who participated in the survey, were generally satisfied with their salaries (see Figure 24). There were no significant differences between countries with more advanced or less advanced research systems. Notably, doctoral fellows reported that their gross salaries ranged from EUR 1 350 to EUR 6 500, with an average of EUR 2 857.61 while postdoctoral fellows declared that their gross salaries ranged from EUR 1 931 to EUR 15 409, with an average of EUR 4 087.49. Furthermore, the majority of fellows (N=555; 63% of all surveyed fellows) indicated that they were able to receive funding for all research, training and networking activities relevant to their research, while only 4.7% (N=41) declared the opposite.

Figure 24. Percentage and number of respondents who declared that their salary was insufficient, severely insufficient, adequate or very generous



Source: 2023 PPMI survey of COFUND researchers (N=734).

Additionally, COFUND fellows were asked if they would reapply for COFUND in the future if renumeration remained the same. A total of 79% (N=582) of fellows who expressed their opinion on this topic would probably or certainly apply for COFUND again, against 21% (N=155) who declared that they definitely or probably would not apply again. Notably, 60.6% (N=94) of fellows who declared they would not apply again for COFUND indicated that their salary was insufficient, particularly because of inflation. Remuneration seemed least competitive for fellows with family or caring responsibilities (N=17), who have also indicated that the mobility rule embedded in the action can discourage them from participating given how difficult and expensive it is to relocate with a family. Also, some of the respondents (N=7) indicated that tax deductions heavily influenced their final net income resulting in insufficient remuneration. The latter respondents indicated that when applying they did not realise how much taxes they would need to pay from their salaries.

When asked to assess the increase in costs of living, research and management-related costs, researchers indicated that these increased substantially or slightly in the period 2019-2023. The majority of fellows indicated that the costs of living increased very significantly (59%) or slightly (38%), while only 3% of researchers indicated that

they did not observe an increase. Most organisations declared that the costs for research, training and networking (55%, N=17) and management and indirect costs (57%, N=16) increased slightly. Only a small minority of organisations did not feel an increase in costs (3% for research-related costs, N=1; 11% for management-related costs, N=3). This points to the fact that researchers and organisations involved in COFUND have also felt a strong impact of inflation, which was also observed under other types of actions, as described in previous sections.

4.1.1. Conclusions and recommendations

Despite the overall positive evaluation by both researchers and organisations of the funding received under the MSCA COFUND action, survey data suggested that high inflation over the past few years reduced the attractiveness of the COFUND action for both groups. There is a consensus among the surveyed researchers and organisations that both living and research costs increased in recent years.

Therefore, and in order to provide a systemic and coherent approach to all similar allowances, we recommend that the COFUND allowance be increased. This adjustment would align with the changes proposed for living and mobility allowances in DN and PF, following the existing methodology where COFUND allowance is equal to 70% of the sum of newly proposed living plus mobility allowances.

Recommendation: Increase the MSCA COFUND allowance based on the changes proposed for living and mobility allowances in MSCA DN and PF.

We suggest increasing the COFUND allowance based on the current methodology by taking into consideration the proposed increases for living and mobility allowances in MSCA DN and PF to EUR 3 300 and EUR 4 690, as shown in the table below.

	Current amount	The sum of the proposed rates for living and mobility allowances for DN and PF actions	70% of the sum of the living and mobility allowances	Suggested COFUND allowances unit contributions
COFUND allowance for doctoral programmes	2 800	4 720	3 304	**3 300**
COFUND allowance for postdoctoral programmes	3 980	6 700	4 690	**4 700**

Source: calculations by PPMI.

5. Developing and testing methods to update unit contributions

Throughout the study, we have analysed various methods to update the unit contributions under each cost category:

- Section 1.3. presented the method for updating the unit contributions' rates according to the **HICP inflation rate for Belgium**, which is also used for adjusting the salary rates of EU staff.
- Section 2.1. presented another robust economic indicator, the **labour cost index (LCI)** calculated by Eurostat. Specifically, we focused on the LCI for NAME activities (professional, scientific and technical activities). This allowed us to assess the change in researchers' salaries over time, particularly the increase in 2014-2023.
- We have also assessed **trends in researchers' salary levels in different countries and the costs of various research, training and networking items** (see Annex 2, Annex 7 and Annex 8).
- Furthermore, we performed a thorough analysis of **conditions offered by competing fellowship schemes** (see Annex 5).
- Finally, we have assessed the **real costs reported by researchers and organisations via a large-scale survey**.

Based on the analysis, conclusions and recommendations provided in the previous chapters, we have come to the conclusion that it is most appropriate to update the unit contribution rates based on the most rigorous, accepted and widely used indicator of the HICP inflation rate for Belgium. As shown in Section 1.2. on living allowance, the HICP inflation rate for Belgium is well-aligned with the change of researchers' salaries in Europe as measured by Eurostat's labour cost index – another well-established economic indicator.

Other methods, including desk research, survey about real costs faced by researchers and organisations, analysis of conditions offered by competing fellowships, provide compelling evidence for the implementation of the review, and particularly for making structural changes in the funding system. However, these methods do not yield suitable and fully standardised time series data.

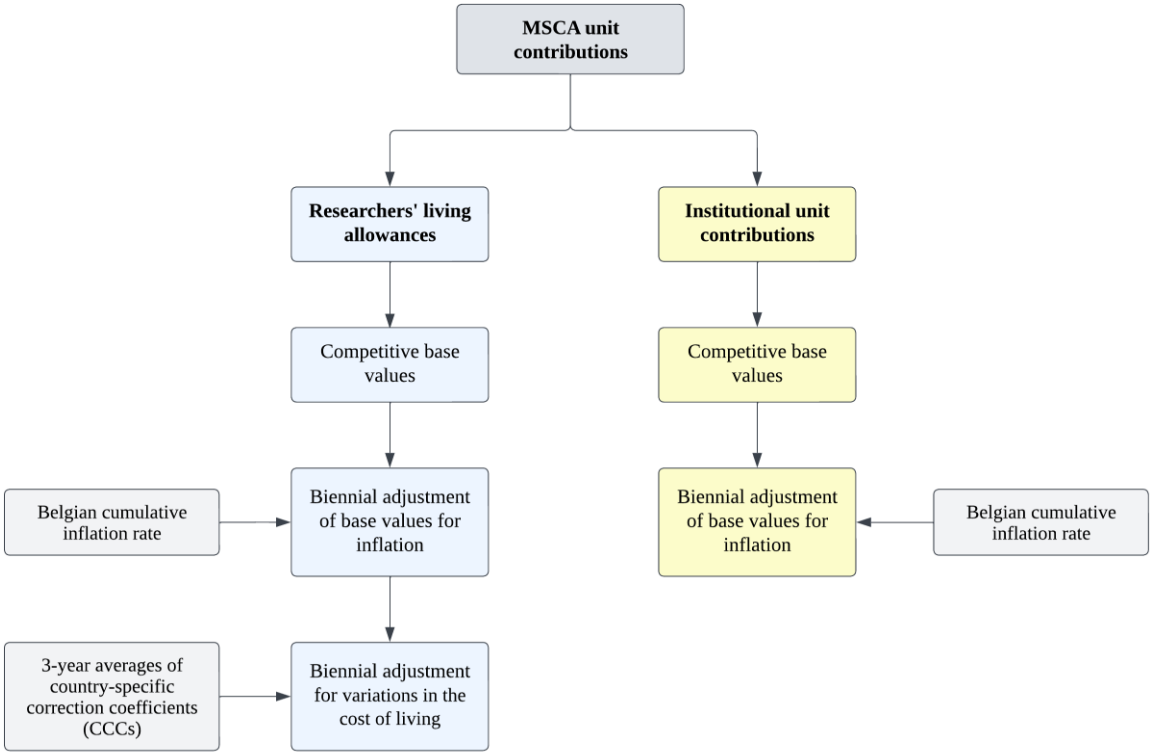
As part of the study, we have also assessed the feasibility of implementing an automated system for updating the MSCA unit contributions under each cost category. Such a system would require the establishment of criteria defining the conditions that an adequate system/method should fulfil. The following criteria would ensure unit contributions offered would be sufficient, competitive, and proportional between different countries:

- Competitiveness of the programme: A system must be in place to ensure that, over time, the MSCA programme remains highly competitive and is able to attract the best research talents.
- Accounting for inflation: While competitiveness can be established at base values, changes in prices over time must be accounted for to ensure sufficiency and continued competitiveness.
- Purchasing Power Parity (PPP): The same unit contributions might have different purchasing powers in different countries. Thus, the system should account for differences in the prices of goods and services between different countries, which can be quite significant. It should also account for exchange rates between the euro and local currencies (for countries outside the eurozone).
- Structural differences in consumption patterns: While prices might rise, they are likely to rise differently for various goods and services. Also, economies exhibit diverse structures, and individuals tend to spend their money differently depending on their geographic location. An ideal system would take that into account by placing a higher weight on the goods and services that are deemed more essential for a researcher residing abroad.
- Accessibility of data: The data required for setting and updating the MSCA unit contributions must be readily available, reliable, accessible, and recent enough to account for rapid economic developments. The parameters used as inputs for the calculation of the unit contributions must be comparable across countries and the methodologies behind them must be standardised to ensure their reliability and comparability.

Based on the criteria above, and the analysis of the quantitative and qualitative evidence collected under this study, it is proposed that the following system (Figure 25) be adopted by the MSCA programme for the automatic updating of researchers' living allowances and institutional unit contributions:

- **It is recommended that an adjustment for inflation takes place biennially** to have a timely response to inflation while not over-burdening the programme, financially and administratively, with annual adjustments. This responds to the trend towards an increase in the costs of goods and services over time, and particularly the recent significant and unexpected wave of inflation.
- **It is recommended to use the HICP Belgian cumulative inflation rate to adjust researchers' allowances and institutional unit contributions** for inflation that has taken place since the last adjustment (i.e., over the two-year period between adjustments).

Figure 25. System for regular reviews and updating of the MSCA unit contributions



Source: PPMI study team.

- **It is recommended that, for researcher allowances, biennial adjustments of the offered inflation-adjusted living allowances are introduced by applying a three-year average of the respective CCCs used in the remuneration of the EU staff**. While inflation adjustment ensures that increases in prices/costs are accounted for in Belgium (as it concerns the base value), inflation and the overall changes in the cost of living happen at different rates in different countries. Thus, CCCs are needed to account for the differences in the cost of living and purchasing powers between different MSCA destinations.

  1. First, the biennial adjustments would come in alignment with each new MSCA work programme, starting from the upcoming 2024/2025 work programme. That would offer a timely response to inflation while not over-burdening the programme, financially and administratively, with, for example, annual or semi-annual updates as is the case with the remuneration of EU staff.

  2. Second, considering that 3 years is the standard duration of most MSCA fellowships for which CCCs are used, a three-year average would offer a much higher responsiveness to economic changes (compared to the seven-year average) while maintaining adequate stability (i.e., mitigate significant variations, over time, in the offered living allowances).

3. Finally, considering that the CCCs will be updated in alignment with the work programmes, the updated CCCs will apply for the whole duration of the funded projects which ensures both stability and adequate responsiveness.

Subjecting the suggested system above to the above-mentioned criteria would ensure that:

- The system includes different parameters that are standardised, extensively tested, and comparable across different EU Member States and third countries.
- It accounts for differences in the cost of living, inflation (HICP), consumption patterns (Survey of Household Expenditure that feeds into calculating the CCCs[60]), purchasing power parities, and currency exchange rates.
- The CCCs applied are annually updated by the Commission/Eurostat in December with an intermediate update by the end of spring. Both CCCs and HICP inflation rates are readily accessible, which mitigates the need for devising parameters/indicators or engaging in time-consuming and work-intensive data collection activities.

However, it is worth highlighting that some differences exist in the way CCCs are calculated between EU Member States and third countries. Those differences are explained under Section 2.2. and should be accounted for to harmonise the way CCCs are calculated for different countries, and to address the specific needs and characteristics of the MSCA programme and its fellows.

Recommendation: Consider introducing an automatic biennial mechanism to review the base rates of unit contributions based on inflation without the need of an external review.

Based on the analysis above, we recommend introducing a biennial mechanism internal for the Commission to assess and consider updating the unit contributions every 2 years based on the Belgium's HICP inflation index for the 2 previous years.

[60] Eurostat. *Household budget survey - statistics on consumption expenditure*. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?oldid=595230

6. Analysis of costs incurred by beneficiaries of the European Researchers' Night under Horizon 2020 and Horizon Europe

The European Researchers' Night (NIGHT), funded under the MSCA and Citizens action, is a Europe-wide public event to enhance researchers' public recognition and to stimulate interest in research careers, especially among families, pupils and students. NIGHT events take place annually, typically on the last Friday of September. Up to two days' worth of funding is provided to organisations implementing the event to cover costs incurred before, during and after the event. The Researchers' Night action in FP7 and Horizon 2020 was financed on a real cost basis, which imposed a relatively heavy administrative burden needed to plan and report financial inputs. Under Horizon Europe (since 2021), the funding system of the MSCA and Citizens was revised; it is now based on lump sum contributions, which means that NIGHT project receive a lump sum based on a detailed explanation of the planned budget. This change aligned with the aim to simplify at both MSCA and Horizon Europe levels.

The main objective of this section was to analyse costs incurred by beneficiaries of the European Researchers' Night under Horizon 2020 and Horizon Europe and identify any trends or patterns. To achieve this objective, this task focused on analysing European Researchers' Night projects implemented under two Horizon 2020 NIGHT calls, and one NIGHT call implemented under Horizon Europe. An in-depth analysis of the projects is detailed in Annex 3. It should be noted that no projects of the Horizon Europe NIGHT call analysed by this study were finished at the time of review.

Overall, the interviewed beneficiaries and experts assessed the current funding system of the MSCA and Citizens action very positively, particularly compared to the previous system based on reporting the real costs.

As shown in Table 13 and Table 14, the analysis of geographical coverage of the NIGHT events suggests that NIGHT project costs are linked to the living costs of the country where the event is held.

Table 13. Information on the total costs of a Horizon 2020 NIGHT project depending on the living costs in respective countries (expressed by the country correction coefficients – CCC)

CCC range	Number of NIGHT projects	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
CCC less than 90%	44	137 564,30	136 637,63	52 884,51
CCC 90%-110%	32	317 948,67	216 348,13	245 410,36
CCC more than 110%	15	320 030,83	218 603,75	203 829,35

Source: CORDA database.

Table 14. Information on the requested project contribution of a Horizon Europe MSCA and Citizens project depending on the living costs in respective countries (expressed by the country correction coefficients – CCC)

CCC grouping	Number of projects in the sample	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
CCC less than 90%	24	269 087,72	277 838	71 788,63
CCC 90%-110%	16	331 348,57	299 801	175 399,16
CCC more than 110%	4	391 719	321 323	209 721,37

Source: CORDA database.

The quantitative data overview (see Annex 3) also highlighted that the practices applied by beneficiaries to report different data (e.g. R&D participants, attendees) vary greatly. These observations and qualitative data collected through interviews indicate that the participating organisations lack more precise guidance on the reporting procedures. The variations in types of reported data complicate the analysis of the relations between projects' input- and output-related indicators. Therefore, the programme would benefit from more guidelines on the reporting practices to support the MSCA and Citizens project beneficiaries and unify data collected on the NIGHT projects. This would improve the future analysis of the programme and further simplify the management and administration of the projects.

6.1.1. Conclusions and recommendations

Overall, the European Researchers' Night funding system based on lump sum contributions was evaluated positively by the interviewed beneficiaries and experts, compared to the old system based on real costs. As indicated by the majority of interview respondents, the lump sum funding system has simplified project management and administration processes. These results are in line with the objectives of the MSCA, and they result in the efficiency of resource allocation within the implemented MSCA and Citizens projects. Nonetheless, the qualitative data show that due to the recent update of the funding system (in 2021), its current evaluation is rather preliminary, and should be repeated no earlier than the finalisation of projects under the first analysed Horizon Europe call for proposals (HORIZON-MSCA-2022-CITIZENS-01).

7. Analysis of costs incurred by MSCA beneficiaries and researchers for reducing the environmental impact of their research activities in line with the MSCA Green Charter

The MSCA Green Charter comprises a code of good practices for the recipients of MSCA funding – both individuals and institutions – and promotes the mainstreaming of environmental considerations in all aspects of project implementation[61]. It seeks to promote the sustainable implementation of research activities by laying down a set of general principles and objectives that are in line with the goals of the European Green Deal[62], the United Nation's 2030 Agenda, and the Sustainable Development Goals[63].

As detailed in Annex 4, the survey on the Green Charter data indicates that nearly all Horizon 2020 and Horizon Europe MSCA programme participants will or will probably take measures to integrate environmental considerations in line with the MSCA Green Charter over the lifetime of their project. The measures that respondents plan to take can be grouped into three categories: measures that reduce costs, measures that do not have a significant impact on costs, and measures that increase costs. The categorisation of measures was established based on desk research. Measures that do not have a significant impact on costs were selected the most times (n=1 652), followed by measures that reduce costs (n=1 242) and measures that increase costs (n=1 058).

The most commonly selected measure was the promotion or use of teleconferencing. Beyond the environmental impact, the transition from in-person meetings to teleconferencing reduce the incurred costs[64] for internal and external meetings. Thus, this measure was considered as cost-reducing. Other selected cost-reducing measures were the reduction of waste production and resources used (e.g. energy and water).

Measures that do not have a significant impact on costs included awareness raising and guidance, adoption of collaborative economy, offsetting of carbon and greenhouse gases, green lab certification and greening the implementation of projects.

The most often selected measures that increase costs were:

- The use of the most sustainable and low-carbon forms of transportation possible.

[61] European Commission (2021) *Marie Skłodowska-Curie Actions Green Charter*. Available at: https://op.europa.eu/en/publication-detail/-/publication/2bfbb0d9-9b3c-11eb-b85c-01aa75ed71a1/language-en

[62] European Commission (2019) *Communication COM/2019/640: The European Green Deal*. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019DC0640

[63] United Nations *The 17 goals*. Available at: https://sdgs.un.org/goals

[64] Müller, A., & Wittmer, A. (2023). The choice between business travel and video conferencing after COVID-19 – Insights from a choice experiment among frequent travelers. Tourism Management (1982), 96, 104688. https://doi.org/10.1016/j.tourman.2022.104688

- Setting up of a dedicated unit (or recruiting an individual) responsible for the integration of environmental considerations within the context of the implementation of research projects including those of the MSCA.
- Green purchasing for project-related materials and the use of sustainable alternatives to single-use plastics and consumable items.

The expense increase resulting from the implementation of these measures can only be estimated using proxies based on desk research. Unfortunately, extensive data needed to calculate precise cost increase per measure are unavailable due to the fact that the measure implementation highly relies on individual circumstances. This highlights the need to establish requirements for MSCA participants to track and collect sustainability-related data, which could be used to make informed decisions about financing the sustainable implementation of research activities within the context of the Green Charter in the future.

For instance, the cost increase of low-carbon forms of transportation depends not only on the form of transportation chosen, but also on the destination and duration of the trip. Additionally, the transportation ticket prices vary highly depending on how far in advance the transportation ticket is purchased. Furthermore, throughout the year, it is more expensive to purchase transportation tickets during some time periods, for example around national holidays. Due to the variety of possible transportation ticket prices, a proxy calculation of the low-carbon forms of transportation price increase was based on the comparison of train and plane ticket prices. Trains were considered as the most likely and common sustainable form of transportation in comparison to planes because of the reasonably well developed railway infrastructure within parts of the EU. The development of a proxy to compare prices between the two forms of transportation was established based on the study conducted by Greenpeace in 2023, which produced a synthesis of train and plane ticket prices in the EU by analysing all possible rail and air fare destinations in the EU[65]. In addition, the study analysed and compared rail and plane ticket prices based on how far in advance of the trip they are bought. As detailed in Annex 4, the study found that **on average, travelling by train is approximately 2 times more expensive than travelling by plane** in the EU. For the purposes of this report, synthesis of the average airline passenger fare in Europe was used as a basis to calculate a proxy of how much more expensive the low-carbon forms of transportation were than the regular ones (i.e. travelling by train in comparison to travelling by plane). Since the average airline passenger fare in Europe of the most common airlines costs EUR 120[66], based on the Greenpeace study findings, this price was doubled to establish the cost proxy for the low-carbon form of transportation. Based on this calculation, travelling by train on average increases the costs of travelling by approximately EUR 120 per person per trip.

[65] Greenpeace (2023) *Ticket prices of planes vs trains*. Report available at: https://www.greenpeace.de/publikationen/report-ticket-prices-of-planes-vs-trains-in-europe.pdf

[66] Statista (2021) *Average passenger fare of selected airlines in Europe*. Available at: https://www.statista.com/statistics/1125265/average-ticket-price-selected-airlines-europe/

The organisational implementation of environmental considerations in the MSCA project can include existing employees or focus on newly recruited ones. The expenses of the former strategy depend strongly on the institution (e.g. its size, number of employees, the existing sustainability strategies, etc.). Thus, the precise expense calculation of this strategy should be analysed on a case-by-case basis. Even though some organisational survey respondents indicated that they would undertake the implementation of environmental considerations, none of them specified how many employees would undertake this task, what the role of these employees would be, nor how much time they would be likely to dedicate for implementation. For this reason, the cost proxy for setting up a dedicated unit (or recruitment of an individual) responsible for the integration of environmental considerations, particularly for MSCA projects, is based on the expenses needed to recruit a single individual. As detailed in Annex 4, **the average gross annual salary of an individual responsible for the integration of environmental considerations in the EU is EUR 39 913**. According to desk research, operational specialists are usually responsible for the implementation of such tasks. The annual salary was calculated based on the average salary of a remote operational specialist in each EU country. The calculation of the annual expenses for this measure is for the recruitment of one additional employee. The set up of a dedicated unit for the same purpose would increase the costs even more. The organisational survey respondents who selected this option indicated that they would need between EUR 35 000 and 100 000 to implement this measure. The survey results imply that the institutions would be open to recruiting multiple individuals to integrate environmental considerations in the MSCA project. However, allocating the integration of environmental considerations to current employees, would reduce expenses incurred for this aspect of the MSCA Green Charter's implementation.

The price for green purchasing for project-related materials and the use of sustainable alternatives to single-use plastics and consumable items depends strongly on the discipline and the project. For instance, the survey of organisations and interviews with experts indicated that the expenses of consumables in life sciences are significantly higher in comparison to other disciplines, particularly for projects using experiment-based methods. This is likely due to the fact that in life sciences, more consumables are needed, and the value of those consumables is generally greater than in other disciplines. Several Green Charter survey respondents highlight that in lab-based biology projects it is not always possible not to use single plastic items as many of the used consumables cannot be reused and they must be destroyed rather than recycled. For this reason, sustainable alternatives are not always available. In contrast, one interviewee highlighted that in the humanities or social sciences the overall cost of consumables is usually smaller due to the different nature of research activities relying on literature review, computer-based analysis and other methods. Thus, given the variation across disciplines and projects, the expense analysis of green purchasing for project-related materials and the use of sustainable alternatives to single-use plastics and consumable items must to a large extent be done on a case-by-case basis, though an attempt can be made to determine a cost proxy.

In order to better understand by how much the use of sustainable consumables could increase the expenses, the cost proxy for this measure was calculated based on two studies. As detailed in Annex 4, according to the Lab Manager survey which focuses on the life sciences, the average total laboratory budget for consumables per year is EUR 187 920[67]. In addition, studies find that sustainable products are 75-85% more expensive than conventional products[68]. **Assuming that all laboratory consumables have a sustainable alternative, sustainable consumables within an average lab can increase costs by EUR 150 000**. This proxy measure approximately indicates by how much the expenses would increase within life sciences if all consumables were changed to sustainable alternatives. Should the measure be adopted, the expenses are expected to differ significantly across and within disciplines, even within the life science, as not all consumables have sustainable alternatives and initial levels of consumable use in projects vary. Due to the high variability and the lack of data, a more precise calculation is not feasible.

Overall, out of all researcher and institutional respondents who are motivated to integrate environmental considerations in line with the MSCA Green Charter over the lifetime of their project (N=793), **only 10% considered the lack of financial support an important factor limiting what they could achieve**. These respondents stated that they would mostly need financial support for green travel, carbon offsetting expenses, personnel, and equipment upgrades. As stated above, all these expenses increase the overall costs. In addition, only 26% out of 528 respondents stated that the provision of financial support would help to make MSCA greener in the future. Thus, overall, the respondents exhibited a reasonably low need for financial support to improve what they could achieve or to make the MSCA greener in the future. This might be because 61% out of 249 respondents noted that their institution already has a strategy in place to promote sustainable research and adoption of green practices in research activities. Thus, several organisations already allocate their own financial resources to integrate environmental considerations.

Based on Pressbooks analysis, higher education institutions that do not have sustainability strategies in place might hinder the adoption of green practices of individuals because unsustainable practices might be more cost-efficient on an institutional level and because many of the staff members lack competencies related to sustainability[69]. To make the MSCA greener in the future, the Green Charter survey respondents suggested that the European Commission increase its (1) communication and promotion of best practice examples, (2) guidance on how to integrate environmental considerations into a project, and (3) communication and promotion of the MSCA Green Charter. The provision of financial support to make MSCA greener in the future was the fifth most selected suggestion. Thus, the need to

[67] Lab Manager (2011) *Laboratory Spending Trends*. Available at: https://www.labmanager.com/laboratory-spending-trends-17908

[68] Kearney (2020) *Why today's pricing is sabotaging sustainability*. Available at: https://www.kearney.com/industry/consumer-retail/article/-/insights/why-todays-pricing-is-sabotaging-sustainability

[69] Levesque et al. (2020) *Sustainability Methods and Perspectives*, Pressbooks. Available at: https://pressbooks.pub/sustainabilitymethods/chapter/the-role-of-universities-in-advancing-and-promoting-sustainability/

raise awareness about the importance of Green Charter is considered higher than the provision of financial contributions for the implementation of green practices. Raising awareness about Green Charter, best practice examples and integration of environmental considerations is particularly important to ensure that even if EU funds were allocated to institutions with no sustainability strategies, the contributions would be used in an efficient matter.

7.1.1. Conclusions and recommendations

Based on the survey responses, a minority of MSCA participants require financial support to integrate environmental considerations in line with the MSCA Green Charter. In cases where the financial support is needed, it is related to measures that increase the costs, such as the use of low-carbon forms of transportation, purchasing of sustainable materials and personnel. The price of the implementation of these measures can only be estimated as their implementation highly depend on individual circumstances. In addition, very little data exists on the multitude of ways in which these measures might be implemented. Table 15 lists the approximate price increase of these measures, in addition to expenses needed to cover the overall carbon offset.

Table 15. Expenses per sustainability measure that increases costs

Purpose	Category	Established ranges, where the real needs of the beneficiaries fall, EUR:	Amount that the organisation may get:		Description
			Option A: The minimum amount of a category	Option B: The average amount of a category	
Travel	I	EUR 250-3 000	EUR 240	EUR 1 625	Based on desk research, a round trip per person by train is approximately EUR 240 more expensive than travelling by plane. On average, fellows take 6 round trips to travel back home per year. Assuming that the same amount of trips is needed for work purposes, the overall average maximum increase of train travel cost per fellow is EUR 3 000. Thus, Option A and Option B indicate the amounts per one individual participant.
Sustainable materials	II	EUR 7 500-150 000	EUR 7 500	EUR 78 750	Based on desk research, replacing all laboratory consumables with sustainable alternatives should increase the annual costs by EUR 150 000. Considering that it might not be possible in all cases and that these expenses might vary by institution, the minimum threshold of the increased costs in this report is estimated at 5% (i.e., EUR 7 500).
Personnel	III	EUR 30 909-53 251	EUR 30 909	EUR 39 913	The gross annual salary of a person who implements sustainability strategies within an organisation in the EU ranges as detailed in the table. The estimated average gross salary is EUR 39 913.

Purpose	Category	Established ranges, where the real needs of the beneficiaries fall, EUR:	Amount that the organisation may get:		Description
			Option A: The minimum amount of a category	Option B: The average amount of a category	
Overall carbon offset	IV	EUR 83-210	EUR 83	EUR 128	Across sectors, on average, 7,5t. of greenhouse emissions are produced per capita in the EU[70]. Based on desk research, the carbon offset price ranges from EUR 11 to EUR 28. Thus, Option A and Option B indicate the amounts per one individual participant.

Source: desk research, compiled by PPMI.

As shown above, the need for additional funding to integrate environmental considerations in line with the MSCA Green Charter is not considered significant by MSCA participants. Furthermore, expenses to implement the environmental requirements depend on the context of a specific institution and its long-term strategy. The preferred recommendation is, therefore, not to provide financing to contribute to costs stemming from measures to integrate environmental considerations in line with the MSCA Green Charter r (as listed under “option a” below). Recommendations under “option b” and “option c” are provided as alternatives in case the European Commission decided to provide funding after all.

[70] Our World in data (2020) *Emissions by Sector*. Available at: https://ourworldindata.org/emissions-by-sector

Recommendations:

Option a (preferred): Do not provide financing to contribute to costs stemming from measures to integrate environmental considerations in line with the MSCA Green Charter. As detailed in the analysis of data on the Green Charter, the need for financing to integrate environmental considerations in line with the MSCA Green Charter is deemed reasonably small. In addition, many institutions already have sustainability strategies in place, which implies that they might be allocating their own resources to reach institutional sustainability goals.

Option b: Establish a new unit contribution to contribute to costs stemming from measures to integrate environmental considerations in line with the MSCA Green Charter. As detailed in the analysis, sustainable alternatives mostly increase the costs of travel, consumables, and personnel. Unit contributions could be provided for category I, II, III (see Table 15) or all of the above, depending on the needs of the participating institutions and individuals. In case of category I, the unit contribution should be provided for each participating individual. Yet, the analysis only provides rough cost estimates per category, as the expenses to implement them highly depend on the context of participating institutions and individuals. In addition, establishment of unit contributions per categories I, II, and III does not mean that other measures can reduce the costs and thus compensate for the measures that increase costs.

Option c: Establish sustainability requirements and an overall carbon offset unit contribution. In order to integrate environmental considerations in line with the MSCA Green Charter, the participants should first and foremost be able to calculate the CO_2 production, ideally based on footprint calculation standards (e.g., GHG Protocol, IPCC 2013, etc.)[71] as promoted by Erasmus Goes Green and the Green Erasmus Project[72]. A carbon offset unit contribution could be provided based on estimated CO_2 production, using a rate of EUR 16,86 per 1 000kg of CO_2[73]. This strategy would allow to track and improve improvement as well as to provide a contribution that is best suited for individual contexts and needs.

[71] There are many free online tools that calculate the CO_2 production based on the provision of most basic information like duration, number of participants, location size, etc.
[72] Carbon Footprint. Available at: https://www.carbonfootprint.com/
[73] Based on desk research, on average, it costs EUR 16,86 to offset 1 000kg of CO_2.

8. Recommendations on the MSCA funding system

Based on the conducted analysis, the study proposes the following recommendations for the MSCA funding system:

1. Increase researchers' living and mobility allowances in Doctoral Networks and Postdoctoral Fellowships by 18%, in line with the HICP inflation rate for Belgium in 2021-2023[74].
2. Introduce more frequent updates of the MSCA CCCs and consider a shorter time span of 3 years for determining the MSCA CCCs. Revise CCCs calculation methodology to take into account accommodation costs in associated and third countries.
1. Maintain the current family allowance in Doctoral Networks and Postdoctoral Fellowships.
2. Increase the top-up allowance of Staff Exchanges by 18%, in line with the HICP inflation rate for Belgium in 2021-2023.
3. Adjust the long-term leave allowance based on the increases proposed for living and mobility allowances, and the COFUND allowance.
4. Maintain the current special needs allowance but explore avenues to raise awareness and improve communication. Encourage host organisations to actively engage with hosted researchers, proactively inquiring about their specific needs.
5. Maintain the current research, training and networking unit contributions across all actions.
6. Maintain the current management and indirect unit contributions for all actions.
7. Increase the COFUND allowance based on the changes proposed for living and mobility allowances in Doctoral Networks and Postdoctoral Fellowships (70% of the increased living allowance plus mobility allowance).
8. Maintain the current MSCA and Citizens lump sum funding system.
9. Do not introduce financial support to contribute to costs stemming from measures to integrate the environmental considerations in line with the MSCA Green Charter.
10. Consider introducing an automatic biennial mechanism to review the base rates of unit contributions based on inflation without the need of an external review.

[74] As shown in the analysis in Section 1.3. of this report, the HICP inflation rate for Belgium in the period January 2021 – October 2023 was around 18%.

