



European
Commission

Newcomers in EU R&I programmes

Main trends in
Horizon 2020,
first evidence from
Horizon Europe



MONITORING &
EVALUATION REPORT

Research and
Innovation

Newcomers in EU R&I programmes

Main trends in Horizon 2020, first evidence from Horizon Europe

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first evidence from
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ABSTRACT

Over two thirds of the beneficiaries of Horizon 2020 projects were “newcomers”: entities that were not funded under the previous Research and Innovation Framework Programme, FP7. However, these participants received less than 20% of all funding available. To understand why, this monitoring flash investigates the key characteristics of this population: what kind of entities they are, what programme parts attracted them the most, where they came from geographically, and whether they participated in Horizon 2020 Joint Undertakings. Finally, the flash present early evidence from the first full year of the current R&I Framework Programme, Horizon Europe, looking at participants that were not funded during Horizon 2020.

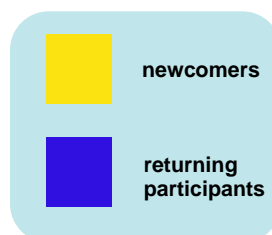
In this monitoring flash, it is shown how newcomers account for a big part of beneficiaries that are private for profit enterprises, and particularly of those that are SMEs. Instead, they are much less present among education and research institutions. Member States that joined the EU after 2004 are a partial exception, as newcomers receive more funding across all categories. Our main conclusion is that the share of newcomers as indicator should be used with caution, and primarily to compare between programme parts that target similar types of beneficiaries, as well as actions specifically aimed to widening participation in the Framework Programme.

1. Introduction

This monitoring flash provides **an analysis of the participation of newcomers in Horizon 2020**. It presents the key figures and looks into what are their main characteristics, including type of entity, programme part and country of beneficiary – factors that have strong implications on how to interpret this indicator appropriately.

It also looks at **preliminary figures on newcomers to Horizon Europe**. The time span for the analysis is still short – at the reference date, just slightly more than one year had passed since the first project was signed – but there are still signals worth monitoring in the longer term.

For **Horizon 2020**, this flash defines newcomers as **beneficiaries that did not take part in projects under the previous R&I Framework Programme, FP7**. Participation refers to selection following a successful application. Organisations that applied but were never selected are not considered as participants. **For Horizon Europe, the same approach is used: a newcomer is an entity that did not take part in any projects in Horizon 2020¹.**



¹ This means that an entity that participated in one or more earlier Framework Programmes, with the exception of the preceding one, is considered a newcomer. While not “newcomers” in a literal sense, it can be argued that legal entities that have not participated in a successful project in seven years or more have a lower degree of attachment to the programme than other returning participants. This choice is also useful for consistency, as it is not always possible to determine with precision participation before FP7 as easily and precisely as for the more recent FPs.

At the opposite end, entities with at least one participation in FP7 (or, for Horizon Europe, in Horizon 2020) are called **returning participants**.

A further breakdown is provided for joint undertakings, for which it is possible to distinguish between newcomers to the programme and newcomers to that specific partnership, or to partnerships in general.

Each participant is identified via its unique **participant identification code (PIC)**. While being generally reliable, this code identifies legal entities as opposed to the individuals that are part of them, which in some cases – such as for European Research Council grants – are arguably a more relevant subject of analysis.

Reference date for all figures in this flash is **2 August 2022**.

2. Newcomers in Horizon 2020

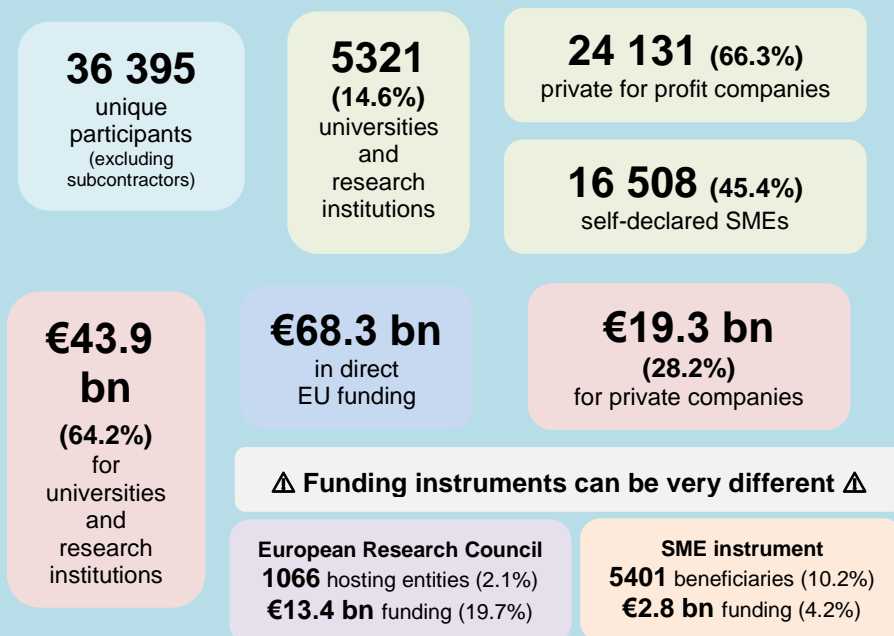
① For an overview of key participation figures on Horizon 2020 as a whole, check the interactive dashboard on EU R&I projects.

Click or scan the QR code:



Note that differences in figures with this flash may arise due to methodological differences. Filter by “Programme = “H2020”” and “Partner type = “Beneficiary”” to get comparable figures (cfr. Methodological notes at the end of this document).

Context: key Horizon 2020 figures (as of 2 August 2022)



⚠ Some parts of Horizon 2020 are not included in the figures. See “Methodological notes” for more.

2.1. Key figures

In Horizon 2020, over two thirds of unique beneficiaries (**25 179**, or **69.2%**) did not participate in any project funded under its predecessor, FP7. However, the **share of EU funding** that went to programme newcomers is much lower than for those who had previous Framework programme experience: Horizon 2020 new participants received around EUR 12.9 billion, which is less than one fifth (**18.9%**) of the direct financial contribution provided by the programme during the whole period.

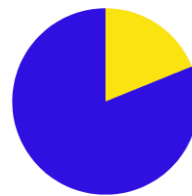
Figures 2.1.1 a-b: Key figures on participation of newcomers in Horizon 2020

% of newcomer participants



69.2%

% of EU funding to newcomers



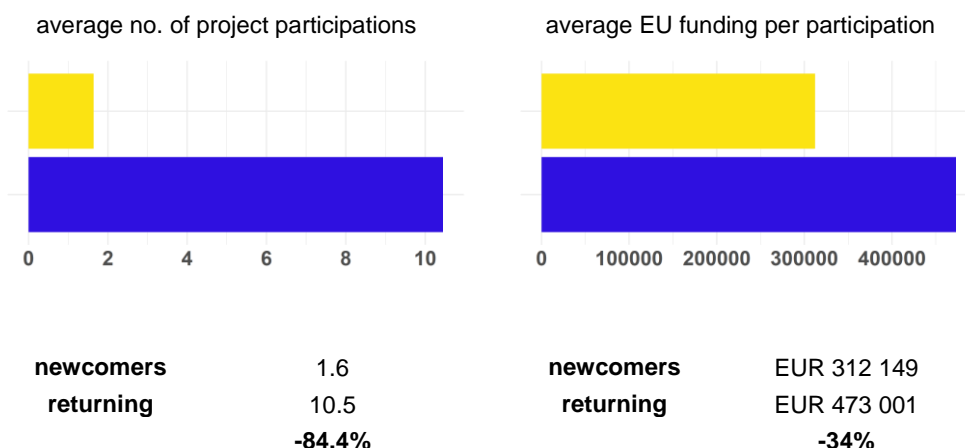
18.9%

The gap between the share of new participants and their share of funding has two reasons:

- **Much lower number of project participations:** Returning participants have taken part on average in many more projects than Framework Programme newcomers (10.5 participations against 1.6). Indeed, almost three quarters of Horizon 2020 newcomers took part in just one funded project, while for returning participants this is true in just around one third of all cases. Less than 10% of newcomers have more than three participations on the record during the FP period, against approximately 40% for other beneficiaries.
- **Lower average funding per project:** there is also a significant gap in the average funding received for each project. Newcomers received an average of EUR 312 000 per project, which is EUR 161 000 less (-34%) than the average amount received by returning FP7 participants.

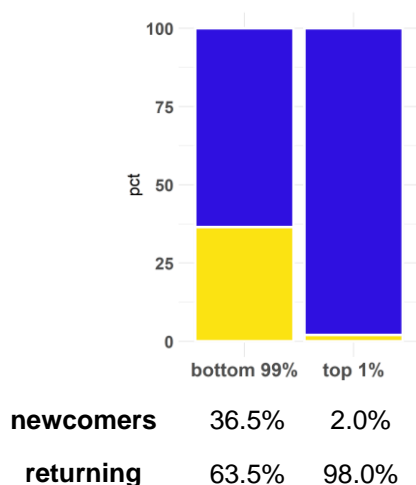
Part of this difference lies in the fact that newcomers are overrepresented among beneficiaries receiving EUR 50 000 or less: 35% of funding for projects under this threshold goes to new participants. **If these projects are removed**, as well as large contributions of over EUR 5 million (which represent less than 0.3% of all grants), average funding to newcomers increases to EUR 377 000 per project participation. Still, **the gap between newcomers and returning participants remains sizeable** – EUR 121 000, or -23.4%.

