

7-Year Review of 2nd Wave KICs: EIT RawMaterials Final Report

March 2022.



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1. Introduction

This report covers the findings of the 7-year assessment of EIT RawMaterials conducted by White Research and Deloitte. The body of the report is organised by the individual chapters on each topic including sections on activities and results, financial framework and budget, strengths and weaknesses, and recommendations. The chapters are outlined below:

- KIC Governance, KIC Partnership, Processes & Operations
- KIC Funding, Financial Sustainability & Business Models
- Knowledge Triangle Integration, Innovation Ecosystem and Co-location Centres
- Education & Alumni
- Innovation & Research
- Entrepreneurship & Business Creation
- EIT Regional Innovation Scheme (EIT RIS)
- Synergies, Complementarities & Cross-KIC collaboration
- Communications, Dissemination & Outreach

The report concludes with recommendations based on the findings of the assessment and a justification for the overall scoring of the KIC. An overview of the methodology and data sources is outlined in Chapter 4.

European Institute of Innovation and Technology

Established in 2008 as a driver of European innovation¹, the European Institute of Innovation and Technology (EIT) is an Agency of the European Union (EU) based in Budapest, Hungary. The EIT was created to strengthen the EU's innovation capabilities and increase EU's competitiveness and sustainable economic growth by fostering and enhancing cooperation among entrepreneurs, academia, and research institutes. The EIT supports the development of dynamic, long-term, cross-border and public-private partnerships among businesses (industry and SMEs), research centres and universities to address and devise solutions to pressing global challenges through partnerships called Knowledge and Innovation Communities (KICs).

The KICs are dynamic cross-border partnerships that develop innovative products and services and launch them on the market, create the environment for the establishment of new innovation companies, and train a new generation of entrepreneurs and allow them to thrive. In 2014, the EIT created two additional KI's which addressed health and raw materials, following the approval of the Strategic Innovation Agenda (SIA) through a Decision adopted by the European Parliament and the Council of the EU². In accordance with Articles 10 and 11 of the EIT Regulation (recast)³, the KICs have been subject to comprehensive assessments prior to the expiry of their initial seven-year partnership agreement. For the 2nd-wave KIC's, this assessment was conducted in 2021-2022 to cover the first seven years of operation, 2015-2021.

EIT RawMaterials

EIT RawMaterials represents the largest consortium in the raw materials sector worldwide. It includes 6 Innovation Hubs in Europe, 120 core and associate partners, and over 180 project partners involved across the entire raw materials value chain — from exploration, mining and mineral processing to

¹ European Parliament and Council of the European Union. 2008. Regulation 294/2008. Accessed on September 17th, 2021. Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32008R0294>

² DECISION No 1312/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the Strategic Innovation Agenda of the European Institute of Innovation and Technology (EIT): the contribution of the EIT to a more innovative Europe European Parliament and Council. Accessed on September 17th, 2021. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013D1312>

³ REGULATION (EU) 2021/819 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 May 2021 on the European Institute of Innovation and Technology (recast), OJ L 189, 2021, p. 61, Accessed on January 13th, 2022, Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0819>



substitution, recycling, and circular economy. Its goal is to develop innovative solutions for the cost-effective, low carbon, and environmentally friendly exploration, extraction, processing, use, re-use, recycling, and end-of-life management of raw materials⁴.

This KIC was established in response to the challenges posed by the need for raw materials, upon which modern European society depends, by ensuring accessibility, availability, and sustainable use of raw materials needed for the EU economy. All this while achieving a resource-efficient economy that meets the needs of a growing population within the ecological limits of a finite planet. To reach these goals, EIT RawMaterials funds new projects and businesses working on the substitution of critical, toxic and low-performing materials, reducing environmental impact and supply dependencies.

EIT RawMaterials' partners are set to address societal challenges such as the renewal of the raw materials supply chains to make it more sustainable and aligned with the broader EU Green Deal objectives, and the radical shift from a linear to a circular economy to reduce dependency on raw materials supply and create sustainable growth. To tackle these challenges, this KIC will work towards its three main objectives: securing raw materials supply, closing materials loops, and designing materials solutions that enable the transition to a carbon-neutral Europe⁵.

7-Year Assessment of 2nd-Wave KICs

As the first seven-year Framework Partnership Agreements for EIT Health and EIT RawMaterials draw to a close, a mid-term review was necessary to assess the achievements of the KICs compared with what was promised in their proposals, Strategic Agendas, Business Plans and grant reports. More specifically, the assessment reviewed all areas of activities relevant for a KIC. In accordance with requirements in the EIT Strategic Innovation Agenda⁶, Article 12 of the Partnership Agreement⁷, and Articles 10 and 11 of the EIT Regulation⁸, a comprehensive assessment was conducted in line with the standards put forth by the Better Regulation Guidelines⁹ and the criteria for European Partnerships set out in the Horizon Europe Regulation¹⁰.

In order to provide a comprehensive assessment, scores were given based on the review of detailed criteria; the criteria and scoring interpretation, both defined by the EIT¹¹, are presented in Chapter 4. Based on the results of this assessment, the EIT Governing Board will decide to continue, modify, or discontinue financial contribution to the respective KICs, with the consultation of the Member State Representative Group.

⁴ EIT. EIT RawMaterials: Developing raw materials into a major strength for Europe. Accessed on September 17th, 2021. Available at: <https://eit.europa.eu/our-communities/eit-rawmaterials>

⁵ EIT RawMaterials. 2021. Strategic Agenda 2021-2027. Accessed on September 17th, 2021. Available at: https://eitrawmaterials.eu/wp-content/uploads/2021/04/Annex-1-EIT-RawMaterials_Strategic-Agenda_2021-2027.pdf

⁶ DECISION (EU) 2021/820 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 May 2021 on the Strategic Innovation Agenda of the European Institute of Innovation and Technology (EIT) 2021-2027: Boosting the Innovation Talent and Capacity of Europe and repealing Decision No 1312/2013/EU, Accessed on January 13th, 2022. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021D0820>

⁷ European Institute for Innovation and Technology (EIT). "Model EIT KIC Partnership Agreement". Accessed on September 17th, 2021. Available at: https://eit.europa.eu/sites/default/files/eit_kic_partnership_agreement_v1.0_final_14-03-2021.pdf

⁸ REGULATION (EU) 2021/819 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 May 2021 on the European Institute of Innovation and Technology (recast), OJ L 189, 2021, p. 61, Accessed on January 13th, 2022, Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0819>

⁹ European Commission (EC). "General Principles". Better regulation: guidelines and toolbox. Accessed on September 17th, 2021. Available at: https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox_en

¹⁰ Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013, OJ L 170, 12.5.2021, p. 1., Accessed on January 13th, 2022, Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2021.170.01.0001.01.ENG&toc=OJ:L:2021:170:TOC

¹¹ Request for Service No. 01 implementing document (Ref. Ares(2021)5479007 - 06/09/2021).

2. List of Abbreviations

Abbreviation	Full name/term
BAT(s)	Best Available Technology/-ies
CEO	Chief Executive Officer
COO	Chief Operating Officer
COSME	Program for the Competitiveness of Enterprises and Small and Medium-sized Enterprises
CLC(s)	Co-location Centre(s)
CRM	Critical Raw Materials
DG EAC	Directorate General for Education and Culture
DG ENER	Directorate General for Energy
DG ENV	Directorate General for the Environment
DG GROW	Directorate General for Internal Market, Industry, Entrepreneurship and Small and Medium Enterprises
DG RTD	Directorate General for Research and Innovation
EASME	Executive Agency for Small and Medium Enterprises
ECA Reports	European Court of Auditors Reports
EIB	European Investment Bank
EIP RM	The European Innovation Partnership on Raw Materials
EIT	European Institute of Innovation and Technology
EIT RM	European Institute of Innovation and Technology RawMaterials
EIT HQ	EIT Headquarters
ENGIE	Encouraging Girls to study Geosciences and Engineering
ERECON	European Rare Earths Competency Network
ERMA	European Raw Materials Alliance
ESIF	European Structural and Investment Funds
ETIP for Batteries	European Technology and Innovation Platform on Batteries

Abbreviation	Full name/term
EU	European Union
FS	Financial Sustainability
FPA(s)	Framework Partnership Agreements
GB	Governing Board
GGP	Good Governance Principles
HEI Initiative	Higher Education Innovate Initiative
HR	Human Resources
IP	Intellectual Property
IP Board	Intellectual Property Board
IPR	Intellectual Property Rights
KAVA(s)	Knowledge and Innovation Community's Added Value Activity/-ies
KCA	Knowledge and Innovation Community's Complementary Activities
KET	Key Enabling Technology/-ies
KICs	Knowledge and Innovation Communities
KIS	KIC's RawMaterials Innovation System
KPI(s)	Key Performance Indicators
KT	Knowledge Triangle
KTI	Knowledge Triangle Integration
LE	Legal Entity
LLC	Limited Liability Company
LLL	Lifelong Learning
MSCA	Marie Skłodowska-Curie Actions
NGO(s)	Non-Governmental Organization(s)
NITREM	Nitrogen Removal from Waste Rock
OECD	Organisation for Economic Cooperation and Development
SIA	Strategic Innovation Agenda
SMART	Specific, Measurable, Achievable, Relevant, Time-bound



Abbreviation	Full name/term
SME(s)	Small and Medium-Sized Enterprises
SPIRE	Sustainable Process Industry through Resource and Energy efficiency
STEM	Science, Technology, Engineering, Mathematics
R&D	Research & Development
RM Academy	Raw Materials Academy
ROI	Return on Investment
RIS	Regional Innovation Scheme
SA	Strategic Agenda
UNEP	United Nations Environment Programme
UN SDG(s)	United Nations Sustainable Development Goals
VC	Venture Capital
WSL	Wider Society Learning

3. Executive Summary

The report covers the findings of the 7-year assessment of EIT RawMaterials (hereinafter “KIC” and/or “EIT RawMaterials”) conducted by White Research and Deloitte, according to framework contract 21-3030-03/EIT. In the frame of the contract two 2nd Wave KICs have been assessed, using the same overall methodology: EIT Health and EIT RawMaterials. This report covers the findings and assessment related to EIT RawMaterials.

The following chapter consolidates the conclusions from each of the following chapters, based on the assessment of the strengths and weaknesses. Identified weaknesses are addressed by relevant recommendations.

EIT RawMaterials was created to address societal challenges such as the renewal of the raw materials supply chains to make it more sustainable and aligned with the broader EU Green Deal objectives, and the radical shift from a linear to a circular economy to reduce dependency on raw materials supply and create sustainable growth. To tackle these challenges, this KIC works towards its three main objectives: securing raw materials supply, closing materials loops, and designing materials solutions that enable the transition to a carbon-neutral Europe¹². EIT RawMaterials has performed well on making progress towards the solving of societal challenges, creating ecosystems of innovation and entrepreneurship, complementing existing policies and initiatives, and establishing collaboration between different sides of the knowledge triangle. However, the KIC will need to improve its performance on financial sustainability, achievement of multi-annual targets, and business creation and entrepreneurship support activities.

The assessment has been carried out in line with the requirements set out in the Request for Service No. 01 implementing document (Ref. Ares (2021)5479007 - 06/09/2021), using the following methodological tools:

1. Desk research:

The goal of the desk research was to collect both qualitative and quantitative data on the KIC’s activities, impact and results. The documents assessed were partly declared in the above-referenced Request for Services document, and additional documents have been requested from the EIT and EIT RawMaterials. Desk research was conducted, supplemented by key-informant interviews and targeted surveys in order to assess the performance of each KIC. Desk research reviewed:

- a. EIT regulations, guidance, and principles,
- b. KIC proposals, agreements, business plans, reports, and action plans,
- c. previous external evaluation and impact study findings, and
- d. internal monitoring data and EIT recommendations.

2. Surveys:

Surveys created to assess EIT RawMaterials results and socio-economic impact targeted graduates from EIT labelled programmes and ventures supported by KICs. These surveys were designed based initially on the surveys pre-designed by the EIT, which were then adapted to ensure all gaps left by the desk research had been filled.

3. Semi-structured interviews:

Qualitative, semi-structured interviews were carried out with representatives of EIT RawMaterials management and key EIT RawMaterials partners in order to complement, triangulate, and further clarify data collected through desk research and surveys.

¹² EIT RawMaterials. 2021. Strategic Agenda 2021-2027. Accessed on September 17th, 2021. Available at: https://eitrawmaterials.eu/wp-content/uploads/2021/04/Annex-1-EIT-RawMaterials_Strategic-Agenda_2021-2027.pdf

4. Triangulation, conclusions and recommendations:

The goal of the task was to address all the data findings from the aforementioned collection were complete, with any additional findings, to reach solid conclusions. Based on this, we were able to continue and formulate all relevant recommendations.

During the assessment, the KIC's results and activities were assessed along with the following aspects:

KIC Governance, KIC Partnership, Processes & Operations

In **Chapter 5**, an overview of EIT RawMaterials' activities relating to its governance, partnership, and operations was provided, followed by their assessment. EIT RawMaterials has brought significant value in terms of creating solutions that contribute towards the achievement of EIT, EU, and global objectives. The KIC ensures through KAVA requirements that all activities funded by the KIC contribute to their strategic objectives in some way. However, the level of impact the KIC has had in the achievement of these goals cannot be thoroughly assessed due to inconsistent KPIs and the reality that this assessment was conducted prior to the end of 2022, which is the deadline for the KIC to achieve their targets. While it can be roughly estimated whether these targets will be reached based on current trajectories, the reality is that the activities of the KIC grow exponentially each year due to increased funding and implementation of best practices.. Many of the multi-annual KPIs set by EIT RawMaterials were not yet achieved; however, the consideration above has been taken into account during this assessment. Regarding governance, EIT RawMaterials continuously works to implement the changes recommended by the EIT, most often in a timely manner. However, there remains more work to be done to improve gender balance in each level of the organisation, ensure the partnership of EIT RawMaterials remains robust, and thoroughly align with each of the Good Governance Principles..

KIC Funding, Financial Sustainability & Business Models

Through **Chapter 6**, the assessment addressed the KIC's financial sustainability mechanisms that are in place and the performance of the KIC in this regard thus far. Over the years, EIT RawMaterials has not met the multi-annual targets for alternative funding sources and revenue generation set in the KIC's original 2016-2022 Strategic Agenda. Although the strategies put forth in the 2021-2027 Strategic Agenda aim to improve this, many of the solutions put forth, including revenue from IP, backflow schemes, and the appreciated of financial assets, may only make a significant impact in the long-term. EIT RawMaterials will need to focus on increasing revenue from services and activities, which it has consistently underperformed in throughout the years assessed, in order to increase revenue generation in the short term. Nevertheless, ERMA is expected to significantly increase the opportunities EIT RawMaterials has to create revenue through services and activities, with large contracts already underway.

Knowledge Triangle Integration, Innovation Ecosystem and Co-location Centres

Chapter 7 assessed one of the KIC's most important objectives—knowledge triangle integration (KTI). The main goal of KTI is to create synergies and collaborations across sides of the knowledge triangle in order to better address societal challenges. Over the years, the EIT's assessments regarding EIT RawMaterials' KTI have been positive, especially regarding the facilitating methods that the KIC has in place for facilitating KTI among the KIC's members. Partners and beneficiaries alike highly value the added benefit they receive from EIT RawMaterials' KTI activities. EIT RawMaterials has cultivated a very strong partnership network, both in terms of quality and size, since it is considered to be the largest raw materials ecosystem in the world.

Education and Alumni

Chapter 8 focuses on the performance of EIT RawMaterials in its educational and training offerings. All segments of the RawMaterials Academy allow students to acquire and cultivate skills relevant to the sector; however, the skills most often cited by students and graduates are general skills related to the goals of the EIT label rather than skills specific to the raw materials sector. Moving forward, the KIC could do more to monitor the impact these courses have on students in the medium and long term through the implementation of regular surveys. Wider Society Learning and Lifelong Learning KAVAs do well in

addressing skills gaps, targeting underrepresented groups, and reaching a large number of people. However, the KIC has underperformed on the number of graduates from EIT-labelled Master's and PhD programmes, with no EIT-labelled PhD courses currently offered. Additionally, one of the key goals of EIT-labelled programmes, increasing the entrepreneurial capacities of students, has not resulted in many start-ups created by students.

Innovation & Research

In **Chapter 9**, an assessment of EIT RawMaterials' activities in research and innovation is conducted. The KIC has contributed to increased innovation capacity of the Union in certain regions through the creation of innovation ecosystems. The KIC is on track to achieve or has overachieved most of its KPIs regarding innovation and research activities, including the number of new pilot plants, prototypes or production units created as a result of a KAVA and the number of new KET innovations applied or in progress, but it has not reached targets for the number of start-ups created as a result of innovation projects. Minimal revenue generation from supported innovations has been reported; however, this reporting was only requested by the EIT beginning in 2020, and EIT RawMaterials' future revenue generation prospects are good with its current portfolio.

Entrepreneurship & Business Creation

In **Chapter 10**, an assessment of EIT RawMaterials' entrepreneurship and business creation activities is provided. As far as fostering entrepreneurship and business creation is concerned, the KIC has supported over 300 start-ups and has contributed to the creation of a business support ecosystem. In addition to the number of start-ups supported, the KIC has performed well in helping start-ups survive the "valley of death" and the level of investment attracted by start-ups supported by the KICs. The KIC has also overperformed its annual targets for the number of new jobs created or sustained in the raw materials sector; however, a clear multi-annual target for this indicator was not set. The KIC has not met its annual targets for the number of products or processes launched on the market, but it still has the potential to meet its 2022 target for this indicator. Lastly, the KIC has underperformed in the number of start-ups created as a result of innovation projects, which highlights the limited transformation of innovation ecosystems created by the KIC into business ecosystems. The budget for entrepreneurship and business creation activities has been the lowest out of all the knowledge triangle activities, which puts the mixed performance of the KIC in this regard into additional context.

EIT Regional Innovation Scheme (EIT RIS)

Chapter 11 covers the assessment of EIT RawMaterials' Regional Innovation Scheme (RIS) activities. The KIC performed well on RIS even when this was not mandatory, which shows the initiative EIT RawMaterials has taken to prioritise many EIT RIS eligible countries and regions due to their natural endowment of raw materials and natural resources. While the RIS strategies of EIT RawMaterials have performed well in education KAVAs, there has been an underrepresentation of innovation and business KAVAs in EIT RIS eligible countries and regions. Additionally, while the number of RIS eligible countries covered is strong, most RIS partners are from a limited number of countries, so there is room for the geographical balance of RIS country coverage to be improved. Lastly, there was limited regular monitoring data collected by the KIC through KIC Specific KPIs on RIS activities; however, this will be significantly improved by the updated EIT Impact Framework and the KIC's 2021-2027 Strategic Agenda.

Synergies, Complementarities & Cross-KIC Collaboration

Chapter 12 covers the synergies, complementarities and Cross-KIC collaborations of EIT RawMaterials. The KIC has managed to create most of the synergies it targeted in its original and updated strategic agendas. On a local, regional, and European level, EIT RawMaterials has done well in complementing existing initiatives and aligning with policy priorities. The creation of the European Raw Materials Alliance by the European Commission and DG GROW's decision to task EIT RawMaterials with leading this initiative has greatly strengthened EIT RawMaterials role in the cultivation of synergies across the raw materials sector and the establishment of a robust ecosystem. However, the KIC could improve on establishing synergies

with global initiatives and extending the benefits of these synergies onto EIT RawMaterials’ beneficiaries through increased guidance on how to increase involvement with related initiatives and more activities that connect students and ventures with related initiatives.

Communications, Dissemination & Outreach

Communication and dissemination activities of the KIC are assessed in **Chapter 13**. Over the years, EIT RawMaterials has received mixed performance assessments in communications activities from the relevant EIT monitoring activities. The KIC has a good representation in social and traditional media, and the campaigns through social media do well in aligning with broader discussions on current events and the green and digital transitions. Moving forward, EIT RawMaterials should do more to disseminate the results of projects in order to show the organisations contributions towards creating a circular economy. Communications activities should especially target providing nuance to the conversation around mining activities, including the strategic importance of securing raw materials supply within Europe.

Summary of the Assessment Criteria

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
Global Score: 71 / 100 Global Threshold: 60 / 100			
1. Relevance to the Union’s global challenges	<p>The activities of EIT RawMaterials are very well aligned with the objectives of the Union and the results of these activities contribute towards addressing the KIC’s societal challenge. However, there was limited data available on the concrete level of impact achieved and shortcomings in the KIC’s performance across some indicators. Therefore, the KIC’s performance for this criterion has been assessed as Very Good.</p> <p><u>Assessment</u></p> <p>1.1 – Very good: The activities of EIT RawMaterials are well aligned with the objectives of the Union, including boosting economic growth, strengthening the innovation capacity of the Members States, fostering innovation and entrepreneurship.</p> <p>1.2 – Very good: The KIC’s results in their activities have contributed to the addressing the societal challenge it was designated for; however, the level of significance of this contribution cannot be precisely assessed based on the previously collected monitoring data. Nevertheless, the synergies established and the performance of the KIC in achieving multi-annual targets has been very good.</p> <p>1.3 – Very good: EIT RawMaterials was assessed on contributions towards a number of societal impact indicators, including:</p> <ul style="list-style-type: none"> • Carbon savings • Critical raw materials substitution • Advanced materials produced 	5, 10	12 / 15 (Threshold: 9)

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<ul style="list-style-type: none"> • Increased recycling rate • Improved industrial competitiveness • Raw materials concentrate produced • Improved gender balance • Enhanced sustainability practices. <p>Only two of the indicators, improved industrial competitiveness and improved gender balance, had regularly collected data available through the KIC. Improved industrial competitiveness could not be meaningfully assessed due to the definition of the KPI changing too often. Regarding improved gender balance, the KIC has consistently met its targets. For the remainder of these indicators, there was very limited data available, as they were only introduced by the EIT in 2021. These were assessed based on the relevance of the KIC’s activities in contributing to their achievement, rather than the level of impact made. For each of these indicators, the KIC’s activities are highly relevant to their progress.</p> <p>1.4 – Very good: EIT RawMaterials was also assessed based on contributions towards a number of economic impact indicators, including:</p> <ul style="list-style-type: none"> • % (& € if available) contribution to revenue growth and profitability of organisations trading or employing KIC innovations • # and revenue of start-ups and scale-ups supported by KICs trading at least 1 year after KIC support ceased • # New jobs created in start-ups/scale-ups • Impact on employment growth as a result of company being engaged with KICs • # and type of jobs in existing businesses in KIC sector sustained through innovations • # and type of skill gaps and/or skill shortages filled by KIC sector <p>There was also limited data on the impact the KIC’s activities have had on the success of the ventures they support, due to these indicators only being added in recent years. However, the majority of the ventures that responded to our survey expressed the KIC’s support as having a positive impact on their revenue growth, profitability growth, and employment growth. EIT RawMaterials also contributes to the creation of new jobs and new job types in the raw materials sector and the KIC performs very well in the category of addressing skills gaps.</p>		
<p>2. KIC’s Union added value and relevance with regard to the</p>	<p>Given the KIC’s strong alignment to the objectives of the EIT and significant European added value, and the small number of shortcomings in missing data and</p>	<p>5, 7, 8, 9, 11</p>	<p>11 / 15 (Threshold: 9)</p>

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
objectives of the EIT	<p>graduates joining start-ups, this criterion has been assessed as Very good.</p> <p><u>Assessment</u></p> <p>2.1 – Excellent: EIT RawMaterials has created significant European added value with respect to building a sustainable innovation ecosystem through knowledge triangle integration, and as a result has developed concrete solutions to the societal challenge it addresses.</p> <p>2.2 – Excellent: All of EIT RawMaterials activities have been fully aligned with and relevant to the EIT objectives as defined in the EIT Legislative Framework.</p> <p>2.3 – Very good: EIT RawMaterials RIS activities have been very well aligned with the EIT RIS Guidance Note 2018-2020 and well aligned with the RIS Implementation Framework (2022-2027).</p> <p>2.4 – Very good: The KIC has performed very well in the number and percent of graduates currently employed.</p> <p>2.5 – Fair: The KIC has underperformed on the number of EIT-labelled MSc and PhD programme graduates who joined start-ups.</p> <p>2.6 – Good: No revenue in innovation projects has been reported since the EIT has required this data to begin being collected; however, there were strong estimates for the expected revenue moving forward.</p>		
3. Achievement of KIC's objectives	<p>Due to the mixed performance of EIT RawMaterials regarding the targets set in its Strategic Agenda and Business Plans with some KPIs being significantly overperformed and others not meeting their respective targets, this criterion has been assessed as Good.</p> <p><u>Assessment</u></p> <p>3.1 – Good: EIT RawMaterials has not fully achieved its 7-year Strategic Agenda objectives and expected results in line with its initial strategic objectives; however, progress has been made towards these goals. As changes to the KIC's Strategic Agenda have been made, these were approved by the EIT and were made to maximise impact.</p> <p>3.2 – Very good: The KIC achieved mostly positive results in the objectives and respective targets as</p>	<p>5, 11</p>	<p>10 / 15</p> <p>(Threshold: 9)</p>

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<p>stated in the original proposal and Strategic Agenda in relation to the societal challenge.</p> <p>3.3 – Good: The KIC has achieved mixed results on the KPI targets defined in the KIC’s original proposal, Strategic Agenda, and Business Plans; many of the KIC Specific KPIs were inconsistent over the course of the KIC’s activities.</p> <p>3.4 – Very good: EIT RawMaterials has delivered EIT RIS activities and achieved results within the scope of their EIT RIS Strategies. Any deviations to the objectives have been duly justified and were made to maximise impact.</p>		
4. KICs efforts to coordinate their activities with other relevant research and innovation initiatives	<p>Overall, based on the strong performance EIT RawMaterials has demonstrated in cultivating relevant synergies, this criterion has been assessed as Very Good.</p> <p><u>Assessment</u></p> <p>4.1 – Very good: EIT RawMaterials has achieved a majority of the concrete synergies and complementarities described in the original proposal and Strategic Agenda, with additional synergies and complementarities as well.</p> <p>4.2 – Very good: The KIC has achieved a number of synergies with relevant education, research and innovation initiatives in the same area of the societal challenge national and EU levels; however, the KIC has minimal synergies with global initiatives.</p>	12	4 / 5 (Threshold: 3)
5. KIC’s capacity to ensure openness to new members	<p>Based on the strong partnership of EIT RawMaterials and their strategies for ensuring openness to new members, this criterion has been assessed as Very Good.</p> <p><u>Assessment</u></p> <p>5.1 – Excellent: The partnership size, growth, composition and performance of EIT RawMaterials has been more than adequate for achieving the long-term objectives of the KIC Strategic Agenda.</p> <p>5.2 – Very good: The KIC’s calls for activities have been fully open to those interested in becoming new members; however, there are restrictions in the Calls for non-members not interested in eventually becoming members.</p> <p>5.3 – Excellent: The Good Governance Principles assessments have assessed that the KIC’s entry and</p>	5	4 / 5 (Threshold: 3)

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<p>exit rules for partners have been published and provided, which allows for transparency and openness to both partners and potential partners. Additionally, the KIC has been positively assessed through other relevant EIT monitoring activities regarding openness to new members in recent years.</p> <p>5.4 – Very good: There is balanced representation of all key knowledge triangle players in the partnership, with a slight skew towards industry partners.</p>		
6. KIC’s achievements in attracting new members from across the Union	<p>Overall, EIT RawMaterials has cultivated a strong partnership with members from across the Union, but it has a number of shortcomings in the geographical balance of RIS eligible countries and regions, the balance in representation of the knowledge triangle in RIS eligible countries and regions, and the lack of synergies with international partners, as was planned in the KIC’s original Strategic Agenda. Thus, this criterion has been assessed as Very good.</p> <p><u>Assessment</u></p> <p>6.1 – Very good: EIT RawMaterials has grown to an effective and sustainable innovation ecosystem with partners across the EU, including RIS eligible countries and regions; however, there are limited partners from outside of the EU.</p> <p>6.2 – Very good: 24 out of the 27 EU Member States have been covered by the KIC partnership throughout the KIC’s lifetime and 15 have had representation of all knowledge triangle players.</p> <p>6.3 – Very good: 19 out of the 27 EIT RIS eligible countries and regions have been covered by the KIC partnership throughout the KIC’s lifetime and 8 have had representation of all knowledge triangle players.</p> <p>6.4 – Very good: There has been a positive trend of new active partners over the 6-year period; however, this has plateaued in recent years.</p> <p>6.5 – Excellent: There is a balanced geographical presence of CLCs and EIT RIS Hubs within the EU in line with the strategic agenda and societal challenges.</p>	5, 7, 11	<p>8 / 10</p> <p>(Threshold: 6)</p>
7. KIC’s compliance with good governance principles	<p>Given the KIC’s strong performance in good governance principles compliance, this criterion has been assessed as Very good.</p> <p><u>Assessment</u></p>	5	<p>7 / 10</p> <p>(Threshold: 6)</p>

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<p>7.1 – Very good: EIT RawMaterials fully complies with the majority of EIT Good Governance Principles, based on the relevant GGP Assessments, with the remaining minor shortcomings in the process of being addressed.</p> <p>7.2 - Good: Throughout the years, GB Strategic Recommendations have been effectively addressed and mostly implemented, most often in a timely fashion.</p>		
8. KIC’s efforts and results in designing and implementing gender-sensitive measures and activities	<p>Based on the progress that has made by the KIC, but the shortcomings that still remain, this criterion has been assessed as Good.</p> <p><u>Assessment</u></p> <p>8.1 – Very good: EIT RawMaterials has designed and implemented a number of gender sensitive measures and activities.</p> <p>8.2 – Good: The KIC has received mixed assessments over the years regarding the outputs and results delivered by these activities.</p>	5	3 / 5 (Threshold: 3)
9. KIC’s capacity to develop sustainable innovation ecosystems and the achieved level of financial sustainability	<p>Based on the very good performance of the KIC regarding the creation of innovation ecosystems and the good performance of the KIC on financial sustainability, this criterion has been assessed as good.</p> <p><u>Assessment</u></p> <p>9.1 – Very good: EIT RawMaterials has created a substantial innovation ecosystem that effectively addresses the societal challenges and skill gaps it was established for.</p> <p>9.2 – Excellent: The KIC has established sustainable and institutionalised partnerships between the organisations engaged with the KIC.</p> <p>9.3 – Very good: EIT RawMaterials has created visible innovation ecosystems not previously in existence; however, these ecosystems are less visible in EIT RIS eligible countries and regions.</p> <p>9.4 – Good: Innovation ecosystems occasionally evolve into business ecosystems; a limited number of innovation projects have progressed into start-ups. However, the KIC has cultivated additional business ecosystems to support existing start-ups.</p>	6, 7	12 / 20 (Threshold: 12)

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<p>9.5 – Poor: EIT RawMaterials has implemented an ambitious financial sustainability strategy, with mechanisms in place that increase the diversity of revenue sources. However, the current revenue sources still largely rely on a single revenue source. The KIC’s financial sustainability strategy has been aligned with annual business plans, but not with strategic agendas.</p> <p>9.6 – Fair: The KIC has a low level of revenues from all activities other than the collection of membership fees. It has recently implemented plans for the management and exploitation of intellectual property and financial assets to support the KIC’s business model, but neither of these are fully established.</p> <p>9.7 – Very good: EIT RawMaterials has high revenues overall compared with other KICs and has consistently overachieved its FS-coefficient targets; however, the FS-coefficient remains too low.</p> <p>9.8 – Very good: The budget consumption of the KIC has steadily improved over time but remains high in absolute values. The management costs have remained compliant with EIT requirements, but they have increased slightly in recent years.</p> <p>9.9 – Good: EIT RawMaterials was compliant with EIT co-funding rate requirements until 2020, but it has not yet become compliant the new requirements that were introduced in the Strategic Innovation Agenda 2021-2027.</p>		

4. Methodology Overview

The methodology used is in line with the requirements set out in the Request for Service No. 01 implementing document (Ref. Ares(2021)5479007 - 06/09/2021). According to the document referenced above, the assessment has been carried out through a comprehensive analysis of all areas of activities and aspects relevant for a KIC, namely the following:

- KIC Governance, KIC Partnership, Processes & Operations
- KIC Funding, Financial Sustainability & Business Models
- Knowledge Triangle Integration, Innovation Ecosystem and Co-location Centres
- Education & Alumni
- Innovation & Research
- Entrepreneurship & Business Creation
- EIT Regional Innovation Scheme (EIT RIS)
- Synergies, Complementarities & Cross-KIC collaboration
- Communications, Dissemination & Outreach

During the analysis of each of the above chapters, the following key elements are presented, notably:

- Main activities, results, societal and economic impacts/progress against impact targets, including EU added value, and KPIs achieved;
- Budget evolution: what was the budget for the main activities;
- Strengths and weaknesses: what have worked well and what did not work;
- Recommendations for improvement: what should be improved in the next 7-years.

In addition to the chapters above, the 7-year assessment is carried out along the following assessment criteria, which are outlined further in Table 1 below:

1. Relevance to the Union’s global challenges
2. KIC’s Union added value and relevance with regard to the objectives of the EIT
3. Achievement of KIC’s objectives
4. KIC’s efforts to coordinate their activities with other relevant research and innovation initiatives
5. KIC’s capacity to ensure openness to new members
6. KIC’s achievements in attracting new members from across the Union
7. KIC’s compliance with good governance principles
8. KIC’s efforts and results in designing and implementing gender-sensitive measures and activities
9. KIC’s capacity to develop sustainable innovation ecosystems and the achieved level of financial sustainability

To harmonize the report structure and the assessment criteria, we have assigned each indicator to the most relevant chapter, as agreed with the EIT. The complete list of the assessment criteria and indicators are presented in the table below, along with the chapter the specific indicator can be found in:

Table 1. Assessment Criteria, Indicators, and Their Relevant Chapters

Assessment Criteria	Indicators	Relevant Chapter
Relevance to the Union’s global challenges (max. 15 points)	1.1 The results of the KIC’s activities have been relevant to the objectives of the Union, including boosting economic growth, strengthening the innovation capacity of the Member States, fostering innovation and entrepreneurship.	5
	1.2 The results of the KIC’s activities have contributed significantly in addressing the societal challenge it was designated for.	5

Assessment Criteria	Indicators	Relevant Chapter
	<p>1.3 KIC has made evidenced progress against the following impact indicators (as per definitions provided in the EIT Impact Framework):</p> <p>Societal Impact KPIs for EIT RawMaterials</p> <ul style="list-style-type: none"> • Carbon savings /reduction • Critical raw materials substitution • Advanced materials produced • Increased recycling rate over current rate • Improved industrial competitiveness • Raw materials concentrate produced • Improved gender balance • Enhanced sustainability 	5
	<p>1.4 KIC has made evidenced progress against the following impact indicators (as per definitions provided in the EIT Impact Framework):</p> <p>Economic Impact KPIs</p> <ul style="list-style-type: none"> • % (& € if available) contribution to revenue growth and profitability of organisations trading or employing KIC innovations • # and revenue of start-ups and scale-ups supported by KICs trading at least 1 year after KIC support ceased • # New jobs created in start-ups/scale-ups • Impact on employment growth as a result of company being engaged with KICs • # and type of jobs in existing businesses in KIC sector sustained through innovations • # and type of skill gaps and/or skill shortages filled by KIC sector 	10
<p>KIC's Union added value and relevance with regard to the objectives of the EIT</p> <p>(max. 15 points)</p>	2.1 The KIC has created a significant European added value with respect to building a sustainable innovation ecosystem through knowledge triangle integration, and as a result has developed concrete solutions to societal challenge it addresses as foreseen in the original proposal.	7
	2.2 All KIC's activities have been fully aligned with and relevant to the EIT objectives as defined in EIT legislative framework.	5
	2.3 KIC RIS activities have been fully aligned with the EIT RIS Guidance note 2018-2020 and RIS Implementation Framework (2022-2027)	11
	2.4 # and % of KIC Label graduates employed	8
	2.5 # and % of students and graduates from EIT labelled MSc and PhD programs who joined start-ups	8
	2.6 Revenue from the innovations launched on the market	9
<p>Achievement of KIC's objectives</p> <p>(max. 15 points)</p>	3.1 A KIC has fully achieved its 7-year Strategic Agenda objectives and expected results in line with its initial strategic objectives. Any deviation from the Strategic Agenda has been justified, approved by the EIT and has led to maximizing impact	5
	3.2 The KIC has achieved its objectives and respective targets as stated in its original proposal and Strategic Agenda in relation to the societal challenge.	5
	3.3 KPI targets defined in the KIC original proposal, Strategic Agenda and Business Plans achieved.	5

Assessment Criteria	Indicators	Relevant Chapter
	3.4 The KICs have delivered EIT RIS activities and achieved results within the scope of their EIT RIS Strategies. Any deviations are duly justified and having led to maximised results.	11
KICs efforts to coordinate their activities with other relevant research and innovation initiatives (max. 5 points)	4.1 The KIC has achieved the concrete synergies and complementarities described in the original proposal and Strategic Agenda	12
	4.2 Number of synergies with other relevant education, research and innovation initiatives in the same area of the societal challenge at national, EU and global level	12
KIC's capacity to ensure openness to new members (max. 5 points)	5.1 Partnership size, growth, composition and performance are adequate for achieving the long-term objectives of the KIC Strategic Agenda.	5
	5.2 KIC's Calls for activities have been fully open to new members.	5
	5.3 KIC has fully addressed the EIT Good Governance Principles (GGP) – based on relevant GGP assessments related to openness to new members	5
	5.4 Balanced representation of all key knowledge triangle players in the partnership	5
KIC's achievements in attracting new members from across the Union (max. 10 points)	6.1 KIC has grown to an effective sustainable innovation ecosystem with partners within and outside the EU, including RIS eligible countries and regions	7
	6.2 Number of the EU Member States covered by the KIC partnership and representation of all the knowledge triangle players	5
	6.3 Number of the RIS eligible countries and regions covered by the KIC partnership and representation of all the knowledge triangle players in its activities	11
	6.4 Trend of new active partners over the 7- year period	5
	6.5 Balanced geographical presence of CLCs and EIT RIS Hubs in line with the strategic objectives and societal challenges	7
KIC's compliance with good governance principles (max. 10 points)	7.1 KIC fully addresses the EIT Good Governance Principles (GGP) – based on the relevant GGP assessment	5
	7.2 GB Strategic recommendations have been effectively addressed and fully implemented by the KIC	5
KIC's efforts and results in designing and implementing gender-sensitive measures and activities (max. 5 points)	8.1 KICs have designed and implemented gender sensitive measures and activities	5
	8.2 Positive expert's assessment of the outputs and results delivered by these activities	5
KIC's capacity to develop sustainable innovation ecosystems and the achieved level of	9.1 The KIC has created a sustainable innovation ecosystem effectively addressing the societal challenges and skill gaps it was established for	7
	9.2 Sustainable and institutionalized partnerships between the organizations engaged with KICs	7

Assessment Criteria	Indicators	Relevant Chapter
financial sustainability (max. 20 points)	9.3 Visible innovation ecosystems not previously in existence	7
	9.4 Innovation ecosystems evolving into business ecosystems	7
	9.5 Effective Financial Sustainability Strategy, including Financial Sustainability mechanisms in place including diversified revenue sources and aligned with the original proposal and subsequent business plans/reports	6
	9.6 An adequate level of revenues from its activities is demonstrated and a plan for the management and exploitation of intellectual property and financial assets supporting the KIC's business model is in place	6
	9.7 Financial Sustainability (FS): revenues of KIC LE, FS coefficient	6
	9.8 Budget consumption of KICs and management cost evolution	6
	9.9 Co-funding rates	6

Furthermore, all data and information collected has been linked to the relevant criteria and indicators from the assessment table in the methodological note¹³, ensuring that these can be scored appropriately and consistently according to the scoring system designed by EIT¹⁴. The indicative scoreboards are presented below:

Table 2. EIT 7-Year Assessment Scoreboards

0-20	Scores interpretation
0	The profile does not meet the criterion at all or cannot be assessed due to missing or incomplete information
1-4	Poor-serious weaknesses
5-8	Fair –goes some way to meeting the criterion, but with significant weaknesses
9-12	Good –but with a number of shortcomings
13-16	Very good –but with a small number of shortcomings
17-20	Excellent –meets criterion in every relevant respect. Any shortcomings are minor

0-10	Scores interpretation
0	The profile does not meet the criterion at all or cannot be assessed due to missing or incomplete information
1-2	Poor-serious weaknesses
3-4	Fair –goes some way to meeting the criterion, but with significant weaknesses
5-6	Good –but with a number of shortcomings
7-8	Very good –but with a small number of shortcomings
9-10	Excellent –meets criterion in every relevant respect. Any shortcomings are minor

0-15	Scores interpretation
0	The profile does not meet the criterion at all or cannot be assessed due to missing or incomplete information
1-3	Poor-serious weaknesses
4-6	Fair –goes some way to meeting the criterion, but with significant weaknesses
7-9	Good –but with a number of shortcomings
10-12	Very good –but with a small number of shortcomings
13-15	Excellent –meets criterion in every relevant respect. Any shortcomings are minor

0-5	Scores interpretation
0	The profile does not meet the criterion at all or cannot be assessed due to missing or incomplete information
1	Poor-serious weaknesses
2	Fair –goes some way to meeting the criterion, but with significant weaknesses
3	Good –but with a number of shortcomings
4	Very good –but with a small number of shortcomings
5	Excellent –meets criterion in every relevant respect. Any shortcomings are minor

¹³ Table 2 on page 12 of the methodological note in Annex C to the tender specifications

¹⁴ Laid out in Annex I, page 23, of the methodological note in Annex C to the tender specifications

With the applied methodology, the assessment is based on robust and reliable results and incorporates multiple data sources. During the assessment three main methodological tools have been applied:

Desk research:

The goal of the research was to collect both qualitative and quantitative data on the activities, impact and results of the KIC. The key documents of the desk research were:

- Key EIT documents (e.g., old EIT Regulation and EIT Regulation (recast), EIT Financial Regulation, EIT SIA 2014-2020 and EIT SIA 2021-2027, Triennial Work Programmes, Single Programming Documents)
- Calls for KIC Proposals documentation; KIC Proposals
- Framework Partnership Agreements (repealed by 31 December 2020), new Partnership Agreements and KICs' Strategic Agendas (originals and any later updates)
- KICs Business Plans and Reports for relevant years and experts' assessments
- KIC Assessments: Business Creation, Education, Knowledge Triangle integration, Innovation
- RIS Evaluation 2020
- EIT consolidated reports on the KIC Monitoring/GB Rapporteur visits and reports
- Specific EIT guidance to KICs (e.g., governance, code of conduct, etc.)
- EIT Principles on KICs' Financial Sustainability (old and new)
- EIT Guidance on the EIT Regional Innovation Scheme (EIT RIS) 2018-2020 and EIT RIS Implementation Framework 2022-2027
- EIT Good Governance Principles and respective assessments
- EIT and KICs websites (deliverables included in websites as well as those submitted with KIC reports)
- ECA Reports and Recommendations
- EIT Interim Evaluations (2019 and 2024-2025)
- EIT Impact Study (PwC)
- KICs' action plans for tackling specific issues (i.e., EIT and EU co-branding; communications strategy; Project Partners, etc.)
- Multi-annual Dashboard
- Annual Grant KIC Performance Assessment Reports
- EIT GB Strategic Recommendations issued during the assessed period
- EIT GB Rapporteur Reports
- Communications Activities Assessments

Additional documents and databases have been collected from EIT and the respective KIC and assessed during the desk research. This assessment has included outstanding recommendations from the most recent relevant reports produced through annual EIT monitoring, such as the Good Governance Principles assessments and Multi-Annual Dashboards.

The KPIs assessed in this report are assessed against targets set both in the annual business plans, aggregated into a single value to be achieved by 2020, and targets set in the KIC's Strategic Agendas, which are to be achieved by the end of 2022. The targets set in the business plans are assessed based on whether they have been achieved, while the targets set in the Strategic Agenda are assessed based on the progress made by the KIC towards their achievement, since the KIC has until the end of 2022 to reach them. For EIT Core KPIs, the targets set in the 2018 – 2022 Strategic Agenda were set to be achieved only between 2019 – 2022, rather than since 2016. Because this is not aligned with the business plan targets, set since 2016, an additional column has been added to compare the Strategic Agenda target for EIT Core KPIs against what has been achieved by the KIC since 2019. For KIC Specific KPIs, the targets set in the 2018 – 2022 Strategic Agenda are to be achieved between 2016 – 2022, so the same value is compared against both the business plan target and the Strategic Agenda target.

Primary data collection methods:

In order to gather information from key stakeholders, two specific surveys were created targeting the graduates from EIT labelled programmes and participants in executive/ professional courses and ventures

supported by the KICs. These surveys were designed based initially on the surveys pre-designed by the EIT, which were then adapted to ensure all gaps left by the desk research had been filled.

The ventures survey received 126 responses from an original sample of 276 start-ups or scale-ups, with a response rate of 46%, whereas the education survey received 40 responses from an original sample of 506 Alumni members, with a response rate of 8%. There was a slight coverage error in the education survey, where all Alumni members received the survey even though they were not all students or graduates. It was estimated by EIT RawMaterials, who shared the surveys on behalf of the consultants, that 60-70% of the Alumni members participated in education activities in the past, and thus were of the target audience for the survey. Accounting for this, the response rate of the education survey is likely closer to 13 – 15%.

Semi-structured interviews have also been carried out with EIT RawMaterials representatives as well as with key EIT RawMaterials partners to complement the data collected during the desk research and surveys. These provided in-depth qualitative data, that allowed for data verification and triangulation. The length of interviews carried out for EIT RawMaterials was one and a half hours each. Nine interviews were carried out with ten participants, one of them being a joint interview of the CEO and COO of EIT RawMaterials. The rest of the participants that were interviewed were:

- The Compliance Officer of EIT RawMaterials
- The Education and Innovation Director of EIT RawMaterials
- The Senior Business Development of CLC East
- The Communications Manager
- The Director of Innovation Hub East
- Three partners, representing Industry, Education and Research Sectors, namely Epiroc, Universidad Politecnica de Madrid and ART-ER respectively

Further information can be found in ANNEX III. Summary of the Interviews.

Triangulation, conclusions and recommendations:

In the final stage of the assessment, the data collected through the aforementioned steps were triangulated to ensure that data leads to the same results and the same conclusions. Based on the conclusions drawn from the triangulation of data, recommendations were formulated on how the KIC can improve their operations moving forward.

A Note on the Methodology

Although this assessment was objective and thorough, there were a number of difficulties that limited how comprehensive this assessment could be. The original timeline that was given was too short to be as complete it was expected to be, and additional delays in receiving documents, publishing surveys and scheduling interviews further exacerbated this issue. In addition, the specifications for the project failed to convey the high expectations of the Contracting Authority relative to the resources available and the timeframe. Furthermore, the existing data provided by the KICs were incomplete and inadequate to assess the overall impact of their activities, whether due to lack of monitoring foreseen or incomplete monitoring. Where possible, these gaps were filled with qualitative assessments, but portions of the assessment cannot comment on the significance of contributions or the extent to which objectives were met. In addition, an assessment methodology was provided by the EIT, which has an Assessment Criteria Scale that is misaligned between the numerical score and the given interpretation of this score (i.e., a score that is 'Good' does not meet the minimum threshold). This assessment methodology also included multiple indicators that were only introduced to the KIC in 2020 or 2021, which resulted in significant data gaps and the inability to assess these indicators as they have been written. Finally, the report structure provided by the EIT, based on subject-specific chapters, does not align with the assessment criteria provided as the basis of the assessment, which has resulted in the report not following as logical and straight-forward of a narrative.

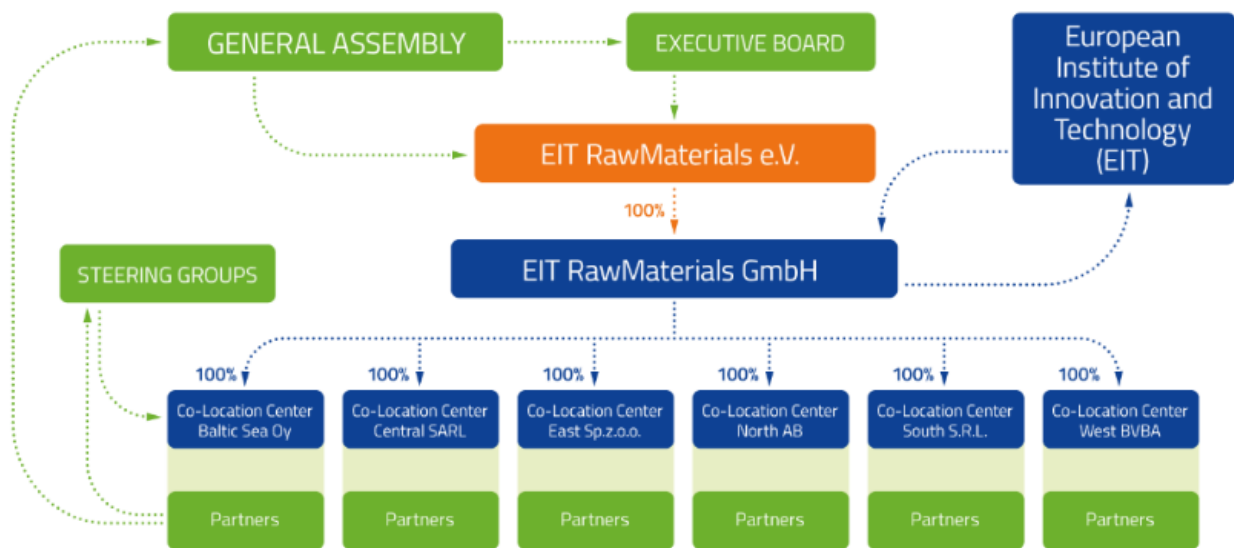


5. KIC Governance, KIC Partnership, Processes & Operations

EIT RawMaterials is a service organisation based in Berlin, Germany. The company consists of a two-layers legal structure. EIT RawMaterials e.V. is the administrative headquarters and makes strategic decisions for the KIC, such as approving annual business plans or updating strategies. It is the sole shareholder of EIT RawMaterials GmbH, which is the KIC LE, and is legally responsible to the EIT on reporting the use of funds and monitoring the level of impact achieved. In addition, the KIC has six Co-Location Centres (CLCs) geographically spread across Europe that are the regional offices responsible for rolling out the activities of the KIC in line with the strategic agenda. The CLC's are limited liability companies under the sole ownership of EIT RawMaterials GmbH.

