



FORAM

TOWARDS A WORLD FORUM
ON RAW MATERIALS

TOWARDS GLOBAL RAW MATERIALS COOPERATION STRATEGIES

Position Paper



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Executive Summary

The project Towards a World Forum on Raw Materials (FORAM) is developing and setting up an EU-based platform of international experts and stakeholders that will advance the idea of a World Forum on Raw Materials, strengthening international cooperation among G20 Member countries as well as other third countries active in the extraction, processing and recycling of non-energy abiotic raw materials. The **mission** of the World Forum on Raw Materials is *to establish multilateral dialogues aiming to minimise trade distortions and avoid trade barriers, promoting better and informed raw materials global governance and enforcing long term sustainable practices along the mineral raw materials value chain.*

This document advances the strategic position of the future World Forum on Raw Materials, having in consideration the values, vision, purpose and mission of the Forum, combined with an appraisal of stakeholders' needs, existing factors of competition and the knowable core competences that can be gathered in the future Forum. The aim of this exercise is to develop a viable fit between the Forum objectives, skills and resources and its changing market opportunities.

The World Forum on Raw Materials has four **strategic goals**: 1) to enhance inclusive international cooperation on mineral raw materials policies and governance; 2) to foster dialogues aiming to minimise trade distortions and avoid trade barriers; 3) to provide to policy makers independent and neutral information on raw materials and understandable solutions; and 4) to promote long term sustainable practices along the mineral raw materials value chain.

The **core competences** of the World Forum on Raw Materials (assuming as core competences of the Forum the capabilities that can be drawn directly from the FORAM Consortium¹) are: 1) global coverage, encompassing the entire mineral raw materials value chain (from exploration to recycling and disposal); 2) access to a wide range of stakeholders and to qualified experienced specialists on mineral raw materials; 3) authoritative, independent, inclusive voice; and 4) reputation, competences and values of the members of the FORAM consortium.

Considering the distinctive competences of the Forum that correspond to market needs and that are difficult to duplicate by competitors, the **positioning** of the World Forum on Raw Materials is expressed as “**promoter of cross-cutting dialogues and generator of understandable solutions**”. To reach its beneficiaries, the World Forum must engage with all stakeholders interested by the mineral raw materials value chain and regionally diverse (or global) groups and organisations, alongside policy-makers.

The **key activities** that must be performed to reinforce the Forum's positioning include the design of an organisational structure and the advancement of strategic alliances to fulfil the mission of the

¹ This analysis must be revised by the organisation that will uphold the Forum, and adapted to its real core competences and capabilities.





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Forum. These alliances can be established with existing incumbents that can leverage the success of the World Forum on Raw Materials, through key partners. The most obvious **key partners** of the Forum are international intergovernmental organisations, matching forums and organisations promoting international dialogues and cooperation. The pool of experts and stakeholders set in place by the FORAM project, including the Advisory Board, the Stakeholder Network and the Consortium are considered **key resources** that should be used to create value to beneficiaries of the World Forum on Raw Materials.





1 Introduction

The project Towards a World Forum on Raw Materials (FORAM) is developing and setting up an EU-based platform of international experts and stakeholders that will advance the idea of a World Forum on Raw Materials, strengthening international cooperation among G20 Member countries and third countries active in the extraction, processing and recycling of mineral raw materials.

This report corresponds to deliverable D3.3 of FORAM, and it defines the Strategic Position that should be considered in the design and launch of a World Forum on Raw Materials, i.e. how the Forum should face competition and serve its stakeholders. The definition of stakeholders encompasses the various communities related to the non-energy abiotic raw materials value chain, from mining/extraction, processing, product development, design & substitution up to re-use, recycling and substitution.

The strategic positioning process is the managerial method of developing and maintaining a viable fit between the organisation's objectives, skills and resources and its changing market opportunities (Ries and Trout, 1981; Kotler, 2000). Strategic positioning reflects choices an organisation makes on the value it will create and how that value will be created differently than rivals (Markides, 2000), and it is part of the strategic planning process. Strategic planning requires the definition of a vision for the organization's future and the consequent definition and alignment of priorities, activities and structures needed to achieve that vision.

The strategic position of the future World Forum on Raw Materials was delineated having in consideration the values and the vision of the Forum (defined in deliverable D2.2), combined with an appraisal of stakeholders needs, the existing factors of competition and the knowable core competences that can be gathered in the future Forum. The steps towards the implementation of the strategy, including the definition of beneficiaries, activities, key partners and key resources of the future World Forum on Raw Materials are also outlined in this report.





2 Purpose, Vision and Mission of the World Forum on Raw Materials

Advancing a World Forum on Raw Materials supports the implementation of the Raw Materials Initiative and the Strategic Implementation Plan² of the European Innovation Partnership on Raw Materials, in particular in terms of “*establishing and maintaining strong and sustainable relationships with relevant international organisations and countries*”, as described in FORAM’s Grant Agreement. In this context, and considering the framing core values of the European Union (EU), as stated in the Lisbon Treaty³, the Consortium that is implementing FORAM agreed that the organisational **purpose** of the World Forum on Raw Materials will be:

To enhance international cooperation between all key-stakeholders on raw materials policies and governance.

Advancing the idea of (and establishing) a World Forum on Raw Materials requires a participative and structured discussion involving all interested stakeholders, guided by a common understanding of the purpose and fundamental aspirations of the future World Forum on Raw Materials. This discussion started at the launch of FORAM, and the ambitions expressed in the vision statement of the World Forum on Raw Materials are the result of large consensus.

The vision statement is the anchor point of the strategic planning process. It describes what an organization would like to achieve or accomplish in the mid-term or long-term future. It is intended to serve as a clear guide for choosing current and future courses of action (Vision Statement, n.d.). FORAM’s deliverable 3.2 advanced the **vision** of the World Forum on Raw Materials, expressed as follows:

The World Forum on Raw Materials will become an authoritative, independent and neutral organisation that supports cooperative actions to uphold a sustainable, reliable and affordable global supply of mineral resources⁴.

The vision must be aligned with a mission statement, clear focus areas and broad goals. The mission statement is a written declaration of an organization's core purpose and focus that normally remains unchanged over time. Properly crafted mission statements serve as filters to separate what is

² “Strategic Implementation Plan (SIP)”. European Commission. Accessed June 18, 2017.

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

³ “The Lisbon Treaty”. European Commission. Accessed June 18, 2017. <http://www.lisbon-treaty.org/wcm/the-lisbon-treaty.html>. The “core values” of the EU are: 1) respect for human dignity and human rights; 2) freedom; 3) democracy; 4) equality; and 5) rule of law. These core values are necessarily embodied in this EU funded project and initiative.

⁴ In this context mineral resources encompass all non-energy abiotic raw materials, either obtained from primary sources (mines, quarries) or from secondary sources (recycling).





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important from what is not (Mission Statement, n.d.). The **mission** statement of the World Forum on Raw Materials is:

To establish multilateral dialogues aiming to minimise trade distortions and avoid trade barriers, promoting better and informed raw materials global governance and enforcing long term sustainable practices along the mineral raw materials value chain⁵.

⁵ Using a circular economy framework, the value chain of non-energy abiotic raw materials includes mining/extraction, processing, product development, design & substitution, re-use, recycling and substitution.





3 Contextual analysis

The contextual analysis of the World Forum on Raw Materials follows a structured method known as *SWOT analysis* (Humphrey, 2005). The SWOT analysis considers the mission and vision of the Forum, and it categorizes related factors as Strengths, Weaknesses, Opportunities and Threats.

The external factors are classified as opportunities or threats. An opportunity is a favorable external factor that an organization can use to its advantage. A threat is a factor that has the potential to negatively impact an organization (SWOT Analysis, 2015). The analysis is made from the perspective of the World Forum, i.e. factors that are classified as opportunities or threats to the Forum do not necessarily represent opportunities or threats to Europe, to the EU policy making or to members of the FORAM Consortium. It is also possible that an external factor may be classified simultaneously as an opportunity and a threat.

The internal factors are classified as strengths or weaknesses. Strengths describe what the organisation will excel at, allowing decisions on how to gain a competitive advantage. Weaknesses prevent the Forum from performing at its optimum level. They have the potential to reduce progress or to give a competitive edge to the competition. Weaknesses need to be minimized and improved (SWOT Analysis, 2015). Since the World Forum on Raw Materials has not been established (it is still in the conceptual stage), the analysis of the internal factors assumes as core competences of the Forum the capabilities that can be drawn directly from the FORAM Consortium.

3.1 SWOT analysis

External environment

The external analysis includes generic dimensions, such as demographics, political, legal and social systems, environment and climate change and technology. It includes also business-specific dimensions, namely market and competition.

Opportunities:

Demographics

1. Fast population growth worldwide,

Political / Legal / Social systems

2. Political / administrative differences among countries / regions,
3. Political efforts to promote economic growth and the creation of jobs,
4. Increasing volatility of raw materials supply chains linked to political, economic or technical factors,





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5. Increasing resources nationalism and rise of trade barriers,
6. Increasing economic and political influence of China and India in world trade,
7. Consolidation of existing free-trade blocks and development of new Free Trade Agreements (FTAs),
8. EU efforts to promote trade and fair access to raw materials,
9. Increasing social opposition to mining,
10. Lack of coherence of raw materials policies between countries / regions,
11. Silo mentality and barriers between many groups of stakeholders interested by mineral raw materials, heightened by in divergences in focus and differences in language used,
12. Difficulties in designing and establishing appropriate mineral and circular economy policies and governance systems,
13. International, national and regional development goals generally do not consider data on raw materials availability and use,

Environment / Climate change

14. Global movement towards the implementation of UN's Sustainable Development Goals,
15. Increasing valorisation of conservation and protection of natural resources,
16. Valorisation of "clean" production processes and more efficient use of raw materials,
17. Increasing demand of minerals (including rare earths and exotic metals to be used in *green* technologies),
18. Increasing social and political influence of *green* movements,
19. Perceived need of aggressive goals to tackle environmental issues,

Technology

20. Technology driven demand for new materials/elements used in scientific advances (e.g artificial intelligence, robotics, electrical vehicles, health devices, nanotechnology, defense systems),
21. Advances on substitution,
22. Progresses on recycling,
23. Progresses on circular economy systems,



