Marie Sklodowska – Curie Actions

Business participation and entrepreneurship in Marie Skłodowska- Curie actions (FP7 and Horizon 2020)

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“Study of business participation and entrepreneurship in Marie Skłodowska-Curie actions (FP7 and Horizon2020)” was undertaken in the wider framework of an ex-post evaluation of the FP7 MCA and an interim evaluation of the MSCA part of Horizon 2020.

Relevant time period is from 2007 to September 2016.

Policy recommendations from the study will provide guidance for the European Commission on how to widen business participation and best support entrepreneurship in the MSCA.
Objectives of the study

The study had two objectives:

• **To analyse business participation patterns and the underlying motivations and barriers for companies to participate in the MSCA projects**, differentiating between large companies and SMEs as well as between different types of MSCA;

• **To explore quantitatively and qualitatively the impact of the MSCA on innovation, entrepreneurship, job creation and inter-sectoral collaboration**

• Horizon 2020, including the MSCA, aims to better involve businesses and to produce marketable innovations

• One of the key objectives for the MSCA is to foster researchers’ careers in non-academic sectors, including in the business sector

• Mobility of researchers to the private sector is one of the means to facilitate the transfer of knowledge between the public and private sectors
In the time period from 2007 to September 2016, businesses accounted for 12.2 % of participants in the MSCA, compared to higher education institutions (61 %) and research organisations (20 %).

By the end of September 2016, 13 532 unique enterprises had applied to participate in 11 721 MSCA projects in both FP7 and H2020 — many projects featured multiple partners from business, altogether there were 25 816 applications from businesses for MSCA funding.

Out of these applications, 1 721 projects were successful and were funded - these projects involved 3 498 business participations with 2 567 individual businesses participating in MSCA projects.

Including partner organisation, in total, 2 758 business participations received EU funding for their participation in the MSCA projects — overall success rate was 10.7 %.
Business participation in the MSCA

- The number of businesses interested in participating in the programme has increased over time
  - more businesses have applied to participate in the MSCA under H2020 until now than during the entire FP7 period

- 47% of H2020 business participants have not been previously involved in FP7

- Chance of a business enterprise receiving funding has decreased from 13.9% in FP7 to about 7.4% in Horizon 2020

- SMEs participated in the MSCA slightly more actively than large businesses

- Larger businesses invest more in research and have larger research departments, which could accommodate the MSCA fellows more easily.
Two modes of participation:

1. **Direct (beneficiary)** – participating business is involved in proposal preparation process, signs the grant agreement, and receives EU funding directly;

2. **Indirect (partner organisation)** – participating business does not sign the grant agreement but contributes to the implementation of the action, for which it is remunerated from the beneficiaries’ shares of the project budget.
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<th>MSCA</th>
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| **ITN** | ETN – European Training Networks  
At least one partner from the non academic sector is encouraged.  

**EID – European Indutrial Doctorate**  
Participaiton of at least 1 non academic partner is mandatory.  
Researchers spends 50% of project implementation in non academic training  

**EJD – European Joint Doctorates** | Providing short term secondments and trainings related to the implementation of the project. |
| **RISE** | Non academic can participate in RISE in a consortium with at least two other partners – mandatory for Intra EU secondments | Business partners from Third Countries |
| **IF** | **Society and enterprise panel**  
Host organisations form non academic sector have to facilitate research and provide necessary trainings and supervision. | **Other IF panels**  
Providing short term secondments and trainings related to the implementation of the project. |
| **COFUND** | Host organisations form non academic sector have to facilitate research and provide necessary trainings and supervision. | Providing short term secondments and trainings related to the implementation of the project. |
Participation by type of MSCA

Businesses most actively participated in ITN and IAPP in FP7 and ITN (especially, ETN) and RISE in H2020.

- ITNs allow businesses to actively **shape the curriculum of PhD students** in their field of activity and, in this way, ensure their **access to highly skilled employees**, while RISE/IAPP offers the possibility to attract highly skilled researchers to **boost a company’s research capacities**.
- In ITN and RISE businesses can directly shape the contents of a research project.

**Figure 4. MSCA participations by type and funding instrument (both FP7 and H2020)**

Businesses have most actively participated in the MSCA projects under:

- Engineering and ICT (20.85 % of all participations),
- Chemistry (14.1 %),
- Life sciences (13.2 %).

Overall EU contribution to business participants proportionally reflected their share among all funded MSCA participants.

Businesses accounted received in total around 10% of all EU contributions.