The governance structure of the KIC is lean and has been assessed through EIT reports as being compact, well-designed and well-structured. It follows a decision-making process that allows for bottom-up content definition and top-down delivery and implementation. The General Assembly and the Executive Board are the main decision-making bodies of EIT RawMaterials e.V. The General Assembly consists of the KIC's partners and defines the mission and strategy of the organisation. The Executive Board is composed of top management representatives from core partners and relevant external organisations, aiming to achieve a balanced representation of partners and non-partners. The Board serves as the steering board of EIT RawMaterials and approves of the KICs business plans.

Figure 1. Governance Model



Assessment Criteria	Relevant Indicators
Relevance to the Union's global challenges	The results of the KIC's activities have been relevant to the objectives of the Union, including boosting economic growth, strengthening the innovation capacity of the Member States, fostering innovation and entrepreneurship.
OVERALL SCORE: 12/15	The results of the KIC's activities have contributed significantly in addressing the societal challenge it was designated for.

Assessment Criteria	Relevant Indicators
	<p>EIT RM Societal Impact Indicators:</p> <ul style="list-style-type: none"> - Carbon savings - Critical raw materials substitution / reduction - Advanced materials produced - Increased recycling rate over current rate - Improved industrial competitiveness - Raw materials concentrate produced - Improved gender balance - Enhanced sustainability in the raw materials sector <p>EIT RM Economic Impact Indicators:</p> <ul style="list-style-type: none"> - % (& € if available) contribution to revenue growth and profitability of organisations trading or employing KIC innovations - # and revenue of start-ups and scale-ups supported by KICs trading at least 1 year after KIC support ceased - # New jobs created in start-ups/scale-ups - Impact on employment growth as a result of company being engaged with KICs - # and type of jobs in existing businesses in KIC sector sustained through innovations - # and type of skill gaps and/or skill shortages filled by KIC sector
<p>KIC's Union added value and relevance with regard to the objectives of the EIT</p> <p>OVERALL SCORE:</p> <p>11/15</p>	<p>All KIC's activities have been fully aligned with and relevant to the EIT objectives as defined in EIT legislative framework.</p>
<p>Achievement of KIC's objectives</p> <p>OVERALL SCORE:</p> <p>10/15</p>	<p>A KIC has fully achieved its 7-year Strategic Agenda objectives and expected results in line with its initial strategic objectives. Any deviation from the Strategic Agenda has been justified, approved by the EIT and has led to maximizing impact.</p> <p>The KIC has achieved its objectives and respective targets as stated in its original proposal and Strategic Agenda in relation to the societal challenge.</p> <p>KPI targets defined in the KIC original proposal, Strategic Agenda and Business Plans achieved.</p>
<p>KIC's capacity to ensure openness to new members</p> <p>OVERALL SCORE:</p> <p>4/5</p>	<p>Partnership size, growth, composition and performance are adequate for achieving the long-term objectives of the KIC Strategic Agenda.</p> <p>KIC's Calls for activities have been fully open to new members.</p> <p>KIC has fully addressed the EIT Good Governance Principles (GGP) – based on relevant GGP assessments related to openness to new members.</p>

Assessment Criteria	Relevant Indicators
	Balanced representation of all key knowledge triangle players in the partnership.
KIC’s achievements in attracting new members from across the Union	Number of the EU Member States covered by the KIC partnership and representation of all the knowledge triangle players.
OVERALL SCORE: 8/10	Trend of new active partners over the 7-year period.
KIC’s compliance with good governance principles	KIC fully addresses the EIT Good Governance Principles (GGP) –based on the relevant GGP assessment.
OVERALL SCORE: 7/10	GB Strategic recommendations have been effectively addressed and fully implemented by the KIC.
KIC’s efforts and results in designing and implementing gender-sensitive measures and activities	KICs have designed and implemented gender sensitive measures and activities.
OVERALL SCORE: 3/5	Positive expert’s assessment of the outputs and results delivered by these activities.

5.1 Activities and results

Due to the high number of indicators included in this chapter, headings have been introduced to break up the indicators into their respective criteria and provide more structure to the information included. The structure follows the table above, regarding the criteria covered in this chapter and their respective indicators.

Before proceeding with the analysis, it is important to briefly discuss the effect of the Covid-19 pandemic on the activities of the KIC. The Covid Response Initiative (CRI), which consisted of venture support and pandemic response projects, was created to mitigate the pandemic’s effects on the KIC’s partners, ventures and society. It successfully supported SMEs and stimulated innovation projects to provide short-term solutions to the pandemic. As a result, EIT RawMaterials has so far staved off most negative effects of the pandemic with the exception of underspending its budget likely due to activities being cancelled as a consequence of the pandemic. As a result of the above assessment the Covid-19 monitoring report issued no recommendations.

KIC’s Relevance to the Union’s Global Challenges

5.1.1. The results of the KIC’s activities have been relevant to the objectives of the Union, including boosting economic growth, strengthening the innovation capacity of the Member States, fostering innovation and entrepreneurship.

This indicator primarily assesses the specific Union goals of:

- Boosting economic growth by supporting the creation of new products, businesses or services, which in turn lead to job creation and increased industrial competitiveness throughout Europe;

- Strengthening innovation capacity of the Member States through activities that foster synergies and cooperation among higher education institutes, research and innovation organisations, and industry corporations;
- Fostering innovation and entrepreneurship by promoting excellent entrepreneurial education and supporting the creation of start-ups and spin-offs.

EIT RawMaterials has made substantial progress in working towards these objectives of the Union. Regarding economic growth, the KIC launched 175 products or processes on the market between 2016 – 2020. The KIC has far surpassed the target of three key enabling technologies (KET) being either implemented or in progress, with thirty-two reported between 2017 - 2020. KAVAs have contributed to fostering and sustaining high quality, jobs throughout Europe that contribute to the work being done to address societal challenges. Additionally, by supporting the creation of recycling services and raw material production facilities, EIT RawMaterials has prevented work and valuable raw materials from being outsourced to other parts of the world. Regarding the innovation capacity of the Member States, EIT RawMaterials has created the largest raw materials network in the world, with a highly involved partnership consisting of both industry leaders and SMEs across the entire value chain. The creation of the European Raw Materials Alliance (ERMA), which EIT RawMaterials leads on behalf of the European Commission, has opened new opportunities for the creation of innovation ecosystems and the inclusion of additional partners. Through knowledge triangle integration, discussed further in Chapter 7, higher education institutes, research and innovation organisations, and industry corporations are able to collaborate on projects, resulting in stronger solutions being put forth to tackle today’s societal challenges. The Regional Innovation Scheme activities, discussed in Chapter 11, have established new innovation ecosystems in regions where innovation tends to fall behind. Lastly, regarding fostering innovation and entrepreneurship, 332 start-ups have been supported by EIT RawMaterials, as validated by the EIT’s monitoring activities. The services provided by EIT RawMaterials for idea-holders and start-ups, discussed further in Chapter 10, offer guidance and support along the entire process of turning an idea into something that can be brought on the market.

While EIT RawMaterials has made progress in these objectives, not all targets have been met. Regarding boosting economic growth, while 175 products or processes were launched in the market, this is lower than the 246 targeted through annual business plans to be reached by 2020 and the 192 targeted through the 2018 – 2022 Strategic Agenda to be achieved between 2019 and 2022. However, in the KIC’s business plan for 2021, EIT RawMaterials expected an additional 118 innovations to be marketed, which would result in the 2018 – 2022 Strategic Agenda target to be reached. Regarding fostering innovation and entrepreneurship, the KIC has a weak performance regarding the number of students who create start-ups, shown in Table 3. As discussed further in Chapter 8, less than 20% of graduates who responded to this assessments’ survey joined a start-up during or after their studies. Lastly, the number of graduates from EIT-labelled master and PhD programs is far below both targets, also shown in Table 3.

Table 3. EU Challenge KPIs*

<i>EIT Core KPIs – Verified Annually by the EIT</i>				
KPI	Achieved 2016 – 2020	Target 2016 – 2020 (BPs)	Achieved 2019 – 2020	Target 2019 – 2022 (SA)
Products or processes launched on the market	175	246	118	192
Graduates of full Master and PhD programmes	156	327	133	471
Investment attracted by start-ups supported by KICs	156.6 MEUR	36 MEUR	30.8 MEUR	15.5 MEUR
# Start-ups created by students enrolled and graduates from EIT labelled MSc and PhD programmes	4	2	4	25

<i>KIC Specific KPIs</i>				
KPI	Achieved by 2020	Target 2016 - 2020 (BPs)	Target 2016 - 2022 (SA)	Years Measured
Creating / securing jobs in the raw materials sector	1046.5	401.5	N.A.	2017 – 2020
New KET innovations applied or in progress	32	24	3	2017 – 2020

* The values included in the achieved column are the sum based on EIT RawMaterials’ annual grant report assessments. The values included in the 2020 / 2016 - 2020 target columns are the aggregated targets from the KIC’s annual business plans from the years specified. The values included in the 2022 / 2019 - 2022 target column are taken from the 2018-2022 Strategic Agenda.

The European Institute for Innovation and Technology was designed to contribute to the European Union strategy of smart, sustainable, and inclusive growth¹⁵. Based on a qualitative assessment, the results of EIT RawMaterials activities have made significant contributions to this Union objective. Nevertheless, there is still room for improvement regarding the number of graduates of full Master and PhD programmes and the number of start-ups created by RM Academy students. The strategic agenda for the upcoming period of 2021-2027 continues with ambitious targets and solutions that could aid in the achievement of these objectives. Additionally, the creation of ERMA has increased the opportunity for EIT RawMaterials to have an even larger impact on innovation activities and entrepreneurial support. The Cross-KIC HEI Initiative also aims to increase the entrepreneurial and innovation capacities of higher education institutions.

5.1.2. The results of the KIC’s activities have contributed significantly in addressing the societal challenge it was designated for.

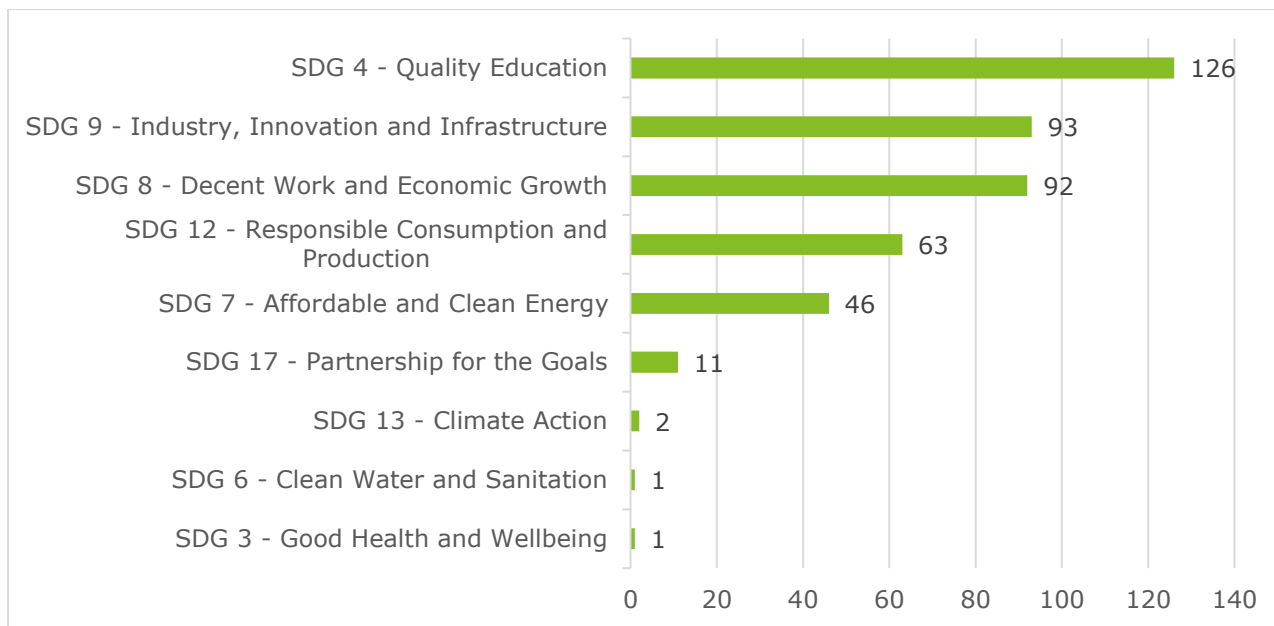
EIT RawMaterials was created to address the societal challenge of increasing demands for raw materials despite decreasing finite natural resources by aiming to ensure accessibility, availability and sustainable use of raw materials and achieving a resource-efficient economy. To address this challenge, EIT RawMaterials designated three primary strategic objectives that guide the activities and innovations they support. These three objectives are closing materials loops, securing raw materials supply in Europe, and designing smart solutions to the raw material sector. These objectives are in line with the United Nations’ Sustainable Development Goals (UN SDGs), European Green Deal, European Industrial Strategy and Circular Economy Action Plan. Further detail on these synergies can be found in Chapter 12. Additionally, the KIC has created six knowledge and innovation themes that collectively work towards addressing the societal challenge it was designated for. These themes are as follows:

1. Exploration and raw materials resource assessment
2. Mining in challenging environments
3. Increased resource efficiency in mineral and metallurgical processes
4. Recycling and material chain optimisation for End-of-Life products
5. Substitution of critical and toxic materials in products for optimised performance
6. Design of products and services for the circular economy.

By aligning all activities to these strategic objectives and innovation themes, EIT RawMaterials aims to aid in the transformation of the raw materials sector from a brown, linear economy to a green, circular economy. Project proposals are assessed based partially on their alignment with both EIT RawMaterials’ and global strategic goals. For example, the KIC monitors the alignment of projects with UN SDGs, and the KIC’s current project portfolio addresses nine of the seventeen SDGs.

¹⁵ REGULATION (EU) No 1292/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 amending Regulation (EC) No 294/2008 establishing the European Institute of Innovation and Technology, received from EIT on 02.11.2021 Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013R1292>

Figure 2. EIT RawMaterials Projects and Alignment with UN SDGs



The EIT RawMaterials’ activities are assessed annually by the EIT through business plans and grant report assessments, as well as additional monitoring, to assess alignment with the KIC’s strategic objectives. The KIC’s activities have consistently been assessed as in line with these objectives and working towards solving the societal challenge it was created for. Before individual KAVAs are chosen, they are evaluated regarding which UN SDGs they contribute towards to ensure the KIC has coverage of activities working towards these goals. Further, the synergies with EU initiatives that EIT RawMaterials has cultivated, further discussed in Chapter 12, have contributed to alignment with EU strategy and efficient use of public money in addressing the societal challenge. As for the performance of these activities, a number of the EIT RawMaterials KIC specific KPIs assess the impact the KIC has had in addressing its societal challenge. A table comparing the 2022 target, as defined in either the 2016-2022 Strategic Agenda or the 2018-2022 Strategic Agenda, and the value achieved by 2020, as reported through annual grant assessments, is included below. A number of indicators have been overachieved, including the number of applied substitution cases implemented, the number of sustainable BATs either accepted or in progress and the number of previously unused waste streams taken into use to recover raw materials. Additionally, the percentage of female students enrolled in EIT-labelled MSc and PhD programmes, as recorded through H2020 indicators rather than the KIC’s own indicators, has overachieved the most recent target set in the 2018-2022 Strategic Agenda. While the number of new or improved products with reduced toxic material has not yet met the 2022 target, it is likely that it will be reached by 2022.

EIT RawMaterials has made progress in solving the societal challenge it was created for, as is shown in Table 4 below. However, additional KPIs intended to measure impact, including the amount of industry savings as a result of higher material and energy efficiency, could not be included due to definitions in how the KPIs are measured changing too often for meaningful conclusions to be drawn. As for improved gender balance, while the KIC has regularly collected data on this indicator from its partners, the values reported are not regularly reviewed. Due to misunderstandings of how the KPI is measured and inconsistencies in partner reports (i.e., some reported number of female students, while others reported percentage of female students), the data collected was not entirely accurate. Additionally, the portal used to monitor EIT RawMaterials KPIs, DUNA, does not correctly aggregate the total value across all partners for this KPI, leaving the value it reports uninterpretable. Multiple of the annual grant reports have simply omitted a review of this KPI, rather than finding alternative methods of assessment. However, the shortcomings of DUNA and the lack of regular DUNA data structure review are limitations of the EIT rather than EIT RawMaterials, and thus, have not influenced this assessment. The value for percentage of female graduates

reported in the table below and throughout the report was calculated based on the Horizon 2020 required indicators.

Table 4. Societal Challenge KIC specific KPIs*

<i>KIC Specific KPIs</i>				
KPI	Achieved by 2020	Target 2016 - 2020 (BPs)	Target 2016 - 2022 (SA)	Years Measured
New or improved products with reduced toxic material	30	26	50	2017 - 2020
Number of reported and proven substitution cases	32	42	20	2017 - 2020
Sustainable BATs accepted or in progress	19	24	9	2017 - 2020
Previously unused waste streams or deposits taken into use to recover critical or valuable raw materials	34	16	20	2019 - 2020
Ideas-into-market to reduce waste containing CRM to landfill	104	27	20 [†]	2017 - 2018
Percentage of female students in EIT-labelled MSc and PhD programmes	37%	N.A.	30%	2016 - 2020

* The values included in the achieved column are the sum based on EIT RawMaterials’ annual grant report assessments. The values included in the 2020 target column are the aggregated targets from the KIC’s annual business plans from the years specified in the final column. The values included in the 2022 target column are taken from the 2018-2022 Strategic Agenda.

[†]Taken from 2016 - 2022 Strategic Agenda because a target was not provided in the 2018 - 2022 Strategic Agenda.

Recent events, including the supply chain issues caused by the Covid-19 pandemic as well as greater organising around the green transition, has led to increased public awareness of the importance raw materials play in achieving climate goals. This awareness has the potential to aid EIT RawMaterials through increased opportunities for synergies and greater uptake of EIT RawMaterials activities. However, public perception of mining activities remains a significant barrier to one of the KIC’s strategic objectives of securing raw materials supply within the Union. Nevertheless, the creation of the European Raw Materials Alliance (ERMA) is expected to increase the services that EIT RawMaterials provides and has broadened the network that the KIC has access to. Regarding performance and indicators, the ambition of the KIC has improved through the targets set in the 2021-2027 Strategic Agenda. For example, although the gender balance target was lowered in the 2018-2022 Strategic Agenda from 40% to 30%, moving forward, this target increases annually with the goal to reach gender parity (50%) in EIT RawMaterials’ graduates by 2027. Lastly, the updated EIT Impact Framework has improved the existing monitoring system used by both the EIT and EIT RawMaterials, which is expected to improve the shortcomings in aggregation and consistency of KPIs mentioned above.

5.1.3. EIT RawMaterials Societal Impact Sub-indicators

As part of the 7-year assessment methodology, the EIT included a number of societal impact indicators that would be able to estimate the impact EIT RawMaterials has had on progressing towards solving their societal challenge. The indicators are as follows:

- Carbon Savings
- Critical Raw Materials Substitution / Reduction
- Advanced Materials Produced
- Increased Recycling Rate Over Current Rate

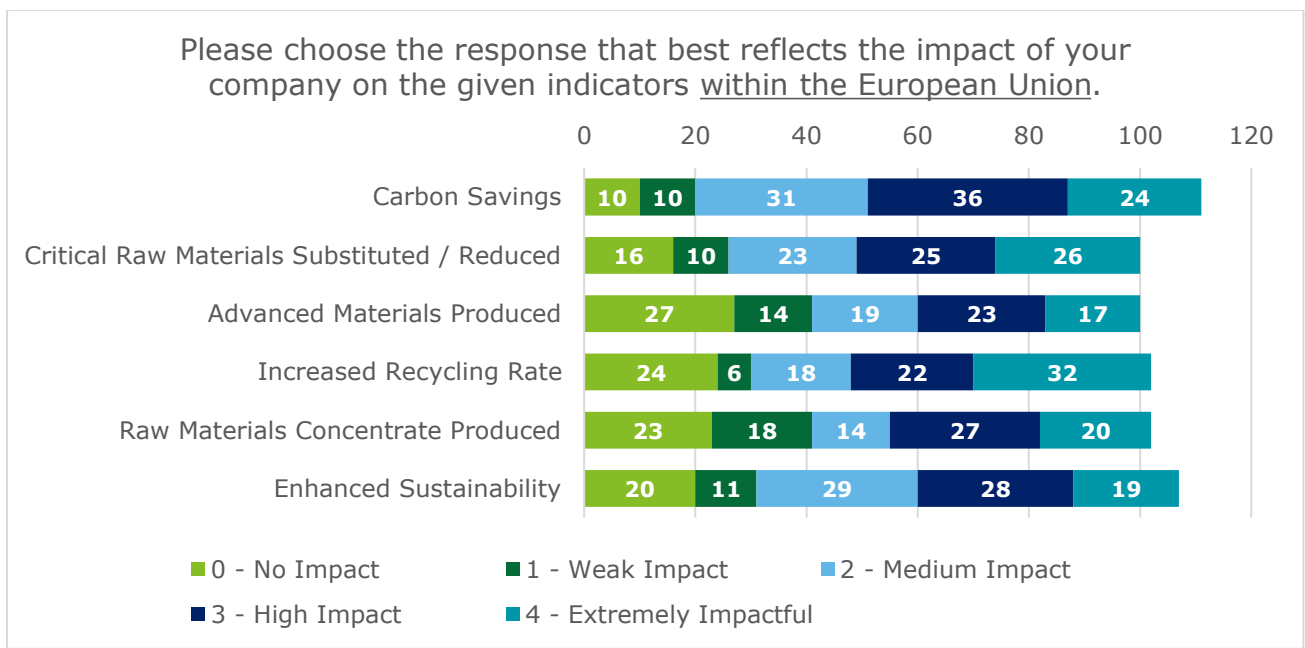


- Improved Industrial Competitiveness, which refers to industry savings due to more advanced or efficient technologies / practices
- Raw Materials Concentrate Produced
- Improved Gender Balance, which refers to the overall percentage of female graduates
- Enhanced Sustainability, which refers to an increase in the number of European companies following sustainability standards within the raw materials sector.

However, the majority of these indicators did not have any relevant monitoring data collected or initial values to compare from, as the EIT only introduced them in 2021. Given these shortcomings, the assessment of these indicators considers the relevance of the KIC’s activities in contributing to the achievement of these goals, rather than the level of impact already achieved, as requested by the EIT. Moving forward, each of these indicators is included in the KIC’s annual monitoring scheme, so they can be assessed against yearly targets set.

The ventures survey included a question on the perceived level of impact on these indicators based on the actions of their company within the European Union. For those that chose ‘No Impact’, this meant that their company intended to make an impact in this area, but were not able to, as there was a separate response category for those whose activities were unrelated to a given area. The responses are included in Figure 3 below. As can be seen, in each category of activity, the majority of respondents felt they had an impact on these indicators, showing the high relevance of EIT RawMaterials activities in achieving societal goals. The two indicators with the most respondents estimating that they had at least a medium impact on the indicator are for carbon savings and the reduction of critical raw materials, with enhanced sustainability and increased recycling rate following close behind.

Figure 3. Supported Ventures Survey Responses on Perceived Impact on Societal Indicators



The indicators for improved gender balance and increased industrial competitiveness were not included in the survey or the figure above because these indicators were included in EIT RawMaterials annual monitoring. The KPI related to increased industrial competitiveness was the KPI mentioned above, the level of industry savings due to higher material and energy efficiency, which could not be meaningfully assessed due to the definition of how the KPI was measured changing too often. However, the KIC reports that between 2016 – 2020, sixteen industry partners reported savings due to material and energy efficiency. The target for the percentage of female graduates of EIT-labelled programmes was met; however, this target was not particularly ambitious. Moving forward, the 2021-2027 Strategic Agenda incorporates more ambitious targets for the percentage of female graduates, so this impact will be increased in the future.

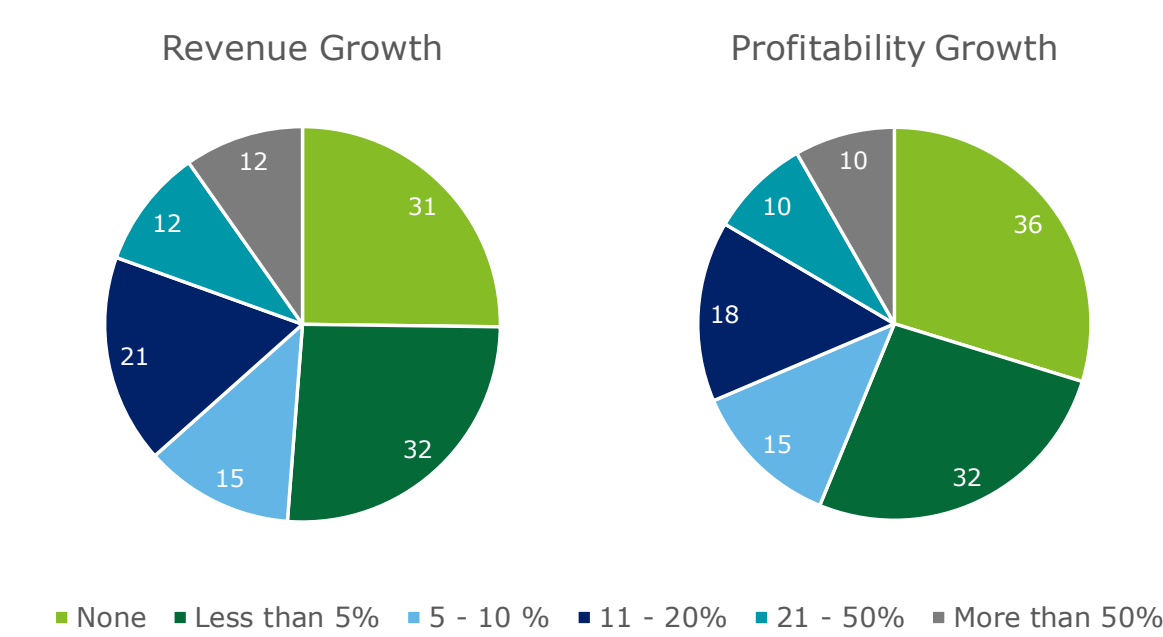


5.1.4. EIT RawMaterials Economic Impact Indicators

% contribution to revenue growth and profitability of organisations trading or employing KIC innovations

In most cases, start-ups reported an increase in profitability and revenue growth of various degrees. This suggests that the organisations in question were for the most part benefiting from their involvement in EIT RawMaterials. Nevertheless, the most common outcome for organisations benefiting in terms of both revenues and profits saw relatively minor effects from EIT RawMaterials support, with over half of respondents experiencing less than 5% or zero revenue and profitability growth, as shown in Figure 4. EIT RawMaterials, however, noted that its support to start-ups helped 280 out of 328 of them survive the “valley of death” period, which is the time between start-up launch and revenue generation.

Figure 4. Survey Respondents’ Estimation of Revenue and Profitability Growth of Ventures due to Support from EIT RawMaterials



Revenue of start-ups and scale-ups supported by KICs trading at least 1 year after KIC support ceased

Figure 5 shows the survey responses for the estimated revenue their company generated in the last twelve months (approx. December 2020 – December 2021), with those still receiving support from EIT RawMaterials and those who received support less than one year ago excluded from the analysis. The majority of respondents generated either less than €0.5M or no revenue, with only two reporting revenue of greater than €2M. Once respondents still receiving support and whose support ended one year ago were excluded from the analysis, the sample size for this question became lower, so it may not be representative.



Figure 5. Revenue of Ventures Who Received EIT RawMaterials Support More Than One Year Ago

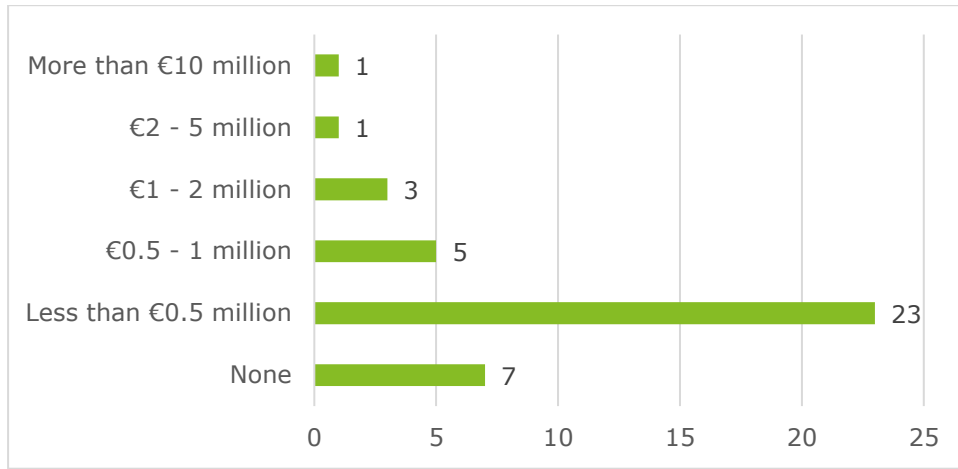
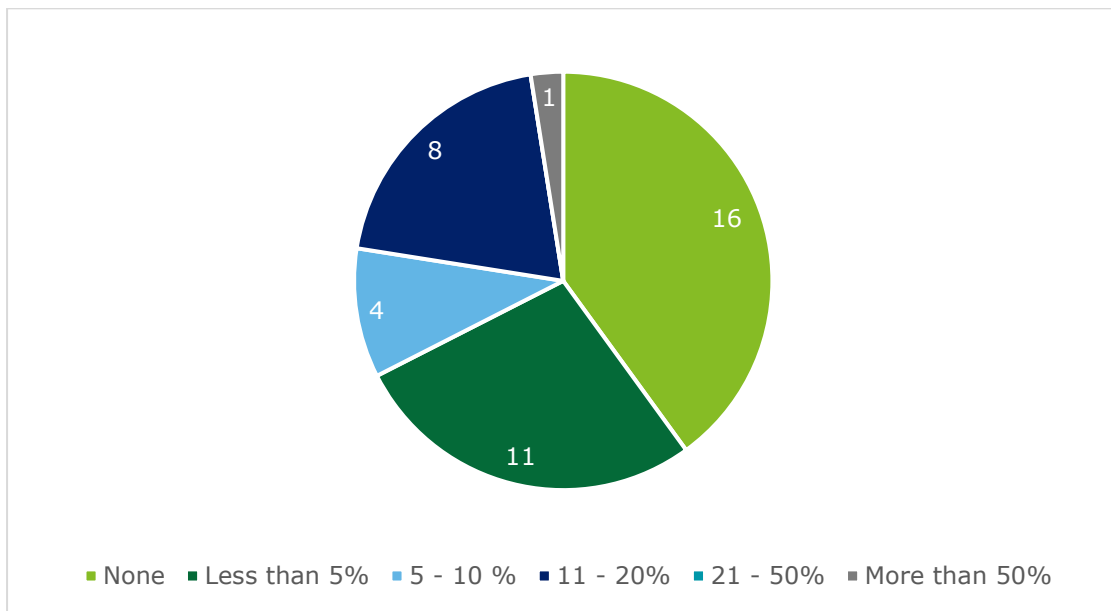


Figure 6 illustrates that even when EIT RawMaterials ceases its support, the majority of survey respondents felt that some portion of their companies’ revenue growth could be attributed to EIT RawMaterials; however, a larger proportion of respondents than the complete sample felt that the KIC’s contribution did nothing to increase revenue.

Figure 6. Estimation of Revenue and Profitability Growth of Ventures due to Support from EIT RawMaterials by Survey Respondents Who Received Support 1+ Years Ago



New jobs created in start-ups/scale-ups

Between 2016 and 2020, the KIC’s activities directly resulted in the creation or securing of 1046.5 jobs in the raw materials sector. This was an overall overperformance of the annual business plan targets which only targeted 401.5 jobs. In the original proposal and the strategic agendas of EIT RawMaterials, the KIC set the target of creating 10,000 jobs by 2022; however, it was unspecified whether this included indirect jobs as well as direct jobs. For the purpose of this assessment, the target set in the strategic agendas and original proposals has not been included. Moving forward, these targets should be more clearly defined so that the KIC’s performance can be accurately assessed. Nevertheless, the 1046.5 direct jobs created in the raw materials sector does not include indirect jobs created in ventures supported, jobs created within partner organisations as a result of EIT RawMaterials funding for work on KAVA and KCA projects, or downstream

jobs created in industrial sectors that rely on the raw materials sector, which are all influenced by the KIC’s activities.

Table 5. Creating or Securing Jobs KPI, 2016 - 2020

Creating / securing jobs	2017	2018	2019	2020	Total
Target	137	117.5	50	97	401.5
Achieved	584	33	303.5	126	1046.5

Impact on employment growth as a result of company being engaged with KICs

A number of respondents from the ventures supported survey reported jobs being created in their organisation as a result of engagement with EIT RawMaterials. The total sum of the jobs reported is included in Table 6 below. The data indicates that the KIC has had a notable positive effect on job retention, especially on indirect jobs created.

Table 6. Number of jobs in existing businesses in KIC sector sustained through innovations

Impact of EIT RawMaterials on Jobs	Total
Indirect jobs created	418
Jobs sustained	148
Direct jobs created	134

and type of jobs in existing businesses in KIC sector sustained through innovations

As seen above, EIT RawMaterials did have an effect on its partners’ employment. Unfortunately, while the general trend seemed to be that the KIC had a perceptible effect on jobs in the broader raw materials sector, it cannot be said to what extent these were sustained through innovations. The KIC has not maintained records that can be disaggregated between jobs sustained through start-ups or jobs sustained through innovation activities. The staff hired on by partners as a result of EIT funding to work on KAVAs and KCAs is also not monitored, which was confirmed through the interviews. Additionally, 33 respondents reported in the ventures survey some of the jobs saved or sustained were new job types, meaning they were emerging, innovation or adapted job profiles. Some of these job types include fly ash specialists, secondary raw nanomaterials developers, and process improvement researchers.

and type of skill gaps and/or skill shortages filled by KIC sector

As illustrated by the data in the tables below, it is clear that many skills gaps have been filled thanks to EIT RawMaterials. Table 7 shows responses from the ventures survey on the skills gaps or skills shortages addressed as a result of EIT RawMaterials engagement through the new job types described above. The skills shortages most highly addressed relate to broadly applicable skills, rather than sector-specific skills. However, material processing, sustainability practices, and turning waste into a standardised product were common skills shortages addressed.

Table 7. Skills Gaps Filled as a Result of New Job Type Creation, Survey Responses

Skills gaps filled as a result of EIT RawMaterials engagement	# Of Respondents
Analytical and critical thinking skills	15
Communication, collaboration and creativity	8
Management skills (programme / project / people management, etc.)	8

Skills gaps filled as a result of EIT RawMaterials engagement	# Of Respondents
Working with computers / IT skills (enterprise software, programming, database administration, etc.)	8
Material processing	8
Sustainability practices (incl. Environmental / social due diligence, life cycle and impact assessment expertise)	7
Turning waste into a standardised product	7
Applications of chemistry in creating second-life raw materials	5
Mining methods (incl. Knowledge of mining techniques, equipment and systems, as well as services such as dewatering, ventilation, and power supply)	4
Mineral processing	3
Applied geology and geomechanics (incl. Knowledge of exploration, mine feasibility studies, and mine design)	3
Language skills and knowledge	1
Other	1

Table 8 shows responses from the students and graduates survey regarding the skills gained as a result of their EIT RawMaterials educational or training programme. As described in Section 7.1.4., the majority of skills gained are broadly applicable skills, rather than sector-specific skills. In order to ensure the graduates of EIT-labelled and non-labelled education programmes are prepared to address the societal challenges that face the raw materials sector, it should be ensured that the relevant sector-specific skills are covered.

Table 8. Acquired skills and competences as a result of EIT RawMaterials training / educational programme?

Skills gained	# Of Respondents
Intercultural skills and competencies	30
Sustainability practices (incl. environmental / social due diligence, life cycle and impact assessment expertise)	30
Innovation skills and competencies	24
Making value judgments and sustainability competencies	22
Entrepreneurship skills and competencies	21
Creativity skills and competencies	20
Material processing	19
Language skills and knowledge	16
Mineral processing	16
Applications of chemistry in creating second-life raw materials	13
Leadership skills and competencies	12
Working with computers / IT skills (enterprise software, programming, database administration, etc.)	11
Applied geology and geomechanics (incl. knowledge of exploration, mine feasibility studies, and mine design)	11
Turning waste into a standardised product	11
Mining methods (incl. knowledge of mining techniques, equipment and systems, as well as services such as dewatering, ventilation, and power supply)	8

KIC's Union Added Value and Relevance with Regard to the Objectives of the EIT



5.1.5. All KIC's activities have been fully aligned with and relevant to the EIT objectives as defined in EIT legislative framework.

The original legislative objective outlined in the 2008 EIT Regulation was defined as follows¹⁶: "The EIT's objective is to contribute to sustainable European economic growth and competitiveness by reinforcing the innovation capacity of the Member States and the Community. It shall do this by promoting and integrating higher education, research and innovation of the highest standards." This objective was engrained in the overall mission of the EIT and enriched by a specific objective for the time period 2014 – 2020 in the EIT Regulation from 2013. Additionally, the EIT adopts the Horizon2020 overall objective of "contributing to building an economy based on knowledge and innovation across the whole Union by leveraging sufficient additional research, development and innovation funding" reinforced by three priorities "a) excellent science; b) industrial leadership; c) societal challenges."¹⁷ These general objectives are encompassed by the specific objectives of:

- integrating the knowledge triangle of research, innovation and education and thus to reinforce the Union's innovation capacity and address societal challenges¹⁸;
- responding to the priority of "Societal challenges"¹⁹;
- fostering "Leadership in enabling and industrial technologies"²⁰.

The Regulation outlines the basic rationale behind the EIT as integrating education and entrepreneurship with research and innovation and following the business logic and a result-oriented approach. As stated in the Regulation "EIT should (further) foster entrepreneurship in its higher education, research and innovation activities. In particular, it should promote excellent entrepreneurial education and support the creation of start-ups and spin-offs"²¹.

The activities and goals outlined in the strategic agendas of EIT RawMaterials are well aligned with EIT objectives, and the KIC's activities are largely in line with what has been outlined there. As the EIT was created to target Union objectives, many of the EIT-specific objectives outlined in the EIT legislative framework are similar to those described in Sections 5.1.1. and 5.1.2. above. For the EIT objective of contributing to economic growth and reinforcing innovation capacity, EIT RawMaterials supports entrepreneurs and innovators in developing products or processes and bringing them to the market. Specifically, the KIC's Jumpstarter, Accelerator, and Booster activities contribute towards this objective. The KIC is on track to reach the multi-annual target for the number of products or processes launched on the market and has far surpassed the multi-annual target for level of investment attracted by start-ups supported by the KIC, as shown in Table 3. Regarding promoting higher education, research and industry to the highest standards, the integration of the knowledge triangle facilitates a continuous dialogue that allows for coordination across the sector, greater efficiency, and better designed final products that are well-suited to the markets specific needs. To aid this integration, the KIC has created their Lighthouses programme. The three Lighthouses each represent a specific sectoral issue that partners on all sides of the knowledge triangle contribute towards solving. Additionally, expert forums and minimum requirements for KTI in KAVA calls both contribute further towards this objective. Further detail on these activities is outlined in Chapter 7. Lastly, regarding responding to the priority of societal challenges, all of the activities of EIT RawMaterials must be in line with the strategic objectives of the KIC, which each work towards providing solutions to the KIC's societal challenge. As shown in Table 4, EIT RawMaterials has met most of its targets

¹⁶ Partially verified by EIT through grant report assessments. 74 have been verified by EIT; however, the 83 reported in 2020 were not yet verified at the time of this report.

¹⁷ 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, Accessed on January 13th, 2022. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013R1291>

¹⁸ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Horizon 2020 - The Framework Programme for Research and Innovation, Accessed on January 13th, 2022. Available at: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0808:FIN:en:PDF>

¹⁹ REGULATION (EU) No 1291/2013

²⁰ Ibidem.

²¹ 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, Accessed on January 13th, 2022. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013R1291>

related to addressing societal challenges; however, not all KIC specific KPIs could be assessed due to these KPIs being highly inconsistent.

While EIT RawMaterials activities are well aligned in aiming towards these objectives, not all relevant targets have been successfully reached. Specifically, regarding the objective of promoting higher education, research and innovation to the highest standards, there is still room for improvement. Responses from the graduate survey pointed out weaknesses in the quality of the education provided. Due to the need for the program to meet the academic requirements of a number of different universities, the resulting programme felt incoherent and compromised. Alongside external rankings of EIT-labelled higher education programmes, it is clear there is still room for improvement in ensuring the education provided through EIT RawMaterials meets the highest standards. As shown in Table 3, the multi-annual targets for graduate of EIT-labelled Master and PhD programmes as well as the number of start-ups created by students and graduates are not on track to be met. Lastly, there is still a need to strengthen the innovative capacity of EIT RIS eligible countries and regions, with further details in Chapter 11.

Moving forward, the EIT legislation implemented in 2021 maintains the same objectives for the EIT, calling on the creation of additional synergies with EU objectives, including achieving the goals set out in the 2030 Agenda, UN SDGs, and Paris Agreement. Discussed further in Chapter 12, the synergies currently maintained by EIT RawMaterials are on track towards these objectives. Additionally, the recently established Cross-KIC HEI Initiative led by EIT RawMaterials plans to further strengthen the innovative and entrepreneurial capacities of higher education institutions.

Achievement of KIC's Objectives

5.1.6. A KIC has fully achieved its 7-year Strategic Agenda objectives and expected results in line with its initial strategic objectives. Any deviation from the Strategic Agenda has been justified, approved by the EIT and has led to maximizing impact.

The three primary strategic objectives of EIT RawMaterials are:

1. Securing raw materials supply within Europe by strengthening and shortening raw materials supply chains and enabling sustainable new extraction of secondary raw materials
2. Designing materials solutions by accelerating and upscaling the design and production of advanced and engineered materials
3. Closing materials loops by developing new designs and methodologies for material flow analysis, life-cycle assessment, and improving resources efficiency for a more circular economy.

EIT RawMaterials activities have been assessed as being largely in line with these objectives over the years both in past monitoring activities and through this assessment. There is a good balance of KAVA activities along the raw materials value chain and the six knowledge and innovation themes. These objectives have remained consistent across all strategic agendas; where changes in strategy and details have been made, these have been approved by EIT and were made with the intention of maximizing impact.

EIT RawMaterials has maintained consistency in its objectives; however, the results achieved are not always in line with what was expected and there have been regular changes over the years in KIC Specific KPIs. As shown in the tables included throughout this chapter, a number of multi-annual KPI targets are not on track to be met by the end of 2022. Additionally, the KPI targets set in the annual business plans occasionally deviate from targets set in strategic agendas. For example, the target for the number of start-ups created by students and graduates was set at 25 in the 2018 – 2022 Strategic Agenda, but only 2 have been targeted between the 2017 – 2020 annual business plans. While, this is usually a positive deviation, the level of ambition displayed in the KIC's yearly business plans should continue to be reviewed. Lastly, there was not always sufficient detail in the business plans on how individual KAVAs and output KPIs connected to the strategic objectives of the KIC. Throughout the first seven years, EIT RawMaterials received regular feedback that KPIs, monitoring strategies and targets failed to create measurable benchmarks to assess progress toward achieving strategic goals. While this has been solved through the new EIT Impact Framework and the KIC's 2021-2027 Strategic Agenda, this makes it difficult to assess the impact the EIT RawMaterials has had over the original 7-year period.

EIT RawMaterials has consistently worked to address feedback given in grant report assessments and regular monitoring activities, which can be seen throughout the 2021-2027 Strategic Agenda. The updated 2021-2027 Strategic Agenda established new sets of KPIs, impact target and annual KPIs. The impact targets are focused on the influence EIT RawMaterials activities have on the broader raw materials sector and solving societal challenges. Each target included here is explicitly linked to one or more of the three strategic objectives. A number of these targets show a higher level of ambition towards solving societal challenges. As long as these targets are routinely monitored as described in the Strategic Agenda, the impact of EIT RawMaterials can be regularly assessed.

5.1.7. [The KIC has achieved its objectives and respective targets as stated in its original proposal and Strategic Agenda in relation to the societal challenge.](#)

EIT RawMaterials has made measurable progress towards achieving the objectives and targets stated in its strategic agendas relating to the societal challenge. There are a number of success stories in each category of KAVAs that are bringing sector-changing innovations to the market and contributing to more sustainable use of raw materials and a greener economy. Examples of success stories are included in Table 9 below. The KIC has overperformed in taking previously unused waste streams into use to recover raw materials, reducing waste containing critical raw materials reaching the landfill, and creating sustainable best available technologies (BAT).

Overall, the connection between the strategic objectives and respective targets has been unclear. There are KPIs from the 2016 and 2018 strategic agendas that are related to the societal challenge, but for the majority, there is not a clear and direct connection, as also described in past monitoring reports. The most relevant KPIs have been included in the table below to outline an approximation of the impact KIC activities have had so far on addressing the societal challenges faced by the raw materials sector. Both the success stories and values for related activities have been provided by the KIC through interviews and feedback.

Table 9. Progress towards strategic objectives across KIC activities

Related Activities	KIC Specific KPIs	KAVA Success Stories
Securing Raw Materials Supply		
118 start-ups supported	New primary / secondary sources of CRM in the EU: 1	<ul style="list-style-type: none"> • ERAMET • Keliber • MetalsHub • Talpasolutions • RoStar • InnoLog • MUSEDRO
40 Upscaling projects supported	Number of reported and proven substitution cases: 32	
Closing Materials Loops		
74 start-ups supported	Previously unused waste streams or deposits taken into use to recover critical or valuable raw materials: 34	<ul style="list-style-type: none"> • Particular Materials • Purified Metal Company • Circularise • RedScope
14 Upscaling projects supported	Ideas-into-market to reduce waste containing CRM to landfill: 104	
Designing Smarter Solutions		
96 start-ups supported	Products or processes launched on the market: 175*	<ul style="list-style-type: none"> • NITREM • Fairphone • Magneti Lubjliana • REIN4CED • MONICALC • RACE TP
54 Upscaling projects supported	New or improved products with reduced toxic material: 30	



	Sustainable BAT's accepted or in progress: 19	• TAPA
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*EIT Core KPI's are validated by the EIT through annual grant report assessments.

Responses from the supported ventures survey show that for each of EIT RawMaterials' strategic objectives, the majority of start-ups or scale-ups feel their activities are impactful on the achievement of these objectives rather than minimally impactful or having no impact at all. The responses varied depending on the objective, as not many ventures can focus on all three simultaneously. Over half of the respondents felt either very impactful or extremely impactful in at least one of the strategic objective categories, as shown in Table 10, which speaks to the high relevance overall of their activities to provided solutions to the KIC's societal challenge.

Figure 7. Responses to 'In your opinion, to what extent have the activities of your company contributed to the achievement of EIT RawMaterials objectives?'

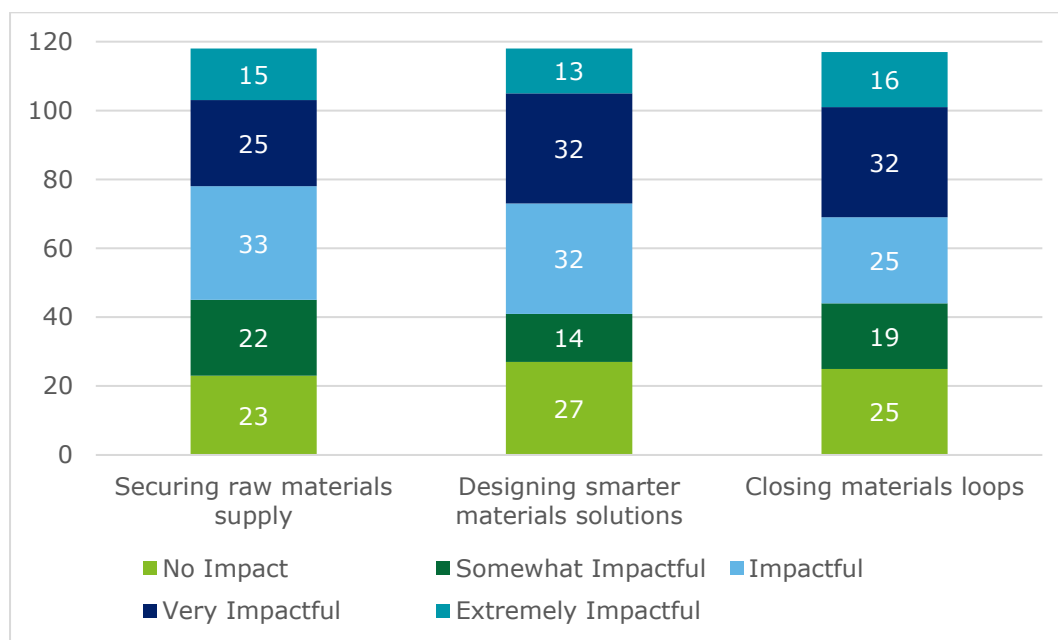


Table 10. Highest perceived level of impact for each respondent in the start-up and scale-ups survey

Perceived Level of Impact	Number of Respondents
No impact	8
Somewhat impactful	13
Impactful	35
Very Impactful	43
Extremely Impactful	24

5.1.8. KPI targets defined in the KIC original proposal, Strategic Agenda and Business Plans achieved.

Based on the expert assessments of the achievement of business plan targets, the success of the KIC varies greatly from indicator to indicator and year to year. Specific KPIs can be found throughout this chapter as well as the subject-specific chapters throughout the report. EIT RawMaterials' overall performance on EIT Core KPIs is shown in Table 11 below. The targets are assessed against different values because the multi-annual targets set in the 2018 – 2022 Strategic Agenda applied only to the years 2019 - 2022, rather than

the complete period of 2016 – 2022. The KIC has achieved both its annual targets and the 2022 target for the level of investment attracted by start-ups, as well as the annual targets for the number of start-ups supported by the KIC. While the multi-annual targets for external participants in RIS programmes, the number of start-ups supported, and the products and processes launched on the market have not been achieved yet, these values only include what was reported in 2019 and 2020, so the KIC is still on track to achieve these targets by the end of 2022. As for graduates from EIT labelled programmes, the number of start-ups created by students and graduates and the number of start-ups created as a result of innovation projects, the KIC has underperformed on its multi-annual targets set in the 2018 – 2022 Strategic Agenda. While the Cross-KIC HEI Initiative is expected to increase the innovation capacities of universities, leading to more start-ups being created by students and graduates, more needs to be done by the KIC to increase the number of graduates from EIT-labelled programmes and the number of start-ups created as a result of innovation projects.

