

#innovacion
#financiacion
#asesoramiento
#internacionalizacion

REMIX Mining Conference
Valladolid, 21 marzo 2018



From Policy to Implementation

R & I, instrument and opportunity

Lydia González
H2020-SC5
CDTI

Index

- Context
- R&I Possibilities / Programmes
- A couple of examples
- Conclusion

Europe 2020¹

2030 Framework for CLIMATE and ENERGY policies →

- Reducing greenhouse gas emissions by 40%
- Increasing the share of renewable energy to at least 27%
- Increasing energy efficiency by 30%

2050 Low Carbon economy² →

- By 2050, the EU should cut emissions to 80% compared to 1990 levels by 2050 and 60% by 2040. The transition should be socially just, feasible & affordable.

Conclusions
COP21

Sustainable
Development
Goals (SDGs)

EU Raw Materials Initiative →

Securing sustainable supplies of raw materials

New CIRCULAR ECONOMY package (02/12/2015)³ →

- EU Action Plan (funding, ecodesign, strategy on plastics, reduction of food waste and marine litter, water, etc).
- Legislative proposals on waste (new targets, landfilling reduction, etc).

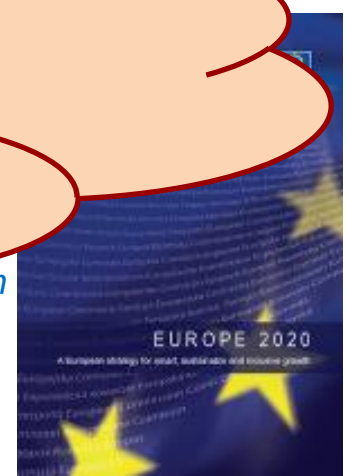
than 1990

and social exclusion

¹COM(2010) 2010, Brussels, 3.3.2010; http://ec.europa.eu/europe2020/index_es.htm

² http://ec.europa.eu/clima/policies/strategies/2050/index_en.htm

³ http://ec.europa.eu/environment/circular-economy/index_en.htm



17 Sustainable Development Goals (SDGs)



SUSTAINABLE DEVELOPMENT
KNOWLEDGE PLATFORM



HOME

SDGS

TOPICS

HIGH-LEVEL POLITICAL FORUM

PROCESSES & UN SYSTEM

STAKEHOLDER ENGAGEMENT

PARTNERSHIPS

RESOURCES

ABOUT

Sustainable Development Goals



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Raw Materials: R&I in Europe

EIP on
Raw Materials

Raw Materials
Commitments

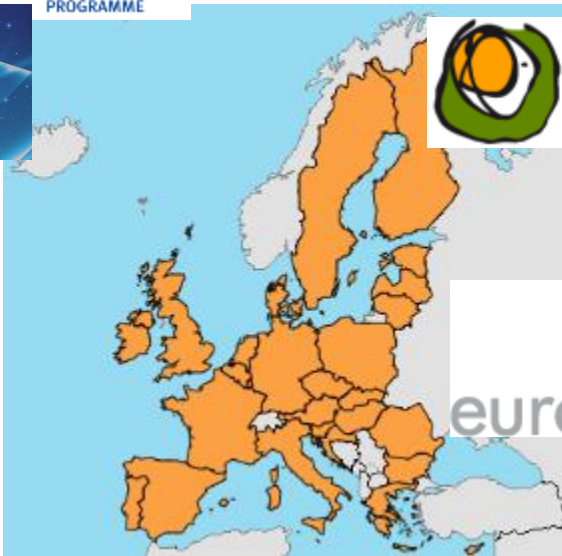
HORIZON
2020

ERAMIN
ERAMIN-2

National and
Regional
Programmes



PPP SPIRE
Sustainable
Process
Industry



Interreg
Europe

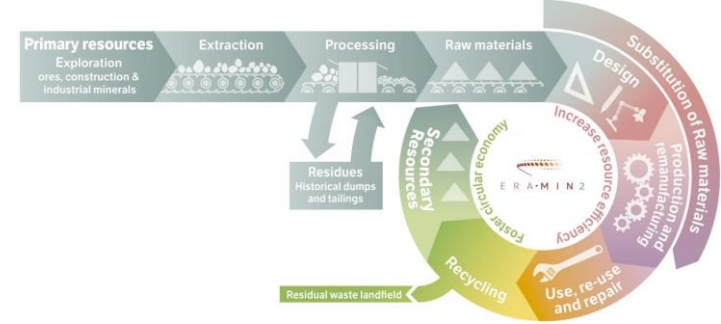


European Union | European Regional Development Fund



and...others

ERAMIN-2



- **Research and innovation** programme on **raw materials** to foster **circular economy**
- **ERAMIN-2** cover the **whole value chain**: exploration, extraction, processing/refining, recycling and substitution.
- **Topics** based on the **ERA-MIN Research Agenda** and in line with the integrated strategy proposed in the **EU Raw Materials Initiative (RMI)** and the **Strategic Implementation Plan (SIP) of the EIP-Raw Materials**.

