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*Annual Monitoring
Report 2016*

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¹ <https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/content/eip-raw-materials-monitoring-and-evaluation-scheme>

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Acronyms

AMR	Annual Monitoring Report
CfC	Call for Commitments
EIP	European Innovation Partnership
EIT	European Institute of Innovation and Technology
EU	European Union
KIC	Knowledge and Innovation Community
RMC	Raw Material Commitment
SIP	Strategic Implementation Plan
SME	Small and medium-sized enterprise
WEEE	Waste electrical and electronic equipment

Executive Summary

This document, the Annual Monitoring Report for 2016, provides an overview on the **state-of-play of Raw Material Commitments (RMCs) of the European Innovation Partnership (EIP) on Raw Materials**. Commitments are joint undertakings by several partners, who commit themselves to carrying out activities that contribute to achieving actions and targets of the EIP.

KEY DATA ON THE COMMITMENTS ACTIVE IN 2016

The EIP currently counts 105 Commitments, 58 from the 2013 Call for Commitments, and 47 from the 2015 Call for Commitments. **The Commitments cover all Priority Areas of the EIP in a relatively balanced way**, even though the 2015 Call for Commitments attracted very little Commitments on framework conditions for waste management.

To date **the EIP counts around 850 unique partners**, including 73 partners from non-EU countries. Overall, Spain remains the best represented country in EIP Commitments, followed by Italy and France, with more than 70 unique partner organisations each. The participation from organisations from Central and Eastern Europe did not increase significantly after the 2015 Call for Commitments.

Taken together the Commitments have a **total indicative budget of €1979 million**.

FUNDING

The 2013 Commitments are increasingly successful in securing their budgets (25% in 2016, 23% in 2015, and 15% in 2014). Half of the funding secured in 2016 comes from the **EU (€191 million)**, mostly through Horizon 2020. **Alternative EU funding sources** such as the European Investment Bank, the European Development Fund and Cohesion Policy Funds account for a **very small fraction** of funding to the Commitments. Since 2014 the RMCs have received **€80 million from 21 different countries**, while 12 Member States seemingly did not provide any funding at all. Finally, in 2016, 27 RMCs secured **private funding** worth more than €26 million. This brings the total number of Commitments having received private funding since 2014 to 61, totalling **€115 million**.

ACTIVITIES

Most Commitments reported to have undertaken activities towards their objectives since 2014. The most commonly reported activities are of an **organisational nature**, such as enlarging their partnership, securing funding, and profiling. Increasingly, Commitments are also undertaking **research and dissemination** activities.

OUTPUTS

Many Commitments are delivering tangible outputs. Most outputs contributed to **Target 2** on Substitutes, and **Target 1** Innovative pilot actions. Few outputs contribute to **Target 4** (framework conditions for materials efficiency and waste management), **Target 7** (international co-operation) and **Target 3** (Framework conditions for primary raw materials). Examples of outputs delivered by the Commitments are **knowledge sharing outputs** (publications, events, websites etc.), **innovative actions or pilots** (technological processes, new business models, new products etc.), and **strategic documents** (research agendas, certification schemes, revision of a standard etc.).

ADDITIONAL INSIGHTS FROM THE COMMITMENTS

The 2016 annual monitoring survey also revealed some interesting insights from the Commitments:

- In general, the Commitments are rather positive regarding the added value of being recognised as an RMC, whereas the level of endorsement decreased modestly. As in 2015, the **opportunity to enlarge their network** is still considered the strongest added value. Receiving a **quality label** by getting recognised as RMC became the second strongest added value.
- Around 60% of the respondents stated that they are aware of the **synergies between EU funding opportunities**. However, a significant and growing share of respondents **do not actually make use of these synergies (<10%)**, in spite of this awareness. Almost every fourth respondent agrees that the **EIP (already) facilitates the identification of synergies between the EU funding instruments**, while an even larger share (37%) would **welcome actions by the EIP to further facilitate them**.
- The low success rate of EU funding grants stays the most quoted **obstacle to public funding**. Other relevant obstacles are that the applications are too cumbersome, that the budget available is too low, or that the labelling as RMC does not help. At the same time, respondents also state that EU funding opportunities are well advertised and that the rules are sufficiently clear. While the share of respondents, who deem obstacles to EU funding as relevant, generally has decreased since last year, an increasing share of respondents consider EU funding opportunities not sufficiently advertised.
- The biggest **obstacle to private funding** is the absence for matchmaking between RMC and the private sector. In addition, the missing interest from private organisations was considered as a main obstacle, although to a lower degree than in 2015.

Table 1 provides an overview of the report's **key performance indicators**.

Table 1: Key performance indicators (December 2016)

Key performance indicator	2013 Call for Commitments	2015 Update on Commitments from 2013	2015 Call for Commitments	2016 Update on Commitments from 2013 /2015	Total
Number of commitments	80	- 4	+ 47	-18	105
Number of unique partners	699	+ 56	+ 223	-125	853
Total indicative budget	€1744 million	- €58.4 million	+ €294 million	n.a.	€1979 million
Budget secured ²	€268 million	+ €123 million	n.a.	+ €113 million	€504 million
Share of indicative budget secured	15%	23%	n.a.	n.a.	25%
Outputs	200	+ 343	n.a.	+83	626

Source: JRC analysis

² The "Budget secured" in the table included approximately €115 million of EU funding that RMCs had already secured at the time of the 2013 Call for Commitments (cf. EIP-RM Annual Monitoring Report 2014,p.8).

1 Introduction

1.1 The European Innovation Partnership on Raw Materials

The European Innovation Partnership (EIP) on Raw Materials is a stakeholder platform that brings together representatives from industry, public services, academia and NGOs. Its mission is to provide high-level guidance to the European Commission, Member States and private actors on innovative approaches to the **challenges related to raw materials**.

The **Strategic Implementation Plan (SIP)**³ of the EIP sets specific objectives and targets, to be achieved through a range of proposed actions including research and innovation coordination, technologies for raw materials production, substitution, framework conditions, knowledge and skills and international cooperation.

To implement these actions – which cannot be done by the European Union (EU) institutions alone – the European Commission launched two **Calls for Commitments**⁴ to Member States, industry, academia and other relevant stakeholders in October 2013 and December 2015. The **'Raw Material Commitments'** (RMCs) are joint undertakings by several partners, who commit themselves to carrying out activities that will contribute to achieving the actions and targets of the EIP within the period 2014-2020.

1.2 The EIP Annual Monitoring Report

The purpose of the Annual Monitoring Report is to provide an overview on the **state-of-play of the Commitments**, based on indicators that measure the RMCs inputs and outputs. The data used come from the information provided during the Calls for Commitments and from the **mandatory annual surveys**. The results of this monitoring exercise will feed into the SIP Implementation Document and the Strategic Evaluation Report⁵.

³ <https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/content/strategic-implementation-plan-sip-0>

⁴ <https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/call-commitments>

⁵ See the EIP Monitoring and Evaluation scheme: <https://ec.europa.eu/eip/raw-materials/en/content/eip-raw-materials-monitoring-and-evaluation-scheme>

2 Overview of the Commitments

The EIP organised **two Calls for Commitments**, in **2013** and **2015**. From the 2013 Call for Commitments the EIP Sherpa Group accepted **80** Commitments, while the 2015 Call led to **47** additional Commitments.

Commitments that do not fill in the annual monitoring survey for two consecutive years lose their recognition as a Raw Materials Commitment. In 2016 this was the case for 5 Commitments⁶. Moreover, 13 Commitments⁷ finished in 2016. This way the EIP counts **105 Commitments** at the beginning of 2017.

This section presents an overview on the coverage of the SIP, the Commitment partners and their indicative budgets.

Further details on all of the endorsed Commitments can be found on the EIP website: <https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/call-commitments>

2.1 Commitments and coverage of the SIP

>> The coverage of the different Priority Areas is relatively balanced

Table 2 displays the coverage of the SIP Priority Areas, attributing each RMC to one Priority Area.

All Priority Areas are relatively well covered, taking into account that some Priority Areas (e.g. I.C on substitution) are more specific than others. The 2015 Call for Commitments attracted very few Commitments on framework conditions for waste management (Priority Area II.B), while there were quite a lot of new Commitments covering biotic materials. In the annual survey 2016, 63 RMCs responded; a response rate of 52 %.

Annex 1 further provides an overview of the coverage of the EIP's Action Areas, based on Commitments' selection of up to 5 relevant Action Areas.

⁶ AELPK, CUMIHR, INBREV, NASSCO, SX-dev

⁷ AREMON, CHS250, CTC, E3M, EMD, EMY2015, EWIT, GtoG, MetNet, PPS, RMInnovation, SeaFlores, SUMAN 2000

Table 2: Number of RMCs covering each Priority Area. The Commitments that responded to the 2016 Survey are put in bold

Priority Area or theme	Relevant Raw Materials Commitments	Number of RMCs
Priority Area I.A. 'Raw materials research and innovation coordination'	ERA-MIN , ETP-PRIME, RMInnovation	3
Priority Area I.B. 'Technologies for primary and secondary raw materials production'	BioMOre , CHS250, EUROASSET , ExECRoMe , ExplOre, I²Mine-2 , I²Mine-pilot , NEXT , RUBICON, SecPRIME, SIMS , SmartExploration, SOcRATES , SOLSA	14
>> Land mining (exploration/mining)		
>> Deep sea mining (exploration/mining)	ALBATROSS, Blue Atlantis , Blue Nodules , ERDEM, SeaFlores	5
>> Processing	AREMON, BioAlMinore , BioIron , BRAVO, BRIO, CuBES , EHI, EUROPEM, INCOMES , InPhosphoChlor, LiDEP, MetGrow , MetNet , Mud2Metal , NewEco, PolymetOre , REDEPO, REFLEX, SMALLMINE	19
>> Waste management	BULKY, C&D-WRAM , CTC , CYCLEFIBER, EARTH 2020 , ENCRAM , EURELCO , HOPE-4-0, HydroWEEE , ITERAMS , pHMine , Reclaim, ROSE, TailingsDamScavenger , WeCARE , ZeroWaste-NoI	16
Priority Area I.C. 'Substitution of raw materials'	CARBOCYCLE, CRM-InnoNet , EQUATOR , EU-NARS-G, RAW-NANOVALUE , RESET , SUBST-EXTREME	7
Priority Area II.A. 'Improving Europe's raw materials framework conditions'	BioDIMA , EESC IR, EMD , EMD 2017, EMY2015, ENSQM , ENTRIE, Mineland , MIREU, NATREG, OPTIMIN 2020, PPS, Safe & Prod. Mining Waste, SAFEMIN , SMiS, Stand4Mines, SUMAN2000 , SUSMINE , SustainableMiningStandard , WEMINEIT	20
Priority Area II.B. 'Improving Europe's waste management framework conditions and excellence'	Covenant2022, CRM Recovery , ELTSTANDARD , EPR-C Commitment , GtoG , IMPACT , PREVENTILEX, WEEE + BATT Excellence	8
Priority Area II.C. 'Knowledge, skills and raw materials flows'	BRITE, CRAM , EUMINET, NATUREUROSTONES , ORAMA, REMIND, TAURUS , WEEE 2020	8
Priority Area III. 'International cooperation'	E3M, EWIT, IMAGINE , INTERMIN , InTrain4RM , Metallica, MINSPIRE , PLATINUM	8
Biotic materials	ECAMOB, Effiwood, EHIA, GENTLE , NOWMOB , PROFIBRE , RUBB-ENDURE , RUBBERTOMARKET, SWEETSTOCK, WRING	10

Source: JRC analysis

2.2 Partners

>> *The EIP on Raw Materials counts almost 1000 unique partners*

In 2013, about 700 unique partners related to 80 commitments belonged to the EIP⁸. Between 2013 and 2015, one third of these RMCs reported through the 2015 AMR survey an evolution of their partnership. In spite of the disqualification of four RMCs and the consequential loss of 27 partners, the EIP showed a net increase by 56 new unique partners. Moreover, the 2015 Call for Commitments attracted another 223 unique partners, related to 47 commitments, bringing the overall EIP partnership to about 980 unique partners.