Figures 2.1.2 a-b: Key differences between newcomers and returning participants in Horizon 2020



The figures also reflect **concentration patterns** towards the top beneficiaries, as also evidenced in Horizon 2020's interim evaluation². Newcomers have very little representation among top-funded legal entities: **they are just 2% of the beneficiaries in the highest percentile for amount received**³. This has significant implications, as the top 1% of Horizon 2020 beneficiaries received slightly more than half of all funding available during the Programme.

Figure 2.1.3: Share of EU funding to Horizon 2020 newcomers – top 1% of beneficiaries vs the rest

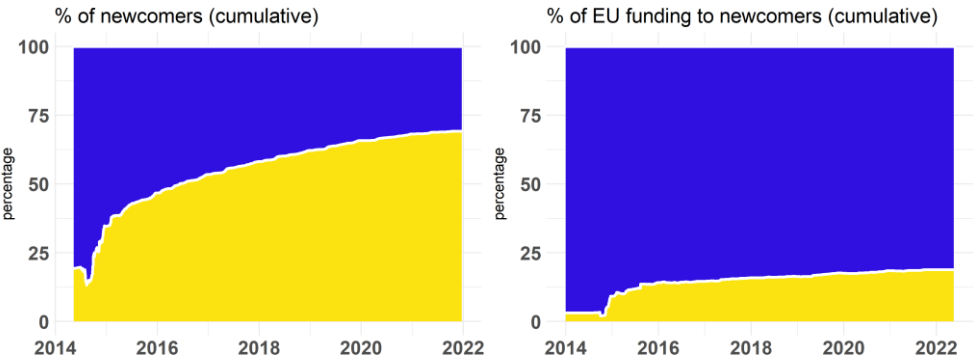


² Full text here: <https://op.europa.eu/en/publication-detail/-/publication/fad8c173-7e42-11e7-b5c6-01aa75ed71a1/language-en/format-PDF/source-77918455>

³ Meaning, the top 1% of beneficiaries (around 300 entities). If, like in the Horizon 2020 interim evaluation report, only the top 100 beneficiaries are taken into account, the ratio is also 2/100; however, both "newcomers" in the list are actually intermediaries issuing cascading grants.

The newcomers' population changed size over time in a distinctive way. **Newcomers are much less represented in projects signed at the beginning of the Framework Programme period**, by absolute numbers as well as by the share of funding received. The proportion of newcomers then increases rapidly already in the second year, and keeps steadily growing until the end of the programme period.

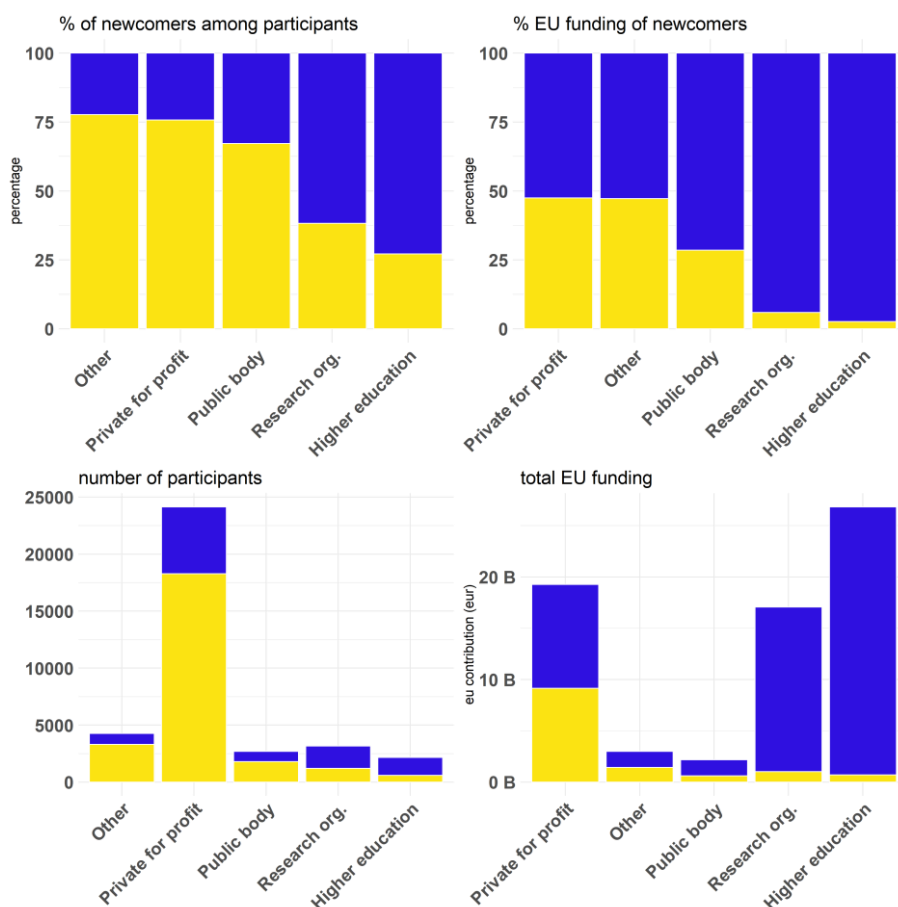
Figures 2.1.4 a-b: Trends in newcomer participation (unique participants and EU funding) in Horizon 2020



2.2. Who are the newcomers?

Analysing the figures by **type of organisation** shows structural differences between the population of newcomers and that of returning participants. **Two categories of participants distinguish themselves: research institutions** (higher education establishments and research centres) **and private sector entities**.

Figures 2.2.1 a-b-c-d: Newcomer participation in Horizon 2020 in terms of number of unique participants and EU funding received, relative and absolute values



There are relatively few newcomers among education and research institutions, which among themselves receive around two thirds of all Horizon 2020 funding. This is likely because these entities tend to be long established and large, with many separate research teams and projects. The newcomers between these entities are sometimes the result of consolidation within national education and research systems – hence there is some form of continuity with previous beneficiaries – and the “true” newcomers appear to be generally small institutions.

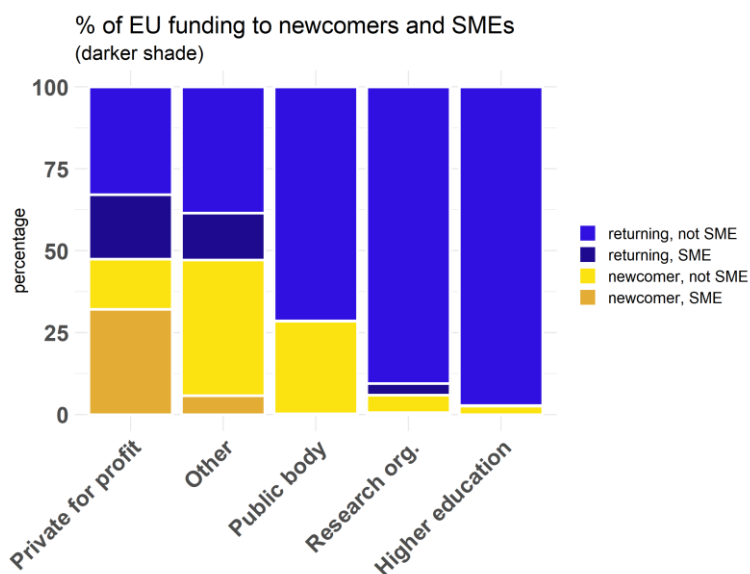
Consequently, newcomers in this group, even though they are not irrelevant in absolute terms, receive a very small share of the funds (just **2.5% for universities**). Universities with

no previous FP7 participation joined less than three projects each on average, while the equivalent for more established organisations is over 10 times higher.

Newcomers are primarily found among private for profit entities. Around three quarters of Horizon 2020 beneficiaries classified as such did not participate in FP7, and the funding they received is substantial – EUR 9.1 billion. This is still no more than 50% of the overall EU contribution disbursed to private companies: in this group too, newcomers participated in fewer projects and received less funding per participation.

Newcomers are often conceptually associated with **small and medium-sized enterprises**. There is some degree of overlap, although there are many newcomers that are not SMEs (and vice versa). In fact, just about **half of all Horizon 2020 funds (50.3%) to newcomers went to entities that declared to be SMEs at time of application**⁴.

Figure 2.2.2: Newcomer participation in Horizon 2020 by type of entity, SME participation highlighted



While technically a research institution or a public agency can be an SME – provided that it is incorporated as a company and meets the financial requirements set out in EU recommendation 2003/361⁵ – this category is mostly relevant for **private for profit entities**. In this group, **two thirds of funds to newcomers go to self-declared SMEs (EUR 6.1 billion)**, while among returning participants the proportion is roughly reversed. Indirectly, this shows that the role of “established” SMEs – entities that were old and

⁴ Our SME definition is based on a self-assessment made by beneficiaries at time of applying for funding. In some cases, when SME status is a precondition for funding, the validation process is stricter. Each entity has one SME status assigned for each project signature date: for this reason, we do not calculate the absolute number of unique SMEs applying, as not all these entities have been SMEs throughout the Horizon 2020 period. For more details, check “Methodology” section.