24. Increasing data availability (big data / open source, internet of things),

Market

- 25. Increasing global demand of mineral raw materials,
- 26. Rising sophistication of demand of mineral raw materials,
- 27. Trends on worldwide urbanization, electrification, digitalization and expansion of middle class,
- 28. Generic and specific dependencies of developed countries on imports of mineral raw materials,
- 29. Loose or absence of coordination on international research and development programmes and policies on raw materials supply,
- 30. Many raw materials stakeholders and interested people are mostly clustered in closed circles,
- 31. Secrecy and other barriers to the exchange of best practices on raw materials topics in industry networks,
- 32. EU regulation against conflict minerals, and mandatory due diligence checks for importers, smelters and refiners.
- 33. Absence of widely accepted social and environmental standards /industry certification schemes for the raw materials industry, including material's efficient recycling,
- 34. Increasing international research on materials sciences and substitution,
- 35. Existing transnational cooperation on education and on research & innovation within the EU, and between the EU and some countries,
- 36. Existing assistance programmes to developing countries, supported by intergovernmental organisations (e.g. UN, OECD, EU, World Bank),
- 37. EU industrial policy and efforts to expand international cooperation on raw materials supply, including recycling and substitution, covering trade (Trade for All Communication⁶) and research and innovation (e.g. H2020, European Innovation

⁶ Trade for All was presented in 2015 and it describes the EU trade and investment strategy. Accessed September 8, 2017 <http://ec.europa.eu/trade/policy/in-focus/new-trade-strategy/>

Partnership on Raw Materials, KIC EIT Raw Materials and EU Raw Materials Scoreboard⁷),

38. Scarcity or absence of structured information (intelligence) on raw materials science, sourcing, key supply chains and related criticality issues for policy makers,

39. Technical language differs between the organisations and along the value chain,

Competition

40. Overlaps and loose interconnection/linkage/coordination between initiatives related to raw materials supply,

41. Loose or absent interconnection/linkage/coordination between intergovernmental organisations (UN, World Bank, OECD) and programmes related to raw materials supply,

42. Weak cooperation (sometimes rivalry) among existing industry networks (country based or commodity based),

43. Lack of integration among existing research and industry networks,

44. Low acceptance, among industry, of existing standards addressing raw materials supply such as the Extractive Industries Transparency Initiative (EITI) and the Initiative for Responsible Mining Assurance (IRMA),

45. Absence of public recognition of existing standards addressing raw materials supply,

46. Existence of several scientific and professional associations lobbying for geoscience and professionals (e.g. IUGS, EGU, EAGE, AIG, AGI, GSSA, IOM3, EFG), and

47. Lack of coordination among organisations addressing raw materials sourcing and procurement.

Threats

Demographics

1. Long-term demographic changes (aging population in developed countries and high-birth rates and consequent social stress in low-income countries),

⁷ The raw materials scoreboard is an initiative of the European Innovation Partnership (EIP) on Raw Materials. Its purpose is to provide quantitative data on the EIP's general objectives and on the raw materials policy context. Accessed September 8, 2017. <https://publications.europa.eu/en/publication-detail/-/publication/1ee65e21-9ac4-11e6-868c-01aa75ed71a1>



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Political / Legal / Social systems

2. Increasing opposition to globalisation, the liberal order and international free-trade partnerships,
3. Risk of global financial instability fuelled by elevated political and policy uncertainty around the globe,
4. Social unrest in Europe, Asia and America, triggering increasing nationalism in these regions,
5. Erosion of the influence of international intergovernmental organisations,
6. Rise of conflicts fuelled by different systems of belief (religion, ideology, political),
7. Terrorism,
8. Absence of public awareness on the importance of the (non-energy abiotic) raw materials value chain,

Environment / Climate change

9. Social unrest due to economic impact of climate change on jobs and living costs,
10. Water scarcity and rising water conflicts,
11. Climate migrants,

Technology

12. Progresses on substitution, recycling, materials efficiency and circular economy, dwindling dependences on imports of raw materials,

Market

13. Difficulties in addressing the wide range of stakeholders involved in non-energy abiotic raw materials supply, encompassing mining, recycling and substitution,
14. Difficulties in evaluating the long term positive impact of enhanced international cooperation on the governance of mineral resources,
15. Conflicting interests between individual countries and alliances/coalitions of countries,

Competition

16. Existing intergovernmental organisations and initiatives towards better governance of natural resources, such as UN (UNEP, UNDP's ACP-EU Development Minerals Programme, UN-Habitats, International Metals Study Group, International Resources



- Panel), OECD (Policy Dialogue on Natural Resource-based Development), World Bank (Connex and International Finance Corporation) and WTO,
17. Existing world forums with overlapping interests on raw materials topics (e.g. World Circular Economy Forum, World Materials Forum and World Resources Forum),
 18. Existing organisations focused on supporting international cooperation on mineral raw materials topics (e.g. International Raw Materials Observatory, European Technology Platform for Sustainable Mineral Resources, KIC EIT Raw Materials),
 19. Existing research networks encompassing raw materials topics (country based or theme based – e.g. Materials Knowledge Network in the UK, WEEE Forum, ERA-MIN, EIT, ESIP, NCSE),
 20. Existing consulting companies specialised in providing accurate data and information on raw materials,
 21. Existing industry networks (country based or commodity based – e.g. ICMM, Mining Association of Canada, Chamber of Mines of South Africa, Euromines, IMA-Europe),
 22. Existing standards addressing raw materials supply alongside generic industry standards (IRMA, ISO, OHSAS),
 23. Existence of organisations with large sets of global data on geology and raw materials, who already provide (free) reports and organise events on raw materials' provisioning (e.g. USGS and its National Minerals Information Center-NMIC),
 24. Country based initiatives/state organisations addressing raw materials sourcing at country level (Morawiecki Plan in Poland, Mineral Resources Agency DERA in Germany, Homeland Security in the USA) and promoting bilateral trade agreements.

The analysis of competition, either organizations providing similar services (direct competition) or serving the same markets (indirect competition) is fundamental to advance a positioning. Insight on what drives relations with stakeholders and on the different ways of segmenting the market and developing unique offers can be derived from the analysis of competition. In addition, competitors that are already active (incumbents) have several advantages (e.g. a marketing intelligence system and existing relationships with clients/beneficiaries) that need to be carefully considered, to limit the development and implementation of actions designed to counter the emergence of new competitors (MacMillan & Selden, 2008).

The analysis of existing direct and indirect competition of the World Forum on Raw Materials was based on desk research, and it revealed the existence of more than 150 “world forums” or international networks with activities that have potential overlaps (and/or synergies) with the generic

offer of services to be provided by the World Forum of Raw Materials. Generally speaking, these incumbents are organized around thematic areas (e.g. Resources, Democracy, Justice, Education, Peace, Environment, Water, Energy Regulation, Regional Studies, Materials) or around groups of stakeholders such as decision makers and politicians (Young Leaders Forum, New World Forum), national/regional governments and agencies (Smart Cities, Local Economic Development, ERA-MIN), investors (World Forum for FDI, Impact Investing, World Business Forum) and scientists (World Science Forum).

An overview of the most relevant incumbents of the World Forum of Raw Materials is presented in Table 1. The description includes the identification of the organisation (except for international intergovernmental organisations that are grouped and generically described), its commercial offer and a list of core competences.

Table 1. Characteristics and core competences of existing incumbents of the World Forum of Raw Materials.

Incumbent	Type	Services	Core competencies
Intergovernmental organisations (e.g. UN, OECD, WTO World Bank)	Political, economic and financial organisations.	Stimulation of economic and social progress, dispute resolution, financial aid and support to developing countries.	International global recognition, high level political leverage, access to funds, access to a large pool of experts, reputation.
International Resource Panel	International Expert Panel hosted by UN-Environment	Investigation of the world's most critical resource issues with a view to developing practical solutions for government, policymakers, industry and society.	International global recognition, high level political leverage, access to a large pool of experts, reputation. The International Resource Panel is the most prominent scientific international organisation dealing with the issues of sustainable resource use ⁸ .
World Economic Forum	Independent not for profit (NFP) organisation.	Organisation of high-level selected meetings (e.g. annual meeting in Davos) with world leaders and influencers, aiming to shape global political agendas. Production of economic studies and reports.	International global recognition, high level political leverage, socially-minded champion of global public interest (defending the liberal order). Access to funds, access to a large pool of experts, reputation of moral and intellectual integrity.

⁸ This is the reason why it is not clustered with the other intergovernmental organisations.



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Incumbent	Type	Services	Core competencies
Network of Global Future Councils	Knowledge network (created as a spinoff of the World Economic Forum).	Organisation of an annual meeting to promote interdisciplinary creative thinking and collection of new insights and perspectives on the future of key global systems.	Convenes relevant and knowledgeable leaders from academia, government, business and civil society. Has access to funds and benefits from the good reputation of the WEF.
World Business Council For Sustainable Development	Network platform of CEOs of over 200 leading businesses, based in Geneva, with offices in India and the US.	Organisers of the annual World Forum on Natural Capital, that aims to provide a one-stop shop for tools and expertise on sustainability topics. The Council also sponsors regional summits on corporate responsibility and case studies across four economic systems: 1) energy; 2) food and land-use; 3) cities and mobility; and 4) redefining value.	Member countries are from a diversified array of business sectors, including industry leaders such as Unilever, Nestlé, Shell, Toyota or Solvay. The Council is positioned as a business voice in multilateral institutions such as the United Nations, World Bank, UNFCCC, and in global platforms like the UN Climate Summit and COP negotiations. The network includes almost 70 national business councils, ensuring a strong geographical coverage.
World Forum for a Responsible Economy	Think tank supported by the Respeco Institute.	Organisers of an annual conference, thematic seminars and studies aiming to promote a responsible economy.	In 11 years this forum created an international network of experts and organizations (including many SMEs), engaged as beneficiaries and/or as partners. It is rooted in France and it has links with international donors.
World Forum for FDI (Foreign Direct Investment)	Network Platform, by <i>Conway events</i> (a private company specialised in events).	Organisers of a yearly meeting in a luxury setting for networking between corporate businessman and leaders of investment promotion agencies, service providers and intermediaries. They also organise thematic business forums, luncheons and training seminars.	The Forum was established in 2003, and it benefits from Conway 60 years of experience producing industry economic intelligence and quantitative analysis. The company offers strategic guidance for optimizing domestic and cross-border corporate investment location decisions on a global scale.
Skoll World Forum on Social Entrepreneurship	Knowledge network promoted by the University of Oxford's Saïd Business School.	Organisers of a yearly meeting at the University of Oxford, gathering more than 1.000 participants from more than 60 countries interested in holistic approaches to advance social progress.	This Forum has the support of the Skoll Centre for Social Entrepreneurship at Saïd Business School. This is a recognised leading academic entity for the advancement of social entrepreneurship worldwide, fostering