Table 11. EIT Core KPIs*

<i>EIT Core KPIs – Verified Annually by the EIT</i>				
KPI	Achieved 2016 – 2020	Target 2016 – 2020 (BPs)	Achieved 2019 – 2020	Target 2019 – 2022 (SA)
# Graduates from EIT labelled MSc and PhD programmes	156	327	133	471
# Start-ups created by students enrolled and graduates from EIT labelled MSc and PhD programmes	4	2	4	25
# Products (goods or services) or processes launched on the market	175	246	118	192
# Start-ups created as a result of innovation projects	12	21	8	46
# Start-ups supported by KICs	299	323	218	275
Investment attracted by start-ups supported by KICs	156.6 MEUR	36 MEUR	30.8 MEUR	15.5 MEUR
# External participants in EIT RIS programmes	1875	2339	1730	3200

* The values included in the achieved column are the sum based on EIT RawMaterials’ annual grant report assessments. The values included in the 2020 / 2016 - 2020 target columns are the aggregated targets from the KIC’s annual business plans from the years specified. The values included in the 2022 / 2019 - 2022 target column are taken from the 2018-2022 Strategic Agenda.

Overall, the KPI monitoring structure used by EIT RawMaterials is highly convoluted. The platform that is used to host business plans and grant reports, DUNA, wrongly aggregates the KIC specific KPIs (e.g., KICN01-11 Improve gender balance in the RM sector) containing percentage values by adding them up thus these aggregated values cannot be readily used for analysis. Deeper insight in such data requires manual processing of the reported information, thus these indicators are only being used to assess KAVA specific performance. Therefore, these aggregated percentage values have not been taken into consideration for this assessment. Additionally, the EIT has implemented a new Impact Framework that expects to solve this issue. KIC specific KPIs had a number of additional issues. The specific identification codes of KIC specific KPIs change year-to-year, despite the KPI itself being unchanged, which added an additional barrier to easily tracking progress over time. Following the 2018-2022 Strategic Agenda, the way a number of KIC specific KPIs were defined or measured changed, which resulted in disjunct yearly measurements for the same indicator. This was the case for the indicator measuring improved industrial competitiveness, which could not be included in this assessment because the characteristics of the KPI changed so often, any aggregation was meaningless. Additionally, new KPIs were introduced while others were discontinued, which resulted in the appearance of many strategic agenda targets not being met, including the number of new primary or



secondary sources of critical raw materials within the EU. It is important that KPIs are accurate in measurement and purposeful for the uses of the organisation, but in order to be useful to track progress and long-term impact, they have to be defined and measured consistently over time. The KPIs defined in the 2021-2027 Strategic Agenda should not be changed unless absolutely necessary.

Lastly, through interviews conducted for this assessment, there was feedback given that some of the KPIs chosen for specific KAVAs were not fit to measure the true value of the project. In the example provided, the way of measuring the level of innovation did not fit the project at all and the KAVA was assessed as underperforming, despite it being a highly valuable project. It is recommended to work with KAVA partners to define which KPIs best assess a given innovation or venture in order to ensure that the value of specific innovations is accurately measured, beyond the specific goals of EIT RawMaterials. This would contribute to improve relationships with partners as well as ensuring the KPIs the KIC monitors are relevant to the broader sector.

KIC’s Capacity to Ensure Openness to New Members

5.1.9. Partnership size, growth, composition and performance are adequate for achieving the long-term objectives of the KIC Strategic Agenda.

The partnership size, growth, composition and performance are more than adequate for achieving the long-term objectives of the KIC Strategic Agenda. EIT RawMaterials has cultivated what is most likely the largest raw materials network in the world. This partnership has consistently grown year-by-year. Recent changes allow for an additional partnership category for non-paying members involved in KAVA projects. These partners can pay for additional EIT RawMaterials service on an ad-hoc basis.

The partnership has been consistently well balanced across the knowledge triangle and across the raw materials value chain. It is viewed by partners and KIC staff alike as largely effective in achieving objectives and creating new ecosystems of collaboration. In the survey for start-ups and scale-ups supported by EIT RawMaterials, the majority of respondents viewed the collaborations they had as a result of their engagement with EIT RawMaterials as either very effective or extremely effective. In order to sustain the current partnership size and composition, the KIC will have to do more to communicate the value of membership to current partners and avoid additional retroactive changes to partnership contracts. This is discussed further in Section 7.1.5.

Figure 8. EIT RawMaterials Partnership Knowledge Triangle Distribution

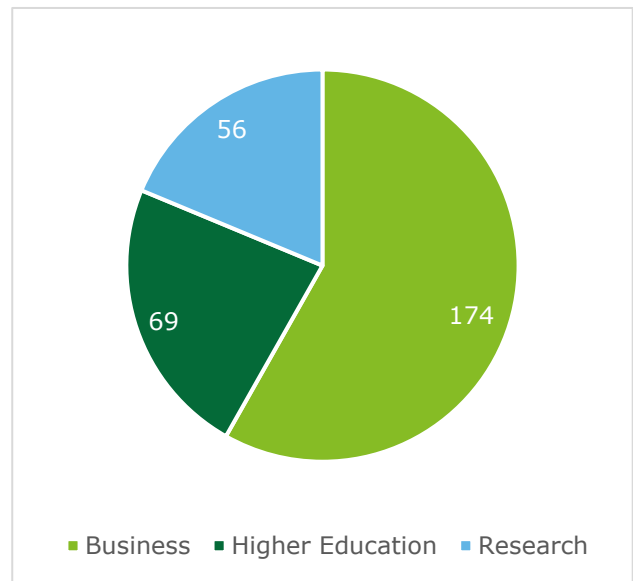


Table 12. Survey Responses of Start-ups and Scale-ups on Views on Effectiveness of Collaborations

Views on effectiveness of collaborations	# Of Respondents
Extremely effective	17
Very effective	41
Effective	38
Somewhat effective	17
Not effective	4

5.1.10. KIC's Calls for activities have been fully open to new members.

The EIT requires KIC calls for proposals to be fully open to new members and for proper justification in any potential limits on this requirement. Initial monitoring assessments identified weaknesses in this regard with EIT RawMaterials requiring all consortiums to consist of at least 2 – 3 existing EIT RawMaterials partners and placing limits on the funding non-partners can receive. However, the most recent calls (KAVA 8 and KAVA 9) have changed this requirement to make the calls more open to non-members. Non-members can now submit proposals, as long as they become members if their project is selected for funding.

In the 2021-2027 Strategic Agenda, the KIC outlines how it will maintain openness in future years. The partnership is based on clear and transparent accession criteria that are in the process of being published on their website. Additionally, events such as the RM Summit, which are publicly accessible, allow for those interested to develop a better understanding of how the KIC operates and establish contacts with existing partners.

5.1.11. KIC has fully addressed the EIT Good Governance Principles (GGP) – based on relevant GGP assessments related to openness to new members.

As mentioned, early monitoring assessments identified weaknesses in the level of openness EIT RawMaterials maintained for non-members in their calls for proposals; however, by 2020, this was assessed positively. Additionally, EIT RawMaterials' entry and exit rules for members and potential members are published and provided by the KIC, as is reported in the relevant Good Governance Principles assessments.

There have been recent recommendations to improve upon and maintain this openness principle. EIT RawMaterials should collect information on the openness and diversity of KIC activities and disseminate this information through the various channels, highlighting the potential of societal impact in these projects. Second, as the membership model is adjusted, it is important that this openness is maintained and made explicit throughout the process.

Openness and Transparency

EIT RawMaterials has a number of processes to ensure openness and transparency throughout its activities. For transparency, there were delays in implementing fully transparency processes as EIT RawMaterials built up its management structure, but the KIC has been evaluated positively in recent years. In 2017, monitoring reports called on the KIC to implement further processes around both governance procedures and project procurement. Reports in 2018 acknowledged improvement on transparency in the selection of management teams in CLC's. There is also strong use of corporate communication strategies internally, with partners, and at a KAVA level. The KIC does well in ensuring changes in procedures are understood and accepted by staff and partners alike and has established feedback loops for both through regular staff and Steering Committee meetings. In project procurement, good governance principles assessments have positively assessed the indicator on the principles of transparency, equal treatment, non-discrimination and competition for procurement policies. Additionally, the calls for projects provide information regarding the theme of calls, specific evaluation and selection criteria, and which innovation and start-ups are supported.

5.1.12. Balanced representation of all key knowledge triangle players in the partnership.

The partnership has been consistently well balanced across the knowledge triangle, with very high industry involvement. The present distribution is shown above in Figure 8. Additionally, the partnership is well distributed across the raw materials value chain. Naturally, the commitment from partners is not equal, with some partners having minimal involvement or initiative in KAVAs and KCAs. A small number of highly involved partners are key, and they lead many of the most important KIC activities. The partnership is well distributed across the EU, including in numerous RIS eligible countries and regions. Although the KIC originally planned to incorporate international collaborations within their activities, there are minimal partners from outside of Horizon Europe associated countries. However, the creation of ERMA boosted the KIC's internationalisation strategy by bringing new international partners into EIT RawMaterials' network



and by creating new opportunities for third country collaborations, such as coordinating one of the work packages within the Building EU-Africa partnerships on sustainable raw materials value chains CSA.

KIC’s Achievements in Attracting New Members from Across the Union

5.1.13. Number of the EU Member States covered by the KIC partnership and representation of all the knowledge triangle players.

24 EU Member States have been covered by the EIT RawMaterials partnership over the course of the KIC’s lifespan. The Member States that have not been represented are Luxembourg, Cyprus, and Malta. Only 15 of these countries have had all sides of the knowledge triangle represented. The current partnership, as reported through EIT partnership data, covers 22 EU countries with Bulgaria, Cyprus, Czech Republic, Luxembourg and Malta not represented. 14 of these countries have complete knowledge triangle representation. The current knowledge triangle distribution across EU regions is shown in Table 13 below. Overall, the coverage of EU Member States and their knowledge triangle distribution has been good, but there is still room for improvement.

Table 13. Knowledge Triangle Distribution Across EU Regions

Region*	Industry	Education	Innovation	Total
Eastern Europe	18	10	10	38
Northern Europe	35	19	11	65
Southern Europe	42	11	14	67
Western Europe	68	24	19	111
Overall	163	64	54	281 [†]

*EU member states were grouped into regions based on the EuroVoc designations.

[†]These values were calculated based on the partnership data shared by the EIT. Partners were considered organisations with an Eligibility Status of either ‘Eligible’ or ‘Eligible*’ and an FPA Status of ‘Partner’.

5.1.14. Trend of new active partners over the 7-year period.

Following the 2018 change in partnership structure that created an additional partnership category for non-paying members, there was a jump in new partners, which is reflected in Table 14 below. There has been a minimal amount of partners leaving the EIT RawMaterials network, despite the KIC’s changes in previously agreed upon fee structures. The retroactive set-up of fees’ structure was considered one of the main challenges that the KIC faced during the past years, according to the interviews. While the partnership has been growing steadily over the years, its growth has plateaued since 2020. Incorporating additional outreach activities in international regions may increase the pool of potential EIT RawMaterials partners.

Table 14. Trend of Active Partners, 2016-2022

Year	2016	2017	2018	2019	2020	2021
Number of Partners Joining	215	39	170	126	50	64
Number of Partners Leaving	0	14	28	33	22	87

KIC’s Compliance with Good Governance Principles

5.1.15. KIC fully addresses the EIT Good Governance Principles (GGP) –based on the relevant GGP assessment.

EIT RawMaterials has consistently performed well on GGP assessments; most requirements have been consistently scored highly or have recently improved. None of the principles have received a low rating in

recent years, which shows the strong performance of EIT RawMaterials in this regard. The Good Governance Principles and their assessment over the years is included in the table below.

Table 15. Good Governance Principles Assessment

Code	Name	Assessment	Improvement Points
19.3.1.a.	The KIC LE and KIC Partners must have a governance structure that reflects the diversity in the composition of the partnership, in particular the balance within the knowledge triangle.	Consistently strong performance	
19.3.1.b.	The KIC LE and KIC Partners must have a governance structure that separates ownership/membership from operational management.	Consistently strong performance	
19.3.1.c.	The KIC LE and KIC Partners must have a governance structure that ensures an open and high-quality decision-making process, composed of top-management from KIC Partners' as well as independent high-level members.	Recent improvement, but still can improve further	Improve clarity on partner approval process of business plans.
19.3.1.d.	The KIC LE and KIC Partners must have a governance structure that separates the supervisory function from the operations and integrates a system of checks and balances, the body with supervisory function should have an independent chairperson.	Room for improvement	The latest GGP assessment available stated that the supervisory functions of the KIC should be clarified, which the KIC has since addressed.
19.3.1.e.	The KIC LE and KIC Partners must have a governance structure that has a size allowing to function in an effective and efficient way. The members of the governance structure must act in the best interest of the KIC, safeguarding its goals, mission and identity, in an independent way.	Consistently strong performance	
19.3.2.	The KIC LE and KIC Partners must have an effective operational structure ensuring that the KIC management has executive power to implement the integrated KIC Strategic Agenda and yearly KIC Business Plans.	Recent Improvement	
19.3.3.	The KIC LE and KIC Partners must have of code of good conduct including a policy on conflict of interests.	Recent improvement	
19.3.4	Procurement policy in place ensuring compliance with the main principles of transparency, equal treatment, non-discrimination and competition.	Consistently strong performance	
19.3.5	These principles shall be transposed in the KIC Internal Agreements.	Room for improvement	Include the relevant requirements in the Articles of Association and LLC management rules.



Code	Name	Assessment	Improvement Points
19.3.6.	The KIC LE will notify the EIT of the above arrangements, its code of conduct and any modifications thereof.	Consistently strong performance	

5.1.16. GB Strategic recommendations have been effectively addressed and fully implemented by the KIC.

Over the years, EIT RawMaterials has made steady progress towards addressing EIT Governing Board strategic recommendations, though some changes took longer to implement. The KIC has successfully addressed early recommendations regarding establishing synergies with EU objectives, providing greater support to start-ups, and implementing a strategy that focuses on critical raw materials substitution.

There have been a number of points that were consistently recommended throughout the years. The first example of this is the need for further connection between KPIs and the strategic objectives of the KIC. As outlined above, this has been addressed through the new KPIs introduced in the 2021-2027 Strategic Agenda. Another recommendation was to lower the number of individual KAVAs supported by the KIC to enhance quality assurance. As shown in GGP assessments and the interviews with KIC staff members, a mentality of quality over quantity has been adopted to ensure the projects that are financed are of the highest quality and with the best potential. The second recommendation was to increase the number of Cross-KIC initiatives to improve cost efficiency and develop best practices. The KIC has always met these activities at a satisfactory level. Lastly, enhancing communications activities to ensure EIT RawMaterials activities are reaching a broader audience has also been recommended throughout the years. The KIC has made progress in this regard and has particularly performed well in stakeholder engagement, and the activities of the KIC, particularly Wider Society Learning and Lifelong Learning KAVAs, do well in educating a large audience on raw materials related issues.

The most recent recommendations consisted of providing greater education opportunities for entrepreneurs, conducting governance reforms and improving the financial sustainability of the KIC. The education of entrepreneurs was achieved at a satisfactory level with the KIC leading in strategically important education initiatives. Governance reforms have also been worked towards with greater independence of executive board members and efforts in diversifying management. The financial sustainability strategy has been further developed in recent years, but concerns remain regarding whether EIT RawMaterials will achieve financial independence from the EIT. This is discussed at length in Chapter 6.

KIC’s Efforts and Results in Designing and Implementing Gender-Sensitive Measures and Activities

5.1.17. KICs have designed and implemented gender sensitive measures and activities.

Gender equality is a core value of the European Union, and it has been emphasised as a policy priority in recent years especially. In response to this, the EIT developed a gender mainstreaming policy, adopted in January 2020, in line with EU regulations and UN SDGs to address the underrepresentation of women in STEM. This policy applies to both EIT HQ and the KIC level. The key objectives are for gender-responsive content, maintaining a balanced activity portfolio, and a gender-balanced representation in staff and activities.

Female employees of EIT RawMaterials amount to 60% of its total employees, while the KIC has recently increased the minimum representation of women in the Executive Board. HR policies were also recently updated to ensure that throughout the hiring process the proportion of less represented groups is taken into consideration. The work policies of the KIC are also in line with the EIT gender mainstreaming policy to ensure there is enough flexibility to accommodate those with family and other needs. The policies and activities of EIT RawMaterials are viewed positively by partners, start-ups and graduates. In addition to policies, the KIC supports a number of activities that address the lack of women in the raw materials sector. The communications department takes advantage of large events, such as International Women’s Day, to



disseminate profiles of female innovators and staff that aim to raise awareness amongst girls on the work that can be done in this sector. There are also a couple of KAVAs, ENGIE and GirlsGoCircular, that adopt a long-term focus with the goal to encourage a new generation of young women and girls to join related sectors.

Given that the raw materials sector is traditionally viewed as a masculine sector, there remains significant work to be done in achieving gender balance. While women make up 60% of EIT RawMaterials staff, they are not well represented in management positions, the supervisory board or the Executive Board. Additionally, the sole KPI designed to assess progress towards achieving gender balance has not been regularly monitored, as discussed in Section 5.1.2., due to inconsistencies in reporting and faulty aggregation in the monitoring tool DUNA.

Moving forward, EIT RawMaterials has set the objective of reaching gender parity amongst graduates of EIT-labelled courses by 2027. Policies and procedures have been put in place in recent years to encourage more women to join the sector, and gender balance throughout the organisation should continue to be pursued.

5.1.18. Positive expert’s assessment of the outputs and results delivered by these activities.

There have not been any specific assessments of EIT RawMaterials on the results of their gender mainstreaming activities by an expert on the subject; however, regular EIT monitoring activities have provided comments and recommendations in this regard. Over the years, the EIT has provided mixed feedback to the KIC regarding gender mainstreaming and has consistently been pushing to increase efforts to diversify the organisation. Most recently, they have noted insufficient references to gender diversity challenges, as well as not enough activities encouraging female participation in business plans and grant reports. Nevertheless, the relevant EIT assessments have acknowledged the context of the sector and that EIT RawMaterials faces an uphill battle in diversifying a historically male-dominated sector.

5.2 Financial framework and budget

Management activities are funded as individual KAVA projects, just like the activities outlined in the upcoming chapters, and as such, they are funded through a designated annual budget allocation approved by the EIT for EIT RawMaterials. EIT RawMaterials has remained compliant with EIT requirements for percentage caps for the amount of EIT funding that can go towards management costs, discussed further in Chapter 6. The evolution of the annual budget can be seen below.

Table 16. Management Budget, 2017 - 2020

Activity Category	2017	2018	2019	2020
Management and Coordination*	€ 8,695,355.94	€ 6,894,895.94	€ 7,215,517.37	€ 7,482,707.81

*As reported through EIT monitoring data.

5.3 Strengths, weaknesses, and recommendations

Strengths
The consistent alignment of EIT RawMaterials activities around the strategic objectives and knowledge and innovation themes ensure that all KAVAs and services are contributing towards solving the societal challenge the KIC was created for.
Strong performance in some KPIs, including new key enabling technology innovation applied or in progress, applied substitution cases, sustainable best available technologies accepted or in progress,

Strengths
previously unused waste streams taken into use to recover raw materials, reducing waste containing raw materials to landfill, and the percentage of female graduates from EIT-labelled programmes.
KAVAs ENGIE and GirlsGoCircular encourage a new generation of girls to pursue a career in the raw materials sector.
Compact, well-designed, well-structured governance structure.
Strong internal communication strategies that contribute to decision-making transparency and partner awareness.
The KIC's strategic objectives are in line with global and Union objectives.
KAVA proposals are evaluated for their alignment with UN Sustainable Development Goals.
The creation of the European Raw Materials Alliance (ERMA) and the KIC being tasked with running ERMA is expected to lead to an increase in the services EIT RawMaterials can provide and has broadened the network that the KIC has access to.
There is a strong balance of KAVAs along the raw materials value chain and the six knowledge and innovation themes.
EIT RawMaterials typically does well in implementing the recommendations put forth by the EIT through monitoring and assessments.
The partnership of EIT RawMaterials is well balanced across the knowledge triangle and along the raw materials value chain, it grows consistently year-by-year, and it is viewed as largely effective in achieving objectives.
The 2021-2027 Strategic Agenda addressed a number of longstanding recommendations, including explicitly linking KPIs to the strategic objectives of the KIC and incorporating stronger ambition in the targets set for the individual KPIs.

Weaknesses	Recommendations
It is not possible to assess the precise impact that EIT RawMaterials has had on the KIC's objectives based on the KPI and monitoring systems that were in place.	<p>The KIC's 2021-2027 Strategic Agenda and the EIT's new Impact Framework have created a strong basis to address this moving forward. Continue to ensure that values are reported by partners accurately.</p> <p>Continuously monitor graduates of EIT-labelled and non-labelled programmes, as well as ventures supported by EIT RawMaterials through regular surveys to assess the medium- and long-term impact of EIT RawMaterials support.</p>
Progress towards improving the percentage of female graduates from EIT-labelled programmes was not assessed, despite it being one of the KIC's societal impact indicators.	<p>Ensure understanding across partners of how the KPI is to be reported.</p> <p>For KIC Specific KPIs, ensure the monitoring system used by the KIC can easily and accurately aggregate the KPI values reported through KAVAs.</p>

Weaknesses	Recommendations
<p>The KIC Specific KPIs changed every two years, which undermines the ability to track progress over time.</p>	<p>Although both the KIC and the EIT have introduced new monitoring systems, through the KIC’s 2021-2027 Strategic Agenda and the EIT’s Impact Framework, respectively, they do not guarantee KPIs will not be changed in the future. It is recommended to raise the threshold for when it is worth changing KPIs. This should not be done as often as it has been. If it absolutely must be done, then consider maintaining the old KPIs and adding new KPIs in addition so that long-term trends can still be assessed. What may seem like minor changes in definitions, whether the indicator is reported as a percentage or absolute value, or changing the identification code of the KPI all undermine the ability to assess long-term trends. These small changes should be avoided because in the vast majority of cases there is no net added benefit.</p>
<p>Weak performance in some KPIs, including the number of graduates of EIT-labelled Master and PhD programmes, the number of start-ups created by students and graduates from EIT-labelled programmes, and the number of start-ups created as a result of innovation projects.</p>	<p>During preparation of business plans and grant reports, assess whether the proposed targets are on track to reach long-term target.</p> <p>Where possible, use KAVA calls to ensure the KIC’s portfolio includes projects that will contribute to the achievement of long-term targets.</p> <p>When defining new multi-year targets, make sure they are realistic and validated by external experts at the time of definition.</p>
<p>Women are poorly represented in management positions, the supervisory board and Executive Board.</p>	<p>Ensure targets are set to increase gender balance at each level of the organisation, rather than just at an aggregated level.</p>
<p>Target values for KPIs set in the annual business plans do always not line up with those set in the strategic agendas, and for some, these targets become less ambitious. However, for the most part the targets become more ambitious.</p>	<p>Multi-annual targets set in the strategic agenda should be ambitious but realistic to ensure that significant progress can be made towards these goals each year.</p> <p>Business plans should be routinely assessed regarding their level of ambition and whether KPI targets are aligned with those set in the strategic agenda.</p>
<p>Feedback provided in the interviews conducted for this assessment highlighted that the KPIs assigned to specific KAVA projects are not always well aligned with the goals of the project and the project’s strengths.</p>	<p>Work with consortia to define which KPIs best assess a given innovation or venture in order to ensure that the value of specific innovations is accurately measured, beyond the specific goals of EIT RawMaterials. This would contribute to improve relationships with partners as well as ensuring the KPIs the KIC monitors are relevant to the broader sector.</p>
<p>The KIC’s internal agreements do not follow the Good Governance Principle of including mention of the KIC’s principles.</p>	<p>Include all elements required in the Articles of Association and LLC management rules, including the responsibilities of an Executive Board and the independence requirements of board members.</p>



Weaknesses	Recommendations
	Revise the management agreement between the KIC LE and CLCs to strengthen the position of the KIC LE over the CLCs.
The process of selecting the supervisory board members is not fully transparent.	Make all calls for supervisory board members public.

6. KIC Funding, Financial Sustainability & Business Models

All KICs begin with the same funding structure and the requirement to become financially sustainable by the end of the fifteen-year funding agreement. This funding structure follows a set pattern: start-up phase, ramp-up, maturity, and exit. The EIT expects to provide the majority of funding through the maturity stage, progressively decreasing from the maturity phase until the final exit from the EIT grant. As EIT funding decreases, the KIC’s own revenue sources are expected to progressively increase to make up this difference.

In order to ensure that the KICs reach financial sustainability before their final exit from the EIT grant, the EIT has established a financial sustainability strategy consisting of specific benchmarks and process requirements to guide the KICs towards this goal. This strategy, outlined in Decision 13/2021 of the Governing Board of the EIT On the Principles on the Financial Sustainability of the KICs, requires:

- Clear plans and targets to make all knowledge-triangle integration activities sustainable without EIT financing
- Diversification of revenue and investment sources
- Development and monitoring of revenue, asset, and cost targets, adjusting periodically as required
- Inclusion of a specific financial sustainability criterion in all calls launched by a KIC
- Creation of clear commercialisation strategies for each innovation activity to ensure financial returns that contribute towards the KIC’s financial sustainability.

The EIT regularly monitors the KIC’s progress towards achieving financial sustainability. In this regard, the EIT assesses the percentage of the KIC’s total budget made up by EIT funding, the revenues of the KIC, the ratio of KIC-generated funding to EIT funding, and qualitative assessments of the KIC’s financial activities in their monitoring of the KIC’s progress towards financial independence from the EIT. The financial sustainability of a KIC is one of the most important aspects of the 7-year assessment.

Assessment Criteria	Relevant Indicators
KIC’s capacity to develop sustainable innovation ecosystems and the achieved level of financial sustainability OVERALL SCORE: 12/20	Effective Financial Sustainability Strategy, including Financial Sustainability mechanisms in place including diversified revenue sources and aligned with the original proposal and subsequent business plans/reports
	An adequate level of revenues from its activities is demonstrated and a plan for the management and exploitation of intellectual property and financial assets supporting the KIC’s business model is in place
	Financial Sustainability (FS): revenues of KIC LE, FS coefficient
	Budget consumption of KICs and management cost evolution
	Co-funding rates

6.1 Activities and results

Overview of Activities

The original business model of EIT RawMaterials, as described in the 2016-2022 Strategic Agenda, was based on private funding through membership fees, service fees, and success fees, public funding through regional, national and other public funding schemes, and handovers by handing over certain KIC activities towards the end of the EIT funding period to partners to diminish dependency on EIT fundings. The targets

set in this Strategic Agenda for their funding sources and financial activities are detailed in the Section 5.1.19. below.

The total budget of EIT RawMaterials was estimated at nearly EUR 2 billion for seven years, shown in Table 17 below, with the largest part of the budget allocated to up-scaling projects, reflecting the focus on deploying innovative solutions to the raw materials sector. The actual budget used by EIT RawMaterials was between 2016-2020 was EUR 1 billion, shown in Table 18, which is on track with the proposed spending for this time period. The largest part of the budget was allocated to innovation and research projects. An overview of the total budget for 2016-2022 is outlined in Section 6.2, with each chapter of the report including a discussion of the relevant budget and finances for the activities it concerns.

EIT RawMaterials outlined its original plans for funding sources in the KIC's 2016-2022 Strategic Agenda. This included the EIT grant, additional EU funding, national and regional funding, private funding, and partner contributions. The expected funding from each of these categories over the years is outlined below.

Table 17. EIT RawMaterials' Target Financial Sources, 2016-2022

KIC Financing (Thousand EUR)	2016	2017	2018	2019	2020	2021	2022	Total
EIT Grant	25,300	47,500	58,400	66,200	74,000	72,900	66,300	410,600
EU (non-EIT)	6,400	14,100	21,400	28,600	37,000	45,000	51,600	204,100
National / Regional Funding	11,200	26,400	42,400	58,500	77,100	98,800	119,900	434,300
Private Funding*	10,000	13,300	16,700	19,900	23,100	25,300	27,200	135,500
Partners' Own Sources[†]	29,400	62,900	85,100	108,000	134,600	155,700	174,700	750,400
Total Funding	82,300	164,200	224,000	281,200	345,800	397,700	439,700	1,934,900

* Private Funding consists of KAVA co-funding by partners and private sources.

[†] Partners Own Sources refers to KIC Complementary Activities.

The funding ultimately achieved by the KIC is not in line with the targets set above for each of the categories, with some receiving greater funding and others significantly underperforming. Table 18 outlines the achieved funding sources of EIT RawMaterials based on the EIT-assessed business plans and grant reports.

Table 18. EIT RawMaterials Achieved Financial Sources, 2016-2020

KIC Financing (Thousand EUR)	2016	2017	2018	2019	2020	Total
EIT Grant	16,844	32,282	50,957	75,030	94,401	269,515
EU (non-EIT)	0	15	143	322	294	775
National / Regional Funding	58	88	584	351	183	1,264
Private Funding	6,345	7,040	7,910	8,429	9,663	39,386
Partners' Own Sources	74,804	107,807	137,503	172,512	291,156	783,782
Total Funding	98,051	147,232	197,097	256,645	395,697	1,094,722

EIT RawMaterials' financial sustainability strategy has been a weak point since early on in the KIC's establishment. Low revenues from services and activities, reliance on membership fees, and failing to take advantage of additional revenue sources such as IP management or financial assets have been the main concerns cited in EIT monitoring reports and Governing Board assessments. These concerns are further outlined in the discussion of assessment criteria below.

Contribution to Societal Challenges

EIT RawMaterials’ budget allocated to societal-challenge related activities, calculated on the basis of the “RIO markers” methodology developed by OECD, is detailed in Table 19 below. In this methodology, expenditure related to activities where the primary objective is related to the designated societal challenge is counted at 100%. In activities where the societal challenge is significant, but not predominant, the expenditure is counted at 40%. All other activities are not counted as related to the given societal challenge.

Table 19. EIT RawMaterials Budget Towards Societal Challenges

RIO indicator	2017	2018	2019	2020	Total
Climate related activities	€ 413,735.80	€ 1,225,725.80	€ 3,180,790.20	€ 2,693,142.80	€ 7,513,394.60
Sustainability related activities	€ 3,860,508.00	€ 4,811,115.40	€ 11,541,813.80	€ 13,887,546.40	€ 34,100,983.60
Biodiversity related activities	€ 9,614.80	€ 6,287.20	€ 14,778.00	€ 1,441.20	€ 32,121.20
ICT Research & Innovation related activities	€ 2,272,394.80	€ 4,450,359.20	€ 5,991,653.40	€ 2,697,425.00	€ 15,411,832.40
Budget for KAVA	42 MEUR	63 MEUR	92 MEUR	118 MEUR	314 MEUR

As increasing sustainable practices in the raw materials sector is one of the primary objectives of EIT RawMaterials, it is not surprising that ‘sustainability related activities’ have had the largest budget allocation. As detailed above, EIT RawMaterials has used the majority of the budget on bringing new innovations and research to the raw materials sector. This contributes to their strategic objective to address societal challenges by transforming the raw materials sector into a more sustainable, ecological, and European-based sector. However, climate and biodiversity related activities received much smaller budgets in comparison.

5.1.19. Effective Financial Sustainability Strategy, including Financial Sustainability mechanisms in place including diversified revenue sources and alignment with the original proposal and subsequent business plans/reports

The EIT defines financial sustainability as the capacity of a KIC to finance its knowledge triangle activities independently of contributions from the EIT. Given the requirement of KICs to achieve this level of financial sustainability by the end of the fifteen-year funding period, the EIT has established a Financial Sustainability strategy that each KIC must adhere to. This includes the creation of a financial sustainability strategy with mechanisms in place, including diversified revenue sources and alignment with the original proposal and subsequent business plans. All EIT RawMaterials yearly Business Plans and Grant Reports have been assessed regarding progress towards financial sustainability by the EIT with the relevant recommendations being provided.

In the past two years, ensuring and strengthening the financial sustainability of the KIC has been a priority for EIT RawMaterials. As detailed by Table 18 below, the EIT funding of these activities currently makes up 24.6% of the EIT RawMaterials budget. The KIC has implemented new strategies through their 2021-2027 Strategic Agenda to decrease this reliance on EIT funding through membership fees, service fees, success fees and securing additional large funding sources. The primary revenue sources of EIT RawMaterials will be:

- EIT funding,
- Partner contributions, which includes partnership fees and project co-funding,

- Third party contributions, which includes public funding from other national, regional, or international bodies, back-flow from start-ups and up-scaling projects, and revenues generated through services provided.

The revenue targets set by EIT RawMaterials in the 2021-2027 Strategic Agenda are shown in Table 20 below.

Table 20. Overview of EIT RawMaterials Target Revenue, 2021-2027

KIC Forecast Revenues (MEUR)	2021	2022	2023	2024	2025	2026	2027	Total
EIT Grant	62.5	70.0	70.0	73.0	74.0	65.0	55.0	469.5
Alternative Funding Sources (Public and Private)	0.5	0.5	3.0	5.0	7.5	10.0	19.0	45.5
ROI & Equity	0.0	0.0	0.5	1.8	3.3	6.5	12.5	24.6
Partners Membership Fees	8.0	8.0	7.5	7.5	7.5	7.5	7.5	53.5
Education	0.1	0.1	0.3	0.4	0.5	0.5	0.6	2.6
Services & Consulting	0.2	0.4	1.2	1.7	2.5	3.4	4.4	13.8
Total Funding	71.3	79.0	82.5	89.4	95.3	92.9	99	609.4

In addition to the target revenues, EIT RawMaterials has introduced additional strategies to reach financial sustainability by the end of the EIT funding period. The KIC has introduced measures to monitor the KIC's progress towards financial sustainability on a quarterly basis to overcome this challenge and adjust as necessary. Additionally, the KIC has included financial sustainability mechanisms in both innovation and business portfolios that require projects to be monitored regularly towards progress on commercialisation strategies. The inclusion of an in-depth strategy and the creation of regular monitoring mechanisms has served as a good indication that the KIC will take the measures necessary to increase financial sustainability.

While the KIC has a strategy in place to achieve financial sustainability moving forward, it has not performed well in this regard in the past. The revenues targeted in the 2016-2022 Strategic Agenda, Table 17, have not been achieved between the years 2016-2020, as shown in Table 18. Table 21 outlines the alignment between the achieved financial activities, based on the EIT-assessed business plans and grant reports, with the original objectives set in the 2016-2022 Strategic Agenda. Although the achieved total funding is largely in line with its target, the achieved budget for four out of five of the individual categories are significantly misaligned. One of the main requirements in the EIT's financial sustainability strategy is the diversification of revenue sources. EIT RawMaterials' revenue has relied nearly exclusively on partners contributions through membership fees and co-funding, with very minimal revenue generated from their own activities or other sources. Specific activities that have the potential to be sources of revenue, such as education and innovation projects, have not been fully taken advantage of by the KIC.

Table 21. Difference between Planned Budget and Achieved Budget, 2016 - 2020

KIC Financing 2016-2020 (Thousand EUR)	Targeted	Achieved	Diff.	Diff. (%)
EIT Grant	271,400	269,514	-1,886	-0.69%
EU (non-EIT)	107,500	774	-106,726	-99.28%
National / Regional Funding	215,600	1,264	-214,336	-99.41%

KIC Financing 2016-2020 (Thousand EUR)	Targeted	Achieved	Diff.	Diff. (%)
Private Funding	83,000	39,387	-43,613	-52.55%
Partners' Own Sources	420,000	783,782	363,782	86.61%
Total Funding	1,097,500	1,094,722	-2,778	0.25%

This assessment concludes that over the course of EIT RawMaterials' operations, the KIC has underperformed in reaching its own financial sustainability targets and there is a need to improve efforts concerning the amounts raised in the short-term. However, the KIC's strategy has improved through the adoption of the 2021-2027 Strategic Agenda, which includes a comprehensive financial sustainability strategy with regular monitoring and increased efforts to diversify revenue sources. The KIC has until 2027 to become financially sustainable and their current efforts are contributing towards that.

5.1.20. An adequate level of revenues from its activities is demonstrated and a plan for the management and exploitation of intellectual property and financial assets supporting the KIC's business model is in place

The revenue of EIT RawMaterials between 2016-2020, as reported in the yearly EIT-assessed Grant Reports, is detailed in Table 22. The category 'Alternative Funding Sources' includes national and regional funding, EU-funding in the form of contracting services, private funding, IPR income, international donors and other sources.

Table 22. EIT RawMaterials' Revenue, 2016-2020

KIC Revenue (Thousand EUR)	2016	2017	2018	2019	2020	Total
ROI & Equity	0	0	0	0	0	0
Education	0	0	0	5.1	1.8	6.9
Services & Consulting	0	5.0	19.0	94.9	105.0	223.9
Membership Fees	6,270.0	7,040.0	7,910.0	8,429.2	9,662.5	39,311.7
Alternative Funding Sources	133.0	103.0	727.0	673.5	477.5	2,114.1
Total Revenue	6,403.0	7,148.0	8,656.0	9,202.7	10,246.9	41,656.7

As previously described, the biggest amount of revenues generated derives from high membership fees and only nominal amounts flow from services. The new strategies that have been developed during 2020 and 2021 have a direction towards achieving financial sustainability by 2027; however, assessments have characterised the current plans as inadequate to address this issue. The 2021-2027 Strategic Agenda introduced backflow schemes, which will contribute to the goal of the long-term financial sustainability. What needs to be developed further is the plan for short-term revenue increase.

Regarding intellectual property (IP), the KIC has received consistent feedback through annual monitoring that these activities need to be better addressed, and in the most recent years, some progress has been made. To begin with, the 2016-2022 Strategic Agenda foresaw management of IP as a revenue stream for KAVA funding; however, this was not yet been realised by the end of 2020. An updated IP model has been recently finalised and shared with the EIT through recent business plans. The KIC does own its own IP, including the European Raw Materials Association brand and RM Summit, and it is considering establishing RM Academy as IP as well. KIC management stated during the interviews that these do generate backflow; however, this cannot be confirmed by the data accessed over the course of this assessment. Second, since the establishment of the KIC, EIT RawMaterials has established the right to own parts of IP relating to KAVA



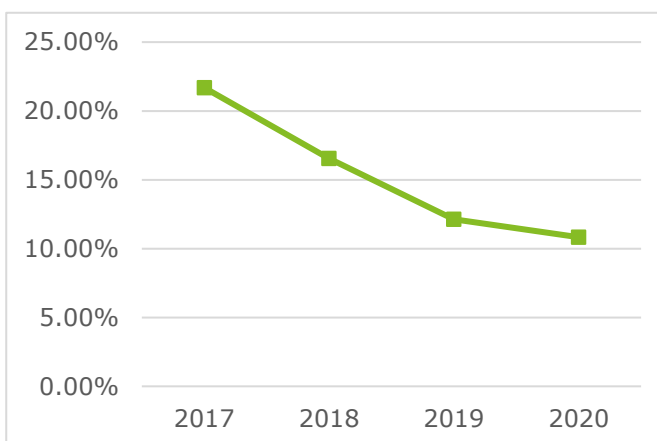
activities for the purpose of the KIC’s financial sustainability, but this would be agreed upon prior to the project commencing. To date, this has not yet been used for any KAVAs, but opportunities are continuously reviewed by the IP Committee. Finally, past assessments have recommended that consideration of IP rights and management should be better embedded in the process of selection, evaluation and monitoring of innovation projects.

Regarding the ownership of financial assets, EIT RawMaterials has also received consistent recommendations over the years to use financial asset ownership as an additional source of revenue generation. While a formal structure has not yet been established, the KIC is testing a new equity model with a start-up in France that has the potential to be more broadly implemented. Equity models are also currently being discussed with all 50 start-ups being supported in 2022. Additionally, a start-up fund is being formed through collaboration with KIC partners. These activities are only in planning and testing phases, so the process of scaling up of these activities needs to be accelerated. Additionally, the ownership of financial assets does not generate significant revenue in the short-term, so these activities would only generate revenue for EIT RawMaterials in the medium- and long-terms. These activities should be monitored regularly, as is planned through the KIC’s financial sustainability strategy, to ensure that they are taken advantage of and properly implemented.

5.1.21. Financial Sustainability (FS): revenues of KIC LE, FS coefficient

EIT RawMaterials has consistently been one of the strongest KICs in terms of revenue generation. They have consistently generated high revenues, largely due to their membership fees, which were the highest among first- and second-wave KIC’s and made up 94% of all revenue generated by the KIC between 2016-2020. The membership fees were temporarily lowered in 2020 in response to lowered services due to the Covid-19 pandemic, which led to less revenue generated for the KIC in this time period. There have been nominal amounts generated in education services and small amounts generated through services and consulting. The 2016 Strategic Agenda did not contain any revenue targets for EIT RawMaterials activities. An in-depth discussion of revenue creation was only introduced in the 2018 Strategic Agenda, with a target set for 8 MEUR in revenues other than membership fees by 2022. According to information shared by KIC management through interviews, EIT RawMaterials had likely already met this target by the end of 2021, with a single service contract attained through ERMA alone worth 8 MEUR; although, this could not be confirmed by the data accessed through the course of the assessment. Moving forward, revenues generated through services and activities is expected to increase due to the opportunities provided through ERMA, which has the potential of improving the financial sustainability of the KIC in the short-term.

Figure 9. EIT RawMaterials FS-Coefficient, 2017-2020



An additional measure of financial sustainability used by the EIT is the FS-coefficient. This indicator is calculated by dividing the total revenue generation of the KIC LE by the total EIT grant for year N. It captures the ability of a KIC LE and its CLC’s to attract revenues and other financing sources. The FS-coefficient for EIT RawMaterials has decreased over time, as shown in Figure 9, but this is due to the EIT grant increasing, rather than revenues decreasing. EIT RawMaterials has consistently overachieved its target FS-coefficient, as assessed by the KIC’s annual grant reports and shown in Table 23. The latest FS-coefficient reported is in line with other KIC’s, but it is still low overall.

Table 23. FS-Coefficient KPI, 2018 - 2020

	2018	2019	2020
FS Coefficient	Target: 13.25% Achieved: 16.55%	Target: 11.52% Achieved: 12.14%	Target: 9.43% Achieved: 10.83%

5.1.22. Budget consumption of KICs and management cost evolution

The trend of budget consumption of EIT RawMaterials has been positive since 2016; however, non-absorbed funds remain high in absolute values.

Table 24. EIT RawMaterials Non-Absorbed Funds, 2016-2020

Non-absorbed funds	2016	2017	2018	2019	2020
%	18.0%	7.2%	7.5%	5.1%	4.2%
Value	€ 3,698,803	€ 2,493,142	€ 4,147,670	€ 4,045,796	€4,131,310

According to EIT guidance, the percentage of total EIT funding that can be used towards management costs for second-wave KICs is capped at:

- 18% for 2017
- 15% for 2018
- 12% for 2019 and onwards.

EIT RawMaterials has been compliant with this requirement; although, management costs have increased since 2018. The KIC has reported through interviews that it has one of the lowest management costs of all the KICs, with only 70 FTE.

Table 25. EIT RawMaterials Management Cost Evolution, 2017-2020

Management Costs	2017	2018	2019	2020
Total Costs	€8,695,355.94	€6,894,895.94	€7,215,517.37	€7,482,707.81
% of EIT Funding	17.08%	10.75%	7.88%	6.36%

5.1.23. Co-funding rates

The co-funding rate is the percentage of EIT funding that makes up the entire KAVA budget. The EIT has established guidelines for the KICs regarding the maximum co-funding rate that can be achieved in each period of the grant cycle. The target co-funding rates are outlined in the table below:

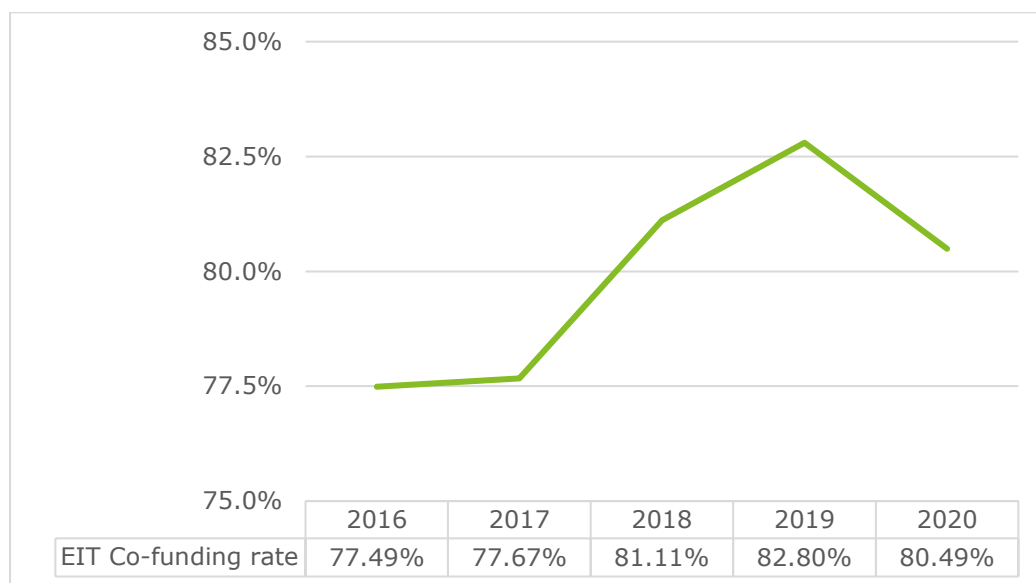
Table 26. EIT Target Co-Funding Rates

Phase	Start-Up	Ramp-Up	Maturity	Exit from EIT Grant
Years	1 - 4	5 - 7	8 - 11	12 - 15
EIT Co-funding rate	Up to 100%	Up to 80%	Up to 70%	50% at year 12, decreasing by 10 percentage points per annum

EIT RawMaterials' co-funding rates were adjusted in the 2021-2017 Strategic Agenda from previous Strategic Agendas to meet the updated co-funding targets shown in Table 26, as defined by Decision 13/2021 of the Governing Board of the EIT On the Principles on the Financial Sustainability of the KICs. The EIT Governing Board sets the financial sustainability targets to monitor KICs' progress towards achieving financial independence from EIT.

The annual co-funding rates achieved by EIT RawMaterials²² from 2016-2020 are shown in Figure 10. The co-funding rate was trending upwards until 2019, but it has since improved in 2020. While EIT RawMaterials did not meet the new targets outlined in Table 26 for the ramp-up phase in 2019 and 2020, these targets were only introduced in 2021, so the KIC has not been penalised. The previous targets set by Decision 4/2015 of the Governing Board of the EIT on Principles on KIC's Financial Sustainability did not lower the co-funding rate to 80% until year 11. The highest rate EIT RawMaterials achieved was the EIT's contribution making up 82.2% of KAVA funding in 2019. The most recent co-funding rate reported remains slightly above the maximum co-funding rate established by the EIT, so this requirement is not met.

Figure 10. EIT RawMaterials EIT Co-funding Rate, 2016-2020



6.2 Financial framework and budget

The FS Strategy must contain all KAVAs, which must not represent a percentage lower than 25% of the KIC's overall budget.

Table 27. EIT RawMaterials Indicative Budget from 2016-2022 Strategic Agenda

KAVA Budget Allocation (MEUR)	2016	2017	2018	2019	2020	2021	2022	Total
Matchmaking & Networking	2.5	2.8	3.1	3.4	3.7	3.8	3.9	23.2
Validation & Acceleration	10.4	22.4	32.1	39.1	46.0	51.7	53.8	255.5
Learning & Education	9.6	20.0	21.8	24.3	26.3	26.3	26.3	154.6
Business Creation & Support	7.2	9.4	11.7	12.9	16.6	16.6	16.6	91.0

²² The values reported by EIT RawMaterials in regular monitoring show the inverse co-funding rate, i.e., the percentage funded by the KIC rather than by EIT. These values have been converted to remain comparable with the EIT targets set in Table 7.

KAVA Budget Allocation (MEUR)	2016	2017	2018	2019	2020	2021	2022	Total
Administrative Costs	4.6	6.0	7.2	8.5	8.6	8.8	9.0	52.7

Table 28. EIT RawMaterials KAVA Cost Allocation, 2016-2020

KAVA Cost Allocation (MEUR)	2016	2017	2018	2019	2020	Total
Education	5.0	7.5	11.3	17.8	18.2	59.9
Innovation and Research	9.6	23.3	38.6	53.7	65.6	190.8
Entrepreneurship	1.0	1.7	2.1	3.1	16.1	23.9
Management	6.3	8.7	6.9	7.2	7.5	36.6
EIT RIS	0.4	0.6	2.1	4.8	6.4	14.3

6.3 Strengths, weaknesses, and recommendations

Strengths
The KIC has generated high revenue through membership fees and partner contributions of co-funding and KCAs.
The original target for the proportion of EIT funding making up the total budget was met (24.7% target; 24.6% achieved).
The budget distribution between 2016-2020 was in line with a strategic focus on deploying innovative solutions to the raw materials sector—the majority of the budget went towards innovation and research projects.
The new financial sustainability plan incorporates a number of potential revenue streams and additional measures to monitor the KIC’s progress towards financial sustainability.
EIT RawMaterials’ KPIs on financial sustainability, the FS-coefficient and co-funding rates, have always been met.
EIT financial requirements on budget consumption and management costs have been met, with only small management cost rejections in the first year of the KIC’s activities.
EIT RawMaterials has contributed €41.6 MEUR towards sustainability, climate, or biodiversity-related activities following the OECD “RIO markers” methodology.

