

Participation of the
Brussels-Capital Region in the

EU Horizon 2020 framework programme for research and innovation

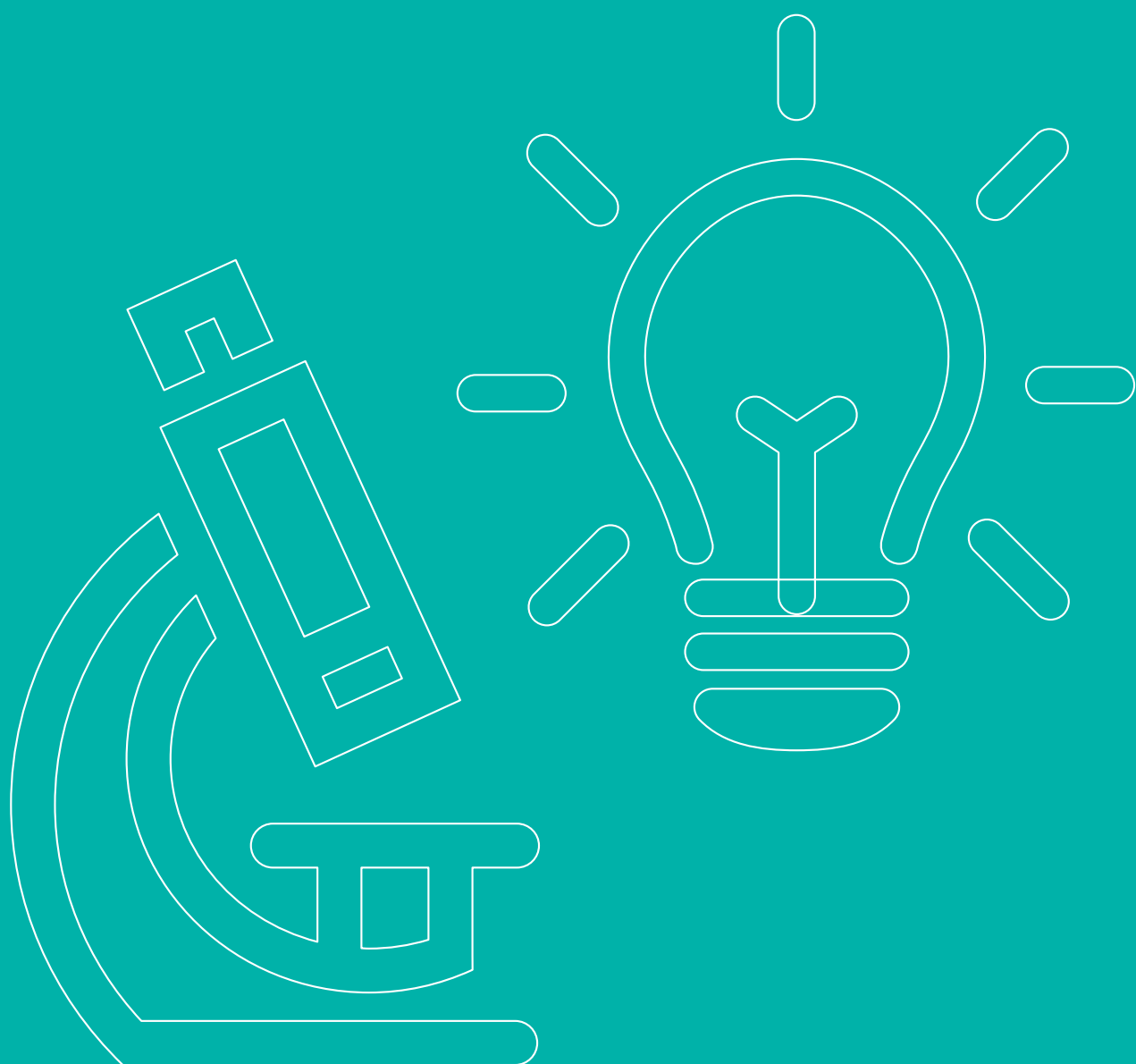


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COLOPHON

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Introduction

7 years! That's how long the European Union's **8th framework programme for funding research and innovation, Horizon 2020** (H2020) has lasted. Its final call for projects took place in January 2021 in order to incorporate calls under the famous European "**Green Deal**". Over this period, **more than 17,000 funding requests** were submitted **by nearly 1,900 Brussels-based organisations!**

Although the European Commission launched its 9th framework programme for funding research and innovation, "**Horizon Europe**" two years ago, sufficient results concerning the previous framework programme have only recently become available.

The Brussels National Contact Point (NCP Brussels), responsible for supporting Brussels companies seeking European funding and the Research BU of hub.brussels have combined their expertise to produce this report on the H2020 programme. This report is based on European Commission data published in October 2022, which is just over eighteen months after the Commission's final call for projects.

Consequently, this report is the 7th and final statistical report regarding the participation of Brussels-based stakeholders in the H2020 framework programme.

Information relating directly to the support provided by NCP Brussels in setting up and running H2020 projects is provided in the report that describes the activities performed in the context of the NCP Agreement and is not therefore detailed in this document.

This final report presents the general results of this programme in the Brussels-Capital Region, but also by type of stakeholder and topic. It also highlights the participation of Brussels-based organisations from the perspective of the Brussels priorities and the targets defined for the NCP Brussels. The methodology used for processing these data is the result of a collaboration with the NCP Wallonia, the NCP Flanders, the Fund for Scientific Research (F.R.S.-FNRS), the Fund for Scientific Research (FWO), Flanders Innovation & Entrepreneurship (VLAIO), the Economy, Science and Innovation Department of the Flemish government, and Belspo. The methodology and glossary are presented at the end of this report.

1. The H2020 framework programme

Initially covering the years **2014 to 2020**, the Horizon 2020¹ framework programme was extended by a month, in particular to incorporate calls for projects for the "Green Deal" which closed at the **end of January 2021**. The overall total budget stood at just under €76 billion.

By focusing on actions that Member States could not complete effectively on their own, the Horizon 2020 programme should play a **central role** in the **Europe 2020 strategy** targeting **smart, sustainable and inclusive growth**.

The overall objective of this programme was to build a leading global society and economy founded on knowledge and innovation, while contributing to sustainable development.

This objective was based on **three major pillars** corresponding to three priorities: Excellent Science, Industrial Leadership and Societal Challenges. Each of these pillars incorporates a set of specific objectives. A **fourth, cross-cutting pillar** also included two specific objectives: "spreading excellence and widening participation" and "science with and for society".

The first pillar, Excellent Science, aimed to support the best ideas, develop talents in Europe, enable researchers to access priority research infrastructures and make Europe an attractive place for the world's best researchers.

Consequently, Meoh, a small Brussels-based, non-profit organisation created in 2015 and developing trusted networks, has contributed to TRIPLE, a virtual infrastructure project coordinated by the French National Centre for Scientific Research, designed to maximise access to and reuse of data in human and social sciences.

The second pillar, Industrial Leadership, would provide major investments in key industrial technologies, maximise the growth potential of European companies by providing them with appropriate funding levels and help innovative SMEs to develop and become leading global companies.

Thus, Brussels-based SMEs have used the programme's SME instruments to develop their innovative projects, via the 'SME Instrument – phase 1' designed to explore and evaluate the technical feasibility and commercial potential of a breakthrough innovation, or 'SME Instrument – phase 2' intended to develop their innovation project. The success, in phase 1, of CAMING SOLUTIONS, CV TRUST, FORDAK, Kapitol, OPNS, OVIZIO Imaging Systems, SENSIFAI, STS J Stillemans, Umit Hakan, VEOWARE, WORKERO, Zebra Academy or, in phase 2, of 3E, or even at the end of the H2020 programme, of FYTEKO, MoveUp or Greater Than, in the pilot phase of the European Innovation Council (EIC) Accelerator will be highlighted here.

The third pillar, Societal Challenges, reflected the political priorities of the Europe 2020 strategy and responded to the main concerns of citizens in Europe and elsewhere (health, food security, energy, transport, climate change and inclusive societies).

Several types of Brussels stakeholders stood out in the various calls, in partnership with organisations from all sectors and disciplines, in Europe and third countries, thus reflecting the openness to the world of the H2020 programme. This was notably the case with SMEs such as 3E, Obelis, StratejAI, Usitoo, large organisations including S.A.B.C.A and Solvay,

¹ REGULATION (EU) No 1291/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC

public bodies like STIB, Innoviris, hub.brussels and the city of Brussels, small non-profit associations such as Meoh.

Finally, in order to contribute to the achievement of these objectives, the Joint Research Centre (JRC) would provide scientific and technical support to European Union policies, where necessary in partnership with national and regional stakeholders, particularly in the context of smart specialisation strategies. Meanwhile, the European Institute of Innovation and Technology (EIT) would pursue the specific objective of integrating the knowledge triangle of higher education, research and innovation.

Some Brussels success stories

When the H2020 project closed, the NCP Brussels reflected on the participations of Brussels-based companies that were successful under this programme: Fytekko, MoveUp, 3E and DeltaQ.

The specialist magazine, Daily Science also highlighted several Brussels projects in its articles:

- MOVEUP, STARTUP GAGNANTE DE L'« E-SANTÉ » (Moveup, a winning "e-health" startup)
- L'ÉOLIEN INTELLIGENT (Smart wind)
- OBJECTIF TERRE (Earth objective)
- FYTEKO, UNE START-UP QUI VOIT L'AVENIR EN VERT (FYTEKO, a startup that sees the future in green)
- BRUXELLES VEUT DOTER LA VILLE DE « COULOIRS SAINS » (Brussels wants to give the city "healthy corridors")

2. Key figures

Financing requests for the Brussels-Capital Region

- **17,169** proposals (38% of Belgian proposals)
- **Organisations which submitted several proposals:** 61% (43% submitted between 2 to 9 proposals, and 18% minimum 10)
- **Coordinators:** 14% in the BCR (the rest being project partners), vs. 20% in Belgium and 28% in the EU

Results for the Brussels-Capital Region

- **Financing of 2,655 projects from 785 Brussels beneficiaries** (=45% of Belgian beneficiaries)
- **Total financing amount of €1,315 billion**, which corresponds to **38% of the total amount granted to Belgium**, while the BCR represents 13% of the gross R&D expenses of Belgium
- Average **success rate** of project proposals involving Brussels organisations is **20%**, compared to 17% at Belgian level and 12% at the level of the whole programme
- **Average financing amount** granted to Brussels beneficiaries of **€348,096**, an amount slightly lower than the Belgian average (€398,926)
- **Average financial EU contribution in the BCR:** 70% of the budgets foreseen for these projects (73% at Belgian level and 82% for the whole H2020 financing)
- **Main beneficiaries:** international organisations (53% of the total financing amount granted to Brussels players), universities (15%), SMEs (9%), research centres (8%), large enterprises (6%) and public sector (6%).

H2020 key figures related to the innovation scoreboard²

- **H2020 subsidies/1,000 inhab.:** €1,075,916 in the BCR (€296,095 in Belgium and €120,587 in the EU)³
- **Financing amount granted to the BCR: 45%⁴ of the gross domestic expenditures in R&D.**
- **Number of proposals from the private sector (SMEs and large enterprises) per 10,000 inhabitants:** 31 in the BCR (11 in Belgium and 7 in the EU)⁵

² As defined at European level <http://bookshop.europa.eu/en/regional-innovation-scoreboard-2014-pbNBBC14001/>

³ Number of inhabitants BCR and Belgium (01/01/2020): Statbel; EU (28) (01/01/2020): Eurostat (provisional data).