The 2016 AMR survey resulted in the disqualification of 5 RMCs and a consequential reduction of 27 partners. In addition, 13 RMCs finished in 2016, resulting in a decrease of a further 141 partners. The evolution in the partnerships of the remaining RMCs caused the leaving of 4 extra partners, and an entering of 46 partners. The **overall EIP partnership** thus decreased in 2016 by 126 partners to about **850 unique partners**.

>> *Member State participation remains uneven, even after the 2015 Call for Commitments*

Figure 1 presents the distribution of the **unique partners per Member State**. Overall, **Spain** remains the best represented in the EIP Commitments (almost 120 different partner organisations), followed by **Italy and France**, with more than 70 unique partner organisations each. For most countries, the number of unique partners did not change, the others showed small to moderate decreases. Further, the EIP includes **73 partners from non-EU countries**⁹ and 54 partners representing pan-European organisations (EU industry associations, etc.).

⁸ The 80 commitments are the ones accepted after the 2013 Call for Commitments.

⁹ Including from Argentina, Brazil, Chile, the Republic of Macedonia, Mexico, Morocco, Peru, Tunisia, Uruguay, Philippines and the United Arab Emirates, as well as multinational organisations.

Figure 1: RMC partner coverage, total number by Member State



The colour intensity shows the total number of unique Raw Material Commitment partners by member states. The ranges of number of partners are, ordered from lightest to darkest green: <5, 5-9, 10-29, 30-69, >70. Source: JRC analysis

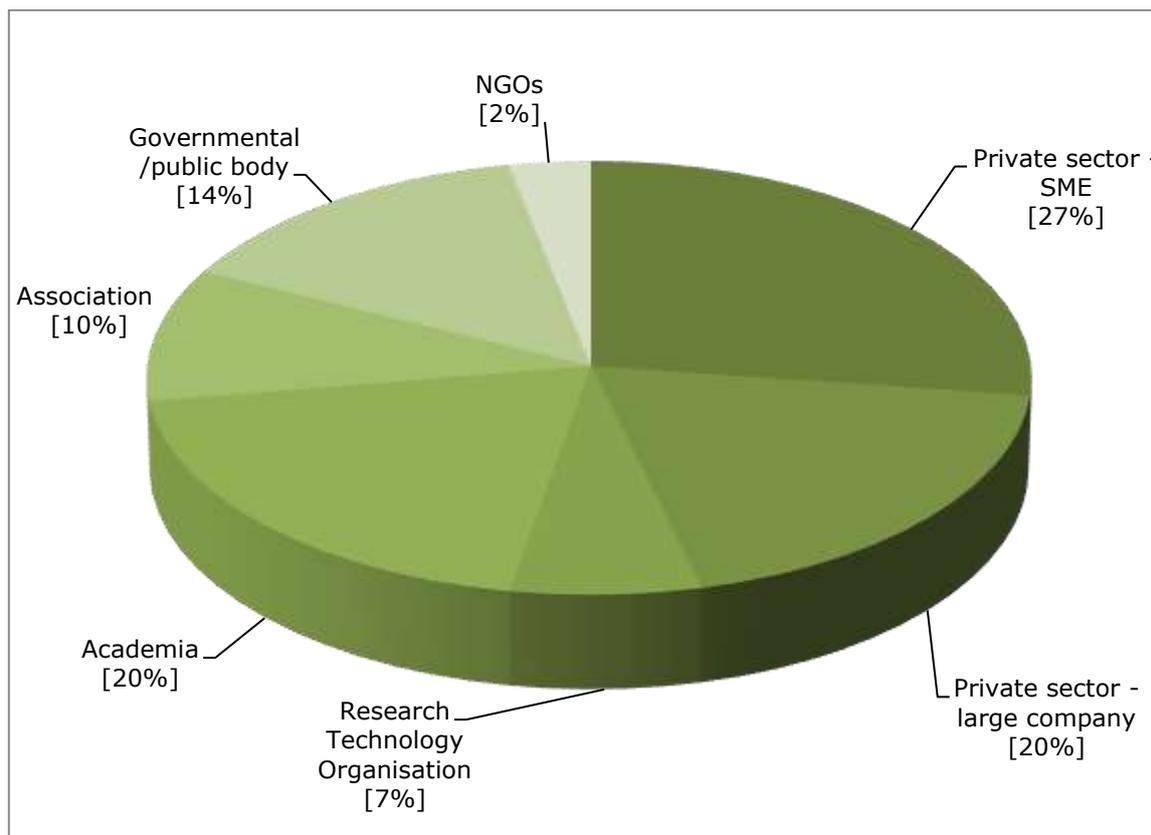
France (18), Spain (14), Finland (9), Italy (9), Sweden (6) and United Kingdom (6) are well represented also in **RMC leadership**, with pan-European organisations (21) also leading a significant number of RMCs.

>> There is a balanced participation from organisations from the public and the private sector, yet NGOs are relatively under-represented

Figure 2 presents that, in terms of RMC partners, **participation in the EIP is relatively evenly balanced between the public and private sectors**. Almost half (47%) of the organisations that participate in Commitments come from the private sector, both large companies and small and medium-sized enterprises (SMEs); the latter representing over one quarter (27%) of all organisations that participate in Commitments. In addition, associations representing the private and non-private sector make account for around 10%.

Interestingly, the distribution by type of RMC partners is very stable: After very modest changes between 2014 and 2015, there are only very minor changes since then.

Figure 2: Type of RMC partners, in %



Source: JRC analysis

2.3 Funding¹⁰

>> Under the EIP on Raw Materials, public and private sectors could co-fund close to €2 billion of activities

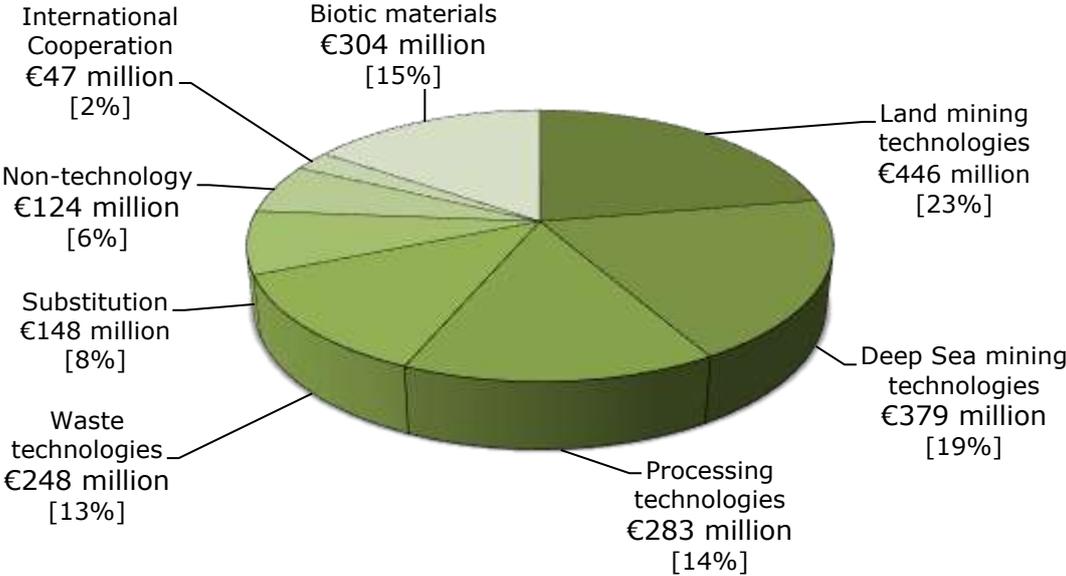
The participation of the Commitments to the EIP is a voluntary process, with **no direct EU funding awarded** to the endorsed RMCs. However, **the EIP plays an important role in bringing together stakeholders** that may have easier access to financing together than taken alone when applying for EU Horizon 2020 funding, as well as other EU funding sources such as LIFE funding, Cohesion funding, European Investment Bank loans, etc.

Commitments provided an estimate of their **total indicative budgets** as part of their submission to the Call for Commitment (CfC), both at CfC 2013 and CfC 2015. Indicative budgets for the 76 currently active RMCs from the CfC **2013** amount to **€1685 million**. The RMCs from the CfC 2015 however provided more conservative indicative budgets, adding only **€294 million, resulting in a total indicative budget that reaches €1979 million**.

As shown in **Figure 3**, **the technology-focused Commitments make up the largest proportion of the overall total indicative budgets**. With lower rates of projected capital outlay and overall cost, non-technology and international cooperation themed RMCs collectively account for only 9% of total indicative RMC budgets.

¹⁰ Although the Annual Monitoring Survey 2016 did not provide information on the indicative budget, which would allow an update of this subchapter, this chapter is reproduced in a slightly revised version to ensure continuity in reporting.

Figure 3: Overall total indicative budget of the RMCs by theme, in € million euros and %



Source: JRC analysis

3 Monitoring Progress of Commitments

This chapter presents **the progress made by the Commitments of both the 2013 and the 2015 Call for Commitments**. More than 50% of the Commitments responded to the 2016 Annual Monitoring Survey.

Indicators for monitoring, measuring and mapping the state-of-play of the ongoing EIP Commitments are presented in three sections:

- (1) inputs (human resources, funding, etc.)
- (2) activities undertaken in the year
- (3) outputs (pilot actions, documents, meetings, etc.).

3.1 Inputs

The purpose of this section is to analyse the overall state-of-play of the adopted Commitments with respect to total funding secured, and to identify the proportion of projects that are on track versus those at risk, e.g. those lacking funds.

