

**Scoping Paper for**  
**Horizon 2020 work programme 2018-2020**  
**Marie Skłodowska-Curie Actions**

**Important Notice: Working Document**

This scoping paper will guide the preparation of the work programme itself. It is a working document not formally endorsed by the Commission, and its content does not in any way prejudge the final decision of the Commission on the work programme.

The adoption and the publication of the work programme by the Commission are expected in October 2017. Only the adopted work programme will have legal value.

## **Scoping paper for the Horizon 2020 work programme 2018-2020 Marie Skłodowska-Curie Actions**

### **1. Context**

Research and innovation continue to form a cornerstone of the European Union's policies to boost jobs, growth and investment. The Marie Skłodowska-Curie actions (MSCA) under Horizon 2020 (H2020) contribute to these goals by equipping researchers with the right knowledge, skills and international and intersectoral exposure to fill the top research positions of tomorrow, both in the academic and the non-academic sector. By now, already 4937 organisations from 107 countries are participating in the MSCA, thereby contributing to the goal of supporting 65 000 research careers over the period 2014-20. Nearly 15 400 researchers from 120 countries, including 7 050 PhD candidates, have already benefitted from the MSCA.

The Work Programme 2014-15 marked the start of the programme and the Work Programme 2016-17 ensured a strong continuity of the approach, thereby fine-tuning the actions to achieve the desired impact. The Work Programme 2018-20 will refocus the MSCA towards additional strategic needs that have emerged for that period, and address the remaining gaps and challenges identified in the first years of implementation. An Advisory Group consisting of 25 independent experts was consulted in the Strategic Programming process. The resulting Strategic Advice Report recommends building on the existing strengths of the MSCA and continuing the bottom-up, excellence-driven approach, while reflecting the changing landscape of research and innovation to better equip researchers with the right skills and competences to thrive in a changing environment. The Work Programme 2018-20 will address these recommendations.

In addition, a gap analysis was performed by Commission services with the objective of showing the extent to which previous Work Programmes have covered the areas in the Specific Programme and to identify those that have not yet been addressed or not addressed sufficiently. The gap analysis has not shown any gaps in the implementation of the Specific Programme and recommends new annual MSCA calls to be launched as the best way to achieve the foreseen objectives. Preliminary results from the ongoing H2020 mid-term evaluation will also be reflected in the Work Programme 2018-20.

The MSCA, in line with the strategic orientations of Horizon 2020 for 2018-20 and following the Advisory Group's recommendation will take account of the following trends likely to have a significant impact on research careers in the coming years:

**Open Science.** Research training must ensure that researchers develop the key skills to be able to implement open science in their daily work and become active contributors to the digital era in research. Researchers shall hence acquire the digital skills that will allow for optimal research data management and data sharing with the rest of the research community, through opening access to their publications and to their research data. They shall also develop the knowledge and the communication skills, using new digital (social) media, that will enable them: 1) to reach out efficiently to the general public, 2) to explain their research

results to them in an easily understandable fashion, and 3) to emphasise how their work may contribute to improve their lives and/or to provide a better understanding of the world they live in. This, together with a training in how to best include citizens in the research design and processes (when relevant) and in how to engage with them in citizen science projects for example, will allow researchers to empower their research and maximise its impact, while strengthening the trust built with the general public. Training in ethics will naturally be essential in this setting to best accompany and guide researchers in the appropriate use of all the digital and communication competencies acquired to promote and implement open science. Finally, assessment of researchers for career progress and during evaluation processes for funding should also take into account these new dimensions of researchers' work in order to best promote and expand open science practices.

**Inter/Multidisciplinarity** reflects the complexity of societal challenges, the conversion of enabling technologies and the emphasis placed by funders of research (which increasingly includes the non-academic sector) on innovation as an outcome. It is estimated that more than one-third of all references in scientific papers now point to other disciplines and a similar proportion of MSCA fellowships are inter/multidisciplinary. While by definition not all research can nor should be inter/multidisciplinary, researchers must nevertheless be equipped with the appropriate skills and competences to identify and embark on inter/multidisciplinary research.

Strengthening **international cooperation in research and innovation** is a strategic priority for the European Union to access the latest knowledge and the best talent worldwide, tackle global challenges more effectively, create business opportunities in new and emerging markets, and use science diplomacy as an influential instrument of external policy<sup>1</sup>. Increased efforts are also needed to attract and retain researchers in Europe as well as to open mobility paths for European researchers elsewhere in the world.

**Migration** is likely to remain considerable in the coming years, as a result of the instability in Europe's neighbourhood and beyond. Research can help to evaluate and respond to these migration streams through expertise and foresight, addressing the challenges and root causes of migration. EU-funded research can also support displaced researchers to integrate into the European research landscape, which often involves intra-European mobility and building links with economic and social actors.

