

THE EUMICON RAW MATERIALS CHARTER 2018:

25 Ideas For a Future Made in Europe



Today's raw materials for
tomorrow's products

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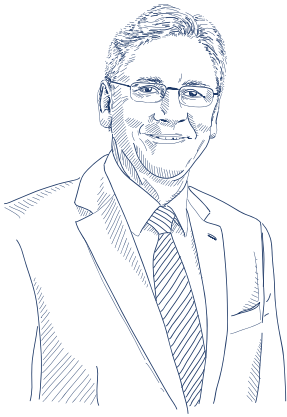
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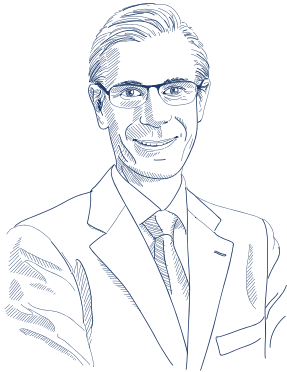
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Impressions



EUMICON's mission is to drive forward dialogue in Europe. 2019 will bring the departure of the United Kingdom from the European Union, elections to the European Parliament, and new political leadership of the European Commission. At the same time, megatrends such as digital transformation, the transition to a low-carbon economy and the new consumer society are changing the continent. Cooperation and goodwill between all stakeholders – in politics, administration, science, NGOs, trade unions and industry – is more important than ever, so that we can find common solutions to the challenges we face. On the occasion of the Austrian Presidency of the European Union, EUMICON hosted a wide-ranging dialogue, involving several hundred stakeholder representatives. They discussed the broad relevance of raw materials as the nucleus of industry, industrial value chains, and prosperity 'Made in Europe'. This Raw Materials Charter brings together the central ideas resulting from this dialogue, aimed at paving the way to our future.

Franz Friesenbichler
President of EUMICON



Raw materials will be essential for manufacturing the products of the future. They form the basis of modern societies, our cities, digitalisation and the European energy transition. With the emergence of a new demand for raw materials, both in terms of volume and complexity, now is the right time to look at how stakeholders can come together to respond to this change. EUMICON provides the platform for focused debate and technology transfer when it comes to mineral resources, creating a forum for dialogue with and between stakeholders along raw material value chains, in civil society and in academia. Because the way in which challenges are approached is a central concern for EUMICON, the core values of courage, consensus and sustainability provide the bedrock for our development of the path to the future. More than ever, the world needs a strong, self-confident and united Europe as a driver of stability and prosperity. EUMICON invites all stakeholders to work together to build a future that is 'Made in Europe'.

Roman Stiftner

Secretary-General of EUMICON

Our vision for a future made in Europe

Timed to coincide with the Austrian Presidency of the Council of the European Union in 2018, EUMICON initiated a Europe-wide stakeholder dialogue to identify the primary challenges and opportunities for the raw materials industry and its value chains. Out of 115 ideas and solutions collected as insights from high-level stakeholder workshops, the most promising were distilled to form the basis of the Raw Materials Charter.

The Charter is structured in four technical clusters. In order to face the tremendous challenges of our times, Europe must redefine its core values and embrace a change of mindset. The stakeholder process identified the values of “courage”, “consensus” and “sustainability” as the foundation on which a new future – ‘Made in Europe’ – can be built.

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labs for specific
target groups

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disruption

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OUR VALUES

Courage
Consensus
Sustainability

The right framework for continuous reskilling

A holistic skill set beats rigid education

New approaches to fostering continuous exchange between industry and education

Forging alliances in education, research and development

Strengthen the dialogue

Mixing educational methods: simulation is key

Skills & education

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Raw materials as the foundation for a prosperous European future



Autonomous driving, artificial intelligence, the internet of things – the disruptive technological revolution is introducing a whole range of new processes, products and innovative services. All of these have a significant impact on the extractive industry and its value chains, with the result that the industry needs to react and answer new challenges. At the same time, such challenges give rise to unforeseen opportunities and potential new value chains. Raw materials form the basis for modern industrial societies – such as in Europe. Any change in the raw material base has a cascade effect on the continent’s industrial value chains. Intensified political focus on EU industry in recent years is connected with interest in a broad range of issues relating to newly evolving value chains and rising demand for raw materials. These include for example access to and costs of raw materials, product and process innovation, investment, skills, education and training, and regional and social implications.