⁵ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003H0361&locale=en>

structured enough to win calls under the earlier Framework Programme – is not negligible: they received around **EUR 3.8 billion** in Horizon 2020 funding.

2.3. Which funding schemes are more attractive for newcomers?

① An overview of Horizon 2020 types of action is available in the Horizon 2020 online manual, section “What you need to know about Horizon 2020 calls”:
https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/find-a-call/what-you-need-to-know_en.htm

The share of funding going to newcomers is remarkably similar between Horizon 2020 funding schemes aimed at **single beneficiaries** (19.1%) and to projects implemented by a consortium with **multiple beneficiaries** (18.8%). This homogeneity however masks large differences between different **types of action**: in revealing patterns, some attract many more newcomers than others.

The two “Sankey” diagrams further below show how newcomers and returning participants are distributed across the main instruments and types of action in Horizon 2020, respectively by the number of unique beneficiaries and share of total funding received.

As also shown in the bar charts below, the action with the largest representation of newcomers is, by far, the **SME instrument** – where newcomers received around 90% of the funding.

Almost 20% of all EU funding to programme newcomers came through this instrument, particularly its “Phase 2” – which entailed substantial financing up to EUR 2.5 million per beneficiary. The “Phase 1” of the instrument, a lump sum of EUR 50 000 per applicant, did not contribute much in terms of funding, but it accounts for over 15% of all unique participations by newcomers.

Among more encompassing funding schemes, newcomers make up a considerable share of beneficiaries of **innovation actions (IA)**, significantly more than for Research and Innovation Actions (RIA), which have lower technological readiness levels (TRLs) and a stronger component of basic research. They are also fairly well represented among beneficiaries of the set of “Coordination and Support Actions” (CSA).

The rate of newcomers is instead rather low for actions financed under Horizon 2020’s “Excellent Science” pillar. Almost all European Research Council (ERC) funding went to researchers in institutions that already hosted successful applicants in FP7; there are more newcomers in Marie Skłodowska-Curie actions (MSCA)⁶, but they are still a small minority. This can be explained by the fact that these programmes are **primarily aimed at research organisations** – in the case of ERC, almost exclusively. Moreover, the target of the grant is normally not a legal entity but an individual, the researcher. According to the definition used here, the **newcomers are not the researchers, but their host organisations**⁷. Unique identifiers equivalent to PICs for individual researchers were not

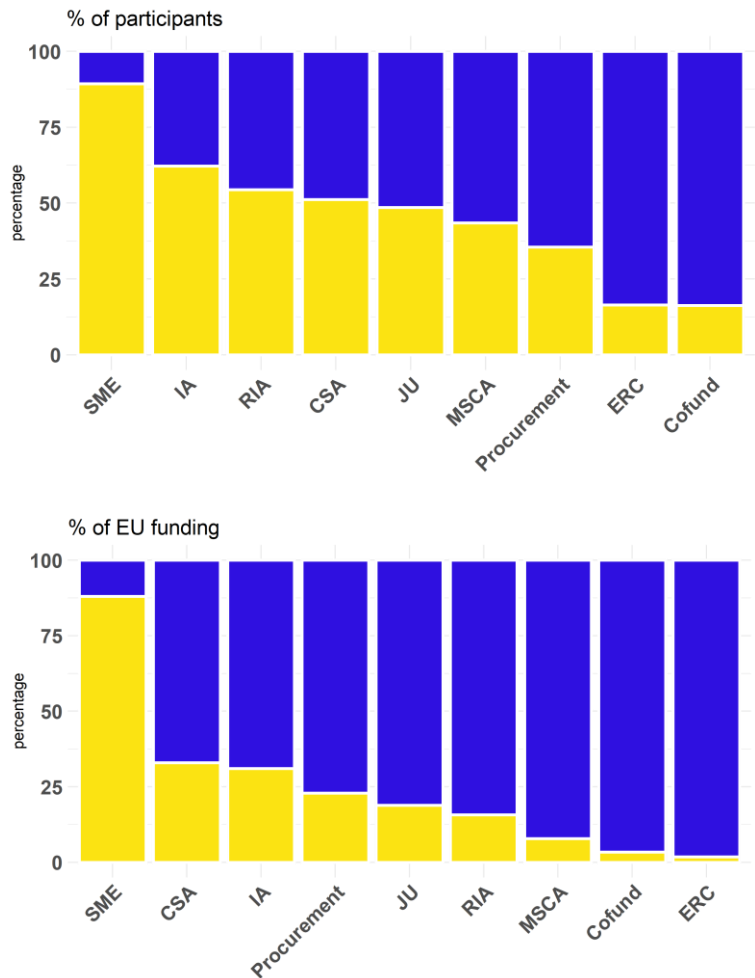
⁶ MSCA has a high number of participations from so-called “partner organisations”, which are not included in the population of this flash. If these are included, newcomers participation in this programme part increases significantly, although remaining below Framework Programme average. See also Methodological notes.

⁷ A low share of newcomers in these programmes does not mean, as it could be superficially assumed, that the grants go always to the same people: it means that beneficiaries tend to come from institutions which already hosted at least one beneficiary in the previous Framework Programme.

collected systematically in the past: starting from Horizon Europe they are, which will greatly facilitate an analysis along these lines in the future.

The share of newcomers by type of action is primarily a function of the types of organisations that are funded under it. If the action targets academia and concerns fundamental research, the number of newcomer entities will be low. If it targets industrial players, it will normally be much higher – and **the higher the share of participant SMEs, the greater that of newcomers.**

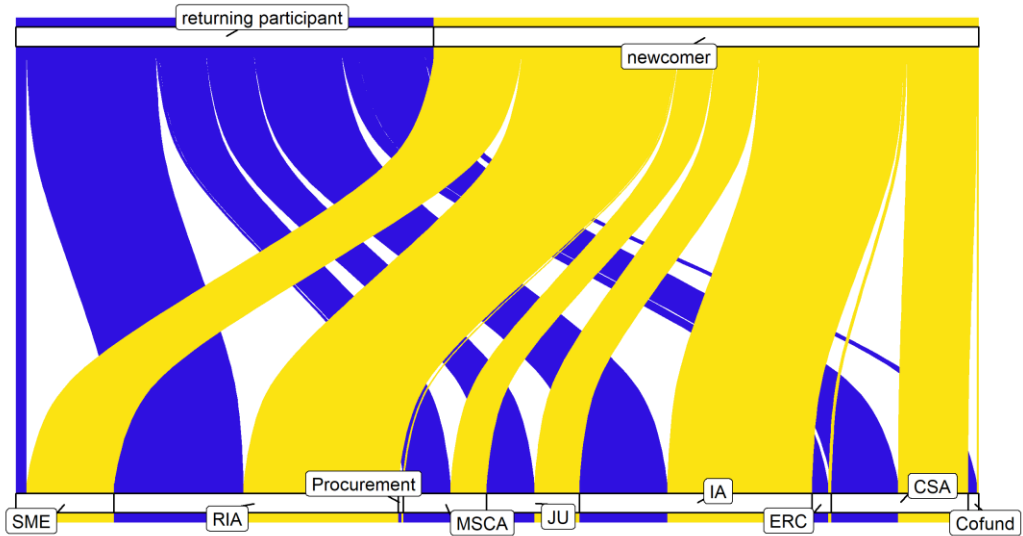
Figures 2.3.1 a-b: Newcomer participation in Horizon 2020 by funding scheme (types of action and instruments)



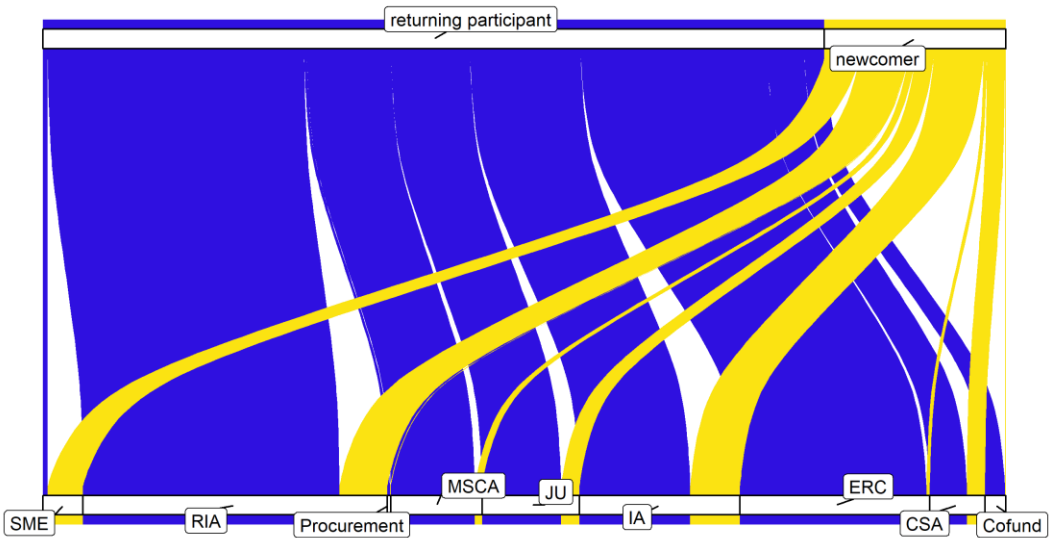
Figures 2.3.2 a-b: Sankey charts: share of newcomers in Horizon 2020 programme parts

① A Sankey chart is a flow diagram representing the transition of quantities between two categories. The width of the flow is proportional to the flow rate – e.g., if a flow is twice as wide, it represents double the quantity.