The five Marie Skłodowska-Curie actions will continue in 2018-20:

1. The **Innovative Training Networks (ITN)** will provide support for innovative doctoral training of researchers in the academic and the non-academic sector.
2. Advanced career development will take place through the **Individual Fellowships (IF)**, which will provide support for experienced researchers of all levels undertaking mobility, within Europe and beyond.

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<sup>1</sup> "Open Innovation, Open Science, Open to the World – a vision for Europe", European Commission, 2016, p.59.

3. The **Research and Innovation Staff Exchange (RISE)** scheme will provide support for international and intersectoral cooperation and transfer of knowledge through the exchange of staff.
4. Through **Co-funding of regional, national and international programmes (COFUND)**, support will be provided for doctoral and fellowship programmes to spread the best practices of the MSCA.
5. The **European Researchers' Night (NIGHT)** will continue its successful outreach activities communicating science to youth and the general public, highlighting both the results of research and the attractiveness of a research career.

These actions will be implemented through yearly calls with the exception of the NIGHT, where one call will cover 2018-19 and another 2020. The MSCA in 2018-20 will continue to provide bottom-up, excellence-driven training and career development opportunities for researchers at all career stages as recommended by the MSCA Advisory Group, while at the same time addressing Horizon 2020 horizontal aspects and relevant obligations of the H2020 Specific Programme that are yet to be covered.

## **2. Strategic orientations for 2018-2020 and translation into calls**

### **Empowering researchers**

Individual researchers as the final beneficiaries of the MSCA should be further empowered on a professional and personal level. **Part-time fellowships** should be made possible not only for family reasons but also for professional motives. This will allow researchers to work on their research project, while at the same time giving them the opportunity to become entrepreneurs and start a company, work in a different sector, or embark on further advanced training or studies. The possibility for researchers to become involved - and supported through appropriate pedagogical and didactic training - in teaching up to a reasonable amount of time should be made more explicit, as teaching can create synergies between education and research and allows researchers to gain valuable transversal skills. Fellows also need to possess **funding-management skills**, which could be enhanced through appropriate training. The revision of the **MSCA Unit Cost Decision** in 2017 will ensure that updated MSCA rates appear in the Work Programme 2018-20. Early-stage research training not leading to a degree will be critically reviewed as the possession of a **doctoral degree is a distinct advantage**, empowering researchers in all future steps of their career.

### **Widening participation**

The results from the first three years of MSCA implementation reveal the existence of a research and innovation gap across Europe. While researchers of 120 nationalities already participate in the programme, there are wide discrepancies between European countries in

their ability to attract funding<sup>2</sup>. Both the number and quality of submitted proposals from the EU-13 and from some EU-15 countries is lower<sup>3</sup>. Notwithstanding the need for Member States to undertake the reforms necessary to improve their participation and without compromising excellence, **supporting measures will be introduced** to stimulate higher quality applications from potential beneficiaries in under-represented countries. These are likely to have a positive impact on the research and innovation structures in the countries concerned, by strengthening the capacity of potential beneficiaries. In addition, **secondments** during fellowships should be promoted as a means for mutual learning between organisations, on a regional and European level, through the mobility of an individual.

### **Equal opportunities and inclusion**

Under H2020 so far, a total of 40.9% of MSCA-supported researchers are women<sup>4</sup>. This is higher than the average percentage of female researchers in Europe<sup>5</sup> and shows the openness of the programme to women. The MSCA will ensure that their participation will remain at a high level, hence evaluators will be sensitised to unconscious gender or other biases. The **attractiveness of the Individual Fellowships' Career Restart Panel** will be further increased. This will be implemented both in terms of funding and duration, as a new study on the Career Restart Panel shows that career restarters have particular difficulties in finding a permanent position and often cannot catch up with their peers within only two years<sup>6</sup>. In addition, the conditions for benefitting from the **family allowance** should be made more flexible in order to ensure that researchers with dependent family members are appropriately financed. The family allowance can only truly fulfil its purpose if it is fully accessible to all researchers eligible for it, at all stages of their career. Specific support should also be provided to **researchers living with a disability**: Mobility is often far more difficult and more expensive for them due to special needs when travelling, finding a suitable residence, and working abroad. Nevertheless, disabled researchers should be able to enjoy the same opportunities as their peers to participate in the MSCA, therefore a distinct **disability allowance** for such researchers should be introduced.