Megatrends driving demand for raw materials

Megatrends such as digitalisation and the decarbonisation of transport and production are resulting in new demand for raw materials, in terms of volume and of complexity. The main drivers of demand for raw materials are increased wealth and global population growth: global GDP is ten times the level of 50 years ago, and the world’s population has doubled. Urbanisation, digitalisation, the low-carbon transition and the switch to electricity as the main source of energy for industry are further accelerating developments. Electricity demand is rising, while increased production of wind and solar energy requires a greater quantity of a different mix of raw materials.

Some speak of a new age for metals and minerals. The resource intensity of our society is set to remain high, while increasing quantities of minerals in particular – some of which have been identified as critical raw materials – will be required to enable the transformation to a low-carbon economy.



Raw and green

Megatrends have already begun to affect and even transform upstream and downstream value chains, with the advent of industry 4.0 in manufacturing and industrial markets (including mining 4.0), and the emergence of the new young consumer society. It would be difficult to find a production process that is not based on mineral raw materials, or for which tools and machinery requiring mineral raw materials are not used. Due to the different properties they possess, raw materials are used for a highly diverse range of applications. It is therefore clear that demand for mineral raw materials will continue to grow.

The EU's 2050 decarbonisation goals require breakthrough innovation to bring about low-carbon industrial production, and challenge European manufacturers to go beyond their existing high standards. A key challenge is energy consumption and meeting the necessary demands on decarbonised electricity. Renewable energy generation will require greater quantities of different raw materials than those used today, as renewables replace traditional energy commodities.

Circular economy also transforming value chains

At the same time, new concepts such as product stewardship and the circular economy are also transforming the raw material value chain. The circular economy approach has the potential to deliver innovative solutions. It aims to ensure that the metal and mineral content that is already present in society and industry – in buildings, infrastructure or products – is preserved rather than discarded or allowed to dissipate at the end of useful life. However, though many metals are permanent materials, meaning they can be recycled almost endlessly, increasing demand will not be fed by recycling only, even at the highest rate, and primary raw materials production will always remain necessary to fill the demand gap. Additionally, there will also always be mineral raw materials that cannot be recycled, either because they are consumed in industrial or consumer use (e.g. graphite electrodes in electric arc furnaces), or because processing results in them becoming an integral, inseparable part of a product.