Overview

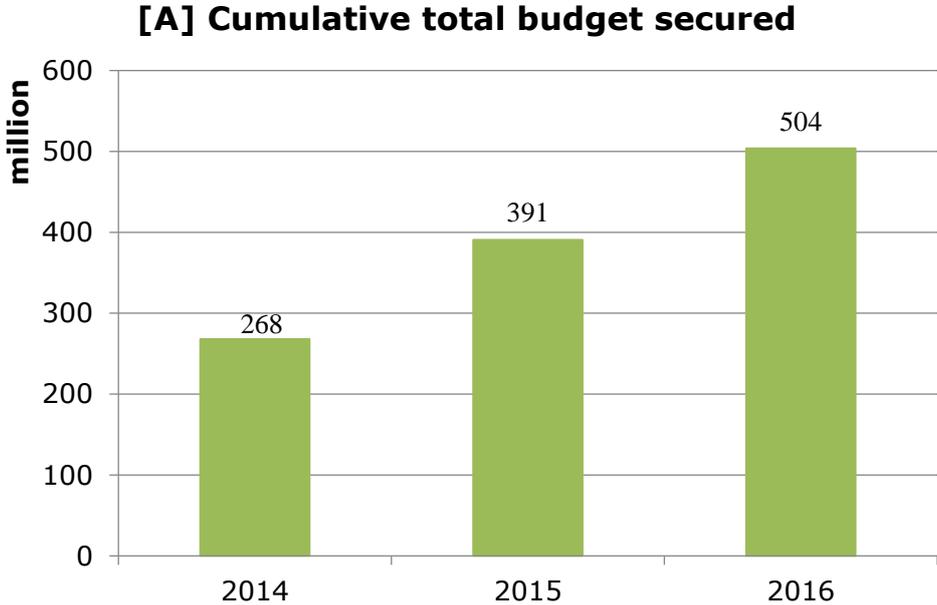
>> On average the RMCs have now secured a quarter of their total indicative budgets

Prior to the 2016 annual monitoring survey, RMCs had reported the securing of €391 million¹¹. **At the time of the 2016 Annual Monitoring Survey, the RMCs reported to have further secured €113 million**. This means that the EIP Commitments have secured approximately **€504 million** out of the updated total indicative budget of €1979 million, or approximately **25%** of their total indicative budgets (compared to 15 % in 2014, and 23 % in 2015).

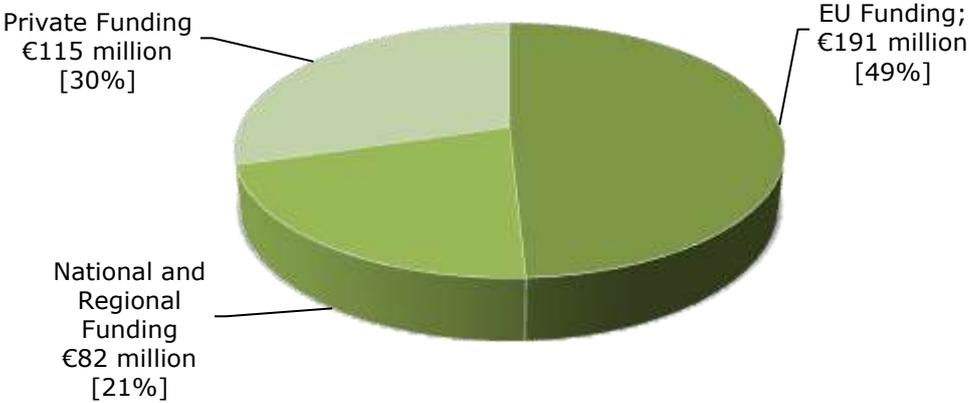
The **trend of the total budget secured**, cumulative for the years 2014, 2015 and 2016, is summarised in **Figure 4A**, while the reported budget secured for the period 2014-2016 is shown by type of resources in **Figure 4B**.

¹¹ This includes the budget indicated by the 2013 Call for Commitments.

Figure 4: Secured funding for EIP Commitments: [A] Cumulative total budget secured in 2014, 2015 and 2016, in €; [B] Cumulative budget secured split by type of sources since 2014, in € million and %¹²



[B] Cumulative budget secured by sources since 2014



Source: JRC analysis

The **cumulative total budget secured grew rather evenly** over the period 2014-2016, starting from a total budget of €153 million and reaching now €389 million. The absolute increase is modestly slowing down.

Since 2014, the largest proportion of funding comes from the EU; for the period 2014-2016 the EU funding amounts to about half of the total (**49%**), equivalent to €191 million. Private funding of €115 million represents almost one third (30%) of the total

¹² The "Cumulative budget secured" in Figure 4B excludes approximately €115 million of EU funding that RMCs had already secured at the time of the 2013 Call for Commitments.

funding secured since 2014. Funding from public national and regional sources is more than €80 million over the same period, representing about a fifth (21%). The distribution looks basically similar for the funding secured in 2016, however the EU funding was 8% higher, mainly due to a lower share of the private funding.

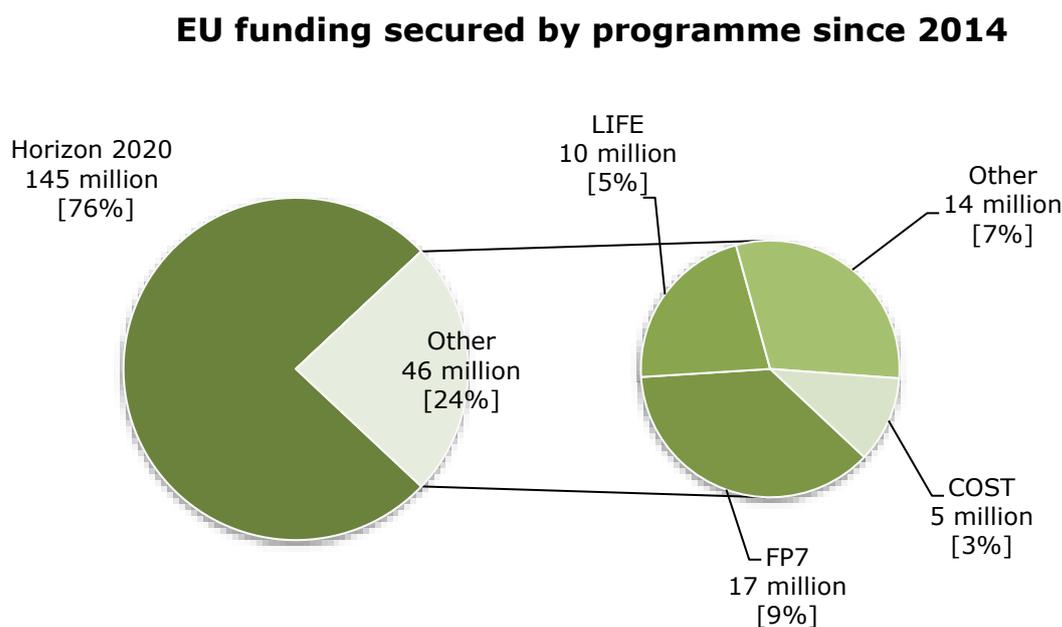
EU Funding

>> *The Horizon 2020 programme has now become the biggest source of EU funding for RMCs, worth €145 million*

In 2016, 19 RMCs reported securing about €65 million of additional EU funding, of which 87% came from H2020. This brings EU funding to €191 million since 2014, shared among more than 30 Commitments.

The **Horizon 2020** research and innovation funding programme stays the **biggest source of EU funding** that Commitments received (95% of the total in 2016, compared to 87% in 2015 and 11% in 2014) (**Figure 5**). More than 30 RMCs are receiving funds through this programme. The **FP7** research and innovation funding programme is the second largest EU funding source for EIP Commitments since 2014, with just above 9% of the total, followed by **LIFE and COST**, which each account for 5% of the total.

Figure 5: Type of EU funding received by EIP Commitments since 2014, in € million and %



Source: JRC analysis

>> *Alternative EU funding sources account for a small fraction of funding to the EIP Commitments, while the EIT RawMaterials has become a significant source of EU funding*

It is notable that no EU funding has been secured from the **European Investment Bank** or the **European Development Fund**; and that only limited funding has so far been received from **Cohesion Policy Funds**. As of 2016, the **EIT on Raw Materials** appears as a rapidly growing source of funds, contributing with €13 million (compared to €0.75 million in 2015) in RMCs for the BioFlex, SolvoFlex, Electroflex, Pyroflex, Residuflex, Preflex, SSIC, ERMAT, GATEWAY and Metnet, PilotMet KAVA Networks of Infrastructures.

Public National/Regional Funding

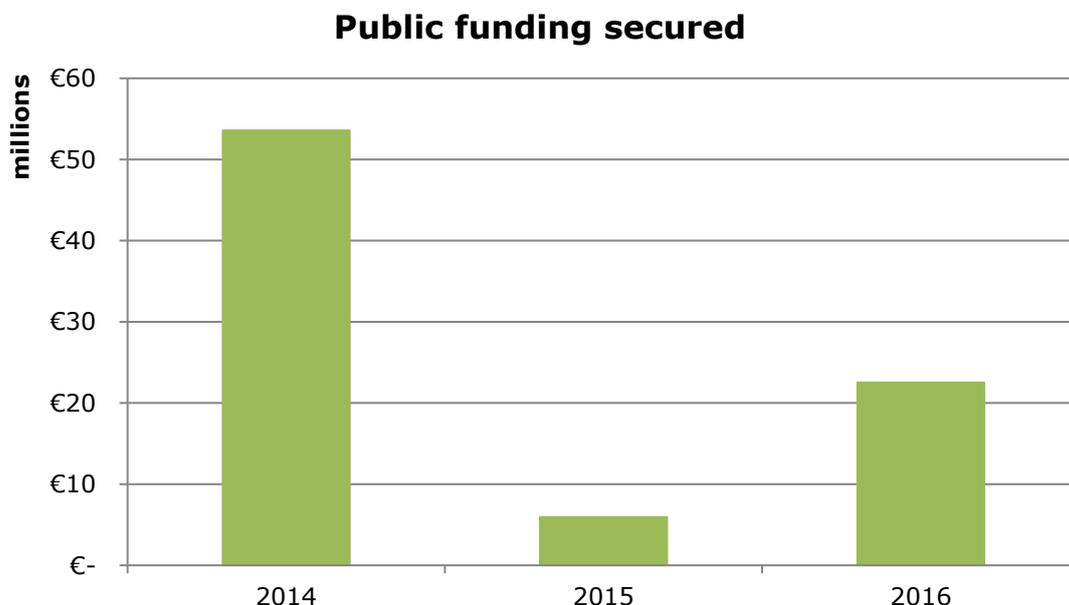
>> Since 2014 the RMCs have received €60 million from 16 different countries; 14 Member States seemingly did not provide any funding at all

In 2016, **14 RMCs received direct funding or in-kind contributions from public or regional bodies** across Europe and internationally. This national or regional funding **accounted for about €23 million from 10 countries**. **Belgium** provided about 20% of the total (€4.7 million), followed by **Finland** (€3.2 million), **Sweden** (€3.1 million), and **Spain** (€3.0 million), **Austria, France and Germany** (each €2.5 million). The dominating source (almost two third of the total) is the NOWMOB project, by which also Italy, Poland and Portugal and Spain provided funding. Like the **large networking EU projects ERA-MIN¹³** and **EURARE¹⁴**, this project has been extremely successful in combining public funding from the EU and various Member States. These are **good examples of synergies** between various funding schemes.