⁴ Based on estimated gross domestic expenditure on R&D in 2022, calculated by hub.brussels (applying the average growth rate between 2014 and 2019 to the amount of gross domestic expenditure on R&D in 2019 ; data source: Belspo).

⁵ hub.brussels calculation, EU member states (28)

- **Share of SMEs in the financing granted to the private sector:** 59% in the BCR (56% in Belgium)⁶

Focus on the Brussels-Capital Region's thematic priorities

- **Financed projects in the thematic priorities of the BCR:** 1,353 (51% of all BCR financed projects)
- **Total amount of financing:** €641.3 million (54% of the financing granted to the BCR)
- **Themes:** Energy (20.3%), Transport (17.2%), Environment-Climate (15.5%), ICT (15.1%), Health (13.4%), Security (8.4%), SMEs (4.3%), Circular economy (3.5%), FTI (1.2%), Sustainable Construction (1.2%).

⁶ Data not available at EU level

3. H2020 and the Brussels-Capital Region

Requests for funding and funding obtained in BCR

Requests for funding: proposals and applications

Belgian applicants have submitted 45,314 requests for funding (applications) and have been involved in 30,443 proposals⁷ since the launch of the H2020 framework programme.

Applicants from the **Brussels-Capital Region** submitted **17,169 applications** (38% of all Belgian requests) corresponding to **13,501 proposals** (44.4% of all Belgian proposals). After deducting applications submitted by international organisations (IO), Brussels-based applicants submitted 8,723 requests for funding, i.e. 24% of all Belgian requests (excluding IO), corresponding to 7,675 proposals for research or innovation projects (30% of all Belgian proposals, excluding IO).

Figure 1. Number of applications, Brussels-Capital Region and Belgium

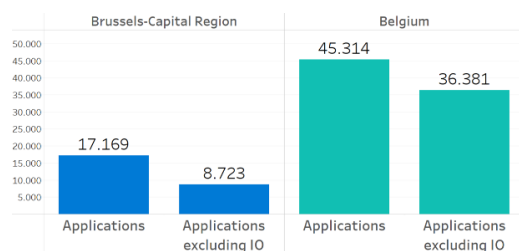
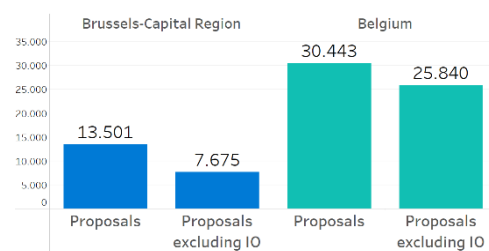


Figure 2. Number of proposals, Brussels-Capital Region and Belgium



Funding obtained: participations and projects

Out of the **5,093 projects** that involved Belgian applicants, **2,665** featured one or more applicants from the Brussels-Capital Region, i.e. 52% of all projects that involved Belgians. After excluding applications from international organisations, the European Commission approved funding for 1,538 projects that featured Brussels-based applicants (36% of all Belgian projects).

Figure 3. Number of participations, Brussels-Capital Region and Belgium

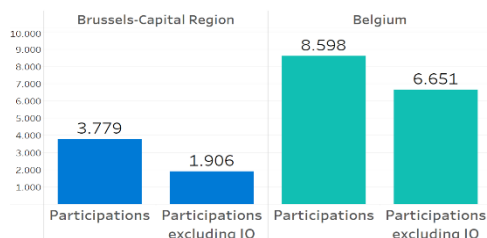
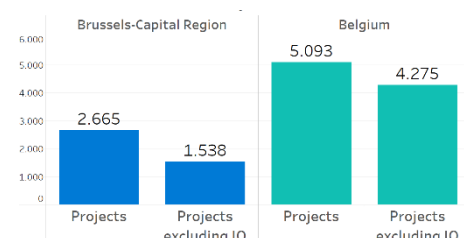


Figure 4. Number of projects, Brussels-Capital Region and in Belgium



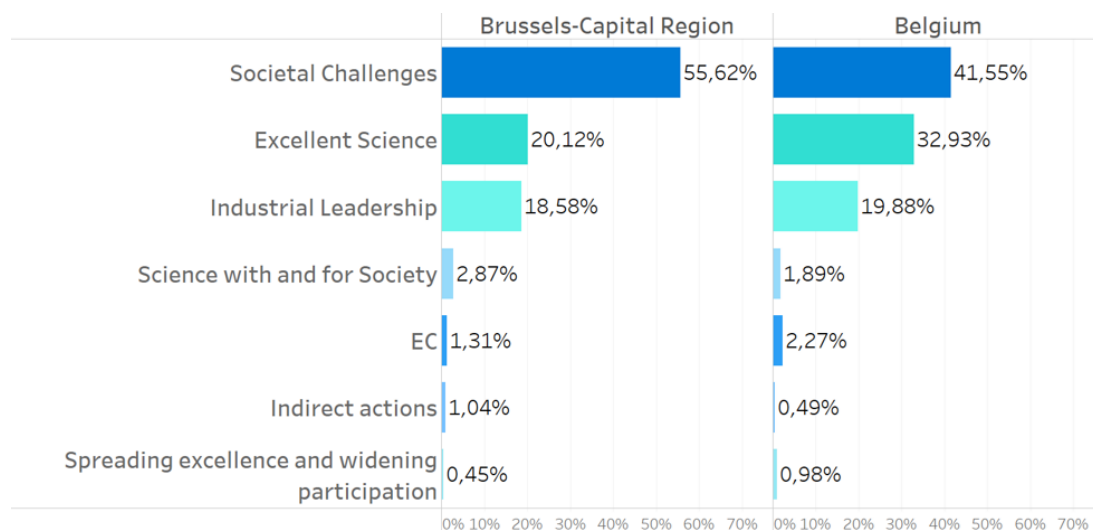
⁷ A proposal is a request for funding for a research or innovation project that is submitted by one or more applicants. Each applicant may submit one or more requests for funding, known as an application, either in the form of a "common" proposal submitted jointly by several applicants or, more rarely, in the form of an "individual" proposal submitted by a single applicant. See the glossary in the final section of the report.

Finally, **3,779 requests for funding** submitted by Brussels-based organisations were approved (**44%** of all Belgian participations)⁸, 1,906 of which were not related to international organisations, i.e. 29% of all Belgian participations (not including international organisations).

Breakdown of proposals for each H2020 theme

In the Brussels-Capital Region, the majority of the proposals submitted (56%) were aimed at addressing Societal Challenges (Pillar 3). The two other main pillars (Excellent Science and Industrial Leadership) each account for about 1/5th of the proposals from Brussels-based organisations (Figure 5). The breakdown of the proposals for each of the main pillars of H2020 is different when considering Belgium as a whole: Excellent Science accounts for slightly more than 1/3rd of Belgian proposals, i.e. 65% more than the percentage recorded for BCR, whereas the Societal Challenges pillar, that continued to be the pillar that attracted the largest number of proposals, no longer accounts for the majority of them (42%). "Science with and for society", the European Commission (EC - Joint Research Centre), "indirect actions" and "spreading excellence and widening participation" accounted for approximately 6% of Brussels-based and Belgian proposals.

Figure 5. Breakdown of proposals for each pillar in the Brussels-Capital Region and Belgium



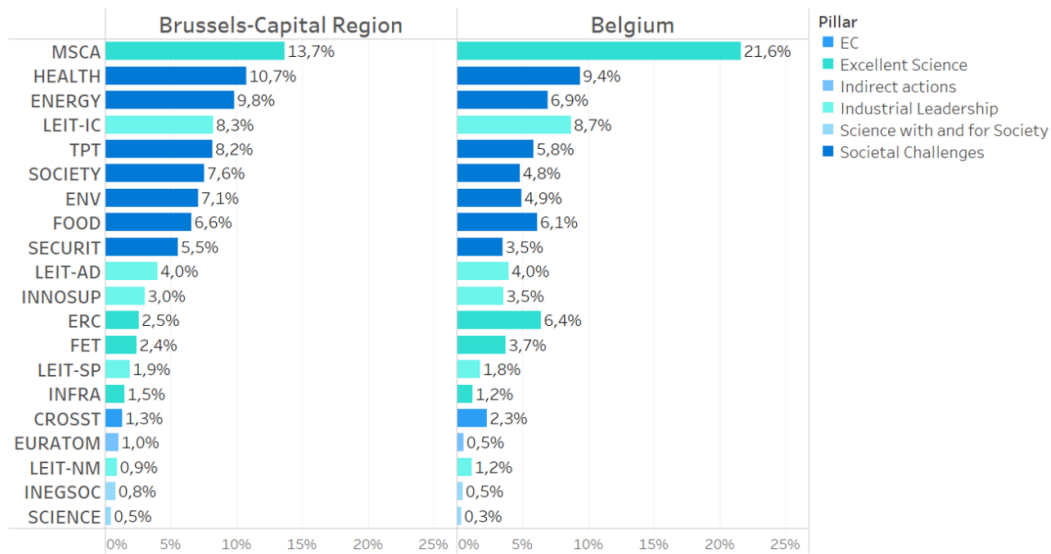
Within these pillars, the theme that represents the largest number of Brussels-based proposals is that concerning the Marie Skłodowska-Curie actions (funding of researchers at all stages in their career), with a share of 13.7% in the total (Figure 6). Health (10.8%) and energy (9.8%) also appear in the top 3. ICT (8%), transport (8%), society (8%), environment (7%) and food (7%) complete the table of the main topics represented in proposals submitted by Brussels-based organisations.

For Belgium as a whole, the funding for researchers topic (MSCA) largely exceeded the other categories: over 1/5th of all proposals were submitted under these calls for projects. ERC calls for projects (another action targeting the funding of researchers in Pillar 1) were also more successful for Belgium as a whole compared with the Brussels situation (6.4% compared to 2.6%).

⁸ Throughout the report, the term "Belgian proposal" refers to a proposal which features at least one Belgian applicant

To the contrary, energy, transport, society, environment and security were relatively less well represented in Belgian proposals.