Number of participants



% of EU funding



The scatterplots on the next pages show a clear relationship between the share of funds to newcomers and, respectively, the share of funds to private for profit entities and that of SME participants, at the level of each programme part (large labels) as well as each call (smaller, shaded points). The correlation is stronger overall for SMEs: for private entities there are many calls that do not follow the trend – such as those for joint undertakings like ECSEL, seen below the regression line – as they attract primarily large enterprises.

A formal regression analysis confirms this finding. While there is a positive and significant correlation between the share of funds going to newcomers and that going to private companies, the strongest driver in the relationship is actually the share of SMEs financed under each call. An increase in 1 percentage point (p.p.) in the number of participant SMEs increases the percentage of newcomers by 0.52 p.p., while for private for profit entities the effect is 0.29 p.p. It is noteworthy how the relationship, while statistically significant, is not extremely tight: these two variables explain just around half of the variance of the share of newcomers at call level⁸.

Table 2.3.1: Correlation between participation of newcomers and of private for profit entities / SMEs

① This table shows the coefficients for a linear regression model. The dependent variable is the share of newcomers in each Horizon 2020 call; independent variables are represented in the left column. The coefficient value indicates how much the mean of the dependent variable changes given a one-unit shift in the independent variable. When there is more than one variable in the model, it indicates the size of the change with other variables constant. The asterisks indicate the level of statistical significance of the relationship (i.e. how much we are sure that the coefficient has a value different from 0). Finally, the R² value indicates how much of the variation of the dependent variable is actually explained by the regression model, on a scale from 0 to 1.

% of EU funding to private for profit companies	0.57 ***		0.29 ***
% of EU funding to SMEs		0.88***	0.52 ***
N	896	896	896
R ²	0.44	0.45	0.49

*** p < 0.001; ** p < 0.01; * p < 0.05.

This finding has one main implication: **the number of newcomers should not be used as a performance indicator to compare *between* programme parts that have different target groups.**

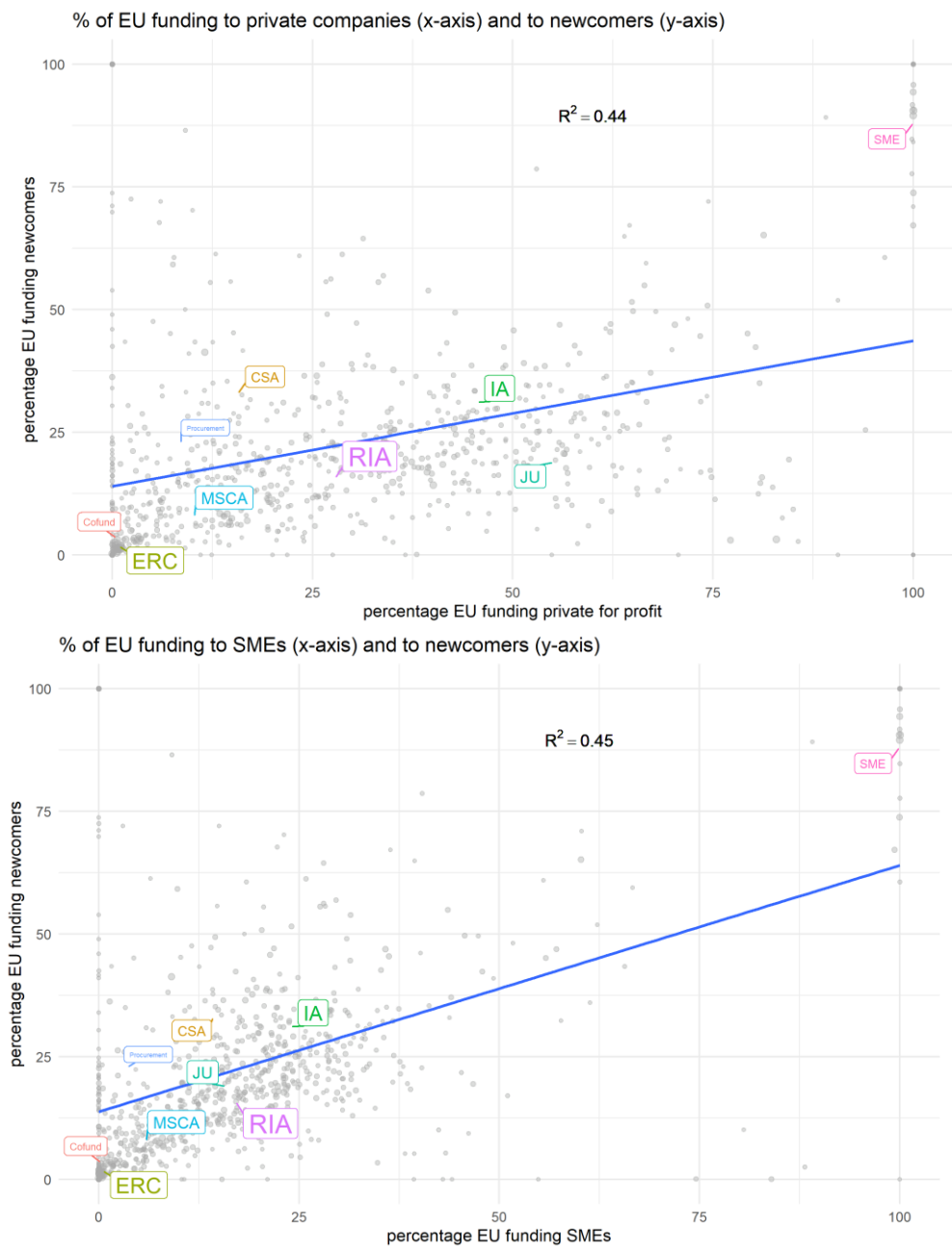
An indicator constructed as such may be very useful for those programme parts that aim to attract private sector entities, and SMEs in particular. **For programmes like ERC and MSCA, the relative figures are not very meaningful: they are most likely going to be low.** However, it could still be worthy to look at the number of newcomers in these programmes in isolation, as it offers a metric of its openness to newly-founded or small research institutions and – especially for MSCA – to certain private sector actors. For **collaborative actions** targeting research institutions, the share of newcomers could still be useful as one of the measures to assess the openness of such collaborations to new participants.

⁸ The strength of the statistical relationship (indicated by the R² score) improves significantly if the smaller calls (e.g. those with a budget under EUR 1 million, approx. 200 in total) are removed from the population. Even in this case, still around one third of the variance in the number of newcomers remains unexplained.

Figures 2.3.3 a-b: Scatterplots: determinants of funding to newcomers

① A scatterplot is a graph in which the values of two variables (in this case, the share of R&I funding to Horizon 2020 newcomers and another variable) are plotted along two axes. The graph is intended to show a correlation between the two variables. The correlation is also represented by the regression line in blue.

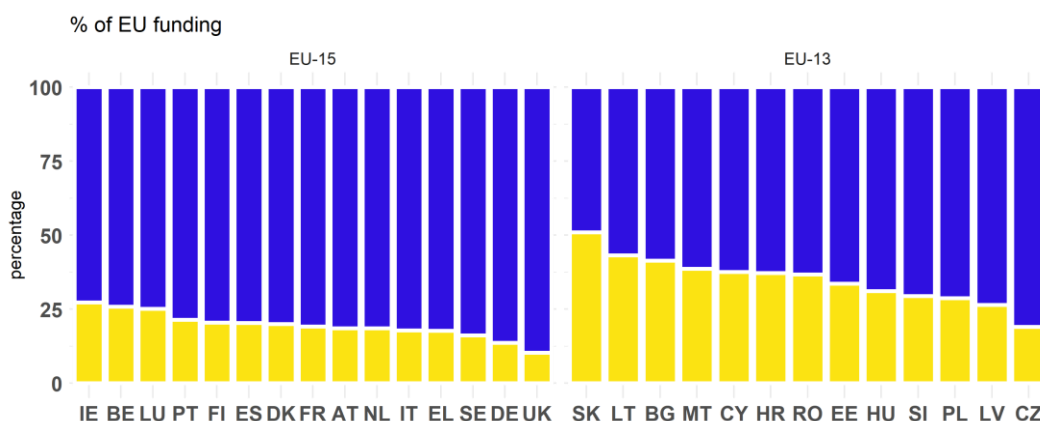
In the graphs below, each point represents a Horizon 2020 call. The labels represent Horizon 2020's main types of action. The size of the points and labels approximates how much funding was issued in a given call or programme part. A darker shade of the point indicates that more than one call has the same or similar value along both axes.