Please see below for a summary table of the preferred recommendation options for unit contributions applicable to the MSCA Doctoral Networks, Postdoctoral Fellowships, Staff Exchanges, and COFUND.

MSCA Action	Contributions for recruited researchers/seconded staff members (in person/month)					Institutional contributions (in person/month)		Contributions for recruited researchers and institutional contributions (in person/month)
	Living allowance	**Mobility allowance**	**Family allowance**	**Long-term leave allowance**	**Special needs allowance**	**Research, training and networking contribution**	**Management and indirect contribution**	**COFUND allowance**
Doctoral Networks	Current rate: EUR 3 400 **Proposed rate: EUR 4 010**	Current rate: EUR 600 **Proposed rate: EUR 710**	**No change: EUR 660**	Current rate: EUR 4 000 x % covered by the beneficiary **Proposed rate: EUR 4 720 x % covered by the beneficiary**	**No change:** EUR 3 000, 4 500, 6 000, 9 500, 13 000, 18 500, 27 500, 35 500, 47 500 or 60 000 x (1/number of months)	**No change: EUR 1 600**	**No change: EUR 1 200**	N/A
Postdoctoral Fellowships	Current rate: EUR 5 080 **Proposed rate: EUR 5 990**	Current rate: EUR 600 **Proposed rate: EUR 710**	**No change: EUR 660**	Current rate: EUR 5 680 x % covered by the beneficiary **Proposed rate: EUR 6 700 x % covered by the beneficiary**	**No change:** EUR 3 000, 4 500, 6 000, 9 500, 13 000, 18 500, 27 500, 35 500, 47 500 or 60 000 x (1/number of months)	**No change: EUR 1 000**	**No change: EUR 650**	N/A
	Top-up allowance			**Long-term leave allowance**	**Special needs allowance**	**Research, training and networking contribution**	**Management and indirect contribution**	**COFUND allowance**
Staff Exchanges	Current rate: EUR 2 300 **Proposed rate: EUR 2 710**			N/A	**No change:** EUR 3 000, 4 500, 6 000, 9 500, 13 000, 18 500, 27 500, 35 500, 47 500 or 60 000 x (1/number of months)	**No change: EUR 1 300**	**No change: EUR 1 000**	N/A

MSCA Action	Contributions for recruited researchers/seconded staff members (in person/month)			Institutional contributions (in person/month)		Contributions for recruited researchers and institutional contributions (in person/month)
	Living allowance	**Long-term leave allowance**	**Special needs Allowance**	**Research, training and networking contribution**	**Management and indirect contribution**	**COFUND allowance**
COFUND	N/A	Current rate: EUR 2 800 (doctoral programmes) or 3 980 (postdoctoral programmes) x % covered by the beneficiary **Proposed rate: EUR 3 300 (doctoral programmes) or EUR 4 700 (postdoctoral programmes) x % covered by the beneficiary**	**No change:** EUR 3 000, 4 500, 6 000, 9 500, 13 000, 18 500, 27 500, 35 500, 47 500 or 60 000 x (1/number of months)	N/A	N/A	Current rate: EUR 2 800 for doctoral programmes and EUR 3 980 for postdoctoral programmes **Proposed rate: EUR 3 300 for doctoral programmes and EUR 4 700 for postdoctoral programmes**

Annex 1. Remarks on the validity and reliability of the data collected via survey

As a key source of evidence for this study, we have surveyed the MSCA organisations and researchers participating in MSC actions in Horizon 2020 and Horizon Europe. Survey of the MSCA coordinators and other beneficiaries, MSCA fellows, researchers and staff provided the study team with quantitative data on the actual costs incurred by the MSCA beneficiaries and researchers, factual data on trends in researchers' salaries and prices of other research-related items, and perceptual data on the opinions of the MSCA beneficiaries and researchers about appropriateness, adequacy, competitiveness and attractiveness of the unit contributions for researchers and institutions. The survey was launched on 25 July 2023 and closed on 9 October 2023. The invitations to participate in the survey programme were sent to 4 897 contacts (researchers and organisations) in Horizon Europe and 28 146 contacts in Horizon 2020. The survey was sent to all researchers and organisations participating in Horizon Europe projects, and to those researchers and organisations participating in Horizon 2020 projects, who were not surveyed in the previous review of the MSCA funding system (i.e., projects that started after 10 July 2019).

In total, we gathered a substantial number of completed responses. As detailed in the table below, we received 6 572 complete responses (N(Horizon Europe)=1 042, N(Horizon 2020)=5 530) and 2 056 partial responses (N(Horizon Europe)=481, N(Horizon 2020)=1 575). The higher number of Horizon 2020 respondents completing the survey can be attributed to the approximately 83% larger sample frame for this group compared to the Horizon Europe sample size. Similarly, disparities in response numbers across different groups may have arisen due to unproportional sample sizes within the sample groups.

Number of complete and partial survey responses per respondent group

Programme	Respondent group	Complete responses	Partial responses
Horizon Europe	PF fellows (PF-EF)	285	53
	PF fellows (PF-GF)	41	7
	DN fellows	272	67
	COFUND fellows	4	3
	SE researchers	185	71
	PF primary coordinators	117	118
	DN primary coordinators & participants	79	104
	COFUND primary coordinators	5	4
	SE primary coordinators & participants	54	54
	Horizon Europe subtotal:	**1 042**	**481**

Programme	Respondent group	Complete responses	Partial responses
Horizon 2020	IF fellows (IF-EF)	832	184
	IF fellows (IF-GF)	139	19
	ITN fellows	1 979	399
	COFUND fellows	727	147
	RISE researchers	1 106	215
	IF primary coordinators & participants	298	244
	ITN primary coordinators & participants	268	267
	COFUND primary coordinators	24	14
	RISE primary coordinators & participants	157	86
	Horizon 2020 subtotal:	**5 530**	**1 575**
	Total:	**6 572**	**2 056**

Source: survey programme data (obtained on 10 October 2023).

This annex further presents the analysis of complete responses collected through the survey programme. The analysis is applied to data following a cleaning process, which excludes cases without given consent to participate in the survey programme. In addition, some of the demographic data was adjusted based on the respondents' corrections. The analysis includes all MSC actions, and it compares the complete survey responses to the demographic characteristics of the population. Here, the population refers to all MSCA participants, not only the ones who participated in the survey programme.

As detailed in the table below, the majority of MSCA participant groups within the population are appropriately represented within the sample. The most overrepresented groups who completed the survey are PF (European) fellows and DN fellows in the Horizon Europe programme as well as ITN fellows in the Horizon 2020 programme. On the contrary, PF primary coordinators and DN primary coordinators in Horizon Europe, IF and ITN primary coordinators and participants in Horizon 2020 are the most underrepresented groups within the sample. Nonetheless, the difference of proportion of these groups within the population and the sample do not exceed more than 15%.

The overall number of COFUND researchers and organisations is very small within the population and the sample. Thus, generalisations about these groups of respondents are made with caution. Yet, overall, the sample represents the population reasonably well.

Comparison of the share of population and complete survey responses per MSC action

Programme	Respondent group	Share of population	Share of complete survey responses	Difference (%)
Horizon Europe	PF fellows (PF-EF)	17%	27%	+10%
	PF fellows (PF-GF)	2%	4%	+2%

Programme	Respondent group	Share of population	Share of complete survey responses	Difference (%)
	DN fellows	10%	26%	+16%
	COFUND fellows	>1%	>1%	0%
	SE researchers	14%	18%	+4%
	PF primary coordinators	24%	11%	-13%
	DN primary coordinators & participants	22%	8%	-14%
	COFUND primary coordinators	>1%	>1%	0%
	SE primary coordinators & participants	11%	5%	-6%
Horizon 2020	IF fellows (IF-EF)	14%	15%	+1%
	IF fellows (IF-GF)	2%	3%	+1%
	ITN fellows	23%	36%	+13%
	COFUND fellows	7%	13%	+6%
	RISE researchers	19%	20%	+1%
	IF primary coordinators & participants	14%	5%	-9%
	ITN primary coordinators & participants	15%	5%	-10%
	COFUND primary coordinators	>1%	>1%	0%
	RISE primary coordinators & participants	6%	3%	-3%

Source: CORDA database and survey programme data (obtained on 10 October 2023).

To evaluate the validity and reliability of complete survey responses across all MSC actions in more depth, the following analysis is focused on the aspects detailed below:

- Type of participating researchers (doctoral and postdoctoral fellows).
- Gender of participating researchers (male and female).
- Key groups of hosting countries: widening and non-widening (EU Member States and associated countries), third countries (automatically eligible and not automatically eligible for funding).
- Scientific panels (CHE / ENG / SOC / ECO / MAT / ENV / LIF / PHY).
- Types of participating organisations (REC, PRC, PUB, HES, OTH).

Type of participating researchers

The table below presents the distribution of responses from individual researchers in terms of experienced / postdoctoral researchers (ERs), early-stage / doctoral researchers (ESRs) and admin / technical / managerial staff under MSCA SE (other staff). The summary does not include the unknown values.

The imbalance of shares between ERs, ESRs and other staff within the sample represent the distribution of the types of participating researchers within the population. Within this context, there are 46% of ERs, 51% of ESRs, and 3% of other staff. The proportion of types of participating researchers within the sample is similar

(40% of ERs, 57% of ESRs, and 3% of other staff). Thus, the sample reflect the actual tendencies among the participating researchers.

Number of complete responses per participating researcher type

	ER	ESR	Other staff
Horizon Europe	392	343	73
Horizon 2020	1 851	2 870	86
Total:	**2 243**	**3 213**	**159**

Source: survey programme data (obtained on 10 October 2023).

Gender of participating researchers

As detailed in the table below, the share of males within the sample is approximately 21% larger in comparison to the share of females. The summary does not include the unknown or nonbinary values.

The gender distribution within the sample (55% of males, and 45% of females) is almost identical to the gender distribution within the population (56% of males, and 44% of females). Thus, the sample reflects the actual participation patterns among the participating researchers.

Number of complete responses per participating researcher gender

	Male	Female
Horizon Europe	442	345
Horizon 2020	2 611	2 170
Total:	**3 053**	**2 515**

Source: survey programme data (obtained on 10 October 2023).

Key groups of hosting countries

The sampling of country groups reflects the location of organisations and destinations of fellows (i.e., countries of fellows' host organisation and not countries of fellows' residence). This is because the cost of living and doing research mainly depends on the costs in the host country.

As detailed in the table below, overall, Spain, Germany, France and Italy are the most common hosting countries within the sample of Horizon Europe and Horizon 2020 fellows' and organisations' respondents. The United Kingdom is the most prevalent hosting country within the Horizon 2020 European fellows' respondent group. Among the Global fellows, the United States is the most common host country within the Horizon Europe and Horizon 2020 samples, followed by Australia and Canada within the Horizon 2020 global fellows' group.

Top 10 host countries within the overall sample of completed responses (Horizon Europe and Horizon 2020 fellows and organisations)

Country	Number of complete responses	Share of overall complete survey responses
Spain	761	12%
Germany	716	11%
France	604	9%
Italy	585	9%
United Kingdom	473	7%
Netherlands	401	6%
Belgium	288	4%
Switzerland	227	3%
United States	226	3%
Denmark	223	3%

Source: survey programme data (obtained on 10 October 2023).

To be in line with the changing political context, the analysis of key groups of hosting countries uses the classifications of countries as applied under each programme. Under the analysis of Horizon 2020, the classification of widening countries entails the following EU Member States and associated countries:

- EU Member States: Bulgaria, Croatia, Cyprus, Czechia, Estonia, Greece, Hungary, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia.
- Associated Countries: Albania, Bosnia & Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia, Turkey, Armenia, Georgia, Moldova, Tunisia, Ukraine, Faroe Islands and the Outermost Regions.

The rest of EU Member States and associated Countries under the Horizon 2020 programme were considered as non-widening countries.

Within the analysis of Horizon Europe, the classification of 4 countries was changed to reflect the country classification of this programme:

- Luxembourg is treated as the EU non-widening country (instead of the EU widening country as in Horizon 2020).
- United Kingdom is treated as a third country not automatically eligible for funding[75] (instead of the EU non-widening country as in Horizon 2020).
- Switzerland is treated as a third county not automatically eligible for funding (instead of an associated non-widening country as in Horizon 2020).

[75] As of 1 January 2024, United Kingdom became an associated country to the Horizon Europe programme, with the only exception of the EIC Fund.

Share of complete survey responses per country group

Programme	Respondent group	EU non-widening countries	EU widening countries	Associated non-widening countries	Associated widening countries	Eligible third countries	Non-eligible third countries	N/A	Number of complete responses
Horizon Europe	PF fellows (EF)	253	22	9	1	-	-	-	285
	PF fellows (GF)	-	-	-	-	3	38	-	41
	DN fellows	240	19	4	1	5	-	3	272
	COFUND fellows	4	-	-	-	-	-	-	4
	SE researchers	64	49	1	9	30	28	4	185
	PF primary coordinators	106	7	3	1	-	-	-	117
	DN primary coordinators & participants	64	13	2	-	-	-	-	79
	COFUND primary coordinators	5	-	-	-	-	-	-	5
	SE primary coordinators & participants	27	17	-	10	-	-	-	54
	Horizon Europe subtotal:	**763**	**127**	**19**	**22**	**38**	**66**	**7**	**1 042**
Horizon 2020	IF fellows (EF)	652	88	86	6	-	-	-	832
	IF fellows (GF)	-	-	-	-	7	132	-	139
	ITN fellows	1 657	175	133	12	1	1	-	1 979
	COFUND fellows	596	41	77	13	-	-	-	727
	RISE researchers	539	206	13	35	128	184	1	1 106
	IF primary coordinators & participants	195	19	25	2	3	54	-	298
	ITN primary coordinators & participants	213	30	21	3	1	-	-	268
	COFUND primary coordinators	21	1	2	-	-	-	-	24
	RISE primary coordinators & participants	94	41	3	15	-	4	-	157
	Horizon 2020 subtotal:	**3 967**	**601**	**360**	**86**	**140**	**375**	**1**	**5 530**
	Total:	**4 730**	**728**	**379**	**108**	**178**	**441**	**8**	**6 572**

Source: survey programme data (obtained on 10 October 2023).

As shown in the table above, EU non-widening countries take up the largest share of countries overall and within each programme, followed by the share of EU widening countries, and third countries not automatically eligible for funding. The same tendencies are observed among MSCA researchers, pct(EU non-widening)=72%, pct(EU widening)=11%, pct(non-eligible third)=7%, and MSCA organisations (pct(EU non-widening)=72%, pct(EU widening)=13%, pct(non-eligible third)=6%).

The host country group distribution within the sample almost perfectly represents the host country group distribution within the population. Thus, the sample reflects the overall country-level participation patterns in the MSCA population.

Comparison of the share of host country group per population and complete survey responses

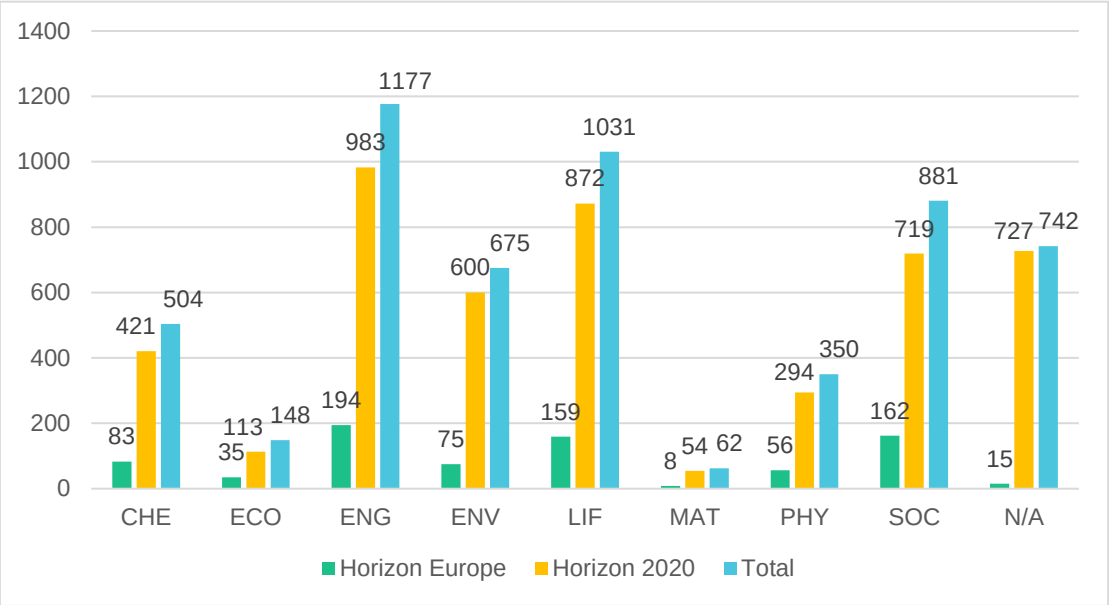
Country group	Share of population	Share of complete survey responses	Difference (%)
EU non-widening countries	72%	72%	0%
EU widening countries	11%	11%	0%
Associated non-widening countries	6%	5%	-1%
Associated widening countries	2%	2%	0%
Eligible third countries	2%	3%	+1%
Non-eligible third countries	7%	7%	0%

Source: CORDA database and survey programme data (obtained on 10 October 2023).

Scientific panels

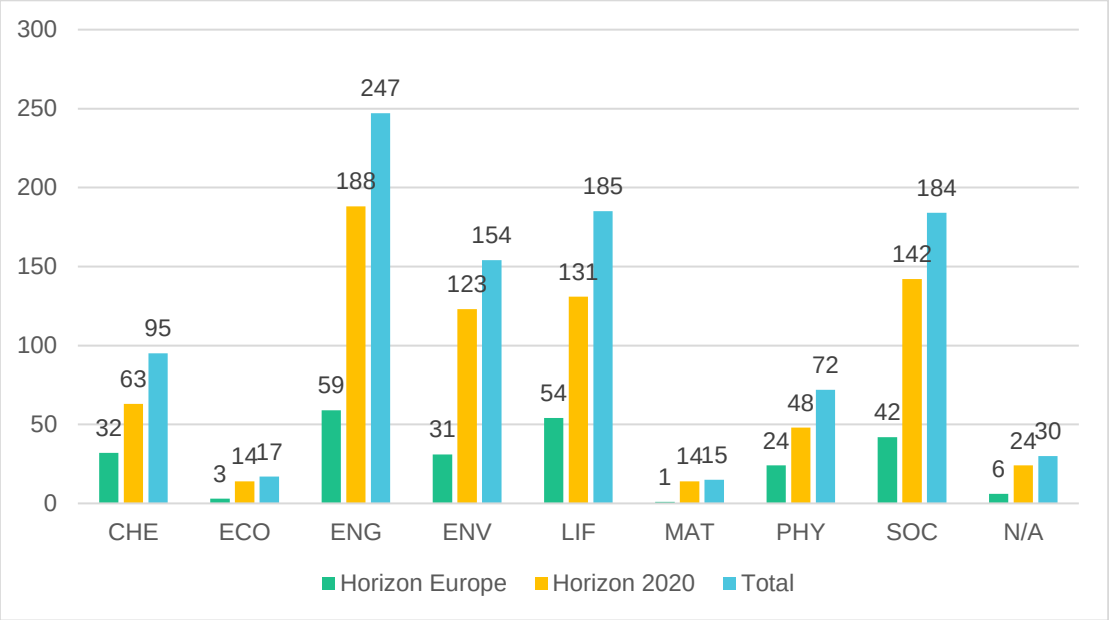
The figures below show the distribution of researchers' and organisations' responses per scientific panel. The highest number of responses from researchers and organisations come from ENG, LIF and SOC scientific panels.

Number of complete fellows' responses per scientific panel



Source: survey programme data (obtained on 10 October 2023).

Number of complete organisations' responses per scientific panel



Source: survey programme data (obtained on 10 October 2023)

Number of complete survey responses per scientific panel

Programme	Respondent group	CHE	ECO	ENG	ENV	LIF	MAT	PHY	SOC	N/A
Horizon Europe	PF fellows (EF)	34	9	41	33	69	6	31	62	-
	PF fellows (GF)	4	-	6	5	3	-	2	21	-
	DN fellows	38	4	97	15	72	-	15	31	-
	COFUND fellows	-	-	-	-	-	-	-	-	4
	SE researchers	7	22	50	22	15	2	8	48	11
	PF primary coordinators	12	1	14	19	31	1	16	23	-
	DN primary coordinators & participants	17	2	25	7	17	-	7	4	-
	COFUND primary coordinators	-	-	-	-	-	-	-	-	5
	SE primary coordinators & participants	3	-	20	5	6	-	1	15	1
	Horizon Europe subtotal:	**115**	**38**	**253**	**106**	**213**	**9**	**80**	**204**	**21**
Horizon 2020	IF fellows (EF)	88	11	99	114	200	14	81	225	-
	IF fellows (GF)	6	3	14	21	21	2	11	61	-
	ITN fellows	224	46	599	276	506	15	135	178	-
	COFUND fellows	-	-	-	-	-	-	-	-	727
	RISE researchers	103	53	271	189	145	23	67	255	-
	IF primary coordinators & participants	22	4	46	52	54	3	24	93	-
	ITN primary coordinators & participants	29	4	95	41	57	4	15	23	-
	COFUND primary coordinators	-	-	-	-	-	-	-	-	24
	RISE primary coordinators & participants	12	6	47	30	20	7	9	26	-
	Horizon 2020 subtotal:	**484**	**127**	**1 171**	**723**	**1 003**	**68**	**342**	**838**	**751**
	Total:	**599**	**165**	**1 424**	**829**	**1 216**	**77**	**422**	**1 042**	**772**

Source: survey programme data (obtained on 10 October 2023).

As presented in the table below, overall, the share of complete survey responses per scientific panel is highly representative of the scientific panel distribution within the population. The share of complete survey responses per scientific panel does not differ by more than 2% in comparison to the share of scientific panels within the population.

The highest difference can be observed within the group of respondents about which the information on scientific panels is unknown (N/A). This is most prominent among the Horizon Europe and Horizon 2020 COFUND fellows and primary coordinators, as there are no scientific panels for these participant groups.

Comparison of the share of scientific panels per population and complete survey responses

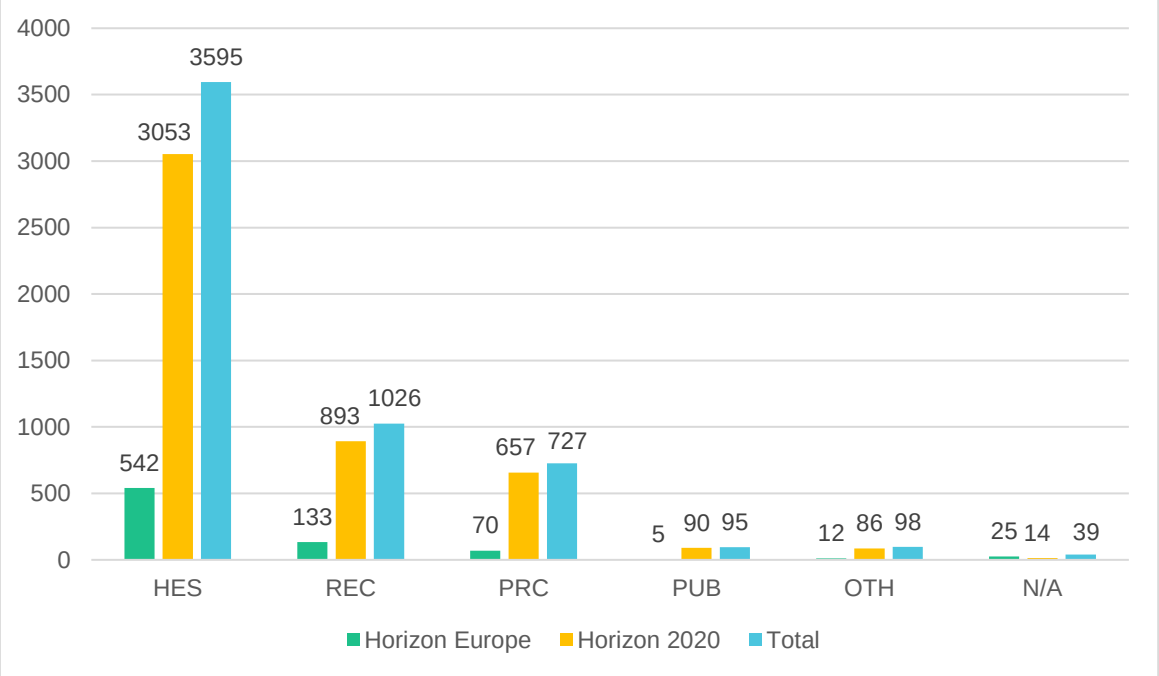
Scientific panel	Share of population	Share of complete survey responses	Difference (%)
CHE	10%	9%	-1%
ECO	3%	2%	-1%
ENG	22%	22%	0%
ENV	12%	13%	+1%
LIF	20%	19%	-1%
MAT	2%	1%	-1%
PHY	8%	6%	-2%
SOC	16%	16%	0%
N/A	7%	12%	+5%

Source: CORDA database and survey programme data (obtained on 10 October 2023).

Types of participating organisations

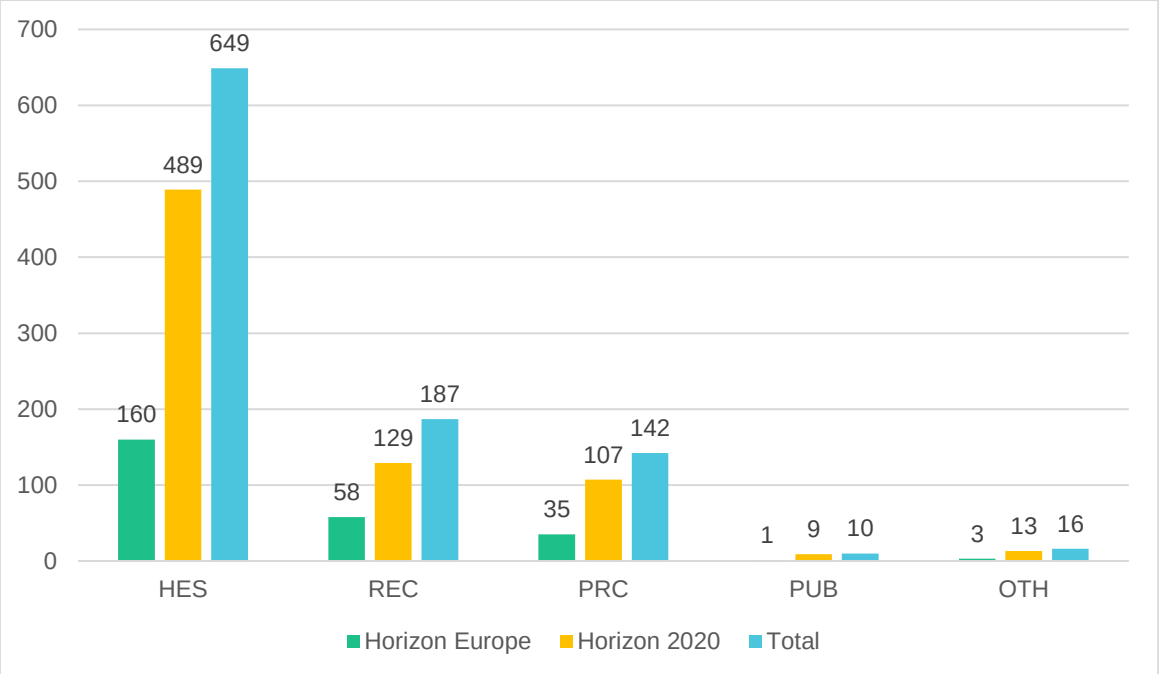
Higher education institutions (HES) are the most prevalent type of organisation overall, as well as across Horizon Europe and Horizon 2020 samples, followed by research organisations (REC) and private for-profit businesses (PRC). Public organisations (PUB) and other types of organisations (OTH) are the least common types of organisations overall and within both samples.

Number of complete fellows' responses per type of organisation



Source: survey programme data (obtained 10 October 2023).

Number of complete organisations' responses per type of organisation



Source: survey programme data (obtained on 10 October 2023).

Number of complete survey responses per type of organisation

Programme	Respondent group	HES	REC	PRC	PUB	OTH	N/A
Horizon Europe	PF fellows (EF)	215	65	3	1	-	1
	PF fellows (GF)	29	12	-	-	-	-
	DN fellows	186	39	35	2	-	10
	COFUND fellows	2	-	-	-	-	2
	SE researchers	110	17	32	2	12	12
	PF primary coordinators	82	35	-	-	-	-
	DN primary coordinators & participants	47	15	16	-	1	-
	COFUND primary coordinators	3	2	-	-	-	-
	SE primary coordinators & participants	29	6	16	1	2	-
	Horizon Europe subtotal:	**703**	**191**	**102**	**6**	**15**	**25**
Horizon 2020	IF fellows (EF)	630	165	27	6	2	2
	IF fellows (GF)	123	7	1	2	6	-
	ITN fellows	1 343	313	301	4	8	10
	COFUND fellows	432	254	7	21	12	2
	RISE researchers	525	154	321	57	58	-
	IF primary coordinators & participants	227	64	4	1	2	-
	ITN primary coordinators & participants	176	32	59	1	-	-
	COFUND primary coordinators	13	5	-	2	4	-
	RISE primary coordinators & participants	73	28	44	5	7	-
	Horizon 2020 subtotal:	**3 542**	**1 022**	**764**	**99**	**99**	**14**
	Total:	**4 245**	**1 213**	**866**	**105**	**114**	**39**

Source: survey programme data (obtained on 10 October 2023).

As presented in the table below, overall, the share of complete survey responses per type of participating organisation reflects the actual tendencies within the population very well (the size of each group does not differ from the size of the population by more than 2%).

Comparison of the share of types of participating organisations per population and complete survey responses

Type of participating organisation	Share of population	Share of complete survey responses	Difference (%)
HES	63%	64%	+1%
OTH	2%	2%	0%
PRC	14%	13%	-1%
PUB	1%	2%	+1%
REC	17%	18%	+1%
N/A	3%	1%	-2%

Source: CORDA database and survey programme data (obtained on 10 October 2023).

Annex 2. Analysis of researchers' salaries in the EU and beyond

Researchers' remuneration systems, especially in the public sector, tend to be complex (including multiple and interconnected salary scales/schemes for different positions and seniority levels), multifaceted (including position-related components, performance-dependent components, seniority and qualification bonuses, and other special allowances/bonuses), and, in some cases, not responsive enough to economic developments, which is particularly the case under civil service laws where salary developments tend to be slower than economic changes. Academic salaries can also be influenced by national laws and regulations, institutional pay scales and internal regulations, and competition in the market[76] (i.e., between public and private institutions, national and other European institutions).

Researchers' remuneration systems also vary significantly between countries, whether intra-EU or extra-EU, which result in dynamic changes in the supply and demand for researchers between different Member States and between the EU as a whole and other, potentially attractive, destinations for researchers (third countries). Thus, it is critical for the EU, to maintain its competitiveness in the areas of education, science, technology, and innovation, to constantly monitor researchers' level of satisfaction with their research locations and how they assess the attractiveness of different Member States, and more broadly the EU, for conducting their research in vis-à-vis some of the potentially attractive research infrastructures.

The mapping of academic salaries and researchers' remuneration, as well as collective agreements in the EU (see the table below), conducted as part of this study, indicates significant differences among the Member States in their salary/remuneration schemes. Additional research and data are required to establish evidence on whether some of those differences are due to corresponding differences in the cost of living between countries or because of lower national-level investments in R&D and public funding of higher education.

As the MSCA living allowance can be used to cover employers' costs, gross salaries identified in the table below are not necessarily fully comparable with the MSCA living allowance. Also, tax systems vary significantly across countries, which makes it unfeasible to precisely identify super gross salaries in each of the EU Member States. However, the impact of this limitation has been reduced by validating the salary levels indicated via desk research during the interview programme.