EIT – RawMaterials



challenge of
raw materials dependence



strategic strength for Europe

- Bridging **business, research and education**
- **Driving and fostering innovation** all along the raw materials value chain
- **Empowering students, entrepreneurs and education partners** driving towards the circular economy

LIFE

LIFE is the EU's financial instrument supporting **environmental, nature conservation and climate action projects** throughout the EU.

An example...

PROYECTO LIFE-ETAD
Ecological Treatment of Acid Drainage
LIFE-ETAD. LIFE 12/ENV/ES/000250

Inicio Proyecto Avance del proyecto Drenajes Ácidos de Minas (AMD) Faja Pirítica Ibérica (FPI) Río Odiel Descargas Galería Prensa Enlaces

Usted está aquí: Inicio

Objetivo
Implementar un diseño y proceso optimizado de un sistema de tratamiento pasivo de drenajes ácidos de mina; en una localización minera tipo de la FPI.

Estado del proyecto
El noviembre de 2015 comenzaron las obras de la planta de tratamiento de aguas de drenajes ácidos de minas. Esta planta se ubica en la aldea de Mina Concepción, en el mun

Noticias
[Un video explica la historia minera en la provincia onubense y el proyecto de depuración de aguas afectadas por esta industria](#)

Área Privada
Usuario:
Contraseña:

Sacyr Construcción
Universidad de Huelva
Agencia de Medio Ambiente y Agua
CONSEJERÍA DE MEDIO AMBIENTE Y ORDENACIÓN DEL TERRITORIO

<http://www.life-etad.com/index.php/es/>

INTERREG

[Interreg Europe](#) helps regional and local governments across Europe to develop and deliver better policy.



[Inicio](#) [El proyecto](#) [Socios](#) [Comunicación](#) [Red de trabajo](#) [Documentos](#) [Enlaces](#) | [ES](#)



EL PROYECTO

<https://www.esmimet.eu/>

Qué es el proyecto POCTEP ESMIMET



Objetivos

El objetivo del Proyecto es generar una red de conocimiento científico-técnico y de I+D+i en torno al desarrollo de las capacidades de minería metálica de la franja fronteriza entre las 3 regiones participantes...

[Leer más](#) →



Acciones

Ejecución de las siguientes acciones encuadradas en el plan de ejecución del proyecto: Preparación del proyecto, Estudio del potencial presente y futuro de la minería metálica...

[Leer más](#) →



Resultados esperados

Los resultados previstos del Proyecto son: Identificación del 100% del potencial minero actual y futuro en el territorio considerado, Formación de una red de trabajo...

[Leer más](#) →

ES projects funded by CDTI

SOME EXAMPLES:

- **Valoriza Minería SL** → “Desarrollo de un Sistema Prototipo Automatizado de Perforación Vertical de Barrenos para su Aplicación en la Industria Minera”
- **Calaf Trenching SL** → “Eco-quarrying by Nextrencher”
- **Obras Subterráneas SA** → “Nuevo Dispositivo para Geolocalización y Mantenimiento en Maquinaria en Túneles y Minería de Interior”
- **Granygris SL** → “Reduex - Nuevo Proceso para la Extracción de Bloques Comerciales en Canteras Reduciendo el Uso de Explosivos”

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Raw Materials: R&I in Europe

**EIP on
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**HORIZON
2020**

**ERAMIN
ERAMIN-2**

**National and
Regional
Programmes**



**Interreg
Europe**

European Union | European Regional Development Fund



||o



||i



RawMaterials
Connecting matters



European Technology Platform
on Sustainable Mineral Resources



planeta
Plataforma de Tecnologías
Ambientales

PPP SPIRE
Sustainable
Process
Industry

SusChem
European Technology Platform For
SUSTAINABLE CHEMISTRY

SusChem 10 años
ESPAÑA
Plataforma Tecnológica Española
de QUÍMICA SOSTENIBLE

COMINROC
Confederación de Industrias Extractivas de Rocas y Minerales Industriales