Compared to higher education and research institutions, businesses, on average, received smaller shares of project budgets and were less willing to coordinate the projects and have tendency to participate as partner organisations.
Figure 3. Business participations in the MSCA by country (FP7 and Horizon 2020; January 2007–September 2016)

## Motivations and barriers for businesses participation in the MSCA

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<th><strong>Main Motivating Factors</strong></th>
<th><strong>Barriers for Business Participation</strong></th>
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<td>✓ To expand the collaborative network;</td>
<td>▪ Reluctance to dedicate resources to write a proposal with a small chance of success;</td>
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<td>✓ To establish cooperation with academic institutions;</td>
<td>▪ Lack of information about various possibilities offered by the MSCA;</td>
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<td>✓ To gain access to highly skilled potential employees;</td>
<td>▪ Reluctance to send own staff away on secondments;</td>
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<td>✓ To gain familiarity with academic research agendas;</td>
<td>▪ Fear that academic institutions have little to offer in terms of applied research (different research cultures);</td>
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<td>✓ To boost company’s R&amp;D capacity;</td>
<td>▪ Fear of losing intellectual property;</td>
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<td>✓ To increase visibility in the market;</td>
<td>▪ Fear of administrative overhead associated with participation;</td>
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<td>✓ To finance fundamental research projects;</td>
<td>▪ Difficulties in finding suitable and eligible ESRs;</td>
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<td>✓ To showcase company’s research excellence.</td>
<td>▪ Long time-to-grant</td>
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**Motivations**

- To expand the collaborative network;
- To establish cooperation with academic institutions;
- To gain access to highly skilled potential employees;
- To gain familiarity with academic research agendas;
- To boost company’s R&D capacity;
- To increase visibility in the market;
- To finance fundamental research projects;
- To showcase company’s research excellence.

**Barriers**

- Reluctance to dedicate resources to write a proposal with a small chance of success;
- Lack of information about various possibilities offered by the MSCA;
- Reluctance to send own staff away on secondments;
- Fear that academic institutions have little to offer in terms of applied research (different research cultures);
- Fear of losing intellectual property;
- Fear of administrative overhead associated with participation;
- Difficulties in finding suitable and eligible ESRs;
- Long time-to-grant
Figure 20. Motivations for businesses to participate in the MSCA (survey of organisations participating in the MSCA)

- To work with researchers from other disciplines
- To increase international collaboration
- To work with researchers from academic sector
- To boost international visibility/reputation
- To attract HQ researchers
- To access currently lacking expertise/infrastructure
- To access funding for training HQ research skills
- To access research funding
- To work with researchers from non-academic sector
- To enhance quality of PhD training
- To provide better career opportunities to own staff
- To access funding to training complementary skills
- To promote incoming mobility
- To promote outward mobility
- To promote reintegration of researchers

Source: ICF survey of organisations participating in ITN, COFUND, IF, RISE, IRSES, IAPP.
The main motivations to apply for MSCA funding differed according to business size:

- Larger companies were motivated by their goal to expand their professional networks and to cooperate with highly-skilled researchers from academia.

- SMEs were more interested in advancing their product development and boosting the capacities of their research units.
Businesses were motivated to participate in the MSCA because it was perceived to enhance their R&D capacity:

• It allowed smaller businesses to take on larger and more ambitious research projects with less risks, as the EU covered the project costs.

• It allowed businesses to produce breakthroughs in their research - access to expertise from academia to solve certain research problems they could not solve themselves.

• Participation in the MSCA provided a company with additional workforce which could be used to increase the pace of their product development.
Collaboration with academia provided them with exposure to cutting-edge fundamental research which will have market implications. Such exposure allowed them to adjust their R&D activities accordingly and to stay competitive.

Participation in the MSCA was a way to enhance their visibility in the market as well as their reputation. MSCA projects reflect scientific excellence, participation in the MSCA were perceived as helping companies to ‘prove’ that their research activities and products are highly advanced. Especially for smaller and younger companies, this was seen as a way to show that they can successfully undertake large and complicated research projects.
Barriers to business participation

Study identified eight major obstacles for businesses to apply for MSCA funding:

• Many businesses which could directly benefit from the participation in the MSCA were not aware of the opportunities offered by the programme.
  – businesses often relied on academic partner organisations to approach them first and offer to take part in an MSCA project application

• There was a persisting lack of interest among certain businesses to cooperate with academia
  – fundamental opposed to applied research

• Companies were unwilling to send their employees away on secondments because it created opportunity costs and additional risks of losing an employee
Participating in the MSCA sometimes led to conflicts over intellectual property rights.

Preparing grant applications is a long and tedious process, given such low success rates, many businesses did not see it as a good use of their time and resources.

Businesses in some cases found proposal submission and the evaluation (time-to-grant) process to lengthy.

— existing time-to-grant duration (8 months) was perceived as too long.
Barriers to business participation

• Business participants indicated that it was increasingly difficult to find ESRs for the MSCA projects (ITN projects)
  – In some fields there were not enough ESRs educated in Europe and the ESRs recruited from outside the EU were often not skilled enough to meet their demands.

• Difficulties associated with the programme regulation and administration
  – Mobility rules posed substantial problems (e.g. problems acquiring residence and work permits for Non EU researchers)
  – SMEs found it difficult to deal with the overall administration of MSCA projects (lack of administrative staff)
Impact on job creation and career development

- Significant impacts on **internationalisation and expansion** of research units, as well as the **development of cooperation** ties with both other businesses and academia.