[76] Angermuller, J. (2017) *Academic careers and the valuation of academics. A discursive perspective on status categories and academic salaries in France as compared to the U.S., Germany and Great Britain*. Higher Education, 73(6), 963–980. https://doi.org/10.1007/s10734-017-0117-1

Indicative academic salaries and remuneration systems in the EU (gross salaries in EUR/month)[77]

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
Austria	The collective agreement for employees of universities regulates the salary structure of scientific and artistic staff. The Austrian University Conference UNIKO collective agreement (KV) for employees of universities defines the salary scheme of the scientific and artistic staff in Austria. According to the employment groups (EGs) and the years of experience, as defined in the collective agreement, the following salaries are stated (as of December 16, 2022)[79]: Professors (A1): EUR 5 827 - 8 024 Scientific employees (A2): EUR 4 422 – 7 749 University assistants, senior scientists, senior lecturers, lecturers (including doctoral candidates and postdocs), (B1): EUR 3 277 – 5 054 In Austria, researchers receive 14 salaries annually, which affects the average annual income received by researchers[80].	ESR: 3 277 – 3 885 ER (postdoc): 4 352 – 5 054	2023
Belgium	In Belgium, each HEI has its own system of setting academic salary grades. The average academic salaries in Belgium are: Professor: EUR 5 500 – 8 500 Senior lecturer / associate professor: EUR 4 500 – 6 700 Lecturer: EUR 3 770 – 5 500 Postdoctoral researcher: EUR 3 600 – 5 600 In some instances, there are subsidies for certain types of postdoctoral contracts in Belgium that reduce employers' costs. However, not all postdoctoral fellows meet criteria for that. The highest ranking institution, the Katholieke Universiteit Leuven (KU Leuven), offers (as of January 1, 2023)[81]: Professor: EUR 7 487 – 11 438 Postdoctoral assistant: EUR 4 845 – 7 552 Scientific employee (assistant): EUR 4 326 – 6 089	ESR: 4 326 ER (postdoc): 3 600 – 5 600	2023

[77] The numbers have been rounded to the nearest tenth. Exchange rates between local currencies and Euro were applied (22 July 2023) to provide all salaries in euros.
[78] ER refers to all experienced researchers/academics mapped. ER (postdoc) refers to postdoctoral researchers in particular. ESR refers to doctoral students/researchers.
[79] Uniko (2023) *Kollektivvertrag für die ArbeitnehmerInnen der Universitäten* [Collective agreement for university employees]. Available at: https://uniko.ac.at/organisation/dachverband/kollektivvertrag/
[80] Interview programme.
[81] Jobs.ac.uk *Postdoctoral Careers in Europe: Belgium*. Available at: https://career-advice.jobs.ac.uk/career-development/postdoctoral-careers-in-europe-belgium/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
Bulgaria	According to a government decree from 2022, the lowest academic position (assistant) has a minimum salary of BGN 1 500 (EUR 767). In 2023, the data from 7 state HEIs indicate an average salary of BGN 1 434 (EUR 733) to BGN 1 700 (EUR 869). The highest average salary was at the Medical University-Sofia (BGN 3 664 / EUR 1 872)[82]. The academic community of VON-KNSB demanded an increase in the 2023 budget for the State University to ensure that the basic salary for the academic assistant position should be no less than BGN 2 108 (EUR 1 077) by the end of 2023, and that the stipend for PhD students at the National Academy of Sciences increases be at least 150% of the minimum wage in Bulgaria (i.e., increases to BGN 1 170 / EUR 598)[83].	Expected in Q3 2023 (EUR): ESR: 598 ER: 1 077	2023
Croatia	Salaries of academic staff are regulated by the Act on Salaries in Public Services (OG 27/01 and 39/09), the Collective Agreement for Science and Higher Education (OG 9/19, (52/20) and the Act on Scientific Activity and Higher Education (OG 123/03, (96/18). The academic salaries as of November 2022 were as follow[84][85]: Full professor with tenure – scientific adviser with tenure, receive HRK 29 443 (EUR 3 907) per month on average. Full professor – scientific adviser receives 23 490 HRK (3 118 EUR) Associate professor – senior research associate, 19 259 HRK (2 556 EUR) Assistant professor – research associate, 17 011 HRK (2 258 EUR) Lecturer 11 523 HRK (1 529 EUR) Academic assistant HRK 11055 (1 467 EUR) The MSCA Programme Committee member indicated that an average net salary for doctoral candidates is around EUR 1 140 and for postdocs it is around EUR 1 408.	ESR 1 467 - 2150 ER: 1 467 - 3 755	2022
Cyprus	The University Council approves the salary scale for academic and special educational staff in Cyprus public universities. The salary levels in 2022 were: Professors: EUR 5 208 - 6 770 Associate professors: EUR 4 953 - 6 263	ESR: 1 250 ER: 3 620 - 6 770	2022

[82] SEGA (2023) *Средните заплати във вузовете са от 1400 до 3600 лв* [Average salaries in universities are from BGN 1,400 to BGN 3,600]. Available at: https://www.segabg.com/hot/category-education/srednite-zaplati-vuv-vuzovete-sa-1400-3600-lv

[83] KNSB (2023) *Проведе се форум „Висшето образование в условията на кризи: оценки, перспективи, очаквания* [A forum 'Higher education in crisis conditions: evaluations, perspectives, expectations' was held]. Available at: https://knsb-bg.org/index.php/2023/03/20/provede-se-forum-vissheto-obrazovanie-v-usloviyata-na-krizi-oczenki-perspektivi-ochakvaniya/

[84] ZAKON HR (2022) *Zakon o znanstvenoj djelatnosti i visokom obrazovanju* [Act on Scientific Activity and Higher Education]. Available at: https://www.zakon.hr/z/320/Zakon-o-znanstvenoj-djelatnosti-i-visokom-obrazovanju

[85] The salary was converted using XE Currency converter. HRK was the currency of Croatia until 31 December 2022. It was replaced by EUR in 2023. Available at: https://www.xe.com/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
	Assistant professors: EUR 4 226 - 6 176 Lecturers: EUR 3 620- 5 640 An example of a PhD gross monthly salary from the KIOS Research and Innovation Center of Excellence was EUR 1 250[86]. Salaries offered at the private universities are indicated in the Charter of each institution.		
Czechia	In Czechia, if the pay is not determined by a collective agreement, it must at least comply with the minimum rate of the guaranteed pay set by the Government Regulation on the Minimum Wage. The average salaries of academic staff in public HEIs in 2022 were[87]: Professor: CZK 99 244 (EUR 4 139) Associate professor: CZK 75 845 (EUR 3 163) Senior assistant: CZK 54 071 (EUR 2 255) Lecturer: CZK 44 194 (EUR 1 843) Assistant: CZK 42 593 (EUR 1 776) PhD scholarship was CZK 35 000 (EUR 1 431)[88]	ESR: 1 431 ER: 1 776 - 4 139	2022
Denmark	Salaries of academic staff in Denmark are determined by a collective agreement between the Ministry of Finance and the Danish Confederation of Professional Associations (Akademikerne). The basic salaries (without pension) are[89]: Professor: EUR 8 326 (plus an individual bonus granted after negotiation). Associate professor / senior researcher: EUR 8 788 Assistant professor / researcher: EUR 4 747 Postdoc: EUR 4 747 Research assistant: EUR 3 582 PhD student: EUR 1 435	ESR: 1 435 – 4 365 ER (postdoc): 4 747 ER: 3 582 - 8 788	2023

[86] KIOS (2022) *PhD Student Scholarships*. Available at: https://www.kios.ucy.ac.cy/open_positions/phd-student-scholarships-2/#:~:text=The%20scholarship%20will%20be%20for,government%20funds%20will%20be%20deducted

[87] Czech Ministry of Education, Youth and Sports (2022) *Statistická Ročenka Školství – Zaměstnanci A Mzdové Prostředky 2022* [statistical yearbook of education - employees and payroll 2022]. Available at: https://www.msmt.cz/vzdelavani/skolstvi-v-cr/statistika-skolstvi/statisticka-rocenka-skolstvi-zamestnanci-a-mzdove-prostredky-13

[88] Study in Czechia *Scholarships*. Available at: https://www.studyin.cz/plan-your-studies/scholarships/

[89] DM (2023) *Universiteter og højere læreanstalter* [Universities and higher education institutions]. Available at: https://dm.dk/din-loen/loenstatistik-og-loentabeller/forskning-og-undervisning/loen-universiteter-og-hoejere-laereanstalter/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
	However, the average monthly salary for a PhD researcher at the University of Copenhagen is much higher and can be DKK 32 567 (EUR 4 365)[90]. Employees can receive two supplements on top of the basic salary: a position-based supplement (which is stipulated by a collective agreement) and a qualification-based supplement (which is set by each university).		
Estonia	Income of academic staff in Estonia depends on position, workload, seniority, qualification, and participation in R&D activities. An example of academic salaries in Estonia comes from Tallinn University of Technology (TalTech). In TalTech, the minimum salary rate in case of full-time employment (in EUR) in 2023 is[91]: Full professor: EUR 2 836 Leading researcher: EUR 2 836 Associate professor: EUR 2 619 Assistant professor: EUR 2 222 Senior researcher: EUR 2 222 Researcher: EUR 2 077 Early-stage researcher: 1 338 Funding opportunities for PhDs include[92]: Estonian National Scholarships offered by the Education and Youth Board of Estonia offers EUR 660. Dora Plus Scholarship for visiting doctoral students offers EUR 660 a month payable for 10 months. Estonian universities each offer their own funding opportunities for PhD students as well. The MSCA Programme Committee member indicated that PhD candidates have a status of junior researchers under employment contract and the average salary in 2021 was EUR 1 517 (with a total payroll cost being EUR 2 029.75) while the minimum gross salary of junior researcher at the University of Tartu was EUR 1 720 (with a total payroll cost being EUR 2 301.36). There has been a strong movement to increase junior researchers' salaries in the recent years. The average gross salary in the public sector for postdocs in 2022 was EUR 2 627 (with a total payroll cost of EUR 3 514.93). The average salary in the private sector is much higher than in the public sector and can be higher by almost EUR 1 500 (even more in total payroll costs).	Starting basic gross monthly salary (EUR): ER: 2 222 – 2 836 ESR: 1 338	2023

[90] Study in Denmark *PhD programmes*. Available at: https://studyindenmark.dk/study-options/what-can-i-study/phd-and-research
[91] Tallinn University of Technology (2023) *Rules for remuneration*. Available at: https://oigusaktid.taltech.ee/en/rules-for-remuneration/
[92] Based on FindAPhD. Available at: https://www.findaphd.com/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
Finland	Salaries of academic staff in Finland are governed by the collective agreement on the terms and conditions of employment and remuneration of employees of universities which entered into force on 1 April 2023 and will remain in force until 31 March 2025. The salary includes a job-related salary element (based on job requirements as stated in the collective agreement), a personal salary element (based on individual performance), and additional supplements/bonusses[93]. Doctoral researchers are placed on the job requirement levels 2-4. Upon the inclusion of both position-related and personal salary elements, the salary range is EUR 2 313 - 4 081 Postdoctoral research fellows are on levels 5-6. The salary range is EUR 3 340 - 5 932 Salaries of experienced researchers range from EUR 3 340 (requirement level 5 and lower limit of performance category 1) to EUR 11 319 (level 11 and upper limit of performance category 4). The MSCA Programme Committee member indicated the following ranges for ESR and ER level researchers: ESR EUR 2 400 - 2 993 (but can even go up to EUR 4 081) ER EUR 3 466 - 4 659 However, salaries vary a lot depending on the field of research and the employer/university. The starting salary is often around EUR 2 700 and the starting salary of a postdoc is usually over EUR 4 000.	ESR: 2 313 - 4 081 ER (postdoc): 3 340 - 5 932	2023
France	The remuneration of academic staff in France is based on a basic statutory salary set by a governmental decree. In addition, a research and higher education allowance (EUR 1 245) is offered to all teacher-researchers in HEIs. Lecturers and university professors that are voluntarily mobile also receive seniority bonuses. Postdoctoral fellows are considered full-fledged researchers and receive EUR 2 167 – 5 833 net monthly salary[94] (accordingly EUR 2 998 – 9 321 gross salary[95]). Starting from 2023, doctoral students are offered[96]: from 1st January 2023: EUR 2 044 from 1st January 2024: EUR 2 100 from 1st January 2025: EUR 2 200 from 1st January 2026: EUR 2 300	ESR: 2 044 ER (postdoc): 2 998 – 9 321	2023

[93] Finnish Education Employers (FEE) (2023) *General collective agreement for universities*. Available at: https://www.sivista.fi/wp-content/uploads/2023/05/General-collective-agreement-for-universities-1-April-2023-%E2%80%93-31-March-2025.pdf

[94] Campus France (2023) *Doing a postdoctoral fellowship in France*. Available at: https://www.campusfrance.org/fr/post-doctorat-France

[95] Based on Urssaf. Available at: https://mycompanyinfrance.urssaf.fr/

[96] Legal and Administrative Information Department (2023) *Arrêté du 29 août 2016 fixant le montant de la rémunération du doctorant contractuel* [Order of August 29, 2016 setting the amount of remuneration for contractual doctoral students]. Available at: https://www.legifrance.gouv.fr/loda/id/JORFTEXT000033076467/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
Germany	Salaries of employed scientific staff in German state universities are determined by the collective agreement for the public sector in the federal states (with the exception of Hessen): Doctoral students' salary starts at EUR 4 187 Postdoctoral researchers' salary starts at EUR 5 000[97] Full professor basic monthly salary on the other hand (W3 level) ranges between EUR 6 333 and 7 229[98].	ESR: 4 187 ER (postdoc): 5 000	2023
Greece	The salary grid for higher education academic staff is defined by 16 pay scales (MK1-MK16) for each rank under Law 4472/2017. Accordingly, the starting gross monthly salaries (at MK1) are: Professor: EUR 2 122 Associate professor: EUR 1 804 Assistant professor: EUR 1 592 Lecturer: EUR 1 485 Moreover, University Teaching Research Staff members (DEP) receive additional allowances such as a special teaching and research allowance and a family benefit allowance.	ER: 1 485 – 2 122	2017[99]
Hungary	Since 2022, the salary scale of academic staff in public universities has been defined by the Public Servants Act (no. 1992/XXXIII). Basic monthly gross salaries in public universities ranged from: Professor: HUF 588 000 (EUR 1 546) Associate professor: HUF 440 600 (EUR 1 225) Assistant professor: HUF 290 000 (EUR 806)	ER: 806 – 1 225	2022
Ireland	Salaries of academic staff in Ireland is largely influenced by the Researcher Salary Guidelines, which have been agreed with funding agencies. In 2023, the following monthly salaries were stated[100]: Senior research fellow: EUR 6 215 – 6 670 Research fellow: EUR 5 109 – 5 568 Postdoctoral researcher: EUR 3 565 - 4 580 Research assistant: EUR 2 502 - 3 325	ESR: 1 542 - 2 083 ER (postdoc): 3 565 - 4 580	2023

[97] Academics (2023) *Was Forscher und Entwickler verdienen* [What researchers and developers earn]. Available at: https\\www.academics.de\\ratgeber\\gehalt-forschung-und-entwicklung#subnav_forschung_an_hochschulen_gehalt_vom_wissenschaftlichen_mitarbeiter_bis_zur_professorin

[98] Civera et al. (2023) *The Attractiveness of European HE Systems: A Comparative Analysis of Faculty Remuneration and Career Paths*. Available at: https://escholarship.org/uc/item/08x00432

[99] More recent precise data was not identified.

[100] IUA (2023) *University Research Salary Scales/Guidelines*. Available at: https://www.iua.ie/for-researchers/researcher-salary-scales-career-framework/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
	A mapping of 6 000 doctoral researchers across Irish HEIs showed that most were paid on average a standard monthly rate of EUR 1 542. However, there are expectations of increasing PhD researchers' stipend to EUR 2 083[101].		
Italy	In 2022, the average salaries of university researchers in Italy were[102]: Full professor: EUR 7 361 Associate professor: EUR 5 030 RTDB (Researcher type B): EUR 3 302 RTDA (Researcher type A): EUR 3 029 For 2023/2024 academic year, selected candidates for the Italian government scholarship will receive a monthly allowance of EUR 1 353[103]. Top universities in Italy and funding agencies tend to award higher doctoral stipends. The MSCA Programme Committee member indicated that the gross salary of a PhD student is around EUR 1 425 but the total cost for the university is around EUR 2 309 with social security (employer costs) while the gross salary of postdoc is around EUR 2 400.	ESR: 1 353 ER (postdoc): 3 029 – 3 302	2022
Latvia	The senate of higher education institutions determines the principles of remuneration, which should not be less than the rates determined by the Regulations of the Cabinet of Ministers on Pedagogues' Work Remuneration (2023)[104]: Professor: EUR 1 982 Associate professor: EUR 1 587 Assistant professor (docent): EUR 1 210 Lecturer: EUR 1 017 Assistant: EUR 810	ESR: 810 ER: 1 017 – 1 982	2023

[101] Irish Times (2023) *Low-paid PhD researchers should get €25,000 a year, says Government report*. Available at: https://www.irishtimes.com/ireland/education/2023/05/07/government-report-proposes-boosting-pay-for-thousands-of-phd-researchers-to-25000-in-bid-to-retain-research-talent/

[102] Civera et al. (2023) *The Attractiveness of European HE Systems: A Comparative Analysis of Faculty Remuneration and Career Paths*. Available at: https://escholarship.org/uc/item/08x00432

[103] Sapienze Università di Roma (2023) *Call for prospective PhD Student Applications*. Available at: https://www.uniroma1.it/sites/default/files/user/1824/call_for_applications_39th_cycle_-_phds_english_version_2.pdf

[104] Cabinet of Ministers (2016) *Regulation of the Cabinet of Ministers No. 445. Teacher salary regulations*. Available at: https://likumi.lv/ta/id/283667-pedagogu-darba-samaksas-noteikumi

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
	Since autumn 2023 PhD students are given state salaries of at least EUR 1 000, replacing former scholarship-based model.[105] In 2022 postdoctoral fellows at Riga technical university are offered full time employment contract with gross salary EUR 2 250 per month including all taxes[106].		
Lithuania	The council of higher education institutions define the remuneration of academics. In addition to position-based salaries, allowances and extras are part of the offered remuneration. Academic and research staff salary in Lithuania has had a gradual increase: on average 16% in 2019 and additional 10% in 2020. In addition, the lower and the upper limits of all salary coefficients for all groups increase 10% in 2022. In Vilnius University, the highest ranking university in Lithuania, the minimal salaries are related to the minimum basic salary and coefficient, which is applied accordingly to the position and is the following (2022): Professor: EUR 2 655 Researcher: EUR 1 673 Research assistant: EUR 1 323 Doctoral scholarships are paid from the state budget allocations of the Republic of Lithuania the amounts of which are: for first-year doctoral students – 931 EUR scholarship (19 basic social benefit, which is 49 EUR/month in 2023) ; for doctoral students in the second and subsequent doctoral years – 1 078 EUR scholarship (22 basic social benefit, which is 49 EUR/month in 2023)[107]	ESR: 1 078 ER: 1 323	2023
Luxembourg	At the University of Luxembourg, doctoral candidates receive a gross monthly salary of at least EUR 3 000. Postdoctoral researchers, on the other hand, receive a salary of EUR 6 756[108]. Another example of researchers' salaries in Luxembourg comes from the AFR Individual Grants offered to PhD candidates by the Luxembourg National Research Fund (FNR). AFR offers doctoral candidates a monthly gross salary of EUR 3 694, while the employer can top up the contribution to a maximum of EUR 5 205. PhD fellows without employment contract receive a monthly stipend of EUR 1 500 that can be topped-up to a maximum EUR 2 100[109].	ESR: 1 500 - 5 205 ER (postdoc): 6 756	2023

[105] ScienceBusiness (2023) *Latvia to overhaul PhDs and academic careers*. Available at: https://sciencebusiness.net/news/universities/latvia-overhaul-phds-and-academic-careers
[106] Keystone PhDStudies (2023) *PhD Economics and Business - Economics and Management*. Available at: https://www.phdstudies.com/institutions/university-of-latvia/phd-economics-and-business-economics-and-management
[107] Lithuanian Ministry of Education, Science and Sport (2023) *Doktorantūros studijos* [Doctoral studies]. Available at: https://smsm.lrv.lt/lt/veiklos-sritys-1/smm-studijos/priemimas-studijos/doktoranturos-studijos/
[108] Université du Luxembourg (2023) *Doctoral candidates*. Available at: https://www.uni.lu/en/admissions/doctoral-candidates/
[109] Research Luxembourg (2023) *Fundings for PhD candidates*. Available at: https://www.researchluxembourg.org/en/be-with-us/start-your-phd-with-us/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
Malta	Academic staff are not considered as civil servants but as employees of the respective institution. A relevant reference to postdoctoral researchers' salaries in Malta is the Post-Doctoral Fellowship Scheme lunched by the University of Malta, the Malta Chamber of Commerce, Enterprise and Industry, and the Parliamentary Secretariat for Youth, Research and Innovation. In 2022, the fellowship scheme awarded a maximum of EUR 5 000 gross monthly salaries to the selected fellows[110].	ER (postdoc): maximum 5 000	2022
Netherlands	In June 2023, Universities of the Netherlands (UNL) and the employee organisations FNV, AC/FBZ, CNV Overheid and Aob agreed on the 2023/24 Collective Labour Agreement for Dutch Universities (CAO-NU). The job evaluation system specified in the collective labour agreement defines the corresponding salary scale for each academic post. The collective agreement also includes additional performance-related allowances/bonuses. On 1 July 2022, the salaries of university employees who are employed by a Dutch university receive a general increase of 4.0%. The Agreement included the following salary scheme[111]: Full professor: EUR 6 099 - 10 721 Associate professor: EUR 5 506 - 7 362 Assistant professor: EUR 3 974 - 6 181 Postdoctoral researcher: EUR 2 960 - 5 439 Doctoral candidates: EUR 2 541 - 3 247 Updated collective agreements achieved a 6-9% increase of all wages from 1st August 2023[112]	ESR: 2 541 - 3 247 ER (postdoc): 2 960 - 5 439	2023
Poland	In public HEIs, academics' salaries include both fixed and variable components. The fixed component constitutes of the basic salary and a length-of-service allowance. Since 2023, the minimum basic monthly salary for academic staff has seen an approximately 12.5% increase[113] [114]: Full professor: PLN 7 210 (EUR 1 616) Professor: PLN 5 985 (EUR 1 341) Assistant professor: PLN 5 265 (EUR 1 179) Assistant and other academic teachers: PLN 3 605 (EUR 808) Doctoral candidates: PLN 2 671 – 4 123 (EUR 598 to 923)[115]	ESR: 598 - 923 ER: 808 - 1 616	2023

[110] Malta Chamber (2022) *Post-Doctoral Fellowship Scheme*. Available at: https://www.maltachamber.org.mt/postdocfellowshipscheme/
[111] Universiteiten van Nederland (2023) *Collective Labour Agreement of Dutch Universities*. Available at: https://www.universiteitenvannederland.nl/en_GB/cao-universiteiten.html
[112] CAO (2022) Collective Labour Agreement for Dutch Universities. Available at: https://www.universiteitenvannederland.nl/en/collective-labour-agreement-of-dutch-universities
[113] Strefa Edukacji (2023) *40 mln zł na podwyżki wynagrodzeń dla Polskiej Akademii Nauk* [PLN 40 million for salary increases for the Polish Academy of Sciences]. Available at: https://strefaedukacji.pl/40-mln-zl-na-podwyzki-wynagrodzen-dla-polskiej-akademii-nauk-jakie-sa-minimalne-zarobki-pracownikow-naukowych-w-pan/ar/c5-17476631
[114] Statista (2023) *Minimum gross monthly basic salary of academic teachers in Poland from 2022 to 2023*. Available at: https://www.statista.com/statistics/1357998/poland-academics-minimum-gross-wage/
[115] Prawo (2023) *Wyższe stypendium doktoranckie i wynagrodzenia pracowników naukowych* [Higher doctoral scholarship and remuneration of researchers]. Available at: https://www.prawo.pl/student/stypendium-doktoranckie-ile-wynosi-jakie-trzeba-spelnic-warunki-jak-je-dostac,143363.html

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
	The PhD scholarship rate is linked to the amount of minimum monthly basic salary for a professor in a public university, 37% of professors' remuneration before mid-term evaluation and 57% after mid-term evaluation.		
Portugal	Academic staff in public institutions are civil servants, with contracts aligned to the legislation covering employment in the public sector. Private universities and polytechnic HEIs, on the other hand, recruit staff according to their private law, which maintains the principle of party autonomy (freedom of contract)[116]. The maximum gross monthly remuneration for higher education teaching staff in public universities is established by law at EUR 5 576, while the minimum amount is set at EUR 1 708. Researchers receive 14 salaries annually, which affects the average annual income. PhD students receive scholarship for monthly maintenance allowances in accordance with the amounts set in the call's regulation and other scholarship supplements, support for complementary training activities or presentation of work at scientific meetings, personal accident insurance and, when applicable, allowances for travel[117]. Postdocs in Portugal have not traditionally been salaried employees of higher education or research institutions. They had the specific status of research fellow and been reliant on stipends[118], but nearly 90% of them also work in the higher education sector. According to Foundation for Science and Technology (Fundação para a Ciência e a Tecnologia) (FCT) the PhD scholarship is on average EUR 1 144 and postdoc scholarship is EUR 1 686[119].	ESR: 1 144 ER (postdoc): 1 686 ER: 1 708 - 5 576	2023
Romania	The Framework Law no. 153/2017 defines the salary scheme of higher education teaching and research staff paid from public funds[120]: Professor: RON 5 625 – 10 880 (EUR 1 119 – 2 204) Associate professor: RON 4 508 – 7 546 (EUR 913 – 1 529) Lecturer: RON 4 326 – 5 212 (EUR 877 – 1 056) University assistant: RON 4 130 – 4 554 (EUR 837 – 923)	ESR: EUR 314 - 365 ER: 837 - 923	2022

[116] SNESUP (2023) *Tabelas remuneratórias 2023* [Remuneration tables 2023]. Available at: https://www.snesup.pt/2023/01/20/tabelas-remuneratorias-2023/

[117] EURAXESS (2022) *PhD scholarships in Portugal - Fundação para a Ciência e a Tecnologia (FCT)*. Available at: https://euraxess.ec.europa.eu/worldwide/lac/phd-scholarships-portugal-funda%C3%A7%C3%A3o-para-ci%C3%AAncia-e-tecnologia-fct

[118] OECD (2019) *Review of Higher Education, Research and Innovation: Portugal*. Available at: https://www.oecd-ilibrary.org/sites/9a9d2c26-en/index.html?itemId=/content/component/9a9d2c26-en

[119] FCT (2022) *Valores do subsídio mensal de manutenção aplicáveis a bolsas abrangidas pelo Regulamento N.º 234/2012* [Values of the monthly maintenance allowance applicable to scholarships covered by Regulation No. 234/2012]. Available at: https://former.fct.pt/apoios/bolsas/docs/Tabela_de_Valores_SMM_2022.pdf

[120] Lege5 (2017) *Annexa Nr I | Lege 153/2017* [Appendix No. I | Law 153/2017]. Available at: https://lege5.ro/Gratuit/ge3dkmzyga3a/anexa-nr-i-lege-153-2017?dp=giydanzzga2tanq

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
	As for doctoral candidates, the Romanian state offers RON 1 550 (EUR 314) monthly gross salary in the first year of the doctoral training and RON 1 800 (EUR 365) in the final years[121].		
Slovakia	According to the Slovak Government Scholarship for Foreigners in 2022/2023, the following salaries were offered[122]: Experienced researchers: EUR 980 – 1 050 PhD students: EUR 734	ESR: 734 ER: 980 – 1 050	2023
Slovenia	The salaries of academics in Slovenia are determined by the collective agreement for the activity of upbringing and education in the Republic of Slovenia**.** According to the collective agreement, the starting gross monthly salaries in 2018 were[123]: Professor: EUR 3 385 Assistant professor: EUR 2 572 Assistant with a doctorate: EUR 2 287	ER: 2 287 – 3 385	2018
Spain	Teaching and research staff in Spanish public universities are remunerated based on whether they are career civil servants or contract staff. Salaries for civil servants are established at the State level. The minimum salary of an experienced researcher under the career civil servant regulations is EUR 2 424. When it comes to doctoral candidates, they receive around EUR 1 662 monthly gross salary[124].	ESR: 1 662 ER: 2 424	2022
Sweden	In Sweden, salaries at HEIs are individual (not based on a salary scale) and individually negotiated between the employee, the employer, and a trade union. In 2021, the basic monthly salary was[125]: Professor: SEK 69 119 (EUR 5 979) University lecturer: SEK 50 585 (EUR 4 376) Assistant lecturer: SEK 45 707 (EUR 3 954) Researcher: SEK 43 923 (3 800 EUR)	ESR: 2 669 ER (postdoc): 3 272	2021

[121] Gandul (2022) *Statul român „pansează" hemoragia de creiere cu salarii de măturător de stradă* [The Romanian state 'bandages' the brain hemorrhage with street sweeper salaries]. Available at: https://www.gandul.ro/actualitate/bogdan-bucur-e-o-urgenta-nationala-sa-dublam-salariile-in-invatamant-si-in-cercetare-altfel-romania-intra-ireversibil-in-degenerescenta-intelectuala-si-culturala-19872885

[122] Great Youth Opportunities (2023) *Slovak Government Scholarship for Foreigners*. Available at: https://greatyop.com/slovak-government-scholarship/

[123] 24UR (2019) *Osnovna bruto plača rednega profesorja se začne pri 3385 evrih* [The basic gross salary of a full-time professor starts at 3,385 euros]. Available at: https://www.24ur.com/novice/slovenija/osnovna-bruto-placa-rednega-profesorja-se-zacne-pri-3385-evrih.html

[124] ALdE (2022) ¿Son bajos los salarios académicos en España? [Are academic salaries low in Spain?]. Available at: https://alde.es/blog/son-bajos-los-salarios-academicos-en-espana/

[125] Saco (2022) *Lärare/Forskare vid universitet och högskola* [Teacher/Researcher at university and college]. Available at: https://saco.se/studieval/yrken-a-o/larareforskare-vid-universitet-och-hogskola/

Country	Brief overview of remuneration of academic researchers	Indicative salary[78]	Year
	Assistant professor: SEK 42 004 (EUR 3 634) Postdoctoral researcher: SEK 37 823 (EUR 3 272) Doctoral student: SEK 30 859 (EUR 2 669)		

Source: Eurydice[126] in addition to country-specific sources, compiled by PPMI.

[126] Eurydice (2023) *Conditions of service for academic staff working in higher education*. Available at: https://eurydice.eacea.ec.europa.eu/national-education-systems/slovenia/conditions-service-academic-staff-working-higher-education

Desk research on academic salaries and remuneration systems in the EU highlighted the complexity of these systems in Europe. This complexity prompted a more in-depth analysis of other factors such as PhD status and duration in order to get a better overview of the organisation of doctoral education in each EU Member State. The findings from desk research indicate significant variations in doctoral programmes across the EU, especially when it comes to the duration, which was also highlighted by many interviewees.