Incumbent	Type	Services	Core competencies
			innovative social transformation through education, research, and collaboration.
Convergences World Forum	Multidisciplinary platform, bringing together public, private, and solidarity-based actors to promote SDGs.	<p>Organisers of a three days annual meeting (in Paris), with 450 speakers from 60 countries and an audience of more than 7.000 professionals active in fighting poverty. It aims to frame innovative action plans in order to co-construct a “Zero Exclusion, Zero Carbon, Zero Poverty” world.</p> <p>Convergences also publish two barometers (on microfinance and social entrepreneurship) and it promotes other events linked to the COP21 Agenda.</p>	The network was created in 2008 and it includes more than 200 public, private, and non-governmental organisations active in international cooperation, microfinance, social entrepreneurship, social and solidarity economy. The main sponsor is Qwant, a French company created in 2013 that developed an EU based search engine, sponsored by private investors and the European Investment Bank. They also have the support of the French “Fédération nationale des Caisses d’épargne (FNCE)”.
Energy Storage World forum	Industry network, created by <i>Dufresne</i> (a private company specialised in conferences and training within the energy storage domain).	Three days dedicated conference on energy storage. The conference includes an Action Planning session, a Breakfast with the Utilities and a Breakfast with Investors, all within a five star hotel environment. Tailored discussion happens in the last day, in parallel groups. Each group discussion is followed by a step by step approach on how to implement solutions.	<p>Dufresne is based in Singapore, and the conference (Forum) is organised since 2009 in different world regions, providing to attendees b-to-b information for and from the Asian region. The programme of next conference (in Berlin) includes speakers from more than 30 utilities and 10 regulators from over 20 different countries.</p> <p>The LinkedIn Group of this Forum has more than 10.500 members.</p>
OECD World Forum on Statistics, Knowledge, and Policy	Enlarged network (encompassing multiple stakeholders) supported and promoted by OECD.	Two days conference organised every two years, dedicated to better measures and policies for well-being and progress, engaging stakeholders from government, civil society, national statistics, international organisations, press, and the private sector. The conference includes roundtables and keynote speeches, issue-based parallel sessions and lunchtime panels, alongside smaller workshops. The 2015 conference in	<p>Sponsored by the OECD, the conference is organised since 2007 in different countries, with the support of the hosting country statistics agency. It provides concrete examples of the impact of policies, frameworks and institutions that are using new well-being measures around the world.</p> <p>The OECD normally uses the Forum to launch/announce its publications or initiatives.</p>





Incumbent	Type	Services	Core competencies
		Mexico had 1.400 participants from 60 countries, and the themes discussed were aligned with the SDGs.	
World Forum of Local Economic Development	Platform for dialogue on employment growth, poverty reduction and quality of life through improved local economic governance promoted by the UNDP.	<p>Three days conference, held every two years in different regions of the world, focused on local economic development. The Conference enhances local best practice towards poverty eradication, employment and decent work, sustainable entrepreneurship and multi-stakeholder partnerships.</p> <p>The organisation is an ongoing process, following an action plan built on regional summits on local economic development, and it culminates every two years with the edition of the World Forum.</p>	<p>The first Forum happened in 2011. The Forum is positioned as a result of a participative open discussion that receives inputs from regional forums, conferences, side events and training activities.</p> <p>The Forum is sponsored by UNDP, and it receives contributions from a large number of diverse leaders and practitioners from national and regional governments, the private sector, academia, religious groups, civil society and others.</p>
World Circular Economy Forum	<p>Platform to promote circular economy benefits and opportunities to create wealth and well-being.</p> <p>It is an initiative of the Finnish Innovation Fund Sitra.</p>	<p>Three days yearly conference with plenary and parallel sessions showcasing circular economy solutions for business, cities and finance. It also includes networking activities, workshops, side events and business excursions.</p> <p>During the Forum, Sitra and Demos Helsinki have launched <i>The Next Era</i>, a series of meetings and debates aiming to develop a new vision for sustainable well-being, to be published by the end of 2017.</p>	<p>The first edition of this Forum was held in June 2017. It gathered more than 1.500 people from 105 countries. Sitra's operations are funded by returns from an endowment originally granted by the Finnish Parliament. This return averages approximately 30 million euros a year.</p>
The World Science Forum	Science network, sponsored by UNESCO, embracing decision-makers from politics, industry, civil	Five days conference held every two years in a different country, originally focused on a specific theme (e.g. knowledge, ethics, SDGs) and more recently expanded to a set of issues. The central goal is	<p>This is a spin off from the "World Conference on Science for the Twenty-First Century: a New Commitment", held in 1999 and convened by UNESCO and the International Council for Science.</p> <p>The forum has the patronage of the King of Jordan, the President of Hungary and</p>





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Incumbent	Type	Services	Core competencies
	society and the media.	to discuss how to address challenges affecting science and society.	the Director General of UNESCO. UNESCO Science Prizes are awarded at the biennial gatherings of this Forum.
World Forum of Universities of Resources on Sustainability	Network of 58 Universities from 39 countries delivering courses on mining and mineral processing.	Four days conference organised in a different country every year, addressing academic programs and research on mining science and resource technology, education standards, networking and international transfer of skills and best practices. The conference includes parallel sessions, small workshops and field excursions.	The network was created in 2012 and it is focused in the establishment of the sustainability principle in university education on raw materials exploration, extraction and processing. Some of the most prestigious mining schools from all over the world participate in this network.
World Forum on Ecosystem Governance	Network of specialists in nature conservation and governance of ecosystems, supported by IUCN.	The Forum organises a conference every two years, and it comprises a High Level Policy-oriented Consultation, a Young Professionals' Academy, and Technical Roundtable Discussions, aiming to support the SDGs. The Forum is modelled after the World Economic Forum, but with a focus on the planet's natural capital.	The first Forum happened in 2015, organized by the International Union for Conservation of Nature (IUCN), the IUCN Commission on Ecosystem Management, the Chinese State Forestry Administration and the Beijing Municipal Government. IUCN is the world's largest and most diverse environmental network and it harnesses the knowledge, resources and reach of more than 1.300 government and civil society member organisations and some 16.000 experts.
World Materials Forum	Network of academics, industrialists and politicians.	The Forum organises a two days yearly conference in Nancy, France, attended by representatives of major EU companies and industry networks. It aims to promote a better and efficient use of materials through exchange of best practice and promotion of voluntary initiatives. The conference includes a gala dinner, networking luncheons and a Start Up Challenge, showcasing innovative eco-services and products.	The first conference was held in 2015. It convenes mainly French and German companies and it has the support of the President of the Nancy Council. The Forum also has a strong linkage with the <i>École des Mines de Nancy</i> .





Incumbent	Type	Services	Core competencies
World Resources Forum	Non-profit Swiss-based organisation, created from a spinoff of the Swiss materials research institute Empa.	The Forum organises a two days yearly conference in different locations around the globe, including plenary speeches and debates, attracting business leaders, policy-makers, scientists and NGOs. It aims fostering knowledge exchange on resource efficiency and circular economy. The number of attendants ranges between 600-1.000 people.	<p>The first Conference was organized in 2009, with the support of UNEP and the International Resource Panel.</p> <p>The Forum participates in funded cooperation programmes and it organises e-learning courses and webinars. It also funds publications and papers in collaboration with universities and research institutes.</p>
S&P Global	US Public company.	Financial services (financial information and analytics, including benchmark price assessments, multi-asset class and real-time data).	<p>It is the parent company of Standard & Poor's Financial Services, S&P Global Market Intelligence, and S&P Global Platts, and is the majority owner of the S&P Dow Jones Indices joint venture. Standard & Poor's Financial Services is considered one of the Big Three credit-rating agencies.</p> <p>These companies provide financial information covering commodities, energy, petrochemicals, metals, and agriculture markets to institutional investors, investment and commercial banks, investment advisors and wealth managers and corporations</p>
SNL Financial	N/A	Global information and analysis on the metals and mining sector, including tenement ownership, company evaluations, M&A, risk management, due diligence, competitor intelligence and project pipeline evaluation.	<p>SNL Financial acquired in 2012 the Canadian company Metals Economics Group, who had 30 years of asset-level information and data history in the metals and mining sector, and in 2014 IntierraRMG, another specialized Canadian company built from the acquisition of Sweden-based Raw Materials Group in 2011 by Perth based Intierra. Intierra and Raw Materials Group were the mining industry's preferred sources of data, mapping, analysis and reporting.</p> <p>SNL Financial is, since 2015, a division of S&P Global.</p>





Incumbent	Type	Services	Core competencies
Materials Knowledge Transfer Network	UK Company limited by guarantee.	KTN provides to members events, webinars, online meeting tools, signposting to funding, assisting with applications for financial support, and helping to set up consortia for R&D projects. The aim is to enable the exchange of knowledge and the stimulation of business innovation in the UK.	The Materials KTN has sectors that cover polymers, particulate engineering, packaging, materials and design, technical textiles, smart materials, composites, and metals and alloys. Its website includes dedicated portals for each class of material. It is run by the Institute of Materials, Minerals and Mining and funded by the UK's innovation agency. Membership of the KTN is free.
WEEE Forum	NFP European based association of producers and recyclers of waste of electrical and electronic equipment (WEEE)	Statistics on e-waste flows in Europe. Analytics, including benchmark on the management of electrical and electronic waste.	Know-how on the technical aspects of collection, logistics and processing of WEEE.
ERA-MIN	European public-public partnership of research funding agencies.	Network of European organisations owning and/or managing research programs on raw materials, funding transnational research projects.	Establishment of networking structures, design, implementation and coordination of joint activities as well as financial topping up of single joint calls and of actions of a transnational nature.
KIC EIT Raw Materials	European consortium in the raw materials sector.	Match-making and networking, shared research infrastructures, financial support to up-scaling projects, training & education and start-up funding.	The consortium includes over 100 organisations from academia, research institutes and business, cooperating to finding new, innovative solutions to secure the supplies and improve the raw materials sector along its value chain.
International Raw Materials Observatory	NFP organisation based in Brussels.	Production of innovation barometers and foresight reports aiming to foster international cooperation and delivery of diplomacy support services. Organisation of annual summit dedicated to mineral raw materials with representatives of international	The Observatory was established in 2017 as an outcome of an EU funded project. The founding members include research facilities, universities, geoscience associations and SMEs.