euromines

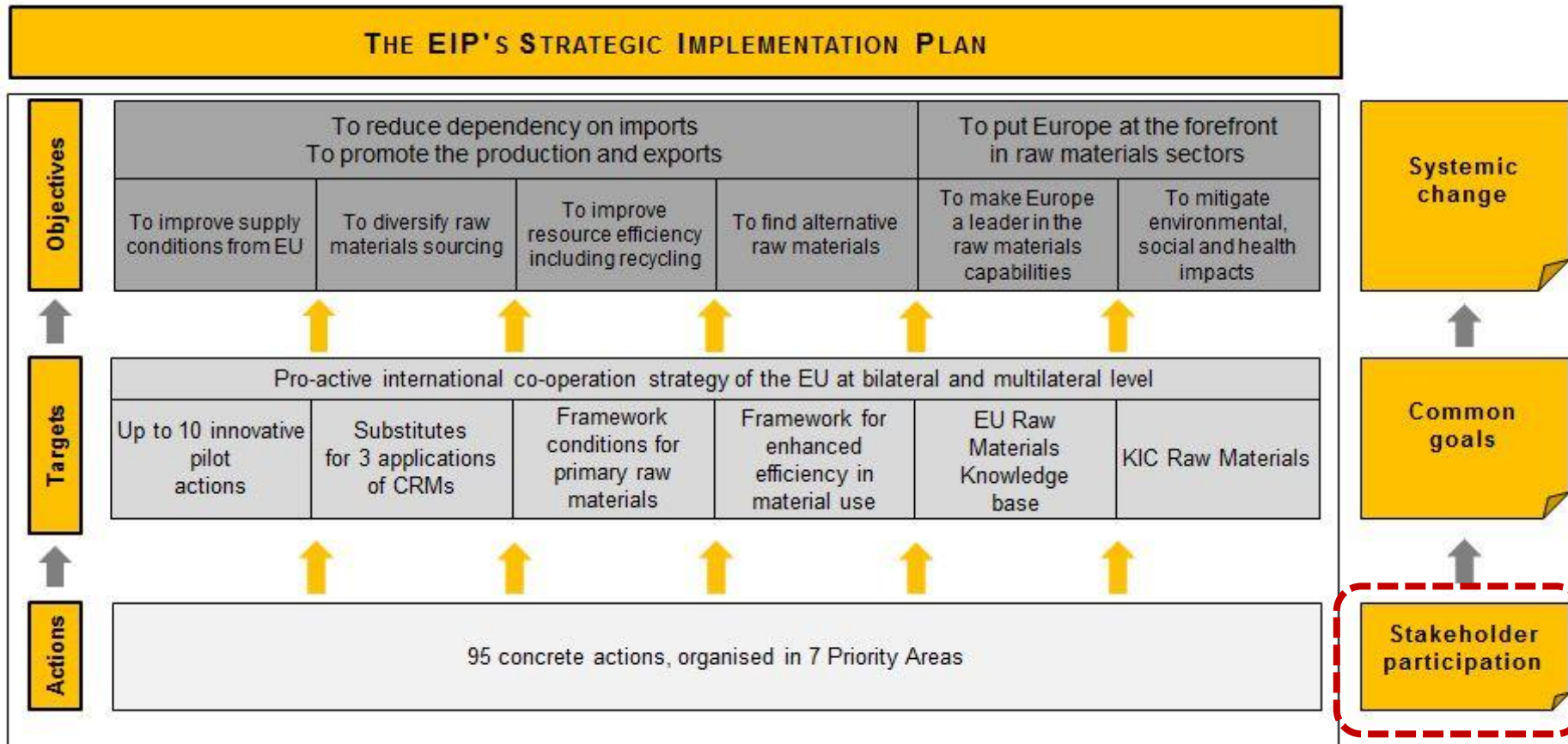
CONFEDEM



eurostars™

and...others

EIP's Strategic Implementation Plan



Calls for Commitments

Commitments are voluntary joint undertakings that commit to implementing the SIP's actions and targets, delivering tangible results such as innovative actions or pilots, strategic documents or knowledge sharing activities.

- Calls for Commitments.-
 - **1st Call for Commitments** (2013) = **76 active**
 - **2nd Call for Commitments** (2015) = **47 endorsed**
- In total, **980 unique partners** from more than **50 different countries** and have an **indicative budget** of **close to €2 billion**.
- **ES** is the country with the **highest number of entities participating** in commitments.
 - **Commitments** coordinated by **ES** → **17**
- **Next calls**in short.