Indicative contextual insights on doctoral student status and PhD duration

Country	Brief overview of PhD status	PhD duration
Austria	Scholarship, employment, fellowships based on the research grants.	36 months
Belgium	PhD researchers are by and large considered students on scholarships (most commonly provided by individual institutions or regionally), though they can also be employed as teaching or administrative assistants. In addition to this, there are regional funding mechanisms that allow more senior researchers to provide doctoral fellowships as part of a project through a research grant (these are sometimes only funded for 2 years requiring additional funding to be sourced for doctoral candidates to reach the 36 month mark).[127] It is also possible to be self-funded. Scholarships are not subject to income tax.	More than 36 months and usually 48 months. Some PhD candidates combine research with assistantships which can extend the standard duration to 6 years (7 in exceptional cases).
Bulgaria	State scholarship, scholarship in private university depending on the family income.	36 months[128]
Croatia	1. A research assistant or a teaching assistant whose study costs are covered by the employing institution of Science and Higher Education; 2. A recipient of a Croatian or international scholarship; 3. A doctoral candidate whose study costs are paid by the person's employer; or 4. A doctoral candidate who carries their own study costs. Social benefits are limited by the status of employment, i.e., unemployed full-time doctoral candidates are in the same position as other unemployed Croatian citizens.	36 months
Cyprus	State scholarship, employment.	36 months
Czechia	All doctoral candidates enrolled in doctoral programmes are officially students. They can also be employed and have two statuses as an employee and a student[129]. Doctoral candidates have a right to discontinue their doctorate in case of pregnancy, childbirth, or parenthood (for the recognised period of parenthood). Doctoral candidates lose their student status during that period.	At least 36 month and at most 48 months, the maximum length of studies is set in the internal regulations of each higher institution

[127] Road to Abroad (2023) *PhD in Belgium*. Available at: https://roadtoabroad.co.in/phd-in-belgium/#:~:text=In%20Flanders%2C%20the%20maximum%20duration,research%20opportunities%20for%20aspiring%20scholars

[128] UniPage (2023) *Education in Bulgaria*. Available at: https://www.unipage.net/en/education_bulgaria

[129] Eurydice (2023) *Czechia*. Available at: https://eurydice.eacea.ec.europa.eu/national-education-systems/czechia/third-cycle-phd-programmes

Country	Brief overview of PhD status	PhD duration
Denmark	Enrolment as a doctoral student and fixed term employment[130] (salary consist of a basic salary, pension contribution and non-pensionable allowances). As a university-employed PhD fellow, the candidate is entitled to absence and pay in connection with maternity and paternity leave under the state maternity/paternity agreement (Statens barselsaftale)[131].	36 months
Estonia	Students pursuing doctoral studies are subjects to all social benefits applicable to students or/and employment as a junior research fellow. While junior research fellows fall within the category of researchers, the applicable requirements differ: junior research fellows are required to be admitted to doctoral studies instead of holding a scientific degree. Then a doctoral student has the right to receive both a study allowance and a salary of junior researcher. Despite payment often being scholarship-based, social guarantees for the recipients of doctoral allowance have been extended in terms of the parental benefit and pension insurance[132].	36-48 months
Finland	The law defines doctoral candidates as students but doctoral students could be employed under a contract and receive a salary plus social security benefits and have to pay income tax. Doctoral candidates can be considered either as a university staff member or a student.	48 months
France	1.Doctoral fellowship, which is a work contract specifically for doctoral students. Doctoral contracts provide benefits such as a PhD salary and social security and is subject to income tax. 2.Doctorate with a grant, which covers health insurance and public liability insurance.	36 months, but could be extended to 60 months[133][134]
Germany	A doctoral candidate can be: an employee; an employee with a student status; a student; a fellowship holder; or an external doctoral candidate with other forms of funding (e.g. job outside academia, in industry or self-employed). PhD scholarships and fellowships are usually tax-free, but individuals need to pay for health insurance separately. Some doctoral students receive their funding as a salary for paid assistantship work, then income tax applies, but, in return, benefits from social security and health insurance apply.	36-60 months
Greece	A doctoral candidate is a student; who is entitled to full medical and hospital care in the National Health System (ESY).	36-48 months
Hungary	Student on a scholarship with entitlement to health and social insurance, performance-based and need-based grants and other welfare benefits.	36 months-72 months (longer than the standard doctorate awarded in some other countries)

[130] IDA (2023) *What's involved in a PhD?*. Available at: https://english.ida.dk/what-s-involved-in-a-phd#:~:text=What's%20involved%20in%20a%20PhD,you%20are%20also%20an%20employee

[131] Ibid.

[132] Ministry of Education and Research of Estonia *Higher Education*. Available at: https://www.hm.ee/en/education-research-and-youth-affairs/general-education/higher-education

[133] Campus France (2023) *Doing my doctorate in France*. Available at: https://www.campusfrance.org/en/FAQ-Doctorate-France-questions

[134] Agance Nacionale de la Research (2023) *Funding instruments*. Available at: https://anr.fr/en/anrs-role-in-research/values-and-commitments/funding-instruments/

Country	Brief overview of PhD status	PhD duration
Ireland	Student on a scholarship or employment-based Postgraduate Programme, where researchers receive a full salary during their studies.	48 months
Italy	Doctoral candidates in Italy are considered as students and are included National Insurance Contributions (INPS). Doctoral candidates receiving a scholarship have some employee prerogatives, as enrolment in retirement plans, unemployment and maternity subsidies.	36-48 months
Latvia	In some institutions PhD candidates may either be enrolled as students or employed as research members of the faculty, depending on the available financing.	36-48 months
Lithuania	Doctoral students receive scholarships, which could be state-funded or non-state-funded[135]. 60% of national tertiary students received financial support in the form of public scholarships, grants and student loans[136]. 49% PhD students during studies work in other business organisations while 38% PhD students are employed in HEI[137].	More than 36 months, usually 48 months
Luxembourg	PhD fellowship without employment contract.	More than 36 months, usually 48 months
Malta	Doctoral student	36 months
The Netherlands	All internal PhD candidates are employed under the Collective Labour Agreement (CLA) of their respective institution; External candidates are registered as doctoral candidates at the university but do not receive a salary and internationals may be expected to pay a fee; Bursary candidates i.e., those who are paid a scholarship rather than a salary, have a student status and cannot derive rights from the CLA or any other legal protections for employees. In the Netherlands, almost all PhD positions are linked to funded research projects and PhD degree achieved without paying tuition fees. Thus, PhD students are employed and they receive a salary rather than a grant. Positions become available once a project is funded. The salary is subject to state tax[138].	48 months
Poland	All PhD students receive a scholarship in Poland. These are calculated in relation to the salary of a professor.[139]	36-48 months, but usually 48 months
Portugal	Portuguese doctoral candidates are considered to be students. Only those PhD candidates who do not currently possess a doctorate fellowship are eligible for the "student-worker" status. Doctoral candidates who have been awarded fellowships are typically bound by an exclusivity provision that prevents them from engaging in any other paid work.	36-48 months, but usually 48 months
Romania	PhD researchers can be employed by the PhD-awarding institution, funded with a fellowship or grant awarded by a supporting body or with sponsorship from the employer.	36-60 months, but usually 48 months

[135] Vilnius University (2017) *Scholarship Regulations*. Available at: https://www.vu.lt/site_files/Studies/Study_regulations/Scholarship_regulations.pdf

[136] OECD (2021) *Lithuania: Ensuring equal opportunities for students across socio-economic backgrounds*. Available at: https://www.oecd-ilibrary.org/sites/f9439e9e-en/index.html?itemId=/content/component/f9439e9e-en

[137] Ijms (2022) *Lietuvos doktorantų savijautos, įsitraukimo bei ketinimų nutraukti studijas veiksnių tyrimas* [Investigation of factors regarding Lithuanian PhD students emotional conditions, engagement and willingness to terminate studies]. Available at: https://www.ljms.lt/_files/ugd/1c71ab_ec16e97753894eeb8be6f4688e8afa37.pdf

[138] The Young Academy (2018) *A Beginner's Guide to Dutch Academia*. Available at: https://www.maastrichtuniversity.nl/file/dja-beginners-guidepdf

[139] FindaPhD (2023) *PhD Study in Poland*. Updated version available at: https://www.findaphd.com/guides/phd-study-in-poland

Country	Brief overview of PhD status	PhD duration
Slovakia	Full-time PhD students at Slovak universities or external education institution (Institutes of the Slovak Academy of Sciences) with a permanent residence in an EU Member State are entitled to receive a PhD scholarship from the state budget. Full-time PhD researchers are considered to be students[140]. PhD scholarships provided by the state are exempt from the income tax[141].	36-60 months, but usually 48 months
Slovenia	Junior researchers collaborate in research work in research groups, programmes or projects at higher professional institutions or research institutes simultaneously with their doctoral studies, they are in an employment relationship for the duration of their studies (3 and a half years). If a student is not employed, they are entitled, according to particular regulations, to health insurance and other benefits and rights (for example, student meal subsidies, subsidised transportation, scholarships, etc). Employed students may take advantage of the rights provided to them through their worker status.[142]	36-42 months
Spain	Doctoral students can have two types of status: university student (student) and predoctoral research trainee (employee)[143]. Those awarded with scholarships from a Spanish institution (Ministry of Education, Ministry of Economy, regional governmental institutions, HEIs and some private foundations) have employee status.	36 months
Sweden	Fixed-term employment as an employee of the university with a salary[144].	48 months

Source: Eurydice, EURODOC, in addition to country-specific sources, compiled by PPMI.

Overall, desk research indicates that there are significant differences between the EU Member States in their salary and remuneration schemes. Researchers' remuneration systems, especially in the public sector are complex and multifaceted. They often include:

- multiple and interconnected salary scales for different positions and seniority levels.
- position-related components.
- performance-related components.
- seniority and qualification bonuses.
- other special allowances and bonuses.

In addition, countries have different tax schemes[145], which impact the total payroll costs. Total payroll costs are much higher than the gross salaries that have been collected and indicated through the desk research. Total payroll costs include all taxes, both for employees and employers. They comprise the total amount that institutions need to spend to pay an

[140] EURAXESS *Special status of PhD students in Slovakia*. Available at: https://www.euraxess.sk/slovakia/information-assistance/employment/special-status-phd-students
[141] Ibid.
[142] Eurydice website (2023) *Slovenia*. Available at: https://eurydice.eacea.ec.europa.eu/national-education-systems/slovenia/third-cycle-phd-programmes
[143] Eurydice website (2022) *Spain*. Available at: https://eurydice.eacea.ec.europa.eu/national-education-systems/spain/third-cycle-phd-programmes
[144] University World News (2017) *Employment status given to nearly all PhD candidates*. Available at: https://www.universityworldnews.com/post.php?story=201704201449161
[145] Bunn (2022) *Tax Burden on Labor in Europe*. Available at: https://taxfoundation.org/data/all/eu/tax-burden-labor-europe-2022/

employee's salary. While income tax is paid by an employee, social security taxes usually fall under employers' costs[146]. Thus, the social security tax rate for employers is an important element of the total employment costs, the rates of which differ per country. On average, the social security tax rate for employers in Europe in 2021 was 20%[147]. However, they can range from 1,77% in Lithuania to 40% in France. Employer costs usually consist of other taxes, but these vary by country and may be individualised in each country, which is not always possible to identify. Additionally, there are various exceptions and special arrangements. As the MSCA living allowance can be used to also cover employer contributions, the study team has calculated the size of the allowance that is left after deducting some of the main employer contributions, more specifically social security tax.

[146] Payroll Tax. Available at: https://taxfoundation.org/taxedu/glossary/payroll-tax/

[147] EuroDev (2022) *Social Security Tax Rates for Employers in Europe*. Available at: https://www.eurodev.com/blog/social-security-tax-rates-employers-europe-2021#:~:text=On%20average%2C%20the%20social%20security%20tax%20rate%20for,higher%20than%20North%20American%20employers%20are%20used%20to

MSCA income compared to the indicative national salaries at the doctoral level

Country	Country code	CCC in %	MSCA living allowance adjusted with CCC + mobility allowance	Indicative employers social security tax rate in %	MSCA gross salary (living allowance adjusted with CCC + mobility allowance – social security tax)[148]	MSCA income identified via researchers' survey[149]	National gross salary identified via desk research
Austria	AT	106,3	4 252	21,38	3 343	HE: 3 696 (N=11)	3 277 - 3885
Belgium	BE	100	4 000	25	3 000	ESR: 3 019 (N=19)	4 326
Bulgaria	BG	54,8	2 192	19,02	1 775	Horizon 2020: 2 353 (N=4)	598
Croatia	HR	75,5	3 020	16,65	2 517	HE: 3 045 (N=1) Horizon 2020: 3 344 (N=1)	1 467 – 2 150
Cyprus	CY	77.5	3100	N/A	3 100	n/a	1 250
Czechia	CZ	79,1	3 164	33,8	2 095	HE: 2 405 (n=4); Horizon 2020: 2 379 (N=7)	1 431
Denmark	DK	132,0	5 280	7,65	4 876	HE: 4 544 (N=11)	1 435 - 4 365
Estonia	EE	80,3	3 212	33,8	2 126	Horizon 2020: 2 731 (N=3)	1 338
Finland	FI	119,5	4 780	20,66	3 792	HE: 3 442 (N=5)	2 313 - 4 081
France	FR	116,4	4 656	40	2 794	HE: 3 137 (N=20)	2 044
Germany	DE	98,3	3 932	19,98	3 146	HE: 3 622 (N=45)	4 187
Greece	EL	81,6	3 264	22,54	2 528	HE: 3 622, (N=1) Horizon 2020: 3 330 (N=31)	1 485 – 2 122
Hungary	HU	72,0	2 880	17,00	2 390	HE: 6 696 (N=1)	806 – 1 225

[148] Mobility allowance in a limited number of countries is not subject to tax (e.g. Austria and France) as indicated by the interviewed experts.

[149] HE stands for Horizon Europe and H2020 stands for Horizon 2020. Primarily, salary levels for Horizon Europe were identified, if such data was unavailable, Horizon 2020 was provided.

Country	Country code	CCC in %	MSCA living allowance adjusted with CCC + mobility allowance	Indicative employers social security tax rate in %	MSCA gross salary (living allowance adjusted with CCC + mobility allowance – social security tax)[148]	MSCA income identified via researchers' survey[149]	National gross salary identified via desk research
						Horizon 2020: 2 629 (N=12)	
Ireland	IE	119,5	4 780	N/A	4 780	HE: 3 484 (N=8)	1 542 - 2 083
Italy	IT	97,4	3 896	30	2 727	HE: 3 675 (N=23)	1 353
Latvia	LV	76,0	3 040	23,59	2 323	Horizon 2020: 2 500 (N=1)	810
Lithuania	LT	72,8	2 912	1,77	2 860	Horizon 2020: 2 690 (N=2)	1078
Luxembourg	LU	100	4 000	15,17	3 393	HE: 3 500 (N=1)	1 500 - 5 205
Malta	MT	88,1	3 524	10,00	3 172	Horizon 2020: 2 776 (N=2)	n/a
Netherlands	NL	109,6	4 384	23,59	3 350	HE: 2 959 (N=29)	2 541 - 3 247
Poland	PL	70,5	2820	22,14	2 196	HE: 2 415 (N=3) Horizon 2020: 2 564 (N=13)	598 - 923
Portugal	PT	84,3	3 372	23,75	2 571	HE: 2 425, (N=2)	1 686
Romania	RO	65,4	2 616	2,25	2 557	HE: 2 200 (N=1) Horizon 2020: 2 729 (N=7)	314 - 365
Slovakia	SK	78,1	3 124	35,2	2 024	HE: 1 964 (N=1) Horizon 2020 2 521 (N=3)	734
Slovenia	SI	83,3	3 332	16,10	2 796	HE: 2 550 (N=1) Horizon 2020: 2 801 (N=12)	n/a
Spain	ES	91,3	3 652	29,9	2 560	HE: 3 019 (N=20)	1 662
Sweden	SE	125,4	5 016	31,42	3 440	HE: 2 982 (N=9)	2 669

Country	Country code	CCC in %	MSCA living allowance adjusted with CCC + mobility allowance	Indicative employers social security tax rate in %	MSCA gross salary (living allowance adjusted with CCC + mobility allowance – social security tax)[148]	MSCA income identified via researchers' survey[149]	National gross salary identified via desk research
Australia	AU	100,9	4 036	n/a	n/a	n/a	n/a
Brazil	BR	84,7	3 388	n/a	n/a	n/a	n/a
Canada	CA	95,2	3 808	n/a	n/a	n/a	n/a
China	CN	90,0	3 600	n/a	n/a	n/a	n/a
India	IN	73,8	2 952	n/a	n/a	n/a	n/a
Japan	JP	103,3	4 132	n/a	n/a	n/a	n/a
Norway	NO	128,7	5 148	n/a	n/a	HE: 5 173 (N=2)	n/a
United Kingdom	UK	136,9	5 476	n/a	n/a	HE: 4 075 (N=4) Horizon 2020: 3 916 (N=125)	n/a
United States	US	102,3	4 092	n/a	n/a	n/a	n/a

* Social security tax rates are indicative and based on data from 2021.

** Living allowance adjusted with CCC is calculated as MSCA researchers' living allowance multiplied by CCC value.

*** Gross salary is only indicative and calculated as living allowance multiplied by CCC value and deducted social security tax, without further deduction of income tax, paid by employer.

MSCA income compared to the indicative national salaries at the postdoctoral level

Country	Country code	CCC in %	MSCA living allowance adjusted with CCC + mobility allowance	Indicative employers social security tax rate in %	MSCA gross salary (living allowance adjusted with CCC + mobility allowance – social security tax)[150]	MSCA income identified via researchers' survey[151]	National gross salary identified via desk research
Austria	AT	106,3	6 038	21,38	4 747	HE: 5 101 (N=6)	4 352 – 5 054
Belgium	BE	100	5 680	25	4 260	HE: 4 540 (N=6)	3 600 – 5 600
Bulgaria	BG	54,8	3 113	19,02	2 521	Horizon 2020: 2 625 (N=1)	1 077
Croatia	HR	75,5	4 288	16,65	3 574	Horizon 2020: 3 084 (N=2)	1 467 - 3 755
Cyprus	CY	77.5	4 402	N/A	4 402	HE: 3 648 (N=2)	3 620 - 6 770
Czechia	CZ	79,1	4 493	33,8	2 974	HE: 3 300 (N=1) Horizon 2020: 3 322 (N=7)	1 776 - 4 139
Denmark	DK	132,0	7 498	7,65	6 924	HE: 6 709 (N=21);	4 747
Estonia	EE	80,3	4 561	33,8	3 019	Horizon 2020: 3 322 (N=2)	2 222 – 2 836
Finland	FI	119,5	6 788	20,66	5 385	HE: 5 598 (N=8)	3 340 - 5 932
France	FR	116,4	6 612	40	3 967	HE:4 648 (N=11)	2 998 – 9 321
Germany	DE	98,3	5 583	19,98	4 468	HE: 5 575 (N=31)	5 000
Greece	EL	81,6	4 635	22,54	3 590	HE: 3 390 (N=1) Horizon 2020: 4 986 (N=9)	n/a

[150] Mobility allowance in a limited number of countries is not subject to tax (e.g. Austria and France) as indicated by the interviewed experts.

[151] HE stands for Horizon Europe and H2020 stands for Horizon 2020. Primarily, salary levels for Horizon Europe were identified, if such data was unavailable or the sample to small, Horizon 2020 data was provided.

Country	Country code	CCC in %	MSCA living allowance adjusted with CCC + mobility allowance	Indicative employers social security tax rate in %	MSCA gross salary (living allowance adjusted with CCC + mobility allowance – social security tax)[150]	MSCA income identified via researchers' survey[151]	National gross salary identified via desk research
Hungary	HU	72,0	4 090	17,00	3 394	HE: 5 482 (N=1)	n/a
Ireland	IE	119,5	6 788	N/A	6 788	HE: 5 810 (N=6)	3 565 - 4 580
Italy	IT	97,4	5 532	30	3 873	HE: 4 324 (N=19)	3 029 – 3 302
Latvia	LV	76,0	4 317	23,59	3 298	HE: 3 900, (N=1)	1 017 – 1 982
Lithuania	LT	72,8	4 135	1,77	4 062	Horizon 2020: 3 124 (N=1)	1323
Luxembourg	LU	100	5 680	15,17	4 818	HE: 6 143 (N=4)	6 756
Malta	MT	88,1	5 004	10,00	4 504	HE: 5 087 (N=1) Horizon 2020: 4 652 (N=4)	5 000
Netherlands	NL	109,6	6 225	23,59	4 757	HE: 4 320 (N=17)	2 960 - 5 439
Poland	PL	70,5	4 004	22,14	3 118	Horizon 2020: 4 527 (N=20)	808 - 1 616
Portugal	PT	84,3	4 788	23,75	3 651	HE: 3 578 (N=6)	1 708 - 5 576
Romania	RO	65,4	3 715	2,25	3 631	HE: 3 860 (N=1)	837 - 923
Slovakia	SK	78,1	4 436	35,2	2 875	Horizon 2020: 3 478 (N=4)	980 – 1 050
Slovenia	SI	83,3	4 731	16,10	3 970	HE: 5 175 (N=2) Horizon 2020: 4 236 (N=2)	2 287 – 3 385
Spain	ES	91,3	5 186	29,9	3 635	HE: 4 071 (N=28)	2 424
Sweden	SE	125,4	7 123	31,42	4 885	HE: 3993, n=7	3 272

Country	Country code	CCC in %	MSCA living allowance adjusted with CCC + mobility allowance	Indicative employers social security tax rate in %	MSCA gross salary (living allowance adjusted with CCC + mobility allowance – social security tax)[150]	MSCA income identified via researchers' survey[151]	National gross salary identified via desk research
Australia	AU	100,9	5 731,12	n/a	n/a	ER: 4679, n=2	n/a
Brazil	BR	84,7	4 810,96	n/a	n/a	Horizon 2020: 3 985 (N=4)	n/a
Canada	CA	95,2	5 407,36	n/a	n/a	Horizon 2020: 3 824 (N=12)	n/a
China	CN	90,0	5 112	n/a	n/a	Horizon 2020: 3 400 (N=2)	n/a
India	IN	73,8	4 191,84	n/a	n/a	Horizon 2020: 2 750 (N=3)	n/a
Japan	JP	103,3	5 867,44	n/a	n/a	Horizon 2020: 4 640 (N=3)	n/a
Norway	NO	128,7	7 310,16	n/a	n/a	HE: 4 433 (N=6) Horizon 2020: 4 852 (N=28)	n/a
United Kingdom	UK	136,9	7 775,92	n/a	n/a	Horizon 2020: 5 575 (N=106)	n/a
United States	US	102,3	5 810,64	n/a	n/a	HE: 4 646 (N=2) Horizon 2020: 4 707 (n=57)	n/a

* Social security tax rates are indicative and based on data from 2021 however, for more detailed calculations should be confirm with the country's tax authority to make final decisions.

** Living allowance adjusted with CCC is calculated as MSCA researchers' living allowance multiplied by CCC value.

*** Gross salary is only indicative and calculated as living allowance multiplied by CCC value and deducted social security tax, without further deduction of income tax, paid by employer.

Annex 3. Analysis of the datasets of the costs incurred by the beneficiaries of the European Researchers' Night under Horizon 2020 and Horizon Europe

In order to analyse costs incurred by beneficiaries of the European Researchers' Night under Horizon 2020 and Horizon Europe and identify any trends or patterns, this analysis is focused on projects' applications, periodic and final reports and financial statements. The overview of the European Researchers' Night projects implemented under two Horizon 2020 NIGHT calls (H2020-MSCA-NIGHT-2020 and H2020-MSCA-NIGHT-2020bis) is supported by the analysis of the historical datasets of actual costs incurred by beneficiaries. Since MSCA and Citizens projects under Horizon Europe were awarded a lump sum grant, there is no reporting on actual costs. Thus, the analysis of projects under call HORIZON-MSCA-2022-CITIZENS-01 is supplemented by the information on requested project contributions reported in the historical datasets and qualitative data gathered through 13 interviews with stakeholders who have implemented the project under this call.

Analysis of the Horizon 2020 NIGHT projects data

The analysis of the Horizon 2020 NIGHT events is focused on projects implemented under two calls. The analysed projects under Horizon 2020 call H2020-MSCA-NIGHT-2020 took place in 2020, and projects analysed under H2020-MSCA-NIGHT-2020bis happened in 2021.

Based on the historical datasets, the average total costs of one Horizon 2020 NIGHT project between 2020 and 2021 constituted 233 113 EUR (median value – 160 911 EUR). As indicated by the standard deviation, the total costs of NIGHT events during these years differed greatly.

Information on the total costs of one Horizon 2020 NIGHT project

Call ID	Number of NIGHT projects	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
H2020-MSCA-NIGHT-2020	52	215 699	145 250	181 554
H2020-MSCA-NIGHT-2020bis	44	253 693	192 231	191 667

Source: CORDA database.

The average costs of Horizon 2020 NIGHT events increased between 2020 and 2021. Due to significant variations in the total costs of individual NIGHT projects, it would seem that the increase in costs over the year was more likely related to the specificity of the implemented projects rather than the time period. Nonetheless, compared to the previous review of the MSCA funding system[152], the average total costs of one H2020 NIGHT event in this period is 61% higher than between 2014 and 2018[153]. Thus, the average total costs of Horizon 2020 NIGHT projects have been increasing. As explained by the interviewees, inflation during the past years increased their overall expenses for NIGHT projects. Yet, the inflation rate does not fully constitute for the rise in project costs, and other reasons might be affecting this change.

Within the Horizon 2020 programme, the total costs of a project were broken down by four different work packages (WPs):

- WP1 – Awareness campaign.
- WP2 – Activities during the NIGHT.
- WP3 – Impact assessment.
- WP4 – Management.

As indicated by the data obtained from projects' financial reports, "Activities during the NIGHT", followed by the "Awareness campaign", constituted the largest share of total costs compared to other WPs. The share of total costs attributed to "Impact assessment" and "Management" were much smaller. The analysis shows that the share of total costs varied significantly within the projects across different WPs, which could be related to different methodological approaches adopted in specific projects. Yet, these results are consistent with the previous evaluation of the programme[154], which indicates the same tendency within the distribution of total costs per WP within Horizon 2020 NIGHT projects.

Information on total costs per work package of one Horizon 2020 NIGHT project

Work package (WP)	Number of NIGHT projects	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
WP1	33	62 173	45 625	56 096

[152] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/mt/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-fr

[153] The average total costs of one H2020 NIGHT event under 2014-2018 NIGHT calls constituted 144 881 EUR.

[154] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe Final Report*. Available at: https://op.europa.eu/mt/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-fr

Work package (WP)	Number of NIGHT projects	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
WP2	33	122 851	91 562	112 024
WP3	33	19 536	11 25	23 422
WP4	32	28 471	16 287	36 048

Source: CORDA database.

The same distribution per WPs was observed within the analysis of person-months. WP2 was the lengthiest work package in terms of person-moths, followed by WP1, WP4, and WP3. Thus, the person-months dedicated to the WP implementation may increase its total costs.

Information on the person-months per work package of one Horizon 2020 NIGHT project

Work package (WP)	Average value (Person-months)	Median value (Person-months)	Standard deviation (Person-months)
WP1	8,17	6,44	7,55
WP2	16,3	12	16,94
WP3	4,78	3,48	7,08
WP4	5,63	4,5	4,64
Total:	**34,86**	**28,25**	**31,39**

Source: H2020 NIGHT projects' financial reports (n=95).

Further analysis aims to identify trends and patterns for the variation of total costs of NIGHT events linked to project characteristics.

Relation between the total costs of a Horizon 2020 NIGHT project and the number of participants (partners)

NIGHT projects can be implemented either by one single beneficiary or by several participating organisations. The analysis revealed no clear interrelations between the number of participants (partners) and the budget of the NIGHT event. This means that a wider geographic coverage instigated by a larger number of partners does not appear to significantly impact the total costs of a NIGHT event. These results may have resulted from a small sample size. Yet, a lack of positive relation between the total costs of a NIGHT project and the number of partners was also observed in the previous MSCA evaluation[155].

[155] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe, Final Report*. Available at: https://op.europa.eu/mt/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-fr

Information on the total costs of one Horizon 2020 NIGHT project depending on the number of project participants (partners)

Number of participants	Number of projects in the sample	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
1	24	182 445	148 656	118 540
2	8	119 248	115 995	48 900
3	6	129 190	134 906	51 048
4	9	222 138	218 604	72 460
5	8	209 732	164 581	108 308
6	7	219 140	193 485	148 689
7	9	319 572	208 294	268 403
8	4	151 375	145 987	56 468
9	3	127 876	119 165	13 805
10	5	413 764	425 609	232 990
11	2	768 281	768 281	235 019
12	2	184 528	184 528	52 528
13	5	325 152	294 759	114 632
14	2	683 436	683 436	9 256

Source: CORDA database.

Relation between the total costs of a Horizon 2020 NIGHT project and the budget category

The direct costs of the Horizon 2020 NIGHT actions include direct personnel costs, direct costs of subcontracting and other direct costs (i.e., travel, equipment, other goods and services). In addition to the direct costs, indirect costs of the project (overheads) represent a 25% flat rate on direct costs, excluding subcontracting costs and resources set at the disposal of third parties outside the premises of the beneficiaries in the consortium. Information on the distribution of total costs per budget category is presented in the table below.

Information on the share of the respective budget category costs in the total cost of a Horizon 2020 NIGHT project

	Direct costs			Indirect costs (%)
	Direct personnel costs (%)	Direct costs of subcontracting (%)	Other direct costs (%)	
Average	38,27%	18,19%	27,31%	16,23%
Median value	38,45%	13,58%	30,84%	17,13%

	Direct costs			Indirect costs (%)
	Direct personnel costs (%)	Direct costs of subcontracting (%)	Other direct costs (%)	
Standard Deviation[156]	0,44	0,37	0,28	0,15

Source: CORDA database.

The table below presents information on the direct costs of one NIGHT project. Analysis shows that the variation of costs within a budget category is very high, which is primarily related to the variation of the total budget of the NIGHT events. The variation is especially high in direct costs of sub-contracting as a significant share of projects involve minimal use of sub-contracting.

Information on the direct costs of a Horizon 2020 NIGHT project per budget category (EUR)

	Direct personnel costs (EUR)	Direct costs of subcontracting (EUR)	Other direct costs (EUR)
Average	88 346	41 992	63 031
Median value	58 737	20 750	47 109
Standard deviation	81 638	68 513	53 005

Source: CORDA database.

Relation between the total costs of a Horizon 2020 NIGHT project and the location

The average costs of the H2020 NIGHT project were significantly higher in countries with higher cost levels. The total costs in countries with a CCC of more than 110% were more than twice as high compared to countries with the lowest CCC. However, like the overall sample, the costs of specific NIGHT events also varied greatly within country groups with similar cost levels.

[156] 1=100%.

Information on the total costs of a Horizon 2020 NIGHT project depending on the living costs in respective countries (expressed by the country correction coefficients – CCC)

CCC range	Number of NIGHT projects	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
CCC less than 90%	44	137 564,30	136 637,63	52 884,51
CCC 90%-110%	32	317 948,67	216 348,13	245 410,36
CCC more than 110%	15	320 030,83	218 603,75	203 829,35

Source: CORDA database.

The average costs of a NIGHT project also tended to be higher in those cases where NIGHT events covered more cities. However, like the overall sample, the costs of specific NIGHT events varied significantly within the same group of NIGHT events covering similar numbers of cities. In addition, due to the low number of NIGHT events within the groups of the sample, no significant conclusions can be made about the relation between the total costs of a Horizon 2020 NIGHT project and the number of cities it covered.

Information on the total costs of a Horizon 2020 NIGHT project depending on the number of cities covered

Number of cities covered	Number of NIGHT projects	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
1-4 cities	9	201 485,75	184 746,25	96 901,81
5-10 cities	13	202 761,31	168 455,00	152 193,06
Over 10 cities	18	357 101,02	211 307,50	286 999,69

Source: CORDA database.

Relation between the total costs of a Horizon 2020 NIGHT project and the R&D participants and attendees attracted

Information on the number of R&D participants and workers involved in H2020 projects presented in periodic technical reports revealed high variations from 10 to several thousand R&D participants and workers. The variability could be related to different reporting practices and specific approaches that the projects employ. The high number of participants in many projects also suggests that most participants are not paid from the project funds.

Similarly, analysis of information on the number of visitors attracted by the NIGHT events revealed different reporting practices. For instance, some beneficiaries

present information on unique visitors, whilst others report the number of families that attended the NIGHT events. This resulted in a great variation in the reported number of visitors, ranging from several hundred to hundreds of thousands. Thus, in most cases, the data on the number of visitors in NIGHT events cannot be compared between projects.

Information on the total costs of a NIGHT project per R&D participant and worker involved in the project and per visitor is presented in the table below. Large differences between the average and median values and very high standard deviation demonstrate that the dataset is extremely dispersed.

Information on the total costs of a Horizon 2020 NIGHT project per R&D participant and worker involved in the project and per visitor

	Number of NIGHT projects	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
Total costs per researcher and worker involved in the project (total cost of a NIGHT project/Number of R&D participants and workers involved in the project)	72	890,01	586,52	1 089,81
Total costs per visitor (total costs of a NIGHT project/Number of visitors attracted by the NIGHT project)	69	17,38	7,39	26,94

Source: CORDA database.

Analysis of the Horizon Europe MSCA and Citizens projects data

As indicated by the vast majority of interviewees, the European Researchers' Night funding system of lump sums is evaluated positively in comparison to the old system of actual costs. The lump sum funding system simplified the management and administration processes of projects as well as allowing a more efficient allocation of resources within the implemented projects. Despite the common observation that the lump sum does not cover all actual expenses of a project, the lump sum was broadly evaluated as sufficient because it provided the organisations with an opportunity to implement an MSCA and Citizens project. The interviewees stated that without the lump sum, in many cases, the implementation of the event would have not been possible. Nonetheless, the qualitative data show that due to the recent update of the funding system, its current evaluation is rather preliminary, and it should be repeated no earlier than the finalisation of projects under the analysed call (HORIZON-MSCA-2022-CITIZENS-01).

Since projects under Horizon Europe were awarded a lump sum grant, the quantitative analysis of the signed projects under Horizon Europe is primarily focused on the requested project contributions, the amount requested by beneficiaries of the MSCA and Citizens event to implement the project. The data on requested project contribution is supplemented with information gathered through interviews, projects' applications, periodic and final reports and financial statements.

The average requested project contribution of one Horizon Europe MSCA and Citizens project constituted 317 099 EUR (median value – 298 963 EUR). The standard deviation (140 918 EUR) indicates that the requested project contribution of MSCA and Citizens events under Horizon Europe does not differ significantly across different projects.