Incumbent	Type	Services	Core competencies
		intergovernmental organizations and members of the Observatory.	
Federation of Earth Science Information Partners (ESIP)	US based NFP organization.	Platform dedicated to networking and data dissemination needs of the global Earth science data community.	ESIP was founded by NASA in 1989 and links the functional sectors of observation, research, application, education and use of Earth science. It connects around 180 partner organisations.
National Council for Science and the Environment	U.S. based NFP organization	Cooperation programmes on environmental knowledge, addressing research, education, environmental, and business organizations.	NCSE works with government agencies to advance research schemes, organizes conferences, and supports environmental coalitions and lobbying.
ICMM	Industry association of 23 big mining and metals companies.	Voluntary benchmarking of performance against 10 sustainable development principles, evaluated by independent external public reporting and assurance.	ICMM was established to provide guidelines for member companies so they could work toward sustainable development, countering significant problems in reputation, sustaining profits, access to new assets and maintaining investor and employee confidence. Even so, many of the companies have been implicated in social and environmental scandals since the council's inception.
MAC	Canadian industry association of 39 mining and metals companies.	MAC developed and runs the voluntary Towards Sustainable Mining (TSM) initiative, promoting the adoption of environmental and social commitments. Participation in the TSM initiative is mandatory for all MAC members for their Canadian operations.	MAC efficiently promotes the Canadian mining industry nationally and internationally, works with governments on policies and educates the public on the value of mining.
Euromines	European industry association of 40 mining and quarrying companies.	Euromines disseminates to its members information on EU policy and serves as a network for cooperation throughout the sector within Europe.	Euromines provides early warnings on EU policy change to its members. The association is active in EU fora and seeks to protect the industry's reputation. In 2015 the association relaunched a 2013 public awareness campaign backed by





Incumbent	Type	Services	Core competencies
			the website, a new set of posters and a new image.
IMA-Europe	Association of 10 industry associations specific to individual minerals representing over 500 companies in 28 European countries.	IMA provides sector-based representation for industrial minerals at the EU institutional level and coordinates contacts with national and international authorities. It promotes best practice on safety, innovation, public acceptance and biodiversity in the quarrying and mining industry among its members.	IMA-Europe is active in EU fora, promotes debate on EU legislation and seeks to protect the industry's reputation. It is an effective industry lobbyist, and it was the initiator of the European Minerals Day, a open-doors public outreach initiative that brings together more than 100 sites all over Europe. It also has connections with IMA-NA, the association counterpart in the US.
European Technology Platform for Sustainable Mineral Resources	Association of 40 European stakeholders from academia, geological surveys and minerals' industry.	The platform is involved in EU funded research projects, policy contribution to the EU and networking across the platform.	The ETP SMR aim was to act as think-tank to EU policy on mineral resources. It is an independent and self-financing entity, recognised by the European Commission (as the other 50 ETPs) as key actor. It evolved to an association (AISBL) in January 2017, headquartered at the EuroGeoSurveys office.
International Organization for Standardization (ISO)	Non-governmental international standard-setting body composed by 163 national standards organizations	ISO sets and promotes worldwide proprietary, industrial and commercial standards. ISO's main products are international standards. Also publishes technical reports, technical specifications, publicly available specifications and guides.	ISO is a voluntary organization whose members are recognized authorities on standards, each one representing one country. A standard published by ISO/IEC is the last stage of a long process that takes years, commonly starting with the proposal of new work within a committee. ISO has general consultative status with the United Nations Economic and Social Council.
Extractive Industries Transparency Initiative (EITI)	Non-profit association under Norwegian law funded by supporting governments and companies.	Government / country standard on financial transparency and improved governance in the extractive industry (oil, gas, minerals), implemented in 51 countries. Country members disclose information on: contracts and licenses, production, revenue	The EITI has a relevant political leverage. The Chair of the EITI is Fredrik Reinfeldt, former Prime Minister of Sweden. The previous Chair was Clare Short (2011-2016), former UK Secretary of State for International Development. The EITI International Secretariat is located in Norway and is headed by former Swedish diplomat Jonas Moberg.





Incumbent	Type	Services	Core competencies
		collection, revenue allocation, and social and economic spending.	
Initiative for Responsible Mining Assurance (IRMA)	Coalition of NGOs, businesses purchasing minerals and metals for resale in other products, affected communities, mining companies, and trade unions.	The IRMA standard aims to improve the social and environmental performance of industrial mining operations. Mine sites may become IRMA certified if they demonstrate, through a third-party independent audit, that they meet the requirements of the IRMA standard. IRMA expects to launch and begin testing its certification system in 2017.	The standard is applicable to all kinds of industrial mining, worldwide and requirements are auditable at the mine site level. IRMA is funded through financial contributions of its private sector participants. Organisations such as Anglo American, ArcelorMittal, Tiffany & Co, Microsoft or Jewelers of America are in the Steering Committee of IRMA. IRMA aims to become the multi-stakeholder certification and assurance reporting reference for the mining industry.
European Recycling Platform (ERP)	Association of producers of electrical and electronic products, packaging and batteries to implement the EU WEEE Directive.	Pan European provider of compliance solutions for WEEE. ERP has a "WEEE market share" in Europe of around 15%. ERP provides a platform for its members to exchanges information about legislative developments in EU 25 countries.	ERP was founded in 2002 by Braun, Electrolux, HP and Sony. ERP members share resources on lobbying to influence national legislation. ERP provides strong joint voice in negotiations with all kinds of stakeholders in the "product take back development" and is seen as a competent partner. ERP is expanding to Brazil, Canada, Israel and Turkey.
Bureau of International Recycling (BIR)	Non-profit organisation under Belgian law	BIR offers its members timely information about the international recycling markets, their legislative context and the latest technologies. Its work covers the following commodities: Ferrous Metals, Non-ferrous metals, stainless steel & special alloys, e-scrap.	Recycling industry association representing around 800 companies and 35 affiliated national recycling federations from 70 different countries.
USGS NMIC	US governmental organisation.	Provider of global data on mineral production, consumption, recycling, stocks, and shipments. It produces also recycling and material flows studies, alongside with International	It offers for free hundreds of reports with International data on minerals production and trade for more than 150 countries.





Incumbent	Type	Services	Core competencies
		mining and investment laws, ownership, and country infrastructure.	Data collection and analyses are made by commodity specialists, country specialists, materials flow specialists and resource specialists. It has a strong reputation of objectivity and science excellence.
Minerals4EU Foundation	European NFP foundation.	A spin-off of a H2020 project, this foundation aims to set a one stop-shop to official and verified data, information and knowledge on mineral resources in the EU. It publishes, on an early basis since 2016, the EU minerals yearbook.	The Foundation is the outcome of a funded project developed by EuroGeoSurveys and several EU geological surveys. Probable funding will be made through Geo-ERA, an ERA-NET composed by Geological Surveys, launched in 2017. The Foundation is headquartered at the EuroGeoSurveys premises.
EuroGeoSurveys	NFP European organisation representing 37 National Geological Surveys.	EGS provides sector-based representation for geological surveys at the EU institutional level. The EGS is involved in EU funded research projects, policy contribution to the EU and networking.	EGS act as representative of the National Geological Surveys to the European Commission. It develops effective lobbying at the EU level, aiming to highlight the importance of geological knowledge (and geological surveys) in policy making.
Mineral Resources Agency DERA in Germany	German governmental agency.	Provider of information on: global availability and supply of mineral raw materials; criticality of mineral resources; price trends and price volatility; material and raw material efficiency; mineral resources in Germany and worldwide; technical and economic evaluation of exploration and mining projects; potential price and supply risks of primary raw materials and intermediates; assessment of minerals' demand for future technologies.	Born as a spin-off of the German Geological Survey, DERA has expertise in risk analysis and evaluation of mineral resources. It is focused on German industry, and reports made freely available are in Germany only. It organises also workshops and networking events focused on the needs of the German industry.



Assessment of market needs

The determination of market needs and interests is paramount for the development of services that should be delivered to a group of consumers/beneficiaries more effectively and efficiently than competitors (Kotler, 1990). The analysis made in this section combines the information collected on a questionnaire with the scrutiny and knowledge from members of the FORAM Consortium, hence providing insight on value offers that can sustain the success of the World Forum on Raw Materials in a competitive environment.

The questionnaire was prepared by EuroGeoSurveys, to collect information on the stakeholders' needs, challenges, priorities and preferences with the aim to initiate exchanges and interactions that facilitate better coordination of relevant raw materials initiatives and actions. It was sent to a diverse group of stakeholders on July 26th 2017, with a link for online completion and it is still open (up to October 2017). Thus far 82 valid responses were received, from stakeholders involved in all areas of the raw materials value chain, including exploration, mining, processing, recycling and disposal. However, it is clear from the analysis of the list of respondents that specific groups of stakeholders (e.g. traders, investors/financial analysts, environmental and social NGOs) are absent, either because they did not reply yet to the questionnaire or because the survey didn't reach them (see Annex 1 for an overview of the survey and responses obtained).

The specific questions (and corresponding answers) relevant for the analysis of market needs were:

1. *In your opinion what are the current most pressing needs in the raw materials sector;*
2. *How do you rate the added value of a World Forum on Raw Materials;*
3. *What should be the main objectives of a World Forum on Raw Materials; and*
4. *What initiative(s) on raw materials at the national and/or regional and/or international levels are you involved in.*

The answers were collected using predefined options (including a “no opinion/don't know” option), and the respondents were invited to choose up to 3 possible options on the pressing needs and objectives of the World Forum questions (see Annex 1).

According to the responses received the most pressing needs in the raw materials sector are:

1. Boosting resource efficiency (67% of the respondents); and
2. Fostering sustainable supply (62% of the respondents).

A large number of respondents (42-43%) also considered that *Ensuring social and environmental standards*, *Improving information sharing* and *Improving legislative framework* are pressing needs of the sector. Several other needs listed, such as *Social License to Operate*, *After use collection* or *Attraction of graduates* were not considered relevant. This was unexpected, and it might be explained by a bias caused by the group of respondents/sample surveyed. Insight from FORAM





Consortium members and recent information gathered in other EU funded projects addressing raw materials topics (e.g. MINATURA2020, MICA, INTRAW) confirms that the raw materials sector faces (globally speaking) serious problems due to social opposition, environmental and land use constraints, lack of innovation and lack of skilled labor.