Calls for Commitments



Search the commitments

Displaying 1 - 10 of 123

Title

Acronym

Links to the Strategic Implementation Plan

Full search

Title ▲	Acronym	Period to implement the commitment	Country
3DS European Mineral Asset Definition and Valuation System	EUROASSET	01/01/2015 to 31/12/2018	United Kingdom
Africa-EU-Latin America Raw Materials Platform Kandandu	AELPK	01/06/2014 to 31/12/2018	Portugal
Balancing Regulations, Innovation and Trade in the EU	BRITE	07/02/2014 to 07/02/2019	France
Before it's yours we mine it	WEMINEIT	01/02/2016 to 31/12/2017	Europe
Biodiversity IMA tool	BioDIMA	15/03/2016 to 15/03/2020	Europe
BioMOre: An Alternative Mining Concept - Raw Materials Commitment	BioMOre	01/01/2015 to 31/12/2018	United Kingdom
BRAVO - Bauxite Residue and Aluminium Valorisation Operations	BRAVO	01/02/2014 to 12/12/2020	Ireland
Breakthrough Solutions for Seafloor Mineral Extraction and Processing in deep water environment	SeaFlores	20/03/2018	France
Breakthrough Solutions for the Sustainable Harvesting and Processing of Deep Sea Polymetallic Nodules	Blue Nodules	01/02/2016 to 01/02/2020	Netherlands
Building a harmonized European database on natural stones for the use of construction and restoration stakeholders.	NATUREUROSTONES	01/07/2016 to 01/07/2018	Spain

Raw Materials: R&I in Europe

EIP on
Raw Materials



PPP SPIRE
Sustainable
Process
Industry

Raw Materials
Commitments



ERAMIN
ERAMIN-2



National and
Regional
Programmes



Interreg
Europe



European Union | European Regional Development Fund



and...others

What is Horizon 2020?

**Budget
74.828 M€**

**Focus on
Societal Challenges**

**Defined topics
("top-down")***

**Different
Instruments (RIAs,
IAs, CSAs, PCPs...)**

HORIZON 2020
EU Research and Innovation
Framework Programme (2014-2020)

**International
Cooperation**

**Collaborative
Projects***

Europe 2020

PROGRAMME

CDTI Centro para el Desarrollo Tecnológico Industrial | E.P.E.



<http://ec.europa.eu/programmes/horizon2020/en>

* Some exceptions- MSCAs or SME Instrument

Raw Materials in H2020

- Aligned with the **SIP** of the **EIP-Raw Materials**.
- **Non-energy, non-agricultural raw materials**.
- Topics on the 3 EIP's pillars:
 - **Technological pillar**
 - **Non-technological pillar**
 - **International cooperation**
- Topics along the entire value chain of raw materials:
Exploration, Extraction, Processing, Recycling and Substitution
- All type of actions: **RIAs, IAs, CSAs and ERANETs**

Instrumentos ("Types of Action")

Type of Action	Description	Elegibility
RIA	<p>“.....activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution.they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment. Projects may contain <u>limited demonstration or pilot activities...</u>”</p>	<p>At least 3 <u>legal entities</u> (independent of each other), from 3 <u>different EU member state or H2020 associated country.</u></p>
IA	<p>“.....activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication. Projects may include <u>limited research and development activities</u>”</p>	
CSA	<p>“.....accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and..... and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.</p>	<p>At least 1 <u>legal entity</u> from 1 EU Member State or H2020 associated country.</p>

+...otros (ver Annex C y D)