Weaknesses	Recommendations
EIT RawMaterials may base their own internal assessment of financial sustainability performance	Give more attention to qualitative assessment of EIT RawMaterials’ financial sustainability strategy, beyond the achievement of FS coefficient and co-funding rates. This should include a greater focus

Weaknesses	Recommendations
too strongly on achievement of minimal, quantitative KPIs.	on diversifying revenue sources and increasing revenues from services and activities.
The KIC has only recently begun implementing strategies that have the potential to meet financial sustainability targets, so many of these strategies will not increase revenues in the short term. Given that the most significant increases in revenue are only expected to happen in the final two years of the KIC's funding agreement, there may not be sufficient time to take corrective measures if the expected revenues do not develop.	Focus on increasing services provided by the KIC and commercialising existing KAVAs in the short-term while long term changes (backflows, assets) progress.
The financial sustainability strategy was implemented late. The initial 2016-2022 Strategic Agenda did not set targets for revenue generation through KIC activities. This was only introduced with a single overall metric in the 2018-2022 Strategic Agenda.	Ensure the financial sustainability strategies as described in the 2021-2027 Strategic Agenda are implemented in a timely manner and in a way that maximises financial sustainability.
The KIC does not take full advantage of additional revenue sources such as intellectual property management or ownership of financial assets.	Expand the KIC's existing portfolio of financial assets and explore further intellectual property ownership, such as owning RawMaterials Academy.
The KIC relies too heavily on membership fees.	Design and implement strategies to increase the revenue the KIC can generate through services, backflows, commercialisation of existing KAVAs, and alternative funding sources.
The introduction of backflow schemes has weakened the KIC's relationship with partners and creates an insurmountable barrier to some partners and potential partners.	Work with partners and the broader community to find workable solutions to address the financial requirements of the EIT on a project-by-project basis. Certain projects cannot produce the backflows envisioned by EIT RawMaterials, yet they provide value to the KIC in other ways. Partners have a vested interest in the long-term sustainability of EIT RawMaterials due to the added value in accessing the network and benefitting from knowledge triangle integration; thus, there is potential to work with partners to find solutions that work for both the partners and the KIC. Working with partners on this would also contribute to re-strengthening this relationship.



7. Knowledge Triangle Integration, Innovation Ecosystem and Co-Location Centres

One of the main tasks of the EIT is to reinforce the innovation capacity of the European Union²³. This is done by the KIC through the cultivation of coordination across the three sides of the knowledge triangle: between higher education, research, and industry. The goal is to inspire dialogue across different perspectives and areas of knowledge in order to ignite the innovation process and more successfully address societal challenges. Each side of the knowledge triangle is meant to benefit from this integration:

- Universities learn exactly which skills are needed by the industry and can tailor educational programmes to fit these gaps.
- Innovators and entrepreneurs benefit from industry guidance and access to tailored education programmes to increase the likelihood of new start-ups filling a gap in the market.
- Corporations have more direct access to new talent from tailored education programmes as well as the opportunity to tailor innovation projects to their specific needs.

Successful knowledge triangle integration (KTI) results in the creation of ecosystems throughout Europe of organisations working in synergies to develop innovations, bring these innovations to the market, and contribute to the solving of societal challenges.

KTI is thus one of the most crucial aspects of KIC activities, and the strategies used to achieve this vary between KIC's. EIT RawMaterials has a number of programmes and strategies in place to cultivate KTI:

- Lighthouse Innovation Programmes: EIT RawMaterials has three lighthouses on Sustainable Discover and Supply, Sustainable Materials for Future Mobility, and Raw Materials and Circular Societies. Projects can choose to be involved in these Lighthouses and benefit from additional coordination and activities across projects to make a greater impact in the Lighthouse area.
- Expert Forum, RM Summit, and other topic-specific events: Platforms and events are created to facilitate dialogue across the knowledge triangle, leading experts and policymakers on key trends as well as opportunities and challenges along the raw materials value chain
- Projects: In order for a project to be selected, consortiums must be made up by at least two sides of the knowledge triangle, with additional requirements for education activities.

In addition to specific activities, the Co-location Centres (CLCs) play a significant role in facilitating KTI between the partners associated with them.

As outlined through the governance structure discussed in Chapter 5, EIT RawMaterials has six CLCs responsible for rolling out the activities of the KIC in line with the strategic agenda. The CLCs run the KIC's operations on the ground and ensure the KIC's activities are well implemented on a local level. The CLCs operate transnationally and are distributed across Europe in a geographically balanced way. They are tasked with applying the KTI model on a regional level to stimulate collaboration and increase innovation capacities across Europe.

Assessment Criteria	Relevant Indicators
KIC's Union added value and relevance with regard to the objectives of the EIT	The KIC has created a significant European added value with respect to building a sustainable innovation ecosystem through knowledge triangle integration, and as a result has developed concrete solutions to societal challenge it addresses as foreseen in the original proposal.

²³ European Parliament and Council of the European Union. 2008. Regulation 294/2008. Accessed on September 17th, 2021. Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32008R0294>



Assessment Criteria	Relevant Indicators
OVERALL SCORE: 11/15	
KIC's achievements in attracting new members from across the Union	KIC has grown to an effective sustainable innovation eco-system with partners within and outside the EU, including RIS eligible countries and regions.
OVERALL SCORE: 8/10	Balanced geographical presence of CLCs and EIT RIS Hubs in line with the strategic objectives and societal challenges.
KIC's capacity to develop sustainable innovation ecosystems and the achieved level of financial sustainability	The KIC has created a sustainable innovation ecosystem effectively addressing the societal challenges and skill gaps it was established for.
OVERALL SCORE: 12/20	Sustainable and institutionalised partnerships between the organisations engaged with KICs.
	Visible innovation ecosystems not previously in existence.
	Innovation ecosystems evolving into business ecosystems.

7.1 Activities and results

EIT RawMaterials has overall been positively assessed in regular EIT monitoring regarding knowledge triangle integration (KTI) due to the strong integration of KTI throughout the KIC's processes. The KIC has a number of methods for facilitating KTI across the KIC's membership including Expert Forums, Lighthouse Innovation Programmes, and ad hoc events on specific topics or sectors. In addition to this, the KIC does well at incorporating KTI on an individual project scale. The KIC does particularly well in education KAVAs with strong integration between education and industry partners. Collaboration was virtually non-existent between industry and education partners prior to EIT RawMaterials' KTI. An early assessment of the KIC's KTI noted that education activities risked becoming too siloed because there was such minimal industry involvement. Currently, Lifelong Learning activities require both industry and education partners at a minimum. Between 2019 and 2020, over 1500 students were exposed to industry as a part of a KAVA project. However, there still remains a lack of connection between PhD activities and industry, and as such the KIC should do more to develop activities in this area. KTI is particularly essential for innovations' success on the market; EIT RawMaterials research partners also use collaborations with universities and industry partners to ensure the success of their projects outside of the EIT umbrella of activities. Spending across knowledge triangle activities was well balanced in the most recent financial data obtained; however, business creation and entrepreneurship support activities were funded significantly less from 2016 – 2020. The recent increase in spending is likely due to the introduction of the Booster Call in response to the impact of Covid-19 on entrepreneurial activities.

The broader sector and civil society both benefit from KTI—well beyond the EIT RawMaterials partnership. Interviewees described how better-informed ideas and proposals come from coordinating across different sides of the knowledge triangle, allowing activities to better follow market trends or sector needs. Working with other sides of the knowledge triangle also makes things easier for partners; they have access to insights they would not so easily have otherwise. Partners representing each side of the knowledge triangle described the concrete benefits they have from strong KTI. It allows for stronger outputs overall.

7.1.1. The KIC has created a significant European added value with respect to building a sustainable innovation ecosystem through knowledge triangle integration, and as a result has developed concrete solutions to societal challenge it addresses as foreseen in the original proposal.

Successful knowledge triangle integration brings added value on a regional, sectoral, and European level. Bringing together different perspectives on the same issue leads to better informed and more creative solutions to problems. EIT RawMaterials' knowledge triangle integration approach was designed to foster these dialogues and contribute to long-standing collaborations across the sector. For example, the KIC's Expert Forums bring together all sides of the knowledge triangle to cultivate dialogue. Partners provide updates and share sector information, while also making collective decisions on strategies moving forward. As sector needs are identified, these are addressed by the KIC in the following call for KAVA projects. The partnership benefits from KTI by receiving insights from other parts of the sector that they would not normally receive, and they have the opportunity to discuss and develop consensus over future strategies to collectively address sector-related challenges. Whereas national efforts can struggle to develop momentum because of the fragmentation of the knowledge triangle, the EIT RawMaterials ecosystem fosters cross-border dialogue for impact across Europe. The EIT RawMaterials membership, through these strategic KTI exercises involving key players in the field, develops the agenda for the raw materials sector. Because of this sector-wide influence, EIT RawMaterials moves beyond being a funding instrument and steers the direction of industry towards addressing societal challenges.

A number of specific projects and activities have resulted in concrete solutions being brought forth to address EIT RawMaterials' societal challenges. For example, collaboration across the knowledge triangle between industry and higher education institutions has led to the creation of education programmes on circular economy and sustainable approaches to activities along the entire raw materials value chain. These education programmes are informed by industry insights including the current training needs of the sector, as well as potential future developments in it. These programmes are educating the next generation of raw materials professionals and transforming the sector into a more circular, sustainable sector in the process. The EIT's assessments of education activities have noted that this has impacted the broader education sector with non-associated universities looking to reinstate raw materials courses in the curricula; however, this was not able to be confirmed by the data collected through this assessment. Additionally, innovation projects that consist of well-designed consortia have led to solutions more seamlessly making impacts on the market. The integration of partners across the knowledge triangle into single projects has resulted in efficient and well-designed processes that make the raw materials sector more sustainable.

It is clear from this assessment that civil society and the European Union benefit from EIT RawMaterials' partnership and their KTI activities due to smart innovation, research, and educational activities. The level of this impact cannot be known from existing data, as it is impossible to know exactly what KTI existed before or how well earlier innovations fit the exact needs and orientation of the market. What can be assessed, however, is the extent to which the goals of the KIC have been met. As outlined in Chapter 5, many of the KPIs intended to estimate societal impact were not reached by the end of 2020. While there are individual examples of innovations and progress made for each of the strategic objectives and knowledge and innovation themes of the KIC, there has not yet been widescale sectoral change based on one of these technologies. Nevertheless, the KTI activities of EIT RawMaterials and their continued support and guidance of innovation will result in more progress being made toward the solving of societal challenges.

7.1.2. KIC has grown to an effective sustainable innovation eco-system with partners within and outside the EU, including RIS eligible countries and regions.

The EIT RawMaterials partnership spans across the globe with a strong distribution of partners across the EU. The KIC has been consistently assessed as having a good representation of the ESEE region within its partnership. Additionally, interviewees expressed that it is not difficult to find new partners from Member-States, especially as the knowledge of the KIC and public awareness of the importance of raw materials have grown.

EIT RawMaterials' ecosystem still has room for improvement in a number of areas. Firstly, there is highly limited number of partners from outside of the EU. The 2016-2022 Strategic Agenda outlined an internationalisation strategy that would incorporate partners and create synergies with organisations based around the world. This included the following:



- Neighbouring countries of the EU, including the European Free Trade Association
- Resource-rich developing economies, such as DR Congo, Bolivia, Peru, and Liberia
- Resource-rich emerging economies with strong activities in the raw materials sector, such as Brazil, Chile, South Africa, India, and China
- Developed economies leading in the raw materials sector, such as Australia, Canada, USA, South Korea and Japan.

Much of this internationalisation strategy has not yet been realised. So far, the KIC has succeeded at incorporating neighbouring countries of the EU and creating some synergies with developed economies leading in the raw materials sector, as well as participating in the 'Building EU-Africa partnerships on sustainable raw materials value chains CSA through ERMA. Interviewees expressed difficulties in incorporating international partners due to the legal inability to share EU funding with non-associated countries. Potential partners would then be required to fund all of their activities on their own, which many cannot do, especially from underdeveloped regions. Lastly, while the KIC has done well in incorporating ESEE partners, there has still been consistent feedback that the geographic balance of the partnership could be stronger. There is an overrepresentation of Scandinavian country partners given that a large portion of Europe's mines exist in the north, and it is difficult for new mines to open today due to negative social perceptions and multi-year regulatory processes. The KIC does have strategies in place through its RIS operations to work on addressing this problem. While the full extent of the KIC's internationalisation strategy has not been realised, the creation of ERMA has led to new opportunities for third-country collaboration and has brought new international partners to the EIT RawMaterials network.

Table 29. Partner Distribution Across CLC's

CLC	Business	Higher Education	Research	Grand Total
Baltic Sea	17	11	2	30
West & Central*	63	26	20	109
East	30	14	14	58
North	21	11	9	41
South†	37	8	10	55

*Germany is split amongst CLC's by region. Partners based in Eastern Germany are included in CLC East portfolio, but Northern, Southern and Western Germany are included in West and Central CLC portfolios. Because the available data did not differentiate between different regions of Germany, all German partners were included in the West & Central CLC portfolio for this analysis.

† Hungarian partners are involved in both the CLC East and CLC South portfolios. For this analysis, they remain with the CLC East portfolio.



7.1.3. **Balanced geographical presence of CLCs and EIT RIS Hubs in line with the strategic objectives and societal challenges.**

EIT RawMaterials’ geographic presence through its CLCs and RIS Hubs is strong and in line with the KIC’s strategic objectives and societal challenges. The 2016-2022 Strategic Agenda outlined the distribution of the six CLCs, which prioritised coverage across Europe to ensure physical proximity to all partners. This geographic distribution has remained consistent throughout the KIC’s operations, with the addition of RIS Hubs over the years that coordinate further outreach activities for regions with lower innovation capacities. New RIS Hubs continue to be created, with the regional centres in the Baltic region and Spain both being recent additions, and there are plans to open more in the coming years. The EIT RIS eligible countries and regions are particularly relevant to EIT RawMaterials because they are naturally resource-heavy areas with significant mining activities present. While the distribution of CLCs is balanced, a past assessment of the KIC’s knowledge triangle integration noted that the activities of the CLCs are largely delimited, resulting in them being run more like ‘branches’ rather than genuine co-location centres.

Figure 11. EIT RawMaterials Geographic Distribution of CLCs, RIS Hubs, and Regional Centres



7.1.4. **The KIC has created a sustainable innovation ecosystem effectively addressing the societal challenges and skill gaps it was established for.**

Addressing Societal Challenges

With high partnership involvement overall and good KTI throughout the KIC’s portfolio, EIT RawMaterials has done well in the creation of innovation ecosystems that did not previously exist, as assessed in Section 7.1.6. Specifically, regarding addressing societal challenges, the KIC was established for, there are numerous examples of ways in which the ecosystem created has resulted in progress being made. First, EIT RawMaterials guides partners and beneficiaries towards activities that address societal challenges by requiring at least one of the KIC’s strategic objectives of securing raw materials supply, closing material loops, and designing smart materials solutions to be addressed in each proposed activity. The knowledge and innovation themes, listed in Section 5.1.2., provide further specificity regarding the types of solutions that can be brought forward. In addition to these requirements, calls for RIS projects require consortiums to put forward solutions to local challenges as well as the broader societal challenge. Because of these requirements and activities, the innovations brought forward through these ecosystems all contribute in some way to addressing societal challenges. Second, interviewees expressed examples of a large number of projects being submitted every year for new technology and solutions that work towards Union goals such as the European Green Deal, Resource Efficiency Plan, Industrial Emissions Directive and Eco-Innovation Action Plan. The quantity and quality of the proposals being submitted is a good indication of the capabilities the partnership ecosystem has towards addressing these societal challenges. Third, the Lighthouses established by EIT RawMaterials create ecosystems around a specific societal challenge. They create opportunities for collaboration between projects across all sides of an issue that may otherwise not have so clearly been connected. Lastly, the newly established European Raw Materials Alliance (ERMA) will further strengthen the capacity of the overall EIT RawMaterials ecosystem by proposing solutions, funding

innovations, and making an impact on societal, economic and environmental challenges in the raw materials sector.

Addressing Skills Gaps

The KIC has a number of requirements for education KAVAs that ensure skills gaps are addressed. Proposals for education activities must specifically address a list of previously identified skills gaps to ensure the right programmes are being created. For example, there are existing KAVAs that address climate change skills among students, train young girls on related topics to inevitably bring more women into the sector, and upskilling trainings that focus on new approaches, such as lightweighting materials. Additionally, Lifelong Learning activities within RM Academy must have a training needs analysis completed prior to the project receiving funding, and these projects must include both education and industry partners as a minimum representation of the knowledge triangle. The most important contribution EIT RawMaterials makes in addressing skills gaps in the raw materials sector is facilitating the collaboration between universities and industry. Interviewees and evaluators alike have praised the contribution of the KIC, specifically in this regard, because dialogue between these two sides of the knowledge triangle was negligible before. Industry partners are best positioned to identify existing skill gaps in the sector as well as future developments that create new skills needs. Industry partners then are able to communicate these insights to universities designing courses for their industry to ensure that education courses are designed to fill these specific gaps. This continuous feedback loop allows for a tailored approach to the needs of the market, which has been identified by partners in both this assessment and past assessments as a highly valuable aspect of involvement with EIT RawMaterials.

While industry partners largely influence the skills goals of EIT RawMaterials educational programmes, it is not clear the extent to which these skills are ultimately realised among students. The overarching learning outcomes of EIT-labelled education programmes are²⁴:

- Entrepreneurship skills and competencies
- Innovation skills and competencies
- Creativity skills and competencies
- Intercultural skills and competencies
- Making value judgments and sustainability competencies
- Leadership skills and competencies

The results of the survey of students and graduates show that these more general skills are more strongly cultivated than industry-specific skills, as shown in Table 30 below.

Table 30. EIT and Raw Materials Sector Skills Obtained by Students

EIT Skills Achieved	# of Students	Raw Materials Sector Skills Achieved	# of Students
Intercultural skills and competencies	30	Sustainability practices in the raw materials sector	30
Innovation skills and competencies	24	Material processing	19
Making value judgments and sustainability competencies	22	Mineral processing	16

²⁴ EIT. "Quality for learning" EIT Quality Assurance and Learning Enhancement Model: EIT Label Handbook for planning, labelling and reviewing degree programmes. Accessed on January 13th, 2022. Available at: https://eit.europa.eu/sites/default/files/eit_label_handbook_degree_programmes_-_final.pdf.

EIT Skills Achieved	# of Students	Raw Materials Sector Skills Achieved	# of Students
Entrepreneurship skills and competencies	21	Applications of chemistry in creating second-life raw materials	13
Creativity skills and competencies	20	Applied geology and geomechanics	11
Leadership skills and competencies	12	Turning waste into a standardised product	11
		Mining methods	8

Based on the research conducted for this assessment, it is clear that EIT RawMaterials has succeeded in cultivating ecosystems that work towards addressing societal challenges and skills gaps. However, more can be done to ensure that the industry skills needed for students to succeed in the raw materials sector are realised through the educational programmes provided.

7.1.5. Sustainable and institutionalised partnerships between the organisations engaged with KICs

The partnership cultivated by EIT RawMaterials is widely viewed by employees and partners as one of the KIC’s greatest strengths. Both the size and the quality of the network are an achievement. The partnership is the largest raw materials ecosystem in the world and has established itself as a go-to for information and insight on the sector. 81% of the partners maintain their partnership for at least two years, with a quarter maintaining the partnership for four years; however, the partnership database did not distinguish between core/associate partners and non-paying partners, so the percentages may be different for only paying members. EIT RawMaterials facilitates collaboration across this partnership through matchmaking activities and creating venues for dialogue and collaboration. Events such as the Expert Forums allow for coordination and strategy alignment across the raw materials sector. Additionally, partner interviews even described collaborations with other partners outside of the KIC’s umbrella of activities as a result of the relationship cultivated through this network. Thus, the KIC’s partnership has enabled opportunities that did not exist before.

Ventures supported by EIT RawMaterials have also established collaborations with the partners associated with EIT RawMaterials. Partners representing universities and enterprises were the most common sides of the knowledge triangle represented in collaborations, with 66% and 65% of respondents collaborating with these sectors, respectively. 52% of supported ventures had collaborations with research institutions. 66% having collaborated with SMEs and nearly a third collaborating with companies that operated in a different sector than their own. The three most common activities ventures collaborated with these organisations on were implementing R&D activities together, ventures improving their products based on the partners R&D activities, and partners buying the ventures products and/or services. The remainder of the activities is summarised in Table 31 below. 50% of respondents to the survey of ventures supported rated the effectiveness of these collaborations as either very or extremely effective; the remainder of ratings can be found in Table 12 in Section 5.1.9.

Table 31. Types of Activities Supported Ventures Do Through EIT RawMaterials Collaborations

What type of collaborations do you have with these organisations?	# of Respondents
We implement R&D activities together	84
We improve our products and / or services based on their R&D activities	65
They buy our products and / or services	53
They improve their products and / or services based on our R&D activities	45
They help us design our products and / or services	44



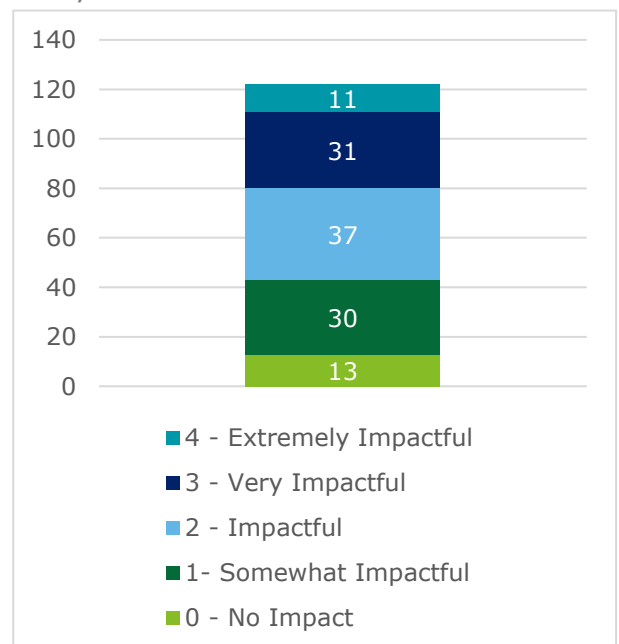
What type of collaborations do you have with these organisations?	# of Respondents
We shape our strategy based on their advice	32
We help them design their products and / or services	26
We engage in networking and consulting without aiming for a clear result	21
We buy their products and / or services	20
We hire people that they educate	17
They shape their strategy based on our advice	16
We organise events together	13
We provide training programmes for their employees	10

While the partnership has been sustained successfully, over the years, recent changes in the KIC’s backflow schemes have tested the strength of this network. In order to implement the backflow plans requested by the EIT, EIT RawMaterials had to retroactively change partnership agreements, including agreements for ongoing KAVAs and innovation projects. This was not well received by partners, as it was changing the agreed-upon terms in a way that benefitted the KIC, but largely inconvenienced the partners. In order to not have a ‘mass exodus’ of partners, EIT RawMaterials management had to make concessions on the level of backflow requested for innovation and upscaling projects. This upper limit for backflow has been criticised by the EIT through financial sustainability assessments; however, given that the partnership is one of EIT RawMaterials’ greatest assets and the enabler for the KIC to achieve societal impact in the European Union, it can be understood why this choice was made. The partnership brings immense value to the EIT, the raw materials sector, and Europe more broadly through the achievement of objectives and the creation of sectoral solutions. In order to ensure this partnership continues to exist in the long-term, EIT RawMaterials will need to do more to communicate the value of the KIC membership to current partners, since whether to continue this membership is internally assessed by partners annually. Further retroactive changes to formal agreements should be avoided in the near future to rebuild trust with partners.

7.1.6. Visible innovation ecosystems not previously in existence.

An innovation ecosystem is defined by the EIT as a highly collaborative network of researchers, educators, and companies interacting in a specific location or theme for the generation of new research or innovations. EIT RawMaterials has created a number of ecosystems in locations and across themes that either did not exist prior or were not as strong as they are today. As described above, EIT RawMaterials has established a number of activities that contribute to the creation of these ecosystems, such as requiring KTI within consortiums, establishing Lighthouses, and guiding projects toward the achievement of strategic objectives and knowledge and innovation themes. Additionally, the KIC’s Jumpstarter programme supports idea holders in turning their ideas into actual innovations. Each of these activities has resulted in the creation of a new ecosystem on a range of scales, from ecosystems around the creation of a specific innovation to ecosystems of consortiums all working on various projects that contribute to establishing a circular economy in the raw materials sector. The EIT RawMaterials partnership overall has created a raw materials sector ecosystem made up of over 300 partners. The KIC has also contributed to the membership of the European Raw Materials Alliance which has over 600 members. Between the two, EIT RawMaterials has easily created the largest raw materials sector ecosystem in the world.

Figure 12. Supported Ventures Survey Respondents Estimation of Their Own Contribution to the Creation of Innovation Ecosystems



EIT RawMaterials has easily created the largest raw materials sector ecosystem in the world.



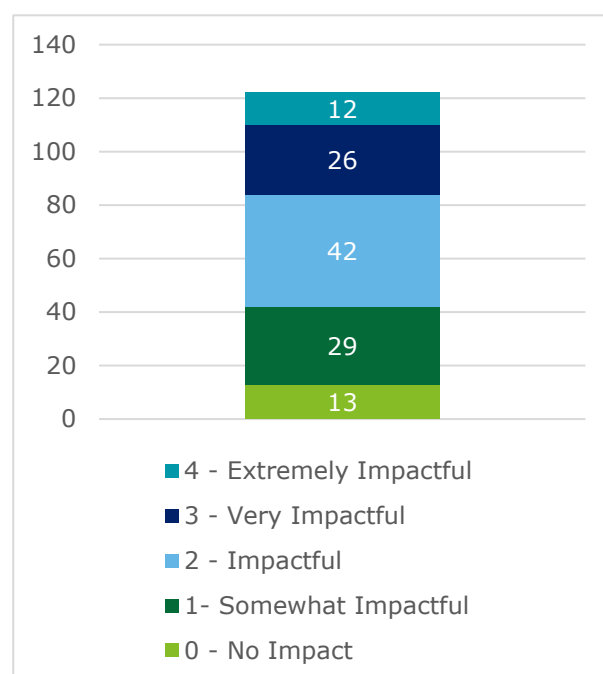
In EIT RIS eligible countries and regions specifically, EIT RawMaterials has contributed to cultivating innovation ecosystems where they have not existed before. The Regional Innovation Scheme, discussed further in Chapter 11, was created with the purpose of targeting countries and regions in Europe that have modest or moderate innovation capacity compared with other, more innovative parts of Europe. EIT RawMaterials has established connections between the KIC’s RIS Hubs and regional incubators to be able to better support innovation activities and expand the European market. The KIC also encourages consortiums in non-RIS eligible countries and regions to include RIS partners in KAVA proposals through specific selection and evaluation criteria. For example, education KAVAs must include at least one university from an EIT RIS eligible countries or region. These activities have contributed to the establishment and strengthening of innovation ecosystems in EIT RIS eligible countries and regions.

7.1.7. Innovation ecosystems evolving into business ecosystems.

The EIT defines business ecosystems as networks of organisations, including suppliers, distributors, customers, competitors, and government agencies involved in the delivery of a specific product or service through both competition and cooperation. EIT RawMaterials contributed to the creation of these ecosystems through their business and entrepreneurship support services. Services such as the Accelerator and Booster programme contribute to the creation of ecosystems that surround specific start-ups or innovation projects. Additionally, the KIC’s partners are highly involved in other services such as mentoring and matchmaking activities. Most respondents of the ventures survey felt that their involvement with EIT RawMaterials was impactful in the creation of business ecosystems.

While EIT RawMaterials has contributed to the creation of business ecosystems, these are largely around existing start-ups and scale-ups, rather than the innovation ecosystems evolving into business ecosystems. EIT RawMaterials targeted in the 2018 – 2022 Strategic Agenda that 46 start-ups would be created as a result of innovation projects by the end of 2022; however, only 12 have been reported and validated by the EIT by the end of 2020. There are a number of barriers unique to the raw materials sector that make it difficult for innovation to reach the market. Firstly, innovations in the sector often require significantly high levels of investment. For example, an innovation in the raw materials sector may require new machinery to be built in order for it to operate, which requires a high investment compared to a digital innovation which may only require the creation of software. However, the European Raw Materials Alliance is contributing to the solution of this problem, with over €8 billion collected through investments since its creation in 2020. Second, it can take a very long time before innovations in this sector make it to the market—Innovations that are meant to be implemented in mines can take up to 15 years before they are brought to the market. A respondent to the ventures survey provided feedback that this issue made it difficult for their innovation project to be supported beyond the Accelerator and Booster services because their company had not been developed enough to receive support through Upscaling services. Lastly, visibility is a crucial aspect for success as a start-up and the ability to attract investments. This can be difficult in the raw materials sector, as public sentiment towards these activities remains negative. EIT RawMaterials focuses on supporting marketing and commercialisation to aid with this, as well as with pairing start-ups with existing industry leaders. Industry partners can also help ensure innovations are developed in line with sectoral needs so that market entry is more seamless.

Figure 13. Supported Ventures Survey Respondents Estimation of Their Own Contribution to the Creation of Business Ecosystems



In EIT RIS eligible countries and regions, start-up ecosystems are less developed compared to their Northern and Western European peers for a wide range of reasons, including historical and cultural factors. Additionally, industry partners have been less involved in EIT RIS eligible countries and regions, which has

contributed to there being a lack of business ecosystems established. According to EIT RawMaterials, this is mainly a problem in the Eastern and Western Balkan countries, but the RIS Capacity Building included in KAVA Calls 8 and 9, which requires projects to incorporate solutions to local challenges, has resulted in more businesses getting involved and has provided good early results. Nevertheless, the KIC has been consistently assessed as overrepresenting education KAVAs in EIT RIS eligible countries and regions compared with innovation and business support KAVAs.

EIT RawMaterials has established an adequate system to support the upscaling of businesses; however, there is a need for improvement in evolving innovation ecosystems into business ecosystems. There are sector-specific challenges that would need to be overcome to strengthen the KIC’s activities in these areas, but this evolution will always be a longer process for EIT RawMaterials than for other KICs. Additionally, more work needs to be done in EIT RIS eligible countries and regions to cultivate the creation of business ecosystems and re-balance the KAVAs supported, so that education activities are not so overrepresented.

7.2 Financial framework and budget

CLC management activities are funded as individual KAVA projects, just like the activities outlined in the upcoming chapters, so they are funded through a designated annual budget allocation approved by the EIT for EIT RawMaterials. The CLCs supported four matchmaking and networking KAVAs to contribute to KTI in 2016, which increased to 8 by 2020. The evolution of the annual budget per CLC can be seen below, as reported through the annual grant reporting data stored in DUNA.

Table 32. Individual CLC Budget, 2017 - 2020

CLC	2017	2018	2019	2020
North	€ 838,345.23	€ 556,472.01	€ 630,750.57	€ 516,210.54
Baltic	€ 706,512.66	€ 631,068.00	€ 408,025.95	€ 419,054.31
West	€ 721,216.78	€ 585,520.58	€ 472,600.60	€ 430,296.66
Central	€ 538,085.08	€ 593,877.89	€ 492,819.82	€ 384,348.18
East	€ 445,847.79	€ 474,651.88	€ 373,200.40	€ 313,646.66
South	€ 589,017.27	€ 551,417.48	€ 441,122.87	€ 398,070.00

7.3 Strengths, weaknesses, and recommendations

Strengths
The EIT RawMaterials partnership is a strength of the KIC in terms of both size and quality of the network. The KIC has cultivated the largest raw materials ecosystem in the world.
EIT RawMaterials has contributed to the creation of new innovation ecosystems in EIT RIS eligible countries and regions.
The KIC has a number of activities, such as Lighthouses and Expert Forums, that allow for the pooling of activities around a specific issue
The KIC has been consistently positively assessed in KTI, with KTI embedded throughout KIC processes.
Education KAVAs are particularly strong in KTI.

Strengths
Successful KTI has led to better solutions to societal challenges.
The geographic distribution of the partnership and CLCs is good.
The KIC has continuously developed new RIS hubs and has plans to create more.

Weaknesses	Recommendations
The KIC retroactively changed partnership agreements, which was perceived as a breach of trust by partners. This has resulted in the long-term sustainability of the partnership being brought into question, as partners may no longer feel EIT RawMaterials membership is worthwhile.	<p>Do more to communicate the value of the KIC membership to current partners, since whether to continue this membership is internally assessed by partners annually.</p> <p>Further retroactive changes to formal agreements should be avoided in the near future to rebuild trust with partners.</p>
Education programmes do not have as strong of an impact on students cultivating sector-specific skills when compared with more general skills.	<p>Ensure that the sector-specific skills needed for students to succeed in the raw materials sector are realised through the educational programmes provided.</p> <p>Although education KAVAs have to meet specific criteria on addressing skills gaps before the project is chosen, the KIC should do more to ensure these skills are realised amongst graduates. Incorporate a monitoring system of graduates that assesses what skills have been successfully transferred to them, and what skills are left unaddressed.</p>
Business ecosystems in specific EIT RIS eligible countries and regions are not as well established as the innovation ecosystems are.	The RIS Capacity Building area included in KAVA Calls 8 and 9 has improved upon this weakness. However, encourage more consortia to include partners from EIT RIS eligible countries and regions in all KAVA calls.
There is a limited number of partners from outside the EU and Horizon Europe associated countries, which was initially planned through the KIC's strategic agendas.	Prioritise forming relationships with well-established partners that can afford to fund their own projects, given that EU funds cannot be shared with partners from countries not associated with Horizon Europe.
Innovation ecosystems do not necessarily evolve into business ecosystems due to the slowness of the sector.	Ensure EIT RawMaterials offers support to ventures throughout the entrepreneurial process in order for more innovations to be brought to the market.

8. Education & Alumni

The first arm of the knowledge triangle that will be discussed is education. The EIT integrates educational activities into the innovation web by providing tailored educational programmes that target pressing societal challenges and take advantage of industry and research partnerships. For the KICs, this typically includes a combination of higher education, professional education, and public training offerings to address the various needs of different communities. For higher education programmes, the EIT provides an EIT Label to those that meet a specific set of criteria as a certificate of quality, showing an excellent educational programme. These criteria include addressing EIT’s Overarching Learning Outcomes, the inclusion of robust entrepreneurship education, innovative ‘learning-by-doing’ curricula, coverage of the European dimension and openness to the world, and inclusion of an outreach strategy and access policy.

EIT RawMaterials has been designed to create educational programmes and trainings for the raw materials sector. In recent decades, raw materials education offerings have eroded due to courses becoming outdated and no longer reflecting both the needs of society and the needs of the industry. Many universities disbanded courses relevant to raw materials both due to this and also because of the negative perceptions associated with mining and exploration activities. Additionally, the sector has traditionally been laden with gender bias without significant positive action to encourage a gender re-balance. EIT RawMaterials has been tasked with working to push against these forces through updated educational offerings designed around societal issues and targeted outreach strategies that encourage more female students to join the sector. EIT RawMaterials meet these objectives by providing Wider Society Learning, Lifelong Learning, MSc and PhD training, as well as by leading the Cross-KIC effort in the new EIT initiative focused on increasing the innovation and entrepreneurship capacity of higher education institutions.

Assessment Criteria	Relevant Indicators
KIC’s Union added value and relevance with regard to the objectives of the EIT	# and % of EIT- labelled graduates employed
	# and % of students and graduates from EIT labelled MSc and PhD programmes who joined start-ups
OVERALL SCORE:	
11/15	

8.1 Activities and results

Overview of Educational Activities

While EIT RawMaterials has been providing education activities since its first year, it did not establish the RawMaterials Academy (RM Academy) as a unifying brand for the KIC’s education activities until the 2018-2022 Strategic Agenda. The primary goal of the RM Academy is to equip Europeans with all the skills and competencies necessary involvement in the raw materials sector. It follows an education model that cultivates skills development through courses on standard technical skills, hands-on learning, teaching about the entire value chain, and incorporating innovation and entrepreneurial trainings. This model prioritises the acquisition of skills that will enable graduates to provide solutions to the many challenges currently facing the raw materials sector. The activities offered through the RM Academy are outlined in Table 33 below.

Table 33. The RM Academy*

<i>RM Academy Activity</i>	<i>What it does</i>	<i>How it does it</i>
<i>Wider Society Learning</i>	Equip the entire lifecycle of learners with the knowledge, skills and	Two flagship programs driven by EIT RawMaterials, executed by partners:

RM Academy Activity

What it does

How it does it

	competences necessary for innovation in the raw materials sector, in particular young people (pre-18), policymakers and civil society.	<ul style="list-style-type: none"> - Junior Achievement Europe - RM@Schools
<i>Lifelong Learning</i>	Based on customer need, create programs that keep pace with new technologies in industry and train staff for their efficient and effective use	Based on skills map for staff training programs via regular KAVA call. Co-created with EIT RawMaterials, executed together with partners
<i>Master Education</i>	Innovate raw materials - Higher education in terms of industry orientation, content and pedagogy	Master programs selected via regular KAVA call process and driven by partners. EIT RawMaterials' Master's experience: KIC-driven summer school module on digital transformation & industry journey for all students
<i>PhD Education</i>	Innovate raw materials - Higher education in terms of industry orientation, content and pedagogy, including	Pilot doctoral programs selected via regular KAVA call process and driven by partners. KIC-wide roll out driven by EIT RawMaterials, executed by partners/

*As reported through EIT Strategic Agenda 2018-2022.

RM Academy consists of four segments: Wider Society Learning, Master education, PhD education, and Lifelong Learning. Each segment is equipped with initiatives that aim to promote knowledge and skills concerning the raw materials sector. Those segments allow students, researchers and professionals to cultivate skills and acquire knowledge related to innovation, industry orientation, and new technologies in the industry. Wider Society Learning activities circulate around enhancing the competitiveness of the raw materials sector and actors in Europe. It specifically targets several priority groups, including young people between 16-18 years old and policymakers. The selection of these groups reflects the desire of the EIT RawMaterials to secure the availability of expertise in the future, by educating the next generation and ensuring that sound legislation is in place. Through higher education activities, EIT RawMaterials aims to equip students with the highest expertise, with additional efforts made towards the development of innovation and entrepreneurial skills. Concerning the Lifelong Learning activities, the EIT RawMaterials has developed an industry-driven model in order to enhance all skills and competencies needed to address the constant changes in the technological advancement of the industry.

The educational programmes included in RM Academy serve as a solid base for the raw materials sector. They are driven by EIT RawMaterials and are specifically selected through KAVAs open calls and/or co-created with EIT RawMaterials together with partners. Through the KIC's EIT-labelled higher education programmes, EIT RawMaterials aims to connect traditional raw materials education with today's broader sector issues, such as circular economy, sustainability, and climate change. These topics are significantly less common in traditional raw materials degree programs, which sets EIT RawMaterials' education programmes apart. The education activities also play a significant role in knowledge triangle education (KTI), ensuring that RM Academy graduates address the existing skills gaps in the sector and contribute their expertise to the solving of societal challenges. Additionally, students benefit from the opportunity to network with EIT RawMaterials' industry and research partners.

In addition, EIT RawMaterials plays a significant role in Cross-KIC education work packages, such as Girls Go Circular and Skills for the Future. Girls Go Circular is a Cross-KIC initiative that aims to equip girls aged 14-18 with digital and entrepreneurial skills through online learning programme related to the circular economy. Skills for the Future is also a Cross-KIC activity that aims to empower students to develop entrepreneurial skills and innovate solutions to challenges related to supply of minerals and metals, climate change and the food system. Both initiatives include EIT RawMaterials' contribution and add high value to the overall Digital Education Action Plan of the European Commission. This was also noted during the interviews, where multiple interviewees highlighted the leading and coordinating role of EIT RawMaterials in strategic education initiatives.

Along with all the education initiatives, EIT RawMaterials has a large network of Alumni and a recently founded Alumni Association. During the interviews, it was described how the Association is currently providing large networking opportunities, mentoring opportunities and connects the EIT RawMaterials alumni with the broader EIT RawMaterials community. Through the Education cluster Cross-KIC, the Alumni Association will further strengthen connection with the alumni associations of other KICs, creating an EIT-wide alumni community for cross-discipline collaboration and networking.

Educational Activity Performance

Over the years, RM Academy activities have had a number of positive outcomes, including establishing highly relevant educational programmes, cultivating widespread interest in the courses offered, and facilitating strong knowledge triangle integration. The higher education courses offered through RM Academy have updated the traditional raw materials curricula to incorporate deeper understanding of the challenges facing the sector and inspire solution-oriented thinking through the creation of entrepreneurial mindsets. Many students, as found through both past assessments and the survey conducted for this one, are drawn to RM Academy offerings specifically because of their focus on addressing societal challenges and tackling big issues. According to one of the interviewees, the EIT-labelled Master's programmes consistently receive a high number of applications; however, this assessment was not able to confirm this based on the data provided. Additionally, by incorporating outreach activities and Wider Society Learning programmes that target underrepresented regions and populations, including female students, RM Academy activities increase the diversity of the broader raw materials sector. Lastly, the strong knowledge triangle integration that links universities with research institutes and industry has led to KAVAs precisely tailoring trainings and educational offerings to the needs of the sector. The link with industry specifically leads to a continuous stream of a highly skilled workforce prepared to address societal challenges.

Table 34 shows the relevant KPIs concerning RM Academy activities. The majority of the indicators have been overachieved, including the number of academic quality labels obtained, the number of participants in wider society learning programmes, the number of students in lifelong learning courses, the percentage of female graduates, the students in Master's Education short courses, and the number of students involved in industry KTI. This last indicator, Students and Industry – KTI designates the number of students that were exposed to industry partners, mainly through participating in KAVA projects. However, there are certain indicators that are not considered to be on track. Those include the total number of graduates from EIT-labelled programmes, the number of start-ups created by students enrolled and graduates from EIT-labelled programmes, and the number of students in PhD Education short courses.

Table 34. RM Academy KPIs*

<i>EIT Core KPIs – Verified Annually by the EIT</i>				
KPI	Achieved 2016 – 2020	Target 2016 – 2020 (BPs)	Achieved 2019 – 2020	Target 2019 – 2022 (SA)
Graduates from EIT-labelled MSc and PhD programmes	156	327	133	471
Start-ups created by students enrolled and graduates from EIT labelled MSc and PhD programmes	4	2	4	25

<i>KIC Specific KPIs</i>				
KPI	Achieved by 2020	Target 2016 - 2020 (BPs)	Target 2016 - 2022 (SA)	Years Measured
Academic Quality Labels Achieved	14	14	10	2016 – 2018
Wider Society Learning Participants	196,432	93,858	7,000 ⁺	2016 – 2020
Lifelong Learning Participants	14,249	10,255	975 ⁺	2016 – 2020
% of Female graduates	37%	N.A.	30%	2016 – 2020
Students in PhD Education Short Courses	633	719	1800	2017 – 2020
Students in Master’s Education Short Courses	3844	3501	2720	2017 – 2020
Students in Industry Knowledge Triangle Integration	1558	1286	520	2016 – 2020

* The values included in the achieved column are the sum based on EIT RawMaterials’ annual grant report assessments. The values included in the 2020 / 2016 - 2020 target columns are the aggregated targets from the KIC’s annual business plans from the years specified. The values included in the 2022 / 2019 - 2022 target column are taken from the 2018-2022 Strategic Agenda.

⁺Taken from 2016 – 2022 Strategic Agenda.

While the targets for the number of participants in Wider Society Learning, Lifelong Learning, and the percentage of female graduates have all been significantly overachieved, their targets set in the Strategic Agendas were far from ambitious. Between the 2016 and 2017 business plans alone, the 2022 targets set for Lifelong Learning (875 students) and percentage of female graduates (30%) were already set to be achieved, with 60% of the 2022 target for Wider Society Learning target (4000 students) set to be achieved within those years. Despite the strategic agenda setting targets to be achieved over the course of the upcoming four years, the KIC had already shown that it could reach those targets in only two years. Moving forward, the KIC should base its targets on past performance and incorporate more ambition for the KPIs it easily achieves.

In addition to the failure to meet certain targets, there are a couple of other shortcomings in EIT RawMaterials education portfolio including a lack of PhD offerings and poor financial sustainability strategies. Although EIT RawMaterials planned on providing EIT-labelled PhD courses, the only existing EIT-labelled PhD offering is no longer active and there have been limited efforts in creating new EIT-labelled PhD courses, based on the insights received through the interviews. While over 20 PhD short courses have been offered through KAVAs with high involvement, the KIC should look into opportunities for offering EIT-labelled PhD programmes. Increasing the number of PhD holders in industry positions will only increase the capacity of the European raw materials sector to address societal challenges. Secondly, there are very limited levels of revenue generated from education initiatives, despite plans to increase this. There are regulatory barriers in some countries hosting RM Academy higher education programmes that do not allow universities to generate backflow through course offerings, which limits the possibilities for EIT RawMaterials to implement financial sustainability strategies. However, there should be a priority in commercialising lifelong learning, short courses, and higher education support services in order for the KIC to achieve financial sustainability. Lastly, feedback provided in the survey highlighted a need for a stronger connection between EIT RawMaterials and students themselves. Due to the need for the program to meet the academic requirements of several different universities, the resulting programme felt incoherent and compromised. As it currently stands, education partners are responsibility for the planning and implementation of RM Academy offerings. Moving forward, it is recommended that EIT RawMaterials implements a feedback mechanism for students through regular surveys, which can also be used to collect data on graduate outcomes. However, it is expected that the Alumni platform that will become more active in 2022 will be able to address these concerns.

Additional analysis is included below for the relevant indicators to this chapter, including the percentage of EIT-labelled graduates employed and the percentage who have joined start-ups.

8.1.1. # and % of KIC Label graduates employed

The raw materials sector is considered one of the most important sectors for the EU and the surrounding activities are top priorities for the future of the Union. EIT RawMaterials education activities aim to help students and professionals find solutions that improve the raw materials sector’s economic, social and environmental sustainability. Through these activities, it will contribute to the creation of a workforce that strengthens the EU’s competitiveness in the broader raw materials sector.

As mentioned in chapters above, EIT RawMaterials’ activities contribute to increasing the innovation capacity and the overall sustainability of the European raw materials sector. The raw materials sector is highly conservative and falls behind on innovation compared with other sectors. While EIT RawMaterials alone cannot structurally change this, through their educational activities, they contribute to the creation of a new generation of raw materials professionals who may operate the sector differently.

In the survey of RM students and graduates conducted for this assessment, 19 out of the 40 respondents were still students. Of the graduates, 76% (16 out of 21) were currently employed. There were an additional four students who were also employed in some capacity, who are included in the further analysis below. Of those employed, 60% (12 out of 20) felt they were employed in the sector related to their EIT-labelled study program. The sectors that the students and graduates were employed in are shown in Table 35 below. Falling in line with their own assessment, the majority of students and graduates are employed in related sectors.

Table 35. Economic Sector Students and Graduates are Employed In

Economic Sector	# Respondents
Professional, scientific and technical activities	6
Mining and quarrying	5
Education	2
Manufacturing	2
Construction	1
Electricity, gas, steam and air conditioning supply	1
Investment VC	1
Transportation and storage	1
Water supply; waste management and remediation activities	1

8.1.2. # and % of students and graduates from EIT labelled MSc and PhD programmes who joined start-ups

The educational activities of EIT RawMaterials aim to cultivate and enhance young students’ and professionals’ skills to foster an entrepreneurial and intrapreneurial mindset and establish Europe as the “heart” of the raw materials sector. The programmes offered by EIT RawMaterials aim to boost the raw materials value chain and develop professionals with a holistic understanding of the aspects and needs of the sector. In order to encourage students to consider entrepreneurship or innovation, the Education and Business Director of EIT RawMaterials created a ten-page book, provided to students, called EIT RawMaterials Business Creation, which explains how EIT RawMaterials can support graduates in creating start-ups.

The students and graduates survey provides insight on the number of students in EIT-labelled MSc and PhD programmes who have joined a start-up. Of the survey respondents:

- 15% (6 / 40) of respondents joined a start-up during or after studies
- 2 joined start-ups due to EIT activities, while 4 were unrelated
- 12.5% (5 / 40) of respondents established a start-up
- For 3, this was related to EIT activities, including using knowledge obtained through studies or activities



Additionally, as shown in Table 34 above, only 4 start-ups have been created by EIT-labelled students and graduates out of the 25 targeted in the 2018 – 2022 Strategic Agenda.

Very few students and graduates chose to pursue entrepreneurship during or after their studies. Some respondents mentioned elsewhere in the survey that the KIC focused more on activities with industry partners targeting job-awareness rather than innovation or entrepreneurial activities. However, there are many potential explanations for the poor performance on this indicator, as brought forth through both the interviews conducted for this assessment and literature on the sector. Based on the interviews, EIT RawMaterials does contribute to the creation of an entrepreneurial mindset to students and graduates; however, it is difficult for graduates in any sector to choose a path with such high uncertainty over a well-paid, stable industry job. This plays an especially important role in EIT RIS eligible countries and regions, where the ecosystems to support entrepreneurship are not as well established. Within the raw materials sector, there is the added component of the conservative, slow pace of the sector, which results in most entrepreneurial activities being a very long-term investment. This investment can be difficult to make for students who have just chosen to make the significant long-term investment of pursuing higher education.