In 2015 national or regional funding accounted for almost €6 million from 11 countries. However, national or regional funding was most comprehensive in 2014, accounting then over €50 million from fifteen different countries (Figure 6).

Since 2014, **more than 33 EIP Commitments** received direct funding or in-kind contributions from public and regional bodies across Europe and internationally. Funding from these organisations counted for this period over **€80 million from 21 different countries** (Figure 7). Funding from national authorities dominates, while funding from regional authorities is significantly lower. Most countries providing funding are member states, complemented by few non-EU countries (Europe and overseas).

Figure 6: Trend of National or Regional Funding received by EIP Commitments since 2014, in € million



Source: JRC analysis

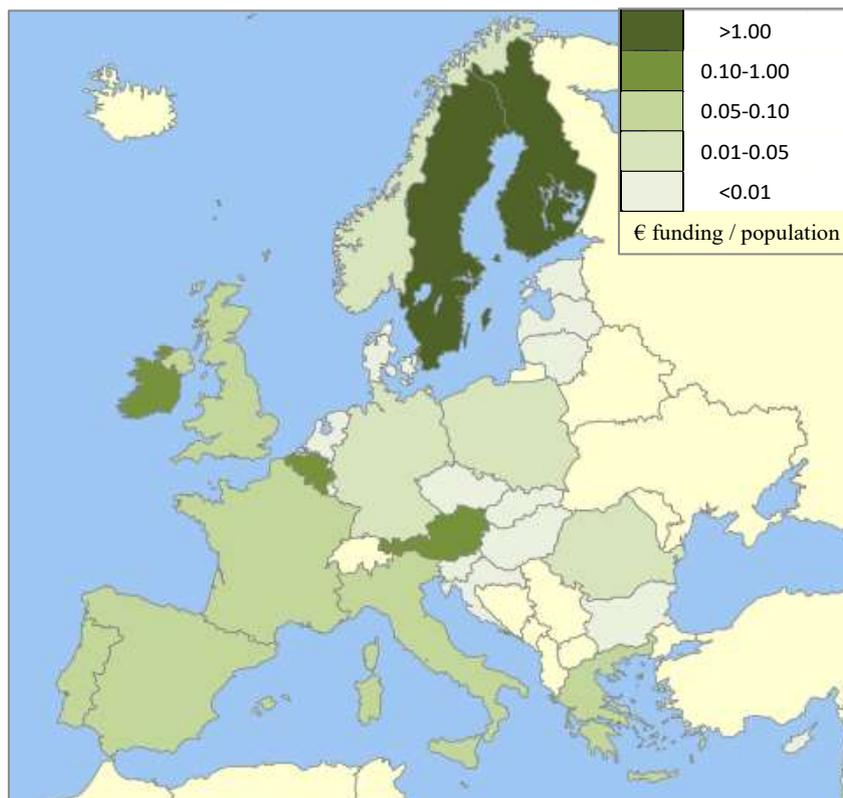
¹³ <http://www.era-min-eu.org/>

¹⁴ <http://www.eurare.eu/>

Due to the dominance of individual large networking EU projects (see above), the annual fundings vary massively. Consequently, also the member states dominating the funding change significantly over time.

The EIP monitoring survey also revealed that **12 EU Member States seemingly did not appear to provide any public or regional funding** to the EIP Commitments since 2014. **Outside the EU**, about **€3 million** of financial contributions to EIP Commitments were provided by **Gabon, Norway, Turkey, South Africa and Argentina**.

Figure 7: Sources of national or regional funding for EIP Commitments since 2014¹⁵



Source: JRC analysis

Private Funding

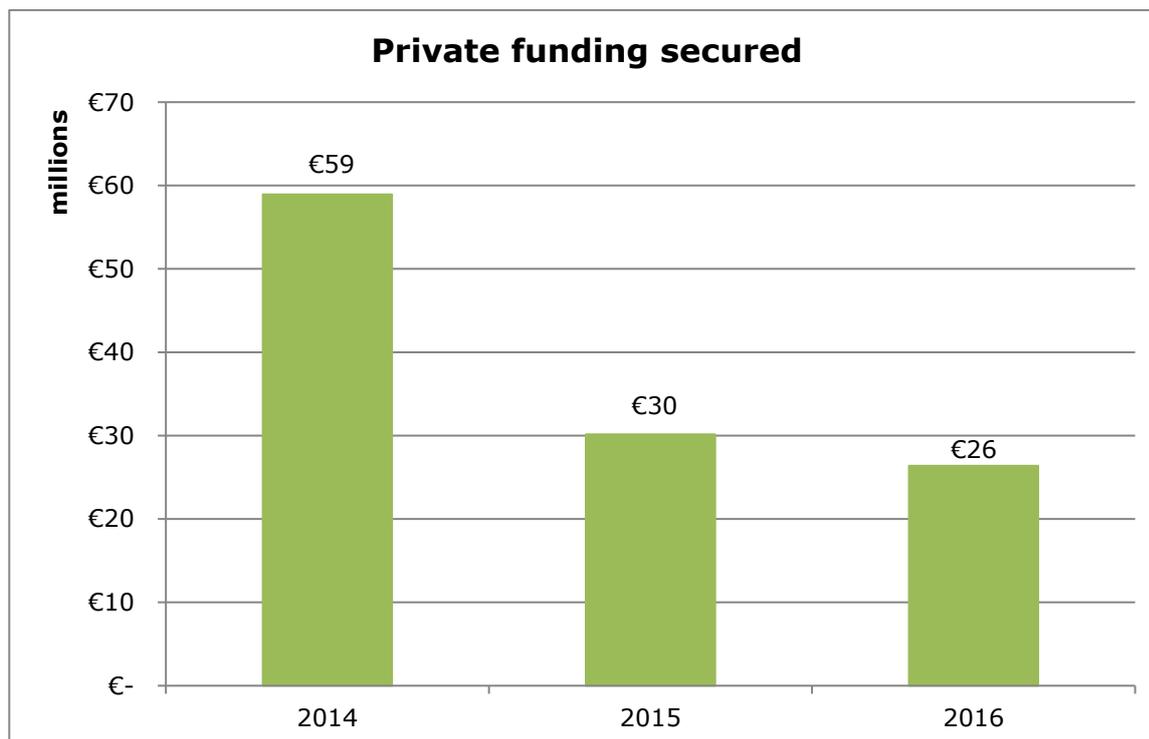
>> 61 RMCs received private funding, worth €115 million.

In 2016, 27 RMCs reported to have secured private funding worth more than €26 million. This brings the total number of Commitments having received private funding since 2014 to 61, totalling **€115 million**. The annual volume of private funding has decreased significantly within this period (Figure 8).

This category is **dominated by a few large capital intensive RMCs**: 19 of the 61 RMCs secured over €1 million from private sources each. Together, these 19 RMCs add up to €107 million of private funding (93% of the total).

¹⁵ In the map, the colour-scheme for Member States has been scaled to show funding relative to population.

Figure 8: Trend of Private funding received by EIP Commitments since 2014, in € million



Source: JRC analysis

Expenses

>> Most of the RMCs secured funding goes to human resources

In 2016, **RMCs reported spending over €95 million**. 56% went to Human Resources and a fifth (18%) to infrastructure, equipment and supplies. The rest (25%) has been spent on meetings, events, workshops, exhibitions, travelling (external, consortium), dissemination, overheads and indirect costs, but also on patenting, subcontracting (web toolkit, consultant for H2020 proposal) and exploration drillings etc.

3.2 Research, dissemination and coordination activities

Most of the Commitments covered in this report (almost 85%) reported progress towards the planned activities as set out in the Commitment goals. The most commonly mentioned activities are of an **organisational nature** (enlarging partnership, securing funding, re-structuring themselves), although **research and dissemination activities** are reported by an increased number of RMCs.

A few Commitments reported that they have not undertaken any significant activities towards their Commitment goals; most of these due to a lack of funding.

The following sub-sections highlight some of the research, dissemination and coordination activities undertaken by specific Commitments since the 2015 annual monitoring survey.

Research activities

Among the Commitments that deal with **primary resources**, progress is being made by several technical projects:

- RMC BioMOre aims for the development of new technological concepts for in situ recovering metals from deep deposits using controlled stimulation of pre-existing fractures in combination with in-situ bioleaching. BioMOre constructed the equipment for the underground tests (bioreactor, etc.) and shipped it to the test site in Poland, after overcoming serious delays in the permitting procedure for the installation underground. In parallel, modelling activities were applied on the test site in Poland and refined. The purpose of these activities is to describe the process, to characterise potential areas for a pilot installation), and to assess the economic viability and environmental compliance of the process.
- RMC TAURUS, which carried out research activity in thermodynamic assessment of raw material use in Europe, showed progress via different ongoing projects: The methodology of assessing material resource depletion with exergy was applied to the European case. Exergy-based Sankey diagrams were developed for Europe evaluating mineral trade and foreign mineral dependency in the EU-28 for 1995 to 2012. Further, as part of FP7 project TOP REF, exergy was selected as a key resource efficiency indicator. A Standard for using exergy was developed, to disseminate their use within industries, and the set of resource efficiency indicators for measuring the performance of industries were analysed. In addition, MEDEAS, aiming for designing a new energy-economy model, incorporated raw material constraints into the model and resources are assessed through exergy.
- RMC Blue Nodules completed the design requirements for the subsea harvesting equipment, the in-situ seabed processing and the sea surface and land operation process. In addition, a range of environmental pressures was identified.
- RMC SOLSA is developing a multi-techniques expert system that integrates quantitative reliable data on the chemical, mineralogical and textures of drill cores.
- RMC GENTLE, worked in the improvement of access and mobilization of the forest wood resource has built and evaluated a concept testing machine in different conditions.

With respect to **recycling**, RMC WRING issued two studies, a first one on the improvement of the design of wood-based products for a better product management during the life cycle, and a second one on the improvement of recycled materials and for the improvement of waste collection, using innovative technologies, and developing and applying quality protocols

RMC EQUATOR, which focused on **substitutes**, proposed a new material obtained from recycled waste to substitute Antimony for fire retardant, advanced research by testing different recipes and developing a pilot plant for its production, allowing the production the inertized material for the test at pre-industrialization scale. Tests were performed on the use of the material as flame retardant, while the evaluation of the mechanical properties is still pending. RMC HydroWEEE, focusing on recovering materials from WEEE are getting experience in operating two demonstration plants as well as assessing their economic, environmental and social impacts. RMC RESET proposed at least three new materials as reliable materials for lighting devices with low or without CRM.

With regard to **urban mining**, RMC CTC, with activities in enhancing landfill mining progressed by submitting environmental and building permit applications for a Closing the Circle demonstration plant. Further, concept engineering for the demonstration plant was carried out.

Concerning **harmonisation and modelling** of raw materials, in 2016, RMC WEEE2020 with the ProSUM consortium started to develop elements for the database that will feed into the Urban Mine Knowledge Data Platform.