Figure 6. Proposals for each pillar and theme (%), Main themes, Brussels-Capital Region and Belgium

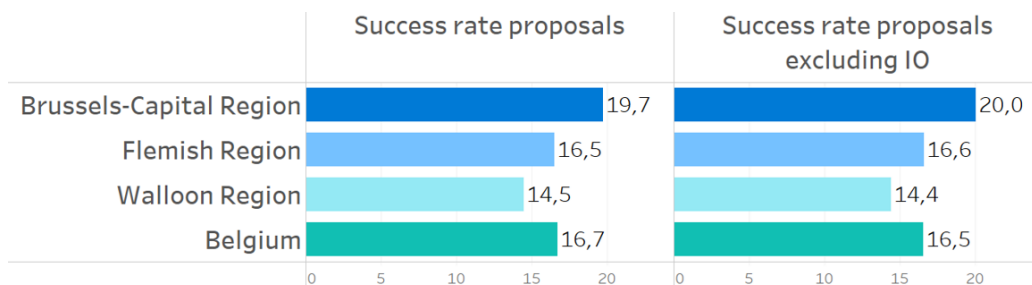


Success rate

Overall success rate

The success rate for proposals⁹ submitted by applicants from the Brussels-Capital Region¹⁰ was 20%, i.e. 3 to 5 percentage points more than the success rate for the other regions.¹¹ This is similar when deducting international organisations. By way of comparison, the success rate was 12% for the entire programme and for proposals from EU member states.¹²

Figure 7. Success rate of proposals (%), Brussels-Capital Region and Belgium



Success rate for each pillar and topic

The success rates for the proposals vary greatly depending on the pillar and topic. For the main pillars (Excellent Science, Industrial Leadership, Societal Challenges), the pillar with the lowest average success rate is Excellent Science: 15% of proposals for this pillar, featuring Brussels-based or Belgian organisations, were selected for funding by the Commission, whereas the average was 20% for all proposals from Brussels-based organisations and 17% for proposals

⁹ This rate corresponds to the conventional success rate, in terms of eligible proposals, from the European Commission

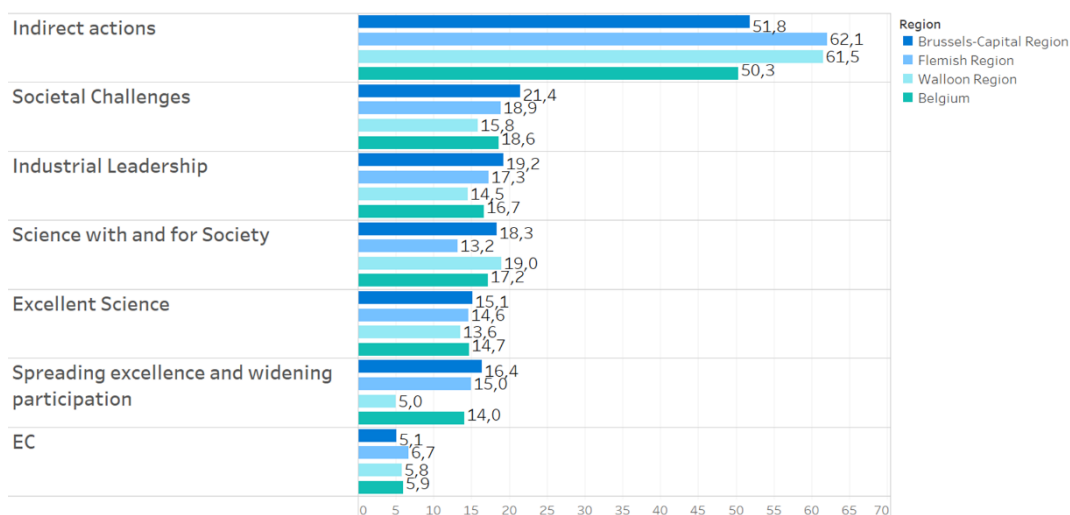
¹⁰ "Brussels-based" proposals include at least one applicant from Brussels

¹¹ Proposals including at least one applicant from Wallonia for the Walloon region/from Flanders for the Flemish Region

¹² hub.brussels calculations

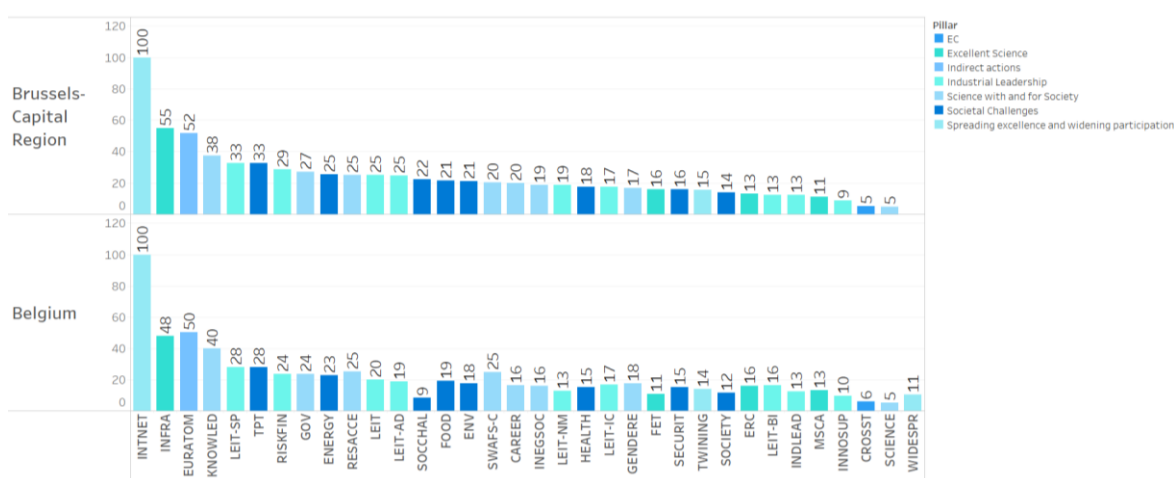
from Belgian organisations. The theme related to the funding of researchers (Marie Skłodowska-Curie Actions - MSCA), accounting for nearly 70% of the proposals for this pillar, drags down this average since the success rate is relatively lower at 13% for Belgium as a whole and 11% for the Brussels-Capital Region. The two other main pillars (Industrial Leadership and Societal Challenges) had higher success rates: 19% and 21% respectively for proposals from Brussels-based organisations.

Figure 8. Success rate for proposals for each pillar (%), by region and for Belgium



In the BCR, among the **themes** accounting for a significant number of proposals, the highest success rates ($\geq 25\%$) were recorded for the themes relating to research infrastructures (INFRA) (55%), nuclear research (Euratom) (51%), aeronautics (LEIT-SPACE) (33%), transport (TPT) (33%), governance (GOV) (27%), energy (25.3%), the development of accessibility and use of publicly funded research results (RESACCE) (25%), leadership in enabling and industrial technologies (LEIT) (25%) and advanced materials, manufacturing and processing (LEIT-AD) (25%).

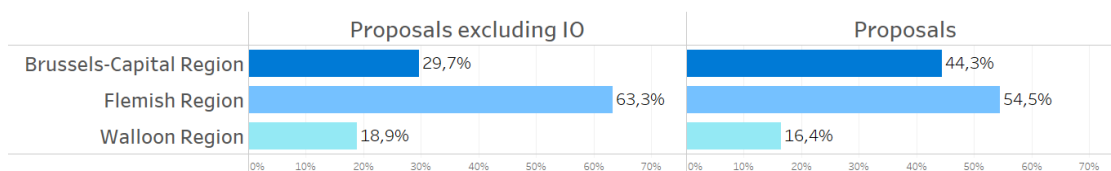
Figure 9. Success rate for each topic (%), Brussels-Capital Region and Belgium



The participation of the various regions in Belgian proposals

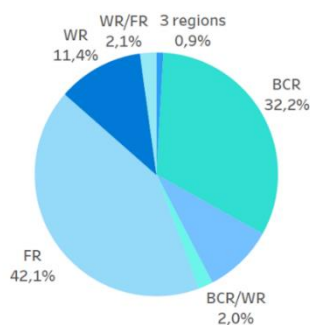
With regard to the **proposals** submitted by Belgian applicants, **44%** of them featured **applicants from Brussels**, 55% included applicants from Flanders and 16% from Wallonia. After excluding applications submitted by international organisations, 30% of Belgian proposals featured Brussels-based applicants.

Figure 10. Participation rate of the regions in Belgian proposals (%)



In total, **86% of the proposals** relate to just a **single region**, 13% to two regions and slightly less than one per cent for all three regions.

Figure 11. Breakdown of Belgian proposals per the region(s) concerned



With regard to **proposals submitted by just Brussels-based applicants**, 73% of them relate to Brussels-based organisations only; 21% feature Brussels-based and Flemish organisations; 4% feature Brussels-based and Walloon organisations and 2% feature applicants from all three regions.

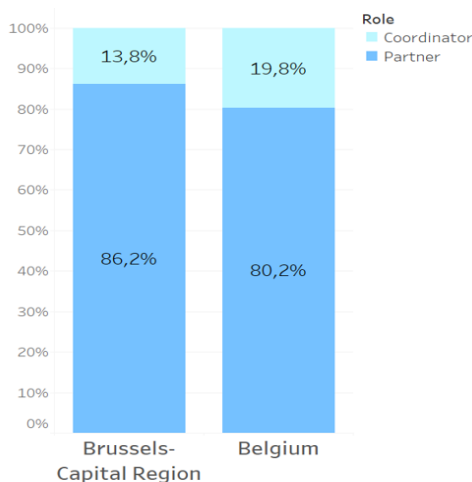
Brussels-based applicants and beneficiaries

Role played by the applicants

Brussels-based applications featured relatively more partners than coordinators, compared with Belgian applications. 86% of applications from Brussels-based organisations were submitted by applicants whose role was a **partner** in a proposal for funding for a research and innovation project, compared with 80% for Belgium and 72% for the EU.¹³

¹³ hub.brussels calculation, EU member states (28)

Figure 12. Breakdown of applications per role played by applicant, Brussels-Capital Region and Belgium



The gender analysis presented in previous reports cannot now be performed due to the absence of data on this subject in the database as of June 2017. Note that 32% of all contact persons for applications submitted by Brussels-based organisations were women, according to the information held in the database as of June 2016, i.e. 8% to 9% more than the percentage recorded for Belgium and the average for the EU (28).

Number and percentage of Brussels-based applicants

In total, 4,780 Belgian organisations,¹⁴ of which **1,894 were Brussels-based organisations**, have submitted one or more requests for funding since the launch of the H2020 framework programme.¹⁵ In Belgium, **84%** of the applicants are located in the **Brussels-Capital Region** or in the **Flemish Region** (just over 39% in BCR and 45% in FR) whereas nearly 16% are located in the Walloon Region.

After excluding international organisations, the Flemish Region accounts for slightly more than half of Belgian applicants (54%). Although the BCR share drops by just over 12 percentage points when analysed in this way, BCR still accounts for 27% of Belgian applicants, compared with 19% for the Walloon Region.

¹⁴ Sirris and Centexbel are only counted once at the Belgian level. Regionally, they are counted in each of the regions in which they have research activities (see methodology).

¹⁵ Comparison with FP7 data has not been possible since 2018 due to the difficulty in matching up the organisations that submitted a request in the context of the FP7 programme with organisations that submitted a request in the context of the H2020 programme. The number of new applicants compared with this previous programme is no longer calculated.