However, entrepreneurial activities are not the only way RM Academy graduates can influence the broader raw materials sector. EIT RawMaterials educational activities also seek to develop intrapreneurial mindsets that seek to incorporate an entrepreneurial spirit into already existing companies. The KIC has launched successful hackathons to foster this intrapreneurship, by running idea competitions both with partners and non-partners. The Sandvik Rockathon is one of EIT RawMaterials' success stories, through which a workable and compatible system for onboard ore analysis for mining equipment was designed. Such practices should be further evolved, as they foster new skills for students and generate revenue through service costs.

8.2 Financial framework and budget

Education activities are funded through a designated annual budget allocation approved by the EIT for EIT RawMaterials. In 2016, the KIC funded 28 learning and education KAVAs, which increased to 57 RM Academy KAVAs by 2020. Revenue generation through education activities has been a consistent struggle for the KIC throughout the years, with only nominal amounts generated. EIT RawMaterials has been recommended through past monitoring activities to take better advantage of potential revenue sources moving forward. The evolution of the annual budget for education KAVAs can be seen below.

Table 36. Education Budget, 2017 - 2020

Activity Category	2017	2018	2019	2020
Education*	€ 7,485,182.80	€ 11,344,604.93	€ 17,848,820.15	€ 18,222,327.74

*As reported through EIT monitoring data.

8.3 Strengths, weaknesses, and recommendations

Strengths
EIT RawMaterials has strong coordination and support measures for students and graduates.
The KIC's educational activities have strong relevance to solving societal challenges and significant European added value.
The KIC's strong knowledge triangle integration in educational activities leads to programmes tailored to address skills gaps and students being exposed to both industry and research partners.
The KIC met its target for the number of female graduates from EIT-labelled programmes.

Strengths
Strong achievements of Academic Quality Label targets, and overachievements of targets relevant to connecting students with industry partners, Lifelong Learning and Wider Society Learning.
A high percentage of graduates are currently employed; the majority these graduates are in the sector relevant to their education.
Wider Society Learning courses target underrepresented groups in the sector, including young girls, which contributes towards long-term demographic changes in the sector.
The number of applications specific EIT-labelled masters programmes receive each year points to high student interest.
The education activities implemented by EIT RawMaterials have updated the raw materials curricula by connecting with today's most pressing issues.
EIT RawMaterials is well aligned with EIT strategic priorities in their education activities. For example, the KIC is leading on the Cross-KIC HEI Initiative and the Education Cluster (through Skills for the Future and Girls Go Circular) that are part of DG EAC's Digital Education Action Plan.
EIT RawMaterials fosters an intrapreneurial mindset through its activities, which provides further opportunities for RM Academy graduates to influence the raw materials sector beyond entrepreneurial activities.

Weaknesses	Recommendations
Limited revenue is generated from EIT RawMaterials educational offerings, despite plans to increase this.	<p>Prioritise commercialising lifelong learning, short courses, and higher education support services to contribute to the KIC's achievement of financial sustainability.</p> <p>Introduce further revenue streams in all segments and explore other EU and national instruments to complement the EIT funding (Erasmus+, etc.)</p>
Respondents to the students and graduates survey provided feedback that their EIT-labelled education programme was incoherent and compromised due to needing to meet various, and sometimes misaligned, requirements of each university involved.	<p>EIT RawMaterials should provide specific guidance on how to align academic requirements to ensure the final programmes are cohesive.</p> <p>The KIC should regularly seek feedback from graduates to ensure problems with EIT-labelled programmes are addressed in a timely manner.</p>
The KIC has shown a limited capacity to instil an entrepreneurial mindset in education and training programme graduates.	<p>Work with partners to establish more courses and activities relevant to job-awareness and alternative career paths in the raw materials sector.</p> <p>Further strengthen the entrepreneurship element in the EIT Label programmes.</p>
EIT RawMaterials has not performed well on the KPIs regarding total students and graduates in EIT-labelled programmes.	<p>Increased outreach activities and the creation of additional EIT-labelled education programmes will enable EIT RawMaterials to reach more students.</p> <p>Better organisation and structure of dissemination and communication activities can aid in promoting</p>

Weaknesses	Recommendations
	<p>the education activities of EIT RawMaterials. EIT RawMaterials competes with highly ranked universities with significantly larger recruitment budgets.</p> <p>Ensure tuition fees are affordable to students or offer scholarship programmes to those who cannot afford tuition fees. The KIC's higher education programmes charge high tuition fees, which limits the number of students who have the ability to follow these programmes, especially given that most European countries have universities with low tuition fees.</p>
<p>EIT RawMaterials has not performed well on the number of start-ups created by students in EIT-labelled programmes.</p>	<p>Provide direct assistance to graduates interested in entrepreneurship and innovation. Connect students with additional services beyond those offered through the EIT that can support entrepreneurship.</p> <p>Review the EIT RawMaterials educational programmes' target group to attract students with a business mindset. Students more likely be interested in entrepreneurship would benefit more from the KIC's unique educational programmes that emphasise entrepreneurship and innovation.</p> <p>The strengthening of the Alumni association could aid in this regard. Incorporate entrepreneurial assistance through providing resources and opportunities for networking in the new Alumni programme.</p>
<p>The targets set for Wider Society Learning, Lifelong Learning and the percentage of female graduates were not ambitious.</p>	<p>The KIC should base its targets on past performance and incorporate more ambition for the KPIs it easily achieves.</p>
<p>There are no active EIT-labelled PhD courses offered through EIT RawMaterials.</p>	<p>Prioritise receiving proposals for new EIT-labelled PhD courses to strengthen the KIC's educational offerings.</p>
<p>There was limited data on graduate outcomes and alumni activities.</p>	<p>EIT RawMaterials should work closely with the Alumni association to monitor graduate outcomes over the short and medium term.</p>
<p>Surveys showcased the need for a stronger oversight between EIT RawMaterials and EIT-labelled programmes.</p>	<p>EIT RawMaterials should work more closely with EIT-labelled students and graduates to provide opportunities for receiving feedback in order to ensure the highest quality of education is being provided.</p>

9. Innovation & Research

The EIT was created to drive innovation in Europe. The European Union currently needs innovative solutions to address the fact that it depends to a very large degree on imports from outside the bloc for its raw materials supplies. As such, there is a very urgent need for the mobilization of researchers and innovators to create solutions to the lack of domestic raw material sources. EIT RawMaterials seeks to develop raw materials into a major strength for Europe and create the capacity for a cost-efficient, secure, sustainable supply and use of raw materials, and aims to achieve this through the closure of material cycles. To achieve this significant innovation and research into the broader raw materials sector is needed and EIT RawMaterials is tasked with providing that.

Assessment Criteria	Relevant Indicators
<p>KIC's Union added value and relevance with regard to the objectives of the EIT</p> <p>OVERALL SCORE:</p> <p>11/15</p>	<p>Revenue from the innovations launched on the market</p>

9.1 Activities and results

Overview of Research and Innovation Activities

Innovation and research are a core part of EIT RawMaterials. EIT RawMaterials aims to create value by strengthening the innovation and technological capabilities of the EU to address the raw materials challenges the union faces. EIT RawMaterials aims to combat the segmented and short-sighted approach with which raw materials challenges are treated by bringing together actors across the raw materials value chain. In this way, more sustainable solutions may be achieved through simultaneous investment by key stakeholders in the sector. One of the ways EIT RawMaterials has done this is through the creation of their Lighthouse programmes. Such programmes aim to bring about innovative solutions to the raw material challenges facing the world. Lighthouses are defined as part of the KIC's portfolio and are large-scale and long-term coordinated innovation initiatives that directly aim to address the aforementioned three strategic objectives. They essentially act as mission-oriented approaches to innovation challenges that span across several activities and integrate stakeholders across the value chain, in an effort to bring about the innovation necessary for EIT RawMaterials to achieve its goals. The three Lighthouses created by EIT RawMaterials are Raw Materials and Circular Societies, Sustainable Materials for Future Mobility, and Sustainable Discover and Supply.

EIT RawMaterials aims to address three strategic objectives: securing the raw materials supply to the bloc, designing materials solutions for current and future problems, and closing materials loops. Innovation and research will particularly play a key role in addressing these strategic objectives by "boosting the existing RM sector through the market introduction of new materials, investment in new production and processing units"²⁵all of which the strategic objective heavily rely on. Through EIT RawMaterials' innovation supporting activities, the KIC will support the creation and development of sector-changing businesses and innovations across Europe that work towards addressing the KIC's societal challenge. In order to ensure all EIT RawMaterials activities contributed to the various facets of the strategic objectives, the KIC created six

²⁵ Strategic Agenda 2016-2022 of EIT RawMaterials

knowledge and innovation themes that collectively work towards addressing the societal challenge it was designated for. These themes are as follows:

1. Exploration and raw materials resource assessment
2. Mining in challenging environments
3. Increased resource efficiency in mineral and metallurgical processes
4. Recycling and material chain optimisation for End-of-Life products
5. Substitution of critical and toxic materials in products for optimised performance
6. Design of products and services for the circular economy.

By aligning all activities to these strategic objectives and innovation themes, EIT RawMaterials ensures innovation activities aid in the transformation of the raw materials sector from a brown linear economy to a green circular economy.

In order to further boost the innovation and research aspects EIT RawMaterials and adapt the raw materials sector to the needs of the present, EIT RawMaterials has created the KIC EIT RawMaterials Innovation System (KIS). This includes “Matchmaking & Networking” activities, such as the creation of an InfoCenter which serves as an information hub containing information on current research, expertise, and new ideas, among other things. It additionally includes events in which existing businesses can learn about the new technologies the KIC supports, which contributes to boosting the capacity for innovation of the EU. Furthermore, the “Idea Camp” and “Intrapreneurship Facilitator” events have research and innovation as core components, with the former acting as a forum for the sharing of research, and the latter as an enabling tool for innovation. Outside of such activities the KIS also supports research and innovation through the up-scaling of innovation projects and by mapping facilities and infrastructure that can facilitate research and the generation of innovation.

Research and Innovation Activity Performance

EIT RawMaterials has also endeavoured to increase research and innovation in the raw materials sector. The KIC succeeded in realising many collaborations; however, recent EIT assessments have recommended the KIC should do more to adhere with the Smart Specialization strategies throughout its activities. EIT RawMaterials has also followed the targets envisioned by the European Innovation Partnership on Raw Materials (EIP RM)’s Strategic Implementation Plan. This has included setting targets for pilot actions, raw materials substitution, and framework conditions for use of primary materials, as well as enhanced efficiency in material use and the raw materials knowledge base. The KIC’s activities also addressed EIT RawMaterials targets, such as networking research and raw materials research and innovation coordination. In terms of the KIC’s research targets, EIT RawMaterials realised it’s goals of participating in FP7, Horizon 2020, national and regional projects, and aligning with EIP commitments, in order to foster excellence, invite new partners, and increase commercialisation.

EIT RawMaterials also works to facilitate research and innovation in the raw materials sector in order to spark innovations. According to interviews, the KIC has successfully managed to create and strengthen sustainable innovation ecosystems throughout the EU, with organising and collaboration on projects designed to solve societal challenges. These ecosystems have led to increased cooperation among the different actors in the raw materials field across the EU and have increased the innovation capacity of the bloc. Across various indicators, EIT RawMaterials generally performs quite well, as shown in Table 37. These include the number of products with reduced toxic materials, the number of key-enabling technology innovations applied or in progress, the number of sustainable best available technologies in the market reducing critical raw materials waste, the number of pilot or demo plants, prototypes or production units created, and the number of applied substitution cases.

Table 37. Innovation and Research KPIs*

<i>EIT Core KPIs – Verified Annually by the EIT</i>				
KPI	Achieved 2016 – 2020	Target 2016 – 2020 (BPs)	Achieved 2019 – 2020	Target 2019 – 2022 (SA)

Products or processes launched on the market	175	246	118	192
Start-ups created as a result of innovation projects	12	21	8	46
KIC Specific KPIs				
KPI	Achieved by 2020	Target 2016 - 2020 (BPs)	Target 2016 - 2022 (SA)	Years Measured
Number of reported and proven substitution cases	32	42	20	2017 – 2020
New KET innovations applied or in progress	32	34	3	2017 – 2020
New sustainable BAT accepted / in progress	19	24	9	2017 – 2020
New/improved products w/ reduced toxic material	30	26	50	2017 – 2020
# New pilot/demo plants, prototypes or production units as a result of a KAVA	1309	370	20	2016 – 2020

* The values included in the achieved column are the sum based on EIT RawMaterials’ annual grant report assessments. The values included in the 2020 / 2016 - 2020 target columns are the aggregated targets from the KIC’s annual business plans from the years specified. The values included in the 2022 / 2019 - 2022 target column are taken from the 2018-2022 Strategic Agenda.

However, the KIC is not on track to reach all of its targets, as it failed to meet the targets set for the number of start-ups created from innovation projects. There are significant barriers in the raw materials sector that impede the ability to achieve these targets. Innovations in the raw materials sector can take anywhere from eight to fifteen years before they make it to the market due to both the significant need for investment and the regulatory burdens involved in creating changes in mining processes. Because the raw materials sector is dominated by mid- and large-sized corporations, most of which are partners of the KIC, innovation projects are often commercialised and integrated into these existing businesses rather than creating a new entity. Because of this, the KPI on products or processes launched on the market may reflect successful entrepreneurial activities more completely than the number of start-ups created as a result of innovation projects. In addition, there is a misalignment between the targets set in the strategic agenda and the annual targets set in the business plans, with 2022 targets from the strategic agenda being met, while at the same time, yearly targets of the business plans are undershot. This most often shows an increase in ambition within the annual business plans compared with the strategic agendas; however, it should be ensured that these targets remain realistic and achievable. Lastly, while the KIC has not yet reached the multi-annual target for the number of products or processes launched on the market, based on the targets set in the 2021-2022 annual business plans, it is expected that this target will be surpassed.

9.1.1. Revenue from the innovations launched on the market

The majority of respondents from the ventures survey felt that minimal revenue was generated as a consequence of innovations created through their engagement with EIT RawMaterials being launched on the market. However, only 11 out of the 87 respondents estimated that the revenue generated was above €0.5M, as shown in Table 38 below.

Table 38. Revenue from innovations developed through engagement with EIT RawMaterials and subsequently launched on the market

Level of Revenue	# Of Respondents
None / Not Applicable	36

Level of Revenue	# Of Respondents
Less than €0.5 million	76
€0.5-1 million	4
€1-2 million	3
€2-5 million	1
€5-10 million	2
More than €10 million	1

Based on the data on revenues provided to us by EIT RawMaterials, no revenue has been generated through Upscaling and Acceleration projects in 2020, which was when the EIT required this data to begin being collected. However, most innovation projects taken 5 – 7 before they begin generating revenue. Moving forward, EIT RawMaterials management projected that innovations currently existing in the KIC’s portfolio would generate €320M between 2022-2027.

9.2 Financial framework and budget

Innovation and research activities are funded through a designated annual budget allocation approved by the EIT for EIT RawMaterials. In 2016, the KIC funded 45 validation and acceleration KAVAs, which increased to 78 upscaling KAVAs by 2020. Revenue generation through innovation and research activities has been a consistent struggle for the KIC throughout the years, with only nominal amounts generated. EIT RawMaterials has been recommended through past monitoring activities to take better advantage of potential revenue sources moving forward, which the KIC has addressed through the introduction of backflow schemes for innovation projects. Innovation and research activities receive the largest budget allocation compared with all other activities, which falls in line with the KIC’s objective to increase innovation activities across the Union. The evolution of the annual budget for innovation KAVAs can be seen below.

Table 39. Innovation and Research Budget, 2017 - 2020

Activity Category	2017	2018	2019	2020
Innovation and Research*	€ 23,294,567.67	€ 38,603,036.69	€ 53,059,923.01	€ 65,602,849.76

*As reported through EIT monitoring data.

9.3 Strengths, weaknesses, and recommendations

Strengths
EIT RawMaterials has successfully managed to create an innovation ecosystem in the EU.
The innovation activities of EIT RawMaterials have led to increased cooperation among the different actors in the raw materials field across the EU.
A number of innovation KPIs have been overachieved including the number of key-enabling technology innovations applied or in progress, the number of sustainable best available technologies in the market reducing critical raw materials waste, the number of pilot or demo plants, prototypes or production units created, and the number of applied substation cases.
The KIC’s current portfolio has the potential for future revenue generation.

Weaknesses	Recommendations
<p>EIT RawMaterials has underperformed in multiple innovation KPIs, including the number of products with reduced toxic materials, the number of products and processes launched in the market, and the number of start-ups created from innovation projects.</p>	<p>Partner with or fund projects that directly contribute to the reaching of these long-term targets.</p>
<p>The revenue generation of innovations supported was not regularly monitored.</p>	<p>This weakness has been addressed by the implementation of the EIT's new Impact Framework for 2021-2027.</p>
<p>Limited availability of information regarding the impact of the KIC on the innovative capacity of Europe and the success of supported projects, with information not being tracked after a certain time other times with the information not being tracked at all.</p>	<p>Moving forward, the KIC has implemented a Legacy Contribution Yearly Check-In which will monitor innovation projects' activities for five-years following funding. Ensure this data can be easily aggregated for future assessments.</p>

10. Entrepreneurship & Business Creation

The EU serves as a prime region for entrepreneurship and business creation in the raw materials sector. This is because it has been host to world-leaders in the manufacturing sector, while benefitting from being at the forefront of innovation and a well-developed entrepreneurial infrastructure. As such, EIT RawMaterials has envisioned a Europe that bases its industrial strength on a cost-efficient, secure, and sustainable supply of raw materials, that will in large part be enabled through entrepreneurs in the sector. EIT RawMaterials' vision and mission foresee a systemic change in the nature of raw materials in Europe that will be catalysed by boosting growth, competitiveness, and the attractiveness of the sector through entrepreneurial activities.

10.1 Activities and results

Overview of Entrepreneurship and Business Creation Activities

Entrepreneurs and innovators benefit from a number of EIT RawMaterials activities, including matchmaking and networking activities as well as validation and acceleration activities. Matchmaking and networking activities include the creation of forums, events, and websites that stimulate linkages across the knowledge triangle and raw materials value chain, as well as between entrepreneurs and established corporations. Through specific matchmaking events, entrepreneurs are paired with industry mentors who provide guidance on bringing innovations to the market and methods of securing funding. Validation and acceleration activities are selected based on the maturity of the business or innovation. Upscaling activities support established organisations in bringing their innovative ideas to the market, whereas the Growth Booster provides funding and entrepreneurship coaching to early-stage start-ups. In Upscaling projects, consortia work together to analyse and validate new technologies in terms of maximising the value they can bring to the raw materials sector and demonstrating their feasibility in prototypes. In Growth Booster activities, which includes the Accelerator Programme and Incubator Services, EIT RawMaterials helps to create novel businesses from innovations. Additional activities such as the "EIT RawMaterials Award" and the various funding instruments incentivise entrepreneurship activities and business creation.

EIT RawMaterials provides tailored business support services. EIT RawMaterials has designed a series of service offerings, Tracks, that build on the KIC's activities and offer useful assistance to its business partners. The "Start-up Track" serves as the conduit between a concept or idea and its commercialisation. Under this Track, the KIC supports individuals with novel ideas by providing access to infrastructure and skilled personnel, as well as opportunities for further training in the form of funded master education. Through the "SME Track", already established SMEs can receive support in training in the use of cutting-edge technologies, finding the most appropriate partners, getting access to scarce infrastructure, and accessing new markets. The "Radical Innovation Track" is aimed at supporting large companies to conduct research in collaboration with SMEs, universities, and research organisations, and pursue further education as a complement to this process. Finally, the "Kick-Start Track" offers idea-holders the opportunity to rapidly assess the viability of their ideas by conducting a proof-of-concept study and market analyses, while opening up the possibility of entry into one of the other tracks.

Entrepreneurship and Business Creation Activity Performance

EIT RawMaterials demonstrated good performance on several of its original goals in supporting start-ups. The KIC has managed to cultivate a good reputation, which has resulted in many start-ups submitting proposals not just for the funding, but also because of the KIC's support services. Networking, mentoring, and testing are crucial for start-ups who wish to scale-up and break into the market, and these services are difficult to come by alone. All things considered, creating a start-up is a high-risk endeavour, but EIT RawMaterials has designed some tools to help mitigate this risk wherever possible. The KIC has created the Business Creation book to help inform young students in EIT-labelled masters programmes about how EIT RawMaterials can support them in founding a start-up. The KIC has also designed support activities aimed at increasing the chances of the start-up's success. In cases of Upscaling, the projects' commercial viability is pre-evaluated before they are accepted as participants. Afterwards, the KIC supports the creation of the

first prototype and offers help in securing the company’s first customers. While not all supported start-ups succeed, many do; however, the impact of EIT RawMaterials on the success of start-ups could not be estimated through the data available in this assessment.

Another successful aspect of the KIC is the creation of a network of key stakeholders that enables the creation of valuable synergies in the raw materials sector. Industry partners are drawn to EIT RawMaterials to access new talent from the KIC’s network, while at the same time young professionals and entrepreneurs are given the opportunity to integrate within the broader raw materials sector. The increased networking opportunities provided by the KIC have in part led to the creation of an innovation ecosystem where there was none before, which has led to many businesses and products being launched to the market, according to interviewees. These transnational efforts have succeeded in rectifying the inability of many national systems which are too fragmented with respect to the different functions of the knowledge triangle to develop the momentum needed. The knowledge triangle integration of EIT RawMaterials has led to innovators and start-ups being supported by the existing industry leaders and has increased the capacities of various regions around Europe to support entrepreneurial activities.

The KIC’s performance in its entrepreneurship and business creation KPIs was mixed, as shown in Table 40. EIT RawMaterials has performed well in terms of the number of start-ups supported and the amount of investment attracted by the supported start-ups, with the KIC either overperforming or on track to achieve both its yearly and 2019-2022 targets, a fact which was also highlighted in the interviews. Of the over 328 start-ups supported by EIT RawMaterials, the KIC reports that roughly 280 of them have survived the first valley of death, or the period between start-up launch and revenue generation, thanks to EIT RawMaterials support. The KIC has also performed well in terms of the number of jobs created or sustained in the raw materials sector as a result of its activities, overshooting the targets set in the KIC’s annual business plans. On the other hand, it has also failed to meet some of its other targets. It failed to reach both its business plan and its strategic agenda targets for start-ups created as a result of innovation projects, and also failed to reach the business plan targets for products and processes launched to the market, though the KIC is expected to overachieve the 2019-2022 target by the end of the year.

The performance of EIT RawMaterials in these KPIs can be explained by a multitude of factors. It is possible that less funding was received than expected, as the business support services consistently had the smallest budget compared with the other knowledge triangle activities. Additionally, barriers mentioned in the interviews included overcoming the challenge of bringing sector-shifting technologies to the market and needing to align new products with market needs. It is also difficult to encourage entrepreneurial activities within specific populations, including recent graduates and individuals in the EIT RIS eligible countries and regions, as a position in an already established company is a safer and easier choice to make. Lastly, Covid-19 undoubtedly has had an impact on entrepreneurial activities in Europe; however, the Covid-19 Booster launched by EIT RawMaterials provided much needed support to businesses during this time, significantly increased the budget available for business support services, and actually increased the output of the KIC during this period.

Table 40. Entrepreneurship and Business Creation KPIs*

<i>EIT Core KPIs – Verified Annually by the EIT</i>				
KPI	Achieved 2016 – 2020	Target 2016 – 2020 (BPs)	Achieved 2019 – 2020	Target 2019 – 2022 (SA)
Products or processes launched on the market	175	246	118	192
Start-ups supported by KICs	332	323	218	275
Start-ups created as a result of innovation projects	12	21	8	46
Investment attracted by start-ups supported by KICs	156.6 MEUR	36 MEUR	30.8 MEUR	15.5 MEUR

KIC Specific KPIs				
KPI	Achieved by 2020	Target 2016 - 2020 (BPs)	Target 2016 - 2022 (SA)	Years Measured
New jobs created or sustained in the raw materials sector	1046.5	401.5	N.A.	2017 – 2020

* The values included in the achieved column are the sum based on EIT RawMaterials’ annual grant report assessments. The values included in the 2020 / 2016 - 2020 target columns are the aggregated targets from the KIC’s annual business plans from the years specified. The values included in the 2022 / 2019 - 2022 target column are taken from the 2018-2022 Strategic Agenda.

Although EIT RawMaterials’ business creation and entrepreneurship support activities have the highest potential for contributing to the KIC’s financial sustainability, these opportunities have not been sufficiently taken advantage of over the past six years, as has consistently been mentioned through annual EIT monitoring activities. Backflow plans for start-ups supported have only recently been introduced, with the expected backflow to be generated in the short-term rather limited, given that it usually takes 5 – 7 years before start-ups become profitable. As for revenue from support activities such as consulting or mentoring, very limited revenue has been generated from services provided, as shown in Chapter 6. However, this is expected to improve moving forward, as EIT RawMaterials is including financial asset and backflow schemes with start-ups supported in 2022 and the opportunity for additional business support activities through ERMA.

10.2 Financial framework and budget

Entrepreneurship support activities are funded through a designated annual budget allocation approved by the EIT for EIT RawMaterials. In 2016, the KIC funded 11 business creation and support KAVAs, which was consolidated to 2 KAVAs by 2020: Business Creation & Support and the Covid-19 Booster. The KIC has introduced a number of strategies to increase revenue from entrepreneurship support activities in recent years. Backflow schemes have been introduced for start-up and scale-up support activities, the KIC is investigating potential financial asset strategies with all 50 start-ups being supported in 2022, and the creation of a separate start-up fund being creation with partners is also being discussed. If these plans are properly implemented, they will contribute to the financial sustainability of EIT RawMaterials.

The evolution of the annual budget for entrepreneurship support KAVAs can be seen below.

Table 41. Entrepreneurship Support Budget, 2017 - 2020

Activity Category	2017	2018	2019	2020
Entrepreneurship*	€ 1,671,097.92	€ 2,060,523.33	€ 3,079,199.44	€ 16,088,077.23

*As reported through EIT monitoring data.

10.3 Strengths, weaknesses, and recommendations

Strengths
EIT RawMaterials has a good reputation amongst start-ups, resulting in many start-ups seeking out EIT RawMaterials not solely for funding but also for the other services that it provides.
The entrepreneurship and business creation support provided by EIT RawMaterials has led to the creation of business ecosystems and collaboration opportunities.
Creation of EIT RawMaterials Business Creation book has raised awareness among students about the support tools available to them to aid them in starting their own start-up.

Strengths
EIT RawMaterials has supported over 300 start-ups so far.
The commercial viability of Upscaling projects is assessed prior to project acceptance.
EIT RawMaterials has a strong industry network, with business partners drawn to the KIC to have access to this network and new talent.
EIT RawMaterials has created business ecosystems and networks where there were none before.
The newly introduced backflow and financial asset schemes for start-ups supported by EIT RawMaterials will contribute to the KIC's financial sustainability.
The new job types created by ventures supported by EIT RawMaterials contributes to skills gaps and shortages being filled in the raw materials sector.
Ventures supported by EIT RawMaterials have far surpassed targets on the level of investment attracted, despite the raw materials sector being highly conservative.

Weaknesses	Recommendations
EIT RawMaterials underperformed some business creation and entrepreneurship KPIs, including the number of products or processes launched on the market and the number of start-ups created from innovation projects.	<p>Contribute more funding to business creation activities and strengthen existing business creation KAVAs, either through expansion of services or greater support capacity, to better support ventures.</p> <p>When defining new multi-year targets, make sure they are realistic and validated by external experts at the time of definition.</p>
Business creation and entrepreneurship support services has consistently had the lowest budget compared with activities on other sides of the knowledge triangle.	The Booster Call implemented in response to the Covid-19 crisis has improved this, but moving forward, there must be consistent balance in funding between the activities that address the different sides of the knowledge triangle.
The responses from the ventures survey that estimated the impact of EIT RawMaterials on ventures' success showed that most respondents saw either less than 5% or no increase in revenue and profitability due to EIT RawMaterials activities.	<p>Strengthen existing business creation KAVAs, either through expansion of services or greater support capacity, to better support ventures.</p> <p>More evenly distribute funding across knowledge triangle activities so that entrepreneurship and business creation activities do not fall further behind.</p>
Little to no revenue has been generated through business creation activities, either through return on investment or service fees, over the 7-year period assessed.	The 2021-2027 Strategic Agenda and recent introductions of backflow and financial asset schemes will improve this, but the KIC should ensure these are implemented in a timely manner and maximise contribution towards financial sustainability.

11. EIT Regional Innovation Scheme (EIT RIS)

Innovation is one of the top priorities of the EU; however, the innovation capabilities across Europe vary greatly between countries and their regions. The European Innovation Scoreboard scores countries based on their level of innovation capabilities and outputs. The EIT Regional Innovation Scheme (RIS) was introduced in 2014 to advance the innovation capabilities in countries with moderate or modest innovation scores as defined by the Scoreboard. The EIT RIS fosters innovation through the dissemination of the knowledge triangle integration (KTI) approach, fostering linkages between business accelerators, incubators, start-ups, scale-ups, businesses, educational institutions and research institutions. For the 2021-2027 period, the EIT RIS initiative has been enhanced and aims to deliver on:

- Improving innovation capacities of the local ecosystem
- Integrating potential new EIT KIC partners and linking local innovation ecosystems to pan-European innovation ecosystems
- Using the EIT RIS as a bridge towards relevant Research and Innovation Smart Specialization Strategies (RIS3s)
- Leveraging additional private and public funding, with particular attention to the European Structural and Investment Funds (ESIF).

Through the EIT RIS, the EIT expects significant outcomes such as an increased number of ventures from all targeted countries and regions, an increased number of students from those countries and regions, as well as an increase in overall collaborations in these countries and regions.

KICs are expected to each implement their own self-defined strategies to meet the EIT RIS’ objectives, including integrating more participants from the EIT RIS eligible countries and regions into their KTI activities. Through the EIT RIS, the KICs are able to generate useful inputs and gain access to talents, business skills, and broader cooperation in education.

Table 42 shows the countries that were set as target areas of the EIT RIS between 2014 and 2020. This includes countries from two categories:

1. Moderate and modest innovators
2. Horizon 2020 countries in Europe, apart from those that are considered innovation leaders or strong innovators

Table 42. EIT RIS Eligible Countries (2014-2020)

EU Countries	H2020 Associated Countries in Europe
Bulgaria	Albania
Croatia	Armenia
Cyprus	Bosnia and Herzegovina
Czech Republic	Faroe Islands
Estonia	Former Yugoslav Republic of Macedonia
Greece	Georgia
Hungary	Moldova
Italy	Montenegro
Latvia	Serbia
Lithuania	Turkey
Malta	Ukraine
Poland	
Portugal	
Slovakia	
Slovenia	
Spain	
Romania	

Assessment Criteria	Relevant Indicators
<p>KIC's Union added value and relevance with regard to the objectives of the EIT</p> <p>OVERALL SCORE:</p> <p>11/15</p>	<p>KIC RIS activities have been fully aligned with the EIT RIS Guidance note 2018-2020 and RIS Implementation Framework (2022-2027)</p>
<p>Achievement of KIC's objectives</p> <p>OVERALL SCORE:</p> <p>10/15</p>	<p>The KICs have delivered EIT RIS activities and achieved results within the scope of their EIT RIS Strategies. Any deviations are duly justified and having led to maximised results.</p>
<p>KIC's achievements in attracting new members from across the Union</p> <p>OVERALL SCORE:</p> <p>8/10</p>	<p>Number of the RIS eligible countries and regions covered by the KIC partnership and representation of all the knowledge triangle players in its activities</p>

11.1 Activities and results

EIT RawMaterials embeds their EIT RIS strategy in all activity areas and KAVA calls, rather than creating a separate RIS scheme. This allows for better integration of RIS partners and regions into pan-European ecosystems. The KIC has established seven RIS Hubs so far, with more RIS Hubs planned on being created throughout 2022 and the years that follow, specifically targeting regions where the KIC can create a stronger and long-lasting impact.

EIT RawMaterials' RIS strategy and activities since 2016 have been strong. From early on, the KIC managed to establish a very clear and focused approach to the RIS, especially concerning strengthening local ecosystems. EIT RawMaterials has created visible innovation ecosystems in EIT RIS eligible countries and regions where they did not exist before, through the integration of EIT RIS eligible countries and regions in their broader activity portfolio and targeting existing, but not well-connected, RIS hubs. EIT RawMaterials has established an especially strong presence in the ESEE region, largely due to this region being naturally endowed with raw materials and natural resources.

EIT RawMaterials is involved in multiple Cross-KIC RIS activities, including the Jumpstarter programme that creates a mandatory quota for RIS projects being supported. This programme was launched alongside EIT Health and won the Best Training Programme Award in the European Associations Award in 2019 and the Emerging Europe Award in 2020 in the Young Empowerment Initiative category. Additionally, the Cross-KIC HEI Capacity Building Initiative, led by EIT RawMaterials, aims to establish university incubators in the EIT RIS eligible countries and regions to increase these universities' innovation and entrepreneurship capacities.

However, several recommendations on RIS activities remain. Firstly, recent reports have brought to attention a misalignment between KAVA projects from EIT RIS eligible countries and regions and the requirements of the Guidance Note. Additionally, there is limited data on the expected outcomes regarding EIT RawMaterials' RIS activities, so the level of impact cannot be assessed. However, this was not entirely

the fault of the KIC, so EIT RawMaterials has not been penalised for this in the present assessment. Lastly, the KIC has presented limited evidence on the alignment of RIS synergies with the Smart Specialization Strategy (RIS3). However, EIT RawMaterials has highlighted that the RIS3 strategies do not align well with the raw materials sector, a barrier that is felt by both the KIC and the KIC’s partners from EIT RIS eligible countries and regions. The EIT and EIT RawMaterials should come to an agreement on this to ensure the KIC is doing the most that it can, and that the EIT is not imposing requirements that go against the specific needs of the raw materials sector.

11.1.1. KIC RIS activities have been fully aligned with the EIT RIS Guidance Note 2018-2020 and RIS Implementation Framework (2022-2027)

EIT RIS Guidance Note 2018-2020²⁶

The aim of EIT RIS Guidance Note 2018-2020 was to provide an updated approach to the EIT RIS to help KICs readjust their strategy. It also provided certain flexibilities in the designing process of relevant activities. Table 43 provides a description of the primary objectives of the EIT RIS Guidance Note 2018-2020. Action Line 1 describes the efforts the KIC is meant to make regarding the engagement of actors at a local level. For the activities highlighted in Action Line II, the KICs are meant to undertake the role of promoting KTI and networking through events. The activities that take place under both Action Lines should ensure sustainability and durability, while also ensuring the activity is of interest to national authorities.

RIS Hubs can act as an “interaction point” between the KIC and local actors. They are local entities that collaborate with the KIC and aim to facilitate all activities, including engaging local actors and facilitating KTI. For this reason, RIS Hubs should receive adequate visibility as members of the EIT Community. The entities that are considered eligible of becoming a RIS Hub should fulfil a significant number of criteria:

- Thematic alignment with KIC-specific focus areas
- Capacity to work with KT actors and relevant national and regional authorities
- Commitment to the EIT RIS implementation
- Relations with national/international authorities so as to increase synergies and complementarities

Table 43. Description of Action Lines of EIT RIS Guidance Note 2018-2020

Action Line	Descriptions of Activities and Example Outputs
<p><i>Action line I: Engage local players in KIC activities</i></p>	<p>Descriptions of Activities:</p> <ul style="list-style-type: none"> - Education: establishment of RIS scholarship programmes, campaigns and events, facilitation of industry involvement in educational programs, internships for graduates focused in EIT RIS eligible countries and regions - Entrepreneurship: foster participation of start-ups and scale-ups in acceleration programs, establishment of partnerships with local businesses, matchmaking and networking events, support of start-ups creation - Innovation and Research: augment the involvement of researchers originating from EIT RIS eligible countries and regions in KTI innovation projects, pilot testing of the outcomes of KIC innovation projects, foster involvement of local start-ups in technology and know-how transfer <p>Example Outputs:</p> <ul style="list-style-type: none"> - EIT RIS scholarships, internships, networking and matchmaking for start-ups, students and researchers in innovation projects, etc.
<p><i>Action line II: Mobilize, interlink and</i></p>	<p>Description of Activities:</p>

²⁶ Note: EIT RIS Guidance Note 2018-2020 remained into force for the year 2021, as it was considered a transitional year.

Action Line	Descriptions of Activities and Example Outputs
<i>internationalize national / regional networks</i>	<ul style="list-style-type: none"> - The KIC should work towards raising awareness and best practices from the KTI model, along with KT stakeholders at national level. Such process might include the linking of activities in the sectors of research, education and business with the aim of enabling innovation. As a next step of the process, the KIC should facilitate the development and implementation of joint innovation and entrepreneurship strategies in order to connect KT partners, while also facilitating the development of innovation related ecosystems practicing KTI. <p>Example Outputs:</p> <ul style="list-style-type: none"> - Identification and initiation of joint projects and pilots based on KTI approach among local KT actors

Overall, EIT RawMaterials was very well aligned with the EIT RIS Guidance Note for 2018-2020. EIT RawMaterials performs well on the activities included in Action Line 1, with the strongest contributions in education. The KIC requires proposals for higher education activities to include at least one university from an EIT RIS eligible country and region; however, so far only two of the five master’s programmes advertised on EIT RawMaterials website include universities from EIT RIS eligible countries and regions. Nevertheless, in KAVA Call 8 two master’s programmes were selected and started receiving funding in 2022 with both programmes led by universities from EIT RIS eligible countries, so this has already improved. The KIC can improve on the alignment with entrepreneurship and innovation activities, as there has been limited progress made on the number of KAVAs that address this specifically in EIT RIS eligible countries and regions. For Action Line 2, EIT RawMaterials displays a very good effort in facilitating links across the partnership between EIT RIS eligible countries and regions and non-EIT RIS eligible countries and regions. Rather than having a separate RIS programme, the KIC has integrated RIS directly into each of their activities, allowing for greater coordination between partners across Europe. However, the extent of this impact has not been monitored. EIT RawMaterials has also established nine RIS Hubs so far, with plans to develop more throughout 2022 and beyond.

RIS Implementation Framework 2022-2027

The RIS Implementation Framework of 2022-2027 aims to provide alignment with the strategy and priorities for the 2022-2027 programming period. The EIT aims to improve the geographical spread of the KICs networks, thus it has constituted EIT RIS as a mandatory part of the KICs multiannual strategies. One of the main goals is to generate tailor-made approaches for different EIT RIS countries in order to address their needs separately and to achieve better quality performances. The KICs should deliver on the following objectives:

- Improve the innovation capacities of the local ecosystem, via capacity building activities and closer interactions between the local KT innovation actors (such as, clusters, networks, regional public authorities, Higher Education Institutions (HEIs), research organisations, Vocational Education and Training (VET) institutions, SMEs) and their activities;
- Support the objective of attracting and facilitating the integration of potential new partners in the EIT KICs and link local innovation ecosystems to pan-European innovation ecosystems, including through the establishment of Co-Location Centres (CLCs) and RIS Hubs, as part of a “place-based” innovation approach;
- Used as a bridge towards relevant RIS3s;
- Leverage additional private and public funding, with particular attention to European Structural and Investment Funds (ESIF).

The KICs will be assessed for their results in delivering those objectives across all areas, such as business creation, education and innovation and especially in the following KPIs:

- Number of organisations from EIT RIS countries and regions have joined the EIT KICs’ activities
- Number of universities from the EIT RIS countries and regions take part in EIT Label programmes,



- Number of start-ups and SMEs from the EIT RIS countries and regions are supported in the KICs' mainstream accelerators
- Number of innovation, education and business creation projects have been implemented in EIT RIS countries and regions, and what their impact was

The EIT impact Framework also includes four other RIS-specific indicators:

- Number of organisations from RIS countries that attracted funding from ESIF, in line with RIS3s, with support from KICs and the amount of funding attracted
- Number of new CLCs and RIS Hubs established in RIS countries and regions
- Number of new and established KIC Partners from RIS countries and regions
- Share of indicated innovation and business ecosystems that cover RIS countries and regions

According to the RIS Implementation Framework, the KICs should deliver an impact in EIT RIS countries and regions equivalent to a minimum total of 15% of the KICs' aggregated core KPIs.

EIT RawMaterials' RIS strategy outlined in the KIC's 2021-2027 Strategic Agenda is very well aligned with the RIS Implementation Framework for 2022-2027. The KIC aims to continue building innovation ecosystems in EIT RIS eligible countries and regions through the creation of additional RIS Hubs and targeted RIS activities. Additionally, the updated KPI monitoring system for EIT RawMaterials includes a significant number of RIS-specific KPIs, which cover nearly all of those required by the RIS Implementation Framework for 2022-2027. The KPIs currently not included in the KIC's specific monitoring system that may be difficult to assess without regular data collection includes the number of organisations from EIT RIS eligible countries, regions that have attracted funding from ESIF and the amount of funding attracted, and the share indicated innovation and business ecosystems that cover EIT RIS eligible countries and regions.

11.1.2. The KICs have delivered EIT RIS activities and achieved results within the scope of their EIT RIS Strategies. Any deviations are duly justified and having led to maximised results.

There were delays in fully implementing the KIC's RIS objectives during the KIC's start-up phase, as found through this assessments desk research, but since then it has consistently improved on its RIS activities. EIT RawMaterials has a good outreach strategy in EIT RIS eligible countries and regions and has identified a number of strong partners throughout this process. The KIC has a strong presence in EIT RIS eligible countries and regions and successfully performs in establishing synergies between RIS KAVAs and research and innovation KAVAs. Additionally, the KIC has performed very well on the RIS KPIs that it has maintained; however, there are very limited KPIs included, so the level of impact on EIT RIS eligible countries and regions cannot be adequately assessed. Nevertheless, this was a shortcoming of the EIT which has now been resolved for the 2021-2027 period, and the KIC has not been penalised for this. As seen in Table 44, the KIC has not reached the annual business plan targets for number of external participants in EIT RIS programmes, but it still has the potential to meet the 2019-2022 target. Additionally, in the years it was monitored, the number of RIS-related cooperative innovations in progress did not meet its business plan targets. Due to this indicator not being regularly monitored, its progress towards the 2022 target has not been assessed. Moving forward, both the KIC and the EIT have implemented new monitoring frameworks that will allow for easier monitoring of progress towards RIS objectives, as long as the KPIs remain consistent over the years.

Table 44. RIS KPIs*

<i>EIT Core KPIs – Verified Annually by the EIT</i>				
KPI	Achieved 2016 – 2020	Target 2016 – 2020 (BPs)	Achieved 2019 – 2020	Target 2019 – 2022 (SA)
# External participants in EIT RIS programmes	1875	2339	1730	3200
<i>KIC Specific KPIs</i>				



KPI	Achieved by 2020	Target 2016 - 2020 (BPs)	Target 2016 - 2022 (SA)	Years Measured
New RIS-related cooperative innovations accepted/ in progress	11	20	60 ⁺	2017 - 2018

* The values included in the achieved column are the sum based on EIT RawMaterials’ annual grant report assessments. The values included in the 2020 / 2016 - 2020 target columns are the aggregated targets from the KIC’s annual business plans from the years specified. The values included in the 2022 / 2019 - 2022 target column are taken from the 2018-2022 Strategic Agenda.

⁺Taken from 2016 - 2022 Strategic Agenda because a target was not provided in the 2018 - 2022 Strategic Agenda. This KPI is not evaluated on whether it achieved the 2022 target because it was only measured between 2017 - 2018.

There are a number of weak points in the KIC’s RIS activities, including underspending and unbalanced KTI. Recent reports have noted underspending in RIS projects, which may explain the moderate achievement of impact in KTI. Additionally, EIT RawMaterials activities in RIS regions still largely overrepresent education KAVAs, with minimal business creation and innovation activities. Desk research showed that there was limited involvement of industry partners in KAVAs in RIS regions, as the majority of KAVAs were focused nearly entirely on educational and training provisions. However, the interviews shed light on how industry involvement has been improving due to changes in requirements for RIS Calls. Proposals being submitted to RIS-specific calls must also include solutions to pre-identified local issues, which has resulted in more industry partners becoming involved.

11.1.3. Number of the RIS countries and regions covered by the KIC partnership and representation of all the knowledge triangle players in its activities

EIT RawMaterials has had RIS partners from 16 countries over the course of the KIC’s lifetime, listed in Table 45. The table only reflects the number of partners originating from RIS Countries and it does not include RIS Task Partners. The countries with the highest number of partners have been Spain, Italy, and Poland, with many other countries having a quite limited representation. EIT RawMaterials has had 142 RIS partners, but 71 of them originate from Spain and Italy alone, which reflects a significantly unbalanced geographical spread.

Table 45. Partners in RIS Countries

RIS Country	Number of Partners	RIS Country	Number of Partners
Bosnia and Herzegovina	4	Lithuania	1
Czech Republic	1	Latvia	3
Estonia	2	Poland	20
Spain	34	Portugal	4
Greece	8	Romania	3
Croatia	2	Serbia	1
Hungary	4	Slovenia	14
Italy	37	Slovakia	4

The knowledge triangle of RIS partners has been relatively balanced, with six countries over the KIC’s lifespan having had all three sides of the knowledge triangle being represented at some point. The knowledge triangle distribution of partners over the KIC’s lifespan is shown in Table 46 below. The table shows that there is an overrepresentation of business partners in EIT RIS eligible countries and regions, with fewer partners originating from higher education and research.

Table 46. RIS Partner Knowledge Triangle Distribution

Partner Area	Number of Partners
Business	72
Cities, Regions, NGOs	1
Higher Education	30
Others	5
Research	34
Grand Total	142

11.2 Financial framework and budget

RIS activities are funded through a designated annual budget allocation approved by the EIT for EIT RawMaterials. In 2016, the KIC funded 3 RIS-specific KAVAs, which increased to 24 KAVAs by 2020. In recent years, the KIC has received feedback that RIS activities must contribute more to EIT RawMaterials overall financial sustainability. The evolution of the annual budget for RIS KAVAs can be seen below.

Table 47. RIS Budget, 2017 – 2020

Activity Category	2017	2018	2019	2020
RIS*	€ 639,112.10	€ 2,059,625.09	€ 4,757,341.42	€ 6,440,068.51

*As reported through EIT monitoring data.

11.3 Strengths, weaknesses, and recommendations

Strengths
The creation of a solid RIS strategy has been a priority for EIT RawMaterials due to these regions being endowed with national resources.
Because RIS activities are embedded throughout the KIC’s activities, EIT RIS eligible countries and regions are well connected with non- EIT RIS eligible countries and regions.
EIT RawMaterials strengthened local ecosystems by connecting EIT RIS eligible countries and regions with the KIC’s broader innovation ecosystems.
EIT RawMaterials has established a number of RIS Hubs and plans to create more by the end of 2022.
EIT RIS eligible countries and regions are included well in education KAVAs.
EIT RawMaterials leads multiple Cross-KIC initiatives that specifically support EIT RIS eligible countries and regions.
The KIC’s 2021-2027 Strategic Agenda is well aligned with the RIS Implementation Framework for 2022-2027.

Strengths
EIT RawMaterials has performed well on its existing RIS KPIs.
Industry involvement in EIT RIS eligible countries and regions increased due to the incorporation of solving local challenges in KAVA calls.

Weaknesses	Recommendations
The level of impact EIT RawMaterials has had on EIT RIS eligible countries and regions cannot be assessed due to the lack of RIS-specific KPIs over the 7-year period.	The new RIS KPIs introduced in the KIC's 2021-2027 Strategic Agenda and the EIT's Impact Framework will aid in this, but the KIC must ensure the KPIs remain consistent over time.
There is a misalignment between the KIC's RIS strategies with Smart Specialization Strategies and ESIF, as required by the RIS Implementation Framework for 2022-2027.	<p>The EIT and EIT RawMaterials should come to an agreement on this to ensure the KIC is doing the most that it can regarding RIS3 strategies, and that the EIT is not imposing requirements that go against the specific needs of the raw materials sector.</p> <p>As business creation and innovation support activities increase in EIT RIS eligible countries and regions, work with beneficiaries to see where projects are eligible for ESIF funding and how these projects can successfully apply for ESIF funding.</p>
There are limited business creation and innovation KAVAs implemented in EIT RIS eligible countries and regions.	<p>The RIS Capacity building introduced in KAVA Call 8 is contributing to solving this weakness and tailored collaborations between RIS incubators ensure the unique needs of entrepreneurs and innovations in different regions are met. However, it is recommended to continue prioritising innovation projects and start-ups from RIS regions in activities to better contribute to the creation of innovation and business ecosystems in EIT RIS eligible countries and regions.</p> <p>Target dissemination of RIS success stories in EIT RIS eligible countries and regions to increase awareness of opportunities and inspire more to pursue entrepreneurship.</p>
Half of RIS partners originate from a limited number of countries, showcasing a highly unbalanced geographical spread in RIS eligible area.	<p>Use targeted outreach strategies to reach potential partners and beneficiaries in EIT RIS eligible countries and regions.</p> <p>Increase EIT RawMaterials activities in underrepresented EIT RIS eligible countries and regions.</p>
There are limited synergies with local and regional initiatives, including funding sources.	Increase the development of synergies in EIT RIS eligible countries and regions using targeted



Weaknesses	Recommendations
	<p>outreach strategies and ensure further alignment with local and regional initiatives.</p> <p>This weakness is partially addressed by the KIC's Education and Innovation Director, who is actively pursuing new funding opportunities, as well as contacting the relevant information points/offices.</p>

12. Synergies, Complementarities & Cross-KIC Collaboration

The EIT was created with the primary purpose of boosting the innovation and entrepreneurial capacities of the European Union through creating synergies across the knowledge triangle in order to better address the most pressing economic and societal challenges. For EIT RawMaterials, this is establishing sustainable supply and usage of raw materials from the finite natural resources that exist. In order to be the most effective in addressing this societal challenge, the KIC identified potential collaborations that could be cultivated with European and sector-specific initiatives to create synergies across topics and exponentiate the impact of both EIT RawMaterials and the relevant initiatives. The synergies identified in the original strategic agenda are shown in Table 48 below.