Dissemination activities

In the **waste area**, RMC EURELCO has actively disseminated its outputs in the field of enhanced landfill mining, running a multitude of activities, including workshops and conferences, general assemblies, and further dissemination products. EURELCO was active at various workshops and local events, plus the ELFM III Symposium in Lisbon (Feb. 2016), but also with regard to Parliamentary Questions. A new, dynamic and very active website was set up, along with an active newsletter policy (<https://www.eurelco.org/newsletter-1>) with almost 1,000 subscribers. Further, an ELFM Animation Video Ray Cokes (Digging for Garbage) and a Red mud Animation Video Ray Cokes (RARE³ KU Leuven) were launched. Three documentaries were produced, namely VPRO Tegenlicht, Terzake/Canvas, and Alles Kan Schoner/Canvas. Dissemination was extended on radio-interviews. An infographic on the landfill situation in EU-28 was produced.

In the field of **knowledge, skills and raw materials flows** RMC TAURUS, although struggling to secure funding, has been able to start action as one of the partners, University of Ghent, has received funding as lead of the EIT project Suprim¹⁶, enabling to collaborate in this field, and actively promoting the use of exergy analysis as a resource efficiency indicator. In this line, TAURUS partners are going to collaborate to provide their expertise. RMC CRM Recovery developed an EU materials and CRM Flows model (bringing together flows work across Europe).

Furthermore, Commitments carried out **events** such as conferences, workshops and meetings during 2016. Examples of these are:

- RMC EPR-C Commitment: co-organised with the support of some private active members a number of lunch debates and seminars, in order to bring together relevant stakeholders to discuss key EPR topics, in particular the dialogue related to the Circular Economy package was continued, focusing on the role of EPR for achieving an EU circular economy.
- RMC EMD who organised the 2016 European Minerals Day, continued to explore the possibility of organising an exhibition in the European Parliament and developed a promotional video on the pan-European open days initiative. The Partners started planning for the 2017 European Minerals Day.
- RMC ERA-MIN in relation with the Network for Industrial Handling of Raw Materials for European Industries;
- RMC IMAGINE held its first project workshop; establishing a network of the innovation activities of the global industrial minerals associations;
- RMC MetNet on pilot plants for extractive metallurgy and mineral processing.
- RMC NOWMOB: European information, dissemination and promotion event, (e.g. WoodBiz2016, held in April 2016).
- BioMORe: some activities were carried out in the context of stakeholder engagement and interaction as well as public relation. The latter were mainly to clarify about project content and objectives and the stimulation technology used (fracking vs. hydrofracturing).

¹⁶ Sustainable management of PRIMARY raw materials through a better approach in Life Cycle Sustainability Assessment (Suprim) is an project funded by the EIT on Raw Materials

- RMC Blue Nodules: from a dissemination perspective, the website has been in operation from the start and the flyer is available in hard copy and on the website.
- RMC BioAlMinore published its technical results in peer-reviewed journals, in open access and in oral and poster communications in several scientific meetings. Information dissemination and technology transfer were promoted by the RMC through the organisation of workshops and conferences in Europe and Argentina. Further, science communication was performed by participating in high school projects (2 projects in 2016).
- RMC RUBB-ENDURE disseminated information about the project in meetings with ELT management companies and tyre industry
- RMC RAWNANOVALUE held its kick off meeting on 28.10.2016, organized in the framework of the event "European Regions in the Critical Raw Materials strategy and the Circular Economy Policy". The new website was hosted (<http://www3.ubu.es/iccram/rawnanovalue/>). Further dissemination activities comprise press releases and the dissemination on social networks (twitter, facebook, linkedin).
- RMC CRM Recovery performed extensive dissemination activities, including the launch of the public project website and social media feeds (Twitter & LinkedIn), development of promotional material (banner, flyer, notice boards, 2 videos), issuing of press releases and quarterly e-newsletters, project attendance and presentations at external events. Moreover, networking with related projects and initiatives was enforced through attending events such as the EASME WEEE cluster meeting in June 2016 and ProSum workshop in October 2016.

Coordination activities and proposals

The activities of RMC ERA-MIN are supporting **coordination** in the field of Raw Materials: RMC ERA-MIN: ERA-MIN 2 is a public-public partnership of 21 research funding organisations (ministries, agencies) that started in December 2016 for five years. ERA-MIN 2 will assess the impact of the 17 funded projects by ERA-MIN and establish strong, direct collaborations with relevant on-going projects and initiatives to support the raw materials sector. Five out of the seven partners of the ERA-MIN Raw Material Commitment are also partners of ERA-MIN 2, namely, FCT, ADEME, UEFISCDI, CDTI and Tekes. The other ERA-MIN 2 partners will support ERA-MIN RMC and the general objectives of the EIP.

RMC RESET organized a symposium within the EMRS spring conferences, with Participants from 26 different countries. The symposium was one of the first scientific conferences on the theme of Critical Raw Materials in Europe, with about 110 presentations being delivered in four full working days. The focus was on modern lighting devices, transparent conductive layers, permanent magnetic materials and catalytic converters. Moreover, selected articles were published on the international journal *Physica Status Solidi c*. More than 50 papers have been published in 2016 in international journals by the partners of the RESET commitment.

RMC Blue Nodules: In November 2016 all partners attended the 2nd General Assembly meeting held at Texel, at the offices of NIOZ.

RMC Blue Atlantis pushed its coordination activities by participation at various thematic events, namely special workshops of maritime branch associations, an international conference on deep-sea mining (Berlin, December 2016), and the leading international deep-sea mining conference "Underwater Mining Conference" (UMC), Korea (October 2016), and different strategy meetings with the German government. RMC Blue Atlantis supported international activities mainly with France and Germany: In 2016, an MoU was signed on deep-sea mining cooperation between the DeepSea Mining Alliance and the working group deep-sea mining of the French maritime cluster.

RMC RUBB-ENDURE monitored calls for funding, and held meetings with National Contact Points and the Commission to identify potential calls for funding

RMC NOWMOB built connections with EIP-AGRI RMC in June 2017. First selection of the focus areas in boosting and supporting build-up and project planning within the R&D&I area of RMC. RMC NOWMOB followed and derived highlights from the ongoing pan-European projects linked with the aims of RMC. Further, RMC NOWMOB initiated and boosted project planning of Pan-European and national R&D projects related to the aims of RMC (H2020, Era-Net).

RMC RAWNANOVALUE coordinated activities among its partnership to put forward joint proposals for funding. RMC RAWNANOVALUE had a joint activity with the Nanofuture platform. The coordinator of the commitment ICCRAM-UBU leads the CRMs working group in the Nanofuture platform.

RMC SustainableMiningStandard organised a best practices' exchange program with neighbouring countries.

The international cooperation was a major point of the activities of RMC BioAlMinore, utilising the direct bilateral collaborations with Argentina at the research and education level.

RMC EPR-C Commitment: The EPR Club website continued its function as a platform for exchange and sharing for the EPR Club members. It provides EPR Club members with latest news related to EPR, with updates on the upcoming and past events, as well as with a Virtual Library containing background documents, position papers, studies, etc. In the first semester of 2016, the EPR Club governance document ("Rules of Conduct") was signed that contains information on the objectives and activities of the EPR Club, membership and decision-making procedures.

RMC SUBST-EXTREME enforced an exchange of knowledge, experience and expertise within the COST Action "CRM-EXTREME - Solutions for Critical Raw Materials Under Extreme Conditions", COST action No CA15102, (10.03.2016 - 09.03.2020).

RMC IMAGINE: Participation in various missions and initiatives to facilitate dialog and the exchange of experience and networking with stakeholders of other regions. Highlighting the role of industrial minerals for the economic development in any region of the world. Support EC initiatives under Partnership Instrument with selected countries.

Many of the Commitments reported that they **improved their operational structures** (governance meetings of potential consortium partners, workshops, website development, and work package definition and proposal writing) in order **to secure funding**. Examples of this kind of activity were undertaken by RMCs Blue Nodules, CRM Recovery, EPR-C Commitment EURELCO, RAWNANOVALUE.

Some Commitments also reported **contributing to the EIT Raw Materials**: RMC MetGrow has been active in the development of EIT Raw Materials Networks of Infrastructure. In addition, TAURUS partners and additional ones have submitted an H2020-MSCA-ITN-2017 project proposal called 2ndLaW: Second-law-based research network for improving the metal production process considering macro, meso and micro scales. SUMAN2000 rose awareness on the compatibility of mining and environment, and developed clear procedures that allow a common approach between administrations, environmental associations, companies, trade unions and society in general.

A number of Commitments had to **re-assess their objectives** because they were unable to secure funding. This was the case for RMC PolyMetOre, aligning with Andalusian authorities and AMINER objectives and policies. RMC PolyMetOre also continued on making new collaborative relations with mining related companies and organisation in order to increase the impact of its activities.

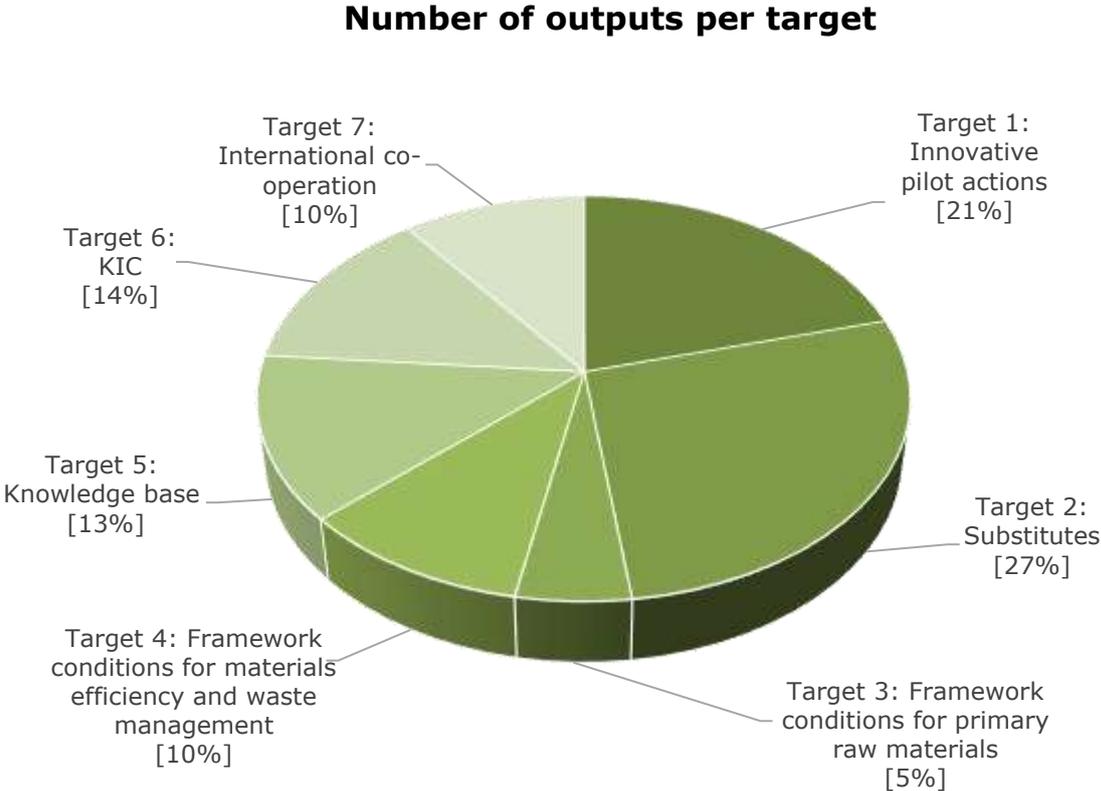
3.3 Outputs

>> *Many Commitments are delivering tangible outputs, of which almost half contribute to Target 1 Innovative pilot Actions and Target 2 Substitutes*

This section focuses on outputs delivered by Commitments since 2014. **54 EIP Commitments** (out of the 63 respondents of the 2016 annual survey) **reported achieving at least one output since the launch of the RMCs.**

Figure 9 presents an overview of **how these outputs relate to the EIP targets**¹⁷. Most Commitments contributed to target 2: Substitutes (27%), followed by target 1: Innovative pilot actions (21%) and target 6: Knowledge and Innovation Community (KIC)(14%). This picture is different compared to the figure in the previous year where most of the Commitments contributed to target 3: Framework conditions for primary raw materials (46%), followed by target 1: Innovative pilot actions (17%) and target 2: Substitutes (9%).