An indirect overview on all stakeholders involved in the mineral raw materials sector is provided by the analysis made by Erdmann and Tercero (2017). These authors advanced an ontology of stakeholders groups (related to the minerals industry) that considers definitive, dominant and dependent stakeholders. Definitive stakeholders have power and legitimacy in the mineral raw materials discourse and policy. They include geological surveys, other public research institutes, universities, research & technology organizations, intelligence institutes, professional organizations, mining and extraction industry, material production industry, recycling and material recovery industry, innovation initiatives, project management agencies, ministries of economic affairs and ministries of education & research. Dominant stakeholders also have legitimacy and power in the mineral raw materials discourse, and they include the manufacturing industry as a user of materials and the re-manufacturing industry, alongside with investors, intergovernmental organisations and international groups affecting raw material policies. Dependent stakeholders have less power but equal legitimacy compared to dominant stakeholders, and they include industry sectors potentially affected by mineral raw materials (e.g. the bio-based industry) and civil society organizations (e.g. environmental NGOs). All these groups of stakeholders are affected by the following fundamental facts on mineral raw materials provision (Correia et al, 2017):

1. Mineral resources are finite, scarce, and depend on geological endowments;
2. No country has all the mineral resources necessary to support a developed society, and international trade is paramount to the supply chains of modern industry;
3. Resource nationalism can cause conflicts;
4. Technological developments require the use of a wider variety of mineral raw materials to the production of goods;
5. As a result of imbalances and weak governance, the exploitation of mineral resources in many countries does not support, as it should, social and economical development;
6. The mining industry has a bad reputation, as a consequence of a track record of poor environmental and social performance;
7. To ensure resources for future generations, the governance of mineral resources needs to be improved;
8. Research effectiveness on raw materials' exploration, exploitation, beneficiation, uses, recycling and substitution is damaged by secrecy, lack of international cooperation and competition;
9. Policy makers' access to qualified, independent, apolitical insight is difficult, and messages are sometimes confusing because technical language differs between organisations and along the value chain;



10. There is a lack of structured information, knowledge and foresight on mineral raw materials, and information and data are not exchanged in a coordinated manner.

The facts enumerated can be directly translated into market needs (considering all stakeholders). However, dialogue between groups of stakeholders is uncommon and concertation between clusters on each group is rare. This is consistent with the responses obtained in the survey. The stockholders who responded to the questionnaire listed as three main objectives of a World Forum on Raw Materials⁹: 1) *Higher resource efficiency*; 2) *Supply chain transparency/sustainability*; and 3) *Policy and governance contribution*, leaving out relevant aspects affecting mineral raw materials provision.

Having this in consideration, and assuming the survey did not encompassed all stakeholders, the members of the FORAM Consortium carefully assessed the results from the survey and used their knowledge and experience in the raw materials sector to advance a wider perspective of market needs. Table 2 results from this appraisal, and it lists existing marketing needs by categories of stakeholders (prospective beneficiaries) of the Word Forum on Raw Materials. The needs were clustered in three groups. Groups of beneficiaries were associated to each group of needs.

Table 2. Identification of existing market needs and corresponding prospective beneficiaries.

Market needs	Prospective beneficiaries
Circular economy “platform”, focused on resource use and resource efficiency (encompassing hard and soft innovation factors)	<p>Research centres/councils</p> <p>Academy</p> <p>Individual researchers</p> <p>Industry (miners, smelters, recyclers, end users)</p> <p>SMEs along the minerals supply chain (services and equipment manufacturers included)</p> <p>Industry associations</p> <p>Investors</p>

⁹ Indicating that the respondents to the survey represent mainly “Definitive stakeholders” (geological surveys, other public research institutes, universities, research & technology organizations, intelligence institutes, professional organizations, mining and extraction industry, material production industry, recycling and material recovery industry, innovation initiatives, project management agencies, ministries of economic affairs and ministries of education & research).



Market needs	Prospective beneficiaries
Governance “platform”, addressing social constraints and economic development, trade and raw materials’ policies	<p>Intergovernmental organisations (e.g. UN, OECD, WB)</p> <p>Governments and ministries</p> <p>Geological surveys and national investment/trade agencies and regulators</p> <p>NGO’s active in local development</p> <p>Unions</p> <p>Investors and banks</p> <p>Traders</p> <p>Mining analysts and fund managers</p> <p>Lawyers</p>
Cooperation “platform”, to advance international dialogues, standards, best practice and environmental protection	<p>Industry and industry associations</p> <p>NGO’s active in local development and nature conservation</p> <p>Intergovernmental organisations (e.g. UN, OECD, WB)</p> <p>Geological surveys</p> <p>Academy</p> <p>EFG, IOM3 and other professional associations</p>

Internal environment

The World Forum on Raw Materials is still at the conceptual stage. Therefore the evaluation of strengths and weaknesses made in this chapter assumes as core competences of the Forum the capabilities that can be drawn directly from the FORAM Consortium. The business dimensions/internal functions considered in this analysis are marketing & commercial, finance, production and organisation.





FORAM

Strengths:

Marketing / Commercial

1. Easy to develop reputation and credibility, built on the image of the FORAM Consortium,
2. Existing linkages to intergovernmental organisations and key influencers through the Consortium and Advisory Board of FORAM;
3. Large network among the geoscience global community,
4. Extensive knowledge of the raw materials value chain,
5. Existing partnerships with intergovernmental organisations (UN, EU),
6. Access to lists of participants in recent conferences and forums dedicated to the sustainable use of resources and geoscience, with worldwide geographic coverage,
7. FORAM partners and experts network willingness to cooperate with each other,

Production

8. In-depth practical knowledge on the organisation of large international meetings/conferences/conventions in different countries and contexts,
9. Experience in the organisation of joint or back-to-back meetings/conferences in cooperation with other organisations;
10. Availability of skilled work force,

Organisation

11. Possibility of designing a small organisation capable of flexible response, and having
12. Low level of structure (fixed) costs.

Weaknesses:

Marketing / Commercial

1. Need of countering seasonality (push for a wider offer of services);
2. Service quality unknown / never proved,
3. Distribution and promotion effectiveness unknown,
4. Innovation effectiveness unknown,



Finance

5. Provision of equity / set up investment,
6. Cash flow needs,

Production

7. Limited capacity (assuming the design and launch of a small organisation with limited investment),
8. Narrow economies of scale,

Organisation

9. Need of establishing all systems and procedures, and
10. Effort required to recruiting and building a core team.

3.2 Competitive Factors

Competitive factors are the benefits or service attributes valued by costumers/beneficiaries around which incumbents develop their services' offer, adjusting benefits, price and delivery to underline differences and reach specific market segments.

Considering the vision and mission of the World Forum on Raw Materials, the analysis of competitors, their offer and the corresponding core competences, the competitive factors around which existing offers are organized can be included in the following classes:

1. Reputation and political leverage,
2. Market specialisation,
3. Facilitation/lobbying capacity and networking,
4. Expertise,
5. Access to information and knowledge management,
6. Independency,
7. Reliability.

Table 3 lists the existing groups of incumbents and the competitive factors in place. The analysis of existing incumbents reveals that the more important attributes of differentiation being used are reputation, specialization and facilitation.

Table 3. Competitive factors of existing incumbents.

Categories of incumbents	Competitive factors
Global/international intergovernmental organisations (United Nations, OECD, European Union, World Bank, and World Trade Organisation)	Promoters of diplomatic dialogues and international support to developing countries Promoters of international cooperation and peace High-level political support and leverage
Government agencies (USGS, Geological surveys, DERA, Homeland Security)	Public providers of reliable data and information Official status, with access to confidential data and intelligence capacity
Existing world forums and organisations/think tanks promoting cooperation and research networks (International Raw Materials Observatory, European Technology Platform for Sustainable Mineral Resources, EIT Raw Materials, Materials Knowledge Network, WEEE Forum, ERA-MIN, EIT, ESIP, NCSE, Frasier Institute)	Market specialisation (on subjects) Reputation (leveraged by the support of influencers and/or political or institutional endorsements) Facilitation/lobbying capacity and networking (active engagement within specific groups of people) Independency/not-for-profit/NGOs
Industry associations (ICMM, Mining Association of Canada, Chamber of Mines of South Africa, Euromines, IMA-Europe)	Industry lobbying Reliability/active protection of industry's reputation Knowledge management/early warnings on policy change to its members
Standards and certification providers (ISO, CEN, OHSAS, IRMA, EITI)	Advanced expertise Voluntary status (normally members are recognized authorities on standards) and public service Industry support



Categories of incumbents	Competitive factors
Commodities traders and investors / auditing companies and banking businesses (Goldman Sachs, BNP Paribas, S&P Global, Deloitte, PWC, KPMG, BCG, McKinsey)	Customer knowledge/relationships Knowledge management systems Reputation of key staff (partners) Reliability

A more detailed analysis of direct competition (providers of same services) of the World Forum on Raw Materials shows that world forums and organisations promoting cooperation and networking on mineral raw materials' topics have developed their offer around one of the main attributes of differentiation previously mentioned (Table 4), combining additional attributes to create a large perceived difference to other competitors.

Table 4. Main attributes of differentiation used by direct competition of the World Forum on Raw Materials.

Main attribute of differentiation / additional factors	Incumbent
Market specialisation Advanced expertise Reputation Facilitation/lobbying capacity Independency	Convergences World Forum Energy Storage World forum OECD World Forum on Statistics, Knowledge, and Policy World Forum of Local Economic Development World Circular Economy Forum Bureau of International Recycling The World Science Forum World Forum of Universities of Resources on Sustainability World Forum on Ecosystem Governance





Main attribute of differentiation / additional factors	Incumbent
	World Materials Forum World Resources Forum International Raw Materials Observatory WEEE Forum
Reputation and (perceived) quality of events/services Independency Political endorsement and leverage Facilitation/lobbying capacity	World Economic Forum World Forum for a Responsible Economy Skoll World Forum on Social Entrepreneurship Frasier Institute
Facilitation, lobbying capacity and networking Reputation Market specialisation Knowledge management	Network of Global Future Councils World Business Council For Sustainable Development World Forum for FDI (Foreign Direct Investment) European Technology Platform for Sustainable Mineral Resources EIT Raw Materials ERA-MIN Materials Knowledge Network Federation of Earth Science Information Partners National Council for Science and the Environment

3.3 Critical success factors

The definition of elements that are vital for the successful development and implementation of a business strategy includes the identification of critical success factors. Critical success factors (CSF) are a limited number of characteristics, conditions, or variables that have a direct and serious impact on the effectiveness, efficiency and viability of an organization, program or project. Activities

associated with CSF must be performed at the highest possible level of excellence to achieve the intended overall objectives (Critical Success Factors, n.d.).

The definition of CSF emerges from the combination of relevant data on consumers' expectations and needs with intelligence on competitors' performance. Table 5 lists the CSF of the World Forum of Raw Materials across four business dimensions.

Table 5. Critical Success Factors of the World Forum on Raw Materials, by business dimension.