H2020 – Tasas de cofinanciación

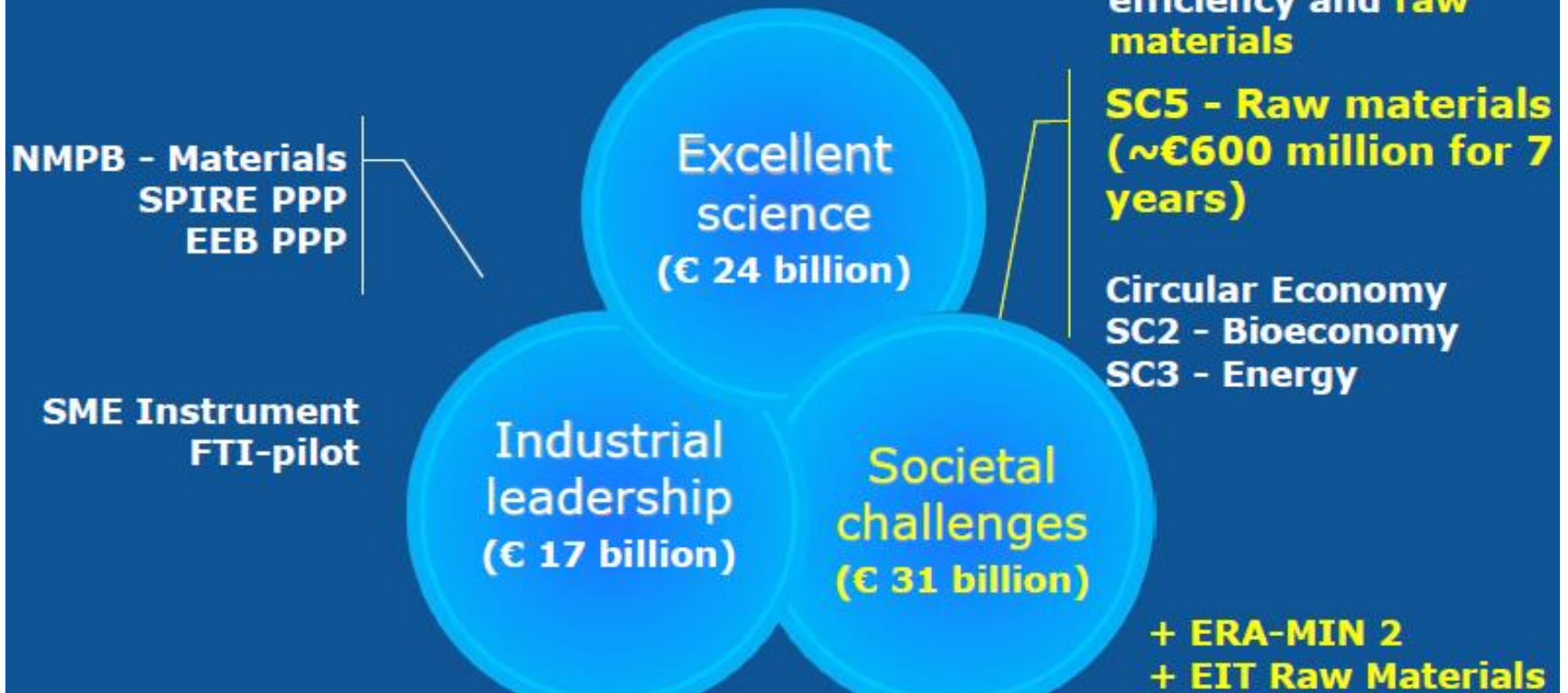
	Actividades	Tipo de Participantes	
	Costes Indirectos (% costes directos, sin subcontratación)		25%
% Financiación	Research and Innovation Actions (RIAs) + Coordination and Support Actions (CSAs)	Universidades/ Centros Investigación/ Otros «non profit»	100%
		Empresas (grandes)	100%
		PYME	100%
	Innovation Actions (IAs)	Universidades/ Centros Investigación/ Otros «non profit»	100%
		Empresas (grandes)	70%
		PYME	70%

H2020 budget

HORIZONTE 2020		74.828
I. Prioridad «Ciencia excelente»		24.232
1. El Consejo Europeo de Investigación (CEI)		13.095
2. Las Tecnologías Futuras y Emergentes (FET)		2.585
3. Las acciones Marie Skłodowska-Curie		6.162
4. Las infraestructuras de investigación		2.390
II. Prioridad «Liderazgo industrial»		16.466
1. Liderazgo en tecnologías industriales y de capacitación:		13.035
1.1 Tecnologías de la información y la comunicación (TIC)		7.423
1.2 Nanotecnologías, 1.3 Materiales avanzados y 1.5 Fabricación y transformación avanzadas		3.741
1.4 Biotecnología		501
1.6 Espacio		1.403
2. Acceso a la financiación de riesgo		2.842
3. Innovación en las PYME		589
III. Prioridad «Retos de la sociedad»		28.630
1. Salud, cambio demográfico y bienestar		7.257
2. Seguridad alimentaria, agricultura y silvicultura sostenibles, investigación marina, marítima y de aguas interiores y Bioeconomía		3.708
3. Energía segura, limpia y eficiente		5.688
4. Transporte inteligente, ecológico e integrado		6.149
5. Acción por el clima, medio ambiente, eficiencia de los recursos y materias primas		2.956
6. Europa en un mundo cambiante – Sociedades inclusivas, innovadoras y reflexivas		1.258
7. Sociedades seguras – Proteger la libertad y la seguridad de Europa y de sus ciudadanos		1.613
IV. Difundir la excelencia y ampliar la participación		816
V. Ciencia con y para la sociedad		445
VI. Acciones directas no nucleares del Centro Común de Investigación (JRC)		1.856
VII. Instituto Europeo de Innovación y Tecnología (EIT)		2.383