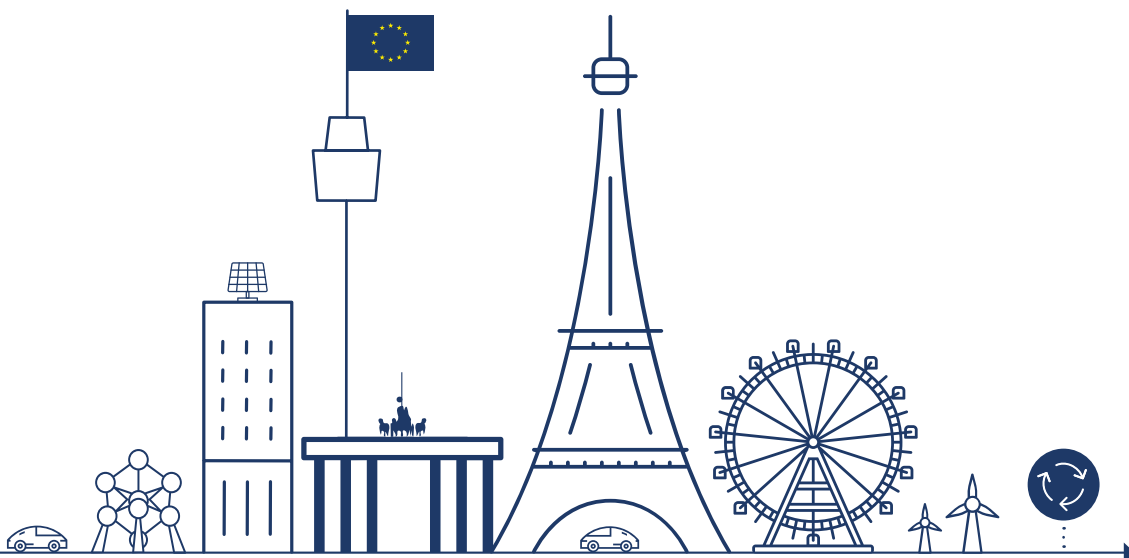


In other cases, including applications of rare earth elements, materials are difficult to recover and recycle because they are only present in products in very small quantities. But it is often precisely these minerals that are essential for the new, green materials, products and technologies that society is demanding. The overall demand for raw materials is growing, and recycling alone cannot supply the market – aluminium is a case in point. At the same, raw materials within products cannot be recycled as long as the products are in use, so primary production is required to meet demand.

New solutions needed

The overall effect of these developments has been to trigger an increase in demand for mineral raw materials. This has raised concerns regarding security of supply – i.e. the availability and cost – of such materials. Since recycling efforts will not be sufficient to feed the demand, supply of primary raw materials is irreplaceable. Therefore, a combined approach is indicated: fostering a circular economy while emphasising the importance of primary raw materials. The action areas identified below are intended to provide a starting point for establishing a future-proof raw materials policy in the age of the revival in raw materials.

**“Raw materials form the basis of our cities,
digitalisation and the European energy transition.”**



LED BY VALUES

The path to the future



The world is changing quickly, as yesterday's stability is rapidly replaced by today's international uncertainties. More than ever, the world needs a strong, self-confident and united Europe to maintain its position as an industrial leader and a driver of stability and prosperity. To meet the challenges Europe faces, technical solutions are required, but will not go far enough on their own: even more importantly, Europe must embrace new ways of thinking, re-define its core values and adapt its mindset. Because the way in which challenges are approached – the attitude taken when evaluating those that are most difficult, and whether consensus can be established across European society in how they are viewed – will determine whether a stable, prosperous future can be secured.

Therefore, our path to the future is informed by a two-pronged approach. The nucleus consists of the values “courage, consensus and sustainable thinking”, while the more technical areas surrounding the nucleus are divided into four domains: “Access & Trade”, “Innovation & Technology”, “Climate & Energy” and “Skills & Education”. The three ideas for core values and the 22 ideas in the technical areas together compile the 25 ideas for a future ‘Made in Europe’.



Technological
transformation and
innovation

Securing
access to raw
materials

OUR VALUES

Courage
Consensus
Sustainability

Global and EU energy,
climate and resource
efficiency policy

Skills &
education

THREE CORE VALUES FORM THE FOUNDATION ON WHICH ALL OF THE ACTION AREAS ARE BASED:

Courage

If we do not dare to take risks, there will be no reward. Deliberately looking beyond the horizon, taking a critical approach, and positive risk consciousness all have to become part of the European mindset. We can only compete globally if we demonstrate courage.

Consensus

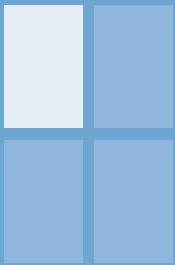
A joint vision can only be based on cooperation. Consensus on the principle of joint decision-making is needed to foster such cooperation. Participation, information exchange and resolute, coherent and clear goals are key enablers of achieving consensus. We also need to create a new focus on collaboration and cooperation between societal stakeholders in order to reach a broad-based understanding of how to shape Europe's future.