Figure 13. Breakdown of applicants by region (%)

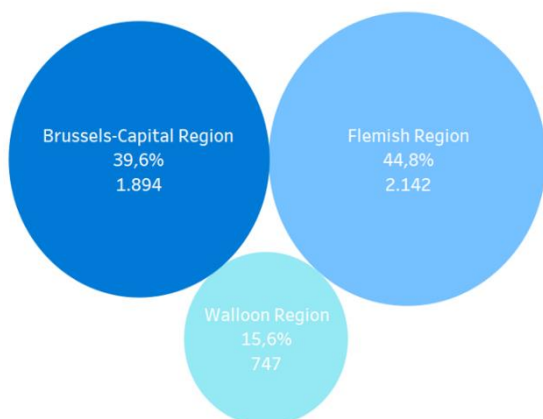
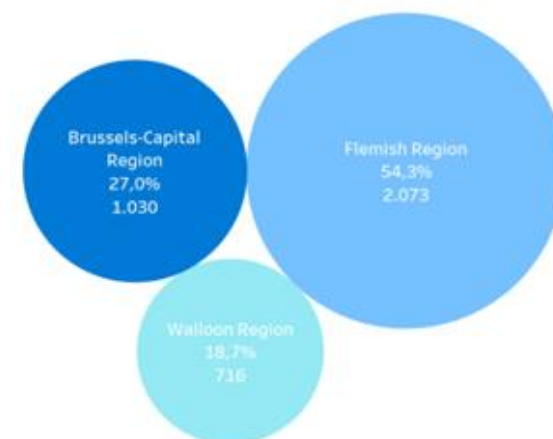


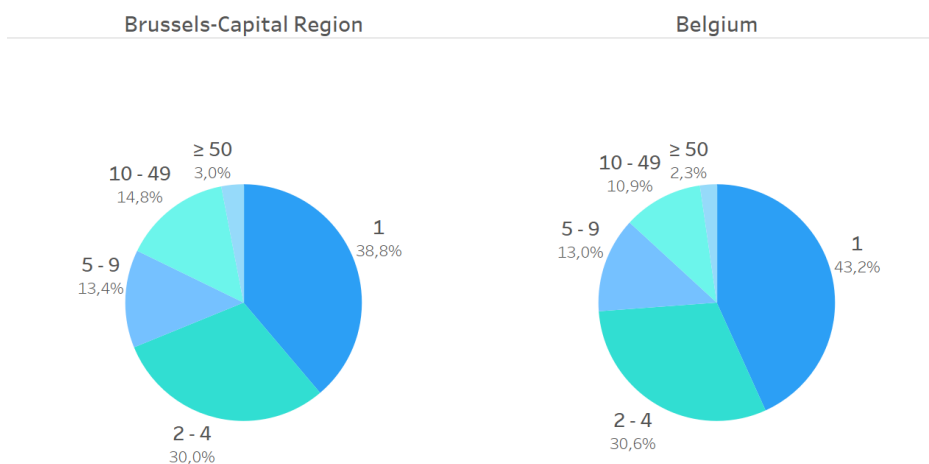
Figure 14. Breakdown of applicants (excluding IO) by region (%)



With regard to the number of applications submitted by Brussels-based organisations, just over **60%** of them submitted **two requests for funding as a minimum**, 30% submitted 2 to 4 requests, 13% submitted 5 to 9, 15% 10 to 49 and 3% submitted at least 50 applications.

Relatively more Brussels-based organisations submitted over 10 funding requests: 18% of Brussels stakeholders were observed in this case compared with 13% at the Belgium level.

Figure 15. Breakdown of applicants per number of applications (%), Brussels-Capital Region and Belgium



Number and percentage of Brussels-based beneficiaries

785 of the 1,759 Belgian beneficiaries of the programme are **Brussels-based organisations**, i.e. 45%.¹⁶ After excluding international organisations, the share of Brussels-based beneficiaries remains relatively high: it accounts for 28% of beneficiaries when analysed in this way.¹⁷

Figure 16. Breakdown of the beneficiaries by region

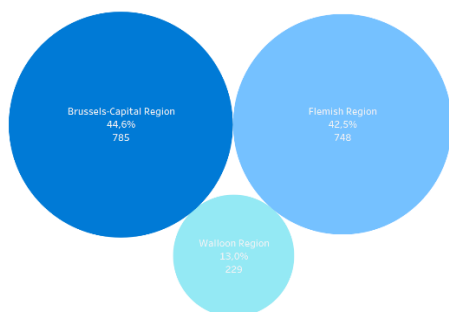
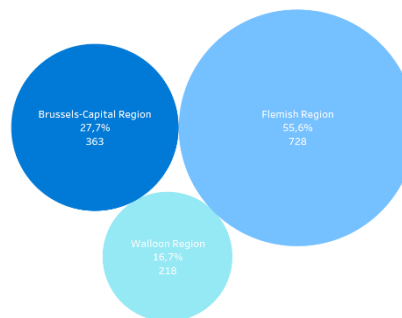


Figure 17. Breakdown of the beneficiaries (excluding IO) by region



Funding granted

The BCR received **38%** of the total funding granted to Belgian entities and submitted 44% of approved Belgian applications (Table 1).

To place these figures in context, the BCR accounts for: 18% of gross domestic product (GDP);¹⁸ 26% of sales generated by Belgian companies subject to VAT¹⁹ and 13% of gross domestic expenditure on R&D.²⁰

The average amount of funding awarded to Brussels-based participations (€348,096) was relatively lower than the amount received by Flemish actors (€453,775) and slightly less than the average amount awarded to Walloon participants (€372,429) and the average amount for participants of the H2020 programme as a whole (€378,352).²¹ The difference between the average financing amount granted to Brussels-based and Flemish organisations is mainly explained by a higher demand for funding on average in Flanders (average budget of over €600,000 in the Flemish Region compared to nearly €500,000 in the BCR).

The amount of funding awarded to Brussels-based organisations was, on average, 70% of the budget forecast; a percentage that is similar to the rate recorded in Flanders (74%), but less than the rate recorded in the Walloon Region (80%) and for the programme overall (82%).

¹⁶ Sirris and Centexbel are only counted once at the Belgian level. Regionally, they are counted in each of the regions in which they have research activities (see methodology).

¹⁷ Comparison with FP7 data has not been possible since 2018 due to the difficulty in matching up the organisations that received funding in the context of the FP7 programme with organisations that participated in the H2020 programme. The number of new beneficiaries compared with this previous programme is no longer calculated.

¹⁸ NBB, 2020

¹⁹ Statbel, 2021; 21% if non-Belgian companies are considered.

²⁰ BISA-Belspo, 2019

²¹ hub.brussels calculations

Table 1. Total amounts of funding granted to Belgian beneficiaries (all types of stakeholder, including IO), total budget for the participations, percentage funded with respect to the total budget for the participations and number of participations

		BCR	FR	WR	Belgium	H2020
Funding	Total amount €	1,315,454,959	1,783,790,278	330,716,548	3,429,961,785	68,620,979,818
	Share/Belgium (%)	38.4%	52.0%	9.6%	100%	
	Share/H2020 (%)	1.9%	2.6%	0.5%	5.0%	100%
	Average amount €	348,096	453,775	372,429	398,926	378,352
Budget	Total amount €	1,872,335,430	2,412,014,586	411,668,729	4,696,018,745	83,543,212,532
	Average amount €	495,458	613,588	463,591	546,176	460,628
F/B	Funding/Budget (%)	70.3%	74.0%	80.3%	73.0%	82.1%
Particip.	Participations	3,779	3,931	888	8,598	181,368
	Share/Belgium (%)	44.0%	45.7%	10.3%	100%	
	Share/H2020 (%)	2.1%	2.2%	0.5%	4.7%	100%

After excluding international organisations that have a strong presence in the Brussels-Capital Region, the BCR share of the funding received by Belgium becomes 23% whereas Belgium's share of the overall funding from the EU is reduced by 1 percentage point to 4.0%. Excluding international organisations, the share of European funding in the budget for Brussels-based stakeholders increases significantly (up to 76% from 70% for all Brussels-based participations), a rate similar to the average for Belgium (75%).

Table 2. Total amounts of funding granted to Belgian beneficiaries (excluding IO), total budget for the participations, percentage funded with respect to the total budget for the participations and number of participations

		BCR	FR	WR	Belgium	H2020*
Funding	Total amount €	619,894,085	1,784,183,306	320,129,181	2,724,206,572	68,620,979,818
	Share/Belgium (%)	22.8%	65.5%	11.8%	100%	
	Share/H2020 (%)	0.9%	2.6%	0.5%	4.0%	100%
	Average amount €	325,233	460,316	368,388	409,594	378,352
Budget	Total amount €	813,134,565	2,412,321,380	401,076,861	3,626,532,806	83,543,212,532
	Average amount €	426,618	622,374	461,538	545,261	460,628
F/B	Funding/Budget (%)	76.2%	74.0%	79.8%	75.1%	82.1%
Particip.	Participations	1,906	3,876	869	6,651	181,368
	Share/Belgium (%)	28.7%	58.3%	13.1%	100%	
	Share/H2020 (%)	1.1%	2.1%	0.5%	3.7%	100%

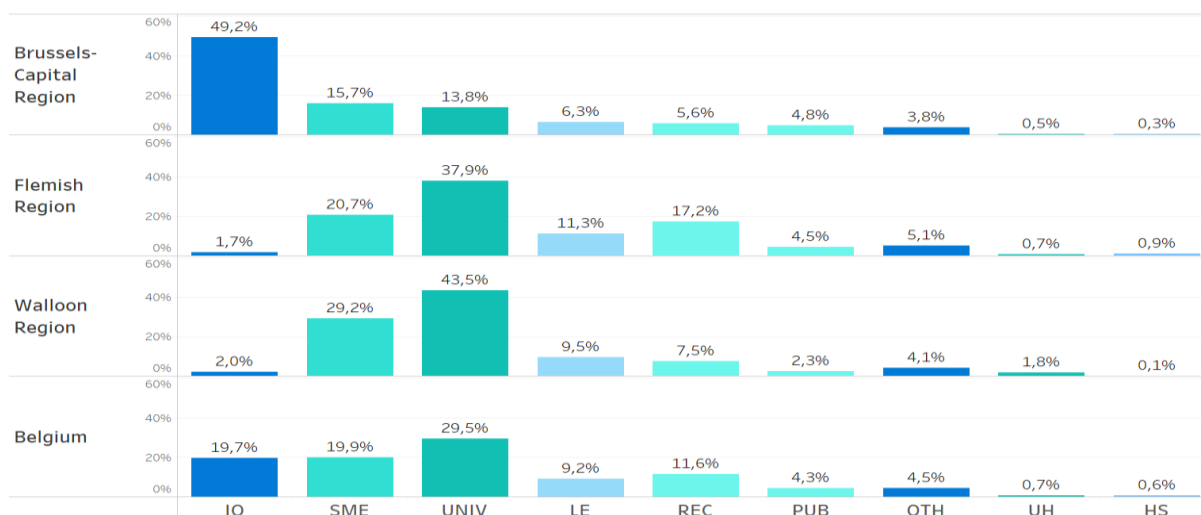
*: including international organisations

4. Results for the BCR per type of stakeholder

Applications

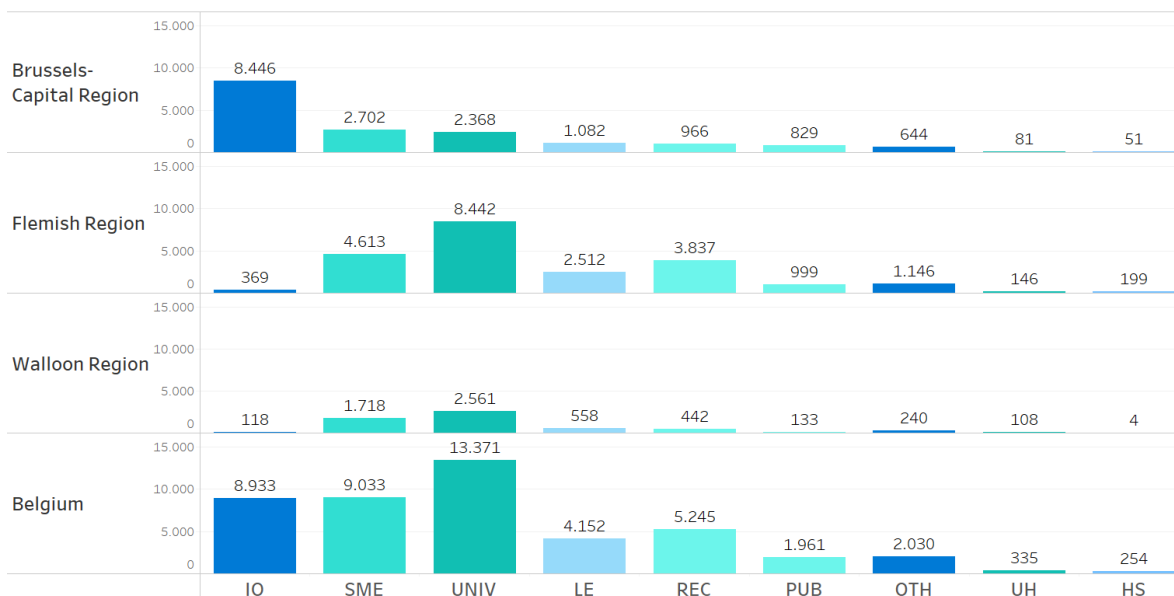
The breakdown of the applications submitted by each type of stakeholder varies greatly from region to region. Although universities submitted the largest number of requests for funding for Belgium as a whole (30%), **international organisations** submitted the most within the Brussels-Capital Region (49%). **SMEs** are in second place in terms of the number of requests for funding, with their share varying, from region to region, between 16% (BCR) and 29% (WR).