Table 48. Synergies Outlined in 2016-2022 Strategic Agenda

Activity Category	Initiatives	Synergies
Innovation	InnoEnergy, ICT Labs, Climate KIC, KET, Smart Specialization	Fostering co-operation and aligning actions
Research & Development	FP7 & H2020 Projects, EIP Commitments, National & regional funded projects	Bringing new partnerships and boosting to commercialisation
Global Governance	UNEP Resource Panel, Trilateral Conference, International Education	Internationalisation strategy, EIT RawMaterials ambassadors, long-term partnerships
Financial Instruments	Venture Capital, EIB, COSME, ESIF, H2020	Identifying best innovations, reducing the risks and attracting capital
Higher Education	ERASMUS+, MSCA	Enhancing entrepreneurship and systemic thinking
Public-Private Consultation	Public-Private Partnerships, European Technology Programs, ERECON, EIP High Level Steering Group	Contributing expertise, aligning actions to avoid duplication, prioritising and coordinating with Europe's goals

In the updated 2018-2022 Strategic Agenda, the targeted initiatives were consolidated to a more focused number of high impact initiatives. EIT RawMaterials highlights the organisations that are also working to address the European Raw Materials Initiative, which is the EU's raw materials policy strategy. These initiatives include the EIP RM, H2020 projects on raw materials, and the Copernicus collaboration with DG GROW, SPIRE, and Prometia. Additionally, the KIC's Lighthouses aim to facilitate cross-theme activities and value chain integration by creating synergies with other organisations and programmes working towards addressing related societal challenges. Examples of these organisations include EIT InnoEnergy, Climate-KIC, EIP RM, UN International Resource Panel, World Resource Forum, Club of Rome, and the Global Challenges and Industrial Competitiveness Pillar of Horizon Europe.

In September 2020, the European Commission published a new list of critical raw materials and announced the creation of the European Raw Materials Alliance. EIT RawMaterials was tasked by DG GROW to lead this strategic action for the Commission. Being tasked with leading ERMA both established EIT RawMaterials as the leading organisation in the raw materials sector and also reflected the leading position it had already cultivated through strong synergies and impactful activities. Through ERMA, EIT RawMaterials will be exposed to new avenues for collaboration and new opportunities to guide the European raw materials landscape towards achieving green goals.

Assessment Criteria	Relevant Indicators
KICs efforts to coordinate their activities with other relevant research and innovation initiatives	The KIC has achieved the concrete synergies and complementarities described in the original proposal and Strategic Agenda.
OVERALL SCORE: 4/5	Number of synergies with other relevant education, research and innovation initiatives in the same area of the societal challenge at national, EU and global level.

12. 1 Activities and results

12.1.1. The KIC has achieved the concrete synergies and complementarities described in the original proposal and Strategic Agenda

Based on the desk research and interviews conducted for this assessment, it is clear that EIT RawMaterials has put forth considerable efforts since the establishment of the KIC in aligning with European Initiatives. As early as the proposal stage, the potential KIC was already collaborating with the European Innovative Partnership on Raw Materials (EIP RM) and aligning the activities of the KIC with the goals of EIP RM. The KIC has continued to cultivate further synergies, resulting in relationships and impact throughout Europe and internationally. A number of synergies that have been established by the KIC, as reported through annual grant reports, are included in Table 49 below.

Table 49. Established Synergies and Collaborations with European and International Initiatives

Category	Synergies	Examples of Activities
European Commission	DG GROW, DG EAC, DG ENV, DG RTD, EASME, DG ENER	Collaboration, regular meetings, ongoing dialogues, exchange of funding priorities, and collaboration on events
EU Initiatives	Joint Research Centre, European Battery Alliance, ETIP for Batteries, Knowledge 4 Innovation	Collaboration on projects, coordination on thematic content, dialogue on key societal issues, contributing to tasks, regular meetings, and participation in events
Horizon 2020 Projects	MIREU, TEESMAT, C-SERVEES, DEMETO, INSPIREWATER, SCREEN, Cinderella, SecREEts, SUSMAGPRO, CICERONE, UNITED, re:SOURCING, REE4EU, ERA-MIN2	Participation in project advisory boards and project partners
Other European Projects	Eurometaux, Prometia, ELAN, SPIRE, SIP Strim, EIB, European Bank for Reconstruction and Development, Energy Materials Industrial Research Initiative, Junior Achievement Europe, Copernicus, EIP RM, Raw Materials Supply Group, Circular Economy Network in Transportation Systems, International Mineral Processing Council, EuroGeoSurveys, Industrial Minerals Association Europe, European Industrial Research Management Association, Euromines, SIP Metallic Materials, BATMAN	Continuous dialogue, event collaboration, regular meetings, membership of organisation, involvement in evaluation panel, collaboration on development of materials, and advisory board membership



Category	Synergies	Examples of Activities
National	Slovenia, Germany, Austria, Sweden, Finland	Assistance with and contribution to policy implementation, funding, committee and working group membership, and participation in meetings
International	USA, Latin America, Australia, China, Canada	Bilateral meetings, informal dialogues, and work towards establishing a KIC presence
KIC (outside Cross-KIC projects)	Climate KIC, EIT Health, All KIC's	Joint work on circular economy, bilateral meetings on tools and operations, sharing of event space, and regular exchange of information and best practices

On a global level, EIT RawMaterials has established itself as a thought leader in the raw materials sector, and through its own partnership as well as through ERMA, has access to the largest networks of raw materials professions in the world. Additionally, through collaborations with programmes such as the UN Economic Commission for Europe, the KIC works on issues beyond the EU border. Nevertheless, there is room and opportunity for greater collaborations on global initiatives. On a European level, EIT RawMaterials complements programme and initiative activities by providing additional services or expertise. As an example, for Horizon 2020 projects, organisations are expected to build a consortium on their own; when applying for EIT RawMaterials projects, the KIC aids organisations in the consortium-building process by ensuring the right organisations are involved to ensure the project's success. On a national level, the KIC has developed synergies with national initiatives in Sweden, Finland and the Nordic Council. Desk research highlighted difficulties in aligning the European perspective with national initiatives, such as in Poland, due to a focus on national interests. Lastly, on a regional level, the CLC's maintain strong links to regional ecosystems including large industrial companies, regional start-up accelerators and investor networks to further develop the synergies in these ecosystems.

In addition to EIT RawMaterials cultivating synergies with initiatives across the raw materials value chain, they also have methods to align their efforts with others to make progress towards societal, economic and environmental goals. The strategic objectives, Lighthouses and knowledge and innovation themes of EIT RawMaterials activities ensure alignment with a number of EU and global policy initiatives and priorities. Table 50 shows the connection between various objectives in the EIT RawMaterials Lighthouses and both UN Sustainable Development Goals (SDGs) and the European Green Deal. The synergies with EU policy initiatives that have been identified through the course of this assessment are listed below:

- European Raw Materials Initiative
- European Green Deal
- Resource Efficiency Plan
- Industrial Emissions Directive
- New Industrial Strategy for Europe
- Taxonomy Regulation for sustainable activities
- Circular Economy Action Plan
- EU principles for sustainable raw materials
- Biodiversity strategy for 2030
- Eco-Innovation Action Plan

Through the ongoing dialogue and relationships the KIC maintains with MEPs and Commission officials, EIT RawMaterials has ensured alignment with initiatives and contributing to shaping policy priorities. The interviews shed light on this being the case for both the European Green Deal and the New Industrial Strategy for Europe.

Table 50. Lighthouse Alignment with UN SDG's and European Green Deal

EIT RawMaterials Goal	Relevant Lighthouse	UN SDG Addressed	Element of European Green Deal Addressed
Optimize the recycling of minerals and metals; increase the substitution of critical and toxic materials; and improve the design of products for the circular economy.	Lighthouse Circular Societies	Directly: 9, 11, 12 Indirectly: 4, 7, 8	2.1.3 Mobilising industry for a clean and circular economy
Unlock the potential for a renewed raw materials sector in Europe from both primary and secondary sources	Lighthouse Sustainable Discovery and Supply	Directly: 11, 12 Indirectly: 4, 6, 15	2.1.3 Mobilising industry for a clean and circular economy
Increase sustainable exploration, extracting and processing of minerals and metals in Europe which are needed for a renewable energy sector.	Lighthouse Sustainable Discovery and Supply	Directly: 7, 9, 12 Indirectly: 4, 8, 11	2.1.2 Supplying clean, affordable and secure energy
Develop and implement energy efficiency technologies for all parts of the value chain of mineral resources	Lighthouse Sustainable Materials for Future Mobility	Directly: 7, 11, 13 Indirectly: 3, 4, 9, 12	2.1.2 Supplying clean, affordable and secure energy
Foster and strengthen the European minerals and metals sector	Lighthouse Sustainable Materials for Future Mobility	Directly: 7, 11, 13 Indirectly: 3, 4, 9, 12	2.1.5 Accelerating the shift to sustainable and smart mobility
Developing technologies to reduce wastewater pollution in the mining, processing and production sector and to substitute hazardous chemicals and minerals in the production process.	All Lighthouses	Directly: 6, 12, 15 Indirectly: 4, 13	2.1.8 A zero-pollution ambition for a toxic-free environment
Strengthen the European minerals and metals sector and increase the investments in further environmentally sustainable innovations.	All Lighthouses	Directly: 7, 13, 16 Indirectly: 4, 8, 9, 11, 12	2.1.1 Increasing the EU's Climate ambition for 2030 and 2050 (zero CO2 emissions in 2050)

While EIT RawMaterials is involved in a limited number of Cross-KIC activities, those that the KIC is involved in have potential for a high level of Cross-KIC synergies. Based on the responses received through interviews, whenever the KIC finds an added value for them, Cross-KIC activities are implemented. EIT RawMaterials is leading multiple Cross-KIC initiatives including the Skills 4 Future, Circular Economy, HEI Capacity Building Initiative and the RIS Jumpstarter programme. In addition, EIT RawMaterials participates in the Cross-KIC Common Outreach activity. EIT RawMaterials is proactive in searching for new opportunities for Cross-KIC initiatives, but values quality over quantity regarding Cross-KIC projects. The existing initiatives use a common approach across KICs on programmes that are university across the various KIC

societal challenges, which makes their creation logical and highly advantageous. There is potential for future collaborations on higher education and Green Deal topics, as well as with the new Manufacturing and Urban Mobility KIC's.

Through the established relationships EIT RawMaterials has with different key stakeholders, such as the European Commission through ERMA or industry experts through the KIC's membership scheme, the KIC maintains active and ongoing dialogue on how to continuously build upon and improve synergies to have the strongest impact on societal challenges. Moving forward, there are internal goals to develop more synergies with other EU funding bodies which can allow the KIC to take advantage of all alternative funding sources and provide the most comprehensive funding guidance to the ventures it supports. The targeted synergies outlined in the 2021-2027 Strategic Agenda are largely similar to those outlined in the 2018-2022 Strategic Agenda, with additional emphasis on establishing local synergies.

Table 51. Synergies Targeted in 2021-2027 Strategic Agenda

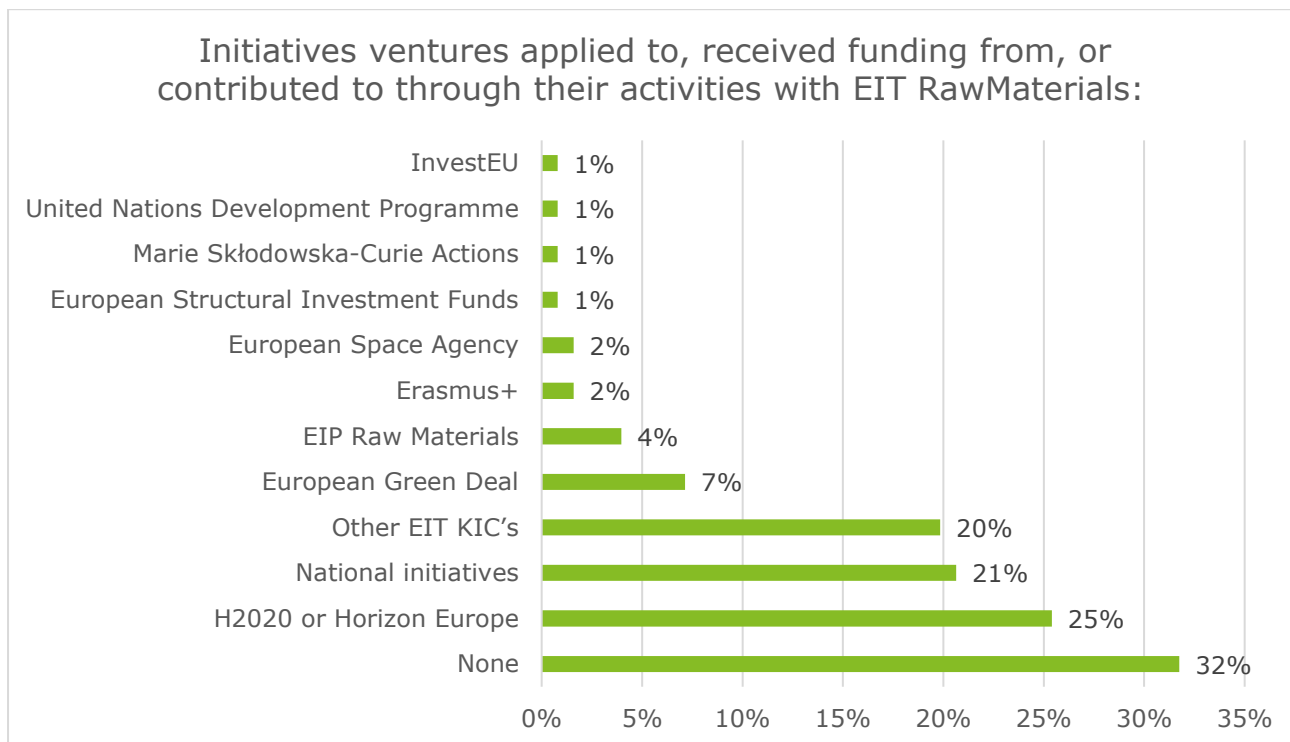
Activity Category	Initiatives	Synergies
Research and Innovation	Horizon Europe	Support funded projects with the goal of entering commercial markets
Business Development	EASME, EIC	Support SME's and foster entrepreneurship in raw materials sector
Solving the Societal Challenge	EIP RM, Copernicus (with DG GROW, SPIRE, and Prometia), European Battery Alliance, ERMA	Active engagement and collaboration on working tackling similar issues, contribution to the transition of the European economy
Regional Outreach	European Bank for Reconstruction and Development, Western Balkans Agenda on Innovation, Research, Education, Culture, Youth and Sports	Establishing innovation and entrepreneurial ecosystems in EIT RIS eligible countries and regions

12.1.2. Number of synergies with other relevant education, research and innovation initiatives in the same area of the societal challenge at national, EU and global level

The 2016-2022 Strategic Agenda of EIT RawMaterials outlined many synergies that, over the course of the last six years of activities, have not been realised. For example, synergies with the UNEP Resource Panel, Trilateral Conference, international education institutions, and venture capital firms have not been reported by the KIC. Based on the results of the survey conducted for this assessment on start-ups and scale-ups supported by EIT RawMaterials, the most important synergies for supported ventures were with other KICs, national initiatives, Horizon2020 and Horizon Europe. Nearly a third of respondents did not benefit from any additional complementarities beyond EIT RawMaterials support; however, they may have benefitted from other programmes independently from or prior to EIT RawMaterials engagement.



Figure 14. Synergies and Complementarities for Ventures Supported



Nevertheless, it is clear that the KIC is still cultivating new and advantageous collaborations across related sectors and societal challenges. The interviews conducted showed how EIT RawMaterials has positioned itself as the go-to source for insight into the raw materials sector, the issues it faces, and the strategies that can be used to solve these issues. The KIC and the membership network it maintains guide innovation and progress in this field. The strong synergies EIT RawMaterials has cultivated have resulted in a system of activities that are not only aligned with, but also contributes to shaping European policy priorities and strategies to achieve these goals. An ongoing, dedicated KAVA on external thematic and strategic coordination furthers the influence the KIC has on innovation, education, and policy. Adding on the opportunities brought forth by ERMA, EIT RawMaterials is well positioned to facilitate collaboration on the solving of societal challenges.

12.2 Financial framework and budget

Cross-KIC activities are funded through a designated annual budget allocation approved by the EIT for EIT RawMaterials. By 2020, the KIC funded 8 Cross-KIC KAVAs. The evolution of the annual budget for Cross-KIC KAVAs can be seen below.

Table 52. Cross-KIC KAVA Budget, 2018 - 2020

Activity Category	2018	2019	2020
Cross-KIC Activities*	€ 273,935.76	€ 579,131.45	€ 1,016,268.83

*As reported through EIT monitoring data.

12.3 Strengths, weaknesses, and recommendations

Strengths
Leading the European Raw Materials Alliance (ERMA) gives EIT RawMaterials a leading position on coordinating strategies to address EU policy priorities.
The KIC is leading multiple Cross-KIC activities.
EIT RawMaterials has cultivated a large number of synergies with EU and national programmes.
EIT RawMaterials activities demonstrate good alignment with EU policy priorities.
The KIC has established an influential role in the development of EU policy priorities.
The KIC maintains ongoing efforts to identify new opportunities for collaboration and ways of strengthening existing synergies.

Weaknesses	Recommendations
EIT RawMaterials has minimal coordination with global initiatives.	Build upon existing UN collaborations to move beyond European focus. Seek out additional opportunities to develop synergies with initiatives abroad.
There are limited synergies with innovation and business-support initiatives in EIT RIS eligible countries and regions.	Continue the ongoing work towards developing and strengthening RIS innovation ecosystems.
The KIC has limited synergies with national, regional, international and private sector funding bodies.	Continue efforts to develop new synergies with regional and international funding bodies.
It is not clear how ventures and students supported by EIT RawMaterials benefit from collaborations and synergies.	Coordinate with partners and relevant initiatives on ways that ventures and students can be further supported through related initiatives and opportunities.
There is limited cooperation with NGOs or public authorities in the partnership.	<p>Work towards expanding the EIT RawMaterials partnership beyond the knowledge triangle by incorporating activities that benefit NGOs or public authorities.</p> <p>Encourage the existing partnership to collaborate with other types of partners beyond the knowledge triangle to create more synergies.</p>

13. Communications, Dissemination & Outreach

13.1 Activities and results

According to EIT RawMaterials, the diversification of possible audiences increases engagement but also multiplies the possibility of cross-collaborations, thus augmenting the R&I impact of the project. To this extent, EIT RawMaterials is promoting the identification of the project’s communication channels (i.e., print, digital, events or mix) and considers the importance of storytelling as key for the success of the communication plan, especially when addressing a non-scientific audience.

The Communications Strategy of EIT RawMaterials relies on five pillars, which are presented in the table below.

Table 53. Communication, Outreach and Dissemination Strategy Pillars*

EIT RawMaterials Communication Pillar	Pillar Objectives
<i>EIT RawMaterials brand identity</i>	<ul style="list-style-type: none"> Strengthen and align EIT RawMaterials brand among stakeholders Create visibility, recognition and consistency of the EIT RawMaterials brand
<i>Internal Communication and Community Building</i>	<ul style="list-style-type: none"> Strengthen collaboration among key internal stakeholders Connect stakeholders across the knowledge triangle – share best practices and knowledge
<i>External Communication and Dissemination</i>	<ul style="list-style-type: none"> Inform external stakeholders about KIC’s activities and achievements Showcase achievements and results by stepping up media relations foundations
<i>Content Generation and Key Messages</i>	<ul style="list-style-type: none"> Raise new materials role and challenges awareness Create engaging and relevant content for greater impact Add value to the raw materials sector by sharing specialized content
<i>Public Affairs and EU Stakeholder Engagement</i>	<ul style="list-style-type: none"> Build awareness among relevant decision and policy makers Keep raw materials high on the EU agenda Position EIT RawMaterials as a key player in the EU and create partnerships with strategic players

*As described in the EIT RawMaterials Strategic Agenda 2018-2022

Those pillars are the point of reference for the Communications Strategy of the KIC. EIT RawMaterials desires to be the key organisation in the raw material sector and this can be achieved through the brand identity pillar. By enhancing the EIT RawMaterials’ reputation and visibility, more effective results can be showcased. Key messages and relevant narratives are examples that will bring more intense recognition to the KIC. The brand identity is built around four areas:

- Industrial Competitiveness
- Knowledge and Innovation capacity

- Environmental and Social Sustainability
- Education and Human capital.

The connection of the brand identity to those key areas is the way to enhance the brand's reputation and visibility in Europe.

The internal communication of EIT RawMaterials aims to enhance networking and collaboration activities in the wider raw materials community. It targets stakeholders and partners with a clear focus on maintaining relationships across the value chain. These certain activities can be carried out in the digital environment, aiming to enhance knowledge sharing. An integral part of those activities is the networking and matchmaking events, open innovation events and the Raw Materials Summit, an annual conference that puts EIT RawMaterials in a leading position in innovation and technology in the raw materials sector.

The external communication activities of EIT RawMaterials aim to enhance the information provided to relevant stakeholders concerning the KIC's overall achievements and activities. The raw materials sector is a rather segmented community with numerous complexities and thus, there is a strong need to target multiple audiences. Those audiences might include business, students, academia. For the communications approach to be secured, the achievements of the KIC should be highlighted with a clear focus on the impact generated through its activities. Media relations and enhanced media relationships will be leveraged to achieve this purpose.

The content generation and key messages are set to create a narrative around EIT RawMaterials' activities. The scope of the communications strategy relies on creating visuals and graphics that tell a story about the activities in the raw materials sector. These pieces aim to clarify the connection between raw materials and everyday life, teaching the general public about the role these materials play in everything from their cell phones to the most needed green technologies.

The Public Affairs and EU stakeholder engagement pillar is the last set of actions in the Communications Strategy. The pillar focuses on engaging policymakers at all levels, national, regional, EU and international. The goal is to put EIT RawMaterials in a leading position in the raw material sector, though participation in various events with significant importance. Leveraging CLCs will act towards this target. Direct collaboration with relevant Directorates General (DGs) of the European Commission and other international alliances will be enhanced to create a strong environment around the KIC and position it in a leading role in the raw materials community.

EIT RawMaterials has established a clear and concrete plan on how to effectively set the communication strategy for its projects. Communicating about research and innovation, two of the core activities of EIT RawMaterials, is of paramount importance. The communication plan aims to highlight the importance of research and innovation and their strong contribution to the European Union. During the communication and dissemination activities for each project, the EIT RawMaterials is focusing on informing the public on the achievements of the KIC in terms of partnerships and highlighting the KIC's "success stories". In addition, the communications plan includes a rigorous follow-up with relevant policymakers to make sure that the results of the project are properly communicated and reach the potential influence in the policy scene.

A communications plan should be concrete and focus on different, yet interlinked sections, such as:

- The reason of communication
- The audience that is targeted
- The expected impacts of the project that is being communicated
- The expected response from the target group

Assessment

Over the years, EIT RawMaterials communication activities have been assessed with mixed performance. Especially in the KIC's early years, many deliverables in specific KAVAs lacked any reference to EIT RawMaterials and did not include the logo. However, this has been improved in recent years as communications and dissemination requirements have been better communicated with partners. Additionally, EIT RawMaterials has managed to cultivate a fair social media and traditional media presence, as presented in the table below:

Table 54. Social Media and Traditional Media Presence

Year	Website Visits	Media Coverage (Online and print)	Facebook, Instagram, Twitter and LinkedIn posts (total)	Facebook, Instagram, Twitter and LinkedIn followers (total)
2018	71,153	44	1015	6950
2019	134,490	39	903	10706*
2020*	226,274	47	N/A	14462
2021*	268,137	33	N/A	28197

*Estimated numbers provided by EIT RawMaterials

As the importance of raw materials' role in the green transition becomes clearer to the general public and policymakers, the communications activities of EIT RawMaterials can play an even bigger role in shaping public opinion and the legislative agenda. The KIC can emphasise the value their activities add and the projects they are supporting that work towards addressing societal challenges. EIT RawMaterials' communications team already runs awareness campaigns to promote success stories, such as results from education and innovation projects to showcase how EU funding is being used to address societal challenges. EIT RawMaterials communications team publishes newsletters and news via its website and Social Media channels, Twitter, LinkedIn, Facebook, Instagram, to broadcast the impact of the organisation on the raw materials sector. EIT RawMaterials has done well to incorporate social media campaigns that connect the KIC's activities with discussions on sustainability, the green transition, and a circular economy, and these campaigns will only become more important.

Moving forward, EIT RawMaterials must put more focus on involving more stakeholders in the communication target groups, while also securing the implementation of a clear and constructive communications plan from the partners. There have been significant delays in establishing a sustainable communication plan in the past years. Currently, there is a lack of understanding amongst some partners on the difference between communications and dissemination, resulting in many of the results of KAVA projects not reaching wider society groups. The KIC should ensure that solid dissemination strategies are established in each KAVA project.

Recommendations on increasing transparency, impartiality and outreach are also in place and consider the following:

- Info on themes for calls, entry/exit criteria for partners, results of calls, results from innovation projects should be made accessible on KIC and EIT websites
- Specify clear evaluation and selection criteria well in advance of calls
- Pool of expert evaluators should be increased beyond current one to diversify
- Calls to attract new KIC members should be promoted through targeted marketing campaigns

13.2 Financial framework and budget

Communication, Dissemination and Outreach activities are often embedded within KAVAs and do not receive a separate budget through the annual budget allocation approved by the EIT for EIT RawMaterials. The data available for the communication budget over the years was quite limited; however, the annual budget data for communications activities that are available can be seen below.

Activity Category	2017	2018	2019
Communication, Dissemination and Outreach*	€ 653,357.34	-	€ 4,323,766.07

*As reported through EIT monitoring data.

13.3 Strengths, weaknesses, and recommendations

Strengths
EIT RawMaterials organises a good number of external events that serve as outreach and dissemination.
EIT RawMaterials has managed to cultivate a good social media and traditional media presence.
Partner compliance with EIT branding requirements have improved over the years; however, there is still not full compliance.
Communications activities do a good job at aligning social media campaigns with broader discussions on sustainability, the green transition, and a circular economy.

Weaknesses	Recommendations
There is a lack of understanding amongst some partners on the difference between dissemination and communications.	There needs to be more emphasis on dissemination, specifically by sharing project related results with wider society groups.
Monitoring of communications and dissemination activities are not integrated into the KIC's main KPI monitoring system.	Integrate communications and dissemination activities monitoring with the KIC's general monitoring system so that these activities are continuously checked for performance improvement.
There is limited data available for the financial framework of the communications activities; the budget of communications activities is not always separated from management activities, which makes monitoring the KIC's financial expenditure more difficult.	Provide separate information on the portion of the annual budget that goes towards communication, dissemination and outreach activities.
EIT RawMaterials could be doing more to shape the legislative agenda and public perception of raw materials activities.	As the role raw materials plays in the green transition becomes clearer to the general public, EIT RawMaterials should emphasise the role the KIC plays in contributing to the transformation of the raw materials sector.

14. Summary of the assessment criteria

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
Global Score: 71 / 100 Global Threshold: 60 / 100			
1. Relevance to the Union’s global challenges	<p>The activities of EIT RawMaterials are very well aligned with the objectives of the Union and the results of these activities contribute towards addressing the KIC’s societal challenge. However, there was limited data available on the concrete level of impact achieved and shortcomings in the KIC’s performance across some indicators. Therefore, the KIC’s performance for this criterion has been assessed as Very Good.</p> <p><u>Assessment</u></p> <p>1.1 – Very good: The activities of EIT RawMaterials are well aligned with the objectives of the Union, including boosting economic growth, strengthening the innovation capacity of the Members States, fostering innovation and entrepreneurship.</p> <p>1.2 – Very good: The KIC’s results in their activities have contributed to the addressing the societal challenge it was designated for; however, the level of significance of this contribution cannot be precisely assessed based on the previously collected monitoring data. Nevertheless, the synergies established and the performance of the KIC in achieving multi-annual targets has been very good.</p> <p>1.3 – Very good: EIT RawMaterials was assessed on contributions towards a number of societal impact indicators, including:</p> <ul style="list-style-type: none"> • Carbon savings • Critical raw materials substitution • Advanced materials produced • Increased recycling rate • Improved industrial competitiveness • Raw materials concentrate produced • Improved gender balance • Enhanced sustainability practices. <p>Only two of the indicators, improved industrial competitiveness and improved gender balance, had regularly collected data available through the KIC. Improved industrial competitiveness could not be meaningfully assessed due to the definition of the KPI changing too often. Regarding improved gender balance, the KIC has consistently met its targets. For</p>	5, 10	12 / 15 (Threshold: 9)

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<p>the remainder of these indicators, there was very limited data available, as they were only introduced by the EIT in 2021. These were assessed based on the relevance of the KIC’s activities in contributing to their achievement, rather than the level of impact made. For each of these indicators, the KIC’s activities are highly relevant to their progress.</p> <p>1.4 – Very good: EIT RawMaterials was also assessed based on contributions towards a number of economic impact indicators, including:</p> <ul style="list-style-type: none"> • % (& € if available) contribution to revenue growth and profitability of organisations trading or employing KIC innovations • # and revenue of start-ups and scale-ups supported by KICs trading at least 1 year after KIC support ceased • # New jobs created in start-ups/scale-ups • Impact on employment growth as a result of company being engaged with KICs • # and type of jobs in existing businesses in KIC sector sustained through innovations • # and type of skill gaps and/or skill shortages filled by KIC sector <p>There was also limited data on the impact the KIC’s activities have had on the success of the ventures they support, due to these indicators only being added in recent years. However, the majority of the ventures that responded to our survey expressed the KIC’s support as having a positive impact on their revenue growth, profitability growth, and employment growth. EIT RawMaterials also contributes to the creation of new jobs and new job types in the raw materials sector and the KIC performs very well in the category of addressing skills gaps.</p>		
<p>2. KIC’s Union added value and relevance with regard to the objectives of the EIT</p>	<p>Given the KIC’s strong alignment to the objectives of the EIT and significant European added value, and the small number of shortcomings in missing data and graduates joining start-ups, this criterion has been assessed as Very good.</p> <p><u>Assessment</u></p> <p>2.1 – Excellent: EIT RawMaterials has created significant European added value with respect to building a sustainable innovation ecosystem through knowledge triangle integration, and as a result has developed concrete solutions to the societal challenge it addresses.</p>	<p>5, 7, 8, 9, 11</p>	<p>11 / 15 (Threshold: 9)</p>

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<p>2.2 – Excellent: All of EIT RawMaterials activities have been fully aligned with and relevant to the EIT objectives as defined in the EIT Legislative Framework.</p> <p>2.3 – Very good: EIT RawMaterials RIS activities have been very well aligned with the EIT RIS Guidance Note 2018-2020 and well aligned with the RIS Implementation Framework (2022-2027).</p> <p>2.4 – Very good: The KIC has performed very well in the number and percent of graduates currently employed.</p> <p>2.5 – Fair: The KIC has underperformed on the number of EIT-labelled MSc and PhD programme graduates who joined start-ups.</p> <p>2.6 – Good: No revenue in innovation projects has been reported since the EIT has required this data to begin being collected; however, there were strong estimates for the expected revenue moving forward.</p>		
<p>3. Achievement of KIC’s objectives</p>	<p>Due to the mixed performance of EIT RawMaterials regarding the targets set in its Strategic Agenda and Business Plans with some KPIs being significantly overperformed and others not meeting their respective targets, this criterion has been assessed as Good.</p> <p><u>Assessment</u></p> <p>3.1 – Good: EIT RawMaterials has not fully achieved its 7-year Strategic Agenda objectives and expected results in line with its initial strategic objectives; however, progress has been made towards these goals. As changes to the KIC’s Strategic Agenda have been made, these were approved by the EIT and were made to maximise impact.</p> <p>3.2 – Very good: The KIC achieved mostly positive results in the objectives and respective targets as stated in the original proposal and Strategic Agenda in relation to the societal challenge.</p> <p>3.3 – Good: The KIC has achieved mixed results on the KPI targets defined in the KIC’s original proposal, Strategic Agenda, and Business Plans; many of the KIC Specific KPIs were inconsistent over the course of the KIC’s activities.</p> <p>3.4 – Very good: EIT RawMaterials has delivered EIT RIS activities and achieved results within the scope of their EIT RIS Strategies. Any deviations to the</p>	<p>5, 11</p>	<p>10 / 15</p> <p>(Threshold: 9)</p>

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	objectives have been duly justified and were made to maximise impact.		
4. KICs efforts to coordinate their activities with other relevant research and innovation initiatives	<p>Overall, based on the strong performance EIT RawMaterials has demonstrated in cultivating relevant synergies, this criterion has been assessed as Very Good.</p> <p><u>Assessment</u></p> <p>4.1 – Very good: EIT RawMaterials has achieved a majority of the concrete synergies and complementarities described in the original proposal and Strategic Agenda, with additional synergies and complementarities as well.</p> <p>4.2 – Very good: The KIC has achieved a number of synergies with relevant education, research and innovation initiatives in the same area of the societal challenge national and EU levels; however, the KIC has minimal synergies with global initiatives.</p>	12	4 / 5 (Threshold: 3)
5. KIC’s capacity to ensure openness to new members	<p>Based on the strong partnership of EIT RawMaterials and their strategies for ensuring openness to new members, this criterion has been assessed as Very Good.</p> <p><u>Assessment</u></p> <p>5.1 – Excellent: The partnership size, growth, composition and performance of EIT RawMaterials has been more than adequate for achieving the long-term objectives of the KIC Strategic Agenda.</p> <p>5.2 – Very good: The KIC’s calls for activities have been fully open to those interested in becoming new members; however, there are restrictions in the Calls for non-members not interested in eventually becoming members.</p> <p>5.3 – Excellent: The Good Governance Principles assessments have assessed that the KIC’s entry and exit rules for partners have been published and provided, which allows for transparency and openness to both partners and potential partners. Additionally, the KIC has been positively assessed through other relevant EIT monitoring activities regarding openness to new members in recent years.</p> <p>5.4 – Very good: There is balanced representation of all key knowledge triangle players in the partnership, with a slight skew towards industry partners.</p>	5	4 / 5 (Threshold: 3)

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
<p>6. KIC’s achievements in attracting new members from across the Union</p>	<p>Overall, EIT RawMaterials has cultivated a strong partnership with members from across the Union, but it has a number of shortcomings in the geographical balance of RIS eligible countries and regions, the balance in representation of the knowledge triangle in RIS eligible countries and regions, and the lack of synergies with international partners, as was planned in the KIC’s original Strategic Agenda. Thus, this criterion has been assessed as Very good.</p> <p><u>Assessment</u></p> <p>6.1 – Very good: EIT RawMaterials has grown to an effective and sustainable innovation ecosystem with partners across the EU, including RIS eligible countries and regions; however, there are limited partners from outside of the EU.</p> <p>6.2 – Very good: 24 out of the 27 EU Member States have been covered by the KIC partnership throughout the KIC’s lifetime and 15 have had representation of all knowledge triangle players.</p> <p>6.3 – Very good: 19 out of the 27 EIT RIS eligible countries and regions have been covered by the KIC partnership throughout the KIC’s lifetime and 8 have had representation of all knowledge triangle players.</p> <p>6.4 – Very good: There has been a positive trend of new active partners over the 6-year period; however, this has plateaued in recent years.</p> <p>6.5 – Excellent: There is a balanced geographical presence of CLCs and EIT RIS Hubs within the EU in line with the strategic agenda and societal challenges.</p>	<p>5, 7, 11</p>	<p>8 / 10</p> <p>(Threshold: 6)</p>
<p>7. KIC’s compliance with good governance principles</p>	<p>Given the KIC’s strong performance in good governance principles compliance, this criterion has been assessed as Very good.</p> <p><u>Assessment</u></p> <p>7.1 – Very good: EIT RawMaterials fully complies with the majority of EIT Good Governance Principles, based on the relevant GGP Assessments, with the remaining minor shortcomings in the process of being addressed.</p> <p>7.2 – Good: Throughout the years, GB Strategic Recommendations have been effectively addressed and mostly implemented, most often in a timely fashion.</p>	<p>5</p>	<p>7 / 10</p> <p>(Threshold: 6)</p>

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
8. KIC’s efforts and results in designing and implementing gender-sensitive measures and activities	<p>Based on the progress that has made by the KIC, but the shortcomings that still remain, this criterion has been assessed as Good.</p> <p><u>Assessment</u></p> <p>8.1 – Very good: EIT RawMaterials has designed and implemented a number of gender sensitive measures and activities.</p> <p>8.2 – Good: The KIC has received mixed assessments over the years regarding the outputs and results delivered by these activities.</p>	5	<p>3 / 5</p> <p>(Threshold: 3)</p>
9. KIC’s capacity to develop sustainable innovation ecosystems and the achieved level of financial sustainability	<p>Based on the very good performance of the KIC regarding the creation of innovation ecosystems and the good performance of the KIC on financial sustainability, this criterion has been assessed as good.</p> <p><u>Assessment</u></p> <p>9.1 – Very good: EIT RawMaterials has created a substantial innovation ecosystem that effectively addresses the societal challenges and skill gaps it was established for.</p> <p>9.2 – Excellent: The KIC has established sustainable and institutionalised partnerships between the organisations engaged with the KIC.</p> <p>9.3 – Very good: EIT RawMaterials has created visible innovation ecosystems not previously in existence; however, these ecosystems are less visible in EIT RIS eligible countries and regions.</p> <p>9.4 – Good: Innovation ecosystems occasionally evolve into business ecosystems; a limited number of innovation projects have progressed into start-ups. However, the KIC has cultivated additional business ecosystems to support existing start-ups.</p> <p>9.5 – Poor: EIT RawMaterials has implemented an ambitious financial sustainability strategy, with mechanisms in place that increase the diversity of revenue sources. However, the current revenue sources still largely rely on a single revenue source. The KIC’s financial sustainability strategy has been aligned with annual business plans, but not with strategic agendas.</p> <p>9.6 – Fair: The KIC has a low level of revenues from all activities other than the collection of membership fees. It has recently implemented plans for the</p>	6, 7	<p>12 / 20</p> <p>(Threshold: 12)</p>

Criterion	Summary Assessment	Relevant Chapters	Scoring (points)
	<p>management and exploitation of intellectual property and financial assets to support the KIC's business model, but neither of these are fully established.</p> <p>9.7 – Very good: EIT RawMaterials has high revenues overall compared with other KICs and has consistently overachieved its FS-coefficient targets; however, the FS-coefficient remains too low.</p> <p>9.8 - Very good: The budget consumption of the KIC has steadily improved over time but remains high in absolute values. The management costs have remained compliant with EIT requirements, but they have increased slightly in recent years.</p> <p>9.9 - Good: EIT RawMaterials was compliant with EIT co-funding rate requirements until 2020, but it has not yet become compliant the new requirements that were introduced in the Strategic Innovation Agenda 2021-2027.</p>		



15. Conclusions & Recommendations

The following chapter consolidates the conclusions from each chapter, based on the assessment of the strengths and weaknesses. Identified weaknesses are addressed by relevant recommendations.

EIT RawMaterials was created to address societal challenges such as the renewal of the raw materials supply chains to make it more sustainable and aligned with the broader EU Green Deal objectives, and the radical shift from a linear to a circular economy to reduce dependency on raw materials supply and create sustainable growth. To tackle these challenges, this KIC works towards its three main objectives: securing raw materials supply, closing materials loops, and designing materials solutions that enable the transition to a carbon-neutral Europe²⁷. The Covid-19 pandemic and the increased public discussion on how to realise the green transition have both led to an increased awareness of the importance of raw materials in EU strategy, building a climate-friendly future, and realising the digital transition. EU policy priorities in recent years have increasingly focused on raw materials, including the creation of the European Raw Materials Alliance, the European Raw Materials Initiative, the New Industrial Strategy for Europe, and the European Green Deal. This shift has created new opportunities for the KIC to align with national, European, and global initiatives. Nevertheless, public sentiment against mining activities and the conservative nature of the raw materials sector remain as significant barriers to the achievement of EIT RawMaterials' objectives.

EIT RawMaterials has performed well on making progress towards the solving of societal challenges, creating ecosystems of innovation and entrepreneurship, complementing existing policies and initiatives, and establishing collaboration between different sides of the knowledge triangle. However, the KIC will need to improve its performance on financial sustainability, achievement of multi-annual targets, and achieving a larger impact in business creation and entrepreneurship. Lastly, a cost-benefit analysis that assesses the overall cost-effectiveness of EIT RawMaterials with respect to the achievement of tangible results was unable to be conducted due to resource and data availability constraints.

KIC Governance, KIC Partnership, Processes & Operations

In **Chapter 5**, an overview of EIT RawMaterials' activities relating to its governance, partnership, and operations was provided, followed by their assessment. With regards to the KIC's governance, the KIC performed very well in terms of the progress made towards the objectives of the Union and the goals of the EIT, even though not all of the multi-annual targets were met. It has also progressed in its goal of promoting higher education, research, and industry; however, again, some aspects of these goals have not been fully achieved, particularly regarding the creation of new start-ups. Additionally, inconsistent KIC Specific KPIs and the reality that the majority of the data available for this assessment only covered up until 2020, with two years left to still reach 2022 targets, made it difficult to definitively assess the overall impact of EIT RawMaterials.

EIT RawMaterials has also continuously worked to address the matters raised in past assessments and monitoring activities. EIT RawMaterials has demonstrated a good performance in adhering to the Good Governance Principles by regularly addressing strategic recommendations and implementing the feedback of the EIT. In this context, it has also worked to address the issue of gender equity in the raw materials sector; however, it has not made significant progress in achieving representation in management and Executive Board positions.

With regards to the KIC's efforts to develop its partnership size, growth, composition and performance, it has been more than adequate. The partnership developed has been well-balanced on the three sides of the knowledge triangle and the raw materials value chain, while at the same time remaining open to new

²⁷ EIT RawMaterials. 2021. Strategic Agenda 2021-2027. Accessed on September 17th, 2021. Available at: https://eitrawmaterials.eu/wp-content/uploads/2021/04/Annex-1-EIT-RawMaterials_Strategic-Agenda_2021-2027.pdf.

members, and covering most of the EU member states, with a minimum number of partners leaving on a yearly basis.

Strengths
The consistent alignment of EIT RawMaterials activities around the strategic objectives and knowledge and innovation themes ensure that all KAVAs and services are contributing towards solving the societal challenge the KIC was created for.
Strong performance in some KPIs, including new key enabling technology innovation applied or in progress, applied substitution cases, sustainable best available technologies accepted or in progress, previously unused waste streams taken into use to recover raw materials, reducing waste containing raw materials to landfill, and the percentage of female graduates from EIT-labelled programmes.
KAVAs ENGIE and GirlsGoCircular encourage a new generation of girls to pursue a career in the raw materials sector.
Compact, well-designed, well-structured governance structure.
Strong internal communication strategies that contribute to decision-making transparency and partner awareness.
The KIC's strategic objectives are in line with global and Union objectives.
KAVA proposals are evaluated for their alignment with UN Sustainable Development Goals.
The creation of the European Raw Materials Alliance (ERMA) and the KIC being tasked with running ERMA is expected to lead to an increase in the services EIT RawMaterials can provide and has broadened the network that the KIC has access to.
There is a strong balance of KAVAs along the raw materials value chain and the six knowledge and innovation themes.
EIT RawMaterials typically does well in implementing the recommendations put forth by the EIT through monitoring and assessments.
The partnership of EIT RawMaterials is well balanced across the knowledge triangle and along the raw materials value chain, it grows consistently year-by-year, and it is viewed as largely effective in achieving objectives.
The 2021-2027 Strategic Agenda addressed a number of longstanding recommendations, including explicitly linking KPIs to the strategic objectives of the KIC and incorporating stronger ambition in the targets set for the individual KPIs.

Weaknesses	Recommendations
It is not possible to assess the precise impact that EIT RawMaterials has had on the KIC's objectives based on the KPI and monitoring systems that were in place.	<p>The KIC's 2021-2027 Strategic Agenda and the EIT's new Impact Framework have created a strong basis to address this moving forward. Continue to ensure that values are reported by partners accurately.</p> <p>Continuously monitor graduates of EIT-labelled and non-labelled programmes, as well as ventures supported by EIT RawMaterials through regular surveys to assess the medium- and long-term impact of EIT RawMaterials support.</p>

Weaknesses	Recommendations
<p>Progress towards improving the percentage of female graduates from EIT-labelled programmes was not assessed, despite it being one of the KIC's societal impact indicators.</p>	<p>Ensure understanding across partners of how the KPI is to be reported.</p> <p>For KIC Specific KPIs, ensure the monitoring system used by the KIC can easily and accurately aggregate the KPI values reported through KAVAs.</p>
<p>The KIC Specific KPIs changed every two years, which undermines the ability to track progress over time.</p>	<p>Although both the KIC and the EIT have introduced new monitoring systems, through the KIC's 2021-2027 Strategic Agenda and the EIT's Impact Framework, respectively, they do not guarantee KPIs will not be changed in the future. It is recommended to raise the threshold for when it is worth changing KPIs. This should not be done as often as it has been. If it absolutely must be done, then consider maintaining the old KPIs and adding new KPIs in addition so that long-term trends can still be assessed. What may seem like minor changes in definitions, whether the indicator is reported as a percentage or absolute value, or changing the identification code of the KPI all undermine the ability to assess long-term trends. These small changes should be avoided because in the vast majority of cases there is no net added benefit.</p>
<p>Weak performance in some KPIs, including the number of graduates of EIT-labelled Master and PhD programmes, the number of start-ups created by students and graduates from EIT-labelled programmes, and the number of start-ups created as a result of innovation projects.</p>	<p>During preparation of business plans and grant reports, assess whether the proposed targets are on track to reach long-term target.</p> <p>Where possible, use KAVA calls to ensure the KIC's portfolio includes projects that will contribute to the achievement of long-term targets.</p> <p>When defining new multi-year targets, make sure they are realistic and validated by external experts at the time of definition.</p>
<p>Women are poorly represented in management positions, the supervisory board and Executive Board.</p>	<p>Ensure targets are set to increase gender balance at each level of the organisation, rather than just at an aggregated level.</p>
<p>Target values for KPIs set in the annual business plans do always not line up with those set in the strategic agendas, and for some, these targets become less ambitious. However, for the most part the targets become more ambitious.</p>	<p>Multi-annual targets set in the strategic agenda should be ambitious but realistic to ensure that significant progress can be made towards these goals each year.</p> <p>Business plans should be routinely assessed regarding their level of ambition and whether KPI targets are aligned with those set in the strategic agenda.</p>
<p>Feedback provided in the interviews conducted for this assessment highlighted that the KPIs assigned to specific KAVA projects are not always well aligned with the goals of the project and the project's strengths.</p>	<p>Work with consortia to define which KPIs best assess a given innovation or venture in order to ensure that the value of specific innovations is accurately measured, beyond the specific goals of EIT RawMaterials. This would contribute to improve relationships with partners as well as ensuring the</p>

Weaknesses	Recommendations
	KPIs the KIC monitors are relevant to the broader sector.
The KIC’s internal agreements do not follow the Good Governance Principle of including mention of the KIC’s principles.	<p>Include all elements required in the Articles of Association and LLC management rules, including the responsibilities of an Executive Board and the independence requirements of board members.</p> <p>Revise the management agreement between the KIC LE and CLCs to strengthen the position of the KIC LE over the CLCs.</p>
The process of selecting the supervisory board members is not fully transparent.	Make all calls for supervisory board members public.

KIC Funding, Financial Sustainability & Business Models

Through **Chapter 6**, the assessment addressed the KIC’s financial sustainability mechanisms that are in place and the performance of the KIC in this regard thus far. Although financial sustainability mechanisms are in place, the KIC has received numerous recommendations for its financial sustainability strategy, regarding increased reliance on membership fees and low revenue generation from services and consulting, IP management and ownership of financial assets. The KIC has managed to address new strategies as part of the Strategic Agenda 2021-2027, mostly focusing on gradually downscaling its reliance on EIT funding, while adding new strategies to reach its expected financial independence by the end of the programming period. However, the KIC has not yet managed to properly achieve its revenue targets that were set for the 2016-2022 period and faces a significant misalignment between funding targeted from non-EIT EU funding, national and regional funding, and private funding sources. Although the strategies put forth in the 2021-2027 Strategic Agenda aim to improve this, many of the solutions put forth will only make an impact in the long-term through revenue from IP, backflow schemes, and appreciation of financial assets. EIT RawMaterials will need to focus on increasing revenue from services and activities, which it has consistently underperformed in, in order to increase revenue generation in the short-term. The KIC has performed well on additional financial sustainability indicators, including the consistent achievement of co-funding and FS-coefficient targets. EIT RawMaterials has improved its budget consumption over time and the management costs remain compliant with EIT requirements.

Strengths
The KIC has generated high revenue through membership fees and partner contributions of co-funding and KCAs.
The original target for the proportion of EIT funding making up the total budget was met (24.7% target; 24.6% achieved).
The budget distribution between 2016-2020 was in line with a strategic focus on deploying innovative solutions to the raw materials sector—the majority of the budget went towards innovation and research projects.
The new financial sustainability plan incorporates a number of potential revenue streams and additional measures to monitor the KIC’s progress towards financial sustainability.
EIT RawMaterials’ KPIs on financial sustainability, the FS-coefficient and co-funding rates, have always been met.

EIT financial requirements on budget consumption and management costs have been met, with only small management cost rejections in the first year of the KIC's activities.

EIT RawMaterials has contributed €41.6 MEUR towards sustainability, climate, or biodiversity-related activities following the OECD "RIO markers" methodology.