Sustainability

A complete approach to sustainability requires us to consider economic, environmental and social sustainability together. All three aspects need to be addressed with equal focus to ensure a sustainable industrial sector – a future that is 'Made in Europe'. A positive, open mindset is needed for a concerted effort so that industry in Europe moves from defence to offence, to be in the vanguard of global competitiveness. Raw materials need to be seen in the full context of their value chains, as the basis of a modern, sustainable society.

1. AREA OF ACTION: 6 OUT OF 25 IDEAS

Technological transformation and innovation



Challenges, opportunities and goals for transformation

The products required by industrial consumers are being designed and manufactured under what is termed Industry 4.0. Digitalisation is also transforming the mining industry – so that we also speak of Mining 4.0 – where for example sensors and knowledge tracking offer higher resource and energy efficiency. Meanwhile, new products are becoming increasingly complex. Raw materials compositions of products will most likely form the critical constituent of the EU's knowledge and scientific capability in the future. Innovation is taking place at every different level, with product, process and systems innovation having equal potential to contribute to industrial transformation.

Source: CEPS White Paper 'Value Chains based on Mineral Raw Materials Challenges for European Policy and Industry', February 2018

SOLUTION APPROACHES

I. Open innovation labs for specific target groups

Innovation is affecting all groups of society. Digitalisation does not only present opportunities – it may trigger fears and uncertainties among Europe's citizens, and in particular in the European workforce. To engender a better understanding of innovation, and digitalisation in particular as well as its necessity beyond industrial or research environments, the raw materials industry and its partners could host open innovation labs. These labs can be specifically targeted to a diverse range of groups, for example elderly people, inhabitants of rural areas, and lower-income citizens.

II. Intensify materials research

Innovation and new technologies are required in order to directly address the needs for substitution of critical raw materials, a better recycling strategy and remodelled trade agreements. To this end, industry should support research projects related to identifying raw material bottlenecks by way of in-depth value chain analysis, and developing solutions that are economically and environmentally viable. The starting point should always be comparison with conventional technologies in terms of environmental footprint, economic efficiency and social impacts.

III. Adapting legal frameworks

Legislation should facilitate innovation. Competition is vital to flourishing industry in Europe, and should remain a top priority. In addition, it must be ensured that competition law allows the establishment and development of research partnerships.

IV. Innovation as disruption

Up to now, economic, environmental and social factors (as well as ideology) have defined policy. Innovation can be seen as a disruptive factor, delivering solutions that satisfy concerns in all three areas together. Through innovation, efficiency, environmental protection and social action can be achieved.

V. Financial incentives for innovation

Investments in research and development should be compensated with financial incentives such as tax breaks and easier access to targeted funds. Even though a wide range of funding opportunities already exist, substantial further private and public funds need to be raised in order to withstand global competition. The introduction of the EU's new multiannual financial framework (MFF) provides a window of opportunity to provide funding for breakthrough technologies, serving as the seedbed for disruptive innovation.

VI. Rethink innovation development

Employees need to be part of a company's innovation narrative from the very beginning. There are various examples of how to provide concrete opportunities for co-creative participation in innovation processes, incorporating new work, innovative work or co-creation processes. Active innovation development also enables better understanding of knowledge-centred processes, an indispensable benefit in the digital age.



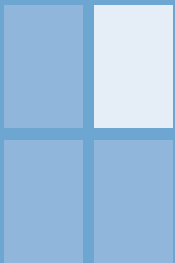
IDEA

Innovation sandboxes

Often, innovative ideas come up against the limitations of regulatory reality. So clearly defined ‘sandboxes’ – incubator spaces for relatively complex exploration and experimentation within fixed constraints – would allow individuals and organisations to develop and prototype their ideas without the constraints of regulations designed to apply to markets. The sandbox model can be applied for a certain timeframe, after which outcomes are subjected to close scrutiny and can serve as inputs for the policy-making process.