Figure 18. Breakdown of applications per stakeholder (%), by region and for Belgium



Since the launch of this programme, international organisations located in Brussels have submitted 8,446 requests, Brussels-based SMEs 2,702 and universities 2,368. Moreover, Brussels-based large enterprises and research organisations have submitted 1,082 and 966 funding applications respectively for research or innovation projects.

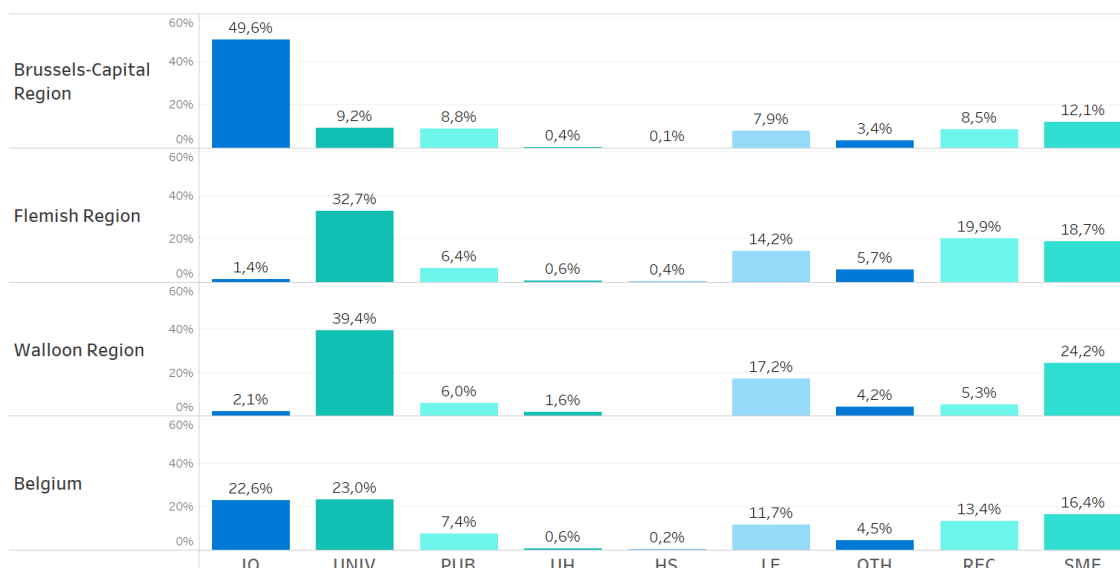
Figure 19. Applications per type of stakeholder, by region and for Belgium



Participations (= funded applications)

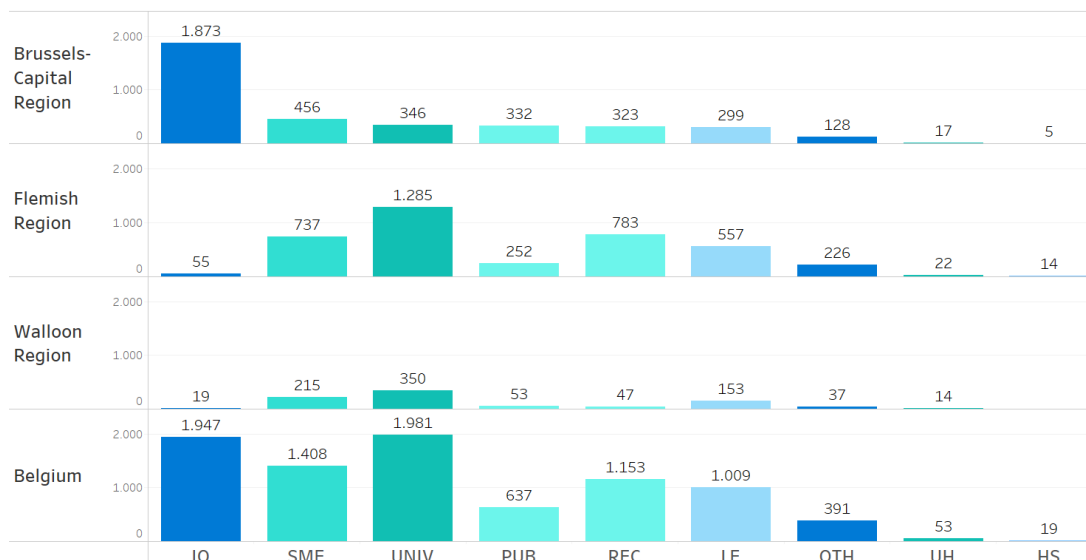
Half of the applications submitted by Brussels-based organisations that received funding are requests from **international organisations**. **SMEs** are in second place, with a 12% share of all participations, with universities, the public sector and research organisations occupying the following places each with about a 9% share of the applications submitted by Brussels-based organisations that received funding. Large enterprises are close behind with an 8% share in the participations in the H2020 framework programme.

Figure 20. Breakdown of participations per type of stakeholder (%), by region and for Belgium



While Brussels-based international organisations represent most of the participations in the programme, with financing requests granted standing at 1,873 units, the European Commission also selected 456 Brussels-based SMEs for funding, while universities, the public sector, research organisations and large enterprises in Brussels, obtained funding for approximately 300 to 350 requests to participate in the programme.

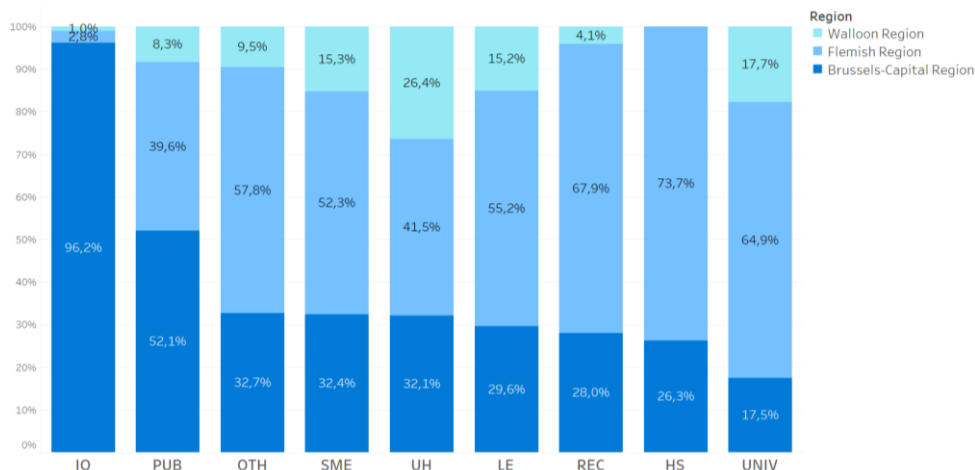
Figure 21. Participations per type of stakeholder, by region and for Belgium



The presence of many international organisations in Brussels is reflected in the participations in the H2020 framework programme: almost all (96%) of the requests submitted by Belgian international organisations that obtained funding from the European Commission were from IOs in the Brussels-Capital Region. The civil service is also well represented in Brussels, particularly due to the presence of the Federal administration in the area. Most of the Belgian participations in the H2020 programme by the public sector are also Brussels-based.

Other Brussels-based stakeholders each account for between 26% and 32% of Belgian participations, with the exception of the universities which account for 18% of Belgian funding requests approved by the European Commission. Brussels-based SMEs are well represented, with a 31% share of the total applications from Belgian SMEs which received funding from the European Commission.

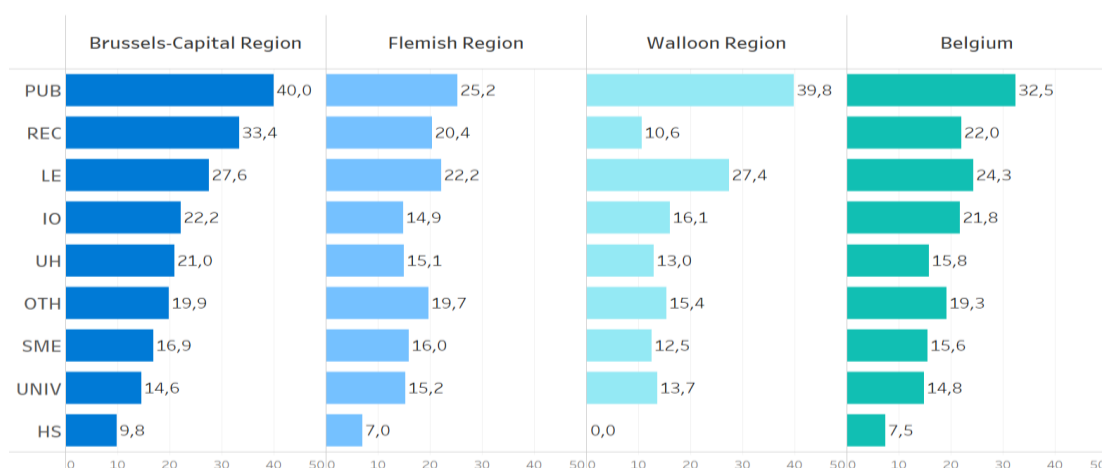
Figure 22. Regional share of participations, by type of stakeholder (%)



Success rate

The success rates achieved by the Brussels-Capital Region are similar to or higher than the national average for all types of stakeholder. In particular, we note the relatively high success rate of requests from public bodies in Brussels and Wallonia: 40% of requests from BRC and the WR were approved, compared with 25% for public bodies in the Flemish Region. The performance achieved by the Brussels-Capital Region far exceeds that of the other regions with regard to the acceptance of requests from research organisations (33% compared with 22% for Belgium as a whole), international organisations (22% compared with 15% to 16% in the other regions) and university hospitals (21% compared with 16%). The success rate achieved by SMEs is 17%; slightly higher than the average for Belgium (16%). Moreover, 15% of requests for funding submitted by universities were approved; a rate that is similar to the average rate for Belgium.