- The influence of participation in the programme on the human resource policy of business organisations were mixed
  - No impact on internal recruitment and career development practices nor gender balance or other working conditions in their companies.

- Considerable **job-creation effect** on early-stage researchers and other young researchers (post-docs) hosted in industry
  - 47% of all business beneficiaries indicated that as a result of their project at least one job (FTE equivalent) was/will be created in their organization – the majority of which in SMEs

- Significantly contributed to **development of industry-relevant skills** and competences among the beneficiary fellows
  - Exposure to the business environment provided beneficiary fellows with better infrastructure, equipment and higher-quality supervision.
Impact on innovation

• A total of 26,539 publications and 602 patent applications were developed as a result of the MSCA throughout the whole duration of the FP7 and the beginning of H2020
  – Business participation increased the chance of a patent application being registered
  – Around 2,000 projects with business participation managed to register the same number of patent applications

• Business involvement tended to halve the number of publications being produced as a result of the MSCA project
  – The average MSCA project produced fewer publications (~3 per project) than a typical FP7 project (7.32)

• Majority of innovations produced under the MSCA projects fell into the category of innovations with a lower level of technology readiness (TRL 1-4), ranging from the “basic research” (TRL 1) to “small scale prototypes” (TRL 4)

• The programme stakeholders did not view the MSCA as a programme whose key objective was to develop innovations
  – primarily at developing skills and careers prospects of the involved researchers in academia and Industry
Impact on inter – sectoral collaboration

- As a result of the MSCA projects, **businesses expanded their networks more than other participating organisations**
  - The vast majority (89%) of businesses started collaborating with at least one new organisation as a result of the MSCA project

- **Good potential to foster business-to-business collaborations**
  - Companies that participated in the MSCA projects together plan to cooperate with each other in the future

- **Beneficiary organisations tended to maintain their collaborations** after the completion of the MSCA projects
  - Collaborations between academia and industry were also maintained through the mobility of researchers

- **Businesses were much more willing to host the MSCA fellows** than to encourage their own employees to apply for the MSCA fellowships
  - Businesses (especially SMEs) were usually afraid of losing their researchers
Entrepreneurship training in the MSCA

• Entrepreneurship training was rarely an integral part of the training programmes within the MSCA projects.

• The study showed that there was a strong belief among fellows and organisations that entrepreneurship training was only about the technical and legal skills needed for starting a business.

• Network-oriented projects clearly provided more systematic entrepreneurship training than individual fellowship projects.

• The dominant mode of entrepreneurship training was implicit teaching through the participation of businesses.

• For the provision of entrepreneurship training, secondments and dedicated workshops in project network meetings have been used most frequently.
The most relevant skills mentioned were
1) the development of management and leadership skills;
2) understanding how scientific research can be applied in practice and
3) communication and team-work skills in different organisational settings.

Entrepreneurship education for these purposes may include:

- Developing **personal attributes and skills** that form the basis of an entrepreneurial mindset and behaviour (creativity, sense of initiative, risk taking, autonomy, self-confidence, leadership, team spirit, etc.);
- Raising the **awareness of students about self-employment and entrepreneurship** as possible career options; working on concrete business projects and activities;
- Providing **specific business skills and knowledge** of how to start a company and run it successfully.
1. Provide a possibility to recruit experienced researchers from outside of the partnership in the RISE action
   – One of the factors hindering business participation in the RISE action is that it does not allow the recruitment of experienced researchers from outside of the partnership

2. To sustain and further increase the job-creation effect of the programme, the RISE action should provide a possibility to fund the salaries of researchers, including both those of seconded staff and experienced researchers newly recruited by beneficiary organisations

3. Making the existing secondment procedures more flexible in order to increase impact on the skills and employability of researchers - allow business-to-business secondments in Europe.
4. To ensure that the potential MSCA applicants are aware of the programme and its specific aspects:
   • Clearly communicate business-relevant changes in the programme design through the existing communication tools (e.g. the ec.europa.eu website, National Contact Points, short leaflets designed specifically for this purpose)
   • Inform newly established research-intensive companies about the MSCA and its specific actions designed to support business academia collaboration
   • Change the name of the RISE action in order to clearly communicate its objective to support inter-sectoral partnerships
   • Promote the EURAXESS platform among the MSCA beneficiaries and researchers
Where to find Study

• Link on the Study

• Link on the Executive Summary
Useful links

- MSCA bridging business and research
  https://www.youtube.com/watch?v=-BRPPt_tqmQ
- Marie Skłodowska-Curie actions (MSCA) in a nutshell
  https://www.youtube.com/watch?v=S-fDoxerKeA
- Agency for Mobility and EU Programmes
  http://www.mobilnost.hr
- Horizon 2020 – Croatian national portal
  http://www.obzor2020.hr
- Euraxess portal
  http://www.euraxess.hr
- Marie Skłodowska-Curie Actions
  http://ec.europa.eu/research/mariecurieactions/
  - Participants’ portal
  - Horizon 2020 on-line manual
    http://ec.europa.eu/research/participants/docs/h2020-funding-guide/index_en.htm
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