Securing access to raw materials



Challenges, opportunities and goals for transformation

Increased quantities of mineral raw materials will be required for the transformation to a low-carbon economy to be a success. This has raised concerns regarding security of supply – i.e. the availability and cost – of such materials. The EU needs to defend its position as a manufacturer and supplier of high-quality, technologically advanced goods and adapt its policies to resource-rich regions where necessary. In order to meet society's demands, the EU must find a strategy to secure access to mineral resources, increase RD&I activities in processing and recycling, and negotiate future-oriented trade agreements, which match the projected demand of industry and thereby consumers.

Source: CEPS White Paper 'Value Chains based on Mineral Raw Materials Challenges for European Policy and Industry', February 2018

SOLUTION APPROACHES

I. Long-term supply of raw materials from primary and secondary sources

Europe must take active measures in order to boost overall resource efficiency and raw materials supplies without waiting for increased demand to be felt. First, securing long-term access to Europe's own geological deposits will be a decisive factor in the future resilience of industry, as it will alleviate the continent's relative import dependence. Second, maintaining strategic partnerships helps to insure access to raw materials on global markets. From the perspective of sustainability and environmental conservation, establishing more responsible and environmentally-friendly use of primary resources will make a definite contribution to achieving the objectives of increasing the lifespan and availability of raw materials.

II. Reconsidering the European criteria for critical raw materials

The EU needs to review the classification of critical raw materials and adjust it to the challenges of today, providing solutions for complex products and innovation. The criteria of economic importance and supply risk may not be sufficient. A solution could be to add further criteria to better reflect the complexity of this issue. E.g. add an exact risk- and science-based definition for the selection of borderlines between critical and non-critical raw materials. Or to take into account and use raw materials that can be recovered from industrial residues and that are not considered accordingly so far, e.g. gallium, germanium and indium. Furthermore, there is a pressing need for certainty on what the true value and benefits of a substance being classified as a critical raw material (CRM) may be. Therefore, a refined definition of CRMs should be supported by a set of clear rules on actions to be implemented as a result of a substance being included in the CRM list.

III. European industry leading the way

The European raw materials industry needs to be more proactive in moving from defence to offence in order to conquer the world market. The industry itself should identify key sectors as its asset portfolio, and adopt a clear long-term strategy that also allows the

emergence of new venture areas. Risk and venture capital as well as a range of crowd-funding tools may help to improve access to capital, while aligning funding with long-term objectives. Furthermore, greater political support at national level (as well as at the EU level) is required in order to further improve infrastructure and mobility, for instance development of road and rail infrastructure and successful implementation of the EU e-mobility strategy, to further foster a well-functioning single market.

IV. Multi-level and cross-sectoral cooperation

Securing access to greater volumes of materials through resource efficiency is a joint goal that can only be reached with the participation of all stakeholders along the industrial and consumer value chains, as well as new alliances with policy-makers, NGOs, industry and research institutions. Extensive information exchange needs to take place at conferences, within associations and at regular stakeholder meetings. Cross-industry interfaces and platforms can support the development and maintenance of new approaches to improve better planning, production and logistics, as well as to prevent and reduce waste and minimise material losses.

V. Fair global competition and trade practices

A new, flexible and 'living' definition of fair trade is needed that has clear core principles but also allows for adaptation over time. It should permit the co-existence of different perspectives on fair trade that do not contradict but complement and support each other. First, we need to define the characteristics of fair trade that are unquestionable, for example basic human and civil rights. At the same time, commonly defined principles, such as responsible sourcing, need to be respected alongside the cultural, historical, societal and economic backgrounds of different EU member states and industries within different countries. Fair competition and trade practices need to be guaranteed not only in respect of member states, but even more importantly between the EU and its trade partners.