2.4. Where do newcomers come from?

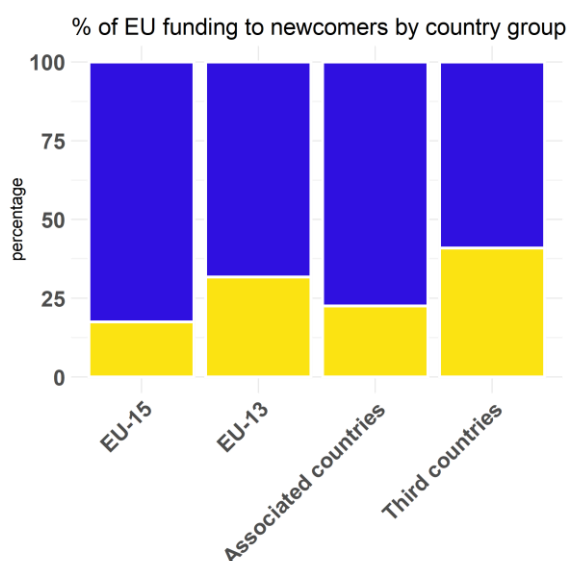
The share of newcomers varies from one EU member state to the other. In particular, the share of **funding** going to newcomers varies from over 50% in Slovakia to 13.7% in Germany, while the United Kingdom, which despite Brexit has been treated as a participating country for the entire Horizon 2020⁹, is even below.

Figures 2.4.1 a-b: Participation of newcomers in Horizon 2020 in terms of EU funding received, by EU member state and country group



In proportion, funding to newcomers is much higher in the 13 Member States that joined the EU since 2004 (“EU-13” countries). Overall, **31.7%** of EU R&I funding in these countries goes to newcomers: a value much higher than for pre-2004 Member States (“EU-15”, **17.5%**).

The difference in the number of newcomers between countries is partly a proxy of the type of entities that are most represented, which is not homogeneous across Member States. In the United Kingdom, higher education institutions received almost 70% of all Horizon 2020 funds: an exceptionally large share. In large European countries like France, Germany and Italy, but also Romania, most funds to private for profit



⁹ This is due to a provision of the [EU-UK Withdrawal agreement](#). Art. 138.1 states: “In respect of the implementation of the Union programmes and activities committed under the MFF 2014-2020 or previous financial perspectives, applicable Union law [...] shall continue to apply to the United Kingdom after 31 December 2020 until the closure of those Union programmes and activities.”

entities go to large companies; in others, **SMEs are much more represented**, particularly in some EU-13 countries like **Cyprus**. However, while there are more SMEs in general in EU-13 countries, the difference with the other Member States is not that prominent.

Figure 2.4.2: Participants in Horizon 2020 by country and type of entity

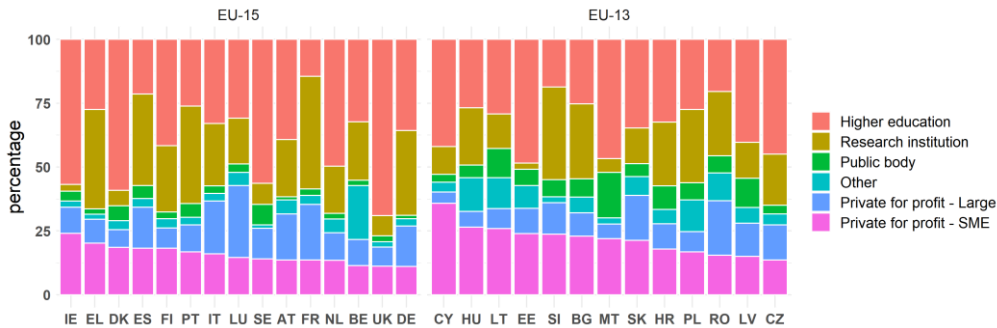
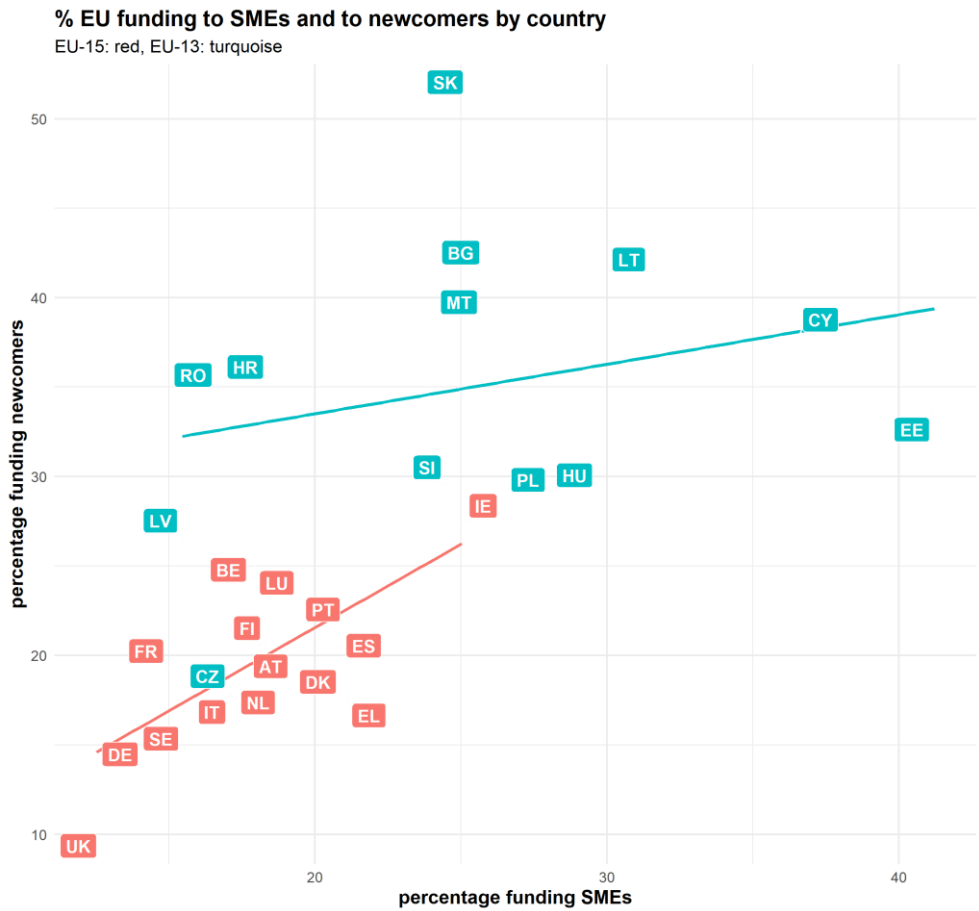


Figure 2.4.3, Table 2.4.1: Correlation between SME participation and funding to newcomers at EU country level



	EU-15	EU-13
Baseline ¹⁰	2.94	27.96 **
Share of SMEs	0.93 **	0.28
N	15	13
R ²	0.47	0.07

*** p < 0.001; ** p < 0.01; * p < 0.05.

In fact, as also shown in the regression model above, **the share of funding to newcomers in EU-13 countries is higher than average across the board, also in countries where there are not many participant SMEs.** In these countries the rate of newcomers is actually very high for private entities in general, indicating that many large companies are being funded under the R&I Framework Programmes for the first time as well.

As far as non-EU countries are concerned, **associated countries**¹¹ show a share of funding going to newcomers only slightly higher than for the programme as a whole (22.6%). In this case too, the general rate conceals important regional divergence. Rates are particularly high for states in the eastern EU neighbourhood, such as **Ukraine (66.2%)**, but remarkably low for major Horizon 2020 participants like Norway and Switzerland.

For non-associated **third countries**, it is important to recall that only some Horizon 2020 programme parts allow to disburse EU funding towards entities based in non-EU and non-associated countries: around 40% of third country participations are actually unfunded by the EU. Calls where non-EU beneficiaries were eligible are not equally distributed across programme parts: most funding goes towards global development challenges, ERC “Synergy grants”¹² and, especially, the **fight against infectious diseases**. An example is the 2014 “Ebola+ programme” of the IMI joint undertaking, which issued considerable amounts to entities based in areas of Western Africa then affected by the Ebola epidemic (such as Sierra Leone).¹³

As a consequence of this, while the rate of funding to newcomers is relatively high (40.9% of overall funding), the actual amounts involved are small. For examples, 41% of participants from the United States are newcomers, but they received just EUR 48 million in EU contributions – still by far the highest amount across all third countries. There are just a handful of countries where Horizon 2020 beneficiaries received over EUR 10 million overall: most of them are in Africa, where the proportion of newcomers is generally high.