Business dimension	Critical Success Factors
Mission of the World Forum on Raw Materials: <i>To establish multilateral dialogues aiming to minimise trade distortions and avoid trade barriers, promoting better and informed raw materials global governance and enforcing long term sustainable practices along the mineral raw materials value chain</i>	
Marketing/commercial	1. Reputation and external image (inclusive, global, specialised, independent/neutral, brand name) 2. Public relations effectiveness (endorsements, support of influencers) 3. Ability to target and engage "silent" and less active stakeholders 4. Perceived quality of events (speakers, venue)
Production	5. Access to reliable information 6. Analytic capabilities
Finance	7. Cash flow 8. Low operational costs
Organisation	9. Managerial ability and experience 10. Key alliances and partnerships 11. Network of experts



4 Positioning of the World Forum on Raw Materials

The essence of strategy is selecting one position that an organisation can claim as its own (Markides, 2000). This depends on the organisation's mission, on the needs of its market (target segments), on the positioning of its competitors and on the distinctive competences of the organisation.

This section advances a positioning for the World Forum on Raw Materials with the aim of generating breakthroughs in value and performance for the organisation. However, because the World Forum on Raw Materials is still at the conceptual stage, this analysis must be revised by the organisation that will uphold the Forum, and adapted to its real core competences and capabilities.

4.1 Goals

The organisational purpose and the attainment of the vision and mission of the World Forum on Raw Materials (see chapter 2) are sustained by four **strategic goals**:

1. To enhance inclusive international cooperation on mineral raw materials policies and governance,
2. To foster dialogues aiming to minimise trade distortions and avoid trade barriers,
3. To provide to policy makers independent and neutral information on raw materials and understandable solutions,
4. To promote long term sustainable practices along the mineral raw materials value chain.

4.2 Core competences

Core competencies are the main strengths or strategic advantages of a business (that cannot be easily copied or bought), including the combination of pooled knowledge and technical capacities that allow a business to be competitive in the marketplace (Core competences, 2015). The **core competences** of the World Forum on Raw Materials are:

1. Global coverage, encompassing the entire mineral raw materials value chain (from exploration to recycling and disposal),
2. Access to a wide range of stakeholders and to qualified experienced specialists on mineral raw materials,
3. Authoritative, independent, inclusive voice,
4. Reputation, competences and values of the members of the FORAM Consortium.



4.3 Strategic position

Having in consideration the goals and core competences of the World Forum on Raw Materials, the scrutiny of existing incumbents and the competitive factors and attributes of differentiation in place, the **strategic discipline** of the World Forum requires a focus on:

1. Collecting insight from experts and fostering the exchange of ideas to translate complex questions into understandable solutions on circular economy, public governance and international cooperation applied to the mineral raw materials' value chain,
2. Establishing relations with policy-makers and engaging with all interested stakeholders, through alliances and partnerships with other organisations,
3. Building up a solid reputation of credibility and independence.

Considering the distinctive competences of the Forum that correspond to market needs and that are difficult to duplicate by competitors, the **positioning of** the World Forum on Raw Materials is expressed as “**promoter of cross-cutting dialogues and generator of understandable solutions**”. The factors that frame this positioning are:

- Strong networks/alliances in place,
- Inclusive, independent forum, specialised on raw materials,
- Wide pool of experts and stakeholders, capable of addressing cross-cutting topics,
- Capacity to overcome barriers of complex technical language, foster dialogues across stakeholders and create win-win solutions.

These factors can/must be adjusted for tailored messages to the different market segments.



5 Implementation

A successful implementation of the strategic position requires a cohesive business system that aligns key partners, activities and resources to maximise value delivered to beneficiaries. The following sections are a general contribution to the configuration of the World Forum on Raw Materials business system, to be revised and detailed accordingly with the competences and capacity of the organisation that will uphold the Forum.

5.1 Beneficiaries

The positioning of the World Forum on Raw Materials requires the active engagement of the Forum with definitive, dominant and dependent stakeholders (Erdmann and Tercero, 2017) interested by the mineral raw materials value chain. As the outcome of the survey mentioned in section 3.1.2 shows (see Annex 1), getting all stakeholders on board will require proactive actions conceived to reach out to dominant stakeholders (manufacturing industry, investors, intergovernmental organisations and international groups affecting raw material policies) and to dependent stakeholders (all industry sectors potentially affected by mineral raw materials and civil society organizations).

To reach and connect to the mentioned groups of stakeholders it is recommended a two steps approach that considers:

1. The establishment of alliances and partnerships with relevant groups of dominant and dependent stakeholders (e.g. NGOs, organisations/think tanks promoting dialogues and cooperation, industry associations, research networks);
2. The development of joint tailored initiatives, with the groups mentioned above, to build awareness and interest in mineral raw materials topics, and to shore up enrollment and support of their audiences to the activities of the World Forum on Raw Materials.

Policy-makers are, aside with dominant and dependent stakeholders, beneficiaries of the cross-cutting dialogues and solutions generated by the World Forum on Raw Materials. The engagement of policy makers can be obtained through influencers and opinion-makers, such as journalists, civil society and business leaders, (bodies and representatives of) international intergovernmental organisations and specific think-thanks.

To ensure a global and inclusive participation of all groups of stakeholders in the Forum, the mentioned alliances and partnerships must encompass regionally diverse (or global) groups and organisations.





5.2 Key activities

Key activities of the World Forum on Raw Materials are the activities that need to be performed well to reinforce the organisation's positioning and the accomplishment of its mission.

The key activities of the Forum are:

- To delineate an action plan and a business plan, detailing tasks, financial resources, responsible, an implementation schedule and key performance indicators that need to be considered for the establishment of the World Forum on Raw Materials;
- Design the organisational structure and advance the strategic alliances needed to fulfil the mission of the World Forum on Raw Materials;
- Secure the financial resources needed to propel the creation and support at least one year of activity of the World Forum on Raw Materials;
- Engage, motivate and expand the pool of experts set in place by the FORAM project;
- Map and target groups of dominant and dependent stakeholders interested by mineral raw materials topics;
- Develop alliances and joint tailored initiatives with the groups mentioned above, to build awareness and interest in mineral raw materials topics;
- Engage influencers and opinion-makers;
- Reach policy-makers;
- Ensure that its activities (e.g. conferences, workshops, decision papers) promote cross-cutting dialogues and advance comprehensive solutions to problems.

5.3 Channels

To reach out and deliver value to beneficiaries (through its activities) the World Forum on Raw Materials will use the following distribution channels and touch points:

- Network of FORAM and FORAM Consortium;
- Advisory Board of FORAM Consortium;
- Participation on joint tailored initiatives with target groups, including meetings, workshops, conferences (promotion);
- Organisation of activities of the World Forum on Raw Materials back to back with relevant raw materials conferences / fairs / other industry initiatives (dissemination);





FORAM

- Influencers (public relations);
- Social media (videos, newsletter).

5.4 Key partners

Key partners are individuals and organizations that can leverage the activities of the World Forum on Raw Materials. The members of the FORAM Consortium and Advisory Board are obviously key partners of the World Forum on Raw Materials.

But other organisations, either complementary in terms of aims or capacity can be targeted as key partners of the Forum on Raw Materials. From the analysis of the list of existing incumbents, the most obvious (and desirable) key partners of the Forum are:

- Global/international intergovernmental organisations (e.g. United Nations, OECD, European Union, World Bank, World Trade Organisation);
- Complementary forums and organisations promoting international dialogues and cooperation (e.g. World Circular Economy Forum, World Forum of Local Economic Development, World Materials Forum, World Resources Forum, International Raw Materials Observatory, KIC EIT Raw Materials);
- Selected industry associations (e.g. ICMM, Euromines, IMA-Europe, WEEE Forum);
- Certification providers (e.g. IRMA, EITI).

The list of key partners can naturally be enlarged when/if specific purposes/themes are being address (e.g. World Wildlife Fund, in the case of nature conservation or Industry4All in the case of labor relations),

5.5 Key resources

Key resources are the assets of the World Forum on Raw Materials indispensable to create value to beneficiaries. Having in consideration the vision, the mission, the positioning and the goals of the Forum, alongside the activities of the FORAM project, the key resources are:

- The pool of experts and stakeholders set in place by the FORAM project, including the Advisory Board, the Stakeholder Network and the Consortium;
- The management team of the World Forum on Raw Materials;
- The financial resources needed for the creation and support of at least one year of activity of the World Forum on Raw Materials.





6 Conclusions

FORAM aims to advance the idea of a World Forum on Raw Materials, strengthening international cooperation among G20 Member countries and third countries active in the extraction, processing and recycling of mineral raw materials. The mission statement of the World Forum on Raw Materials, outlined by the FORAM Consortium, put emphasis on the establishment of multilateral dialogues, on the promotion of better governance and on the enforcement of long term sustainable practices along the value chain of non-energy abiotic raw materials.

The contextual analysis of the external dimensions that frame the future World Forum on Raw Materials, made to align stakeholders' needs, limitations of competition and core competences of the World Forum, exposed three relevant insights:

- 1 The categories of stakeholders interested by the mineral raw materials value chain are large and diverse, and engaging with some of the groups of stakeholders (who are quiescent) will require supplementary efforts and resources;
- 2 The existing market needs can be clustered in three topical groups, a) circular economy, b) governance and c) cooperation;
- 3 The existing competition (incumbents) is strong, with more than 150 “world forums” or international networks organized around thematic areas or groups of stakeholders, with activities that have potential overlaps (and/or synergies) with the World Forum of Raw Materials.

The analysis of the internal dimensions of the World Forum on Raw Materials assumed as core competences the capabilities that can be drawn directly from the FORAM Consortium, since the Forum is still in the conceptual stage and has not been established. The most important strengths are the far-reaching network of FORAM partners and experts, their willingness to cooperate with each other and the reputation of the members of the FORAM Consortium. The need of equity and cash flow, alongside uncertainty on marketing, commercial, and production options are the main weaknesses that can reduce the progress of the World Forum.