VI. Legislation that supports competition

Policy and legislative processes need to underpin the competitiveness of industry when it comes to access to and trading in raw materials, by means of harmonisation and bottom-up orientation. A cumulative impact assessment, which evaluates the impact of multiple policies, should form the basis for a comprehensive EU industrial policy which coordinates the individual policies and ensures a level playing field. This will only be possible with a consolidated vision across Europe, and a clear understanding of the needs and capacities of each member state and region, as well as the synergies they bring to the EU's internal market. This might require more institutionalised consultation processes with the European Economic and Social Committee (EESC).

The current legislation should be replaced with greater consultation of individual regions and strengthened national responsibility, as well as encouragement of information exchange between countries.



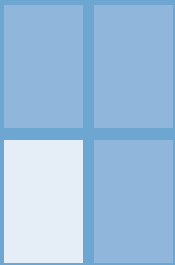
IDEA

Harmonisation of end-of-waste criteria

Ensuring sustainable access to raw materials partly depends on how successfully the EU is able to establish a properly functioning circular economy. The transition towards a circular economy will, however, only make headway if we adopt common approaches to recycling and waste management. Currently, individual countries apply different interpretations of the provisions of European legislation, e.g. for instance end-of-waste (EoW) criteria. A harmonised interpretation of EoW criteria among member states regarding the recycling of refractory bricks at the earliest stage possible would create better conditions for facilitating the circular economy.



Global and EU energy, climate and resource efficiency policy



Challenges, opportunities and goals for transformation

Marrying Europe's decarbonisation targets with boosting the competitiveness of European industry poses a major challenge to policy-makers and industry alike. The energy sector needs to achieve an energy transition in the coming years, producing lower carbon emissions by using more green energy resources, as well supplying an increased amount of power. Without appropriate measures, there is no doubt that compliance with climate change policy will affect energy generation costs and prices. To preserve the competitiveness of many industrial sectors, a truly global agreement needs to be reached, whereby competing industries are subject to equivalent carbon constraints. Potentially, solutions such as the circular economy concept can be fostered to encourage further uptake of innovative approaches.

Source: CEPS White Paper 'Value Chains based on Mineral Raw Materials Challenges for European Policy and Industry', February 2018

SOLUTION APPROACHES

I. The energy transition as an opportunity for collaboration

The transition to a low-carbon society that is mainly powered by renewable energy has not yet been realised. But it could provide a window of opportunity for strengthening cooperation. The transition is already reshaping European society and industry in fundamental ways and will continue to do so with greater impact in the future. If done well, by coordinating climate change and industry policy, the transition could create new opportunities for European businesses, giving rise to European champions that will disrupt the world market. For this to happen, industrial sectors must be seen as partners, so that policy frameworks are worked out using collaborative and joint approaches. EUMICON has therefore committed itself to the Paris Agreement and is ready to collaborate on developing solutions for tomorrow.

II. Sustainability impact assessments

Policy measures aimed at ensuring the sustainability of industrial value chains should be assessed in terms of their impact on a future that is 'Made in Europe'. Some measures, especially in the field of climate change policy, require global approaches in order to maintain competitiveness. At the same time, Europe and European industry can be bold and lead with ambition in the fields of energy and resource efficiency.

III. A policy framework that supports urban mining

A sustainable approach must consider a range of potential ways to reduce carbon dioxide emissions, across different policy areas. Cities and infrastructure are filled with raw materials that have the potential to be recycled to keep their value. 'Urban mining' of specific products (for example aluminium products) can increase recycling, extend the lifespan of raw materials and realise additional carbon emission reductions. A regulatory framework that supports this and an incentive-based policy regime could give breakthrough pilot cases the required momentum.

IV. Policy KPIs: holistic sustainability and efficiency in every area

A new way to monitor performance: introduce specific key performance indicators (KPIs) that monitor the implementation of policies and their impact on sustainability from a holistic perspective. The KPI methodology should also comprise an ex ante use-of-potential analysis, as well as an indicator of the impact on a global competitiveness index. Commitment to holistic sustainability, and efficiency (in energy and raw materials consumption), by all stakeholders is required.