Horizon 2020 Context and overview

Topics relevant to raw materials



M.Gómez, Jornada Presentación Convocatorias 2018 (Madrid, 14/11/2017)

Horizon 2020 (2014- 2017)

- 48 projects on SC5 – Raw Materials
- More under SC5 – Waste, NMBP, SC2, and other areas



Raw Materials: SC5 – H2020

INTRODUCTION

- Ultimately, the actions are expected **to contribute to the implementing the Sustainable Development Goals (SDGs), notably SDG 12** 'Ensure sustainable consumption and production patterns'.
- The main focusis on **securing the supply of minerals and metals** through **sustainable innovative production technologies** for primary and secondary raw materials
-**large innovative pilot actions** at higher TRL levels (6-8) will be launched **to demonstrate viability of cost-effective, environmentally sound and safe production** of primary and secondary raw materials and to unlock a substantial volume of various raw materials within the EU.
- **Co-ordination and support actions** will target different parts of the raw materials value chainincluding the **framework conditions for sustainable primary and secondary raw materials** production that would provide a stable and competitive supply from the EU sources;; **better co-ordination of the Member States' research and innovation programmes and funded activities**; as well as international co-operation with countries producing and using raw materials.

Some details in the topics

- define **Social Licence to Operate (SLO)** guidelines and develop a toolbox improving communication and transparency during the permitting and licensing procedures and in the production cycle by mobilising all the concerned EU's stakeholderswhich can be affected by a mining project;
- assess **health, safety and environmental risks and their management** for all proposed actions to **avoid environmental damage and maintain overall environmental stability**;
- **improving the environmental performance of the operations**, including a reduction in waste and emissions generation and a better recovery of resources from generated waste;
- **improving the awareness, acceptance and trust of society in a sustainable raw materials production in the EU**;

Raw Materials: SC5 – H2020

“Topics” (Research and Innovation Actions and Innovation Actions)

SC5-11-2014/2015. New solutions for sustainable production of primary raw materials (Research and Innovation Actions)

- a) New exploration technologies and geomodels
- b) Mining of small deposits and alternative mining
- c) Deep mining on continent and in sea-bed
- d) Flexible processing technologies
- e) New metallurgical systems

SC5-13-2016/2017: New solutions for sustainable production of raw materials (Research and Innovation Actions)

- a) Sustainable selective low impact mining
- b) New technologies for the enhanced recovery of by-products
- c) New sensitive exploration techniques

SC5-14-2016/2017: Raw materials Innovation actions [pilots demonstrating clean and sustainable production] (Innovation Actions)

- a) Intelligent mining on land
- b) Processing of lower grade and/or complex primary and/or secondary raw materials in the most sustainable ways
- c) Sustainable metallurgical processes

Raw Materials: SC5 – H2020

“Topics” (Research and Innovation Actions and Innovation Actions)

CE-SC5-06-2018: New technologies for the enhanced recovery of by-products
(Research and Innovation Actions)

CE-SC5-07-2018-2019-2020: Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes (Innovation Actions)

- a) Sustainable processing and refining of primary and/or secondary raw materials (2018, 2019)
- b) Recycling of raw materials from end-of-life products (2018, 2019)
- c) Recycling of raw materials from buildings (2018, 2019)
- d) Advanced sorting systems for high-performance recycling of complex end-of-life products (2018, 2019)

SC5-09-2018-2019: New solutions for the sustainable production of raw materials
(Research and Innovation Actions)

- a) Breakthrough concepts and solutions for sustainable exploration, mining and/or processing (2018)
- b) Digital mine (2019)
- c) Recovery of metals and minerals from sea resources (2019)

Raw Materials: SC5 – H2020

“Topics” (Coordination and Support Actions)

SC5-13-2014/2015. Coordinating and supporting raw materials R&I

- a) Mineral deposits of public importance
- c) Innovation friendly minerals policy framework
- d) - f).....