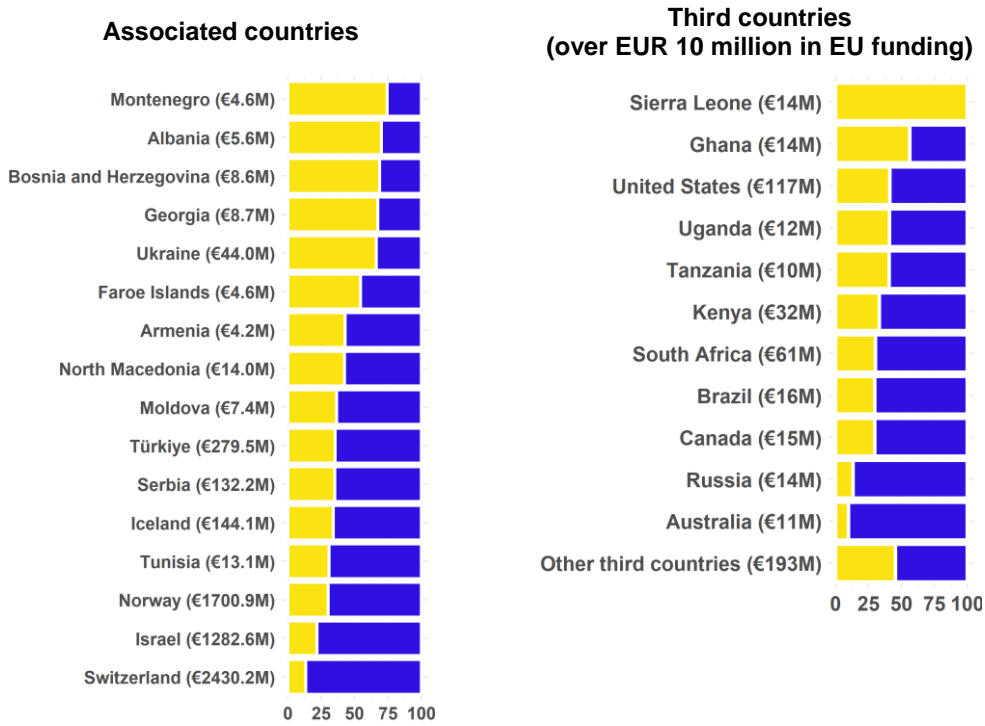
¹⁰ The baseline value is the (hypothetical) share of newcomers estimated by the linear regression model when the percentage of SMEs in a country is equal to zero.

¹¹ “Associated countries” are non-EU states and territories that signed an international agreement with the EU, allowing participation in the programme on equal footing with legal entities from EU Member States. For Horizon 2020, these were: Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, North Macedonia, Iceland, Israel, Moldova, Montenegro, Norway, Serbia, Switzerland, Tunisia, Türkiye and Ukraine.

¹² <https://erc.europa.eu/apply-grant/synergy-grant>

¹³ <https://www.imi.europa.eu/projects-results/project-factsheets/ebola>

Figure 2.4.4: Share of EU funding to newcomers, country ranking¹⁴



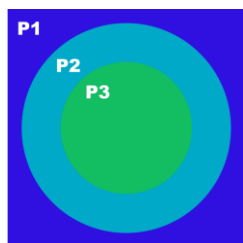
¹⁴ In brackets: total Horizon 2020 funding for that country.

3. Focus: Newcomers in Horizon 2020 Joint Undertakings

Up to now, we have only considered as “newcomers” the entities that did not receive any funding during the previous R&I Framework Programme. Nonetheless, **a participant can also be new to a specific part of the programme, or to a partnership.** For instance, some **joint undertakings (JUs)** that have existed both in FP7 and in Horizon 2020 call “newcomers” in their Annual Activity Reports¹⁵ all entities that did not participate in that same partnership during the previous Framework Programme. The Biennial Monitoring Report on Partnerships (2022) uses a similar definition for one of its core performance indicators¹⁶.

Finding a correspondence between comparable programme parts in FP7 and in Horizon 2020 is not straightforward. However, this is easier to do for JUs. Of the JUs in place during FP7, Cleansky (CS), Fuel Cells and Hydrogen (FCH), Innovative Medicines Initiative (IMI), and Single European Sky ATM Research (SESAR) all have a direct successor in Horizon 2020 (CS2, FCH2, IMI2, SESAR2). Two JUs, ENIAC and ARTEMIS, have a single successor, ECSEL, while Bio-Based industries (BBI), Shift2Rail (S2R) and EuroHPC are new in Horizon 2020.

The only limitation is that, due to not fully compatible reporting systems in FP7, not all relevant data is available in the Commission’s CORDA database. For instance, there is no data about participants in SESAR JU for FP7. This means that the number of newcomers presented here should be considered an overestimate.



We distinguish returning FP7 participants in three groups:

P1: Participants in FP7, but not in a joint undertaking

P2: Participants in a different joint undertaking in FP7 and in Horizon 2020

P3: Participants in the same joint undertaking or its successors.

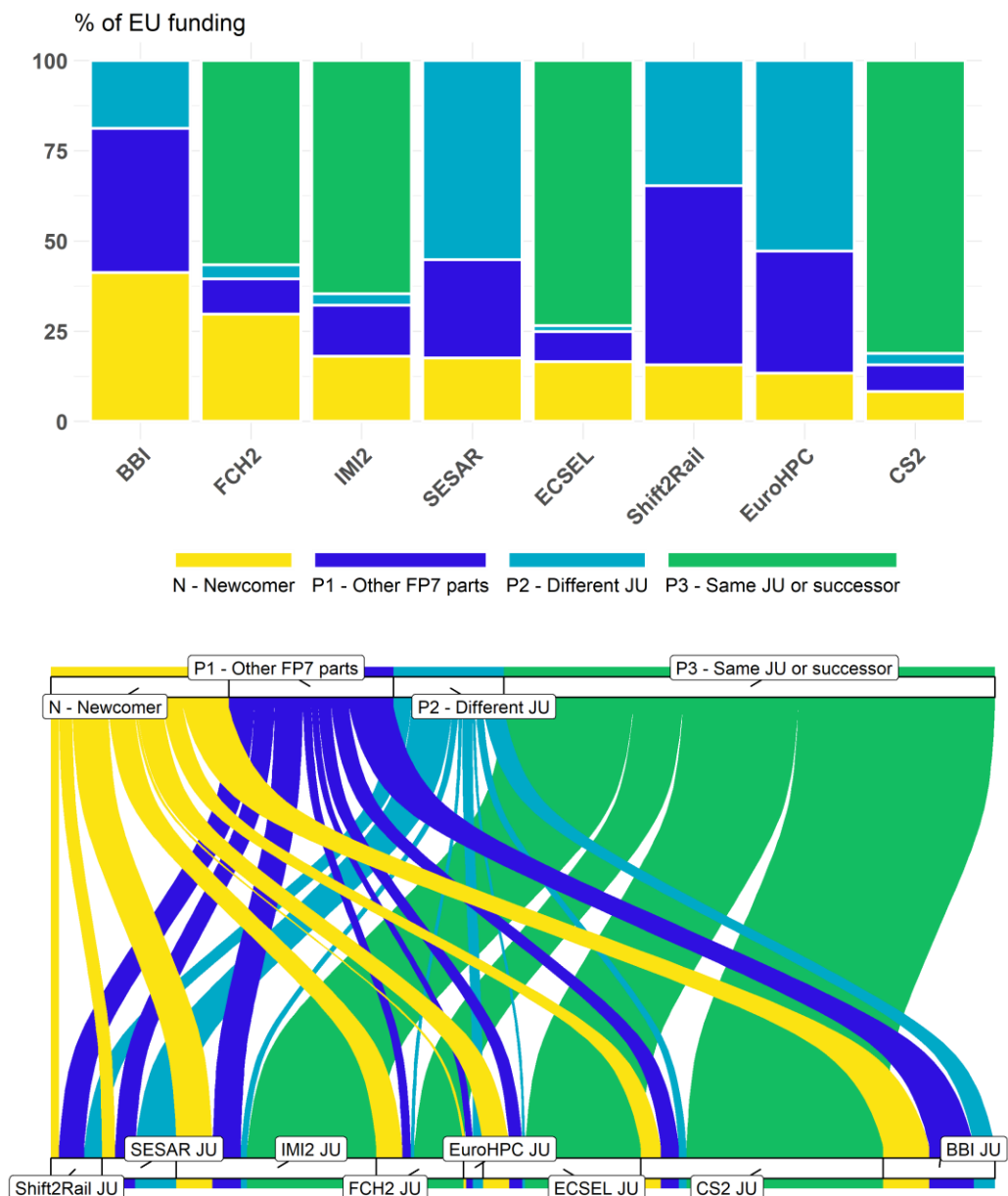
Overall, 19% of the funds in JUs went to “true newcomers” – entities that were not funded under any FP7 programme part. This is in broadly in line with Horizon 2020 as a whole. A further 17.1% went to entities that were funded in FP7 but not in any JU.

As it is clear from the Sankey chart, there is a **high degree of continuity** between participants in EU partnerships. Over half of EU funds (53.1%) disbursed in joint undertakings during Horizon 2020 went to entities that participated in the predecessor of that same JU. A further 10.8% of funds went to entities that were part of a JU in FP7, but joined a different one in the next Framework programme.