V. Strengthen the dialogue

The raw materials industry is often a key pillar of the communities it operates in, providing jobs – often in rural areas – and creating a favourable environment for further jobs and other businesses. So active dialogue at the local level should always be maintained, to strengthen the acceptance of the industry in the areas in which it operates. Furthermore, extended dialogue is required along the value chain to increase the awareness of the use of raw materials. This dialogue must include relevant NGOs and other societal stakeholders. The European industrial fabric can only have a resilient future given a broad consensus on the sustainable sourcing and use of raw materials.



IDEA

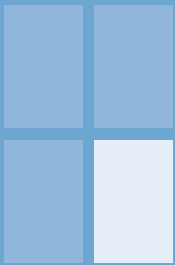
H2FUTURE: CO₂-free hydrogen for low-carbon steel made in Europe

An EU-funded flagship project is taking shape that could usher in reduced carbon dioxide emissions in energy generation and the decarbonisation of steel production. A consortium of European companies will build the world's largest pilot facility for the production of 'green' hydrogen, in Austria. With a capacity of 6 megawatts, it will be the most effective and advanced plant of its type. Project partners from industry and power generation will use the facility to conduct research into future breakthrough technologies that are needed in order to meet global climate goals over the long-term. The plant is scheduled to be fully operational by spring 2019.



4. AREA OF ACTION: 5 OUT OF 25 IDEAS

Skills & employment



Challenges, opportunities and goals for transformation

Knowledge and skills are vital to competitiveness, growth and employment. As the digital revolution affects all stages and processes of the industrial value chain, it will also have transformational effects on industry's modes of operation and on technical standards. This will ultimately require new approaches to education and training. Employment and employability will depend upon the transition to new skill sets.

These developments pose huge challenges to traditional education. It is far from certain that the higher education system will continue to transfer the right sets of skills and knowledge required in the future world of work. We need to find the right methods to realign education over the long term and to implement flexible short-term reskilling where needed. At the same time, combating the talent shortage remains a key issue. It looks as though only a holistic approach will be able to solve the conundrum of providing new skills for a new world.

Source: CEPS White Paper 'Value Chains based on Mineral Raw Materials Challenges for European Policy and Industry', February 2018

SOLUTION APPROACHES

I. The right framework for continuous reskilling

Lifelong learning needs to be supported by the right framework in the form of diverse, interesting and targeted education and training opportunities, as well as support from employers. One potentially fruitful model is the 'education account': an employee receives an individual account containing credits that can be used flexibly to develop their skill set. Another solution views the place of work as the best environment for continuing education. A shift in team settings, towards inter-disciplinary, international teams could lead to an overall advance in the working environment that is more conducive to developing new and different skills.

II. A holistic skill set beats rigid education

Providing high-quality education and training in the right skills empowers individuals. Frustration tolerance, persistence, taking enjoyment in activities and awareness of problems could all be seen as essential skills. Potential analysis – helping citizens discover their individual talents – can help to create a broad

distribution of skills. Employees will need to develop a combination of IT skills and process knowledge. If individuals can use holistic, interdisciplinary thinking to approach material transformation, this can replace process and machine knowledge, and workers will have a strategic advantage.

III. New approaches to fostering continuous exchange between industry and education

Spending a mandatory year in industry could become part of standard training for teachers and lecturers of technical subjects, while also making it easier for professionals from industry to join education (e.g. with a shortened period of training). Sabbaticals for industry professionals lasting one to two years would allow them to take time out and engage in teaching, lecturing or research. Conversely, academic education should include mandatory industry experiences to strengthen mutual understanding. Another option is an online platform that combines vacancies at companies and educational institutions. Applied to schools, this could display the opportunities offered by companies and vice versa.

IV. Forging alliances in education, research and development

Cooperation helps to strengthen the educational system and to bring industry closer to students and academics. Companies and schools or universities should be able to forge alliances. The best alliances could be recognised for their achievements by means of a dedicated award. In the course of regular workshops, annual meetings or exchange programmes, the partners could identify and solve problems in collaboration. This would require a dedicated budget for establishing research and development initiatives.