Within the Horizon Europe programme, the beneficiaries implementing the MSCA and Citizens project break down the project plan per 5 WPs:

- WP1 – Awareness campaign.
- WP2 – Activities during the NIGHT.
- WP3 – Researchers at Schools activities.
- WP4 – Impact assessment.
- WP5 – Management.

Similar to the observations described within the Horizon 2020 context, "Activities during the NIGHT" was the lengthiest WP within the Horizon Europe project sample, followed by "Awareness campaign" and "Researchers at Schools activities". The lowest person-months were found under "Management" and "Impact assessment" out of all WPs. These results are consistent with the inputs provided by the interviewees.

Information on the person-months per work package of one Horizon Europe MSCA and Citizens project

Work package (WP)	Number of projects in the sample	Average value (Person-months)	Median value (Person-months)	Standard deviation (Person-months)
WP1	48	12,70	12,25	7,72
WP2	48	77,68	17,65	389,79
WP3	48	11,09	9,22	7,75
WP4	48	7,01	6,1	5,04
WP5	47	8,74	8,5	5,69

Work package (WP)	Number of projects in the sample	Average value (Person-months)	Median value (Person-months)	Standard deviation (Person-months)
Total:	**48**	**60,89**	**61,5**	**38,58**

Source: CORDA database.

Further analysis aims to identify trends and patterns for the variation of the requested project contribution of MSCA and Citizens projects linked to project characteristics.

Relation between the requested project contribution of a Horizon Europe MSCA and Citizens project and the number of participants (partners)

The analysis revealed no clear interrelations between the number of participants (partners) and the requested project contribution of the MSCA and Citizens project. The small sample size within the analysed groups may affect these results. The qualitative data also indicated rather contradictory results in regard to the relation between the requested project contribution and the number of partners. Some interviewees stated that the number of partners impacted the event's costs, whilst others highlighted that it did not. Thus, this interrelation seems to depend more on the characteristics of the project.

Information on the requested project contribution of a Horizon Europe MSCA and Citizens project depending on the number of project participants (partners)

Number of participants	Number of projects in the sample	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
1	8	257 088	277 729	50 717
2	4	236 537	253 012	54 516
4	5	306 599	267 050	81 828
5	3	275 502	294 030	28 058
6	3	339 446	300 000	56 521
7	4	249 344	274 000	60 690
8	4	284 052	299 688	30 800
9	4	472 172	307 037	294 450
10	4	454 947	450 398	156 542
11	2	298 257	298 257	1 115

Source: CORDA database.

Relation between the total costs of a Horizon Europe MSCA and Citizens project and the budget category

Under the Horizon Europe programme, the detailed cost estimation per work package and per beneficiary and affiliated entity (if any) includes costs that are eligible in an actual costs grant. The estimated eligible costs for the action are broken down by budget category:

- Personnel costs.
- Subcontracting costs.
- Purchase costs.
- Other cost categories.
- Indirect costs.

As indicated in the table below, direct personnel and purchase costs contributed to the most substantial amount of the total costs of a project, which also included (in-kind) funds allocated by the implementing organisation. On the contrary, other direct costs constitute the smallest share of the total project costs.

Share of the respective budget category costs in the total costs (including own funds) of a Horizon Europe MSCA and Citizens project

	Direct costs				Indirect costs (%)
	Direct personnel costs (%)	Direct costs of subcontracting (%)	Direct purchase costs (%)	Other direct costs (%)	
Average	39,97%	10,75%	30,68%	0,98%	17,63%
Median value	40,98%	5,62%	26,19%	0,00%	17,89%
Standard Deviation[157]	0,16	0,12	0,16	0,04	0,03

Source: CORDA database.

The analysis of the direct costs of a Horizon Europe MSCA and Citizens project per budget category shows that the variation of costs within a budget category is very high. Similar to the analysis of Horizon 2020 projects, the variation is especially high in direct costs of sub-contracting as a significant share of projects involve minimal use of sub-contracting. In addition, the table indicates that many Horizon Europe projects do not include other direct costs.

[157] 1=100%.

Information on the direct costs of a Horizon Europe MSCA and Citizens project per budget category (EUR)

	Direct personnel costs (EUR)	Direct costs of subcontracting (EUR)	Direct purchase costs (EUR)	Other direct costs (EUR)
Average	173 172	49 797,13	119 426,43	5 761,72
Median value	128 800	23 122	93 300	0
Standard deviation	154 961,81	100 719,98	88 393,69	24 285,69

Source: HE MSCA and Citizens projects' financial reports.

Relation between the requested project contribution of a Horizon Europe MSCA and Citizens project and the location

Similar to the projects implemented under Horizon 2020, the requested project contributions under Horizon Europe were substantially higher in countries with a higher CCC. Even though the variability within the CCC groups was not high, the small sample size prevents making any substantial conclusions about the increase of the requested project contributions among countries with a higher CCC.

Information on the requested project contribution of a Horizon Europe MSCA and Citizens project depending on the living costs in respective countries (expressed by the country correction coefficients – CCC)

CCC grouping	Number of projects in the sample	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
CCC less than 90%	24	269 087,72	277 838	71 788,63
CCC 90%-110%	16	331 348,57	299 801	175 399,16
CCC more than 110%	4	391 719	321 323	209 721,37

Source: CORDA database.

The same tendency can be observed within the analysis of the requested project contributions and the cities covered by a NIGHT event. Even though the data indicated that the more cities a project covers, the higher the requested project contributions will be, the small sample size prevents the generalisation of these results.

Information on the requested project contribution of a Horizon Europe MSCA and Citizens project depending on the number of cities covered

Number of cities covered	Number of projects in the sample	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
1-4 cities	4	225 121,75	238 250	54 861,72
5-10 cities	9	310 612,99	299 372	56 811,43
Over 10 cities	10	335 089,05	299 688	119 030,2

Source: CORDA database.

The interviewees also did not share unified insights about the relationship between project costs and geographical coverage. Some stated that the number of cities covered did not significantly impact the overall expenses of the event, whilst others contradicted this opinion. The insights about the relation between project costs and the specific location of the event (e.g., big cities versus small ones) were also dispersed.

Relation between the requested project contribution of a Horizon Europe MSCA and Citizens project and R&D participants and visitors attracted

Just as in the context of Horizon 2020, information in Horizon Europe's periodic technical reports on the number of R&D participants and workers involved in projects as well as visitors numbers varied greatly. The analysis reveals that the reporting practices differ by project, which impairs data comparability.

Information on the requested project contributions of a MSCA and Citizens project per R&D participant and worker involved in the project and per visitor is presented in the table below. Large differences between the average and median values and very high standard deviation demonstrate that the dataset is extremely dispersed.

Information on the requested project contribution of a Horizon Europe MSCA and Citizens project per R&D participant and worker involved in the project and per visitor

	Number of projects in the sample	Average value (EUR)	Median value (EUR)	Standard deviation (EUR)
Requested project contribution per researcher and worker involved in the project (requested project contribution/Number of R&D participants and workers involved in the project)	23	1 327	612	1 578
Requested project contribution per visitor (requested project contribution /Number of visitors attracted by the MSCA and Citizens project)	31	42	12	120

Source: CORDA database.

Annex 4. Costs incurred for reducing the environmental impact of the research activities in line with the MSCA Green Charter

Stakeholders who participated in different MSC actions under Horizon 2020 and Horizon Europe programmes were surveyed about the MSCA Green Charter[158]. The survey results imply that stakeholders are highly motivated to take measures to integrate environmental considerations in line with the MSCA Green Charter over the lifetime of their project. When asked if they would do so, 71% said yes, 27% responded maybe, and 2% stated no. As detailed in the tables below, the respondents that indicated yes or maybe (N=793), also selected the measures they would take to integrate environmental considerations in line with the MSCA Green Charter over the lifetime of their project. From the financial perspective, these measures can be grouped into three categories:

- Reducing costs.
- Neutral (not having a significant impact on costs).
- Increasing costs.

Measures that reduce costs only entailed measures that reduce expenses, particularly in a long-term perspective. Measures that may or may not require monetary investments, depending on the decision/resources of the implementor, were categorised as measures that do not have a significant impact on costs. Finally, measures that require investments in all or most of their implementation strategies were grouped as measures that increase costs. Measures that do not have a significant impact on costs were selected the most times (n=1 652), followed by measures that reduce costs (n=1 242) and increase costs (n=1 058).

Measures that institutions will take

Measure the respondent will take	Financial grouping	Share of responses within the sample	Number of responses
Encourage teleconferencing and hybrid conferencing in those cases where physical presence is not strictly necessary, and provide training to researchers in the efficient use of such tools	Reduce costs	86%	313

[158] A more elaborate study on uptake of the MSCA Green Charter under Horizon Europe was published by the European Commission in January 2024. Available at: https://marie-sklodowska-curie-actions.ec.europa.eu/news/new-study-published-on-uptake-of-the-msca-green-charter-under-horizon-europe

Measure the respondent will take	Financial grouping	Share of responses within the sample	Number of responses
Support MSCA researchers in developing greater awareness on environmental sustainability	Neutral	77%	282
Provide support and guidance to MSCA fellows in monitoring and minimising the environmental impact of their research activities	Neutral	77%	281
Support the use of the most sustainable and low-carbon forms of transportation possible, even where other more economical and/or faster travel options exist	Increase costs	70%	257
Promote the use of sustainable, renewable forms of energy, and monitor and seek to reduce energy and water consumption in the context of the project	Neutral	66%	241
Promote green purchasing for project-related materials and the use of sustainable alternatives to single-use plastics and consumable items	Increase costs	55%	203
Promote new forms of consumption (as alternative to purchasing) linked to sharing and the collaborative economy	Neutral	42%	154
Support the use of carbon offsetting in those cases where carbon emissions cannot be avoided	Neutral	32%	118
Set up a dedicated unit (or recruit an individual) responsible for the integration of environmental considerations in the MSCA project	Increase costs	9%	34
Subscribe to a green lab accreditation	Neutral	9%	32

Source: MSCA Green Charter survey (n=366).

Measures that researchers will take

Measure the respondent will take	Financial grouping	Share of responses within the sample	Number of responses
Employ teleconferencing tools as a complement to physical attendance at events, where such attendance is not strictly necessary nor advantageous	Reduce costs	89%	380
Prevent or minimise the production of waste and harmful substances and – where possible - sort, reuse and recycle any waste by-products unavoidably produced	Reduce costs	79%	337
Prioritise low-carbon forms of transportation for project-related travel, including commuting	Increase costs	76%	323
Minimise the use of energy, water, or other scarce resources	Reduce costs	73%	312
Mainstream sustainability and environmental considerations in the project's implementation, including teaching and learning	Neutral	67%	287

Measure the respondent will take	Financial grouping	Share of responses within the sample	Number of responses
Prevent or minimise the production of harmful emissions, including greenhouse gases	Neutral	66%	282
Promote new forms of consumption linked to sharing and the collaborative economy	Neutral	51%	216

Source: MSCA Green Charter survey (n=427).

Measures including support in awareness raising and guidance, adoption of collaborative economy, offsetting of carbon and greenhouse gasses, green lab certification and greening the implementation of projects highly depend on their implementation strategies. Yet usually these measures can be implemented with little to no costs while having a positively significant environmental impact. Thus, the cost-neutral measures might be the most attractive to the organisations and researchers for their low-cost, high-environmental-impact characteristics. In terms of renewable energy use, institutions have two options – either to purchase renewable energy from a supplier or produce renewable energy themselves. Regarding the first option, shifting from non-renewable energy to renewable energy purchasing should not drastically change the institutional expenses, as the non-renewable energy price is approximately equal to the mean value of the different sources of the renewable energy[159]. On the other hand, institutions that were to implement their own renewable energy production, would experience one-off installation costs. As indicated in the table below, **the average of total installed costs of EUR/kW is EUR 3 055,97**. Yet installation of own energy production might only be available for large institutions which have sufficient resourcesrecourses.

Global weighted average of total installed cost in 2021 by technology (EUR/kW)

Type of technology	Total installed costs
CSP	8 601,18
Geothermal	3 775,96
Offshore wind	2 704,01
Bioenergy	2 226,22
Hydropower	2 019,97
Onshore wind	1 253,61
Solar PV	810,82

[159] Our World in Data (2023) *Levelized cost of energy by technology*. Available at: https://ourworldindata.org/grapher/levelized-cost-of-energy?time=2020..latest

Source: IRENA[160], compiled by PPMI.

Cost reducing measures were among the most selected measures within the sample. Around 90% of institutions and researchers stated that where possible, they will either promote or employ teleconferencing. Based on scientific research, **the transition from in-person meetings to teleconferencing can reduce the incurred costs by organisations and individuals**[161] in terms of internal and external meetings. In addition, among the most common measures selected by researchers was the reduction of production waste and resources such as energy and water. It is somewhat difficult to estimate the reduction of costs related to recourse use because it highly depends on the individual situation.

Among the most selected measures by organisations and researchers that increase the costs was the prioritisation of low-carbon forms of transportation. It was estimated that travelling by train instead of a plane reduces the carbon emissions by around 80%[162]. Yet the Greenpeace study on train and plane ticket prices in Europe of short-, mid- and long-term bookings found that on average, travelling by train is approximately 2 times more expensive than travelling by plane[163]. Since the average airline passenger fare in Europe costs EUR 120[164], low-carbon form of transportation by train increases the costs of travelling by approximately EUR 120 per person per trip.

Horizon 2020 and Horizon Europe fellows stated that on average, they engage in 5,5 round trips to travel from their host country to their home country. This constitutes to an average of 11 trips for personal reasons per year. **An average price of travelling home and back to the host country with a train per year per fellow is EUR 1320** more than travelling by plane. In addition, Horizon 2020 and Horizon Europe organisations that manage fellows indicated that on average, they host approximately 3 MSCA fellows under a project. If the organisation were to finance train travels back home of the hosted fellows, they would have to allocate a budget of approximately EUR 3960. Nonetheless, this price does not account for the increased duration of the journey nor for other purposes of travelling like attendance in training events or job-related meetings. In addition, in the possibility to choose low-carbon forms of transportation is not always

[160] IRENA (2022) *Renewable Power Generation Costs in 2021*. Available at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Jul/IRENA_Power_Generation_Costs_2021.pdf?rev=34c22a4b244d434da0accde7de7c73d8

[161] Müller, A., & Wittmer, A. (2023). The choice between business travel and video conferencing after COVID-19 – Insights from a choice experiment among frequent travelers. Tourism Management (1982), 96, 104688. https://doi.org/10.1016/j.tourman.2022.104688

[162] Eco Passenger (2016) *Environmental Methodology and Data*. Available at: https://ecopassenger.hafas.de/bin/help.exe/en?L=vs_uic&tpl=methodology

[163] Greenpeace (2023) *Ticket prices of planes vs trains*. Available at: https://www.greenpeace.de/publikationen/report-ticket-prices-of-planes-vs-trains-in-europe.pdf

[164] Statista (2021) *Average passenger fare of selected airlines in Europe*. Available at: https://www.statista.com/statistics/1125265/average-ticket-price-selected-airlines-europe/

feasible. For instance, it is not possible to travel overseas by train from Ireland. Similarly, Baltic countries have poor railway connections to other European countries. For this reason, it is important to consider alternative ways of offsetting carbon produced by travelling[165].

In Europe, around 371kg of CO_2 emissions are annually produced by aviation per capita[166]. As indicated by the most common carbon offset organisations, the average price for 1 000kg of CO_2 offset is EUR 16,86. This data indicates that **the offset of carbon emissions produced by traveling by plane approximately costs EUR 6,3 per person per year**.

Carbon offset price (in EUR) per 1 000kg of CO_2

Carbon Offsets	About	Cost per 1 000kg of CO_2 in EUR
Climate Impact Partners	Flight, road transportation, and accommodation carbon offset purchases support efficient/clean cookstoves as well as renewable energy carbon offset projects.	10,94
Sustainable Travel International	Flight, car, and boat carbon offset purchases support forestry, clean and efficient energy, blue carbon (carbon sequestration), and community-based carbon offset projects.	11,70
Cool Effect	Air travel, driving, accommodations, and cruise carbon offset purchases support avoided nature loss (forestry, tree planting, grasslands), methane capture, and clean cookstoves carbon offset projects.	13,84
Clear	Flight, hotel, car, motorcycle, and commute carbon offset purchases support. reforestation, efficient cookstoves, renewable energy, methane capture, and landfill gas capture carbon offset projects.	14,19
GoClimate	Flight carbon offset purchases support a water filter project in Indonesia, a geothermal energy project in Sumatra, and a landfill gas recovery project in Colombia.	16,09
Carbonfund	Vehicle and air travel carbon offset purchases support energy efficiency, forestry, and renewable energy carbon offset projects globally.	16,25
Terrapass	Flight carbon offset purchases support farm power, landfill gas capture, clean energy from wind power, and abandoned coal mine methane capture carbon offset projects.	16,69

[165] Yet, based on the recent ruling of the European Parliament, alternative ways are considered as a last-resort measure due to the prioritisation of low-carbon transportation. Available at: https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/IMCO/AG/2023/11-28/1289669EN.pdf?utm_source=T%26E+EEB+super+list&utm_campaign=f0f2a240ec-EMAIL_CAMPAIGN_2024_01_12_09_39&utm_medium=email&utm_term=0_-f0f2a240ec-%5BLIST_EMAIL_ID%5D

[166] Our World in Data (2018) *Per Capita CO2 emissions from aviation*. Available at: https://ourworldindata.org/grapher/per-capita-co2-aviation?region=Europe

Carbon Offsets	About	Cost per 1 000kg of CO_2 in EUR
Atmosfair	Flight carbon offset purchases support efficient cookstoves, renewable energy, and environmental education carbon offset projects.	23,67
myclimate	Flight, car, and cruise carbon offset purchases support energy efficiency, forestry, waste management, and renewable energy carbon offset projects.	28,40

Source: carbon offset specific sources, compiled by PPMI.

Around half of institutions also indicated that they would promote green purchasing for project-related materials and the use of sustainable alternatives to single-use plastics and consumable items. Studies find that sustainable products are 75-85% more expensive than conventional products[167]. According to the Lab Manager survey, the average total laboratory budget for consumables per year is EUR 187 920[168]. Assuming that all laboratory consumables have a sustainable alternative, **the yearly budget for sustainable alternatives of consumables should approximate EUR 338 256**. Yet, this data mainly represents the expenses in the field of life sciences. As indicated by survey respondents, the expenses related to consumables are usually the highest within this discipline. Considering this, such expenses will likely be lower in other scientific fields.

Finally, 1 in 10 organisations stated that they aim to employ an individual responsible for implementing environmental considerations within MSCA projects. As per table below, **the average annual salary of a remote operations specialist is EUR 31 822,29 (Net) and EUR 39 912,98 (Gross)**.

Indicative salaries of operations specialists per country (EUR/year)

Country	Net indicative salary	Gross indicative salary
Austria	32 326,19	38 257,94
Belgium	32 951,39	45 077,26
Bulgaria	27 988,69	34 314,49
Croatia	28 855,43	34 395,96
Cyprus	30 330,32	34 728,45
Czechia	30 076,45	41 355,48
Denmark	36 208,07	39 575,58

[167] Kearney (2020) *Why today's pricing is sabotaging sustainability*. Available at: https://www.kearney.com/industry/consumer-retail/article/-/insights/why-todays-pricing-is-sabotaging-sustainability

[168] Lab Manager (2011) *Laboratory Spending Trends*. Available at: https://www.labmanager.com/laboratory-spending-trends-17908

Country	Net indicative salary	Gross indicative salary
Estonia	29 727,86	39 835,12
Finland	33 989,58	43 574,91
France	35 265,54	53 251,17
Germany	34 939,69	42 773,53
Greece	29 816,90	37 587,28
Hungary	27 784,08	34 313,55
Ireland	36 226,06	40 844,90
Italy	32 877,50	46 258,49
Latvia	28 773,02	39 145,52
Lithuania	29 328,12	30 909,09
Luxembourg	37 089,97	42 300,84
Malta	34 343,86	38 687,99
Netherlands	36 042,30	46 008,42
Poland	28 252,03	35 639,71
Portugal	30 084,98	38 433,18
Romania	27 871,23	32 400,08
Slovakia	29 475,89	-
Slovenia	30 249,80	38 692,73
Spain	31 737,00	42 876,78
Sweden	34 844,01	46 499,10

Source: Plane[169], compiled by PPMI.

Few respondents already receive financial support for integrating environmental considerations. Out of 373 respondents, only 3% said they receive financial support from their institution or external sources for integrating environmental considerations in their MSCA project. As indicated by the respondents, the received amount mainly covers the costs of waste recycling and carbon offsetting, particularly when flying. Out of this group of respondents who receive financial support, 70% stated that the amount was sufficient to cover the added costs.

Around 22% out of 361 respondents considered the lack of financial support an important factor limiting what they could achieve. They most commonly stated that they would have needed financial support for green travel, personnel, equipment renovation and carbon offsetting expenses. All these expenses are in line with the above-identified measures that increase the costs. Overall, **10% of respondents who are motivated to integrate environmental considerations in line with the MSCA Green Charter over the lifetime of their project (N=793)**

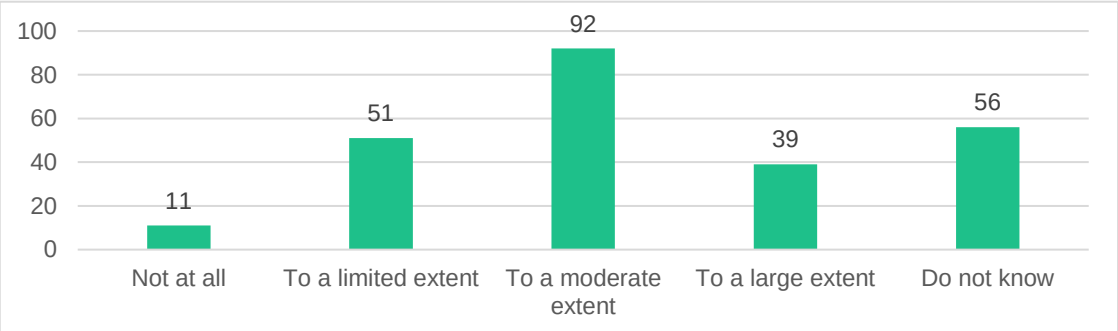
[169] Plane. Available at: https://plane.com/salaries/operations-specialist/austria

considered the lack of financial support an important factor limiting what they could achieve.

The survey participants also shared their suggestions on how to make the MSCA greener in the future. Only 26% out of 528 respondents stated that the provision of financial support would help to make MSCA greener in the future. In comparison, the provision of information and guidance was considered two to three times more important to achieve this goal. Thus, overall, the respondents exhibited a relatively low need for financial support to make the MSCA greener in the future.

This might be due to the fact that 61% of 249 respondents noted that their institution has a strategy in place to promote sustainable research and adoption of green practices in research activities. Institutions that have a strategy in place to promote sustainable research and green practices were also asked to which extent they see the MSCA Green Charter promoting the integration of environmental considerations that are not foreseen by the institutional strategy. As indicated by the figure below, most stated that it promotes this integration to a limited or moderate extent. These results indicate that the environmental considerations of the MSCA Green Charter might overlap to some degree with the existing strategies employed by the institutions that promote sustainable research and green practices. Thus, a large share of organisations might already allocate their own financial resources to integrate environmental considerations, though, as we have seen above, not necessarily in the form of direct financial support to researchers.

You previously indicated that your institution has a strategy in place to promote sustainable research and green practices. To which extent, if any, do you see the MSCA Green Charter promoting the integration of environmental considerations that are not foreseen by the institutional strategy?



Source: MSCA Green Charter survey (n=249).

Annex 5. Overview of competing fellowships

Desk research conducted on existing competing fellowships in both EU and non-EU countries has considered 11 doctoral fellowships and 20 postdoctoral fellowships. This analysis was carried out in order to compare the level of remuneration and financial support provided to researchers and organisations by the MSCA to those offered by other fellowships in the international context.

Data illustrated in the tables below reveal that monthly living allowances of competing fellowships vary greatly. Notably, monthly gross remuneration levels range from EUR 700 to EUR 4 791 for doctoral fellowships, and from EUR 1 262 to EUR 18 996 for postdoctoral fellowships[170]. The average level of gross monthly salary for a doctoral fellowship is EUR 2 218.06, while for a postdoctoral fellowship it stands at EUR 3 614.55. This indicates that on average the living allowance offered under the MSCA is higher than what is usually offered by competing fellowships at both doctoral and postdoctoral level.

However, there are some doctoral and postdoctoral fellowships that offer more attractive and competitive living allowances. For example, the doctoral fellowship offered by the French ARC Foundation for cancer research provides researchers with a gross salary that ranges from EUR 4 166 to EUR 5 416. Similarly, Postdoc Mobility fellowship offered by the Swiss National Science Foundation (SNSF) provide a monthly living allowance that ranges from EUR 6 980 to EUR 9 163 while the Brain Pool Fellowship provided by the National Research Foundation of Korea offers from EUR 3 800 to EUR 18 996 as a monthly remuneration, depending on the professional role and experience of the candidate. Therefore, when the country correction coefficients are not considered, 1 out of 11 competing doctoral fellowships offer living allowances that are higher than the MSCA DN, while 3 out of 20 postdoctoral fellowships offer living allowances that are higher than the MSCA PF. Monthly living allowances of the remaining fellowships are lower than or aligned with the level of remuneration offered by the MSCA.

These results are partially confirmed when comparing the competing fellowships' stipends with the living allowance provided by MSCA to researchers in different countries according to the country correction coefficient. Table 5.1. below illustrates a comparison between the MSCA living allowance and the equivalent

[170] In some of the reported fellowships, living allowances may differ depending on the level of experience of the researcher or on other factors, such as private funding. In these cases, the average value between the maximum and the minimum available amount has been considered.

allowance provided by the selected competing doctoral fellowships. Table 5.2. below considers postdoctoral programmes.

5.1. Comparison between the living allowance of MSCA and competing doctoral fellowships

Country	Name of the competing fellowship	MSCA living allowance (adjusted with CCCs) in EUR	Competing fellowship living allowance equivalent	Higher / lower / about the same as the MSCA / cannot be compared
CH	Mobility grants in projects	4 372.4	4 107 - 4 368	About the same
FR	Aides individuelles jeunes chercheurs	3 957.6	4 166 - 5 416	Higher
DE	Research Fellowships in Space, Aeronautics, Energy and Transportation Research	3 342.2	1 760	Lower
UK	Study Abroad Studentship	4 654.6	2 224	Lower
IT	TWAS Fellowships for Research and Advanced Training	CCCs are not considered	Depends on the selected institution	Cannot be compared
SE	Visby Programme Scholarships to Invite Swedish Students, Researchers and Experts	4 263.6	1 025	Lower
JP	Summer Program (for researcher from North America and Europe); Strategic program (for researchers from Switzerland)	3 512.2	1 691 1 394	Lower
NL/China	Sino-Dutch Scholarship Programme (China Programme)	3 060 3 736.4	700 (in China) 1 343 (in the Netherlands)	Lower
USA	Fulbright Study/Research Award	CCCs are not considered	Round-trip transportation to the host country	Cannot be compared

Country	Name of the competing fellowship	MSCA living allowance (adjusted with CCCs) in EUR	Competing fellowship living allowance equivalent	Higher / lower / about the same as the MSCA / cannot be compared
USA/FR	Fulbright - Université Paris-Saclay	3 478.2	1 684 – 2 190	Lower

5.2. Comparison between the living allowance of MSCA and competing postdoctoral fellowships

Country	Name of the competing fellowship	MSCA living allowance (adjusted with CCCs) in EUR	Competing fellowship living allowance equivalent	Higher / lower / about the same as the MSCA / cannot be compared
CH	Postdoc. Mobility	6 532.88	6 980 - 9 163	Higher
US	Science & Technology Policy Fellowship (STPF) (AAAS)	5 196.84	7 311 - 9 488	Higher
FR	Aides individuelles jeunes chercheurs	5 913.12	4 333 – 5 833	Lower
DE	Research Fellowships in Space, Aeronautics, Energy and Transportation Research	4 993.64	2 400	Lower
DE	Humboldt Research Fellowship for Postdoctoral Researchers	4 993.64	2 670 - 3 170[171]	Lower

[171] Includes mobility monthly funds and a subsidy towards the cost of medical and liability insurance.

Country	Name of the competing fellowship	MSCA living allowance (adjusted with CCCs) in EUR	Competing fellowship living allowance equivalent	Higher / lower / about the same as the MSCA / cannot be compared
DE	Post-doctoral Fellowships in the Humanities at Universities and Research Institutes in the U.S. and Germany offered by the Volkswagen Stiftung	4 993.64	3 100[172]	Lower
DE	DLR-DAAD Research Fellowships	4 993.64	2 400	Lower
DE	Heisenberg Programme	4 993.64	4 450	Lower
IT	Jean Monnet Postdoctoral Fellowships; Max Weber Programme; Co-sponsored Research Fellowships	4 947.92	2 500 2 500 2 070	Lower
JP	Summer Program (North America and Europe); Strategic program (Switzerland); JSPS International Fellowship for Research in Japan	5 247.64	1 691 1 394 2 293	Lower
SE	SI - Visby Programme Scholarships to Invite Swedish Students, Researchers and Experts	6 370.32	1 262	Lower
ES	Ayudas Juan de la Cierva	4 638	2 500	Lower

[172] Includes a rent allowance (mobility allowance equivalent).

Country	Name of the competing fellowship	MSCA living allowance (adjusted with CCCs) in EUR	Competing fellowship living allowance equivalent	Higher / lower / about the same as the MSCA / cannot be compared
UK	Early Career Fellowships	6 054.52	2 494	Lower
CA	Health Research Postdoctoral Fellowships	4 836.16	3 180	Lower
DE	Helmholtz Young Investigators Groups	CCCs are not considered	N/A	Cannot be compared
KR	Brain Pool Fellowship Program 2023	4 851.40	11 383[173]	Higher

Data collected in the tables above confirm that the MSCA living allowance is generally higher than those provided by the selected competing fellowships, even though some significant exceptions can be observed. Organisations that offer more attractive remuneration levels operate in France, the US, Korea and Switzerland. As for other considered EU countries, the MSCA amounts appear generous.

Even though the majority of the fellowships (17 out of 31) do not have an equivalent to the mobility allowance, most fellowships (26 out of 31) provide some form of financial support to cover researcher's mobility and relocation expenses, which usually includes the coverage of travel tickets and travel insurance. Funds available for mobility expenses that include research-related travel, relocation costs and rent subsidies range from EUR 420 to EUR 30 000. In three cases[174], available mobility funds (allocated upon request or in a single payment) are higher than the amount an MSCA researcher might receive in a 12-month fellowship. An overview of the competing fellowships indicates that the MSCA mobility

[173] The amount indicated refers to the average of the minimum and maximum remuneration offered by the National Research Foundation of Korea (EUR 3 800 – 18 996).

[174] The French doctoral fellowship Aides individuelles jeunes chercheurs offered by the ARC Foundation for cancer research; the Brain Pool Fellowship Program 2023 provided by the National Research Foundation of Korea; the postdoctoral Fellowships Humanities at Universities and Research Institutes in the U.S. and Germany offered by Volkswagen Stiftung.

allowance is competitive, even though there are some cases where funds allocated mobility costs are particularly generous.

A family allowance is offered by a minority of the considered fellowships (8 out of 31). Most family allowances are offered in the form of a monthly contribution that range from EUR 154 per month per child to EUR 1 047 per month per child. The main difference between the majority of the observed family allowances and the one offered by the MSCA is that allowances in competing fellowships are dependent on the number of children. For example, the Humboldt Research Fellowship for Postdoctoral Researchers provides a family allowance consisting in 276 EUR per month for marital partners and 250 EUR per child per month, while single parents are offered a 400 EUR and a contribution of 100 EUR for each child.

Research, training and networking expenses, as well as management and indirect costs, are less likely to be disclosed by the considered competing fellowships. Information on management costs is available only in 3 out of 31 analysed cases. In one doctoral fellowship a monthly contribution of EUR 1 260 for management costs is included, while two postdoctoral fellowships offer a total of EUR 3 000 and EUR 5 984 per year as management funds. Therefore, management funding seems to be aligned with (in the first case) or lower than (in the other cases) the MSCA institutional unit contribution for management and indirect costs.

Nine of the analysed organisations display information about financial support for research, networking and training activities. These funds are indicated both as monthly contributions and as a maximum annual contribution. Monthly instalments for research, training and networking activities range from EUR 250 to EUR 800 per month. One interesting case is represented by the doctoral and postdoctoral fellowships offered by the Humboldt Foundation, where monthly instalments for research activities vary depending on the considered discipline (EUR 800 for natural sciences and engineering; EUR 500 for humanities). Overall, available funding per researcher per year ranges from EUR 1 000 to EUR 40 000. In one case (Volkswagen Stiftung Postdoctoral Fellowship), an additional EUR 10 000 are reserved for the organisation of a research workshop by the fellow.