¹⁵ See, for example, *Annual Activity Report*, ECSEL joint undertaking, available at <https://www.ecsel.eu/sites/default/files/2021-06/ECSEL%20GB%202021.157%20-%20Annex%20AAR%202020.pdf>.

¹⁶ See Indicator #6 on page 80: <https://op.europa.eu/o/opportal-service/download-handler?identifier=a6cbe152-d19e-11ec-a95f-01aa75ed71a1&format=pdf&language=en&productionSystem=cellar&part=>

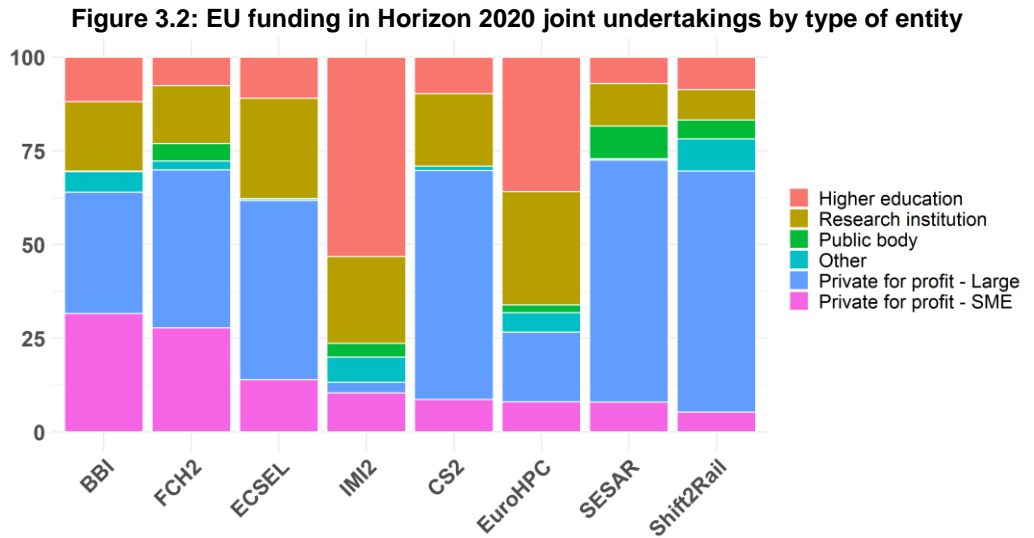
Figures 3.1 a-b:
EU funding in Horizon 2020 joint undertakings by type of participant



Some JUs have proved much more attractive for new players. The **Bio-Based Industries JU**, launched in Horizon 2020, is an example. Over 40% of the funds went to newcomers, and almost an equal amount to entities that were not part of joint undertakings before. The only other JU for which the share of newcomers is higher than for the FP as a whole is FCH2 (29.7%). For most other entities the rates are middling to low. The two other new JUs in Horizon 2020, Shift2Rail and EuroHPC, did not attract many “true newcomers”,

but in both cases they feature large numbers of earlier Framework Programme participants that did not join any JU before.

By definition, JUs are partnerships between the European Union and (primarily) industrial actors. Accordingly, **the rate of private for profit participants in these entities is generally high**, making up over 60% of the funds disbursed – only exceptions, EuroHPC and IMI2, for which the percentage is quite low. **What sets apart BBI and FCH2 from the other JUs is the high share of private for profit companies that are also SMEs**: it is almost half of all participants for BBI and 40% for FCH2. Another JU that has proportionally a high share of SMEs over all participant companies is IMI2: however, as shown in the figure below, little funding overall goes to private companies in this JU – proportionally, by far the lowest of any of them – and thus newcomers representation is not very high.



These figures corroborate the evidence that the representation of newcomers in the R&I Framework Programmes is primarily a function of the capacity of attracting small and medium enterprises. **Since JUs tend to fund larger companies more, they do not attract many newcomers unless they are also successful in attracting SMEs.**

4. Horizon Europe: first year trends

① For an overview of participation figures in Horizon Europe (regularly up to date), check the interactive dashboard on EU R&I projects.

Click or scan the QR code:



Note that differences in figures with this flash will arise with time progression and due to methodological differences. Filter by “Programme = “HORIZON EUROPE””, “Partner type = “Beneficiary””, and “Project signature date < 2022-08-02” to get comparable figures (cfr. Methodological notes at the end of this document).

Context: Key Horizon Europe figures ~1 year after start (2 August 2022)

6314

unique
participants

1950

SME
participants

€7.7 bn

EU funding
disbursed

€1.2 bn

EU funding to SMEs
(~15% all)

△Total Horizon Europe budget (2021-2027) △

€95.5 bn

△ Some parts of Horizon Europe are not included in the figures. See “Methodological notes” for more.

For the time span of one year since the signature of the first projects¹⁷, it is now possible to give a first assessment of the attractiveness for newcomers of the new R&I Framework Programme, Horizon Europe.

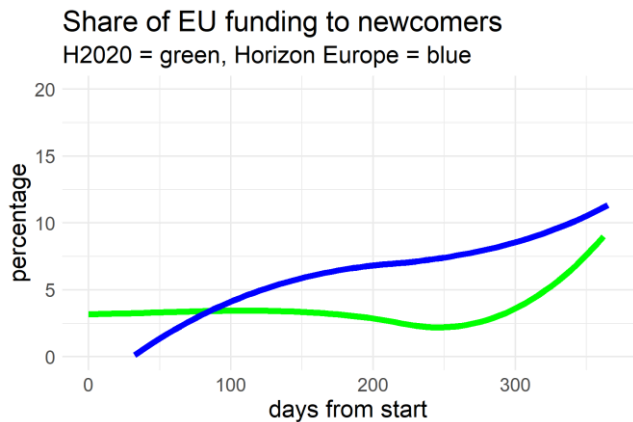
Analysing this data for the new FP presents some challenges. **At the beginning of a new programme the share of newcomers – in absolute numbers as well as in funding – tends always to be smaller.** One of the reasons is the continuation of partnerships from one period to the other, as well as the fact that more established entities have more resources to adapt quickly to new requirements.

However, a like-for-like comparison – the **first year of Horizon Europe against the first of Horizon 2020** – can still give interesting indications. In the 365 days since the start of the first project, there were 1744 Horizon Europe participants on the records not appearing under any project in Horizon 2020. This is equal to exactly **30% of all unique participants** up to that date. These entities received around EUR 0.7 billion, which is **10.3% of all EU funding** disbursed in the first year of the programme.

Compared with the figures given for Horizon 2020 as a whole (Section 2.1), the drop in newcomers' participation looks steep. However, there is **actually not much of a difference with Horizon 2020 if a comparable timeframe is used.** At the same stage of Horizon 2020, while the percentage of newcomers was around five percentage points higher (34.7%), the share of funding going to them was actually slightly lower (9.2%).

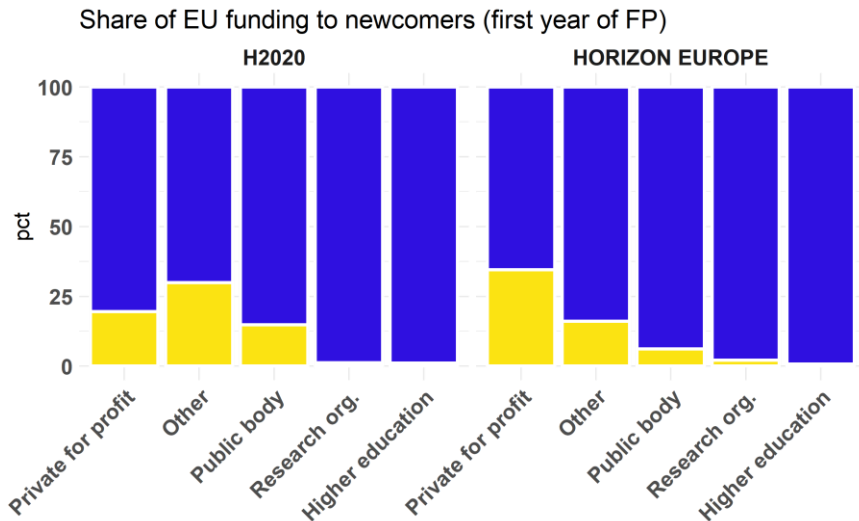
¹⁷ The first Horizon Europe projects were signed on 7 July 2021, with activities intensifying only in the last quarter of that year.