### **International mobility and cooperation**

A continued strong focus on international mobility, both to and from Europe, will be ensured in the MSCA 2018-20. Highly developed countries such as the United States have been attractive destinations for outgoing MSCA researchers. However, emerging countries such as

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<sup>2</sup> For example, EU-13 countries account for 12% of the EU researcher population but received only 4% of total MCA funding under FP7. Also in H2020 MSCA, the information from the first 2 rounds of calls shows that both the success rate and the number of applications from EU-13 countries are far lower than from the EU-15.

<sup>3</sup> The number of proposals below threshold amounts to 29% on average among EU-13 compared with 16% on average for EU-15 countries.

<sup>4</sup> 44.1% in ITN, 41.7% in IF, 34.2% in RISE and 48.2% in COFUND.

<sup>5</sup> She Figures 2015:

[https://ec.europa.eu/research/swafs/pdf/pub\\_gender\\_equality/she\\_figures\\_2015-leaflet-web.pdf](https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-leaflet-web.pdf).

<sup>6</sup> Study "Research careers in Europe", recommendation No 15, p.132; available on the EU Bookshop website: <http://bookshop.europa.eu/en/research-careers-in-europe-pbNC0614200/>

China (which quadrupled its share of highly-cited publications between 2000 and 2010), Brazil, or India, attract only small numbers of European researchers and cooperation should be reinforced to ensure more effective brain circulation. The **Global Fellowships will be reinforced** to enable more researchers to gain new skills and knowledge abroad which they bring back to Europe from leading centres in any country. This will also foster new partnerships between outgoing fellows, their European employers, and their host organisations around the world. In addition, **Global Fellows should be allowed to first spend time at the European beneficiary** before leaving for their year(s) outside Europe, for appropriate preparatory training if needed and to minimise any practical difficulties on arrival at their non-European host. The requirement for a significant return phase back in Europe would however be maintained. Further efforts are also needed to attract back European researchers working in third countries, especially given that public R&D expenditure declined in half of the Member States between 2007 and 2014<sup>7</sup>. The MSCA will more actively target European researchers abroad with the aim of reintegrating them in Europe on a long-term basis by **strengthening the Reintegration Panel** as part of the Individual Fellowships.

### **Addressing migration**

The MSCA will **continue to support displaced researchers** to integrate into a research position in their European host country. The mobility rule will continue to apply to refugees only from the moment in time when the refugee status has been obtained. It is also intended to **strengthen the Individual Fellowships' Career Restart Panel** that is promoted to displaced researchers who may have been forced to interrupt their career. The **capacity of the Reintegration Panel** to support displaced researchers who previously worked in Europe and now wish to come back will be **increased and communicated**. The possibility of providing specific support to displaced researchers through e.g. **COFUND** will also be highlighted.

### **Intersectoral mobility and research-business cooperation**

Doctorate holders and others with research experience should be able to develop careers in different sectors of employment. Therefore the MSCA will continue to **promote and support mobility between the academic and the non-academic sector** and training in entrepreneurship. In line with the country-specific recommendations of the European Semester 2016<sup>8</sup>, the MSCA will also continue to strengthen intersectoral cooperation to turn research results into future products and services and contribute to the exploitation of Europe's innovation potential. 887 enterprises already receive funding within 1 050 MSCA projects, which represents 37% of the total number of beneficiaries. A pilot **Society &**

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<sup>7</sup> "Science, Research and Innovation performance of the EU 2016", European Commission, p.32.

<sup>8</sup> "There is a need for much closer cooperation between business and academia. Innovation is a driver for modernising the economy, increasing productivity, attracting investment and supporting economic growth. Creating conditions for innovation requires a combination of financial incentives, supportive regulatory frameworks and a stronger link between business and academia. The link between academia, research and business innovation needs to be strengthened in many Member States..." [http://ec.europa.eu/europe2020/pdf/csr2016/csr2016\\_eccom2016\\_en.pdf](http://ec.europa.eu/europe2020/pdf/csr2016/csr2016_eccom2016_en.pdf).

**Enterprise Panel** under Individual Fellowships was created in 2016 to support researchers training in the non-academic sector specifically. Subject to a positive outcome of the first calls, this panel will be continued throughout 2018-20. Also, intersectoral mobility is not an end in itself but should lead to **genuine innovation**. Therefore, throughout the period 2018-20, the **conditions for staff exchanges in RISE may be revised** to ensure that the time spent at other participants is used in the most efficient way. In addition, the conditions for the participation of businesses in the European Training Networks (ETN) and the European Joint Doctorates (EJD) might be revised: Their involvement as full beneficiaries appears not always necessary and can appear burdensome for some, resulting in unwanted withdrawals. It will therefore be assessed if the **participation of businesses as partner organisations** is sufficient for the desired intersectoral mobility and cooperation. The results of the study on the MSCA **European Industrial Doctorates** will also be taken into account, once these are available in the autumn of 2016.