The analysis of the long-term leave and special needs funding suggests that the MSCA provides a substantial funding for inclusiveness. Five out of 31 analysed competing fellowships provide some information on long-term leave support but none of them indicate the financial support in such cases. The majority of the analysed fellowships foresee an extension of the research period, and consequently of funding, or an unspecified added financial benefit in case of

maternity and parental leave. In one case, this extension is granted also in case of care or sick leave. In 2 out of 5 fellowships that report information about long-term leave, paid maternity leave is guaranteed only for four months. In one case the leave is paid only if research activities can continue during the leave period and an unspecified financial bonus is provided in case of maternity and parental leave. A similarly scarce disclosure of information can be observed in respect to the special needs allowances. While some of the selected competing fellowships indicate that they provide some form of support to researchers with disabilities, there is no specific information about the size of the financial support.

5.3. Overview of competing fellowships at the doctoral level

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special need allowance equivalent
CH	Swiss National Science Foundation (SNSF)	Mobility grants in projects (Doc.Mobility discontinued at the end of 2020)	All disciplines	6 to 12 months	Contract	4107 - 4368 EUR/month (CHF 47,040 to 50,040) gross salary, excluding social security	Travel expenses (for the trip to and from the host institution, costs incurred while abroad, accommodation costs, matriculation, and infrastructure fees at higher education institutions abroad, e.g., library fees)	Travel expenses of accompanying family members (partner, children)	Participation in scientific conference (amount not specified)	N/A	N/A	SNSF ma award supplementary grant after takin into accou changes in th personal situation occurring afte submission the application
FR	Fondation ARC pour la recherche sur le cancer	Aides individuelles jeunes chercheurs	LIF	1-3 years	Fixed-term contract (full-time CDD contract)	EUR 4 166 - 5 416/month	6-12 months mobility, max € 30,000 for a mobility of 12 months	N/A	N/A	N/A	N/A	N/A
DE	German Academic Exchange Service (DAAD) and national	Research Fellowships in Space, Aeronautics, Energy and	Engineering	36 months	N/A	1760 EUR/month	Round trip flight, health insurance	Flat rate for travel, family allowance (not specified)	N/A	N/A	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special need allowance equivalent
	aeronautics and space research centre (DLR)	Transportation Research										
UK	The Leverhulme Trust	Study Abroad Studentship	All disciplines	12-24 months	Scholarship	2224 EUR/ month (1920 GBP)	Round trip flight, baggage allowance	8110 EUR/ year (7000 GBP) when accompanied by dependent partner	Other costs such as overseas fee, international travel costs- as applied for by fellow and paid at the trust's discretion	N/A	N/A	N/A
IT	World Academy of Sciences for the Advancement of Science in Developing Countries (TWAS); Abdus Salam International Centre for Theoretical	TWAS Fellowships for Research and Advanced Training	Any area of natural sciences	From 6 months to 5 years.	N/A	Depends on the selected institution. This information is often not disclosed[175] The maximum indicated amount is of EUR 900/month	International low-cost airfare	The host institution is expected to provide accommodation and food as well as research facilities	N/A	N/A	N/A	N/A

[175] For this reason, the living allowance provided by TWAS fellowships has not been included in the calculation of the monthly living allowance average.

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special need allowance equivalent
	Physics (ICTP) in Trieste, Italy)											
SE	Svenska Institutet (SI - Swedish Institute)	Visby Programme Scholarships to Invite Swedish Students, Researchers and Experts	All discipline	1-6 months	Scholarship	1025 EUR (SEK 12,000)/ month for PhD studies lasting a maximum of 6 months	420 EUR (SEK 5,000) for the whole fellowship period	N/A	N/A	1260 EUR (SEK 15,000)/month for researchers, experts and other staff	N/A	N/A
JP	Japan Society for the Promotion of Science	Summer Program (for researcher from North America and Europe)	Fields of the humanities, social sciences and natural sciences	2 months	Scholarship	1691 ER/month	Round trip flight and travel insurance	N/A	Research support (optional)	N/A	N/A	N/A
JP	Japan Society for the Promotion of Science	Strategic program (for researcher from Switzerland)	Fields of the humanities, social sciences and natural sciences	Up to 42 months	Scholarship	1394 EUR/month (220000 JPY)	Round trip flight, travel insurance	N/A	N/A	N/A	N/A	N/A
NL/China	Dutch Ministry of Education, Culture and Science and the	Sino-Dutch Scholarship Programme	All discipline	12 months	Scholarship	For Dutch students: EUR 700/month	A one-off international travel costs of EUR 1 050 Overnight stay in	N/A	N/A	N/A	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special need allowance equivalent
	Chinese Ministry for Education	(China Programme)				For Chinese students: EUR 1 343/month	Beijing after arrival in China and travel costs (by train) to the final destination Accommodation costs of EUR 190 or free housing on university campus. Standard student insurance policy for one year					
USA	Fulbright Commission	Fulbright Study/Research Award	All fields	Up to 12 months	12 months of non-competitive eligibility (NCE) hiring status within the federal government	A stipend broadly based on the cost of living in the host country	Round-trip transportation to the host country	N/A	Book and research allowances, mid-term enrichment activities full or partial tuition language study programmes	N/A	N/A	Accident Sickness Healt Benefits On a case-by case basis, a requested, reasonable accommodation are provided t facilitate th success of th exchange experience

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special need allowance equivalent
USA/FR	Université Paris-Saclay and the Franco-American Fulbright Commission	Fulbright - Université Paris-Saclay	All fields	4-12 month	N/A	EUR 1684 – 2190 (1,800 - 2,340 USD)/month for doctoral candidates without a salary; or EUR 1404 - 1778 (1,500 - 1,900 USD)/month scholarship for doctoral candidate with an additional salary	EUR 1123 (1200 USD)/year	N/A	N/A	N/A	N/A	N/A

Overview of competing fellowships at the postdoctoral level

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
CH	Swiss National Science Foundation (SNSF)	Postdoc. Mobility	All disciplines	24 months for a research stay abroad, and 3 to 12 months for a return grant to finance their initial period of research after returning to Switzerland	Employment	6980-9163 EUR/ month (80,000 to 105,000 CHF/year)	314-1047 EUR for a single trip Travel expenses are paid for the researcher's spouse (if the partner accompanies the fellowship holder for at least 6 months abroad) and for their children (up to 12 years old, at a 75% rate, if the child accompanies the fellows for at least 6 months abroad)	1047 EUR/ month (per child CHF 12000/year)	436,25 EUR / month (5235 EUR/ year) Travel costs connected to field studies or visits to archives as well as costs for overnight stays and meals may be claimed at the effective amount or according to the following flat rates: 125-167 EUR	The SNSF will calculate an overhead and pay it directly to the host institution	Grantees who become mothers in the course of the mobility fellowship are entitled to paid maternity leave of four months Grantees who become fathers in the course of the fellowship can apply for one month's paid paternity leave	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
US	American Association for the Advancement of Science (AAAS)	Science & Technology Policy Fellowship (STPF)	STEM	12 months	Employment	EUR 7311-9488/month. Salary range can be influenced by the type of fellowship, fellowship sponsor, and/or number of years of postdoctoral professional experience	Travel/professional training allowance of EUR 2801-5600 ($3,000-6,000)/year EUR 3734 ($4,00) for relocation expenses	N/A	Travel/professional training allowance of EUR 2801-5600/year ($3,000-6,000)	N/A	N/A	N/A
FR	Fondation ARC pour la recherche sur le cancer	Aides individuelles jeunes chercheurs	LIF	24-36 months	Fixed-term contract (full-time CDD contract)	EUR 4 333 - 5833/month (includes the gross salary and the employer's contributions)	N/A	N/A	N/A	N/A	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
DE	German Academic Exchange Service (DAAD) and national aeronautics and space research centre (DLR)	Research Fellowships in Space, Aeronautics, Energy and Transportation Research	Engineering	6-24 month	N/A	2400 EUR/month	Round trip flight, health insurance	Flat rate for travel, family allowance (not specified)	N/A	N/A	N/A	N/A
JP	Japan Society for the Promotion of Science	Summer Program (for researcher from North America and Europe)	All fields of the humanities, social sciences and natural sciences	2 months	Scholarship	1691 EUR/month	Round trip flight and travel insurance	N/A	Research support (optional)	N/A	N/A	N/A
JP	Japan Society for the Promotion of Science	Strategic program (for researcher from Switzerland)	All fields of the humanities, social sciences and natural sciences	Up to 42 months	Student	1394 EUR/month (220000 JPY)	Round trip flight, travel insurance	N/A	N/A	N/A	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
JP	Japan Society for the Promotion of Science	Standard Program JSPS International Fellowship for Research in Japan	All fields of the humanities, social sciences and natural sciences	12-24 months	N/A	2293 EUR/month (362 000 JPY/month)	EUR 12 668 (200 000 JPY) as mobility funds for the whole fellowship Unspecified settling allowance, round trip flight, travel insurance	N/A	Cooperative research-related expenses	N/A	N/A	N/A
SE	Svenska Institutet (SI - Swedish Institute)	SI - Visby Programme Scholarships to Invite Swedish Students, Researchers and Experts	All discipline	1-12 months	Scholarship	EUR 1262 (SEK 15,000)/month for researchers, experts and other staff. All applicants (postdoctoral researchers, senior researchers and experts may receive funding for a maximum of 6 months)	Maximum EUR 421 (SEK 5,000) for travel expenses	N/A	N/A	N/A	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
DE	Alexander Von Humboldt Foundation	Humboldt Research Fellowship for Postdoctoral Researchers	All disciplines	6 months to 2 years	Scholarship/student	2 670 EUR/ month for postdoctoral candidates: 3 170 EUR/month for experienced researchers	Mobility allowance is included in the living allowance. Up to 100 EUR per month for research-related travel expenses	276 EUR per month for marital partners; 250 EUR per month per child; monthly allowance for single parent of €400 for the first child and €100 for each additional child	800 EUR per month (for research in the natural sciences and engineering) and 500 EUR (for research in the humanities and social sciences)	N/A	N/A	Travel health insurance subsidy of 70 EUR/month (for the fellow, their marital partner and children under 18) Monthly subsidy for a comprehensive health insurance standing at 50% of the insurance premium.
DE	Volkswagen Stiftung	Post-doctoral Fellowships in the Humanities at Universities and Research Institutes in the U.S. and Germany	SOC	9 months to 1.5 years	N/A	2100 EUR/month	2 round-trip flights and a rent subsidy of 1,000 EUR/month	If applicable, allowance for childcare and other benefits are assigned according to the information on family-related benefits	Up to 40000 EUR/year plus 10000 EUR for workshop	3000 EUR per year	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
IT/Europe	European University Institute & Robert Schuman Centre for Advanced Studies (RSC)	Jean Monnet Postdoctoral Fellowships	SOC	1 year	Student/ scholarship	2500 EUR/month (or a minimum of 1 750 EUR/month if there is any additional income)	The maximum amount for travel reimbursement is 1200 EUR	Household allowance of 300 EUR/month + 200 EUR/month per child	N/A	N/A	N/A	N/A
ES	Spanish Government	Ayudas Juan de la Cierva	All disciplines	2 years	N/A	EUR 2 500/month (30 000 EUR/year)	N/A	N/A	EUR 7 400 per fellow for the entire fellowship	N/A	N/A	9 grants out of 500 are reserved to the employment of people with disabilities, but there is not an allowance available

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
UK	The Leverhulme Trust	Early Career Fellowships	All disciplines	3 years	Employment contract	2494[176] EUR/month (29 925 EUR/year) offered by The Leverhulme Trust. The beneficiary organisation is obliged to contribute	N/A	It is possible to hold the fellowship part-time in case of childcare commitments, but there is not an offered allowance	6905 EUR/year; a maximum of EUR 230 per day to cover research-related travel expenses	N/A	n/a	It is possible to hold the fellowship part-time in case of disability-related reasons, but there is not an offered allowance
CA	Research Manitoba	Health Research Postdoctoral Fellowships	All disciplines	From 1 to 2 years	N/A	EUR 3 180/month (38 166 EUR/year[177])	N/A	N/A	N/A	N/A	If the research continues during the leave, grant payments remain unchanged during the leave. Also a supplement is paid in case of maternity/parental leave (amount is not specified)	N/A

[176] Original prices in GBP have been converted using an online convertor on October 3, 2023. Available at: https://www.exchange-rates.org/it/convertitore/gbp-eur
[177] Original prices in USD have been converted using an online convertor on October 3, 2023. Available at: https://www.exchange-rates.org/it/convertitore/gbp-eur

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
DE	German Academic Exchange Service (DAAD) and the German Aerospace Centre (DLR)	DLR-DAAD Research Fellowships	Aeronautics, Space, Transportation, Energy, Digitalisation and Security	6 to 24 months	Employment	2400 EUR per month	N/A	N/A	N/A	N/A	N/A	N/A
IT/Europe	European University Institute	Max Weber Programme	SOC	1 to 2 years	Student/ scholarship; employment contract possibility on the second year	2070 EUR/month; 850 EUR in addition to the grant if the fellow becomes a part-time assistant professor in the second year	The maximum amount for travel reimbursement is 1200 EUR	Household allowance of 310 EUR/month + 210 EUR/month per child	Personal research fund of 1000-2000 EUR/year depending on the field of research	N/A	4 months paid parental leave (and fellowship extended accordingly)	N/A
IT/Europe	European University Institute and Canon	Co-sponsored Research Fellowships	SOC	1 year	N/A	2070 EUR/month	The maximum amount for travel reimbursement is 1200 EUR	Household allowance of 310 EUR/month + 210 EUR/month per child	N/A	N/A	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
DE	Deutsche Forschungsgemein schaft (DFG)	Heisenberg Programme	All disciplines	3 to 5 years	Employment contract	4450 EUR/month	For stays of over two years, a moving allowance may also be granted (import not disclosed)	A family allowance of up to 6,000 EUR/year may be requested. The childcare allowance per month is 154 EUR for one child; 205 EUR for two children; 256 EUR for three or more children	1000 - 5 000 EUR/year research funding for direct project costs and publishing expenses may be requested An allowance of 250 EUR is provided to finance items such as books, consumables and conference attendance in other countries	N/A	N/A	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
DE	Helmholtz Association and Initiative and Networking Fund (INF)	Helmholtz Young Investigators Groups	Energy, earth and environment, health, information, matter, and aeronautics, space and transport	5 years	Employment contract	The research groups receives a minimum of 300,000 Euros a year for a five-year period. The funds cover costs for researchers' salaries and expenses for materials, travel, and investments (RTN costs)	N/A	N/A.	The research groups receive a minimum of 300,000 Euros a year for a five-year period. The funds cover costs for researchers' salaries, technical staff and expenses for materials, travel, and investments	The research groups receive a minimum of 300,000 Euros a year for a five-year period The funds cover costs for researchers' salaries, technical staff and expenses for materials, travel, and investments	The funding period can be extended in case of child, care or sick leave. Leave cannot add up to more than one year.	N/A

Country	Funding organisation	Name of the fellowship	Scientific discipline	Duration	Status	Monthly living allowance (in some cases can be CCC corrected)	Mobility allowance equivalent	Family allowance	Research, training and networking contributions equivalent	Management and indirect contributions equivalent	Long-term leave allowance equivalent	Special needs allowance equivalent
KR	National Research Foundation of Korea	Brain Pool Fellowship Program 2023	All fields in Science and Technology	From 6 months to 3 years	N/A	EUR 3 800 – 18 996[178]/month (according to the salary of the previous salary of the selected fellow)	Housing allowance of maximum EUR 8 395/year	Subsidies for the education of children are mentioned but not reported in detail	EUR 760/year	EUR 5 984/year	N/A	N/A

[178] Original costs in USD dollar have been converted using the XE online converter. Available at: https://www.xe.com/it/currencyconverter/convert/?Amount=12000000&From=KRW&To=EUR

Annex 6. Analysis of rent prices and travel costs in the EU and beyond

Rent prices constitute a major element of the mobility costs experienced by researchers. They largely depend on the location of the host institution. In the table below, we present an approximate situation in the housing markets across the EU countries. The data present the average prices in the capitals of the EU countries based on the Estate agency rent survey published in 2022 by Eurostat and the International Service for Remuneration and Pensions[179].

Monthly rent prices in the capitals of EU countries

Country	City	1-bedroom flat	2-bedroom flat	3-bedroom flat
Austria	Vienna	1 050	1 350	1 750
Belgium	Brussels	880	1 100	1 350
Bulgaria	Sofia	390	550	770
Croatia	Zagreb	680	1 050	1 500
Czechia	Prague	760	1 100	1 450
Denmark	Copenhagen	1 500	1 850	2 700
Estonia	Tallinn	560	810	1 150
Finland	Helsinki	1 100	1 500	2 150
France	Paris	1 250	2 150	2 800
Germany	Berlin	1 150	1 400	2 000
Greece	Athens	860	1 100	1 650
Hungary	Budapest	610	850	1 400
Ireland	Dublin	1 600	1 950	2 550
Italy	Rome	890	1 200	1 650
Latvia	Riga	600	930	1 350
Lithuania	Vilnius	620	870	1 200
Luxembourg	Luxembourg	1 750	2 150	2 850
Malta	Valletta	710	970	1 300
Netherlands	The Hague	1 050	1 450	1 850
Poland	Warsaw	470	790	1 050

[179] Eurostat, International Service for Remuneration and Pensions (2022) 2021 Current Market Rents. Available at: https://ec.europa.eu/eurostat/documents/6939681/7243182/Booklet_2022_rents_2021_e_FINAL.pdf/a245ad6c-64bc-bc37-9828-918805ba2530?t=1648206040328

Country	City	1-bedroom flat	2-bedroom flat	3-bedroom flat
Portugal	Lisbon	1 050	1 450	1 850
Romania	Bucharest	510	730	890
Slovakia	Bratislava	640	920	1 200
Slovenia	Ljubljana	640	970	1 450
Spain	Madrid	810	1 100	1 450
Sweden	Stockholm	1 650	2 200	2 850

Source: Estate agency rent survey (2022)[180].

The Estate agency survey also provides some data for other European countries and countries outside of Europe. In these countries, the prices vary from very low in North Macedonia or Kosovo to very high in the US or Japan.

Monthly rent prices in other European countries, the US, Canada, Mexico, Japan, Singapore and South Korea[181]

Country	City	1-bedroom flat	2-bedroom flat	3-bedroom flat
Albania	Tirana	380	590	840
Bosnia and Herzegovina	Sarajevo	430	560	840
Iceland	Reykjavik	1 300	1 550	1 750
Kosovo	Pristina	300	500	700
Montenegro	Podgorica	320	530	870
North Macedonia	Skopje	240	340	490
Norway	Oslo	1 550	1 900	2 550
Serbia	Belgrade	680	950	1 350
Switzerland	Bern	1 350	1 800	2 150
Turkey	Ankara	220	280	380
UK	London	1 750	2 250	3 050
Canada	Ottawa	1 183	1 556	1 928
Mexico	Mexico	922	1 142	1 419
USA	Washington	2 087	2 813	3 085
Japan	Tokyo	2 642	3 929	5 485
Singapore	Singapore	2 326	2 966	3 642

[180] Eurostat, International Service for Remuneration and Pensions (2022) 2021 Current Market Rents. Available at: https://ec.europa.eu/eurostat/documents/6939681/7243182/Booklet_2022_rents_2021_e_FINAL.pdf/a245ad6c-64bc-bc37-9828-918805ba2530?t=1648206040328

[181] Prices for the US, Canada, Mexico, Japan, Singapore and South Korea were converted from the local currency to euros on 10 August 2023 using www.xe.com converter.

Country	City	1-bedroom flat	2-bedroom flat	3-bedroom flat
South Korea	Seoul	1 522	2 353	3 806

Source: Estate agency rent survey (2022)[182].

An important indicator of the increase in travel costs in the EU is the Commission Decision C(2023)4928, which authorises the use of unit costs to reimburse travel costs under actions/programmes funded in the 2021-2027 MFF period. The comparison of unit costs per distance band between 2021 (Decision C(2021)35) and 2023 (Decision C(2023)4928) indicates a 25% increase in the assigned unit costs.

Unit cost per distance band as per Commission Decisions C(2021)35 and C(2023)4928

Distance Band (in km)	Amount in EUR per return trip (2021)	Amount in EUR per return trip (2023)
400-600	196	245
601-800	209	261
801-1200	221	276
1201-1600	230	288
1601-2000	295	369
2001-2500	343	429
2501-3500	433	541
3501-4500	527	659
4501-6000	637	796
6001-7500	720	900
7501-10000	961	1201
10001-Max	1101	1376

Source: Commission Decision C(2021)35, as amended by Commission Decision C(2023)4928.[183]

[182] Eurostat, International Service for Remuneration and Pensions (2022) 2021 Current Market Rents. Available at: https://ec.europa.eu/eurostat/documents/6939681/7243182/Booklet_2022_rents_2021_e_FINAL.pdf/a245ad6c-64bc-bc37-9828-918805ba2530?t=1648206040328

[183] European Commission (2023) *Calculate unit costs for eligible travel costs*. Available at: https://europa.eu/!63mqmJ

Annex 7. Analysis of the prices of open access publications charged by the major journals

The analysis of the incurred costs of publishing in open access journals indicates a 5.3% increase in the average cost (EUR 2 082) relative to 2019 (EUR 1 978[184]).

Publisher	Description / Type	Publication cost	Publication cost (average)
American Astronomical Society	Gold Open Access	€ 1 060 – 4 125	€ 2 592
American Arachnological Society	Immediate Public Access	€ 36 – 91 per page	€ 952,50[185]
Chartered Financial Analysts Institute	Hybrid Open Access/Open select	€ 2 710	€ 2 710
Università di Bologna, Department of Agricultural Sciences – Bulletin of insectology & EQA	Open Access	€ 0	€ 0
Economic Issues Education Trust	Gold Open Access	€ 140	€ 140
Canadian Acoustical Association	Instant Open-Access	€ 275	€ 275
Canadian Psychiatric Association (Association des psychiatres du Canada)	Sage open Access Option	€ 3 427[186]	€ 3 427
Clay Minerals Society	Open Access Option	€ 2 290	€ 2 290
Common Ground Research Networks	Hybrid or Gold Open Access	€ 392 – 576	€ 484
Association for the Sciences of Limnology and Oceanography (ASLO)	Open Access Option	€ 2 050 – 2 560	€ 1 741
Linguistic Society of America	Open Access Option	€ 368[187]	€ 368
Amsterdam University Press	Paid OA Options	€ 750	€ 750
Spandidos Publications	Open Access	€ 0 – 2 500	€ 1 250
American Society of Neuroradiology	Immediate Open Access option	€ 687	€ 687
PNG Publications	Hybrid online Open Access Option	€ 3 200	€ 3 200
Synergy Publishers	Open Access Policy	€ 300	€ 300
University of Colorado at Boulder, Institute of Arctic and Alpine Research	Open Access Charge	€ 1 885	€ 1 885
Entomological Society of America	Open Access Option	€ 200 – 3 620	€ 1 910

[184] European Commission (2020) *Review of Marie Skłodowska-Curie actions unit costs in preparation for Horizon Europe*. Luxembourg: Publications Office of the European Union. Available at: https://op.europa.eu/mt/publication-detail/-/publication/8900e099-8a89-11ea-812f-01aa75ed71a1/language-fr

[185] Average value calculated on a standard 15 page article.

[186] Standard SAGE article processing charges are reported in an excel table available at this webpage: https://us.sagepub.com/en-us/nam/sage-choice

[187] Exact charges available at: https://languagelsa.org/index.php/language/lgQAs

Publisher	Description / Type	Publication cost	Publication cost (average)
Education and Upbringing Publishing	Open Access Option	€ 500	€ 500
International Bee Research Association	Paid Open Access Option	€ 2 900	€ 2 900
International Union of Crystallography	Open Access & Hybrid Open Access	€ 0 – 4 330	€ 2 165
American Society for Horticultural Science	Open Access	€ 460 – 3 200	€ 1 830
SAE International	Gold (Immediate) Open Access	€ 754	€ 754
Japan Society of Applied Physics	Hybrid Gold Open Access	€ 1 320	€ 1 320
CISES	Green & Immediate Open Access	€ 400	€ 400
Cryo Letters	Open Access Option	€ 600	€ 600
National Inquiry Services Centre (NISC)	Fully OA & Paid OA Options	€ 0 – 3 385	€ 1 692,50
Audio Engineering Society	AES Open Access Publications	€ 90 – 1 090	€ 590
Oekom Verlag	GAIA Hybrid Open Access	€ 400 – 900	€ 650
Chemical Society of Japan (日本化学会)	Open Access Option	€ 482 – 965	€ 723,50
Canadian Science Publishing	Gold OA & Open Access Option	€ 0 – 3 180	€ 1 590
Manchester University Press	Gold and Green Open Access	€ 0 – 1 110	€ 555
American Institute of Mathematical Sciences (AIMS)	Optional Open Access	€ 1 634	€ 1 634
American Meteorological Society	OA Journals & Open Access Option	€ 728 – 2 000	€ 1 364
Electrochemical Society	Gold OA & Author Choice Open Access	€ 0 – 1 620	€ 810
Soil Science Society of America	Open Access Option	€ 1 227 – 1 455	€ 1 341
EDP Sciences	Charges and discounts for hybrid Open Access journals	€ 0 – 1 500	€ 750
Practical Action Publishing	Gold access for journal articles	€ 780	€ 780
American Society of Parasitologists	Open Access option	€ 727 – 910	€ 818,50
SciTechnol	Open Access Option	€ 1380	€ 1 380
Physical Society of Japan 日本物理学会 (JPS)	Open Select	€ 419 – 1 257	€ 838
Bernoulli Society for Mathematical Statistics and Probability	Open Access	€ 613	€ 613
Institute of Mathematical Statistics (IMS) DONE	Open Electronic Access	€ 613	€ 613

Publisher	Description / Type	Publication cost	Publication cost (average)
Akadémiai Kiadó	Gold and Hybrid Open Access	€ 0 – 1 100	€ 550
Finnish Zoological and Botanical Publishing Board	Open Access	€ 0 – 600	€ 300
IOS Press	Full Open Access Option	€ 0 – 2 150	€ 1 075
Crop Science Society of America	Gold Open Access Option	€ 1 045 – 2 225	€ 910
University of Miami, Rosenstiel School of Marine and Atmospheric Science	Hybrid Open Access (Green & Gold OA)	€ 90 – 1 170	€ 630
American Society of Agronomy	Open Access Option	€ 1 035 – 2 202	€ 1 618,50
EPJ	Open Access Option (Hybrid, Full OA)	€ 300 – 2 790	€ 1 545
AOAC International	Open Access Option	€1538	€ 1 538
MDPI	Open Access	€ 1 035 – 3 000	€ 2 017,50
Intellect	Open Access Option (Green, Gold, Diamond OA)	€ 0 – 1 750	€ 875
Publication Office of Progress of Theoretical Physics	Open Select	€ 386 – 643	€ 514,50
Berghahn Journals	OA options (subscribe to Open Model, Green OA, Gold OA)	€ 0 – 1 397	€ 698,50
Massachusetts Institute of Technology Press (MIT Press)	Open Access Option	€ 0 – 2 005	€ 1 002,50
Royal College of Surgeons of England	Gold Open Access	€ 990	€ 990
Nordic Association of Safety and Health (NOROSH)	Open Access Option	€ 1 250 – 2 500	€ 1 875
Acoustical Society of America	Gold Open Access Publishing Option	€ 800 – 1 958	€ 1 379,50
RCN Publishing (RCNi)	RCNP Open Access	€ 932 – 1 164	€ 1 048
Hindawi	Gold Open Access	€ 645 – 2 270	€ 1 457,50
Inter Research	Gold Open Access	€ 650 – 2 500	€ 1 575
American Society for Investigative Pathology (ASIP)	Open Access Option	€ 1 992 – 2 668	€ 2 330
Botanical Society of America	Open Access Policy	€ 1 260 – 1 800	€ 1 530
Society for Chaos Theory in Psychology and Life Sciences	Open-Source Agreement	€ 1 365	€ 1 365
Edinburgh University Press	Gold and Green Open Access	€ 1 587	€ 1 587

Publisher	Description / Type	Publication cost	Publication cost (average)
Edward Elgar Publishing	Open Access Option	€ 1 881	€ 1 881
Emerald	Open Access Options (Green, Gold, Hybrid, Platinum OA)	€ 3 099	€ 3 099
Thomas Telford (ICE Publishing)	Gold & Green OA and Hybrid options	€ 757 – 2 153	€ 1 455
International Union Against Tuberculosis and Lung Disease	Open Access	€ 1 700 – 2 700	€ 2 200
University of the Basque Country Press (UBC Press)	Gold Open Access Option	€ 500	€ 500
National Academy of Sciences	Green OA and Gold Open Access Option	€ 1 779 – 4 443	€ 3 111,50
SAGE	Hybrid, Gold and Green Open Access	€ 890 – 4 453	€ 2 671,50
Taylor & Francis	Hybrid (Open Select) and Full OA	€ 673 – 4 277	€ 2 475
American Society of Civil Engineers	ASCE Gold and Hybrid Open Access	€ 1 781 – 2 227	€ 2 004
American Society for Biochemistry and Molecular Biology	Author Choice (Paid OA)	€ 2 049 – 2 495	€ 2 272
Chelonian Research Foundation	Open Access Option	€ 1 336 – 1 782	€ 1 559
Genetics Society of America	Open Access Option	€ 1 973 – 3 799	€ 2 886,50
Brill Academic Publishers	Brill Open (Diamond and Paid OA)	€ 0 – 2 295	€ 1 147,50
Klett-Cotta/Schattauer	Open Access at Schattauer	€ 1 630	€ 1 630
Biological Society of Washington	Open Access	€ 0	€ 0
Biophysical Society	Biophysical Journal Open Access	€ 2 227	€ 2 227
Journal of Visualized Experiments (JoVE)	Open Access Option	€ 3 473	€ 3 473
NACE International	Open Access (Green and Gold OA)	€ 1 603	€ 1 603
BioScientifica	BioScientifica Open Access Policy	€ 0 – 3 485	€ 1 742,50
Optical Society of America	Optional Open Access	€ 720 – 2 712	€ 1 716
Equinox Publishing	Open Access Model (Green and Gold OA)	€ 1 440 – 2 016	€ 1 728
IWA Publishing	Open Access (Full, Gold and Green OA)	€ 0 – 1 975	€ 987,50
John Benjamins Publishing	Open Access Policy	€ 1 800	€ 1 800
American Society of Plant Biologists	Open Access Option	€ 2 922 – 3 653	€ 3 287,50

Publisher	Description / Type	Publication cost	Publication cost (average)
Akademie Verlag/De Gruyter	Open Access Agreements and Full/Hybrid OA	€ 150 – 2 000	€ 1 075
Fabrizio Serra editore	Gold Open Access Option	€ 1 950	€ 1 950
Oldenbourg/ Friedrich Verlag	De Gruyter Open Access	€ 1 750	€ 1 750
BioMed Central	Open Access	€ 0 – 2 990	€ 1 490,50
IM Publications	Full Open access	€ 0	€ 0
Liverpool University Press	Gold Open Access	€ 1 438	€ 1 438
BMJ Publishing Group	Open Access	€ 0 – 5 753	€ 2 876,50
Wageningen Academic Publishers	Your Choice for Open Access	€ 1 800	€ 1 800
AIP Publishing	Author Select and Gold OA	€ 1 340 – 3 128	€ 2 234
American Institute of Aeronautics and Astronautics	Open Access	€ 2 145	€ 2 145
American Society of Hematology	ASH Public access Option	€ 1 340 – 4 469	€ 2 904
Cold Spring Harbor Laboratory Press	Open Access Option	€ 4 648	€ 4 648
Human Kinetics	Open Access Option	€ 1 788 – 2 637	€ 2 212,50
Institution of Engineering and Technology (IET)	Open Access Option	€ 1 788	€ 1 788
Paleontological Society	Gold and Full OA	€ 0 – 2 215	€ 1 107,50
Radiation Research Society	Open Access	€ 1 788	€ 1 788
Future Medicine	Open Access Option	€ 1 430 – 3 482	€ 2 456,50
Future Science	Open Access Option	€ 1 430 – 3 482	€ 2 456,50
Newlands Press	Green and Gold OA Option	€ 1 264 – 2 500	€ 1 882,50
European Physical Society	IOP Publishing hybrid and Full Open OA	€ 0 – 3 640	€ 1 820
American Phytopathological Society	Open Access Option	€ 0 – 2 809	€ 1 404,50
Foundation Composition Mathematica	Open Access option	€ 2 755	€ 2 755
American Physical Society	Open Access	€ 0 – 3 821	€ 1 910,50
Association of Learned and Professional Society Publishers (ALPSP)	Open Access Option	€ 1 780 – 2 370	€ 2 075
Society for Molecular Biology and Evolution	Oxford Open (Full OA)	€ 2 612 – 2 903	€ 2 757,50
Herpetologists League	Open Access	€ 1 785 – 2 230	€ 2 007,50
Weed Science Society of America	Gold Open Access	€ 2 005 – 2 505	€ 2 255,50

Publisher	Description / Type	Publication cost	Publication cost (average)
PLOS	Open Access	€ 767 – 2 544	€ 1 655,50
Society for Neuroscience	Open Choice	€ 1 020 – 3 240	€ 2 130,50
Antiquity Publications	Open Access Option	€ 2 440	€ 2 440
European Society of Endocrinology	Open Access Option	€ 0 – 3 478	€ 1 739
Geological Society	Open Access	€ 2 545	€ 2 545
Imprint Academic	Gold Open Access	€ 1 735	€ 1 735
Mineralogical Society	Gold Open Access	€ 1 585 – 2 365	€ 1 975
Policy Press	Gold Open Access Publishing	€ 0 – 1 735	€ 867,50
Universities Federation for Animal Welfare (UFAW)	Gold Open Access	€ 1 995 – 2 440	€ 2 217,50
White Horse Press	Gold Open Access Option	€ 2 082	€ 2 082
Begell House	Gold Open Access	€ 1 365 – 2 912	€ 2 138,50
Society of Vertebrate Paleontology	Taylor & Francis Open Select	€1 790	€ 1 790
Routledge	Routledge Gold Open Access Books Chapters[188]	€ 1 500	€ 1 500
Royal Astronomical Society	Oxford Open	€ 2 130 – 2 990	€ 2 560
London Mathematical Society	Open Access option	€ 3 120	€ 3 120
Adis	Adis Open Choice	€ 2 200	€ 2 200
American Association of Pharmaceutical Scientists	Springer Open Choice	€ 2 890 – 3 490	€ 3 190
ASM International	Springer Open Choice	€ 2 390 – 2 890	€ 2 640
EPL Association	Hybrid Open Access	€ 1 595	€ 1 595
IOP Publishing	OA Options (Full, Hybrid, Gold, Green)	€ 0 – 3 640	€ 1 820
American Association of Petroleum Geologists	Open Access Gold Model	€ 2 250	€ 2 250
American Association of Physicists in Medicine	Open Access Option	€ 332 – 2 520	€ 1 426
American Physiological Society	Authors Choice	€ 2 830 – 4 045	€ 3 437,50
American Public Health Association	APHA Open Access	€ 2 275	€ 2 275

[188] Within the Taylor and Francis/Routledge group, Routledge mostly publishes books rather than research articles. Hence, the price reported in the table indicates the publication fee for publishing a book chapter in Gold OA.