SC5-15-2016/2017: Raw materials policy support actions

- a) - b) ...f)
- c) Optimising collection of raw materials data in Member States
- d) Linking land use planning policies to national mineral policies
- e) EU network of mining and metallurgy regions

SC5-16-2016/2017: Raw materials international cooperation →

- a) Demand-supply forecast and raw materials flows at global level
- b) Advancing the idea of a World Forum on Raw Materials
- c) International network of raw materials training centres

CE-SC5-08-2018-2019-2020: Raw materials policy support actions for the circular economy

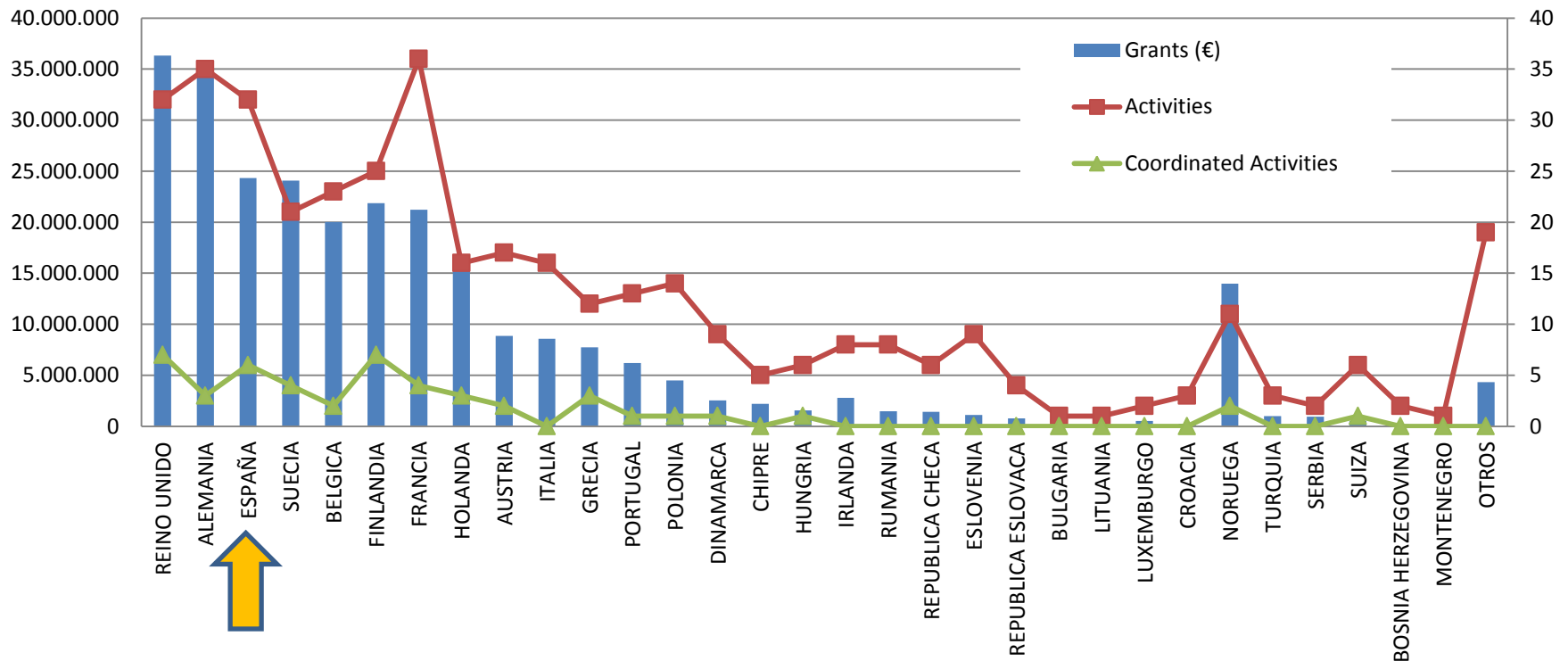
- a) - b)
- c) **Responsible sourcing of raw materials in global value chains (2019)**

SC5 – Raw Materials, 2014-2017 (i)

- Budget (2014 – 2017) ~ **280 M€**
- Type of actions:
 - RIAs**, Research and Innovation Actions
 - IAs**, Innovation Actions (“pilots”)
 - CSAs**, Coordination and Support Actions
 - ERA-NET Cofund** (ERAMIN-2)
- Results:
 - **48 projects** funded
 - More than **480 entities** participating
 - Grants > **270 M€**