### **Further simplification**

Clear rules are needed when using public money to fund research, but these rules should reflect reality and not place an unreasonable burden on participants. The Commission will therefore continue to closely monitor the applicable rules in order to strike the **appropriate balance between simplification and accountability**. This concerns not only the participation of specialised configurations/groupings of research organisations, but also the 40% rule in the European Industrial Doctorates (EID) and the **rules for secondments**, which should reflect new ways of working. While the evaluation of MSCA proposals has worked very well so far and is a best-practice example, the sub-elements of the award criteria and the **evaluation procedure** will nevertheless be critically reviewed to ensure the highest possible quality for the evaluation of all MSCA proposals, including inter/multidisciplinary ones, also in the future.

### **Fostering a common identity**

**Common introductory training for all MSCA-fellows** should be arranged, either through participation in an organised event or through online training modules, supplemented with a booklet. This will enable fellows to receive specific training in dimensions that will empower them to become leaders of the new generation of researchers (such as training in open science and responsible research and innovation), and to be directly informed about their rights and obligations as MSCA-researchers. This will foster a common sense of identity and further strengthen the already successful brand name.

### **Synergies with other EU policies**

Synergies and complementarity with other EU policies, funding programmes and bodies will be emphasised, notably the **European Structural and Investment Funds (ESIF)** as well as education-focused initiatives such as the **European Institute of Innovation & Technology**, the **New Skills Agenda for Europe**, and a renewed framework for cooperation on the **Modernisation of Higher Education**. For instance, further efforts are needed to ensure the structural embedding of research in teaching and learning to help students develop an

inquiring mind. Best practices in combining H2020 and ESIF funding should be highlighted more strongly to increase their uptake. Consideration will be given to the introduction of a **Seal of Excellence** for high-quality, non-funded proposals, allowing – on a voluntary basis - for other national, regional or European funding bodies to rely on the MSCA evaluation when considering funding. In addition, a better monitoring and transfer of results should enable their better uptake in other Union policies and programmes.

### **Complementary activities 2018-20**

In addition to the regular MSCA calls, particular emphasis will be put on **Presidency conferences** as a forum to discuss MSCA policy and highlight best-practices, and the **Marie Curie Alumni Association (MCAA)**. This is a key mechanism to track researchers' careers and monitor the results from the MSCA with a view to collecting the required evidence to feed into post-H2020 Strategic Programming leading to the next Framework Programme. In addition, the Commission will continue to support a strong network of **National Contact Points (NCP)** and will scale-up support for the **European Researchers' Night (NIGHT)** to fund up to 2-day events, reaching out to the general public and encouraging more young people to embark on a career in research.

The **impact** of fully implementing these strategic orientations will be:

- up-scaled research-related and transferable skills, leading to better R&I outputs and wider career perspectives for researchers in both the academic and non-academic sectors;
- more organisations from less represented countries participating in the MSCA, thereby raising excellence there;
- increased international exposure for European researchers, more third-country researchers coming to, or staying in (notably displaced researchers), Europe, and intensified collaboration between European participants and their international counterparts;
- better opportunities for a successful, international career for those researchers who had a career break or live with a disability;
- a strengthened community of MSCA researchers and higher visibility of the programme as well as its contributions that benefit both society and economy.



## Calls 2018-20

Innovative Training Networks (ITN)	The Innovative Training Networks (ITN) aim to train a new generation of creative, entrepreneurial and innovative early-stage researchers, able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit.	Annual calls throughout 2018-20
Individual Fellowships (IF)	The goal of the Individual Fellowships is to enhance the creative and innovative potential of experienced researchers, wishing to diversify their individual competence in terms of skill acquisition through advanced training, international and intersectoral mobility.	
Research and Innovation Staff Exchange (RISE)	The RISE scheme will promote international and inter-sector collaboration through research and innovation staff exchanges, and sharing of knowledge and ideas from research to market (and vice-versa).	
Co-funding of regional, national and international programmes (COFUND)	The COFUND scheme aims to stimulate regional, national or international programmes to foster excellence in researchers' training, mobility and career development, spreading the best practices of Marie Skłodowska-Curie actions.	
European Researchers' Night (NIGHT)	The European Researchers' Night aims to bring researchers closer to the general public and to increase awareness of research and innovation activities, with a view to supporting the public recognition of researchers, creating an understanding of the impact of researchers' work on citizen's daily life, and encouraging young people to embark on research careers.	One call in 2018 and one call in 2020