Publisher	Description / Type	Publication cost	Publication cost (average)
American Society for Pharmacology and Experimental Therapeutics (ASPET)	Open Access Option	€ 1 820 – 2 730	€ 2 275
American Society of Tropical Medicine and Hygiene	Hybrid Open Access	€ 2 275	€ 2 275
American Speech-Language-Hearing Association	Open Access Option	€ 1 800	€ 1 800
American Society of Nutrition	Open Access Option	€ 4 495	€ 4 495
American Society of Nephrology	Open Access	€ 900 – 4 410	€ 2 655
EJIL	Oxford Open	€ 3 080	€ 3 080
Federation of American Society of Experimental Biology (FASEB)	Open Access Option	€ 2 810	€ 2 810
Geological Society of America	Gold Open Access	€ 1 580 – 2 520	€ 2 050
Longwoods Publishing	Open Access Policy	€ 2 275	€ 2 275
Old City Publishing	Open Access Option	€ 2 275	€ 2 275
Past and Present	Oxford Open	€ 3 530	€ 3 530
Society for Industrial and Applied Mathematics	Open Access	€ 2 830	€ 2 830
Society for Leukocyte Biology	Oxford Open	€ 3 010	€ 3 010
Society of Exploration Geophysicists	Gold open access	€ 2 250 – 3 150	€ 2 700
Inderscience	Author Open Access	€ 2 700	€ 2 300
Cambridge University Press	Cambridge Open Access (hybrid; full)	€ 1 905[189]	€ 1905,50
Elsevier	Hybrid Open Access	€ 350 – 9 030	€ 4 905
British Institute of Radiology	BIROpen	€ 345 – 1 955	€ 1 152,50
Royal Society, The	Full OA and OA option	€ 1 440	€ 1 440
American Dairy Science Association	Gold Open Access	€ 1 450 – 3 160	€ 2 305
Portland Press	Gold Open Access	€ 2 200 – 2 590	€ 2 395
British Agricultural History Society	Gold Open Access	€ 2 397	€ 2 397
University of Chicago Press	Gold Open Access Option	€ 910 – 3 913	€ 2 411,50
Society for Sedimentary Geology (SEPM)	Gold Open Access	€ 2 440	€ 2 440
Royal Society of Chemistry	Gold, Diamond and Hybrid OA	€ 0 – 1 620	€ 810,50

[189] Medium price for the year 2021.

Publisher	Description / Type	Publication cost	Publication cost (average)
American Society for Microbiology	Open Access and Hybrid OA	€ 750 – 3 510	€ 2 130,50
European Association of Geoscientists and Engineers (EAGE)	Gold Open Access	€ 2 500	€ 2 500
European Respiratory Society	ERJ Open	€ 2 310 – 3 465	€ 2 887,50
Hogrefe	OpenMind (Full and Optional OA)	€1 950	€ 1 950
American Chemical Society	ACS AuthorChoice	€ 0 – 4 500	€ 2 250,50
Society of Economic Geologists	Open Access Option	€ 2 275 – 2 730	€ 2 502,50
Microbiology Society	Full OA and OA Option	€ 810 – 2 427	€ 1 618,50
American Society of Animal Science	Open Access (OA)	€ 2275 – 2 957	€ 2 616
American College of Sports Medicine (ACSM)	Hybrid Open Access Option	€ 1 820 – 3 458	€ 2 639
Lippincott, Williams & Wilkins	Hybrid Open Access	€ 1 820 – 3 458	€ 2 639
Cancer Research UK	BJC Open	€ 2 070 – 3 350	€ 2 710
Springer	Hybrid Open Access	€ 2 722	€ 2 722
Alcohol Research Documentation	Author-Pays Open-Access Option	€ 2 700	€ 2 700
AlphaMed Press (OUP)	Oxford Open	€ 1 570 – 3 722	€ 2 646
American Anthropological Association	Wiley Online Open	€ 2 580	€ 2 580
American Association for Cancer Research	Author Choice (Hybrid OA)	€ 1 350 – 2 292	€ 1 821
American Association of Immunologists	Author Choice & Full OA	€ 1 435 – 2 700	€ 2 067,50
American Geophysical Union (AGU)	Open Access (Gold and hybrid)	€ 1 800 – 2 700	€ 2 250
American Society for Bone and Mineral Research	Full[190] and Hybrid OA (Wiley Online Open)	€ 1 998 – 3 090	€ 2 544
American Society for Clinical Pharmacology and Therapeutics	Wiley OnlineOpen	€ 3 224 – 4 600	€ 3 912
American Society of Andrology	Wiley OnlineOpen	€ 2 580	€ 2 580
American Society of Mechanical Engineers (ASME)	Open Access	€ 2 710	€ 2 710

[190] Information about the full open access journal of this publisher are available at: JBMR Plus Open Access (wiley.com)

Publisher	Description / Type	Publication cost	Publication cost (average)
Association for Information Science and Technology (ASIS&T)	Open Access Option (Wiley OnlineOpen)	€ 2 500	€ 2 500
Association for Psychological Science	SAGE Choice (Gold OA)	€ 2 963	€ 2 963
Australian Psychological Society	Tayor and Francis Open Select	€ 2 180 – 2 520	€ 2 350
Biometrics	Wiley OnlineOpen	€ 3 090	€ 3 090
CSIRO Publishing	Gold Open Access	€ 2 500	€ 2 500
Ecological Society of America	Wiley OnlineOpen	€ 3 000	€ 3 000
Endocrine Society	Open Choice (OUP OA Option)	€ 650 – 3 060	€ 1 855
Ernst und Sohn	Wiley OnlineOpen	€ 2 220 – 2 630	€ 2 425
FEBS Journal	Wiley OnlineOpen	€ 3 810	€ 3 810
Histochemical Society	SAGE Choice	€ 1 080	€ 1 080
INFORMS (Institute for Operations Research and Management Sciences)	INFORMS Open Option	€ 2 710	€ 2 710
International Association for Energy Economics	Gold Open Access	€ 2 710	€ 2 710
John Wiley and Sons	OnlineOpen	€ 2 730	€ 2 730
Linnean Society of London	Hybrid and Full OUP Open Access	€ 1 480 – 2 841	€ 2 160,50
Nordic Society Oikos	Wiley OnlineOpen	€ 2 000 – 2 780	€ 2 390
Radiological Society of North America (RSNA)	Green and Gold Open Access	€ 3 150	€ 3 150
Royal Meteorological Society	Wiley OnlineOpen	€ 1 440 – 4 170	€ 2 805
Royal Statistical Society	OUP Open Access Option	€ 2 773	€ 2 773
SAGE Publications (UK and US)	SAGE Choice	€ 2 730	€ 2 730
Society of Nuclear Medicine	Immediate Open Access	€ 3 150	€ 3 150
University of Toronto Press	Open Access Option (S2O, Gold, Green)	€ 2 710	€ 2 710
Wiley	Wiley OnlineOpen (Hybrid OA)	€ 660 – 5 900	€ 3 280
Wiley-VCH Verlag	OnlineOpen	€ 660 – 5 900	€ 3 280
Royal College of General Practitioners	Open Access Publication	€ 2 820	€ 2 820
Society for Endocrinology	Open Access Option	€ 0 – 3 610	€ 1 805
Society for Reproduction and Fertility	Open Access Option	€ 0 – 3 466	€ 1 733
Nature Publishing Group	Hybrid Open Access	€ 998 – 4 718	€ 2 858
EMBO Press	Open Access Option	€ 0 – 5 900	€ 2 950

Publisher	Description / Type	Publication cost	Publication cost (average)
American Academy of Neurology (AAN)	Open Access Option (prices for Gold OA)	€ 3 420 – 4 140	€ 3 780
Journal of Rheumatology	Immediate Open Access	€ 3 600	€ 3 600
International Glaciological Society	Gold Open Access (Cambridge University Press)	€ 1 415 – 1 581	€ 1 498
British Editorial Society of Bone and Joint Surgery	BJJ Open Access	€ 3 172 – 3 627	€ 3 399,50
American Heart Association	Gold Open Access	€ 2 730 – 4 095	€ 3 412,50
Cochrane Collaboration	Wiley OnlineOpen	€ 2 365 – 4 720	€ 3 542,50
Company of Biologists	Gold Open Access	€ 3 813	€ 3 813
American College of Chest Physicians (ACCP)	Elsevier Open Access Option	€ 820 – 2 250	€ 1 535
American Psychological Association	Gold Open Access	€ 3 640	€ 3 640
American Society of Clinical Oncology	Gold Open Access	€ 2 705 – 3 600	€ 3 152,50
Cell Press	Gold Open Access	€ 1 580 – 8 900	€ 5 240
Royal College of Psychiatrists	Full & Gold Open Access	€ 0 – 3 570	€ 1 785
Nature Communications	Open Access	€ 5 190	€ 5 190
American Chemical Society	Hybrid Open Access	€ 0 – 4 500	€ 2 250
American Medical Association (AMA)	Open Access Option (Gold OA)	€ 4 500	€ 4 500
American Society for Nutrition	Free Access Publication Option	€ 4 500	€ 4500
Rockefeller University Press	Immediate Gold OA	€ 5 400	€ 5400
Society of Antiquaries of Scotland	Gold Open Access	(€1040-€2910)	€ 1 975
Società Geologica Italiana	Gold Open Access	€ 500 – 1 000	€ 750
Society of Photo-optical Instrumentation Engineers (SPIE)	Gold OA & Author Choice	€ 0 – 1 510	€ 755
Magnolia Press	Open Access	€ 18 per page	€ 18 per page
The Lancet	Gold & Hybrid Open Access	€ 1 800 – 6 140	€ 3 970
WIT Press	Open Access	€ 90 per page	€ 90 per page

Source: compiled by PPMI.

Annex 8. Analysis of the prices of training and networking activities

Training events

Country	Title	Training Events	Average
Austria	The Summer School TrustRobots	€ 250	€ 250
Austria	6th HBP Student Conference on Interdisciplinary Brain Research	€ 30-150	€ 90
Austria	STS Conference Graz 2023	€ 150-450	€ 300
Austria	30th DEXA Workshops	€ 560-700	€ 630
Austria	Workshop XVI	€ 350-420	€ 385
Belgium	EDEN DOCTORAL SEMINAR ON QUALITATIVE RESEARCH IN ACCOUNTING	€ 1 100	€ 1 100
Belgium	Coppieters Academy 2019: Climate action in a changing Europe	€ 150-300	€ 225
Belgium	Systematic reviews of quantitative and/or qualitative evidence 2019 (SR2019)	€ 250-300	€ 275
Belgium	Summer School - Children's Literature, 1-5 July 2019, University of Antwerp, Belgium	€ 450-500	€ 475
Belgium	Qualitative Research in Health Care | Summer School | Antwerp Summer University	€ 940-1 000	€ 970
Belgium	Invitation Short Course Methods in Social Epidemiology: 15 - 17 May 2019 at the University of Antwerp	€ 300	€ 300
Belgium	DyViTo Workshop – November 2019	€ 750	€ 750
Belgium	DyViTo (Dynamics in Vision and Touch) Workshop	€ 630	€ 630
Bulgaria	40-th International Workshop on Nuclear Theory	€ 750	€ 750
Bulgaria	39-th International Workshop on Nuclear Theory	€ 500	€ 500
Bulgaria	10th International Workshop and Summer School on Plasma Physics	€ 700-750	€ 725
Croatia	2019 Study Week, Croatia: Transcendentals in the 21st Century	€ 375	€ 375
Croatia	BAL-ADRIA 2022: Summer School on Digital Humanities	€ 200	€ 200
Cyprus	Summer School on Academic Integrity	€ 250-500	€ 375
Cyprus	Theological School of the Church of Cyprus	€ 360	€ 360
Cyprus	The International Summer School on Current Legal Issues in Post-Conflict and Transitional Societies (CLISS)	€ 150	€ 150
Czechia	Masaryk University Staff Training Week 2023 International Relation Office	€ 50	€ 50
Denmark	Summer School of Acid-Base and Homeostasis	€ 127	€ 127
Denmark	NAAF/ NAR Symposium	€ 201	€ 201
Denmark	International Workshop on Antenna Technology	€ 600-800	€ 700

Country	Title	Training Events	Average
Estonia	Workshop: Assisting Adults to Learn	€ 350	€ 350
Estonia	The 10th Tartu Conference on Multivariate Statistics	€ 250-350	€ 300
Finland	18th European Public Health Conference 2025 - Helsinki, Finland	€ 690-865	€ 777
Finland	7th Science Factory: TMS–EEG Summer School and Workshop	€ 850-880	€ 865
Finland	The Second Workshop on Catalytic Reactions with Ion Transfer through Interfaces (ITICAT2023)	€ 250-550	€ 400
Finland	Workshop 2020: The Forgotten Season - Microbial Life in Boreal and Arctic Winter	€ 260	€ 260
Finland	NSAIS-ROW 2019 – Workshop on Adaptive and Intelligent Systems and Real Options	€ 200	€ 200
Finland	Finnish Inverse Problems Summer School 2019	€ 60	€ 60
France	Creative Communication Training Course	€ 50	€ 50
France	International Workshop on Image Analysis Methods in the Plant Sciences	€ 200	€ 200
France	35th ERSA Summer School	€ 250	€ 250
France	EBRAINS Workshop: Anatomy and function of the prefrontal cortex across species	€ 150-200	€ 175
Germany	DOCTORAL SEMINAR ON META-ANALYSIS FOR MANAGEMENT RESEARCH	€ 410-690	€ 550
Germany	ReIReS School	€ 395	€ 395
Germany	"REMAT – RESEARCH MANAGEMENT TRAINING FOR EARLY CAREER RESEARCHERS" ONLINE TRAINING 12-13 JUNE 2023	€ 595	€ 595
Germany	Workshop on Ion Exchange Membranes for Energy Applications	€ 545	€ 545
Germany	Gaussian Workshop in Ulm, Germany	€ 300-650	€ 475
Greece	32ND EDAMBA SUMMER RESEARCH ACADEMY	€ 850-1 300	€ 1 075
Greece	Innovation and R&D Networks for Policy Design and Implementation	€ 100	€ 100
Greece	COST CLINIMARK TRAINING SCHOOL Approaches for Biomarker Discovery and Validation	€ 550	€ 550
Greece	20th International Conference on Nanosciences & Nanotechnologies	€ 350-850	€ 600
Hungary	XXIV. International Summer University	€ 250	€ 250
Hungary	Challenges in national and international economic policies 2nd Central European PhD Workshop on Economic Policy and Crisis Management	€ 54	€ 54
Hungary	Readiness for the 4th Industrial Revolution in the European Union: 3rd workshop in cooperation with the European Association for Comparative Economic Studies	€ 50	€ 50
Hungary	Technological change and development: 4th Central European PhD Workshop Doctoral School in Economics, University of Szeged	€ 50	€ 50

Country	Title	Training Events	Average
Hungary	11th C1 Inhibitor Deficiency and Angioedema Workshop	€ 560-650	€ 605
Ireland	Transitions in Youth (TiY) 2023	€ 255	€ 255
Ireland	The 10th IEA International Research Conference	€ 150	€ 150
Ireland	16th European Public Health Conference 2023	€ 690-865	€ 777
Ireland	17th Young Researchers' Workshop (YRW) 2023	€ 25	€ 25
Ireland	Eurolife Summer School 2019	€ 500	€ 500
Ireland	1st Summer School on Software Evolution: From Monolithic to Cloud-Native	€ 400	€ 400
Ireland	ReSToRE 3 - Researching Social Theories, Resources, and Environment International Summer School	€ 500	€ 500
Italy	ARS'23 Ninth International Workshop on Social Network Analysis	€ 100-150	€ 125
Italy	3rd ACME workshop: Best practices and data quality challenges for coastal marine proxies in the Arctic	€ 450-750	€ 600
Italy	CRS ITALY CHAPTER ANNUAL WORKSHOP 2019	€ 80-105	€ 93
Latvia	Baltic Summer School of Digital Humanities 2023	€ 30	€ 30
Lithuania	5th VMU IFL & 13th LKPA International Conference "Sustainable Multilingualism 2019." Workshop	€ 80-120	€ 100
Lithuania	14th Conference: Data Analysis Methods for Software Systems	€ 150-290	€ 220
Lithuania	KTU PhD Summer School	€ 350 – 380	€ 365
Luxembourg	Summer School Alpbach 2023	€ 450	€ 450
Luxembourg	Zortify Summer School: The Future of Work	€ 330 – 440	€ 385
Malta	Summer school: Understanding marine hydrogeology through the lens of geophysics	€ 500	€ 500
Malta	International Doctoral Summer School in Applied Linguistics & TESOL (2023)	€ 250 – 265	€ 257
Netherlands	Summer School - Learning to Unlearn Decolonially - Disobeying, Delinking and Relinking, 2022, Utrecht University, Netherlands	€ 950	€ 950
Netherlands	AGILE Conference 2023	€ 320-520	€ 420
Netherlands	Workshop: Cross-border Innovation Procurement in Health: EU funding opportunities & best practices	€ 300	€ 300
Netherlands	Philology and Manuscripts from the Muslim World Summer School	€ 600	€ 600
Netherlands	The European Union, the United Nations and Global Governance Summer School	€ 350-1200	€ 775
Netherlands	10th edition of the workshop on Innovative Mouse Models (IMM2019)	€ 200-250	€ 225
Poland	Visegrad Summer School - Rethink Past & Design Future, 1 – 13 July 2019, Krakow, Poland	€ 125	€ 125

Country	Title	Training Events	Average
Poland	11th International Workshop on Agglutinated Foraminifera	€ 100-130	€ 120
Portugal	17th European Public Health Conference 2024 - Lisbon, Portugal	€ 690-865	€ 777
Portugal	6th Lisbon Research Workshop on Economics, Statistics and Econometrics of Education	€ 160-325	€ 242.50
Portugal	EuroFoodChem XX Conference. Pre-congress workshop	€ 450-550	€ 500
Portugal	NYRIA workshop 2019	€ 60	€ 60
Portugal	7th International Workshop on Structure and Function of Ion Channels and Transporters (SFICT)	€ 250-300	€ 275
Romania	36th ERSA Summer School	€ 250	€ 250
Romania	21st International Balkan Workshop on Applied Physics and Materials Science	€ 300-500	€ 400
Romania	7th International Workshop on Numerical Modelling in Aerospace Sciences, “NMAS 2019”	€ 20	€ 20
Slovakia	11th Central European Winter Seminar in Regional Science	€ 160-190	€ 175
Slovenia	Quantum Espresso Summer School at JSI	€ 50	€ 50
Slovenia	G2G2 Summer School	€ 230-250	€ 240
Slovenia	ADBIS workshops	€ 140-160	€ 150
Spain	EDEN DOCTORAL SEMINAR ON BOARDS AND CORPORATE GOVERNANCE	€ 1 100	€ 1 100
Spain	9th Degrowth Summer School: Policy edition	€ 260	€ 260
Spain	International Workshop: A focus on statistical methods to analyse accelerometer-measured physical activity	€ 100-120	€ 110
Sweden	15th Cloud Control Workshop	€ 515-615	€ 565
Sweden	TEMSpec - 4th International workshop on TEM spectroscopy in Material Science	€ 150-200	€ 175
Sweden	21st Swedish Bioinformatics Workshop 2023 in Stockholm	€ 42-85	€ 63
Sweden	22nd Annual Meeting at the Uppsala Konsert & Kongress (UKK)	€ 368-961	€ 664.50
United Kingdom	CASTEP Training Workshop 2019	€ 116	€ 116
United Kingdom	Bellingcat Workshops	€ 2 200	€ 2 200
United Kingdom	Developing Research Skills Workshop	€ 52	€ 52
United Kingdom	4th biennial workshop of Polar Educators International (PEI)	€ 90-100	€ 95
United Kingdom	20th Annual UK Workshop on Computational Intelligence	€ 116	€ 116
United Kingdom	Summer School on Climate Change and Behaviour	€ 445-500	€ 472.50
United Kingdom	GIScience 2023: The 12 International Conference on Geographic Information Science	€ 390	€ 390

Country	Title	Training Events	Average
United States	Time-Frequency Principal Components Analysis: A Practical Introduction to Applications with Event-Related Potential Data	€ 135-239	€ 187
United States	ISSCR 2023 Annual Meeting	€ 643-1378	€ 1 010.50
United States	Empirical Software Engineering International Week 2023	€ 634-813	€ 723.50
Canada	Bellingcat Workshop Announced Toronto	€ 2 000	€ 2 000
Canada	MSA Toronto 2019. Pre-Conference Workshops	€ 703-728	€ 715.50
Japan	International Young Researchers' Conference	€ 55-92	€ 73.50
Japan	21st & 22nd January 2019 International School on Spintronics and Korea-Japan Spintronics Workshop - Topological Phenomena in Magnetism	€ 25-41	€ 33
Japan	Marchantia Workshop 2019	€ 17-41	€ 29
Japan	2019 MMIRA Asia Regional & JSMMR2019 Conference and Workshop	€ 41	€ 41
Australia	AMSI Summer School	€ 660-880	€ 770
Australia	Quantitative PCR Workshop	€ 239	€ 239
Australia	Bellingcat Workshops for Sydney	€ 2 075	€ 2 075
China	SCOPUS-WGA 2020 : 2020 Workshop on Graphene Applications	€ 271-542	€ 406.50
China	The 8th International Conference on Cognitive Research on Translation and Interpreting (The 8th ICCRTI)	€ 114	€ 114
India	EMBO Workshop: An integrated view of early land plant evolution	€ 150-400	€ 275
India	ApEx-Cedars Sinai: Nephrology Board Review Course and Urology for Nephrologists Workshop	€ 542-993	€ 767.50
Brazil	LSFA 2019: 14th Workshop on Logical and Semantic Frameworks, with ApplicationsLSFA 2019: 14th Workshop on Logical and Semantic Frameworks, with Applications	€ 45	€ 45

Source: compiled by PPMI.

Networking events

Country	Title	Networking Events	Average
Austria	2019 Salzburg Conference in Interdisciplinary Poverty Research: Migration and Poverty	€ 100	€ 100
Austria	41st eCAADe Conference	€ 380 – 470	€ 425
Austria	7th European Joint Theoretical/Experimental Meeting on Membranes (EJTEMM 2021)	€ 45	€ 45
Belgium	7EMESconf - Conference	€ 550-650	€ 600
Belgium	International Conference on Applied Research in Engineering, Science and Technology	€ 120-260	€ 190
Belgium	hope Agora 2023	€ 350	€ 350
Bulgaria	XVI INTERNATIONAL CONFERENCE FOR YOUNG RESEARCHERS "TECHNICAL SCIENCES. INDUSTRIAL MANAGEMENT"	€ 150-200	€ 175
Bulgaria	XXVI-th Joint International Scientific Events on Informatics	€ 30-50	€ 40
Bulgaria	9th BALKAN CONFERENCE IN INFORMATICS	€ 300-350	€ 325
Croatia	14th International Conference “Challenges of Europe: Design for the Next Generation”	€ 195-395	€ 295
Croatia	Conference: Truth and Beauty; Transcendentals in the Twenty-First Century	€ 175	€ 175
Croatia	14th International Odyssey Conference	€ 250	€ 345
Cyprus	IIPE 2019: CYPRUS	€ 150	€ 150
Cyprus	Conference "Contemporary aspects of Analysis II"	€ 50	€ 50
Czechia	The 7th International Academic Conference on Social Sciences	€ 150-300	€ 225
Czechia	PLANT BIOTECHNOLOGY: GREEN FOR GOOD V	€ 350-400	€ 375
Czechia	49th European Muscle Conference	€ 460-560	€ 510
Denmark	34th annual ESSD conference	€ 50-100	€ 75
Denmark	11th International Conference on Research in Behavioural and Social Sciences	€ 150 – 390	€ 270
Denmark	23rd International Conference & Exhibition	€ 475 – 1 050	€ 762.50
Estonia	13th EUSPR Conference and Members’ Meeting, 28th – 30th September 2022, Tallinn, Estonia	€ 100-280	€ 190
Estonia	Diversity of science cultures during and after the Cold War	€ 25	€ 25
Finland	45th EAA Annual Congress	€ 300-550	€ 425
Finland	7th International Conference on Research in Social Sciences	€ 140-340	€ 240
Finland	YOUTH2019 - Finnish National Youth Work Days. Conference – Symposium - Forum	€ 110	€ 110
France	13th European Symposium on Electrochemical Engineering	€ 400-900	€ 650
France	22nd annual SAET Conference	€ 200-590	€ 395

Country	Title	Networking Events	Average
France	1st Franco-AMSUD Energy and Environment Meeting	€ 350-400	€ 375
France	14th PARIS – FRANCE International conference on “Innovative Engineering Technologies and Healthcare” (IETH-19)	€ 250-295	€ 272
France	Innovative Research in Economics, Innovation Managements, Social Science & Humanities (IRSSH)	€ 330-412	€ 371
France	20th International Symposium on Correlation, Polarization and Ionization in Atomic and Molecular Collisions (COPIAMC)	€ 250-350	€ 300
France	ECSS 2023	€ 325 – 750	€ 537.50
Germany	The Academics World 1580th International Conference on Nanoscience, Nanotechnology and Advanced Materials (IC2NM)	€ 119 – 367	€ 243
Germany	International Conference on Education, Business, Humanities and Social Sciences(ICEBHS)	€248 – 339	€ 293.50
Germany	International Conference on Environment and Life Science	€ 91 – 228	€ 159.50
Greece	IFAC International Conference on Technology, Culture and International Stability - 21st TECIS 2022	€ 300-350	€ 325
Greece	European Road Profile Users' Group (ERPUG) conference	€ 450	€ 450
Greece	3rd International Academic Conference on Multidisciplinary Approaches in Social Science, Business and Economics	€ 300-500	€ 400
Greece	2nd International Hellenic Conference on Political Sciences: Communicating in Politics?	€ 400	€ 400
Greece	11th Annual International Conference on Chemistry as part of the Annual Academic Meetings of the Natural Sciences Unit	€ 300-3 000	€ 1 650
Hungary	The 1st European Conference on Silicon and Silica Based Materials	€ 600-800	€ 700
Hungary	4th Danube Conference on Epigenetics	€ 275-435	€ 355
Ireland	10TH INTERNATIONAL RESEARCH CONFERENCE (IEA IRC)	€ 150	€ 150
Ireland	EAPRIL 2023	€ 335-708	€ 521.50
Ireland	11TH EIASM INTERPRETIVE CONSUMER RESEARCH WORKSHOP	€ 360-456	€ 408
Ireland	30th EURO Conference	€ 375-500	€ 437.50
Ireland	UACES Annual Conference 2023	€ 129 – 328	€ 228.50
Italy	EBEN Annual Conference	€ 120-250	€ 185
Italy	RENT XXXVI	€ 525	€ 525
Italy	18th European Turbulence Conference	€ 550-660	€ 605
Italy	MODELSWARD 2024	€ 595-795	€ 695
Italy	CMD30	€ 200-450	€ 325

Country	Title	Networking Events	Average
Latvia	VIII STARPTAUTISKĀ ZINĀTNISKI!PRAKTISKĀ KONFERENCE	€ 25	€ 25
Lithuania	Energy, Clusters and Social Innovations for Sustainable Development: Round Table	€ 190	€ 190
Lithuania	International conference: Diaspora and Migration	€ 40	€ 40
Lithuania	ICIST 2023	€ 250-400	€ 325
Lithuania	COMPLEXITIES OF RISK AND UNCERTAINTY. MID-TERM CONFERENCE OF ESA RN22	€ 180-250	€ 215
Malta	LIF2021 – 7th International Language in Focus Conference	€ 250-300	€ 275
Malta	PIConf 2023 Economic, social, and environmental sustainability: the role of technology and political dialogue	€ 20-390	€ 205
Netherlands	50th EDTNA/ERCA International Conference	€ 665-695	€ 680
Netherlands	2nd International Conference on Performance Indicators in Business and Social Science Research CPIS-19	€ 300-500	€ 400
Netherlands	The 24th edition of the International Workshop on Teamworking (IWOT)	€ 250 – 450	€ 350
Poland	IFERA Annual Conference	€ 750-850	€ 800
Poland	14th Economic Forum of Young Leaders	€ 40	€ 40
Portugal	15th PORTUGAL International Conference on Chemical, Agricultural, Biological and Environmental Sciences (LCABES-19)	€ 230 – 455	€ 342.50
Portugal	XXII Grudis Conference and Doctoral Colloquium	€ 50 – 125	€ 87.50
Romania	8th Annual Emerging Trends in Marketing and Management International Conference	€ 50 – 230	€ 140
Romania	The International Conference on Hydrogen Production (ICH2P-2019)	€ 470 – 550	€ 510
Slovenia	Cutting Edge 2019	€ 35	€ 35
Slovenia	28. International Conference on Materials and Technology (28 ICM&T)	€ 750	€ 750
Slovenia	SymBioSE-2023	€ 200	€ 200
Spain	ISMMS' 5th Biennial Research Conference	€ 18 – 69	€ 43
Spain	ICNFT 2023: 17. International Conference on New Forming Technology	€ 250 – 500	€ 375
Spain	18th Annual Conference of the Metabolomics Society	€ 650 – 1 050	€ 850
Spain	ENCALS Meeting 2023	€ 150 – 1 000	€ 575
Spain	9TH International conference on "Global trends in academic research" (GTAR-2022)	€ 289 – 436	€ 362.50
Spain	5th International Engineering, Mathematics & Applied Sciences Conference IEAS-21	€ 300 – 500	€ 400
Spain	HeteroNanoCarb 2023	€ 535	€ 535
Spain	International Osteology Symposium	€ 340 – 760	€ 550
Sweden	Fourth Annual RUCARR Conference	€ 140	€ 140

Country	Title	Networking Events	Average
Sweden	Optics & Photonics in Sweden conference 2023	€ 346	€ 346
Sweden	NOFA7, Nordic Conference on Teaching and Learning in Curriculum Subjects	€ 445 – 585	€ 515
Australia	The 7th International Conference on Smart Material Research	€ 271 – 542	€ 406.50
Australia	The 4th International Conference on Frontiers of Composite Materials	€ 271 – 542	€ 406.50
Canada	RMLE UNCONFERENCE	€ 280	€ 280
Canada	XXXIII International Conference on Photonic, Electronic and Atomic Collisions	€ 620-724	€ 672
Canada	7th International Symposium on Intense Field, Short Wavelength Atomic and Molecular Processes	€ 458-504	€ 481
Canada	Global conference on technology & information management	€ 271 – 452	€ 361.50
Brazil	WTR 2019	€ 546	€ 546
Brazil	CannX Sao Paulo: 2nd International Congress of Cannabinoid Medicine	€ 104 – 208	€ 156
China	The 6th International Conference on Telecommunications and Communication Engineering (ICTCE 2023)	€ 156 – 504	€ 330
China	6th International Conference on Computer Information Science and Artificial Intelligence (CISAI 2023）	€ 458 – 504	€ 481
China	ICAIP 2023	€ 367 – 505	€ 436
China	6th International Conference on Big Data and Machine Learning	€ 349 – 450	€ 399.50
India	23rd National Symposium on Radiation Physics (NSRP)	€ 138	€ 138
India	3rd International Conference on Futuristic Trends in Materials and Manufacturing	€ 108	€ 108
Japan	ECT 2023	€ 64 – 504	€ 284
Japan	2023 8th Asia Conference on Environment and Sustainable Development	€ 275 – 532	€ 403.50
Japan	10th International Conference on Biomedical and Bioinformatics Engineering (ICBBE 2023)	€ 257 – 551	€ 404
United Kingdom	8th International Conference on Research in Humanities and Social Sciences	€ 117 – 338	€ 227.50
United Kingdom	International Conference on Gender Studies: “Gender and Power”	€ 105 – 175	€ 90
United Kingdom	8th European Congress on Advanced Nanotechnology and Nanomaterials	€ 340 – 1 310	€ 825
United Kingdom	11th International Lymphoedema Framework conference	€ 176	€ 176
United States	28th International Symposium on Ion-Atom Collisions ISIAC 2023	€ 300-344	€ 322

Country	Title	Networking Events	Average
United States	International Conference on Continuous Optimization (ICCOPT) and the Modeling and Optimization: Theory and Applications (MOPTA)	€ 289-536	€ 412.50
United States	Fertilizer Latino Americano	€ 1 468 – 2 661	€ 2 064.50
United States	International Conference on Social and Education Sciences (IConSES)	€ 183 – 358	€ 207.50

Source: compiled by PPMI.