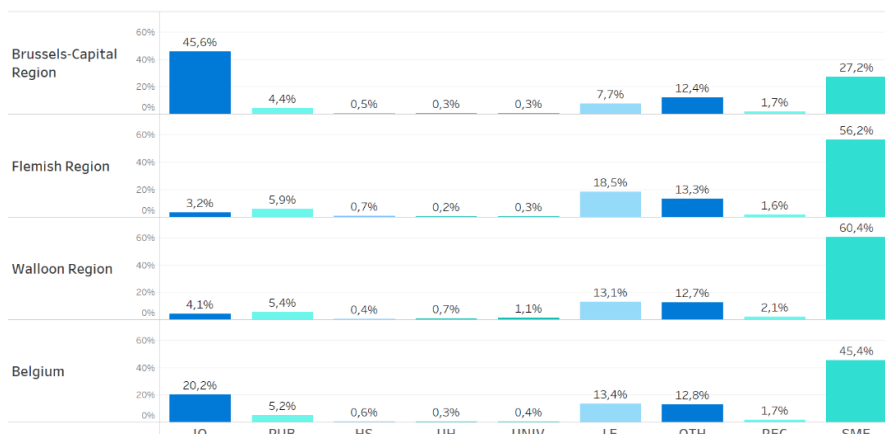
Figure 23. Success rates for applications per type of stakeholder (%), by region and for Belgium



Applicants

Although international organisations account for nearly half (46%) of all applicants in the Brussels-Capital Region, SMEs are the leading applicant organisations for Belgium as a whole with a 45% share. In Brussels, just over 1 in 4 of all applicants is an SME and 1 in 13 is a large company. Finally, 1 in 8 applicants are in the "Other" category which mainly includes non-profit associations.

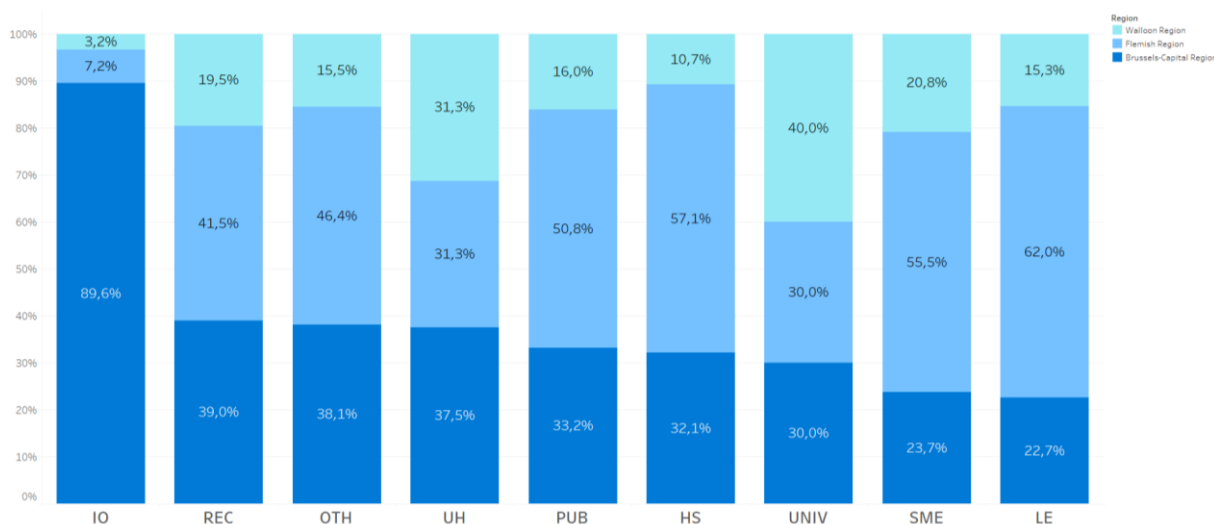
Figure 24. Breakdown of applicants per type of stakeholder (%), by region and for Belgium



As a percentage of all Belgian applicants, the Brussels-Capital Region accounts for a very large majority of the total figure for international organisations (90%), 39% of all research organisations, 38% of other organisations, 38% of university hospitals, one third of all public bodies and 30% of all universities (Figure 25). Moreover, almost a quarter of SMEs and large Belgian companies that submitted a request for funding in the context of the H2020 framework programme are Brussels-based.

To place this figure in context, 11% of VAT-registered companies with a head office in Belgium are Brussels-based.²² Whereas the percentage of large Brussels-based companies recorded as an applicant (23%) corresponds to the percentage of all Belgian companies in BCR (22%), the percentage of Brussels-based SMEs that participated in the H2020 framework programme (24%) greatly exceeds the percentage of Belgian SMEs in BCR (11%).²³

Figure 25. Breakdown of applicants per type of shareholder, by region (%)



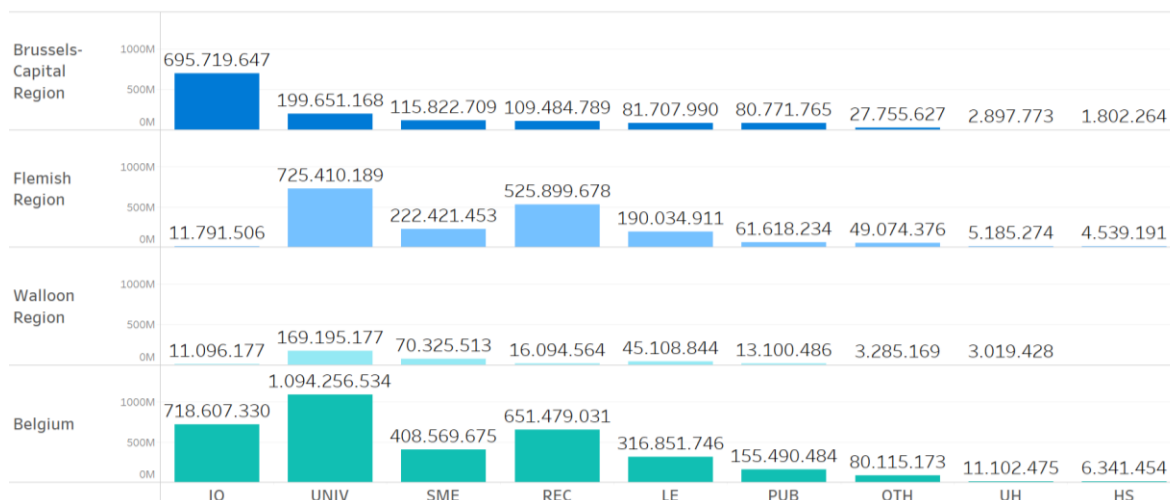
Funding granted

Of the €1,315 billion allocated to research or innovation projects in BCR, international organisations received €619.9 million, i.e. 53% of the total amount. **Universities** are in **second place** with a share of 15% of the financing granted to Brussels-based organisations with SMEs and research institutions close behind with 9% and 8% of the total amount of funding allocated to Brussels-based organisations. Large enterprises and the public sector obtained 6% of the European funding awarded to Brussels-based organisations. For Belgium as a whole, it is universities (32%), international organisations (21%) and research organisations (19%) which obtained the highest financial contributions.

²² Statbel, 2022 data

²³ Statbel, 2021 data. These percentages are calculated based on the company size in terms of workforce only (< or ≥ 250) and do not consider other European Commission criteria (turnover, balance sheet, independent company/partner/affiliate).

Figure 26. Amount of allocated funding per type of stakeholder, for each region and Belgium (€)



5. BCR and non-Belgian collaborations

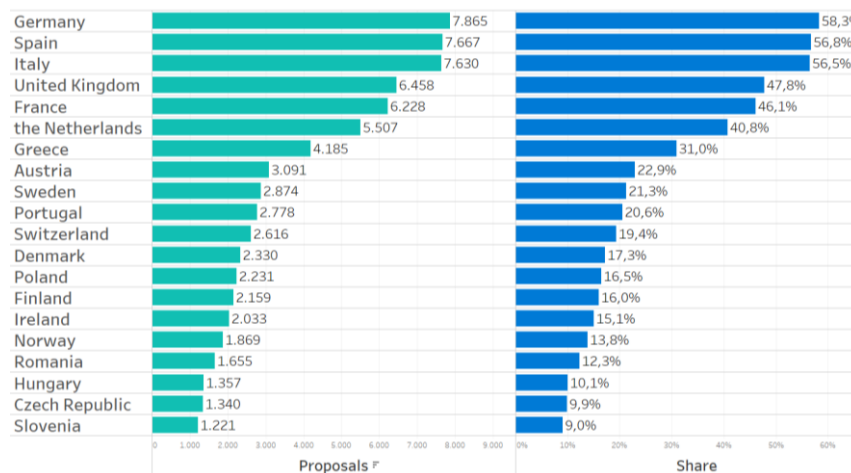
Non-Belgian participation in proposals submitted by Brussels-based organisations

Non-Belgian participation in proposals from Brussels-based organisations are shown in Figure 26. The three leading countries are: Germany (58%), Spain (57%) and Italy (57%). The Germans are present in 6 out of 10 proposals involving Brussels-based organisations and the same goes for the other two nationalities.

In total, one German, Italian or Spanish partner or coordinator is found in 85% of Brussels-based proposals.

Four other countries also stand out: the United Kingdom (48%), France (46%) and the Netherlands (41%), with participation rates of over 40%, and Greece with a presence in 31% of Brussels-based proposals.

Figure 27. Participation of countries in proposals submitted by Brussels-based organisations - Top 20, in terms of number and as a percentage of all proposals submitted by Brussels-based organisations



6. Priority topics for the Brussels-Capital Region and NCP Brussels targets

BCR priorities and NCP Brussels targets: applications and participations

Of the 17,179 **applications** submitted by Brussels-based applicants, **13,796** fell within the **mandate of NCP Brussels (80%)** and **10,639** within one of the **priority themes** of the Brussels-Capital Region (62%).

With regard to funded applications, 83% of the **participations** fell within NCP Brussels targets, with 62% of the participations corresponding to the region's priority themes.

After excluding the civil security topic, the applications and participations corresponding to priority themes account for 56% and 57% respectively of the totals for the region. Just over half of the applications that received funding are research or innovation projects whose themes are included in the more limited list of BCR priorities.

Out of the 2,702 requests for funding submitted by Brussels-based SMEs, 78% of them correspond to the BCR's priority themes. 456 applications from SMEs obtained funding, 72% of which are projects in a field of priority for the Region.

Table 3. Number of applications/participations in one of the themes falling under the NCP nominations, number of applications/participations in the BCR's priority themes and percentage compared with the number of applications/participations in the BCR. Total, excluding IO and SMEs.

	Applications			Participations		
	Total	Excluding IO	SME	Total	Excluding IO	SME
BCR	17,179	8,723	2,702	3,779	1,906	456
NCP nominations	13,796	6,598	2,461	3,144	1,538	412
NCP nominations (%)	80%	76%	91%	83%	81%	90%
BCR priorities	10,639	4,963	2,099	2,331	1,077	328
BCR priorities (%)	62%	57%	78%	62%	57%	72%
BCR priorities excluding security	9,601	4,311	1,872	2,153	968	305
BCR priorities excluding security (%)	56%	49%	69%	57%	51%	67%

Finally, of the 2,665 Brussels-based **projects** funded by the H2020 programme, **1,353** (51%) relate to one of the Region's **priority themes**.

BCR priorities: funding for each theme

Since the launch of the programme, the EU has granted €641.3 million to research or innovation projects in priority themes for Brussels, which corresponds to **54% of the amount granted to all the Brussels-based participations**. Excluding civil security, Brussels-based organisations obtained €587.3 million of funding for projects corresponding to the Region's priority themes.

Energy, the environment and climate, transport, ICT, and health are leading themes with a total share of 81% in the funding granted to participations covering the BCR's priority themes. Each of these different categories represents 13% to 20% of funding granted to projects covering priority themes for Brussels. With a share of 8%, civil security lies between this first and second group, having obtained relatively less financing: SMEs, circular economy, Fast track to innovation, construction and CrossT.

These participations obtained a relatively higher funding level than the rate recorded across all Brussels-based participations (86% compared with 70%).