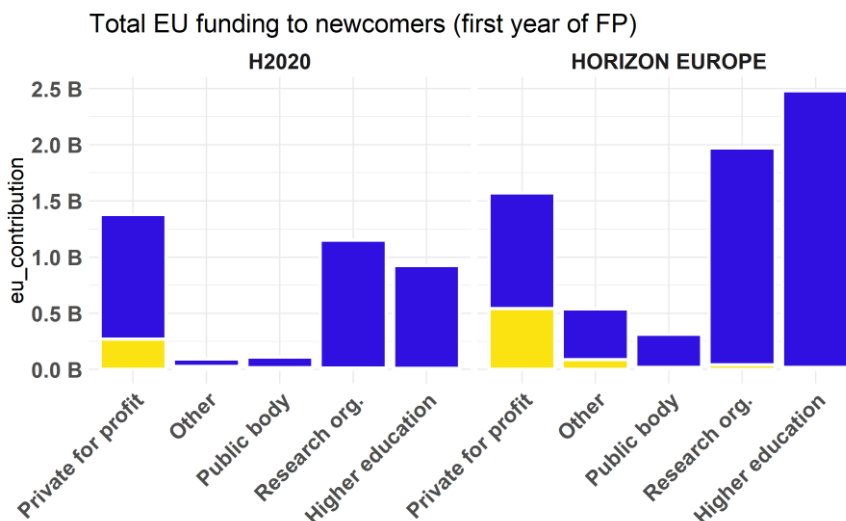
Figure 4.1: Trends in EU funding to newcomers, Horizon Europe and Horizon 2020 compared (first 365 days of each programme)



As expected, the share of funding to newcomers is much higher among private for profit beneficiaries (34.5%). This percentage is much lower than that seen over the entirety of Horizon 2020, but over 15 percentage points higher than the share actually observed for Horizon 2020 during the first full year of the programme.

Figures 4.2 a-b: EU funding to newcomers by type of entity, Horizon 2020 compared to Horizon Europe





There are two trends that should be closely monitored as Horizon Europe unfolds, since they might suggest structural changes with the previous Framework Programme. First, **the average EU contribution per project to newcomers in Horizon Europe is remarkably high** (382 000 euro, while it was just EUR 218 000 in Horizon 2020's first year) **and particularly high for SME newcomers** (EUR 461 000). Both figures remain lower than the average contribution for Horizon Europe beneficiaries (EUR 509 000 in the first year), but the difference is much less pronounced than in Horizon 2020.

Second, it is important to analyse whether **the relationship between the share of beneficiary SMEs and that of newcomers stays significant in Horizon Europe**. There is still a distinguishable effect of the number of SMEs over that of newcomers, as well as with private for profit entities in general, but there are signs that the intensity of the relationship is slightly weaker than it used to be already in Horizon 2020's first year.

It is possible that both these trends simply depend on the structure of the first calls in either programme, but something more structural might already be unfolding. Over time, it will be particularly interesting to assess **the impact of the discontinuation of the SME instrument and of the launch of the European Innovation Council**.

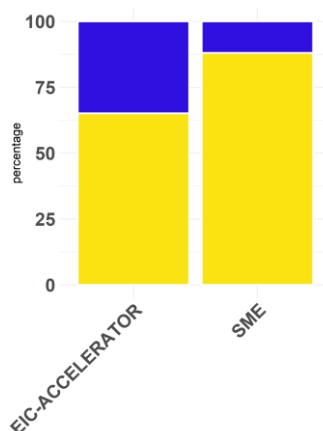
While the EIC programmes, and its "Accelerator" calls specifically, are generally understood as an evolution of the SME instrument, there are quite significant differences in design and targets. **In Horizon Europe there is no direct equivalent of an action like the Phase 1 of the SME instrument**, which offered grants that are small if compared to the Framework programme average. **This is a substantial factor in the increase of average funding per project in Horizon Europe, even though its weight should not be overstated** – even after excluding Phase 1 SME instrument, the average EU contribution to newcomers in the first year of Horizon 2020 remains low, just EUR 233 000.

It can also be argued that **the intended beneficiaries of EIC Accelerator** – aimed at later stages of technological development and scaling up – **are somewhat different from those of the SME instrument**, and in particular of its Phase 1, which aimed at exploring feasibility of breakthrough innovations.

In particular, they are companies with higher maturity, at least in a technological sense, although still very young ones¹⁸. This makes it slightly more likely that such companies have already qualified for Framework Programme funding in the past.

Indeed, in the early EIC Accelerator calls, it can be already observed that **the share of funding going to newcomers – while still very high – is lower than it used to be under the previous system: 60% to 70%, against almost 90% for the SME instrument (both phases).**

Figure 4.3:
Share of EU funding to newcomers in Horizon Europe EIC-Accelerator calls (first year), compared to Horizon 2020 SME instrument



5. Conclusion: newcomers and impact

The main takeaway from this flash is that the participation of newcomers in the R&I Framework Programmes is primarily influenced by the number of small and medium enterprises – and, to a lesser extent, by the number of private companies in general – that successfully apply for funding. **This makes the comparison between different programme parts difficult**, as a different kind of beneficiaries will result in different proportion of funds allocated to newcomers. **Any use of this indicator must therefore first take into account the goals of the type of action or instrument that is being analysed.**

The number of newcomers is certainly to be used as a performance indicator for those actions that aim at **widening participation** in the Framework Programme. **The share of funding to newcomers is an important metric for actions targeted to SMEs and particularly to start-ups**, such as the **EIC Accelerator**. As acknowledged by 2020's EU SME strategy¹⁹, innovation in SMEs is fundamental for the success of the transition of the EU economy to a sustainable and digital economy, as adopters of new technologies as well as sources of new ideas.

The newcomer indicator has also value for those actions that are specifically thought to reinforce public-private cooperation, such as **joint undertakings**. For JUs, it is not only important to look at the share of newcomers to the Framework Programme as a whole, but also to newcomers to that specific partnership. It also has an important purpose in actions

¹⁸ An analysis by age of EIC Accelerator participants at time of project signature (based on registration date in CORDA) shows that they are on average slightly younger than SME instrument beneficiaries, even when only Phase 1 is considered.

¹⁹ Full text of the SME strategy: https://ec.europa.eu/info/sites/default/files/communication-sme-strategy-march-2020_en.pdf

designed to improve participation in **underrepresented countries**, particularly the Member States that joined the EU most recently.

For areas of the programme that attract primarily educational and research institutions, the newcomer indicator plays a secondary role. An FP-wide fixed target could even be detrimental: as the share of newcomers is strongly dependent on the number of participant SMEs, such a rule might create pressure to lower participation from research institutions. Another reason why this indicator should be used with caution is that it is **an input metric** which focuses on who the programme funds, **as opposed to a results, outcomes or impact metric**, which would focus on what programme beneficiaries achieve during projects and what the long-term effects of these achievements are.

It is hard to say *a priori* if the share of funding going to newcomers would optimise the programme's impact. Horizon Europe's primary objective is to deliver scientific, economic and societal impact (which then breaks down into several specific objectives). **Increasing the share of newcomers (or the share of funding going to newcomers) may help fulfil these objectives by means of helping to diffuse knowledge, bringing in new innovative ideas, creating new collaborations, and boosting uptake in society and industry.**

Horizon Europe has a set of indicators to measure the programme's results, outcomes and impacts, and to build in a new framework of key impact pathways. Furthermore, specific instruments and types of actions have their own impact logic and indicators aligned to this framework. These will provide useful context for analysing the share of funding going to newcomers and its effect on the programme's progress towards meeting its objectives.

6. Methodological notes

- The reference date for all figures in this work is 2 August 2022. This is, specifically, the date when primary data was extracted from the R&I Dashboard.
- Due to incompatible reporting systems, our analysis does not take into account Public-public partnerships, prizes, Framework Partnership Agreements (except FPA Specific Grant Agreements) and actions from the knowledge innovation communities (KICs) from the European Institute of Innovation and Technology (EIT).
- Data includes only Horizon 2020 participants marked as “beneficiary” in CORDA, meaning that subcontractors and partner organisations are not included in the analysis.

Other analyses taking these entities might result in different figures, and a higher (or lower) share of newcomers depending on the type of action. Marie Skłodowska-Curie actions, for instance, have significant representation of partner organisations (around 25% of all participants).

- Our SME definition is based on a self-assessment made by beneficiaries at time of applying for funding, which is normally valid for five years. In some cases, when being an SME is a necessary condition for funding, the conditions are stricter: for instance, the status might have to be validated by the executive agency responsible. Moreover, of course, an entity can fit the SME definition at a point in time, and change status at a later moment.

In our methodology, **each entity has one SME status assigned for each project signature date**. For this reason, **we do not calculate the absolute number of unique SMEs applying**, as not all entities have been SMEs for the whole period. We make the “naïve” assumption that all declarations are truthful, although we can assume that for entities that are not “private for profit” there is a higher chance of it being inaccurate – as these entities, while small or medium-sized, might not be incorporated as enterprises, which is a necessary condition in the EU definition. If the value is missing, we assume that the entity is not an SME for that year.

- In Sankey diagrams, line width corresponds either to the number of Horizon 2020 unique participants, or to the amount of funding received during the programme (see figure title and explanatory note).

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Over two thirds of the beneficiaries of Horizon 2020 projects were “**newcomers**”: entities that were not funded under the previous Research and Innovation Framework Programme, FP7. However, these participants received less than 20% of all funding available.

To understand why, this monitoring flash investigates the key characteristics of this population: what kind of entities they are, what programme parts attracted them the most, where they came from geographically, and whether they participated in Horizon 2020 Joint Undertakings.

Finally, the flash present early evidence from the first full year of the current R&I Framework Programme, Horizon Europe, looking at its participants that were not funded during Horizon 2020.

Research and Innovation policy