Figure 9: Contribution to the EIP targets by the outputs delivered by EIP Commitments since 2014. The number of targets (here percentage) is weighted by the number of targets quoted per RMC.



Source: JRC analysis

¹⁷ As defined in the EIP Strategic Implementation Plan

>> Most Commitments have now been funded as projects and are thus delivering tangible outputs such as innovative actions or pilots (Figure 10)

Several Commitments have developed **new technological processes** including:

- RMC EARTH 2020 - innovative Hydrometallurgical process to recover Rare Earths and precious metals from WEEE, innovative process to recover valuable materials from printed circuit boards. Several ongoing projects carried out by the RMS are the following: Prototype for Automated Sorting and Recycling of Waste Lamps, process for Reclamation of Gallium, Indium and Rare-Earth Elements from Photovoltaics, Solid-State Lighting and Electronics Waste and New Recovery Process to produce Rare Earth-Magnesium Alloys of High Performance and Low Cost.
- RMC SUBS-EXTREME - innovative technology for producing cemented carbides with reduced content of Critical Raw Materials
- RMC BLUE NODULES - develop a deep sea mining system for the harvesting of polymetallic nodules from the sea floor with minimum environmental impact

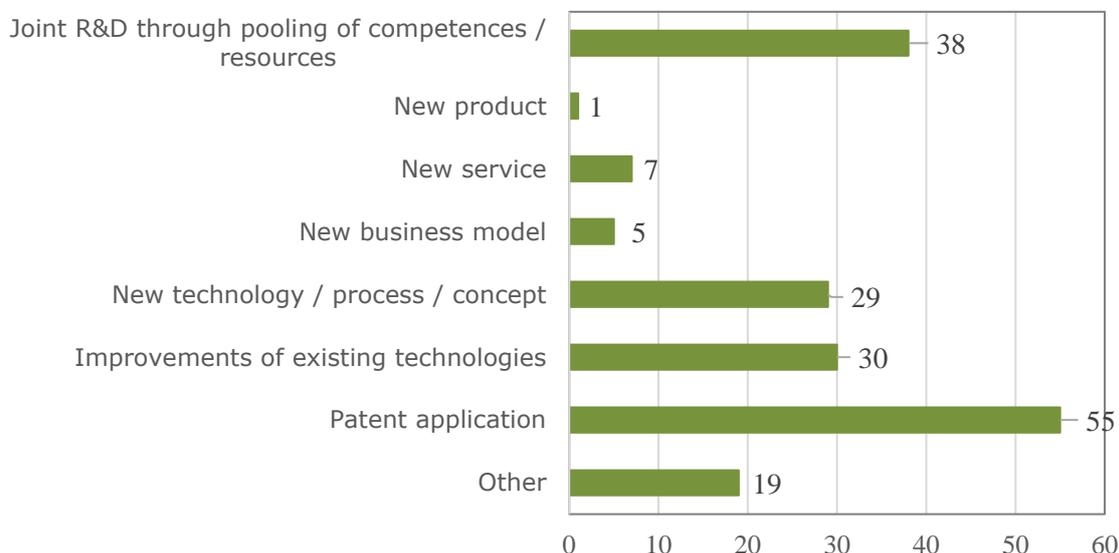
New business models include that of RMC NOWMOB, which created flexible forest ownership models, resource efficient wood allocation and delivery models for bio refining and bioenergy industries, and regional collaboration models for wood harvesting enterprises and forest industry companies. Further, RMC CTC developed a new concept called Enhanced Landfill Mining to recover raw resources, energy and land from historical and existing landfills.

Under **Joint R&D**, RMC MetGrow focuses on metallurgical technologies for unlocking the use of potential domestic raw materials both from primary and secondary resources. MetGrow pooled competences with the SOLVOFLEX network of the project Infra, which is funded by the EIT KIC Raw Materials. RMC NOWMOB reports to have set up connections in June 2016 with the related RMC within EIP-AGRI as well as Joint Innovawood R&D actions.

An example of a new **product** is given by RMC BioAlMinore, which focuses to develop new strategies to extract low-grade primary geological resources, mine by-products, using Iberia as a case study, and to recycle technological waste for rare metal recovery. The RMC published a study on the collection of multimetals tolerant bacterial strains able to grow in the presence of high concentrations of tungsten and able to accumulate up to 52 µg of W mg⁻¹ of protein.

Figure 10: Specific innovation outputs since 2014

Innovative action or pilot on exploration, mining, processing and recycling for innovative production of raw materials



The graph shows the number of specific innovative outputs since 2014, as reported by the Annual Monitoring 2016 Survey. Source: JRC analysis

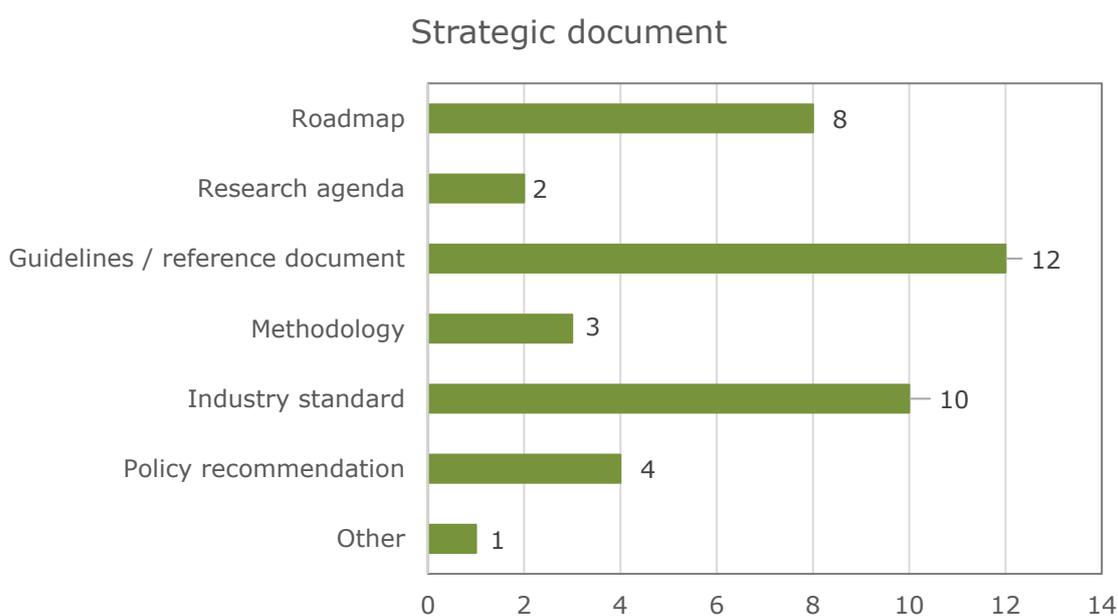
>> A number of Commitments published strategic documents (Figure 11)

Outstanding examples for publishing strategic documents are:

- The RMC-CRM InnoNet conducted a screening effort for **guidelines/reference documents** to inform and focus the discussion around attractive substitution opportunities and to provide a current policy frame for the recommendations of the project.
- RMC-ELTSTANDARD mostly worked on **guidelines/reference documents** inside the four Working Groups that have been approved in the CEN TC 366 Committee on Standardization of secondary raw materials from end of life tyres.
- RMC-ELSTANDARD also produced EN **standards** that are most of the time voluntary documents. Their use for the control of materials is not obligatory but very convenient for practical reasons, therefore in most cases the material producer opts to use or not. In some cases, the users of the standard want to establish a label on the commitment of the specifications set up in standards.
- RMC CRAM has drafted a **roadmap** towards a strategy for raw materials necessary to the European ceramic industry.
- For the update of its **research agenda**, RMC ERA-MIN joined the project Vision and Roadmap for European Raw Materials (VERAM) that aims to prepare a Common Vision and Roadmap, but also aims to generally promote research and innovation.
- RMC PolymetOre reports a **strategy report** to exploit primary massive sulphides in Las Cruces Mine.
- RMC Blue Atlantis developed a Joint Strategy paper on deep-sea mining for the European Union (across four DGs).

- The analyses and mapping delivered by RMC CRM_InnoNet enabled the formulation of a series of high level recommendations intended to pave the way towards a CRM resilient EU economy through CRM substitution as a complementary approach to overcome the raw material challenge.
- RMC-EURELCO, through a seminar organized together with some members of the European Parliament produced a number of shared conclusions, including the need to develop sound inventories of the landfills in the EU-28 as well as the need to develop a more comprehensive long-term vision for the future management and rehabilitation of Europe's landfills.