Weaknesses	Recommendations
<p>EIT RawMaterials may base their own internal assessment of financial sustainability performance too strongly on achievement of minimal, quantitative KPIs.</p>	<p>Give more attention to qualitative assessment of EIT RawMaterials' financial sustainability strategy, beyond the achievement of FS coefficient and co-funding rates. This should include a greater focus on diversifying revenue sources and increasing revenues from services and activities.</p>
<p>The KIC has only recently begun implementing strategies that have the potential to meet financial sustainability targets, so many of these strategies will not increase revenues in the short term. Given that the most significant increases in revenue are only expected to happen in the final two years of the KIC's funding agreement, there may not be sufficient time to take corrective measures if the expected revenues do not develop.</p>	<p>Focus on increasing services provided by the KIC and commercialising existing KAVAs in the short-term while long term changes (backflows, assets) progress.</p>
<p>The financial sustainability strategy was implemented late. The initial 2016-2022 Strategic Agenda did not set targets for revenue generation through KIC activities. This was only introduced with a single overall metric in the 2018-2022 Strategic Agenda.</p>	<p>Ensure the financial sustainability strategies as described in the 2021-2027 Strategic Agenda are implemented in a timely manner and in a way that maximises financial sustainability.</p>
<p>The KIC does not take full advantage of additional revenue sources such as intellectual property management or ownership of financial assets.</p>	<p>Expand the KIC's existing portfolio of financial assets and explore further intellectual property ownership, such as owning RawMaterials Academy.</p>
<p>The KIC relies too heavily on membership fees.</p>	<p>Design and implement strategies to increase the revenue the KIC can generate through services, backflows, commercialisation of existing KAVAs, and alternative funding sources.</p>
<p>The introduction of backflow schemes has weakened the KIC's relationship with partners and creates an insurmountable barrier to some partners and potential partners.</p>	<p>Work with partners and the broader community to find workable solutions to address the financial requirements of the EIT on a project-by-project basis. Certain projects cannot produce the backflows envisioned by EIT RawMaterials, yet they provide value to the KIC in other ways. Partners have a vested interest in the long-term sustainability of EIT RawMaterials due to the added value in accessing the network and benefitting from knowledge triangle integration; thus, there is potential to work with partners to find solutions that work for both the partners and the KIC. Working</p>

Weaknesses	Recommendations
	with partners on this would also contribute to re-strengthening this relationship.

Knowledge Triangle Integration, Innovation Ecosystem and Co-location Centres

Chapter 7 assessed one of the KIC’s most important objectives—knowledge triangle integration (KTI). The knowledge triangle incorporates three main sides: higher education, research and industry. The main goal of KTI is to create synergies and collaborations across sides of the knowledge triangle in order to better address societal challenges. EIT RawMaterials launched a number of programmes related to KTI: Lighthouse Innovations Programmes, Expert Forums, Raw Materials Summits and related projects, which have been thoroughly presented in the relevant chapter of this report. Over the years, the EIT’s assessments regarding EIT RawMaterials’ KTI have been positive, especially regarding the facilitating methods that the KIC has in place for facilitating KTI among the KIC’s members. Partners and beneficiaries alike highly value the added benefit they receive from EIT RawMaterials’ KTI activities.

EIT RawMaterials has cultivated a very strong partnership network, both in terms of quality and size, since it is considered to be the largest raw materials ecosystem in the world. Additionally, both the Lighthouses and the European Raw Materials Alliance (ERMA) have strengthened the KIC’s efforts towards addressing societal challenges through the creation of ecosystems surrounding specific issues. The ecosystems created by EIT RawMaterials are generally geographically balanced, but EIT RIS eligible countries and regions are underrepresented, especially in business ecosystems. Innovation ecosystems are more established than business ecosystems, which rarely evolve directly from innovation ecosystems.

Strengths
The EIT RawMaterials partnership is a strength of the KIC in terms of both size and quality of the network. The KIC has cultivated the largest raw materials ecosystem in the world.
EIT RawMaterials has contributed to the creation of new innovation ecosystems in EIT RIS eligible countries and regions.
The KIC has a number of activities, such as Lighthouses and Expert Forums, that allow for the pooling of activities around a specific issue
The KIC has been consistently positively assessed in KTI, with KTI embedded throughout KIC processes.
Education KAVAs are particularly strong in KTI.
Successful KTI has led to better solutions to societal challenges.
The geographic distribution of the partnership and CLCs is good.
The KIC has continuously developed new RIS hubs and has plans to create more.

Weaknesses	Recommendations
The KIC retroactively changed partnership agreements, which was perceived as a breach of trust by partners. This has resulted in the long-term sustainability of the partnership being brought into	Do more to communicate the value of the KIC membership to current partners, since whether to continue this membership is internally assessed by partners annually.

<p>question, as partners may no longer feel EIT RawMaterials membership is worthwhile.</p>	<p>Further retroactive changes to formal agreements should be avoided in the near future to rebuild trust with partners.</p>
<p>Education programmes do not have as strong of an impact on students cultivating sector-specific skills when compared with more general skills.</p>	<p>Ensure that the sector-specific skills needed for students to succeed in the raw materials sector are realised through the educational programmes provided.</p> <p>Although education KAVAs have to meet specific criteria on addressing skills gaps before the project is chosen, the KIC should do more to ensure these skills are realised amongst graduates. Incorporate a monitoring system of graduates that assesses what skills have been successfully transferred to them, and what skills are left unaddressed.</p>
<p>Business ecosystems in EIT RIS eligible countries and regions are not as well established as the innovation ecosystems are.</p>	<p>The RIS Capacity Building area included in KAVA Calls 8 and 9 has improved upon this weakness. However, encourage more consortia to include partners from EIT RIS eligible countries and regions in all KAVA calls.</p>
<p>There is a limited number of partners from outside the EU and Horizon Europe associated countries, which was initially planned through the KIC's strategic agendas.</p>	<p>Prioritise forming relationships with well-established partners that can afford to fund their own projects, given that EU funds cannot be shared with partners from countries not associated with Horizon Europe.</p>
<p>Innovation ecosystems do not necessarily evolve into business ecosystems due to the slowness of the sector.</p>	<p>Ensure EIT RawMaterials offers support to ventures throughout the entrepreneurial process in order for more innovations to be brought to the market.</p>

Education and Alumni

Chapter 8 focuses on the performance of EIT RawMaterials in its educational and training offerings. Through the RawMaterials Academy, the KIC provides Wider Society Learning, Lifelong Learning, and higher education programmes. All segments of the RawMaterials academy allow students to acquire and cultivate skills relevant to the sector; however, the skills most often cited by students and graduates are general skills related to the goals of the EIT label rather than skills specific to the raw materials sector. Moving forward, the KIC could do more to monitor the impact these courses have on students in the medium- and the long-term through the use of regular surveys. Wider Society Learning and Lifelong Learning KAVAs do well in addressing skills gaps, targeting underrepresented groups, and reaching a large number of people. However, the KIC has underperformed on the number of graduates from EIT-labelled Master's and PhD programmes, with no EIT-labelled PhD courses currently offered. Additionally, one of the key goals of EIT-labelled programmes, increasing the entrepreneurial capacities of students, has not been realised through reaching the targets for the creation of start-ups by students and graduates, while on the contrary, cultivating intrapreneurial mindset has been one of its achievements. Nevertheless, the education KAVAs benefit from very strong KTI and alignment with market needs and a newly established Alumni Association.

Strengths

EIT RawMaterials has strong coordination and support measures for students and graduates.

The KIC's educational activities have strong relevance to solving societal challenges and significant European added value.
The KIC's strong knowledge triangle integration in educational activities leads to programmes tailored to address skills gaps and students being exposed to both industry and research partners.
The KIC met its target for the number of female graduates from EIT-labelled programmes.
Strong achievements of Academic Quality Label targets, and overachievements of targets relevant to connecting students with industry partners, Lifelong Learning and Wider Society Learning.
A high percentage of graduates are currently employed; the majority these graduates are in the sector relevant to their education.
Wider Society Learning courses target underrepresented groups in the sector, including young girls, which contributes towards long-term demographic changes in the sector.
The number of applications specific EIT-labelled masters programmes receive each year points to high student interest.
The education activities implemented by EIT RawMaterials have updated the raw materials curricula by connecting with today's most pressing issues.
EIT RawMaterials is well aligned with EIT strategic priorities in their education activities. For example, the KIC is leading on the Cross-KIC HEI Initiative and the Education Cluster (through Skills for the Future and Girls Go Circular) that are part of DG EAC's Digital Education Action Plan.
EIT RawMaterials fosters an intrapreneurial mindset through its activities, which provides further opportunities for RM Academy graduates to influence the raw materials sector beyond entrepreneurial activities.

Weaknesses	Recommendations
Limited revenue is generated from EIT RawMaterials educational offerings, despite plans to increase this.	<p>Prioritise commercialising lifelong learning, short courses, and higher education support services to contribute to the KIC's achievement of financial sustainability.</p> <p>Introduce further revenue streams in all segments and explore other EU and national instruments to complement the EIT funding (Erasmus+, etc.)</p>
Respondents to the students and graduates survey provided feedback that their EIT-labelled education programme was incoherent and compromised due to needing to meet various, and sometimes misaligned, requirements of each university involved.	<p>EIT RawMaterials should provide specific guidance on how to align academic requirements to ensure the final programmes are cohesive.</p> <p>The KIC should regularly seek feedback from graduates to ensure problems with EIT-labelled programmes are addressed in a timely manner.</p>
The KIC has shown a limited capacity to instil an entrepreneurial mindset in education and training programme graduates.	<p>Work with partners to establish more courses and activities relevant to job-awareness and alternative career paths in the raw materials sector.</p> <p>Further strengthen the entrepreneurship element in the EIT Label programmes.</p>

Weaknesses	Recommendations
<p>EIT RawMaterials has not performed well on the KPIs regarding total students and graduates in EIT-labelled programmes.</p>	<p>Increased outreach activities and the creation of additional EIT-labelled education programmes will enable EIT RawMaterials to reach more students.</p> <p>Better organisation and structure of dissemination and communication activities can aid in promoting the education activities of EIT RawMaterials. EIT RawMaterials competes with highly ranked universities with significantly larger recruitment budgets.</p> <p>Ensure tuition fees are affordable to students or offer scholarship programmes to those who cannot afford tuition fees. The KIC's higher education programmes charge high tuition fees, which limits the number of students who have the ability to follow these programmes, especially given that most European countries have universities with low tuition fees.</p>
<p>EIT RawMaterials has not performed well on the number of start-ups created by students in EIT-labelled programmes.</p>	<p>Provide direct assistance to graduates interested in entrepreneurship and innovation. Connect students with additional services beyond those offered through the EIT that can support entrepreneurship.</p> <p>Review the EIT RawMaterials educational programmes' target group to attract students with a business mindset. Students more likely be interested in entrepreneurship would benefit more from the KIC's unique educational programmes that emphasise entrepreneurship and innovation.</p> <p>The strengthening of the Alumni association could aid in this regard. Incorporate entrepreneurial assistance through providing resources and opportunities for networking in the new Alumni programme.</p>
<p>The targets set for Wider Society Learning, Lifelong Learning and the percentage of female graduates were not ambitious.</p>	<p>The KIC should base its targets on past performance and incorporate more ambition for the KPIs it easily achieves.</p>
<p>There are no active EIT-labelled PhD courses offered through EIT RawMaterials.</p>	<p>Prioritise receiving proposals for new EIT-labelled PhD courses to strengthen the KIC's educational offerings.</p>
<p>There was limited data on graduate outcomes and alumni activities.</p>	<p>EIT RawMaterials should work closely with the Alumni association to monitor graduate outcomes over the short and medium term.</p>
<p>Surveys showcased the need for a stronger oversight between EIT RawMaterials and EIT-labelled programmes.</p>	<p>EIT RawMaterials should work more closely with EIT-labelled students and graduates to provide opportunities for receiving feedback in order to</p>

Weaknesses	Recommendations
	ensure the highest quality of education is being provided.

Innovation & Research

In **Chapter 9**, an assessment of EIT RawMaterials’ activities in research and innovation is conducted. The KIC has successfully managed to develop an innovation ecosystem in the raw materials sector in Europe, involving a wide range of research and innovation stakeholders across the raw materials value chain. The KIC has realised most of the synergies it had planned on creating. It has also increased the innovation capacity of the Union in certain regions and succeeded in increasing cooperation among the actors across the European raw materials value chain. EIT RawMaterials has also led to a large number of innovation-related KPIs being met or overachieved through its activities, such as the creation and application of technology innovations, sustainability-related technologies, prototypes etc. However, some targets were not met. EIT RawMaterials’ revenue generation prospects are good with its current portfolio of partnered and supported organisations serving as a positive factor.

Strengths
EIT RawMaterials has successfully managed to create an innovation ecosystem in the EU.
The innovation activities of EIT RawMaterials have led to increased cooperation among the different actors in the raw materials field across the EU.
A number of innovation KPIs have been overachieved including the number of key-enabling technology innovations applied or in progress, the number of sustainable best available technologies in the market reducing critical raw materials waste, the number of pilot or demo plants, prototypes or production units created, and the number of applied substation cases.
The KIC’s current portfolio has the potential for future revenue generation.

Weaknesses	Recommendations
EIT RawMaterials has underperformed in multiple innovation KPIs, including the number of products with reduced toxic materials, the number of products and processes launched in the market, and the number of start-ups created from innovation projects.	Partner with or fund projects that directly contribute to the reaching of these long-term targets.
The revenue generation of innovations supported was not regularly monitored.	This weakness has been addressed by the implementation of the EIT’s new Impact Framework for 2021-2027.
Limited availability of information regarding the impact of the KIC on the innovative capacity of Europe and the success of supported projects, with information not being tracked after a certain time other times with the information not being tracked at all.	Moving forward, the KIC has implemented a Legacy Contribution Yearly Check-In which will monitor innovation projects’ activities for five-years following funding. Ensure this data can be easily aggregated for future assessments.

Entrepreneurship & Business Creation

In **Chapter 10**, an assessment of EIT RawMaterials’ entrepreneurship and business creation activities was provided. As far as fostering entrepreneurship and business creation is concerned, the KIC has succeeded in creating a business ecosystem that attracts start-ups and investment. The KIC has supported over 300 start-ups, by among other things, contributing to their revenue growth from the innovations they develop, increasing job retention, filling skills gaps, and increasing profitability. While the KIC made progress towards its goals, on some occasions, such as the case of the number of start-ups created as a result of innovation projects, it missed its multi annual and annual targets. The budget for entrepreneurship and business creation activities has been the lowest out of all the knowledge triangle activities, which might have contributed to the mixed performance of the KIC on some KPIs.

Strengths
EIT RawMaterials has a good reputation amongst start-ups, resulting in many start-ups seeking out EIT RawMaterials not solely for funding but also for the other services that it provides.
The entrepreneurship and business creation support provided by EIT RawMaterials has led to the creation of business ecosystems and collaboration opportunities.
Creation of EIT RawMaterials Business Creation book has raised awareness among students about the support tools available to them to aid them in starting their own start-up.
EIT RawMaterials has supported over 300 start-ups so far.
The commercial viability of Upscaling projects is assessed prior to project acceptance.
EIT RawMaterials has a strong industry network, with business partners drawn to the KIC to have access to this network and new talent.
EIT RawMaterials has created business ecosystems and networks where there were none before.
The newly introduced backflow and financial asset schemes for start-ups supported by EIT RawMaterials will contribute to the KIC’s financial sustainability.
The new job types created by ventures supported by EIT RawMaterials contributes to skills gaps and shortages being filled in the raw materials sector.
Ventures supported by EIT RawMaterials have far surpassed targets on the level of investment attracted, despite the raw materials sector being highly conservative.

Weaknesses	Recommendations
EIT RawMaterials underperformed some business creation and entrepreneurship KPIs, including the number of products or processes launched on the market and the number of start-ups created from innovation projects.	Contribute more funding to business creation activities and strengthen existing business creation KAVAs, either through expansion of services or greater support capacity, to better support ventures. When defining new multi-year targets, make sure they are realistic and validated by external experts at the time of definition.
Business creation and entrepreneurship support services has consistently had the lowest budget	The Booster Call implemented in response to the Covid-19 crisis has improved this, but moving forward, there must be consistent balance in

Weaknesses	Recommendations
<p>compared with activities on other sides of the knowledge triangle.</p>	<p>funding between the activities that address the different sides of the knowledge triangle.</p>
<p>The responses from the ventures survey that estimated the impact of EIT RawMaterials on ventures' success showed that most respondents saw either less than 5% or no increase in revenue and profitability due to EIT RawMaterials activities.</p>	<p>Strengthen existing business creation KAVAs, either through expansion of services or greater support capacity, to better support ventures.</p> <p>More evenly distribute funding across knowledge triangle activities so that entrepreneurship and business creation activities do not fall further behind.</p>
<p>Little to no revenue has been generated through business creation activities, either through return on investment or service fees, over the 7-year period assessed.</p>	<p>The 2021-2027 Strategic Agenda and recent introductions of backflow and financial asset schemes will improve this, but the KIC should ensure these are implemented in a timely manner and maximise contribution towards financial sustainability.</p>

EIT Regional Innovation Scheme (EIT RIS)

Chapter 11 covers the assessment of EIT RawMaterials' Regional Innovation Scheme (RIS) activities. EIT RawMaterials incorporates the KIC's RIS Strategy in all activities, including KAVA calls. It has created seven RIS Hubs and plans to establish more throughout 2022 and beyond. The KIC performed well on RIS even when this was not mandatory, which shows the initiative EIT RawMaterials has taken to prioritise many EIT RIS eligible countries and regions due to their natural endowment of raw materials and natural resources. The KIC has strengthened local innovation and education ecosystems through RIS activities and Cross-KIC collaborations. However, there were misalignments between the KIC's RIS strategies and the EIT RIS Guidance Note 2018-2020 and the RIS Implementation Framework of 2022-2027. While the RIS strategies of EIT RawMaterials have performed well in education KAVAs, there has been an underrepresentation of innovation and business KAVAs in EIT RIS eligible countries and regions. Additionally, while the number of RIS eligible countries covered is strong, most RIS partners are from a limited number of countries, so there is room for the geographical balance of RIS country coverage to be improved. Lastly, there was limited regular monitoring data collected by the KIC through KIC Specific KPIs on RIS activities; however, this will be significantly improved by the updated EIT Impact Framework and the KIC's 2021-2027 Strategic Agenda.

Strengths
<p>The creation of a solid RIS strategy has been a priority for EIT RawMaterials due to these regions being endowed with national resources.</p>
<p>Because RIS activities are embedded throughout the KIC's activities, EIT RIS eligible countries and regions are well connected with non- EIT RIS eligible countries and regions.</p>
<p>EIT RawMaterials strengthened local ecosystems by connecting EIT RIS eligible countries and regions with the KIC's broader innovation ecosystems.</p>
<p>EIT RawMaterials has established a number of RIS Hubs and plans to create more by the end of 2022.</p>
<p>EIT RIS eligible countries and regions are included well in education KAVAs.</p>
<p>EIT RawMaterials leads multiple Cross-KIC initiatives that specifically support RIS regions.</p>

Strengths
The KIC's 2021-2027 Strategic Agenda is well aligned with the RIS Implementation Framework for 2022-2027.
EIT RawMaterials has performed well on its existing RIS KPIs.
Industry involvement in EIT RIS eligible countries and regions increased due to the incorporation of solving local challenges in KAVA calls.

Weaknesses	Recommendations
The level of impact EIT RawMaterials has had on EIT RIS eligible countries and regions cannot be assessed due to the lack of RIS-specific KPIs over the 7-year period.	The new RIS KPIs introduced in the KIC's 2021-2027 Strategic Agenda and the EIT's Impact Framework will aid in this, but the KIC must ensure the KPIs remain consistent over time.
There is a misalignment between the KIC's RIS strategies with Smart Specialization Strategies and ESIF, as required by the RIS Implementation Framework for 2022-2027.	<p>The EIT and EIT RawMaterials should come to an agreement on this to ensure the KIC is doing the most that it can regarding RIS3 strategies, and that the EIT is not imposing requirements that go against the specific needs of the raw materials sector.</p> <p>As business creation and innovation support activities increase in EIT RIS eligible countries and regions, work with beneficiaries to see where projects are eligible for ESIF funding and how these projects can successfully apply for ESIF funding.</p>
There are limited business creation and innovation KAVAs implemented in EIT RIS eligible countries and regions.	<p>The RIS Capacity building introduced in KAVA Call 8 is contributing to solving this weakness and tailored collaborations between RIS incubators ensure the unique needs of entrepreneurs and innovations in different regions are met. However, it is recommended to continue prioritising innovation projects and start-ups from RIS regions in activities to better contribute to the creation of innovation and business ecosystems in EIT RIS eligible countries and regions.</p> <p>Target dissemination of RIS success stories in EIT RIS eligible countries and regions to increase awareness of opportunities and inspire more to pursue entrepreneurship.</p>
Half of RIS partners originate from a limited number of countries, showcasing a highly unbalanced geographical spread in RIS eligible area.	<p>Use targeted outreach strategies to reach potential partners and beneficiaries in EIT RIS eligible countries and regions.</p> <p>Increase EIT RawMaterials activities in underrepresented EIT RIS eligible countries and regions.</p>

Weaknesses	Recommendations
There are limited synergies with local and regional initiatives, including funding sources.	<p>Increase the development of synergies in EIT RIS eligible countries and regions using targeted outreach strategies and ensure further alignment with local and regional initiatives.</p> <p>This weakness is partially addressed by the KIC’s Education and Innovation Director, who is actively pursuing new funding opportunities, as well as contacting the relevant information points/offices.</p>

Synergies, Complementarities & Cross-KIC Collaboration

Chapter 12 covers the synergies, complementarities and Cross-KIC collaborations of EIT RawMaterials. The KIC has managed to create most of the synergies it targeted in its original and updated strategic agendas. On a local and regional level, the KIC has complemented existing infrastructure for entrepreneurship and innovation support, but the KIC should strengthen its synergies with local and regional funding bodies. On a European level, EIT RawMaterials is aligned with a number of European-wide initiatives, including Horizon Europe, and European policy priorities, including the European Green Deal. In addition to those, EIT RawMaterials was tasked with leading the European Raw Materials Alliance, a European Commission initiative. On an international level, the KIC regularly monitors contribution towards UN Sustainable Development Goals; however, the number of international synergies does not extend far beyond that. Moving forward, the KIC should seek out opportunities to complement more global initiatives.

Additionally, while the KIC itself benefits from many of these synergies, the added value has not been as realised amongst partners, supported ventures, and graduates. Based on the findings of the ventures survey, there were a significant number of supported ventures that had not contributed to or benefited from any other European initiative through their activities with EIT RawMaterials. Moving forward, EIT RawMaterials should do more to communicate alternative funding sources and resources available through complementary European programmes with students, ventures and the KIC’s partners.

Strengths
Leading the European Raw Materials Alliance (ERMA) gives EIT RawMaterials a leading position on coordinating strategies to address EU policy priorities.
The KIC is leading multiple Cross-KIC activities.
EIT RawMaterials has cultivated a large number of synergies with EU and national programmes.
EIT RawMaterials activities demonstrate good alignment with EU policy priorities.
The KIC has established an influential role in the development of EU policy priorities.
The KIC maintains ongoing efforts to identify new opportunities for collaboration and ways of strengthening existing synergies.

Weaknesses	Recommendations
EIT RawMaterials has minimal coordination with global initiatives.	Build upon existing UN collaborations to move beyond European focus. Seek out additional

	opportunities to develop synergies with initiatives abroad.
There are limited synergies with innovation and business-support initiatives in EIT RIS eligible countries and regions.	Continue the ongoing work towards developing and strengthening RIS innovation ecosystems.
The KIC has limited synergies with national, regional, international and private sector funding bodies.	Continue efforts to develop new synergies with regional and international funding bodies.
It is not clear how ventures and students supported by EIT RawMaterials benefit from collaborations and synergies.	Coordinate with partners and relevant initiatives on ways that ventures and students can be further supported through related initiatives and opportunities.
There is limited cooperation with NGOs or public authorities in the partnership.	<p>Work towards expanding the EIT RawMaterials partnership beyond the knowledge triangle by incorporating activities that benefit NGOs or public authorities.</p> <p>Encourage the existing partnership to collaborate with other types of partners beyond the knowledge triangle to create more synergies.</p>

Communications, Dissemination & Outreach

Communication and dissemination activities of the KIC are assessed in **Chapter 13**. The strategy aims to establish EIT RawMaterials as the key organisation in the raw materials sector, through enhancing its brand identity. Over the years, EIT RawMaterials has received mixed performance assessments in communications activities from the relevant EIT monitoring activities. The KIC has a good representation in social and traditional media, and the campaigns through social media do well in aligning with broader discussions on current events and the green and digital transitions. Moving forward, EIT RawMaterials should do more to disseminate the results of projects in order to show the organisations contributions towards creating a circular economy. Communications activities should especially target providing nuance to the conversation around mining activities, including the strategic importance of securing raw materials supply within Europe.

Strengths	
EIT RawMaterials organises a good number of external events that serve as outreach and dissemination.	
EIT RawMaterials has managed to cultivate a good social media and traditional media presence.	
Partner compliance with EIT branding requirements have improved over the years; however, there is still not full compliance.	
Communications activities do a good job at aligning social media campaigns with broader discussions on sustainability, the green transition, and a circular economy.	

Weaknesses	Recommendations
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<p>There is a lack of understanding amongst some partners on the difference between dissemination and communications.</p>	<p>There needs to be more emphasis on dissemination, specifically by sharing project related results with wider society groups.</p>
<p>Monitoring of communications and dissemination activities are not integrated into the KIC's main KPI monitoring system.</p>	<p>Integrate communications and dissemination activities monitoring with the KIC's general monitoring system so that these activities are continuously checked for performance improvement.</p>
<p>There is limited data available for the financial framework of the communications activities; the budget of communications activities is not always separated from management activities, which makes monitoring the KIC's financial expenditure more difficult.</p>	<p>Provide separate information on the portion of the annual budget that goes towards communication, dissemination and outreach activities.</p>
<p>EIT RawMaterials could be doing more to shape the legislative agenda and public perception of raw materials activities.</p>	<p>As the role raw materials plays in the green transition becomes clearer to the general public, EIT RawMaterials should emphasise the role the KIC plays in contributing to the transformation of the raw materials sector.</p>

16. ANNEXES

ANNEX I. Survey Analysis - Summary of the survey of EIT-labelled and non-labelled students and graduates of EIT RawMaterials

1. Please note that the survey will be anonymous; personal data and IP addresses will not be collected or stored. The collected data will only be used for the purpose of this assessment. It will be evaluated for EIT by White Research, and the individual responses will not be shared directly with the EIT.

You have the following rights regarding our processing of your personal data:

- Right to withdraw consent – You can withdraw consent that you have previously given to one or more specified purposes to process your personal data. This will not affect the lawfulness of any processing carried out before you withdraw your consent.
- Right of access – You can ask us to verify whether we are processing personal data about you and, if so, to have access to a copy of such data.
- Right to rectification and erasure – You can ask us to correct our records if you believe they contain incorrect or incomplete information about you or ask us to erase your personal data after you withdraw your consent to processing or when we no longer need it for the purpose it was originally collected.
- Right to restriction of processing – You can ask us to temporarily restrict our processing of your personal data if you contest the accuracy of your personal data, prefer to restrict its use rather than having us erase it, or need us to preserve it for you to establish, exercise or defend a legal claim. A temporary restriction may apply while verifying whether we have overriding legitimate grounds to process it. You can ask us to inform you before we lift that temporary processing restriction.
- Right to data portability – In some circumstances, where you have provided personal data to us, you can ask us to transmit that personal data (in a structured, commonly used, and machine-readable format) directly to another entity.
- Right to object – You can object to our use of your personal data for direct marketing purposes, including profiling or where processing has taken the form of automated decision-making.



However, we may need to keep some minimal information (e.g., e-mail address) to comply with your request to cease marketing to you.

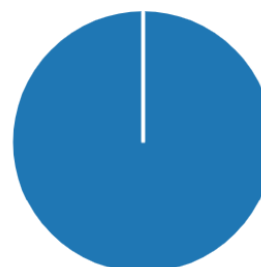
- Right to make a complaint to your local Data Protection Authority (DPA) regarding any concerns you may have about our data handling practices.

The lawfulness of the processing of personal data is determined pursuant to Article 6 of the EU's General Data Protection Regulation (GDPR). With respect to personal data, the processing of personal data is based on consent.

By participating in the survey, you voluntarily consent to the collection and use of your information by White Research as set forth in in this information notice. If you have any questions concerning our data collection practices, you may contact Christian Hauschildt at eitkics@white-research.eu.

I agree to the terms and conditions outlined above.

● Yes	39
● No	0





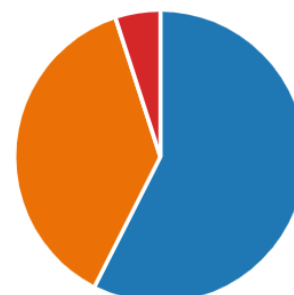
2. What is your country of citizenship?

 Albania	0	 Italy	4
 Armenia	0	 Latvia	0
 Austria	0	 Lithuania	0
 Belgium	4	 Luxembourg	0
 Bosnia and Herzegovina	0	 Malta	0
 Bulgaria	0	 Moldova	0
 Croatia	0	 Montenegro	0
 Cyprus	0	 Netherlands	2
 Czechia	0	 Poland	0
 Denmark	0	 Portugal	4
 Estonia	0	 Romania	0
 Faroe Islands	0	 Serbia	0
 Finland	0	 Slovakia	1
 Former Yugoslav Republic of ...	1	 Slovenia	0
 France	0	 Spain	1
 Germany	3	 Sweden	0
 Georgia	0	 Turkey	1
 Greece	0	 Ukraine	0
 Hungary	0	 Other	19
 Ireland	0		



3. What is your gender?

- Male 23
- Female 15
- Other 0
- Prefer not to say 2



4. What type of EIT educational programme did you follow?

If you're unsure, find a list of EIT-labelled PhD programmes here: <https://eitrawmaterials.eu/eit-rm-academy/eit-labelled-phd-programmes/> and EIT-labelled Masters programmes here: <https://masters.eitrawmaterials.eu/#programmes>

- EIT-labelled PhD 2
- EIT-labelled Masters 28
- Non-labelled education progr... 12



5. What was the title of your educational programme / activity?

40 responses

- AMIR
- AMIS
- Circular sPrint 2021
- EIT RawMaterials CE-COSP 2020
- EIT RawMaterials Jumpstarter
- EIT RawMaterials TOP STARS 2019
- EMerald
- Fingerprinting techniques in mineral exploration
- Going Circular with Critical Raw Materials
- Junior Expert circular economy
- MSc Sustainable and Natural Resource Management
- SINReM

6. Year / expected year of graduation:

37 responses

Year / expected year of graduation	
2018	2021
2019	2022
2020	2023



7. Institution(s) / organisation(s) delivering the programme:

38 responses

- Ghent University
- KU Leuven
- University of Lorraine
- TU Freiberg
- University of Liège
- University of Bologna
- Uppsala University
- Aalto University
- Technical University of Darmstadt
- Technical University of Košice
- University of Bordeaux
- Lulea University of Technology

8. Are you currently employed?

• Yes	20
• No	20



9. What is your job level?

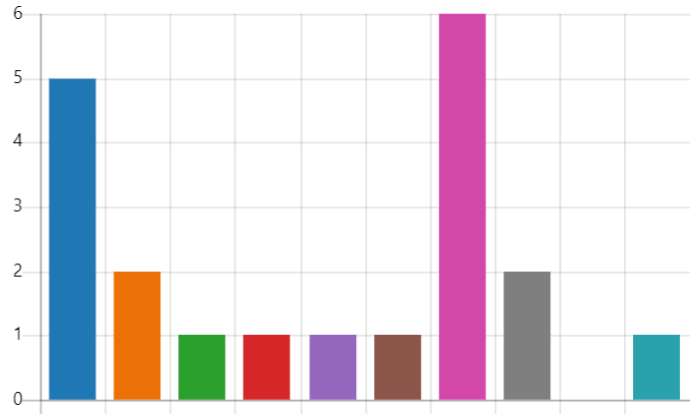
• Intern	2
• Entry-level staff	9
• Intermediate staff	3
• Senior staff (Manager, Senior ...)	4
• Executive, Senior Executive	1





10. In what economic sector are you currently working?

● Mining and quarrying	5
● Manufacturing	2
● Electricity, gas, steam and air c...	1
● Water supply; waste manage...	1
● Construction	1
● Transportation and storage	1
● Professional, scientific and tec...	6
● Education	2
● Human health and social work...	0
● Other	1



11. Title of your job position

20 responses

- Reliability Engineer
- Manager of Technical Office
- Service Engineer
- Senior Manager
- Engineering Manager
- Junior Manager
- Process Engineer
- PhD Researcher

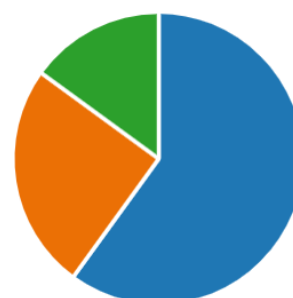


12. What country are you employed in?

● Albania	0	● Italy	1
● Armenia	0	● Latvia	0
● Austria	0	● Lithuania	0
● Belgium	3	● Luxembourg	0
● Bosnia and Herzegovina	0	● Malta	0
● Bulgaria	0	● Moldova	0
● Croatia	0	● Montenegro	0
● Cyprus	0	● Netherlands	1
● Czechia	0	● Poland	0
● Denmark	0	● Portugal	0
● Estonia	1	● Romania	0
● Faroe Islands	0	● Serbia	0
● Finland	1	● Slovakia	1
● Former Yugoslav Republic of ...	1	● Slovenia	0
● France	3	● Spain	0
● Germany	3	● Sweden	0
● Georgia	0	● Turkey	0
● Greece	0	● Ukraine	0
● Hungary	0	● Other	4
● Ireland	0		

13. In your opinion, are you employed in the sector / job related to your EIT-labelled study programme?

● Yes	12
● No	5
● I don't know	3





14. Please explain your answer to the question above:

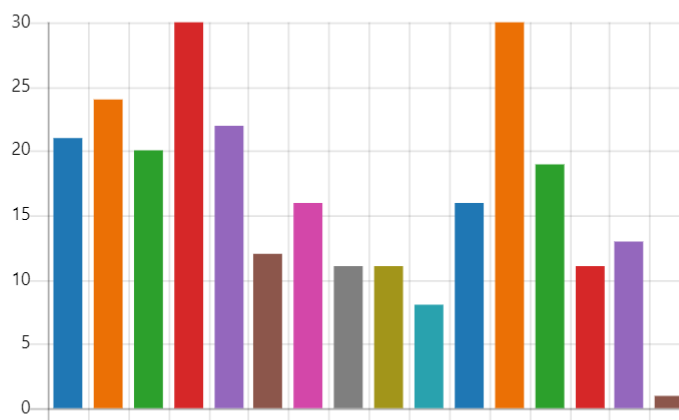
*Not required

10 responses

- Yes
 - Sustainability
 - General knowledge about materials
 - Mineral processing
 - Process improvement
 - Waste management
 - Process and quality improvement
- No
 - Already employed when attended EIT-labelled courses
 - Used EIT-labelled course for study credits
 - Employed in the bioeconomy sector
- I don't know
 - Part of the work is related

15. In your opinion, which skills and competences you have acquired as a result of your EIT RawMaterials training / educational programme?

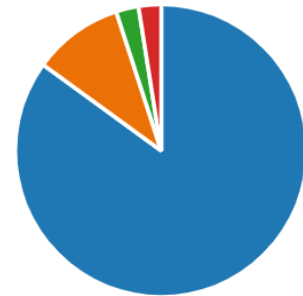
- Entrepreneurship skills and co... 21
- Innovation skills and compete... 24
- Creativity skills and competen... 20
- Intercultural skills and compet... 30
- Making value judgments and ... 22
- Leadership skills and compete... 12
- Language skills and knowledge 16
- Working with computers / IT s... 11
- Applied geology and geomec... 11
- Mining methods (incl. knowle... 8
- Mineral processing 16
- Sustainability practices (incl. e... 30
- Material processing 19
- Turning waste into a standardi... 11
- Applications of chemistry in cr... 13
- Other 1





16. Did you join a start-up during your EIT labelled studies or after your studies?

● No, I have not joined a start-u...	34
● Yes, during my studies	4
● Yes, up to 3 years after my stu...	1
● Yes, more than 3 years after m...	1



17. What county is the start-up registered in?

● Albania	0	● Italy	0
● Armenia	0	● Latvia	0
● Austria	0	● Lithuania	0
● Belgium	0	● Luxembourg	0
● Bosnia and Herzegovina	0	● Malta	0
● Bulgaria	0	● Moldova	0
● Croatia	0	● Montenegro	0
● Cyprus	0	● Netherlands	0
● Czechia	0	● Poland	0
● Denmark	0	● Portugal	0
● Estonia	2	● Romania	0
● Faroe Islands	0	● Serbia	0
● Finland	0	● Slovakia	0
● Former Yugoslav Republic of ...	0	● Slovenia	0
● France	0	● Spain	0
● Germany	3	● Sweden	0
● Georgia	0	● Turkey	0
● Greece	0	● Ukraine	0
● Hungary	0	● Other	1
● Ireland	0		

18. Did you join this start up because of EIT activities, including your EIT labelled or non-labelled studies or other EIT RawMaterials activities?

● Yes	2
● No	4
● I don't know	0



19. Are you still working for this company?

● Yes	3
● No	3



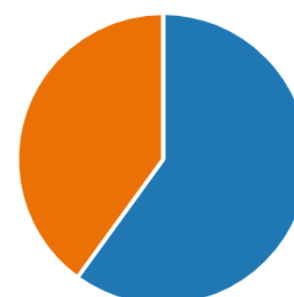
20. Have you established a start-up (i.e., you are among the founders of a new company)?

● Yes	5
● No	34



21. Was the creation of this start-up related to EIT activities, including knowledge obtained through EIT studies or other EIT RawMaterials activities?

● Yes	3
● No	2
● I don't know	0





22. Year when the company was established:

3 responses: 2018, 2019, 2020

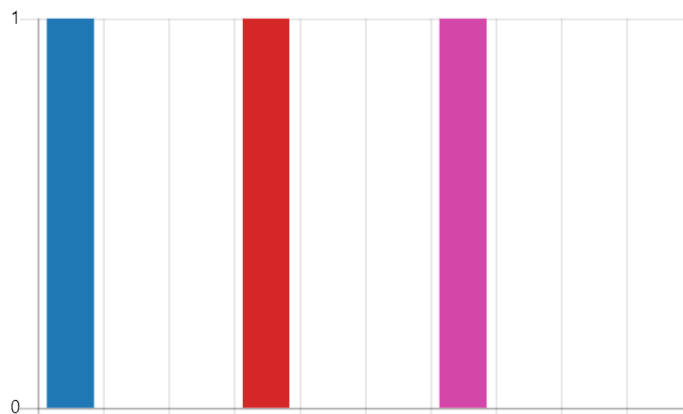
23. What county is your start-up registered in?

 Albania	0	 Italy	0
 Armenia	0	 Latvia	0
 Austria	0	 Lithuania	0
 Belgium	0	 Luxembourg	0
 Bosnia and Herzegovina	0	 Malta	0
 Bulgaria	0	 Moldova	0
 Croatia	0	 Montenegro	0
 Cyprus	0	 Netherlands	1
 Czechia	0	 Poland	0
 Denmark	0	 Portugal	0
 Estonia	1	 Romania	0
 Faroe Islands	0	 Serbia	0
 Finland	0	 Slovakia	0
 Former Yugoslav Republic of ...	0	 Slovenia	0
 France	0	 Spain	0
 Germany	0	 Sweden	0
 Georgia	0	 Turkey	0
 Greece	0	 Ukraine	0
 Hungary	0	 Other	1
 Ireland	0		



24. What economic sector is your start-up in?

● Mining and quarrying	1
● Manufacturing	0
● Electricity, gas, steam and air c...	0
● Water supply; waste manage...	1
● Construction	0
● Transportation and storage	0
● Professional, scientific and tec...	1
● Education	0
● Human health and social work...	0
● Other	0



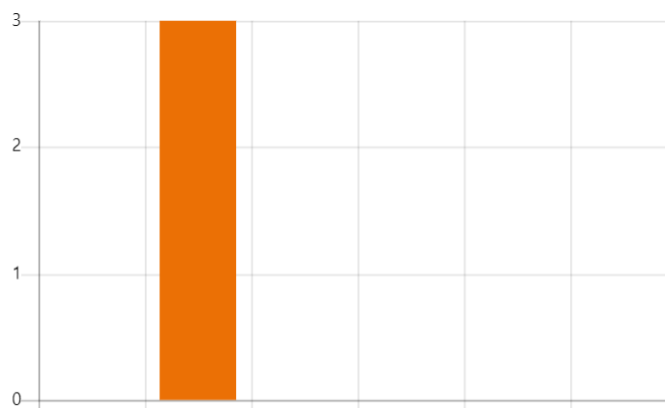
25. What is the gender of your CEO?

● Woman	0
● Man	2
● Other	0
● Choose not to indicate	1



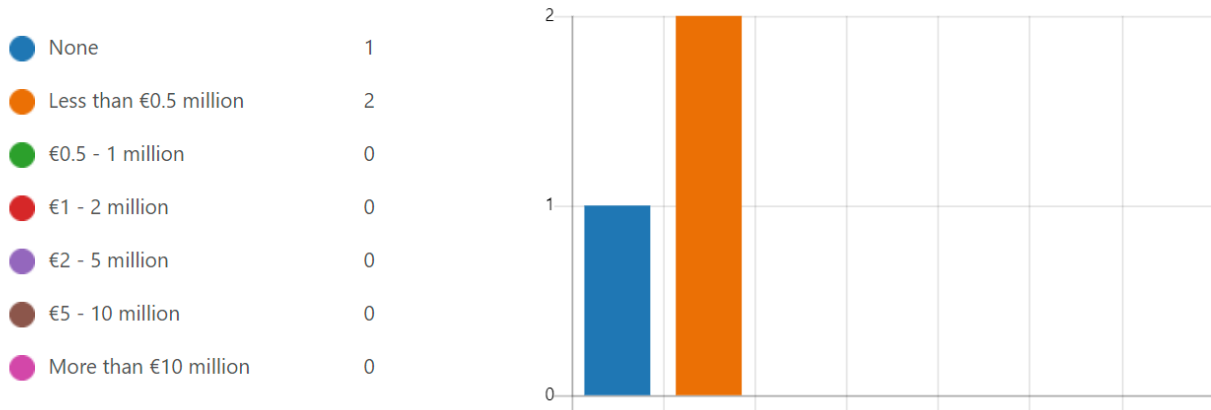
26. Number of employees at the time of reporting:

● None	0
● 1 - 9	3
● 10 - 19	0
● 20 - 49	0
● 50 - 99	0
● 100 or more	0

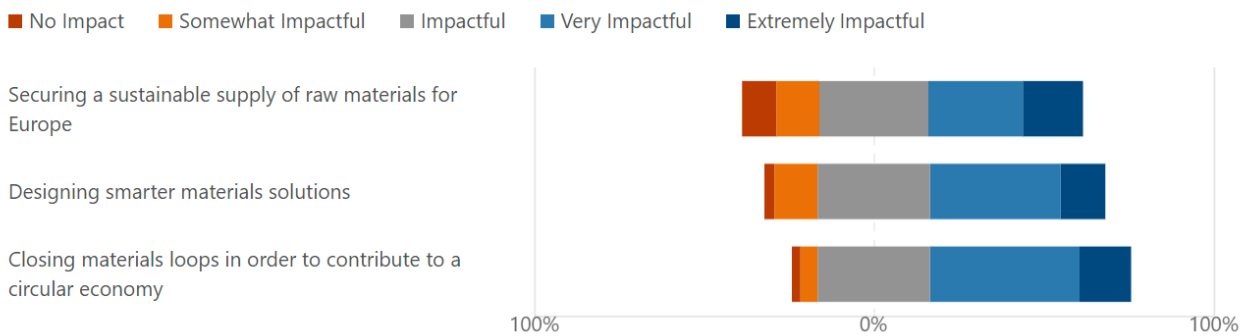




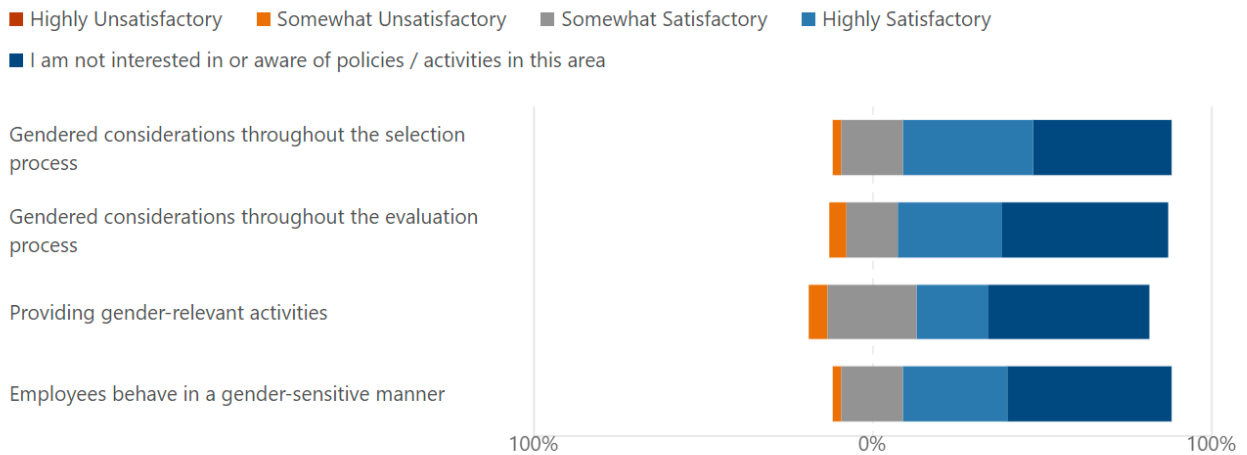
27. Revenue of the last 12 months



28. In your opinion, to what extent have the EIT RawMaterials-related programmes, training or activity you participated in contributed to the achievement of the programme's objectives?



29. What is your opinion on the level of gender-sensitivity in the following EIT RawMaterials policies/activities?





30. How would you agree with the following statements?

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Strongly agree
- I have not been involved in this activity

I can identify the differences and added value between an EIT-labelled education programme over ...

Choosing an EIT-labelled education programme added value to my education.

I received adequate training in entrepreneurial skills.

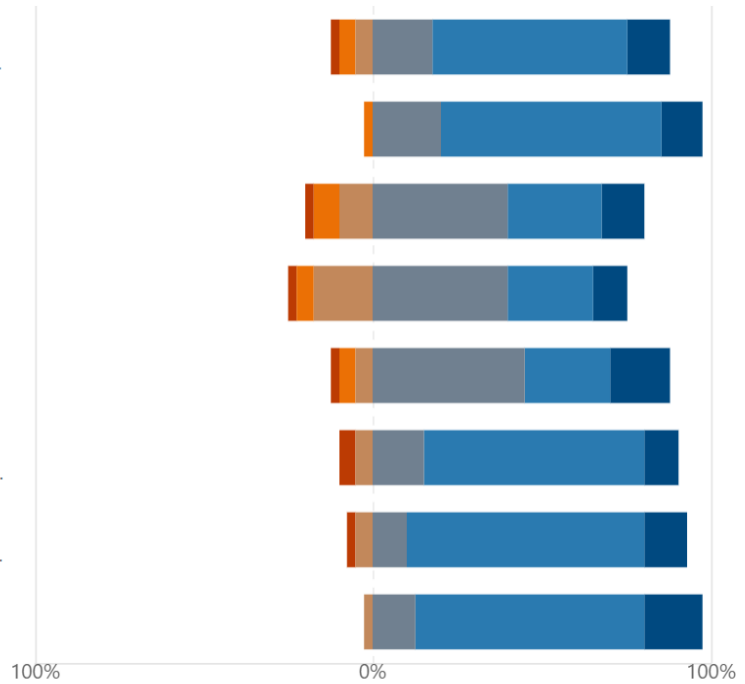
I received adequate training in innovation skills.

I felt more connected to the job market and business opportunities because of my EIT-labelled degree...

The additional activities held through my education programme, such as seminars, exchange programme...

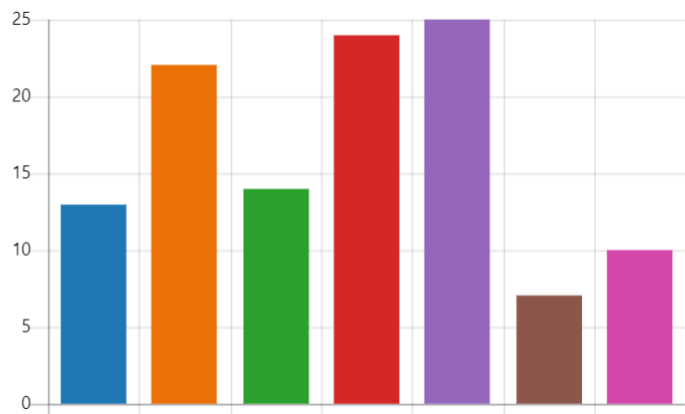
Throughout my degree programme, I was aware that my programme was developed under the umbrella o...

Overall, I am satisfied with my decision to follow an EIT-labelled degree programme.



31. What recommendations do you have to improve EIT RawMaterials based on your experience following an EIT-labelled degree programme? (Choose up to 3)

- More matchmaking activities 13
- More networking opportunities 22
- More RM Academy offerings 14
- More collaboration opportuni... 24
- More mentoring opportunities 25
- More information on how to n... 7
- Regular updates on KIC activit... 10





32. Based on your overall involvement and experience with EIT RawMaterials, to what extent do you see value in it?

● Good as is	11
● Good, but there is room for i...	28
● Bad, but it could be made bett...	1
● Bad, and it should be abando...	0



33. Please provide any final comments you have here.

13 responses

Positive feedback:

- EIT-labelled programmes provide knowledge and cultural experience
- EIT-labelled programmes enable new learning paths on raw materials and innovation
- There are high quality summer schools
- The programme is improved through constant feedback

Negative feedback:

- EIT RawMaterials is minimally involved in the overview of the programmes
- There is minimal connection with the broader EIT Network
- There are a lack of expedition activities
- There is a gap between academia and industry
- EIT RawMaterials is too bureaucratic

ANNEX II. Survey Analysis - Summary of the survey of start-ups and scale-ups supported by EIT RawMaterials.