Table 4. Funding amounts and percentages allocated to BCR beneficiaries and budgets for projects involving BCR beneficiaries for the Region's priority themes

	Funding €	Budget €	Funding wrt Budget (%)	Funding (%)	Budget (%)
Energy	130,483,418	151,631,318	86.05%	20.3%	20.4%
Transport	110,192,285	126,211,658	87.31%	17.2%	17.0%
Environment/Climate	99,151,032	112,341,599	88.26%	15.5%	15.1%
ICT (incl. Ecsel)	96,529,321	119,778,957	80.59%	15.1%	16.1%
Health	85,732,271	99,580,913	86.09%	13.4%	13.4%
Security	53,948,980	57,235,161	94.26%	8.4%	7.7%
SME	27,329,562	32,405,303	84.34%	4.3%	4.4%
Circular Economy	22,289,892	26,209,309	85.05%	3.5%	3.5%
FTI*	7,981,758	8,549,743	93.36%	1.2%	1.2%
Construction	7,589,073	8,161,447	92.99%	1.2%	1.1%
CrossT	56,250	56,250	100.00%	0.0%	0.0%
Total	641,283,843	742,161,659	86.41%	100%	100%

*: Fast Track to Innovation

7. Methodology and glossary

Important note

The results provided in this report have been established based on a data processing methodology that refines the data extracted directly from the European Commission's database. Consequently, some figures, such as the success rate for submitted proposals, may differ slightly from that published by the European Commission.

Methodology

The statistics cover all the themes of all the specific programmes of the H2020 programme. The total budget for the H2020 programme, which started on 01/01/2014 and ended on 27/01/2021, was about **€76 billion**. Initially covering the years 2014 to 2020, this programme was extended by a month in order to incorporate the calls for proposals for the Green Deal.

Unlike the previous framework programmes, **H2020 combines research with innovation** and brings together the following former programmes: FP7 (7th Framework Programme) - Cooperation, Capacities, Ideas, People - innovation aspects of the former Competitiveness & Innovation Programme (CIP) and the European Commission's contribution to the European Institute of Innovation & Technology (EIT). The H2020 programme is divided up into pillars and topics whose structure is different from that of FP7. The results presented in this report cannot therefore be compared with the results for FP7.

The statistics analysed in this report come from the databases published in October 2022 by e-Corda (extraction date: 06/09/2022), covering the calls for proposals closed since the H2020 programme was launched on 01/01/2014. The data relating to participation in the programme (financed projects) are based on the contracts signed, effective on the extraction date.²⁴

The methodology used to process the data relating to this programme was largely inspired by the methodology developed for FP7.

The processing of the data consists in:

- searching for Belgian applicants whose location has been provided incorrectly and eliminating foreign applicants attributed to Belgium;
- eliminating any duplicates;
- grouping the same entities under a single identification code;
- ensuring that the data in the databases relating to funded participations corresponds to the applications (a participation shall be included as an application if it does not appear in this database);
- attributing a type of organisation as per the nomenclature developed (refer to the glossary);

²⁴ After the closure of the calls, a period of 5 months is required to evaluate the proposals, and an additional 3 months to prepare the subsidy contracts, following which the projects can begin. For various reasons, it may be that some projects are not signed or need to be interrupted, which causes the data to change.

- attributing a region by applying the methodology used previously (refer to the FP7 report). The setting of the participants' location as the Walloon Region, the Brussels-Capital Region or the Flemish Region is determined based on the location of the legal entity which submitted the proposal (post code). The exceptions to this rule are:
 - Sirris (the collective centre of the technological industry) and Centexbel (the scientific and technical centre of the Belgian textile industry): every application and participation has been allocated to the BRC, the WR or the FR respectively, depending on the location of the lead researcher. Since the location of the research department given in the Commission's database was not sufficiently reliable, the NCP Brussels used the information collected from the research organisations by the NCP Wallonia;
 - Université catholique de Louvain (UCL): all the participations are allocated to WR, even those of research centres located in BCR (e.g. health at Woluwe Saint Lambert);
 - Université libre de Bruxelles (ULB): all the participations are allocated to BCR, even those of research centres located in WR (e.g. Biopark in WR);
 - The Flemish and Walloon public institutions located in Brussels are allocated to FR and WR respectively.
- searching for applicants/participations and proposals/projects that are in line with the priorities and targets of NCP Brussels.

The analysis presented in this report is primarily focussed on the results for the Brussels-Capital Region.

Specific analyses have been performed for:

- **Themes for which the NCP Brussels is responsible** and corresponding to the official nominations of NCP Brussels. Under the H2020 Programme, the NCP Brussels has been nominated to cover the 7 themes in pillar III relating to Societal Challenges (SC), the 5 themes in pillar II relating to Industrial Leadership (which includes the instruments Fast Track to Innovation (FTI), SME Instrument, EIC pilot) and the research infrastructure (RI) theme in pillar I relating to Excellent Science, and the cross-cutting aspects: Spreading Excellence and Widening Participation (WIDENING), Science with and for Society (SWAFS) and Legal & Financial & Coordination ;
- **The BRC priorities** defined in the Regional Plan for Innovation and the NCP Agreement 2019-2020 (identical to the priorities in the NCP Agreement 2017-2018). These are in line with the key topics and regional clusters for which specific calls are envisaged in H2020: ICT, Life Tech (including e-health), Green Tech (environment and climate change), eco-construction, circular economy, mobility/transport, civil security, and calls whose priority target is SMEs.

Glossary

The terminology used in this report is consistent with the key concepts used by the European Commission in its published report of statistics relating to the H2020 framework programme. The official terms have also been used when referring to the structure and topics of this programme. Consequently, these terms may differ from the terminology used in the statistical reports that describe the 7th framework programme.

Key concepts

A **proposal** is a request for funding for a research or innovation project that is submitted by **one or more applicants**. Every applicant may submit one or more requests for funding, known as an **application**, in the form of a joint proposal submitted by several applicants or, more rarely, in the form of an “individual” proposal submitted by a single applicant.

If the funding of a proposal is approved, it becomes a **project**, executed by one or more **beneficiaries**. The various requests for funding from applicants that receive funding are called **participations**.

From now on, a project may relate to more than one region if the Belgian applicants of a single proposal are located in different regions.

Figure 28. Schematic representation of key concepts as per EC definitions

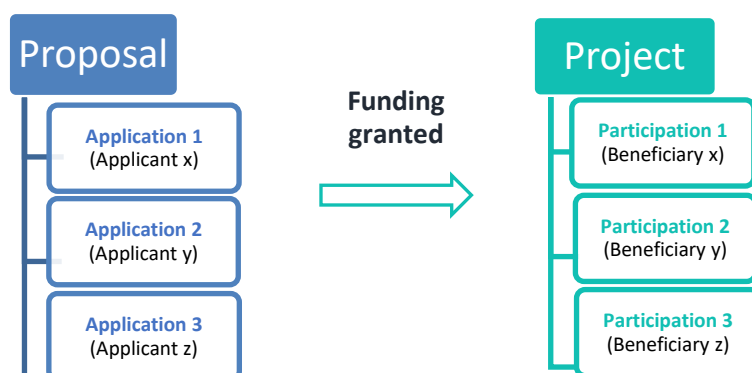


Table 5. Acronyms, names and definitions of key concepts, as defined by the EC

Acronym	Full name	Definition/comment
EC	European Commission	
FP7		The EU 's 7 th framework programme for research
H2020	Horizon 2020	The EU's 8 th framework programme for Research and Innovation for the period 2014-2020
NCP Nominations		The various themes allocated to NCP Brussels team under its mandate (declared as official nominations to the EC)
Beneficiary	Also known as a "Participant".	A legal entity or natural person that receives funding after submitting an application
Participation	"Participation" as defined by the EC	A request for funding submitted by an applicant that is selected to receive funding
NCP Brussels priority		The various themes designated as priorities for the NCP Brussels (as declared in the agreement, in line with the Region's strategic priorities, etc.)
Project	"Project" as defined by the EC	A proposal for a research or innovation project, submitted by one or more applicants, that is selected to receive funding
Proposal	"Proposal" as defined by the EC	A proposal for a research or innovation project prepared and submitted by one or more applicants
BCR	Brussels-Capital Region	
FR	Flemish Region	
WR	Walloon Region	
Application	"Application" as defined by the EC	A request for funding submitted by an applicant in the context of a proposal for a research or innovation project
Applicant	"Applicant" as defined by the EC	A legal entity or natural person that submits a request for funding in the context of a H2020 call for proposals
Success rate		The number of projects/participations selected for funding as a percentage of the total number of proposals/applications submitted

Types of stakeholder

Table 6. Acronyms, names and definitions of types of stakeholder

Acronym	Full name	Definition/comment
OTHER	Other	A type of applicant other than a RES, LC, PSS, UH, IO, SME, PUB or UNIV
REC	Research center	A research center (not including universities) is a non-profit organisation whose primary objective is scientific or technological research. This aspect of the organisation must appear in the organisation's articles of association
LE	Large enterprise	Large company, as defined by the EC
HS	High school	Higher education institution other than a university
UH	University Hospital	University Hospital
IO	International organisation	International organisations include, in addition to intergovernmental organisations, European or international associations and federations ²⁵ i.e. international non-profit associations, EEIG and non-profit associations whose title and purpose incorporates a European/international dimension
SME	Small or medium-sized enterprise	SME, as defined by the EC
PUB	Public body	A public body is a legal entity established as a public body by national law or an international organisation
UNIV	University	University

H2020 programme themes

Table 7. Acronyms, names and definitions of the component topics of the H2020 programme

Acronym	Full name	Definition/comment
ADVMAT	Advanced materials	A sub-theme of NMP-B (pillar 2)
ADVMANU	Advanced manufacturing	A sub-theme of NMP-B (pillar 2)
BIOTECH	Biotechnologies	A sub-theme of NMP-B (pillar 2)
CAREER	MSCA Career Integration Grant	A sub-theme of MSCA (pillar 1)
CROSST	Cross-thematic	Subjects that simultaneously cover several themes
ERC	European Research Council	Funding of researchers in pillar 1 of the H2020 programme
Euratom	The Euratom Programme under H2020	A nuclear research theme and associated training activities
FET	Future and emerging technologies	A pillar 1 theme

²⁵ This definition does not correspond to the definition used by the European Commission (EC). The latter is more restrictive and does not include intergovernmental organisations or specialised agencies set up by such organisations.