Annex 9. Analysis of the maternity, paternity, sick and special leave benefits paid by the employers in the EU

The information reported in this annex was mainly gathered through the Mutual Information System on Social Protection database[191], the website of the Directorate-General for Employment, Social Affairs and Inclusion[192], the European Job Mobility Portal (EURES)[193] and the websites of national institutions (e.g. Ministries of Social Affairs, state social/health insurance bodies, etc). Additionally, the International Review of Leave Policies and Related Research[194], published by the International Network on Leave Policies & Research[195] of the University of Vienna, has also been used as a reliable source.

The following insights are stemming from the analysis of maternity, paternity, parental, sick and special leaves in EU countries:

- **In most countries maternity pay is usually covered by social security**. In cases where employers have to fully or partially cover maternity leave, periods are longer than 30 days and can last up to 5 months (e.g. in Italy). The duration of the maternity leave varies across countries in terms of how many weeks the employee can be out of work. National regulations indicate whether this leave is mandatory, non-mandatory or the combination of both. Variations also exist in terms of the level of remuneration women can receive on maternity. The amount is calculated based on the earnings of a woman (% of the salary or full salary) or is paid as a flat rate. It can be fixed for the entire time or change throughout the leave period. In countries where employers have an obligation to pay a portion of the maternity leave, or the full allowance period, they might need to: (1) fully cover the benefit; (2) substitute the difference between the amount paid by the social security system and the full wage of the employer; (3) initially cover the benefit, which is then partly or fully reimbursed from the state.
- **In countries where paternity leave is offered, it is often covered by both the social security system and the employer**. It usually lasts less

[191] Mutual Information System on Social Protection database. Available at: https://www.missoc.org/missoc-database/comparative-tables/results/
[192] European Commission website. Available at: https://ec.europa.eu/social/main.jsp?catId=858&langId=en
[193] The European Job Mobility Portal. Available at: https://ec.europa.eu/eures/public/en/homepage
[194] Koslowski, A., Blum, S., Dobrotić, I., Kaufman, G. and Moss, P. (2022) 18th International Review of Leave Policies and Related Research. Available at: https://www.leavenetwork.org/annual-review-reports/review-2022/
[195] International Network on Leave Policies & Research website. Available at: https://www.leavenetwork.org/introducing-the-network/

than 30 days, and the employer is generally expected to partially or fully cover the benefit up to a maximum of 14 days. In some countries, such as Norway and Sweden, paternity leave is considered as a part of the parental leave, rather than a separated allowance. The employer is generally expected to pay for the full allowance period (as established in Greece), or for part of the paternity leave period (e.g., in the Netherlands). In line with the provisions previously outlined for maternity leave allowance, the employer might: fully cover the benefit; top-up the allowance to pay the employee their full wage while in paternity leave; pay the benefit in advance and get partially or fully reimbursed by the social security system.

- **Parental benefits and parental leave are not necessarily connected**, which means that parents can receive benefits from the social security system regardless of whether they work or take the time off work during the entitlement to this benefit. At the same time, most countries allow parents to go on paid or unpaid job-protected leave. Even though the duration of parental leave can take up to 3 years (e.g. Lithuania, Estonia, Germany, Slovakia, and Spain), these periods are either partly or fully covered by the social security system or are unpaid. There are also several countries that identify and compensate parental benefits as maternity/paternity benefits (e.g. Denmark, Finland, Italy, Portugal and Sweden).
- **Employers are generally required to pay sick leave benefits in all EU countries, at least for the first days of the sick leave period**. Employers are expected to cover sick benefits for more than 30 days in Austria, Croatia, Germany, Italy, Luxembourg, Malta, the Netherlands and Poland. In some countries, such as Italy and Romania, the amount paid by the employer is then fully or partially reimbursed by the social security system. The benefit generally covers from 60% to 100% of the employer's full wage, except from one case (Slovakia).
- **All EU countries allow for some special leave** (e.g. personal or family events, studies or examinations, military service). Many EU countries' national legislations entitle leaves to take care of sick family members. Even though in some cases employers are obliged to pay their employees on special leave, it does not exceed 30 days.

Maternity leave

Maternity leave is a pre- and post-natal break from work taken by mothers of newly born children[196]. Usually, this leave is intended only for women and is linked to pregnancy, childbirth and the first months of motherhood. Under the EU Maternity Leave Directive (92/85/EEC), women have the right to a minimum of 14 weeks of maternity leave, of which at least two weeks are compulsory, and can be allocated before and/or after giving birth. While this directive serves as guidance for member states, there is still substantial variation in the way that maternity leave policy is designed across the EU countries. The existing variations are mainly in the areas of duration and legal status of leave, degree of compensation, eligibility, flexibility and the entity in charge of paying the benefit.

In terms of the duration and legal status of leave, there is variation in how many weeks are available in total and separately in pre- and post-natal periods as well as whether the leave is mandatory, non-mandatory or the combination of both. Duration for compulsory maternity leave goes from two weeks in Sweden[197], to 20 weeks in Italy and Estonia. There is also variation in terms of the level of remuneration women can receive on maternity. It can be fixed for the entire time or change throughout leave period. These differences are usually influenced by the length of leave (e.g. mothers in Poland and Portugal can receive between 80% and 100% of their usual earning depending on the length of their leave). There are also cases where the benefit is not in accordance with a woman's previous earnings but is based on a flat rate (e.g. Ireland)[198]. Receiving maternity benefit can also be dependent on certain eligibility criteria such as the length of time worked, or the contributions paid to social security prior to taking maternity leave. When it comes to flexibility, it is mainly related to women's ability to choose when to start maternity leave and how much of leave to take. Additionally, in countries such as Norway, Sweden and Portugal, it is currently possible to choose how to share the available time of parental leave more equally between the two parents, while a compulsory amount of leave time is still reserved to the mother.

There is also variation regarding the entity responsible for maternity leave pay. Maternity leave is usually covered by a country's social security system. However, in some EU countries, it is the responsibility of the employer to pay at least a part of maternity benefits to its employees. In some cases where the employer fully pays the maternity benefit, it can seek the reimbursement from the social security system. Otherwise, the employer and the social security system

[196] Eurofound (2015) *Maternity leave provisions in the EU Member States: Duration and allowances*. Luxembourg: Publications Office of the European Union.

[197] Rather than maternity leave, parental leave is the most relevant in Sweden, making Sweden more gender neutral than other Member States. Each parent is eligible for up to 240 days paid parental leave.

[198] Daly, M. and Szelewa, D. (2022) 'Ireland country note', in Koslowski, A., Blum, S., Dobrotić, I., Kaufman, G. and Moss, P. (eds.) *International Review of Leave Policies and Research*. Available at: https://www.leavenetwork.org/annual-reviewreports/

shares the responsibility of paying the benefit. In some other countries, organisations can choose to top up maternity pay voluntarily (e.g. Cyprus) or have to compensate the difference between the allowance and the employee's full wage (as it happens in France). Table below lists all countries where the employer has to make a contribution to maternity pay.

List of the EU countries where employers have to fully or partially cover maternity pay

Country	Types of benefit payment	The duration paid by the employer	The amount paid by the employer
Cyprus	Social Security pays for maternity leave, but employers often choose to top up the allowance	Depends on the employer	Depends on the employer
Denmark	Employer pays when it is agreed in a collective agreement/employment contract (in case the employer pays the full salary, social security system reimburses the employer)	Depends on the collective agreements/employment contract	Depends on a collective agreement/employment contract (usually 100% of the salary)
Finland	Employer pays when it is agreed in a collective agreement (in case the employer pays a salary, social security system pays the employer an employee's maternity allowance)	Depends on the collective agreements	Depends on a collective agreement (usually 100% of the salary)
France	Employer pays all or part of possible difference between the salary and the amount of daily maternity benefits paid by the social security system (subrogation)	Depends on the collective agreements	Depends on the collective agreement
Germany	Responsibility shared between employer and social security system	14 weeks	Employer has to substitute the difference between the flat daily rate (€13) paid by the social security and the employee's wage
Greece	Employer only pays in cases when a woman is not eligible for maternity benefit paid by the social security system	15 or 30 days	100% of the salary
Hungary	Employers with more than 100 employees pay the maternity benefit in advance, and then receive reimbursement from social security system	From 2 to 24 weeks	Average 70% of the daily pay

Country	Types of benefit payment	The duration paid by the employer	The amount paid by the employer
Italy	Social security system pays but the employer makes additional contribution	5 months	80% of the salary paid by the social security system and 20% difference is substituted by the employer
Malta	Responsibility shared between employer and social security system	14 weeks	100% of the salary
Poland	In companies with more than 20 employees the employer initially pays but is reimbursed by the social security system	20 weeks	100% of the salary or average income before maternity
Romania	Benefit is initially paid by the employer who is then reimbursed by social security system	6-18 weeks	85% of the salary
Sweden	Employer pays to provide for a top-up to the allowance	Depends on the collective agreements	Depends on the collective agreements

Source: compiled by PPMI.

Paternity leave

Paternity leave is a period of time that a father can take from work in relation to their newly born child. It is usually defined as a short period immediately after birth that is only available to fathers and is in addition to parental leave. The distinction between statutory paternity leave and father-only parental leave can often be unclear, especially in countries that adopted more gender-neutral approaches such as Iceland, Norway, Sweden and Portugal. Iceland, for example, offers a 12 months' leave after birth that can be used by both parents, while each parent may also transfer six weeks of their 12 months leave to the other parent. Therefore, in this case there is not a paternity leave per se, but six months of leave are available for the use of fathers only[199]. In the following table, and in general in this chapter, paternity leave is intended as statutory paternity leave, separated from parental leave and hence reserved to the father, except from the cases of Norway and Sweden.

Paternity leave is often taken in parallel with maternity leave. The length of paternity leave varies from 2 days in Greece to 16 weeks in Spain. In three EU countries (Belgium, Italy and Portugal) it is obligatory for fathers to take some or all of their paternity leave.

[199] Koslowski, A., Blum, S., Dobrotić, I., Kaufman, G. and Moss, P. (2022) 18th International Review of Leave Policies and Related Research. Available at: https://www.leavenetwork.org/annual-review-reports/review-2022/

In countries where paternity leave is offered, it is usually covered by both the social security system and the employer. It can also be covered solely by the employer, for the full period or for a part of it. In some countries, the employer pays the benefit in advance and is then reimbursed from the social security system. Also in this case, the employer can choose to (or must) compensate for the difference between the provided allowance and the employer's full wage. Table below lists all EU countries where the employer has to make any kind of contribution to paternity pay.

List of the EU countries where employers have to fully or partially cover paternity pay

Country	Type of benefit payment	The duration paid by the employer	The amount paid by the employer
Belgium	Responsibility shared between employer and social security system	3 days	100% of the salary
Denmark	Employer pays when it is agreed in a collective agreement	14 days	100% of the salary
Finland	Employer can choose to pay wages during paternity leave, receiving a reimbursement allowance from social security system.	Depends on the employer	Depends on the employer
France	Employer might pay the difference between the salary and the amount of daily paternity benefits paid by the social security system (*subrogation*)	Depends on the collective agreements	Depends on the collective agreement
Greece	Paid by the employer	2 days	100% of the salary
Italy	Employer pays the benefit in advance, but gets reimbursement from social security system	10 days	100% of the salary
Hungary	Employers with more than 100 employees pay the benefit in advance, and then receive reimbursement from social security system	10 days	100% of the salary for the first 5 days, 40% for the remaining days
Luxembourg	Employer but can be reimbursed from the social security system (from 3rd day)	10 days	100% of the salary
Malta	Employer pays for the benefit in advance but is then reimbursed by the Department of Social Security	10 days	100% of the salary
The Netherlands	Employer pays a part of the leave (1 of 6 weeks)	1 week	100% of the salary
Poland	Employer pays but is reimbursed by the social security system	2 weeks	100% of the salary

Country	Type of benefit payment	The duration paid by the employer	The amount paid by the employer
Romania	Benefit is initially paid by the employer who is then reimbursed by social security system	5 days	100% of the salary
Sweden	Employer pays to provide for a top-up to the allowance	Depends on the collective agreement	Depends on the collective agreement

Source: compiled by PPMI.

Parental leave

Parental leave is a job-protected period of leave for parents, which is usually supplementary to maternity and/or paternity leave. All EU member states must provide at least four months' parental leave per parent, under the terms of Directive 2010/18/EU[200]. In the Directive in question, no payment or flexibility requirements are specified, but parental leave is defined as "an individual right and in principle non-transferable" though the directive goes on to add that "member states are allowed to make it transferable". In April 2019, the European Parliament adopted a directive of the European Parliament and of the Council on work-life balance for parents and carers, repealing Council Directive 2010/18/EU and requiring two months of non-transferable, paid parental leave[201].

There is variation in the way that parental leave policy is designed across the EU countries. The existing variation is mainly related to the duration and the legal status of leave, degree of compensation, eligibility, flexibility and the entity in charge of providing it. All EU countries currently provide parental leave. Parental leave can be either an individual right or a family entitlement. In the latter case, it is tied to a family and can be transferred between parents (in some cases grandparents). In order to increase uptake of parental leave by fathers, some countries divide parental leave into shared part and non-shared part (e.g. if a father does not take leave, it cannot be transferred to a mother).

Most countries offer some kind of compensation. The average compensation rate is 50% of earnings, which can vary from 25% to 100% of earnings. There are also countries that offer flat rate for parental benefit. In some countries, parental leave is compensated as a maternity/paternity benefit (e.g. Denmark, Finland, Italy, Portugal, Sweden). Otherwise, parental benefit is covered by the social security system. It is important to note that parental leave and parental benefit are not

[200] Council of the European Union (2010), Council Directive 2010/18/EU of 8 March 2010 implementing the revised Framework Agreement on parental leave concluded by BUSINESSEUROPE, UEAPME, CEEP and ETUC and repealing Directive 96/34/EC. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010L0018

[201] Koslowski, A., Blum, S., Dobrotić, I., Kaufman, G. and Moss, P. (2022) 18th International Review of Leave Policies and Related Research 2022. Available at: https://www.leavenetwork.org/annual-review-reports/review-2022/

necessarily connected. Parental benefits can be paid to parents who do not take the time off. At the same time, parents can be allowed to take unpaid time off from work with protection against dismissal.

Sick leave

Sick leave is time off work that employees can use to address their health needs without losing pay. All EU countries provide some form of paid sick leave. Entitlement to sick leave benefit schemes vary considerably across countries. They may vary regarding duration, eligibility conditions and benefit levels between different types of workers and depending on the type of sickness in question.

The period of sick leave and the duration of the entitlement to sickness benefits are fully aligned in many countries, with some exceptions. In some other countries, (e.g. Italy) the duration of sick leave may be longer than the period of entitlement to sick pay/benefits, and workers may take unpaid leave. The provision of unpaid leave is most often not regulated by social protection legislation but rather by labour law.

In most EU countries, the responsibility to pay sick benefits is shared between the employer and the social security system. Hence, rights to sick leave benefit schemes can be enshrined both in social protection legislation and labour law. In general, the employer might be expected to pay for a part of the sick leave period, and often for the initial stage of the leave. After a certain period, that can go from 2 (e.g. Lithuania) to 77 days (e.g. Luxembourg), the responsibility to pay for the benefit falls on the social security system. In other cases, the employer pays for the benefit in advance for the whole period and receives a reimbursement, or can use this credit as a discount on taxation for social security (e.g. Italy). Moreover, in some countries, conditions of payment and duration are primarily negotiated through collective agreements (e.g. Denmark, Finland, and the Netherlands). Table below provides a list of the EU countries where the employer has to make any kind of contribution to sick pay.

List of the EU countries where employers have to fully or partially cover sick pay

Country	Type of benefit payment	The duration paid by the employer	The amount paid by the employer
Austria	Responsibility shared between employer and social security system	6 to 12 weeks	100% of the salary for 6 to 12 weeks depending on the length of service
Belgium	Responsibility shared between employer and social security system	30 days	100% of the salary

Country	Type of benefit payment	The duration paid by the employer	The amount paid by the employer
Bulgaria	Responsibility shared between employer and social security system	3 days	70% of the salary
Croatia	Responsibility shared between employer and social security system	42 days	At least 70% of the salary (the amount depends on the sectoral collective agreement)
Czech Republic	Responsibility shared between employer and social security system	14 days	60% of hourly average earning
Denmark	Responsibility shared between employer and social security system	30 days if collective agreements do not provide for the continued payment of wages	100% of the salary if provided by collective agreements.
Estonia	Responsibility shared between employer and social security system	5 days	70% of the salary
Finland	Responsibility shared between employer and social security system	9 days or 1-2 months as specified in collective agreements	100% of the salary for first 9 days if the employment lasted more than a month; 50% of the salary for first 9 days if the employment lasted less than a month; OR 100% of the salary for 1-2 months based on most collective agreements
Germany	Responsibility shared between employer and social security system	6 weeks	100% of the salary
Hungary	Responsibility shared between employer and social security system	15 days a year	70% of the salary
Italy	Employer but recorded in accounts as an adjustment to sums that must be paid to the National Institute for Social Security (INPS) as contributions.	Starting from the 3rd day of illness, 180 days a year. In the first three days, the employer might or might not pay the benefit (depending on the contract)	50% of net earnings between the 4th and the 20th day; 66.66% of net earnings from the 21st day
Latvia	Responsibility shared between employer and social security system	10 days	At least 75% of the salary for 2nd and 3rd days; At least 80% from 4th to 10th day
Lithuania	Responsibility shared between employer and social security system	2 days	From 62.06% to 100% of the salary
Luxembourg	Responsibility shared between employer and social security system	77 days	100% of the salary

Country	Type of benefit payment	The duration paid by the employer	The amount paid by the employer
Malta	Responsibility shared between employer and social security system	Depends on collective agreements	50% or 100% of the salary
The Netherlands	Responsibility shared between employer and social security system	104 weeks (2 years)	70% of the salary
Poland	Responsibility shared between employer and social security system	33 days for people under 50 or 14 days for people over 50	80% of the salary, or 100% if the employee becomes ill during pregnancy or in a work-related accident
Romania	Responsibility shared between employer and social security system	5 days. From the 6th day, the employer often pays in advance and then receives reimbursement from social security system.	Between 75% and 100% of the salary
Slovakia	Responsibility shared between employer and social security system	10 days	25% of the assessment base (daily earnings calculated on the basis of the previous year, monthly ceiling 2-times of the national average monthly wage) for 3 days; 55% of the assessment base from 4th to 10th day
Slovenia	Responsibility shared between employer and social security system	30 days	100% of the salary for occupational diseases, accidents at work; 90% of the salary for illness; 80% of the salary for injuries or nursing family members
Spain	Responsibility shared between employer and social security system	15 days	60% of the salary from the 4th up to the 15th day of sick leave
Sweden	Responsibility shared between employer and social security system	14 days	80% of the salary

Source: compiled by PPMI.

Special leave

Special leave is an arrangement granted to an employee who needs to be absent during working hours for the reasons that do not fall under other types of leave (e.g. annual leave). This leave can be planned (e.g. military service, wedding) and unplanned (e.g. death or illness of a relative). There are numerous reasons for an employee to be released from an obligation to work. The most frequent reasons included in the legislation across the EU countries include:

- Bereavement leave for the reasons of death of close family;
- Special leave for urgent domestic problems such as fire, flood, theft, etc;
- Special leave for personal or family events such as marriage or moving;
- Leave for care of dependents or close family members in case of illness;
- Special leave for parents of young children;
- Leave for studies and examinations;
- Leave for military or civilian service obligation;
- Special leave to attend jury service if a person is summoned in courts or other public duty;
- Some countries identify an extension to maternity, paternity, parental and sick leave as a special leave.

Special leave can be both paid and unpaid, often depending on what has been agreed between the employer and the employee. The duration of leave and its compensation vary across the EU countries. However, we have found that usually employers do not have to pay their employees in such occasions, or the duration of the payment is short and does not exceed 30 days. In other cases, the social security system provides for the allowance.

Annex 10. Analysis of disability services and costs incurred by researchers with disabilities

The study team has identified the main individual-related support services and work-related support services.

Individual-related support services

- Health insurance for people disabilities, when it is not covered by the healthcare system;
- Equipment necessary for a person with disabilities:
    - Wheelchair;
    - Electric wheelchair;
    - Stair climbing wheelchair;
    - Inclined platform (wheelchair) lifts;
    - Stairway chairlifts;
    - Hearing aid device;
    - Assistive listening device;
    - Augmentative and Alternative Communication (AAC) devices;
    - Crutch;
    - Braille assistive technology;
    - Finger reader;
    - Alerting devices;
    - Personal sound amplifier;
    - Haptic Proximity Module (HPM);
    - Eye tracking device;
    - Word prediction software;
- Carer/personal assistance services;
- Counselling;
- Advice on the support available from the state;
- Sign language interpretation services;

- Relocation support;
- Adopted housing costs;
- Mobility/transport costs;
- Personal emergency response system (assistive technology that is connected to an alarm system: e.g. vibrating or visual alarms);
- Medication for chronic disease;
- Guide dog;
- Personal navigation devices;
- Prosthetics.

Work-related support services

- Physical modifications in the built environment:
- A ramp/barrier free access for users of wheelchairs to:
    - Entrances;
    - Emergency exits;
    - Corridors and hallways;
    - Cafeteria;
    - Classroom/meeting rooms;
    - Office space;
    - Bathrooms;
    - Laboratories;
    - Libraries;
- A lift;
- Inclined platform (wheelchair) lifts;
- Stairway chairlifts;
- Vertical platform lifts;
- Automatic doors;
- Bathroom aids:
    - Railings;

  - Emergency alarms;
  - Adapted toilets;
  - Hoist;
- Parking space for people with reduced mobility;
- Ergonomic/adjustable work equipment:
  - Adjustable/ergonomic desk/computer workstation;
  - Adjustable/ergonomic seating;
  - Adaptive/ergonomic computer accessories (e.g. mouse, keyboard);
- Augmentative and Alternative Communication (AAC) devices;
- Flexible working hours;
- Longer or more frequent breaks;
- Additional time for sickness leave/time off work;
- Personnel to support staff with disabilities;
- Awareness/sensitivity training for staff regarding work with colleagues who have disabilities;
- Modifying/adjusting performance targets;
- Quiet/separate working space (e.g. separate office with all the necessary equipment);
- Manager training in mental health and management of staff with mental health issues;
- Additional working hours for staff supervising a colleague with disability (e.g. for more often meetings, discussions about tasks, etc.);
- Training/workshops for researchers/staff members with disabilities;
- Important information in easy-to-read format;
- Sign language interpretation services;
- Documents in braille;
- Talking books;
- Software and hardware;
- Text-to-speech/screen readers software;
- Screen magnification software;

- Eye tracking device;
- Loop hearing systems;
- Amplified telephone equipment;
- High Fidelity speakers and headphones;
- Personal emergency response system (assistive technology that is connected to an alarm system: e.g. vibrating or visual alarms);
- Work-related travelling expenses for people with disabilities;
- Work-related travelling expenses for a carer/personal assistant.

The costs associated with specific services necessary for people with disabilities vary across the EU countries. Even though the cost of devices and equipment (e.g. hearing aid, ergonomic furniture) might have lower variations, the costs of services for assistance and infrastructure (e.g. carer, counsellor or construction services) can vary greatly across the EU countries due to differences in wages. To illustrate these differences, the study team has compared a list of average support workers' wages (net salary) and the average prices for counselling in several EU countries (see tables below).

Average monthly salaries of support workers in EU countries

Country	Average salary in EUR
Austria	1 393
Estonia	1 070
France	1 366
Germany	2 275
Italy	1 313
Malta	1 655
Poland	527
Romania	633
Spain	1 158
Greece	788
Lithuania	1 163
Latvia	1 001
Portugal	1 043
Denmark	1 782
Croatia	676
Belgium	2 430

Country	Average salary in EUR
Czechia	892
Finland	1 480
Hungary	447
Ireland	2 200
The Netherlands	1 588
Slovakia	1 565
Slovenia	701
Sweden	1 321
Bulgaria	536
Luxembourg	1 588
Cyprus	1 366

Source: compiled by PPMI. Data was collected from WordSalaries[202]. WordSalaries relies on official government salary data, salary surveys, and other sources such as job postings which contain salary information.

Average prices for counselling sessions in EU countries

Country	Average price per session in EU[203]
Austria	80 – 100
Belgium	50 – 75
Bulgaria	15 – 25
Croatia	27 – 67
Czechia	20 – 45
Denmark	135 – 200
Estonia	40 – 75
Finland	95
France	50 – 60
Germany	50 – 150
Greece	35 – 135
Hungary	28 – 42
Ireland	80 – 120
Italy	35 – 115
Lithuania	40 – 50
Malta	35 – 50
The Netherlands	50 – 120
Poland	33.5 – 56

[202] WorldSalaries website. Available at: https://worldsalaries.com/
[203] Most prices are updated to 2021.

Country	Average price per session in EU[203]
Portugal	60
Romania	20 – 100
Slovakia	30 – 100
Slovenia	50 – 70
Spain	50 – 100
Sweden	75 – 120

Source: European Association for Psychotherapy[204] and CIVIO[205]; compiled by PPMI.

Table below shows an indicative list of prices of the equipment that researchers with disabilities generally need to adequately perform their work and access the organisation's services and facilities.

Preliminary prices of different services

Service	Price in EUR
Electric wheelchair	900 – 23 729[206]
Stairway chairlift	2 004 – 10 292[207]
Assistive listening device	206 – 711[208]
Augmentative and Alternative Communication (AAC) devices	30 – 2 870[209]
Braille assistive technology/display	1 550 – 9 900[210]
Loop hearing systems	4 551 – 31 855[211]

[204] European Association for Psychotherapy website. Available at: https://www.europsyche.org/situation-of-psychotherapy-in-various-countries/

[205] CIVIO. Pay up or put it off: how Europe treats depression and anxiety. Available at: https://civio.es/medicamentalia/2021/03/09/access-to-mental-health-in-europe/

[206] These prices were collected from Amazon online shop. Available at: www.amazon.com. The sharp differences are related to the specifications and often quality of the product. Please note that wheelchairs which have multipurpose are more expensive (they are better suited for people with quadriplegia).

[207] These prices were collected from the Lifeawaymobility website. Available at: https://www.lifewaymobility.com/resources/product-guides/how-much-does-a-stair-lift-cost/. Prices were converted from US dollars to Euros on 9 August 2023 using www.xe.com converter. Significant variation in prices is due to the difference between a straight and a curved stair lift.

[208] These prices were collected from Amazon online shop. Available at: www.amazon.com

[209] These prices were collected from the Enabling Devices website. Available at: https://enablingdevices.com/product-category/communication-devices/. Prices were converted from US dollars to euros on 8 August 2023 using www.xe.com converter.

[210] These prices were collected from the MondoAusili website. MondoAusili is an Italian retailer of furniture and products for people with disabilities. Available at: https://www.mondoausili.it/display-braille/

[211] These prices were collected from American Hearing Loop company's website. Available at: http://www.americanhearingloop.com/hearing-loop-design-and-installation/. Prices were converted from US dollars to euros on 8 August 2023 using www.xe.com converter. The variations of prices depend on the size and construction of the room.

Service	Price in EUR
Eye tracking system (software and hardware)	2 619 – 4 199[212]
Ergonomic work equipment[213]	Chair: 80 – 3 500 Table/workstation: 69 – 1 870 Computer monitor glare filter: 18 – 1 060
Text-to-speech/screen readers software	Free – 1 343 (+ maintenance of services)[214]
Public Systems for Assistive Listening	473 – 5 045[215]
Wheelchair accessible taxi	30 - 38,50[216]

Source: compiled by PPMI.

This table is not exhaustive and does not include all needed services. It does not include some services for which the prices can vary and add on, which are:

- **Costs related to individual needs**. When it comes to individual needs of a researcher, indicating exact prices for some services is difficult. The reason for this is that each person has individual needs based on the type and severity of disability/disabilities, services available in a host country and household composition. For example, if a person has a chronic disease, he/she might require constant supply of medication, physical therapy or counselling. People with disabilities often require several services, which means that total cost also depends on the combination of required services. Also, the level of continued assistance provided by caregivers/support workers on the workplace can significantly vary depending on the specific situation of the researcher. Human assistance during mobility, secondments or business trips due to research, networking and training activities requires higher expenditure[217].
- **Costs related to needed modifications of infrastructure**. There is scarce available data on preliminary costs for installing modifications in a building (most are the estimates for infrastructure modification in individual houses). Costs vary between countries and also largely depend on the

[212] These prices were collected from the Gazepoint website. Available at: https://www.gazept.com/#/. Prices were converted from US dollars to euros on 8 August 2023 using www.xe.com converter. The variations of prices depend on the size and construction of the room.
[213] These prices were collected from Amazon online shop and from the MondoAusili website. MondoAusili is an Italian retailer of furniture and products for people with disabilities. Available at: www.amazon.com and https://www.mondoausili.it/tavoli/
[214] This price was directly collected from the JAWS website. Available at: https://www.freedomscientific.com/products/software/jaws/. Please note that prices are in USD and were converted to EUR on 8 August 2023 using www.xe.com converter.
[215] These prices were collected from the Audiolinks website. Available at: https://www.audiolinks.com/product-category/assistive-listening-device/assistive-listening-device-receivers/
[216] These prices were collected from the Taxi Firenze website and the Staxi website. Prices refer to a fixed rate and minimum price per ride. Available at: https://www.4390.it/en/services/disability-taxi/ and https://www.staxi.nl/en/taxi-services/wheelchair-taxi/
[217] Interview programme.

specifications of a place to be modified (e.g. size, quantity, complexity, etc.). The quotes for such services are usually quoted for each specific case.

- **Costs related to individualised high technology**. High technology is often individualised, and prices are quoted individually according to the concerned disabled individual needs. Also, some of the more advanced high technology is only available in some countries (usually with larger markets), which means that shipment costs generally significantly add up to the final price.

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