Figure 11: Specific strategic document outputs since 2014



The graph shows the number of specific strategic document outputs since 2014, as reported by the Annual Monitoring 2016 Survey. Source: JRC analysis

>> **The largest number of the outputs achieved by the Commitments relates to knowledge sharing (Figure 12)**

Under the heading "knowledge sharing / dissemination of information and best practices, the categories for which the highest number of outputs are reported are the categories "other output" and "event /workshop/conference" (**Figure 12**). For the former category, the major part of this is contributed by RMC CRM_InnoNet, providing a wide range of communication and dissemination tools¹⁸. The objective of these tools was to introduce and promote the project, its objectives and key outputs. For the category "event /workshop/conference", more than 25 RMCs show at least one output. This means that dissemination via meetings on the ground are of high importance for the knowledge sharing within and beyond the EIP-RM. The RMCs with the highest numbers of outputs in this subcategory are:

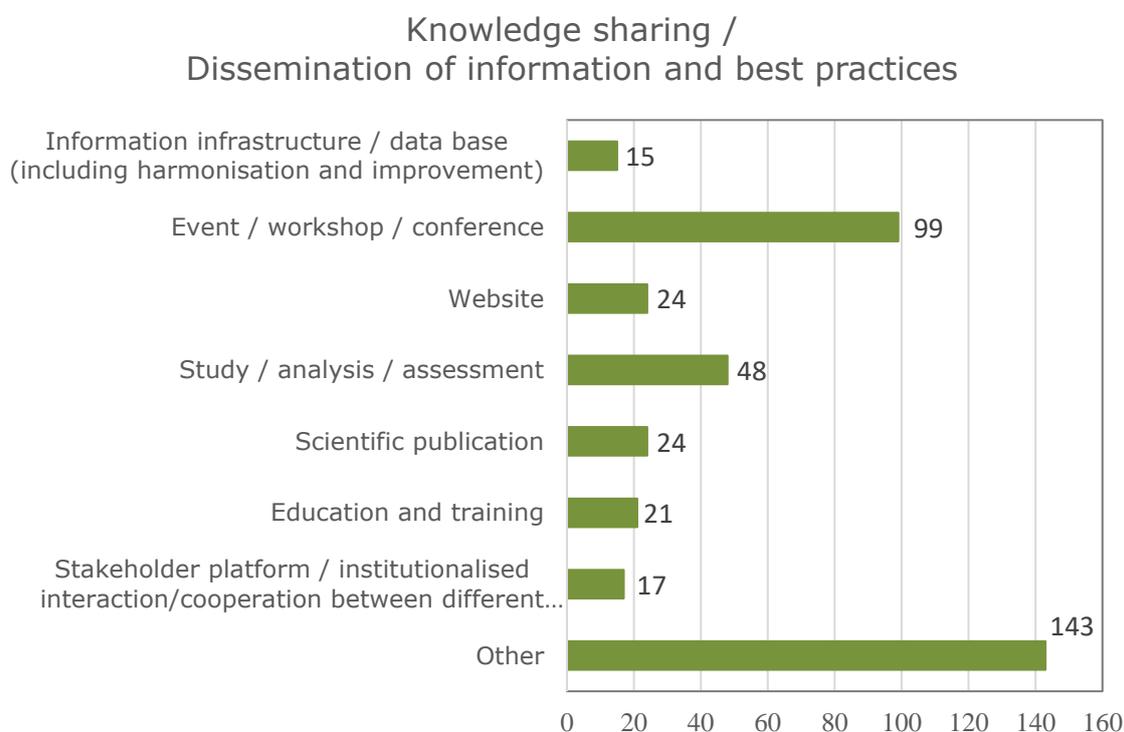
¹⁸ such as articles published in the popular press (57), exhibitions (6), flyers (10), oral presentation to a scientific event (11), oral presentations to a wider public (9), organisation of conferences (2), organisation of workshops (2), posters (5), presentations (6), press releases (6), publication (3), videos (2), web sites/applications (8)

- RMC NOWMOB – the WoodBiz2016 Conference, Finland, plus several national and regional development conferences for stakeholders of wood mobilisation (France, Spain, Finland, Sweden, Austria).
- ZeroWaste-NOI – presentation of the cluster at many occasions, AGORIA Industry meets KIC EIT RawMaterials event, Brussels, M2i Conference & Meeting Materials 2016, Nieuwegein, EIP Raw Materials week, 4th annual High Level Conference of the European Innovation Partnership on Raw Materials, Brussels, CleanTech Festival, Brussel, SETAC Europe 26th Annual Meeting, Nantes
- Blue Nodules, presented the project amongst others at the Underwater Mining Conference 2016, South-Korea, at the 22nd ISA annual conference – Kingston, Jamaica (poster presentation), and the IHC Wet Mining Seminar, China

Examples of **scientific publications** and **study/analysis/assessment** can be attributed to:

- RMC NOWMOB – Numerous scientific publications in the field of the RMC, e.g. from the projects SIMWOOD, VARMA, FASTFORESTS, Trees4Future and the national research and development projects
- RMC CRM_InnoNet – produced several publicly available reports for reference and future guidance that elucidate specific CRM dependence of three selected sectors, namely: Supply Chain Analysis for the Energy Sector, Supply Chain Analysis for the ICT Sector, and Supply Chain Analysis for the Transport Sector
- BioAlMinore – four scientific publications in various journals/books

Figure 12: Specific knowledge outputs since 2014



The graph shows the number of specific knowledge outputs since 2014, as reported by the Annual Monitoring 2016 Survey. Source: JRC analysis

In terms of **international outputs**, “knowledge sharing and dissemination of best practices” is the category with the highest numbers of outputs. These comprise, amongst others, general international publications as well as member states bilateral agreements: RMC ELTSTANDARD provided documents usable as international reference in the field of tyres recycling. RMC Blue Atlantis reached a signed Memorandum of Understanding between Germany and France.

In terms of alternative solution for critical raw materials, several RMCs developed the alternative solution for Critical Raw Materials:

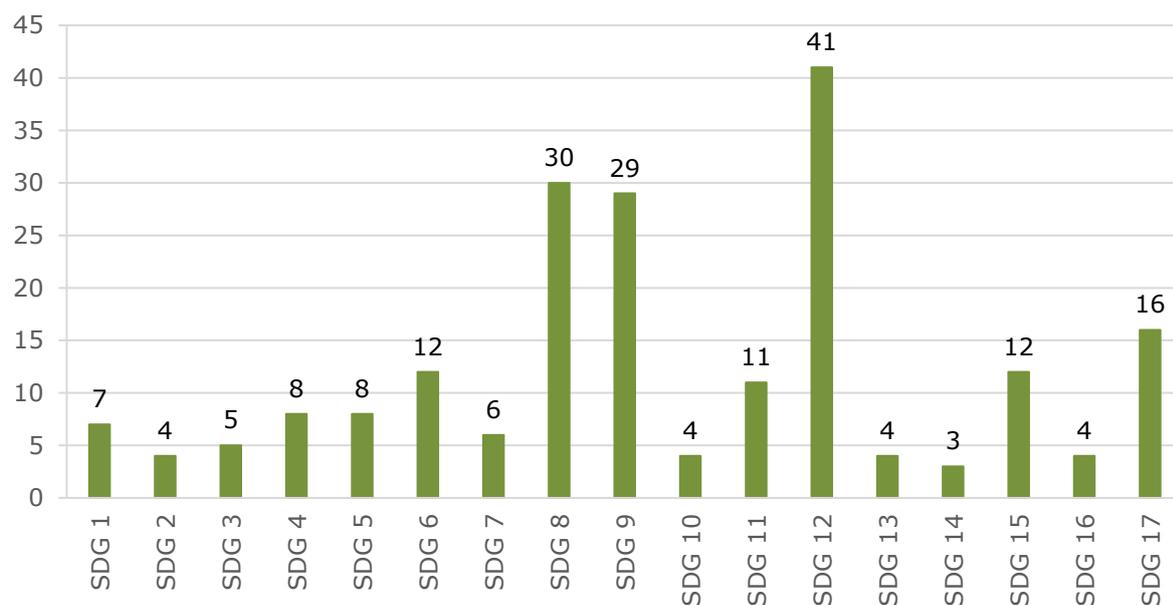
- Targeting **more resource-efficient use**, the RMC-RED MUD project has 15 PhD studies underway in new technologies for processing and valorizing Bauxite Residue (BR). The main results so far are, among them, new iron, aluminum recovery process, process for selective REE and Ti recovery.
- Between 2014 and 2016, RMC ERA-MIN in 2014 and in 2015 organized two R&D multinational collaborative R&D projects focusing on heavy and rare metals from waste products combustion and coal char as a substituting material of natural graphite in green energy technologies.

3.4 RMC and UN Sustainable Development Goals

In 2015, the UN General Assembly adopted a set of 17 Sustainable Development Goals (SDG) and 169 related SDG targets. As the EU has committed to implement these SDGs both in its internal and external policies, it is important to follow up on general and sectoral contributions. This applies also for the raw materials sector. The Annual Monitoring Report 2016 demonstrates for the first time what UN Sustainable Development Goals are addressed by the activities of the diverse RMCs.

Figure 13 shows for each of the 17 SDG, how many individual Commitments address the related targets, providing an indication on what UN Sustainable Development Goals the Raw Materials sector contributes predominantly. Firstly, more than 200 linkages were identified by the respondents of the survey. These linkages refer to all the 17 SDGs, while there are significant differences between them. While all SDGs are addressed by at least three Commitments, almost half of the linkages (49%) are concentrated on three SDGs (SDG8, SDG9, SDG12) outstanding from the remainders. SDG12 is addressed by almost two out of three respondents (65%). A second group of frequently addressed SDGs comprises four SDGs (SDG17, SDG6, SDG15, SDG11), with each SDG showing more than 5% of the total linkages.

Figure 13: Commitments addressing the Sustainable Development Goals (N=63).



Source: JRC analysis

Within the three dominating SDGs, the following observations are made:

- SDG12 Ensure sustainable consumption and production patterns: the key addressed targets relate to the sustainable management of natural resources, waste reduction and environmentally sound management of chemicals and wastes
- SDG8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all: increasing economic productivity and improve resource efficiency;
- SDG9 Innovation and infrastructure: enhancing the scientific research and technological capabilities.

Obviously, the RMCs address primarily economic development, and the related environmental performance, employment, and research and innovation.

3.5 Future Plans

Many of the Commitments are striving to secure funding to sustain their activities. The following RMCs intend to complete and submit funding applications in 2017:

- at EU level: RMCs BioIron, CTC, CuBES, ERA-MIN, GENTLE, HydroWEEE, IMPACT, InTrain4RM, NATUREUROSTONES, PROFIBRE, RUBB-ENDURE, SustainableMiningStandard;
- at national or regional level: RMC CTC.

Commitments that **obtained funding** through successful applications in 2016 will **begin working in 2017**, like RMC ITERAMS. Among others, this includes Commitments involved in the implementation of the EIT Raw Materials as reported in chapter 3.2.

Commitments that did not receive Horizon 2020 funding are generally progressing either through alternative smaller national or international funding, FP7 funding (HydroWEEE Demo project), re-submitting a bid (CuBES, Stand4Mines), or re-assessing their future activities (RMCs C&D-WRAM, CuBES, I²Mine-2, I²Mine pilot, pHMine, PolyMetOre, PROFIBRE, RUBB-ENDURE).

Almost all of the **network and co-ordination Commitments** plan to continue a range of activities through 2017, for example RMCs ENSQM, ERA-MIN, European Minerals Day, and IMAGINE. RMC BioAlMinore shall be an active member of the Cluster of Raw Materials, Portugal. RMC EARTH 2020 intends to implement a joint project leveraging on KIC RM projects. Further, IMAGINE is planning to participate in a circular economy mission (DG ENV) to South Africa, as well as in an EU-Latin America dialogue on raw materials in Argentina. The EPR Club (EPR-C Commitment) will organise an international conference at the end of 2017, focusing on the role of EPR for sustainable plastics, aiming to facilitate the upcoming release of a "European Strategy on Plastics in a circular economy" that is announced by the European Commission. ENCRAM is going to host a launch event during the Raw Materials Week 2017. Other RMCs (e.g. Blue Atlantis) will rely on networking and increased partnership to eventually re-structure themselves and deliver according to their objectives.