FTI	Fast-track-to-innovation	A H2020 programme funding instrument reserved for small consortia showing industrial leadership, covering themes in pillars 2 and 3
GENDEREQ	Gender equality	A cross-thematic sub-theme
GOV	Governance	A cross-thematic sub-theme relating to good governance and the integrity of research
ICT	Information and Communication Technologies	A H2020 programme theme in pillar 2
INDLEAD CROSST	Industrial Leadership – Cross-thematic	Subjects simultaneously covering several themes in pillar 2
INEGSOC	Reducing Inequalities	A sub-theme of SC6 (pillar 3)
INNOSUP SME	Innovation in SMEs	Subjects belonging to the Innovation in SMEs theme (pillar 2)
JRC	Joint Research Centre	A gold-standard scientific centre established as an internal department of the EC
LEIT	Leadership in Enabling and Industrial Technologies	Pillar 2 of the H2020 programme
MSCA	Marie Skłodowska-Curie actions	Funding of researchers at all stages of their career, in pillar 1 of the H2020 programme
NMP	Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology	A theme in pillar 2 of the H2020 programme
RI	European Research infrastructures including e-infrastructures	A theme in pillar 1 of the H2020 programme
RISK FINANCE	Access to Risk Finance	A sub-theme for SMEs (pillar 2)
SC	Societal challenge	Pillar 3 of the H2020 programme consists of various societal challenges
SC1 – Health	Societal challenge 1: Health, Demographic Change and Well-being	Societal challenge 1 in pillar 3 of the H2020 programme
SC2 – Bio	Societal challenge 2 – Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy	Societal challenge 2 in pillar 3 of the H2020 programme
SC3 – Energy	Societal challenge 3 – Secure, Clean and Efficient Energy	Societal challenge 3 in pillar 3 of the H2020 programme
SC4 – Transport (TPT)	Societal challenge 4 – Smart, Green and Integrated Transport	Societal challenge 4 in pillar 3 of the H2020 programme
SC5 – Climate (ENV)	Societal challenge 5 – Climate Action, Environment, Resource Efficiency and Raw Materials	Societal challenge 5 in pillar 3 of the H2020 programme

SC6 – Inclusive (SOCIETY)	Societal challenge 6 – Europe in a changing world – Inclusive, innovative and reflective societies	Societal challenge 6 in pillar 3 of the H2020 programme
SC7 – Secure	Societal challenge 7 – Secure societies – Protecting freedom and security of Europe and its citizens	Societal challenge 7 in pillar 3 of the H2020 programme
SME instrument		A H2020 programme funding instrument reserved for profit-making SMEs, covering pillars 2 and 3 Since 2019, SME Instrument phase 1 has been withdrawn and SME Instrument phase 2 has been integrated into EIC pilot (European Innovation Council pilot).
SOCCHAL-CROSST	Societal Challenges – cross-thematic	Subjects covering the cross-thematic aspects of societal challenges
SWAFS	Science with and for Society	A theme in the H2020 programme
SWAFS-CROSST	Science with and for Society – Cross-thematic	Subjects covering the cross-thematic aspects of the SWAFS theme
Space	Space	A theme in pillar 2 of the H2020 programme
TWINNING	Twinning	A sub-theme under WIDENING (cross-thematic)
WIDENING	Spreading Excellence and Widening Participation	A theme in the H2020 programme

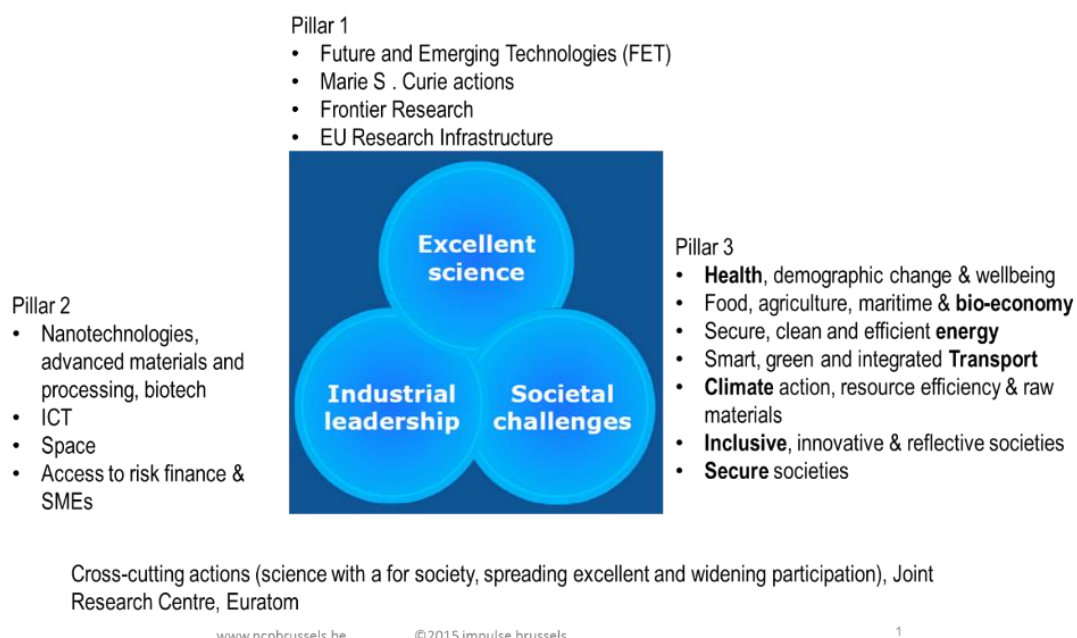
3 major pillars of the framework programme

H2020 is structured into 3 pillars, each covering a number of themes (refer to Figure 30):

- Pillar 1 Excellent Science
- Pillar 2 Industrial Leadership (Leadership in Enabling and Industrial Technologies)
- Pillar 3 Societal Challenges

These three pillars of H2020 are further based on a cross-cutting pillar, comprising two specific objectives for the programme: "spreading excellence and widening participation" and "science with and for society".

Figure 29. Diagram of the theme-based structure of the Horizon 2020 programme



Pillar 1 - Excellent Science

This aimed to:

- support the most talented and creative individuals and their teams to carry out the highest quality groundbreaking research by building on the success of the European Research Council;
- fund collaborative research to open up new and promising fields of research and innovation through support for future and emerging technologies (FET);
- provide researchers with excellent training and career development opportunities through the Marie Skłodowska-Curie actions;
- ensure Europe has world-class research infrastructures (including e-infrastructures) accessible to all researchers in Europe and beyond.

Associated themes

1. Exploratory research financed by the **European Research Council (ERC)**: reinforce the excellence, dynamism and creativity of European research.
2. **Future and emerging technologies (EFT)**: foster radically new technologies with the potential to open new fields for scientific knowledge and technologies and contribute to the European next generation industries, by exploring novel and high-risk ideas building on scientific foundations.
3. **Marie Skłodowska-Curie (MSCA) actions**: ensure optimal development and dynamic use of Europe's intellectual capital in order to generate, develop and transfer new skills, knowledge and innovation and, thus, to realise its full potential across all sectors and regions.
4. **Research infrastructure (RI)**: endow Europe with world-class research infrastructures which are accessible to all researchers in Europe and beyond and which fully exploit their potential for scientific advance and innovation.

Pillar 2 - Industrial Leadership

This had the objective of:

- building leadership in enabling and industrial technologies, with dedicated support for ICT, nanotechnology, advanced materials, biotechnology, advanced manufacturing and processing and space, while also providing support for cross-cutting actions to capture the accumulated benefits from combining several key enabling technologies;
- facilitate access to risk finance;
- provide Union-wide support for innovation in SMEs.

Associated themes

1. Leadership in the field of enabling and industrial technologies (LEIT): maintain and build global leadership through research and innovation in enabling technologies and space, which underpin competitiveness across a range of existing and emerging industries and sectors:

- **information and communication technologies (ICT)**: enable Europe to support, develop and exploit the opportunities brought by ICT progress for the benefits of its citizens, businesses and scientific communities.
- **nanotech, materials, biotech and advanced manufacturing processes (NMBP)**
 - **Nanotechnologies**: secure Union leadership in this high growth global market, by stimulating scientific and technological advancements and investment in nanotechnologies and their uptake in high added value, competitive products and services across a range of applications and sectors.
 - **Advanced materials**: develop materials with new functionalities and improved in-service performance, for more competitive and safe products that minimise the impact on the environment and the consumption of resources.
 - **Biotechnologies**: develop competitive, sustainable, safe and innovative industrial products and processes and contribute as an innovation driver in a number of European sectors, like agriculture, forestry, food, energy, chemical and health as well as the knowledge-based bioeconomy.

- **Advanced manufacturing and processing:** transform manufacturing enterprises, systems and processes, resulting in more innovative products, processes and services.
- **space:** foster a cost-effective competitive and innovative space industry (including SMEs) and research community to develop and exploit space infrastructure to meet future Union policy and societal needs.
- 2. **Access to risk finance:** help address market deficiencies in accessing risk finance for research and innovation.
- 3. **Innovation in SMEs:** stimulate sustainable economic growth by means of increasing the levels of innovation in SMEs, covering their different innovation needs over the whole innovation cycle for all types of innovation, thereby creating more fast-growing, internationally active SMEs.

Pillar 3 - Societal Challenges

European funding should focus on the following challenges:

- health, demographic change and well-being;
- food security, sustainable agriculture, marine and maritime research and the bioeconomy;
- secure, clean and efficient energy;
- smart, green and integrated transport;
- climate action, resource efficiency and raw materials;
- inclusive, innovative and secure societies.

Associated themes

These are seven priority challenges where a targeted investment in research and innovation can have a real positive impact for citizens:

1. **health, demographic change and well-being:** improve the lifelong health and well-being of all.
2. **food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy:** secure sufficient supplies of safe, healthy and high quality food and other bio-based products.
3. **secure, clean and efficient energy:** make the transition to a reliable, affordable, publicly accepted, sustainable and competitive energy system, aiming at reducing fossil fuel dependency.
4. **smart, green and integrated transport:** achieve a European transport system that is resource-efficient, climate- and environmentally-friendly, safe and seamless for the benefit of all citizens, the economy and society.
5. **climate action, environment, resource efficiency and raw materials:** achieve a resource- and water-efficient and climate change resilient economy and society, the protection and sustainable management of natural resources and ecosystems, and a sustainable supply and use of raw materials.

6. **Europe in a changing world - inclusive, innovative and reflective societies:** foster a greater understanding of Europe, provide solutions and support inclusive, innovative and reflective European societies in a context of unprecedented transformations and growing global interdependencies.
7. **secure societies - protecting freedom and security of Europe and its citizens:** foster secure European societies in a context of unprecedented transformations and growing global interdependencies and threats, while strengthening the European culture of freedom and justice.

Cross-cutting aspects, pilot instruments and partnerships of the H2020 framework programme

The three pillars of H2020 are based on a **cross-cutting pillar**, comprising two specific objectives:

- **spreading excellence and widening participation:** fully exploit the potential of Europe's talent pool and to ensure that the benefits of an innovation-led economy are both maximised and widely distributed across the Union in accordance with the principle of excellence.
- **science with and for society:** build effective cooperation between science and society, to recruit new talent for science and to pair scientific excellence with social awareness and responsibility.
- furthermore, the non-nuclear direct actions of the Joint Research Centre (JRC) are designed to provide customer-driven scientific and technical support to Union policies, while the specific objective of the European Institute of Innovation and Technology is to integrate the knowledge triangle of higher education, research and innovation and thus to reinforce the Union's innovation capacity and address societal challenge.

H2020 also includes:

Pilot instruments to boost innovation in SMEs: Fast Track to Innovation (FTI) Pilot (2015-2016), SME Instrument and, at the end of the programme (2018-2020), the EIC Pilot (2018-2020), comprising the EIC Pathfinder (FET-Open, FET-Proactive) and the EIC Accelerator (SME Instrument phase 2).

Public-private partnerships under Article 187: Innovative Medicines Initiative (IMI) 2, Fuel Cells and Hydrogen (FCH) 2, Clean Sky 2, Bio-Based Industries, Electronic Components and Systems for European Leadership (ECSEL), Shift2Rail, Single European Sky Air Traffic Management Research (SESAR),

Public-public partnerships under Article 185 (Joint Programming Initiatives): Eurostars-2 (supporting research-performing small and medium-sized enterprises), European Metrology Programme for Innovation and Research (EMPIR), European and Developing Countries Clinical Trials Partnership (EDCTP2), Active and Assisted Living Research and Development Programme (AAL), Urban Europe.

It should be noted that the results of the calls for certain programmes (e.g. cascade programmes such as FIWARE or joint programmes such as Eurostars-2) are not managed in full in the E-Corda database and are therefore not covered by this report.

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