A more detailed analysis of incumbents revealed that the competitive factors around which existing offers are organized are:

1. Reputation and political leverage,
2. Market specialisation,
3. Facilitation/lobbying capacity and networking,
4. Expertise,
5. Access to information and knowledge management,
6. Independency,





7. Reliability.

This analysis, combined with the assessment of market needs, exposed eleven critical success factors for the attainment of the mission of the World Forum of Raw Materials, listed below by business dimension:

Marketing/ commercial

1. Reputation and external image (inclusive, global, specialised, independent/neutral, brand name);
2. Public relations effectiveness (endorsements, support of influencers);
3. Ability to target and engage “silent” and less active stakeholders;
4. Perceived quality of events (speakers, venue);

Production

5. Access to reliable information;
6. Analytic capabilities;

Finance

7. Cash flow;
8. Low operational costs;

Organisation

9. Managerial ability and experience;
10. Key alliances and partnerships;
11. Network of experts.

The positioning of the World Forum on Raw Materials, having in consideration its mission, the needs of its market, the strenghts of its competitors and the distinctive competences of the World Forum¹⁰ is expressed as “**promoter of cross-cutting dialogues and generator of understandable solutions**”. The factors that frame this positioning are:

- Strong networks/alliances in place;
- Inclusive, independent forum, specialised on raw materials;
- Wide pool of experts and stakeholders, capable of addressing cross-cutting topics;

¹⁰ Since the World Forum on Raw Materials is still at the conceptual stage, the positioning must be revised by the organisation that will uphold the Forum, and adapted to its real core competences and capabilities.





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- Capacity to overcome barriers of complex technical language, foster dialogues across stakeholders and create win-win solutions.

The positioning of the World Forum on Raw Materials will require a strong focus on:

1. Collecting insight from experts and fostering the exchange of ideas to translate complex questions into understandable solutions on circular economy, public governance and international cooperation applied to the mineral raw materials' value chain;
2. Establishing relations with policy-makers and engaging with all interested stakeholders, through alliances and partnerships with other organisations;
3. Building up a solid reputation of credibility and independence.

To reach its beneficiaries, the World Forum must engage with definitive, dominant and dependent stakeholders interested by the mineral raw materials value chain from regionally diverse (or global) groups and organisations. Engaging with these groups is paramount to build up a reputation of credibility, inclusiveness and independence. Reaching out to policy-makers is also essential, and this can be achieved through influencers and opinion-makers, such as journalists, civil society and business leaders, (bodies and representatives of) international intergovernmental organisations and specific think-thanks.

The key activities that must be performed to reinforce the Forum's positioning include the design of an organisational structure and the advancement of strategic alliances to fulfil the mission of the World Forum on Raw Materials. These alliances can be established with existing incumbents that can leverage the success of the World Forum on Raw Materials, through key partners. The most obvious key partners of the Forum are international intergovernmental organisations, matching forums and organisations promoting international dialogues and cooperation, alongside selected industry associations and certification providers.



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Annex 1: Survey on mineral raw materials' stakeholders needs, challenges, priorities and preferences

Part A: FORAM WP2 Questionnaire

Introduction:

The project Towards a World Forum on Raw Materials (FORAM) develops and sets up an EU-based platform of international experts and stakeholders that will advance the idea of a World Forum on Raw Materials and enhance the international cooperation on raw material policies and investments. The FORAM project contributes to consolidating the efforts towards a more joint and coherent approach towards raw materials policies and investments worldwide.

The following questionnaire will help us in enhancing the dialogue between stakeholders of the network and in identifying the main topics of interest, such as fair and reliable access to raw materials and coherent approaches towards raw materials supply policies.

It will help us in collecting information on stakeholder needs, challenges, priorities and preferences with the aim to initiate exchanges and interactions that facilitate raw materials trade and for better coordination of relevant raw material initiatives and actions.

Your responses and any other information you provide will be kept strictly confidential.

1. In what capacity are you completing this questionnaire?

- a. Company/industry
- b. University/research institution
- c. Association
- d. Government
- e. International organization
- f. NGO
- g. Project
- h. Forum
- i. Study Group
- j. Partnership
- k. Consortium
- l. Alliance
- m. Community
- n. Panel
- o. Other (please specify)

2. Which part of the raw materials value chain is your expertise linked to?
 - a. Mining/Extraction
 - b. Processing
 - c. Manufacturing
 - d. Product Development
 - e. Recycling
 - f. Transportation
 - g. Export
 - h. Disposal
 - i. Other (please specify)

3. In your opinion what are the current most pressing needs in the raw materials sector?
(Please choose 3)
 - a. Improving legislative framework
 - b. Improving information sharing
 - c. Fostering sustainable supply
 - d. Ensuring social and environmental standards
 - e. Boosting resource efficiency
 - f. Other (please specify)

4. How do you rate the added value of a World Forum on Raw Materials?
 - a. Very important
 - b. Fairly important
 - c. Important
 - d. Slightly important
 - e. Not important
 - f. No opinion

5. What should be the main objectives of a World Forum on Raw Materials? (Please choose 3)
 - a. Innovation/promoting technological development
 - b. Higher resource efficiency
 - c. Policy and governance contribution
 - d. Support and raising awareness for raw materials industry
 - e. Enhance environmental sustainability and protection

- f. Improving energy efficiency and climate change policies
 - g. Security of supply and/or material substitution
 - h. Advance recycling and waste management
 - i. Social and economic development
 - j. Supply chain transparency/sustainability
 - k. Enhance international cooperation
 - l. Capacity development
 - m. Other (please specify)
6. What initiative(s) on raw materials at the national and/or regional and/or international levels are you involved in?
7. How would you best be able to help in advancing the FORAM project?
- a. Active role in developing goals and strategies
 - b. Discussions with other stakeholders to provide valuable insight
 - c. Participation at FORAM-workshops/events
 - d. Informing specific networks and spreading the word
 - e. Information and press releases
 - f. Other (please specify)
 - g. Not sure
8. Would you be willing to be interviewed at a later stage regarding specific topics as the project progresses?
- a. Yes
 - b. No
 - c. Maybe

Name:

Organization:

Country:

Email address:

Part B - Results of the FORAM WP2 questionnaire:

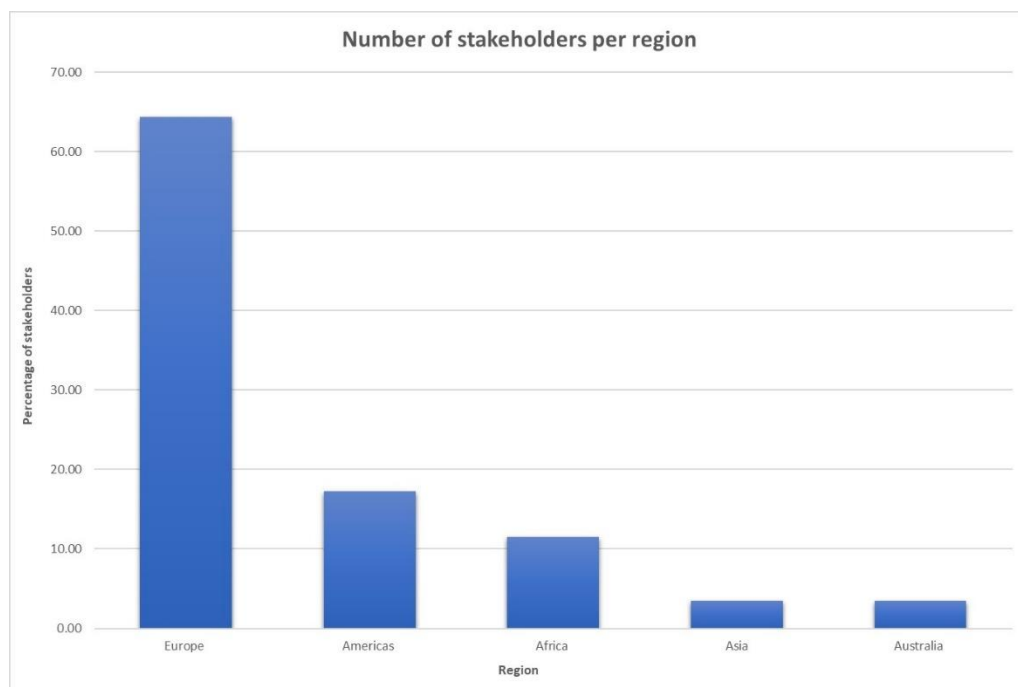


Figure 1 (Annex 1). Number of FORAM stakeholders per region

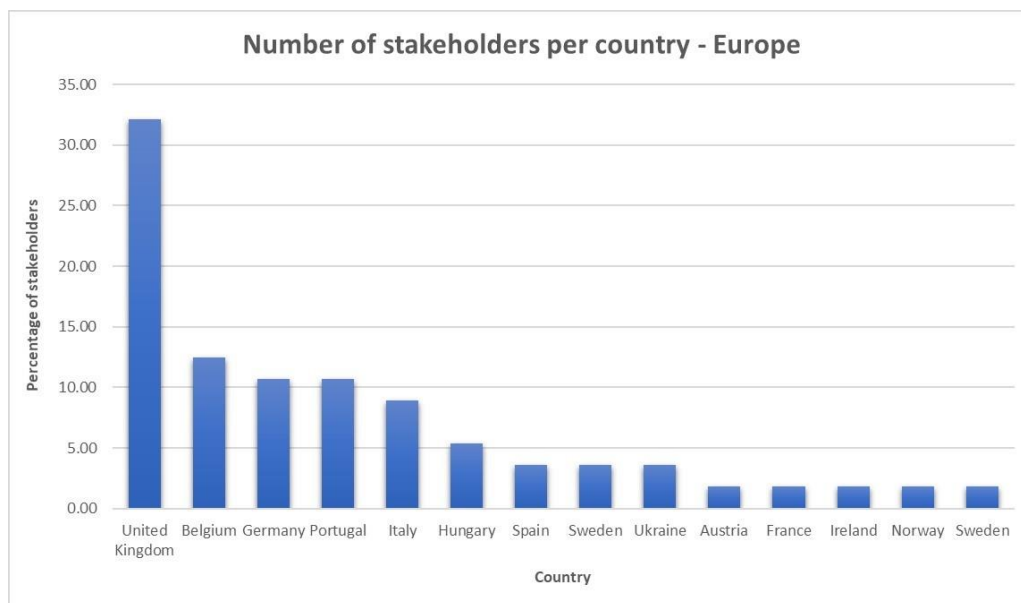


Figure 2 (Annex 1). Number of FORAM stakeholders per European country



Figure 3 (Annex 1). Number of FORAM Stakeholders per value chain

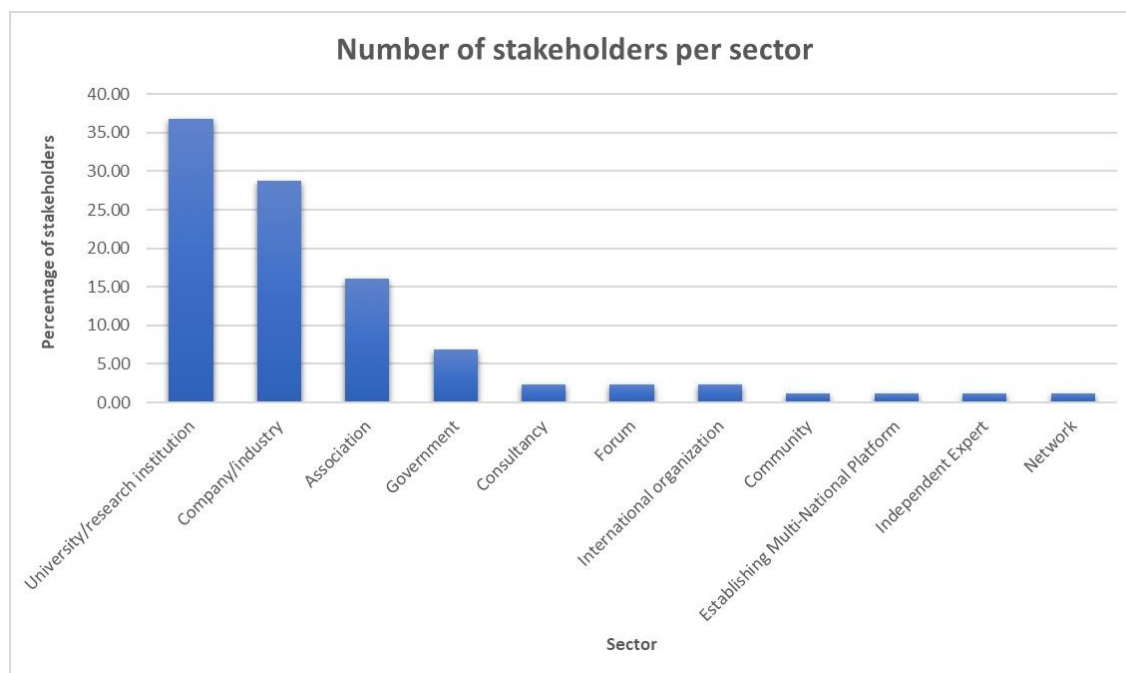


Figure 4 (Annex 1). Number of FORAM stakeholders per sector

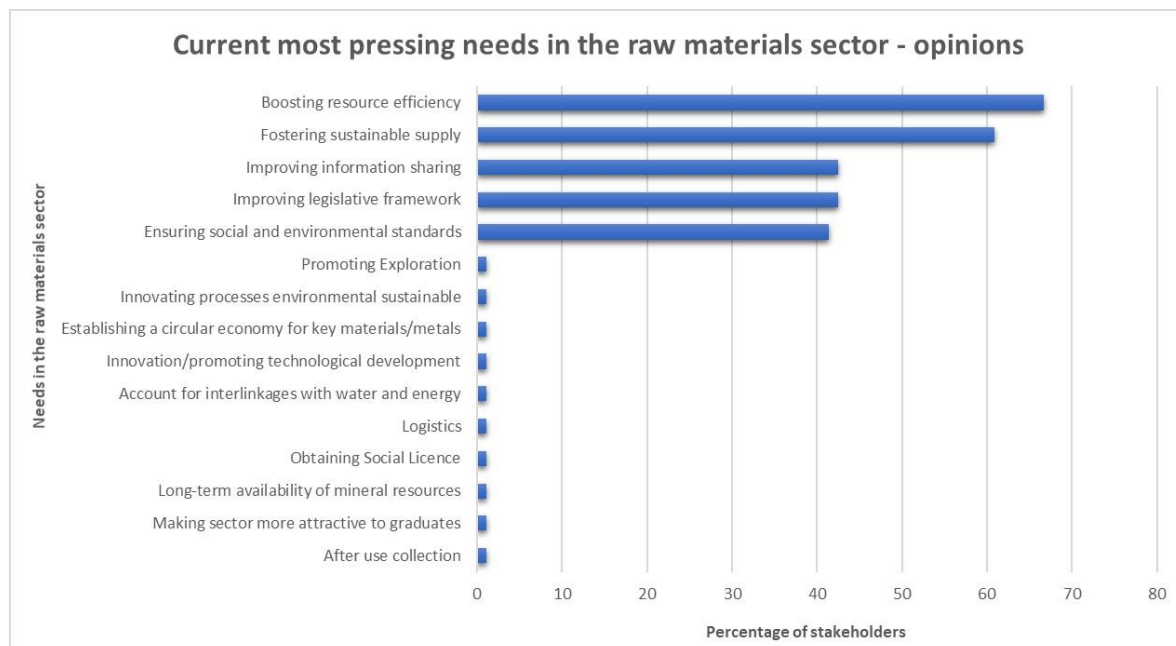


Figure 5 (Annex 1). Current most pressing needs in the raw material sector according to FORAM Stakeholder Network

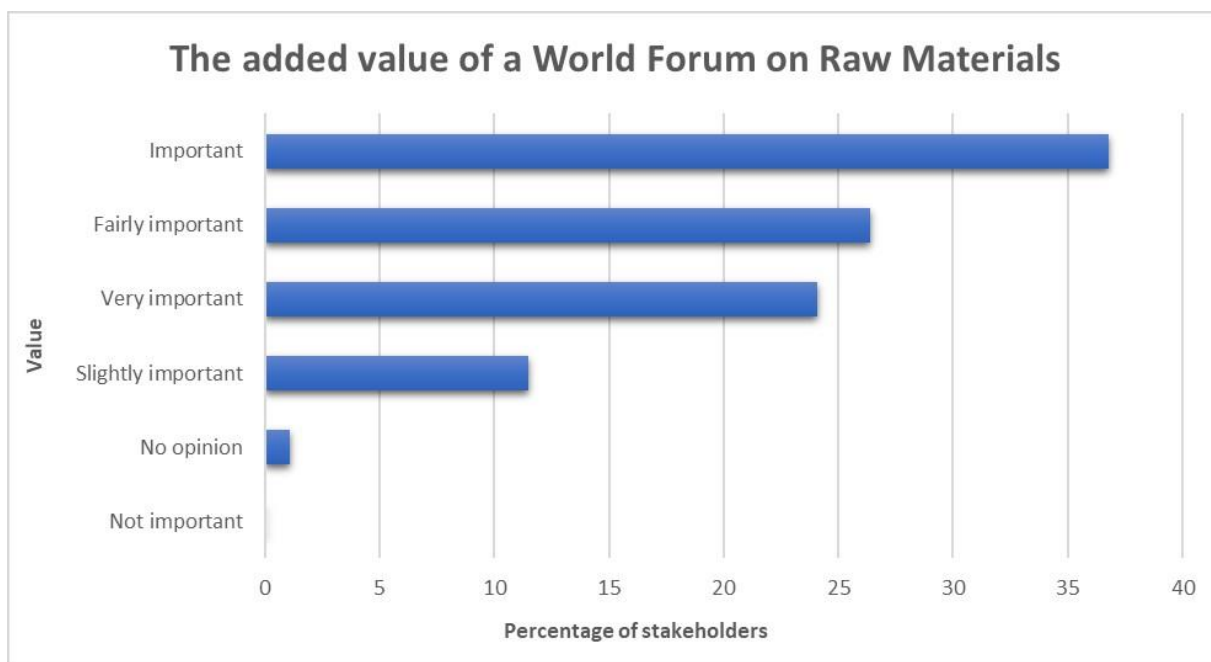


Figure 6 (Annex 1). Importance of establishing World Forum on Raw Materials according to FORAM Stakeholders Network

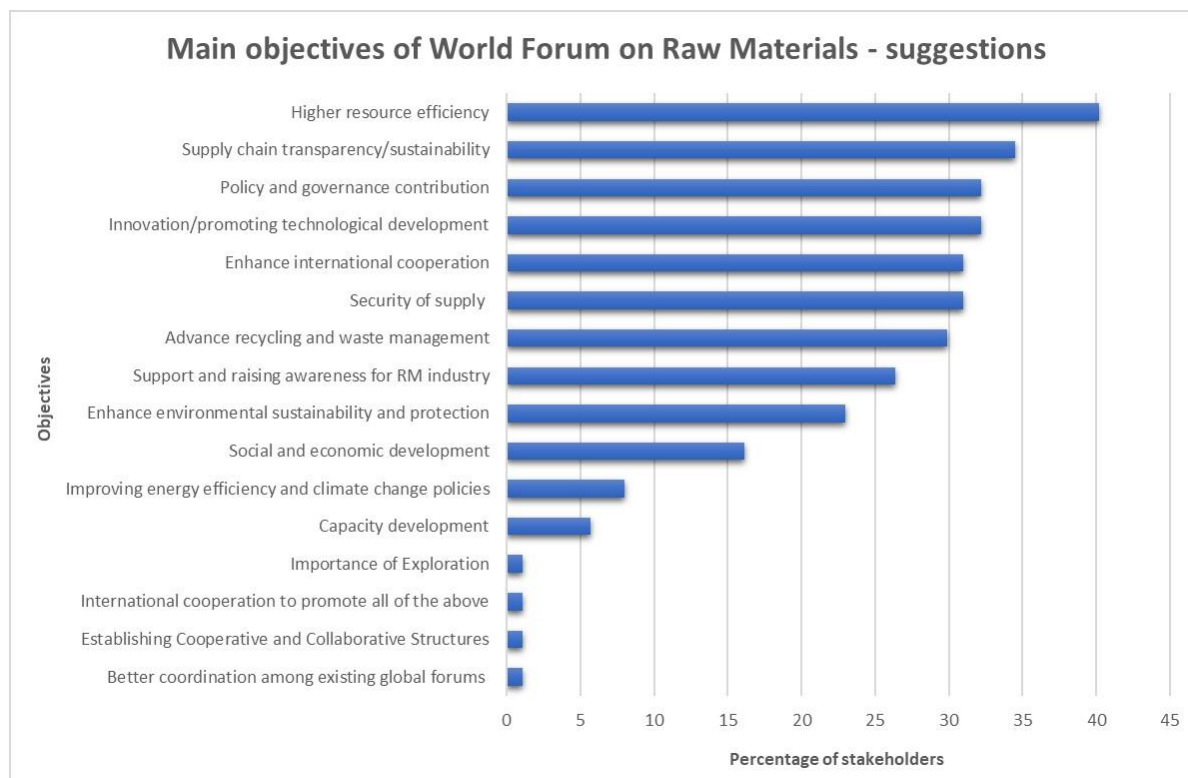


Figure 7 (Annex 1). Main objectives of World Forum on Raw Materials according to FORAM Stakeholders Network