RMC Blue Atlantis will organise further international activities, and an updated technology roadmap for important deep-sea mining exploration and exploitation technologies. RMC ENSQM will organise a series of regional fora with its partnership. RMC EURELCO will contribute with its work within the EU Parliamentary Working Group and the EP Seminar to the establishment of ELACON (European Landfill Mining Competency Network) that receives direct support of DG GROW. RMC GtoG plans to develop "the network of the recycler across Europe" along with an annual forum to exchange views.

WEEE 2020 will held the final ProSUM conference, going to establish a network on secondary raw materials. SUBST-EXTREME will act as co-organizer of the upcoming: E-MRS Fall Meeting and Exhibition (The Symposium I is called "Solutions for Critical Raw Materials Under Extreme Conditions"). RESET plans within its action group to build a permanent relationship between the academia and industrial partners, by developing a strong proposal for an ITN Marie Curie network (proposal for the European Training Networks program). Further, RESET plans to push its dissemination and cooperation activities, by publishing new scientific papers in international journals based on new materials for substituting CRM in optoelectronic devices. SUBST EXTREME is also co-editor of a special issue of a scientific journal where selected and peer reviewed articles resulting from this conference will be published.

Last but not least, Commitments that were internally funded and are already operating are planned to progress further. This includes the RMCs Blue Nodules and ERA-MIN. Sometimes this is in conjunction with seeking more funding, in order to expand activities (e.g. RMCs IMPACT). The initiation of the project SCRREEN (RMC ENCRAM) under call topic SC5-15a-2016, specifically its Work Package 5, enables to continue CRM-InnoNet.

The ERA-MIN Joint Call 2017 "Raw materials for the sustainable development and the circular economy" is published in February 2017, with a total Call budget of € 15 million (including European Commission co-funding) with the participation of the 21 ERA-MIN2 partners. RMC ERA-MIN intends to implement more joint transnational calls for R&I proposals.

4 Additional insights from the Commitments

To better understand the dynamics of the Commitments, the 2016 annual monitoring survey also included a number of questions on issues such as the projects history, the added value of being recognised as an RMC, obstacles and synergies to funding, etc.

Existing project with sufficient funding

>> *Most RMCs are newly created projects*

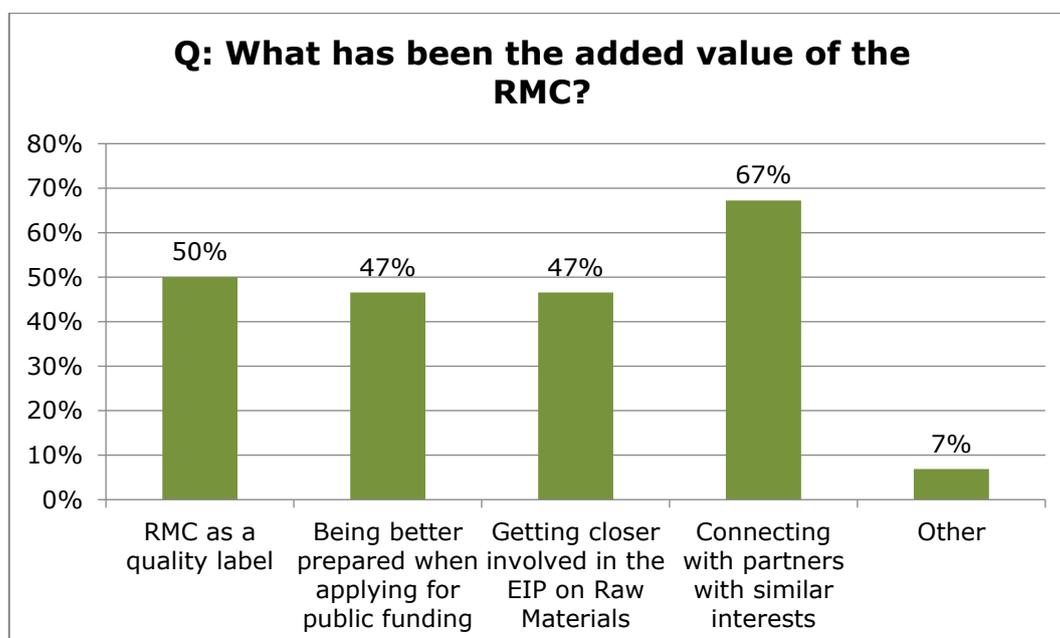
16 RMCs reported to be based on an **existing project** at the time of applying for the RMC label. In addition, **8 other RMCs had already received some EU funding** before being granted the RMC label.

Added value of being recognised as a Raw Materials Commitment

>> *Connecting with other partners with similar interests is found to be strongest added value of being a RMC*

In general, the **Commitments are balanced or even rather positive regarding the added value of being recognised as an RMC**. About half of the Commitments agree (i) that it can help as a quality label (50%), (ii) that partners are better prepared when applying for funding (47%) and (iii) that being an RMC helps to get closer involved in the EIP (47%). **The opportunity to enlarge their network** is by far the most praised added value, with 67% of the Commitments reporting that the RMC has helped them to connect with partners with similar interests (**Figure 13**). Interestingly **only one quarter** (23%) of the RMCs also reported through the 2016 annual monitoring survey that the RMC label is **recognised at national and/or regional level**. The results confirm the general picture perceived at the last year's Annual Monitoring Report, while the individual figures decreased.

Figure 14: Proportion of RMCs agreeing to statements on added value, in %



Source: JRC analysis

Synergies between EU funding instruments

>> *The majority of the Commitments would welcome the EIP to facilitate the identification of synergies between EU funding opportunities*

Concerning possible synergies between EU funding instruments, the survey revealed that **around 60% of the respondents are aware of their existence**. Yet, there is a **significant and growing discrepancy** between the number of respondents who are aware and those who actually make use of these synergies (less than 10%). While most of the respondents intend to benefit from these synergies (60%), only a minority already applied to funding instruments allowing for synergies (23%).

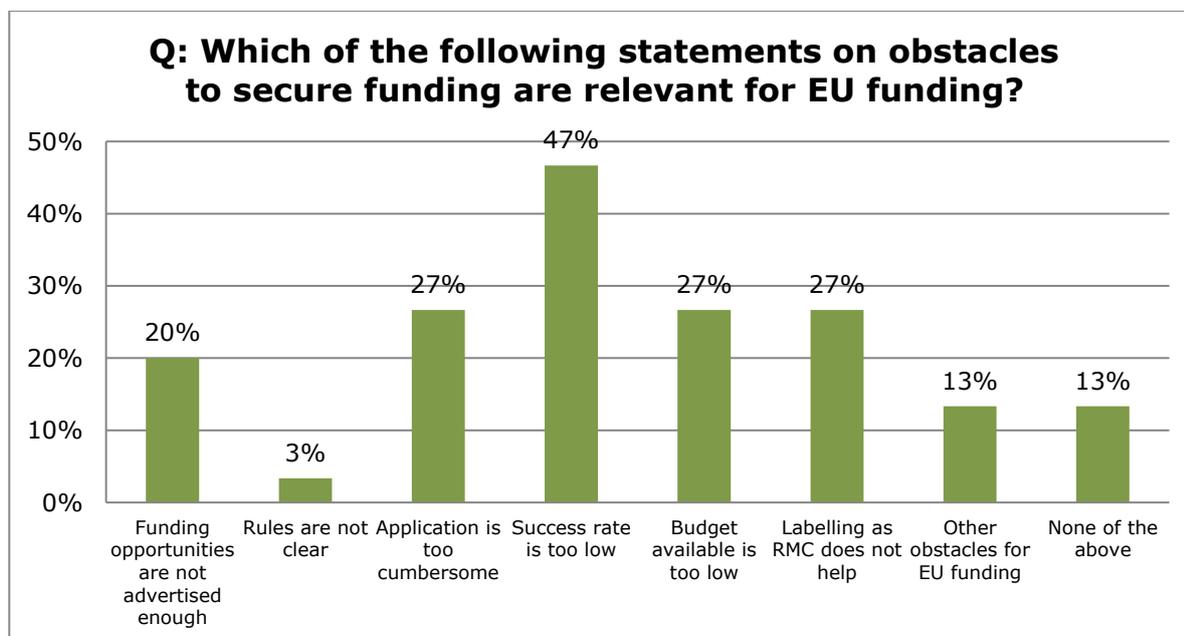
In this regard, it is also interesting to see that **almost every fourth of the respondents agree that the EIP (already) facilitates the identification of synergies** between EU funding instruments, while an even larger share (37%) **would welcome actions by the EIP to further facilitate them**.

Obstacles to funding

>> *The low success rate to EU calls is the most quoted obstacle to public funding*

Concerning **EU funding** the survey reveals that **the funding opportunities are sufficiently well advertised** and that **the rules are clear**. According to the respondents, the biggest obstacle concerning EU funding is the **low success rate**, which can probably be attributed to the large number of applicants. Other relevant obstacles are that the application is too cumbersome, that the budget available is too low, or that the labelling as RMC did not help. (**Figure 15**). In general, the respondents report lower figures for the obstacles than at last year's survey, beside insufficient advertisement of funding that doubled since last year.

Figure 15: Proportion of RMCs agreeing to statements on obstacles to EU funding, in %



Source: JRC analysis

>> RMC activities may not be perfectly suitable for private funding

Regarding obstacles to **private funding**, 20% experienced a **lack of interest** from private organisations. This value has almost halved since the last year's survey. Thus, the largest obstacle related to private funding is considered **the absence of a matchmaking platform** between RMCs and the private sector (30%). Around 15% of the RMCs report **not coming to an agreement** with the private sector on funding conditions. 10% of the RMCs consider that their activities are generally **not suitable** for private funding.

Annex 1. Number of RMCs contributing to each Action Area¹⁹

Pillar	SIP Action Area	Coverage
Technology	I.1 Improving R&D&I coordination in the EU	19
	I.2: Exploration	13
	I.3: Innovative extraction of raw materials	30
	I.4: Processing and refining of raw materials	22
	I.5: Recycling raw materials from products, buildings	25
	I.6: Materials for green technologies	5
	I.7: Materials for electronic devices	2
	I.8: Materials under extreme conditions	6
	I.9: Applications using materials in large quantities	2
Non-Technology	II.1: Minerals Policy Framework	37
	II.2: Access to Mineral Potential in the EU	16
	II.3: Public Awareness, Acceptance and Trust	21
	II.4: Product design/optimised use/increased recycling	11
	II.5: Optimised waste flows for increased recycling	16
	II.6: Prevention of illegal shipments of waste	3
	II.7: Optimised material recovery	17
	II.8: EU Raw Materials Knowledge Base	15
	II.9: Possible EIT Knowledge & Innovation Community	7
	II.10: Optimised materials flows along value chains	18
International Cooperation	III.1: Technology	20
	III.2: Global Raw Materials Governance / Dialogues	6
	III.3: Health, Safety and Environment	13
	III.4: Skills, Education and Knowledge	10
	III.5: Investment activities	4

Source: JRC analysis

¹⁹ This table presents results from the AMR2016 Survey combined with results from the AMR2015 Survey (for those RMCs that did not participate in the AMR2016 Survey, or not provide this information). The colour coding relates to the coverage of the Action Areas divided into 3 tiers, from high coverage (dark green) to low (light green).

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