. Please note that the survey will be anonymous; personal data and IP addresses will not be collected or stored. The collected data will only be used for the purpose of this assessment. It will be evaluated for EIT by White Research, and the individual responses will not be shared directly with the EIT.

You have the following rights regarding our processing of your personal data:

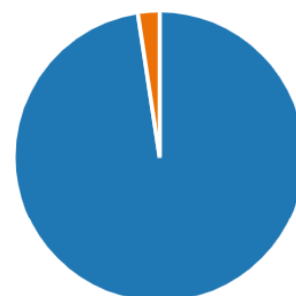
- Right to withdraw consent – You can withdraw consent that you have previously given to one or more specified purposes to process your personal data. This will not affect the lawfulness of any processing carried out before you withdraw your consent.
- Right of access – You can ask us to verify whether we are processing personal data about you and, if so, to have access to a copy of such data.
- Right to rectification and erasure – You can ask us to correct our records if you believe they contain incorrect or incomplete information about you or ask us to erase your personal data after you withdraw your consent to processing or when we no longer need it for the purpose it was originally collected.
- Right to restriction of processing – You can ask us to temporarily restrict our processing of your personal data if you contest the accuracy of your personal data, prefer to restrict its use rather than having us erase it, or need us to preserve it for you to establish, exercise or defend a legal claim. A temporary restriction may apply while verifying whether we have overriding legitimate grounds to process it. You can ask us to inform you before we lift that temporary processing restriction.
- Right to data portability – In some circumstances, where you have provided personal data to us, you can ask us to transmit that personal data (in a structured, commonly used, and machine-readable format) directly to another entity.
- Right to object – You can object to our use of your personal data for direct marketing purposes, including profiling or where processing has taken the form of automated decision-making. However, we may need to keep some minimal information (e.g., e-mail address) to comply with your request to cease marketing to you.
- Right to make a complaint to your local Data Protection Authority (DPA) regarding any concerns you may have about our data handling practices.

The lawfulness of the processing of personal data is determined pursuant to Article 6 of the EU’s General Data Protection Regulation (GDPR). With respect to personal data, the processing of personal data is based on consent.

By participating in the survey, you voluntarily consent to the collection and use of your information by White Research as set forth in in this information notice. If you have any questions concerning our data collection practices you may contact Christian Hauschildt at eitkics@white-research.eu.

I agree to the terms and conditions outlined above.

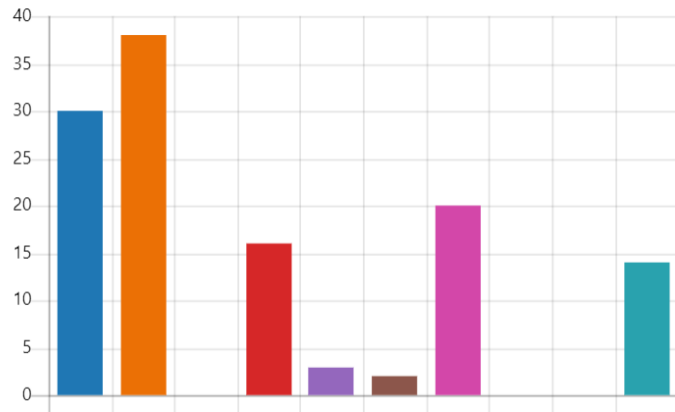
● Yes	122
● No	3





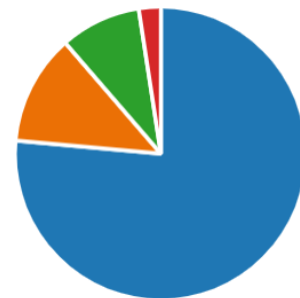
2. Economic sector

● Mining and quarrying	30
● Manufacturing	38
● Electricity, gas, steam and air c...	0
● Water supply; waste manage...	16
● Construction	3
● Transportation and storage	2
● Professional, scientific and tec...	20
● Education	0
● Human health and social work...	0
● Other	14



3. Company type

● Start-up: a new company that ...	94
● Scale-up: company with avera...	15
● SME: a company with 10-249 ...	11
● Other	3



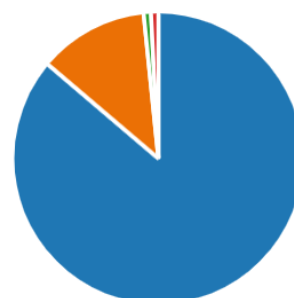


4. In which county is your company registered?

● Albania	0	● Italy	11
● Armenia	0	● Latvia	4
● Austria	8	● Lithuania	1
● Belgium	4	● Luxembourg	0
● Bosnia and Herzegovina	0	● Malta	0
● Bulgaria	0	● Moldova	0
● Croatia	0	● Montenegro	0
● Cyprus	0	● Netherlands	6
● Czechia	2	● Poland	1
● Denmark	2	● Portugal	2
● Estonia	2	● Romania	0
● Faroe Islands	0	● Serbia	0
● Finland	18	● Slovakia	1
● Former Yugoslav Republic of ...	0	● Slovenia	3
● France	10	● Spain	4
● Germany	18	● Sweden	15
● Georgia	0	● Turkey	0
● Greece	3	● Ukraine	0
● Hungary	0	● Other	6
● Ireland	2		

5. Gender of your CEO

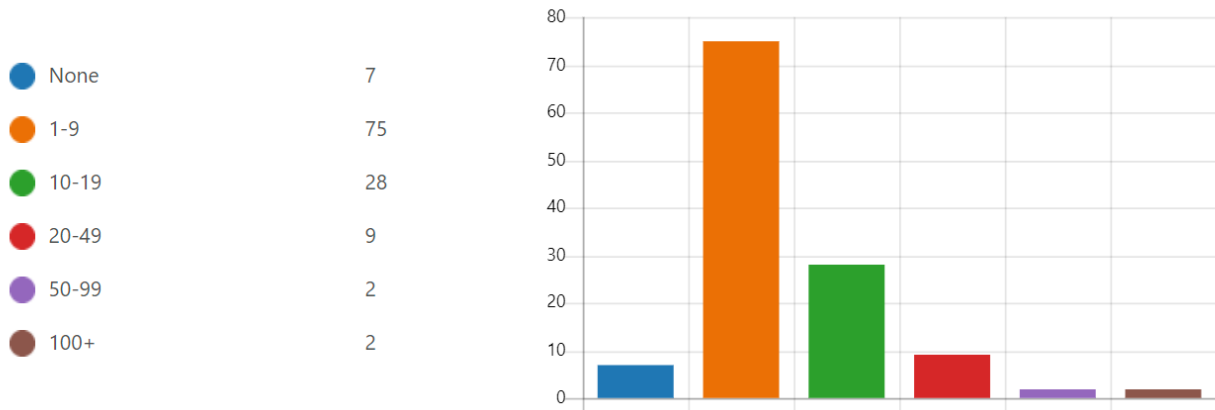
● Male	106
● Female	15
● Other	1
● Prefer not to say	1





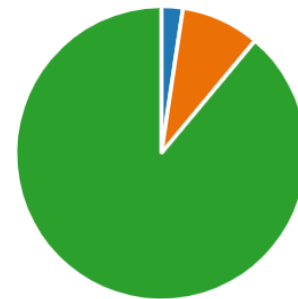
6. Number of employees at the time of reporting

Please include part-time employees, each counting as one.



7. How was your company created?

- Through EIT RawMaterials acti... 3
- With EIT RawMaterials funding 11
- Separately from EIT RawMater... 112



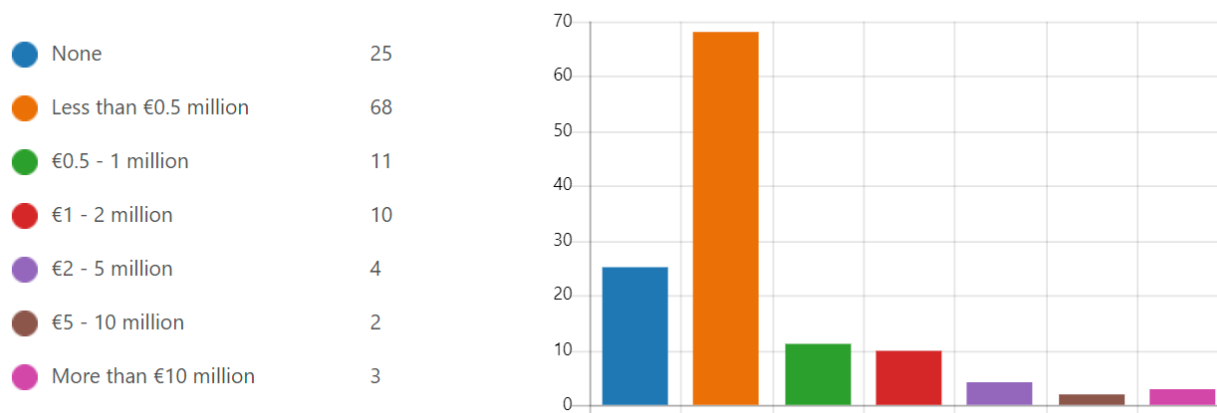
8. Are you currently being supported by EIT RawMaterials? This can be financially, through networking activities, education, etc.

- Yes 55
- No, the support of EIT RawMa... 28
- No, the support of EIT RawMa... 29
- No, the support of EIT RawMa... 10
- No, my organisation was not s... 1





9. Revenue of the last 12 months



10. Direct jobs: *You have a good reason to conclude that these jobs have been created within your company directly because of your involvement with EIT RawMaterials.*

- Sum: 134 jobs from 54 different respondents

11. Indirect jobs: *Jobs created within your company that engagement with EIT RawMaterials may have had an influence on.*

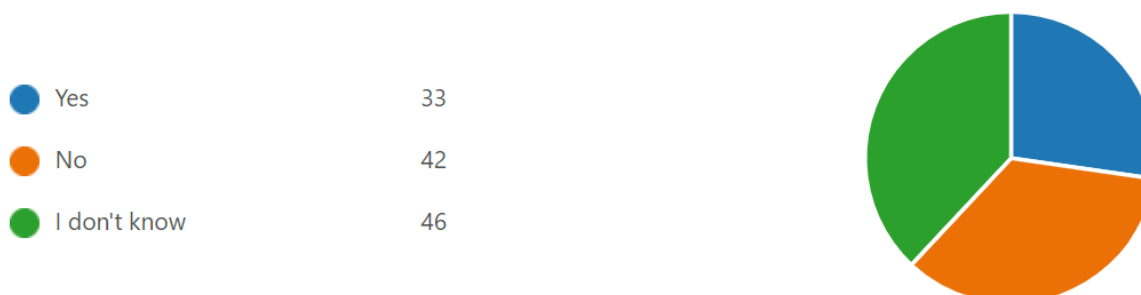
- Sum: 418 jobs from 67 different respondents

12. Sustained jobs: *Jobs within your company that would have disappeared but were safeguarded because of engagement with the EIT RawMaterials.*

- Sum: 148 jobs from 50 different respondents

13. Referring to the jobs that you have reported in the question above, would you say that any of these jobs fall into what could be considered as qualitatively new job types / families?

**New job type can include recently emerging, new, innovative and/or adapted job profiles.*



14. Please the job titles, or a concise description, of the new job types created as a result of your engagement with EIT RawMaterials:

Example job types listed:

- Fly ash specialists
- Electronics engineer
- Control system engineer
- Process improvement researcher
- Secondary raw nanomaterials developer
- Sustainable land seismic acquisition expert
- Recycling process optimisation
- Material flow specialist



- Satellite remote sensing scientists
- AI developer

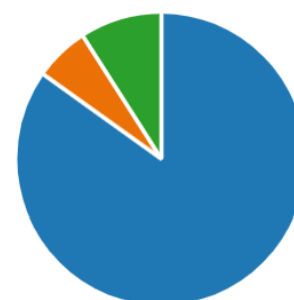
15. How many people are employed by your organisation in these job types?

Please include part-time employees, each counting as one.

- Sum: 127 jobs from 38 different respondents

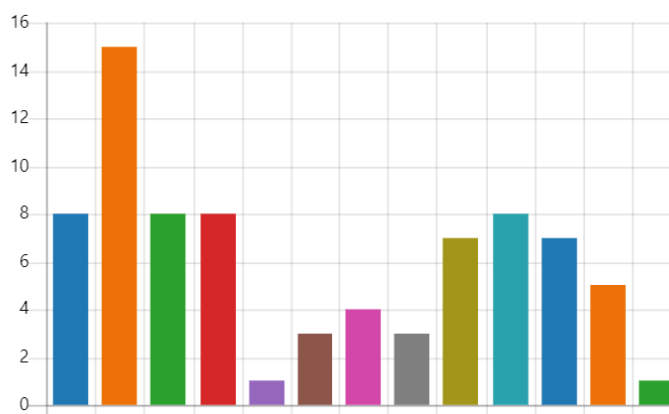
16. Referring to the jobs that you have reported in the question above, would you say that the people employed in any of these jobs helped to fill skill gaps and/or skill shortages existing in the sector?

● Yes	28
● No	2
● I don't know	3



17. Please provide which of the following skill gaps / skill shortages were filled as a result of your engagement with EIT RawMaterials.

● Communication, collaboration...	8
● Analytical and critical thinking...	15
● Management skills (program...	8
● Working with computers / IT s...	8
● Language skills and knowledge	1
● Applied geology and geomec...	3
● Mining methods (incl. knowle...	4
● Mineral processing	3
● Sustainability practices (incl. e...	7
● Material processing	8
● Turning waste into a standardi...	7
● Applications of chemistry in cr...	5
● Other	1



18. To the best of your knowledge, how many of the new job types created helped to fill the skill gaps/shortage?

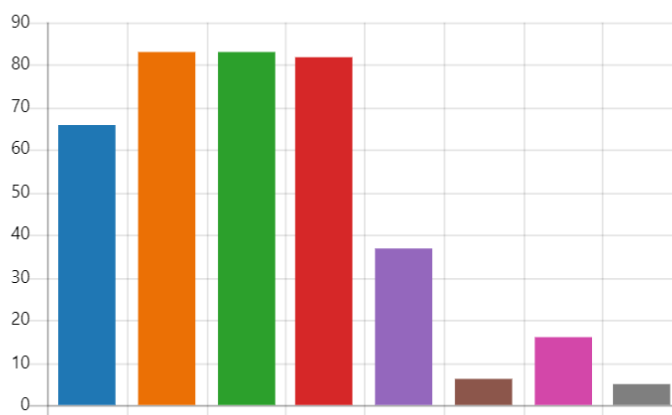
Please indicate the number of new positions, counting each part-time employee as one.

- Sum: 70 jobs from 27 different respondents



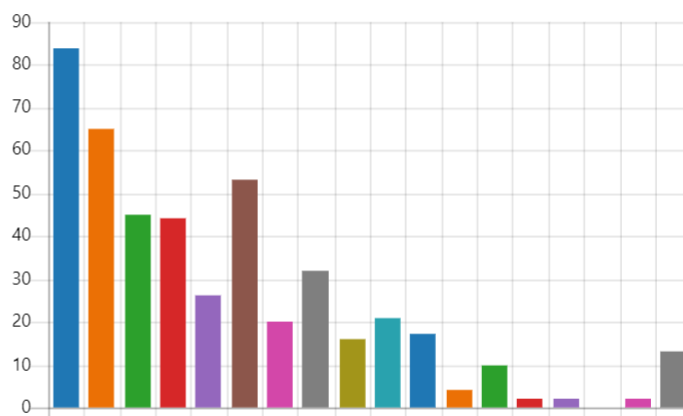
19. What type of organisations do you have collaborations with?

Research institutes	66
Universities	83
SME's	83
Large Enterprises	82
Companies that operate in a d...	37
NGO's	6
Public authorities (i.e., municip...	16
Other	5

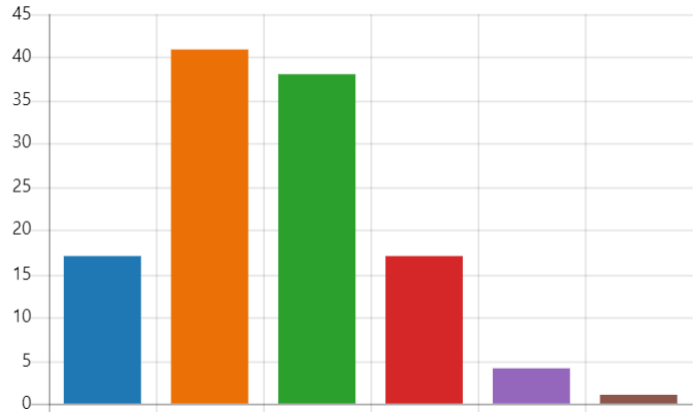
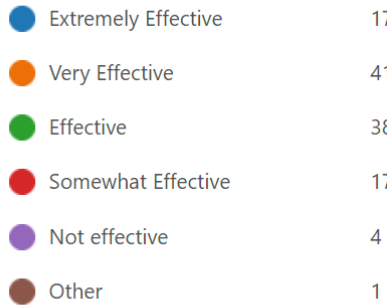


20. What type of collaborations do you have with these organisations?

We implement R&D activities ...	84
We improve our products and...	65
They improve their products a...	45
They help us design our prod...	44
We help them design their pr...	26
They buy our products and / o...	53
We buy their products and / o...	20
We shape our strategy based ...	32
They shape their strategy bas...	16
We engage in networking and...	21
We hire people that they educ...	17
They hire people that we educ...	4
We provide training program...	10
They provide training progra...	2
Their employees do traineeshi...	2
Our employees do traineeship...	0
We have staff exchange sche...	2
We organise events together	13



21. Please indicate the overall effectiveness / strength of the collaborations you have as a result of your engagement with EIT RawMaterials.

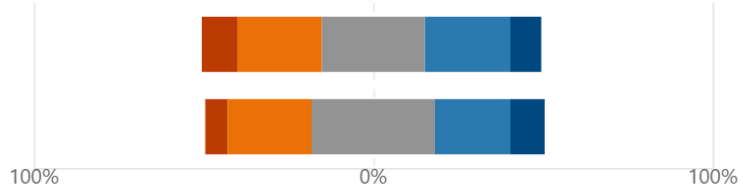


22. Please estimate to what extent your involvement with EIT RawMaterials has contributed to the creation of innovation and business ecosystems:

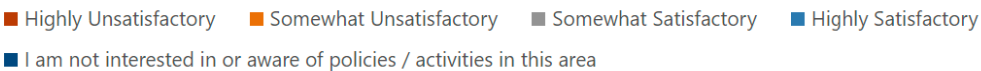


Innovation ecosystems: An innovation ecosystem stands for a collaboration of a network of actors...

Business ecosystems: A business ecosystem stands for a collaboration of a network of actors, including...



23. What is your opinion on the level of gender-sensitivity in the following EIT RawMaterials policies/activities?

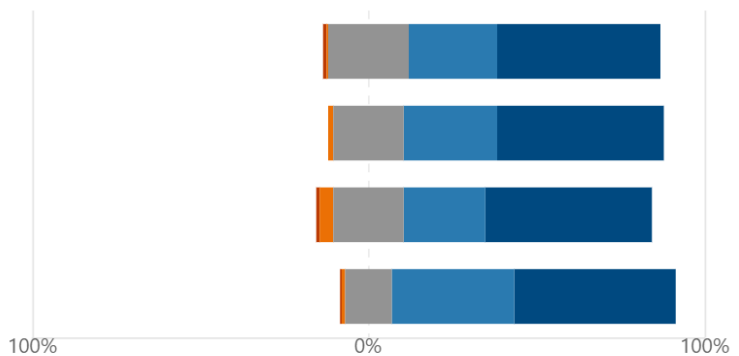


Gendered considerations throughout the selection process

Gendered considerations throughout the evaluation process

Providing gender-relevant activities

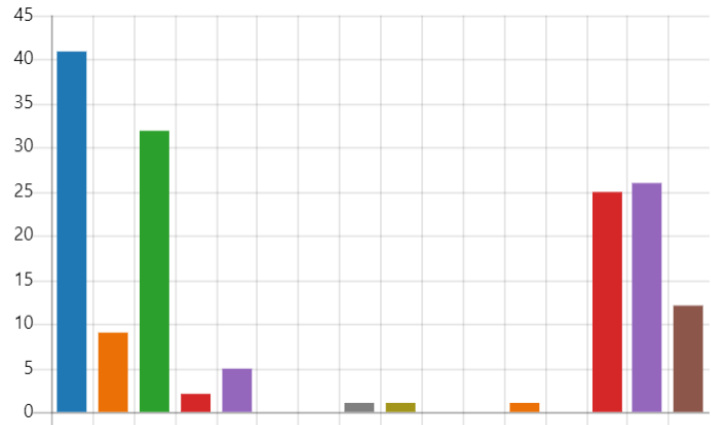
Employees behave in a gender-sensitive manner





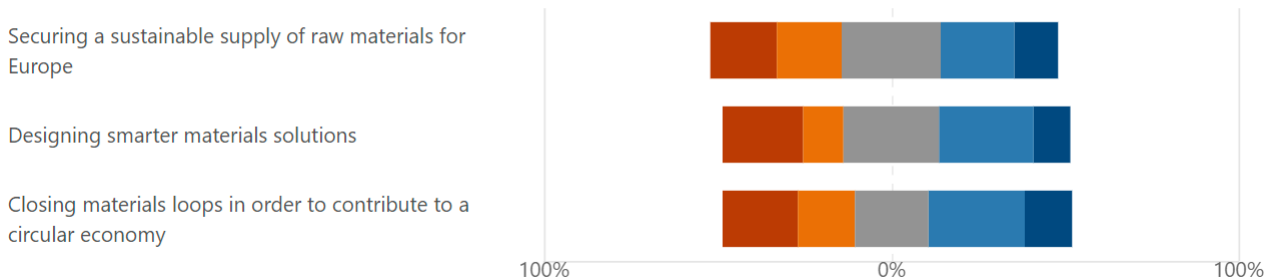
24. Please indicate initiatives/programmes your company applied to, received funding from, or contributed to through your activities with EIT RawMaterials:

● None	41
● European Green Deal	9
● H2020/Horizon Europe (Joint ...	32
● Erasmus+	2
● European Innovation Partners...	5
● CINEA – European Climate, Inf...	0
● COSME – Europe’s programm...	0
● ESIF – European Structural Inv...	1
● MSCA - Marie Skłodowska-Cu...	1
● UNEP (UN Environment Progr...	0
● ERECON – European Rare Eart...	0
● InvestEU	1
● Single Market Programme	0
● Other EIT KIC’s (i.e., EIT Digital,...	25
● National initiatives	26
● Other	12



25. In your opinion, to what extent have the activities of your company contributed to the achievement of EIT RawMaterials objectives?

■ No Impact
 ■ Somewhat Impactful
 ■ Impactful
 ■ Very Impactful
 ■ Extremely Impactful

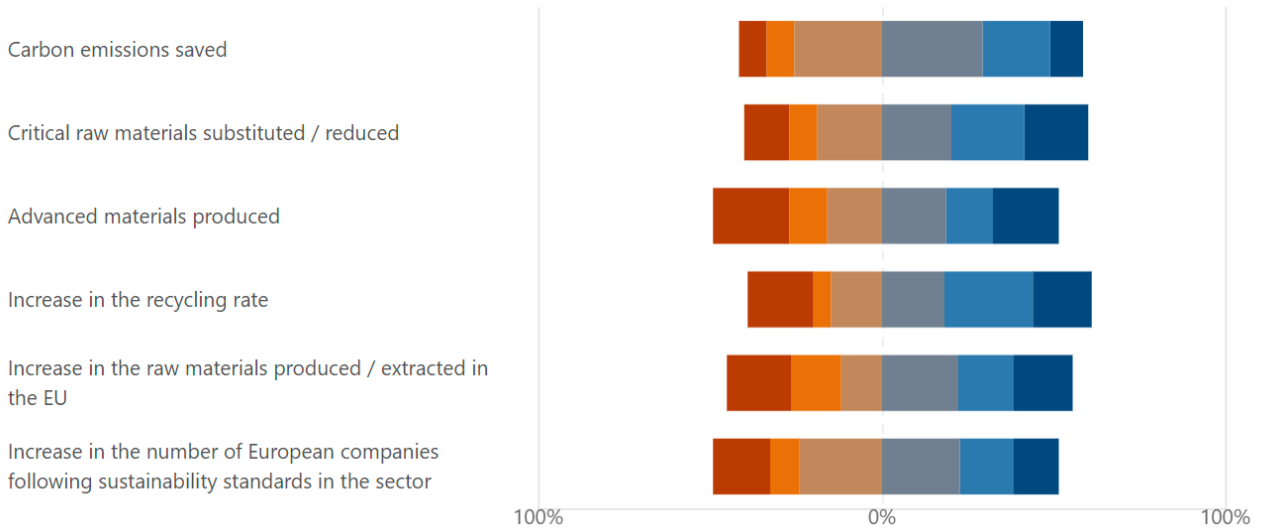




26. The following table concerns the societal impact of the actions of your company within the European Union. Based on your best estimates, please choose the response that best reflects the impact of your company on the given indicators within the European Union.

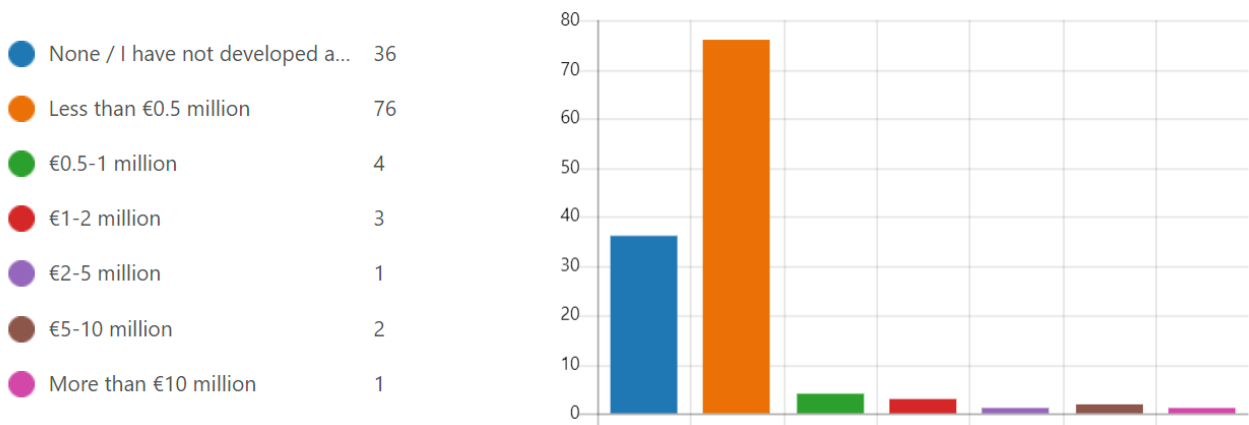
Note: Only choose 'No impact' if the activities of the company were intended to have an impact, otherwise choose the final column.

- 0 - No Impact ■ 1 - Weak Impact ■ 2 - Medium Impact ■ 3 - High Impact ■ 4 - Extremely Impactful
- The activities of my company are not related to this area



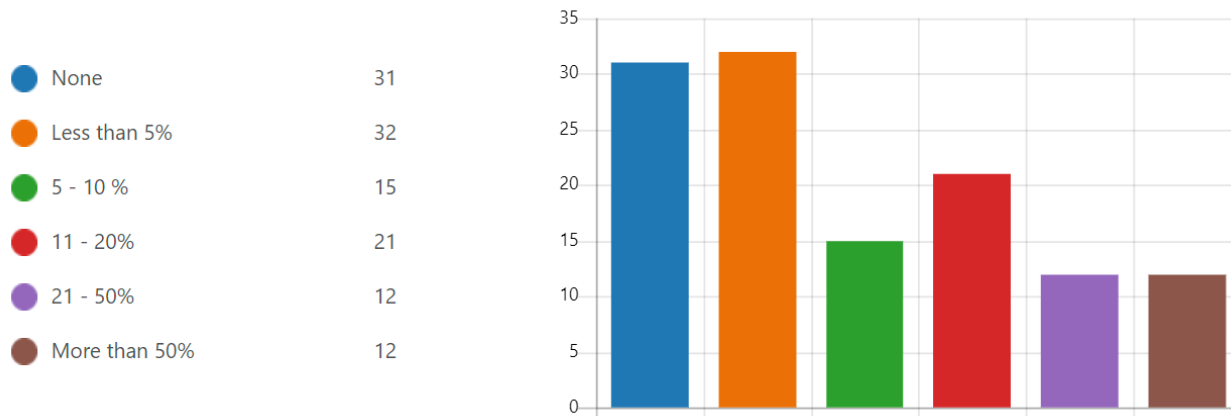
27. To the best of your knowledge, what is the revenue from innovations developed through engagement with EIT RawMaterials and subsequently launched on the market?

Consider the time period from your company's first commercialization on the market until today.

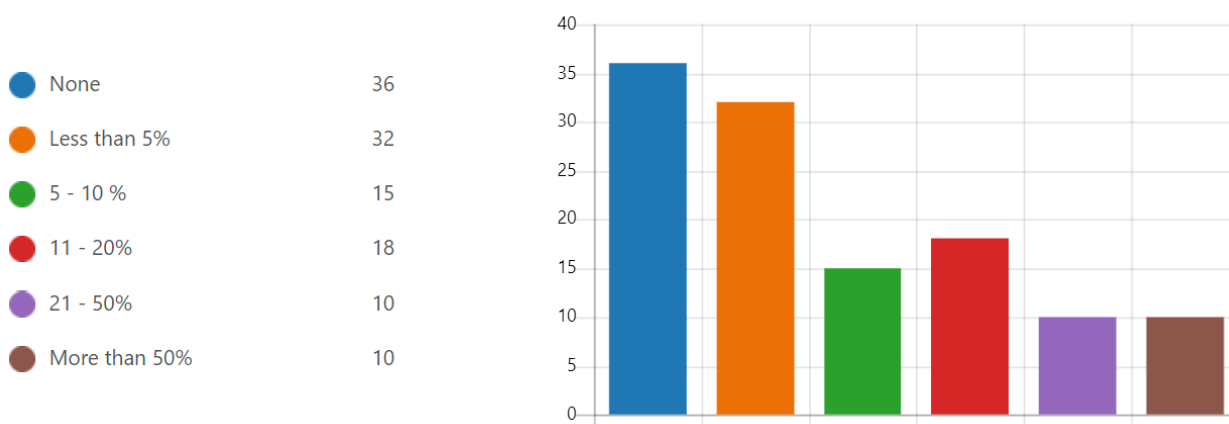




28. To the best of your knowledge, what is the impact of your engagement in the activities of EIT RawMaterials on the contribution to your company's revenue growth?



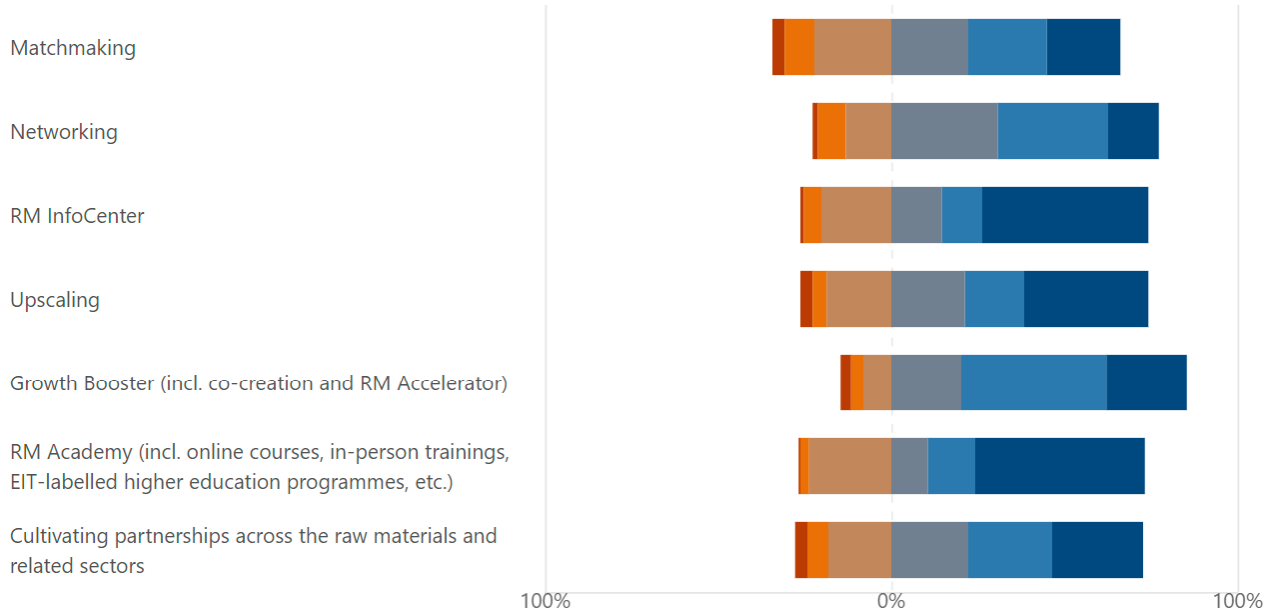
29. To the best of your knowledge, what is the impact of your engagement in the activities of EIT RawMaterials on the contribution to your company's profitability growth?





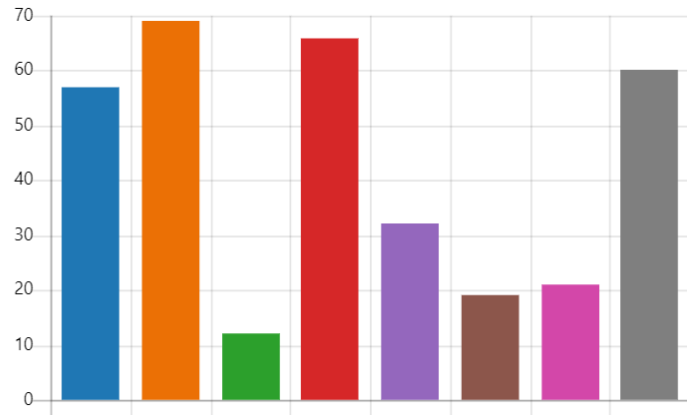
30. How would you rate your experience in the following EIT RawMaterials activities?

- Highly Unsatisfactory ■ Somewhat Unsatisfactory ■ Neutral ■ Somewhat Satisfactory ■ Highly Satisfactory
- I have not been involved in this activity



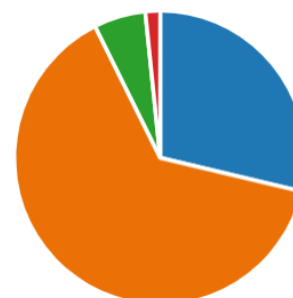
31. What recommendations do you have to improve EIT RawMaterials based on the needs of your organisation? (Choose up to 3)

- More matchmaking activities 57
- More networking opportunities 69
- More RM Academy offerings 12
- More collaboration opportuni... 66
- More mentoring opportunities 32
- More information on how to n... 19
- Regular updates on KIC activit... 21
- Stronger support in accessing ... 60



32. Based on your overall involvement and experience with EIT RawMaterials, to what extent do you see value in it?

● Good as is	35
● Good, but there is room for i...	78
● Bad, but it could be made bett...	7
● Bad, and it should be abando...	2



33. Please provide any final comments you have here.

Positive feedback:

- EIT RawMaterials support was good for growth, business development and testing technology
- Access to partner network is highly valuable

Negative feedback:

- EIT RawMaterials is too bureaucratic, which is especially difficult to overcome for smaller start-ups with limited resources. Recent changes to rules and bureaucratic structures have resulted in partners dropping out of the KIC entirely.
- There has been a lack of matchmaking and networking opportunities due to the Covid-19 pandemic which has been a missed opportunity for many start-ups.
- Involvement of business developers varies greatly across start-ups, so there should be better standards for the degree to which business developers are involved
- A business developer provided by EIT RawMaterials pitched joining a Chinese investment network to a supported start-up – there should be stricter guidelines regarding involvement with foreign investor networks
- Backflow scheme scares off potential project partners
- There is a large gap in support between the Accelerator / Booster activities and Upscaling activities, which is too heavy for start-ups that are still relatively small and not yet ready for full commercialisation.
- There is room for improvement in incorporating more international partners

ANNEX III. Summary of the Interviews

Table 55. Summary of Interviewees

Interviewee	Position	Date and Time of Interview
Bernd Schäfer	CEO, Managing Director of EIT RawMaterials	20 January 2022 13:30-15:00 CET
Dr. Andreas Klosek	COO, Managing Director of EIT RawMaterials	20 January 2022 13:30-15:00 CET
Sven Kreigenfeld	Compliance Officer, EIT RawMaterials	21 January 2022 12:00-13:30 CET
Antonis Politis	Senior Business Development Manager, EIT RawMaterials	19 January 2022 14:00-15:30 CET
Dr. Didier Zimmermann	Education and Innovation Director, EIT RawMaterials	20 January 2022 16:00-17:30 CET
Kateryna Vorobiova	Communications Manager, EIT RawMaterials	21 January 2022 16:00-17:30 CET
Krzysztof Kubacki	Director, Innovation Hub East, EIT RawMaterials	18 January 2022 12:30-14:00 CET
Daniela Sani	ART-ER <i>Research Partner Organisation</i>	17 January 2022 14:00-15:30 CET
Francisco Javier Elorza	Universidad Politecnica de Madrid <i>Education Partner Organisation</i>	20 January 2022 9:30-11:00 CET
Katarina Öquist	Epiroc <i>Industry Partner Organisation</i>	19 January 2022 16:00-17:30 CET

ANNEX IV. Data Sources of Tables

Name of Table	Data Source
Table 1. Assessment Criteria, Indicators, and Their Relevant Chapters	Annex C of the Tender Specifications – Seven-Year Comprehensive Assessment of EIT KICs (2021-2027)
Table 2. EIT 7-Year Assessment Scoreboards	Annex C of the Tender Specifications – Seven-Year Comprehensive Assessment of EIT KICs (2021-2027)
Table 3. EU Challenge KPIs*	<u>Achieved values</u> : DUNA, EIT KPI Monitoring Platform <u>2020 Targets</u> : DUNA, EIT KPI Monitoring Software; Annual Business Plan Expert Assessments <u>2022 Target</u> : 2018 – 2022 Strategic Agenda
Table 4. Societal Challenge KIC specific KPIs*	<u>Achieved values</u> : DUNA, EIT KPI Monitoring Platform <u>2020 Targets</u> : DUNA, EIT KPI Monitoring Software; Annual Business Plan Expert Assessments <u>2022 Target</u> : 2018 – 2022 Strategic Agenda; 2016 – 2022 Strategic Agenda
Table 5. Creating or Securing Jobs KPI, 2016 - 2020	DUNA, EIT KPI Monitoring Platform
Table 6. Number of jobs in existing businesses in KIC sector sustained through innovations	Survey conducted by the Contractor amongst start-ups and scale-ups supported by EIT RawMaterials
Table 7. Skills Gaps Filled as a Result of New Job Type Creation, Survey Responses	Survey conducted by the Contractor amongst start-ups and scale-ups supported by EIT RawMaterials
Table 8. Acquired skills and competences as a result of EIT RawMaterials training / educational programme?	Survey conducted by the Contractor amongst students and graduates of RM Academy programmes
Table 9. Progress towards strategic objectives across KIC activities	<u>Related Activities</u> : EIT RawMaterials staff interviews conducted by the Contractor <u>KIC Specific KPIs</u> : DUNA, EIT KPI Monitoring Software <u>KAVA Success Stories</u> : EIT RawMaterials staff interviews conducted by the Contractor
Table 10. Highest perceived level of impact for each respondent in the start-up and scale-ups survey	Survey conducted by the Contractor amongst start-ups and scale-ups supported by EIT RawMaterials
Table 11. EIT Core KPIs*	<u>Achieved values</u> : DUNA, EIT KPI Monitoring Platform <u>2020 Targets</u> : DUNA, EIT KPI Monitoring Software; Annual Business Plan Expert Assessments <u>2022 Target</u> : 2018 – 2022 Strategic Agenda
Table 12. Survey Responses of Start-ups and Scale-ups on Views on Effectiveness of Collaborations	Survey conducted by the Contractor amongst start-ups and scale-ups supported by EIT RawMaterials
Table 13. Knowledge Triangle Distribution Across EU Regions	Partnership monitoring spreadsheet shared by the EIT, titled 'EIT H-RM Partnership.xlsx'.
Table 14. Trend of Active Partners, 2016-2022	Partnership monitoring spreadsheet shared by the EIT, titled 'EIT H-RM Partnership.xlsx'.

Name of Table	Data Source
Table 15. Good Governance Principles Assessment	Good Governance Principles Assessments, 2018 – 2020, shared by the EIT
Table 16. Management Budget, 2017 - 2020	Spreadsheet prepared and shared by the EIT with the KPI and financial data relevant for this assessment, titled 'EIT RM KPIs 2016-2021.xlsx'.
Table 17. EIT RawMaterials' Target Financial Sources, 2016-2022	EIT RawMaterials' 2016 – 2022 Strategic Agenda
Table 18. EIT RawMaterials Achieved Financial Sources, 2016-2020	<u>EIT Grant</u> : EIT RawMaterials Grant Report expert assessments 2016 – 2020 <u>Other indicators</u> : DUNA, EIT KPI Monitoring Platform – Annex V
Table 19. EIT RawMaterials Budget Towards Societal Challenges	DUNA, EIT KPI Monitoring Platform – H2020 Indicators
Table 20. Overview of EIT RawMaterials Target Revenue, 2021-2027	EIT RawMaterials' 2021 – 2027 Strategic Agenda
Table 21. Difference between Planned Budget and Achieved Budget, 2016 - 2020	<u>Targeted</u> : EIT RawMaterials' 2016 – 2022 Strategic Agenda <u>Achieved</u> : EIT RawMaterials Business Plan and Grant Report expert assessments 2016 – 2020
Table 22. EIT RawMaterials' Revenue, 2016-2020	EIT RawMaterials Grant Report expert assessments 2016 – 2020
Table 23. FS-Coefficient KPI, 2018 - 2020	DUNA, EIT KPI Monitoring Platform
Table 24. EIT RawMaterials Non-Absorbed Funds, 2016-2020	2021 Multi-Annual Dashboard Wave II & III
Table 25. EIT RawMaterials Management Cost Evolution, 2017-2020	EIT RawMaterials Grant Report expert assessments 2017 – 2020
Table 26. EIT Target Co-Funding Rates	2021 Multi-Annual Dashboard Wave II & III
Table 27. EIT RawMaterials Indicative Budget from 2016-2022 Strategic Agenda	EIT RawMaterials' 2016 – 2022 Strategic Agenda
Table 28. EIT RawMaterials KAVA Cost Allocation, 2016-2020	DUNA, EIT KPI Monitoring Platform
Table 29. Partner Distribution Across CLC's	Partnership monitoring spreadsheet shared by the EIT, titled 'EIT H-RM Partnership.xlsx'.
Table 30. EIT and Raw Materials Sector Skills Obtained by Students	Survey conducted by the Contractor amongst students and graduates of RM Academy programmes
Table 31. Types of Activities Supported Ventures Do Through EIT RawMaterials Collaborations	Survey conducted by the Contractor amongst start-ups and scale-ups supported by EIT RawMaterials
Table 32. Individual CLC Budget, 2017 - 2020	DUNA, EIT KPI Monitoring Platform
Table 33. The RM Academy*	EIT RawMaterials' 2018 – 2022 Strategic Agenda
Table 34. RM Academy KPIs*	<u>Achieved values</u> : DUNA, EIT KPI Monitoring Platform <u>2020 Targets</u> : DUNA, EIT KPI Monitoring Software; Annual Business Plan Expert Assessments <u>2022 Target</u> : 2018 – 2022 Strategic Agenda
Table 35. Economic Sector Students and Graduates are Employed In	Survey conducted by the Contractor amongst students and graduates of RM Academy programmes
Table 36. Education Budget, 2017 - 2020	Spreadsheet prepared and shared by the EIT with the KPI and financial data relevant for this assessment, titled 'EIT RM KPIs 2016-2021.xlsx'.

Name of Table	Data Source
Table 37. Innovation and Research KPIs*	<p><u>Achieved values</u>: DUNA, EIT KPI Monitoring Platform</p> <p><u>2020 Targets</u>: DUNA, EIT KPI Monitoring Software; Annual Business Plan Expert Assessments</p> <p><u>2022 Target</u>: 2018 – 2022 Strategic Agenda</p>
Table 38. Revenue from innovations developed through engagement with EIT RawMaterials and subsequently launched on the market	Survey conducted by the Contractor amongst start-ups and scale-ups supported by EIT RawMaterials
Table 39. Innovation and Research Budget, 2017 - 2020	Spreadsheet prepared and shared by the EIT with the KPI and financial data relevant for this assessment, titled 'EIT RM KPIs 2016-2021.xlsx'.
Table 40. Entrepreneurship and Business Creation KPIs*	<p><u>Achieved values</u>: DUNA, EIT KPI Monitoring Platform</p> <p><u>2020 Targets</u>: DUNA, EIT KPI Monitoring Software; Annual Business Plan Expert Assessments</p> <p><u>2022 Target</u>: 2018 – 2022 Strategic Agenda</p>
Table 41. Entrepreneurship Support Budget, 2017 - 2020	Spreadsheet prepared and shared by the EIT with the KPI and financial data relevant for this assessment, titled 'EIT RM KPIs 2016-2021.xlsx'.
Table 42. EIT RIS Eligible Countries (2014-2020)	EIT RIS Guidance Note 2018 – 2020
Table 43. Description of Action Lines of EIT RIS Guidance Note 2018-2020	EIT RIS Guidance Note 2018 – 2020
Table 44. RIS KPIs*	<p><u>Achieved values</u>: DUNA, EIT KPI Monitoring Platform</p> <p><u>2020 Targets</u>: DUNA, EIT KPI Monitoring Software; Annual Business Plan Expert Assessments</p> <p><u>2022 Target</u>: 2018 – 2022 Strategic Agenda; 2016 – 2022 Strategic Agenda</p>
Table 45. Partners in RIS Countries	Partnership monitoring spreadsheet shared by the EIT, titled 'EIT H-RM Partnership.xlsx'.
Table 46. RIS Partner Knowledge Triangle Distribution	Partnership monitoring spreadsheet shared by the EIT, titled 'EIT H-RM Partnership.xlsx'.
Table 47. RIS Budget, 2017 – 2020	Spreadsheet prepared and shared by the EIT with the KPI and financial data relevant for this assessment, titled 'EIT RM KPIs 2016-2021.xlsx'.
Table 48. Synergies Outlined in 2016-2022 Strategic Agenda	EIT RawMaterials' 2016 – 2022 Strategic Agenda
Table 49. Established Synergies and Collaborations with European and International Initiatives	EIT RawMaterials Synergy Report 2020, found in DUNA, EIT KPI Monitoring Platform
Table 50. Lighthouse Alignment with UN SDG's and European Green Deal	EIT RawMaterials' 2018 – 2022 Strategic Agenda
Table 51. Synergies Targeted in 2021-2027 Strategic Agenda	EIT RawMaterials' 2021 – 2027 Strategic Agenda
Table 52. Cross-KIC KAVA Budget, 2018 - 2020	Spreadsheet prepared and shared by the EIT with the KPI and financial data relevant for this assessment, titled 'EIT RM KPIs 2016-2021.xlsx'.
Table 53. Communication, Outreach and Dissemination Strategy Pillars*	EIT RawMaterials' 2018 – 2022 Strategic Agenda
Table 54. Social Media and Traditional Media Presence	<u>2018 & 2019</u> : Communications Activities monitoring dashboard, shared by the EIT



Name of Table	Data Source
	<u>2020 & 2021</u> : Estimated values presented by EIT RawMaterials



ANNEX V. Reference list

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Documents provided by EIT:

- Key EIT documents (e.g., old EIT Regulation and EIT Regulation (recast), EIT Financial Regulation, EIT SIA 2014-2020 and EIT SIA 2021-2027, Triennial Work Programmes, Single Programming Documents)
- Calls for KIC Proposals documentation; KIC Proposals
- Framework Partnership Agreements (repealed by 31 December 2020), new Partnership Agreements and KICs' Strategic Agendas (originals and any later updates)
- KICs Business Plans and Reports for relevant years and experts' assessments
- KIC Assessments: Business Creation, Education, Knowledge Triangle integration, Innovation
- RIS Evaluation 2020
- EIT consolidated reports on the KIC Monitoring/GB Rapporteur visits and reports
- Specific EIT guidance to KICs (e.g., governance, code of conduct, etc.)
- EIT Principles on KICs' Financial Sustainability (old and new)
- EIT Guidance on the EIT Regional Innovation Scheme (EIT RIS) 2018-2020 and EIT RIS Implementation Framework 2021-2027
- EIT Good Governance Principles and respective assessments
- EIT and KICs websites (deliverables included in websites as well as those submitted with KIC reports)
- ECA Reports and Recommendations
- EIT Interim Evaluations (2019 and 2024-2025)
- EIT Impact Study (PwC)
- KICs' action plans for tackling specific issues (i.e., EIT and EU co-branding; communications strategy; Project Partners, etc.)
- Multi-annual Dashboard
- Annual Grant KIC Performance Assessment Reports
- EIT GB Strategic Recommendations issued during the assessed period
- EIT GB Rapporteur Reports
- Communications Activities Assessments

DUNA Portal Grant Reporting and Business Planning modules (access granted by EIT)



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