V. Mixing educational methods: simulation is key

Education of the future needs to be based on a broad mix of methods including online tutorials, project work, varying academic approaches, entrepreneurial thinking (e.g. company simulations), game-based learning, experiments, excursions and self-reflection. Digital opportunities, from online materials to massive open online courses (MOOCs), must be included in all curricula. Software simulations are already substituting laboratory work. Having the skills required to master complex situations and to perform in simulation environments will be a competitive advantage.



IDEA

No smartphone without complex raw materials

At schools and universities there is often a lack of understanding of the raw materials value chain and its leading role in the economy. A simple example is the composition of a modern smartphone – investigating this and identifying e.g. the non-ferrous metals a smartphone contains is a highly informative activity. Modern mobile phones have extremely high raw material complexity, meaning they provide an excellent illustration.



Stakeholder dialogue

Timed to coincide with the Austrian Presidency of the Council of the European Union in 2018, EUMICON initiated a Europe-wide stakeholder dialogue to identify the primary challenges and opportunities for the raw materials industry and its value chains. Out of 115 ideas and solutions collected as insights from high-level stakeholder workshops, the most promising were distilled to form the basis of the Raw Materials Charter.



[OUR STARTING POINT](#)

CEPS White Paper

As a starting point for discussion, the Centre of European Policy Studies (CEPS), a respected EU think tank, produced a white paper entitled “Value Chains based on Mineral Raw Materials: Challenges for European Policy and Industry”.



Design Thinking Stakeholder Workshops

Following publication of the white paper, EUMICON hosted Design Thinking workshops which explored the topics of “Skills & Employment” (Vienna), “Climate & Energy” (Brussels), “Access & Trade” (Sofia), “Innovation & Technology” (Berlin). Ideas and potential solutions generated in the workshops were collected to take to the next stage of the process.

113

Workshop
participants

778

Stakeholders
involved

4

Locations

📍 Vienna

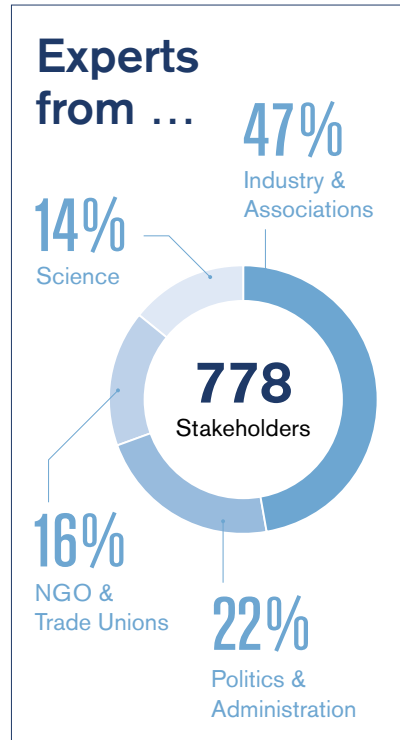


February 2018

📍 Brussels



March 2018



📍 Sofia



May 2018



Berlin

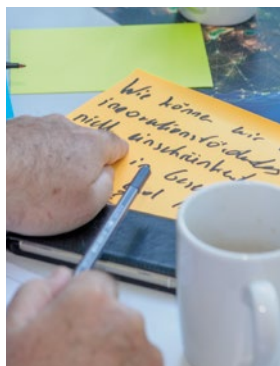
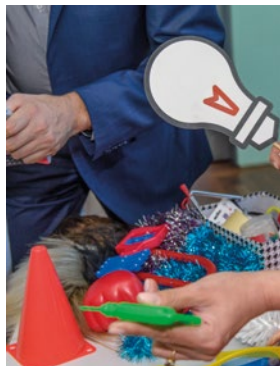


June 2018

EUMICON Raw Materials Charter 2018

115
Insights collected







Imprint

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