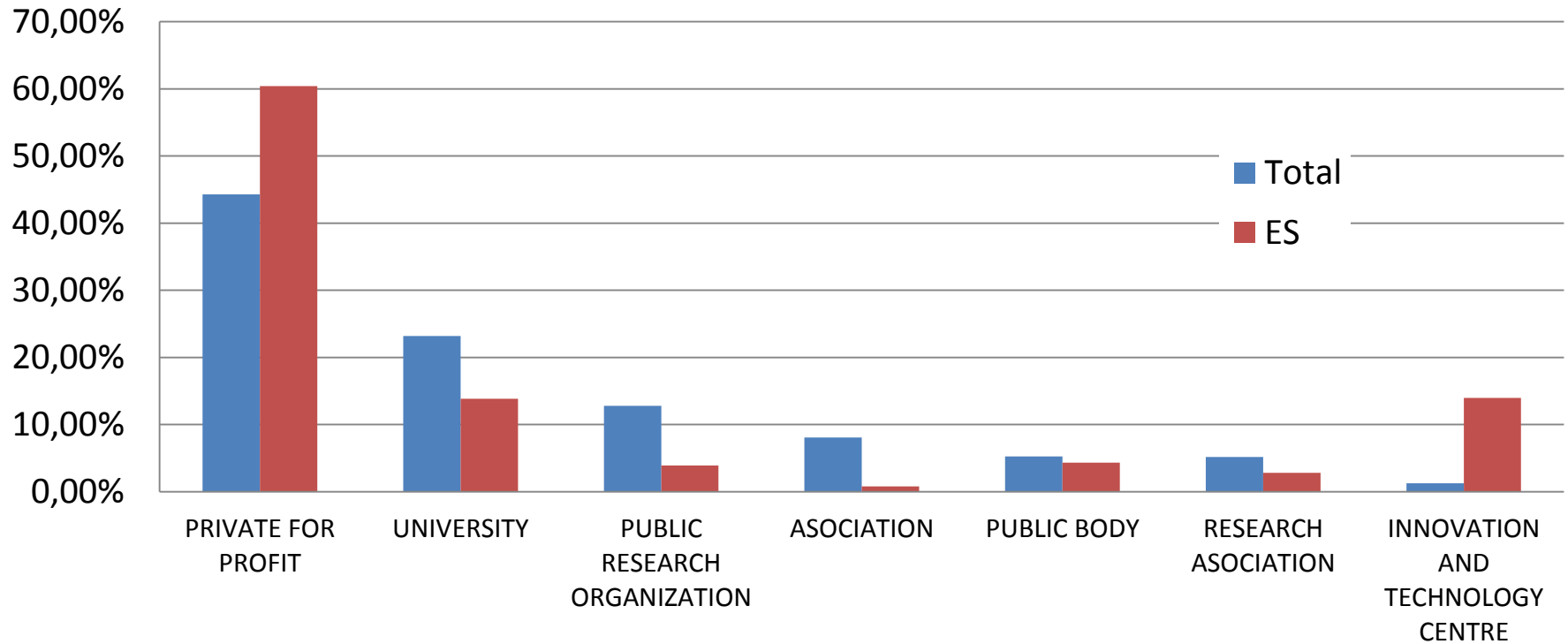
SC5 – Raw Materials, 2014-2017 (ii)

Analysis by country



SC5 – Raw Materials, 2014-2017 (iii)

Grants (%) by type of entity



H2020 projects (some of them)

HOME

PROJECT

SUSTAINABILITY

NEWS

FAQ

PRESS

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QUESTIONNAIRE



EUROPEAN UNION
Funded by the EU's Horizon 2020
research and innovation program

BIOMore
An Alternative Mining Concept

BIOMore: Research on future mining

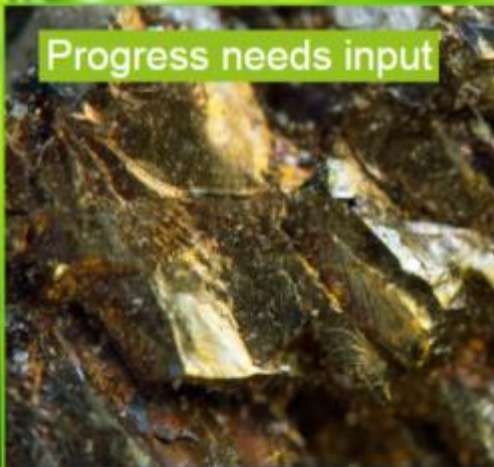
Funded by the EU's Horizon 2020 research and innovation program

BIOMore: A project for winning deep ores



Different supply/demand forecasts estimate a lack of raw materials leading to higher costs or even no more availability in the future at all.

Progress needs input



The EU consumes 20 to 35% of the most important base metals worldwide while importing more than 80% of its commodities representing more than 23 billion euros per year.

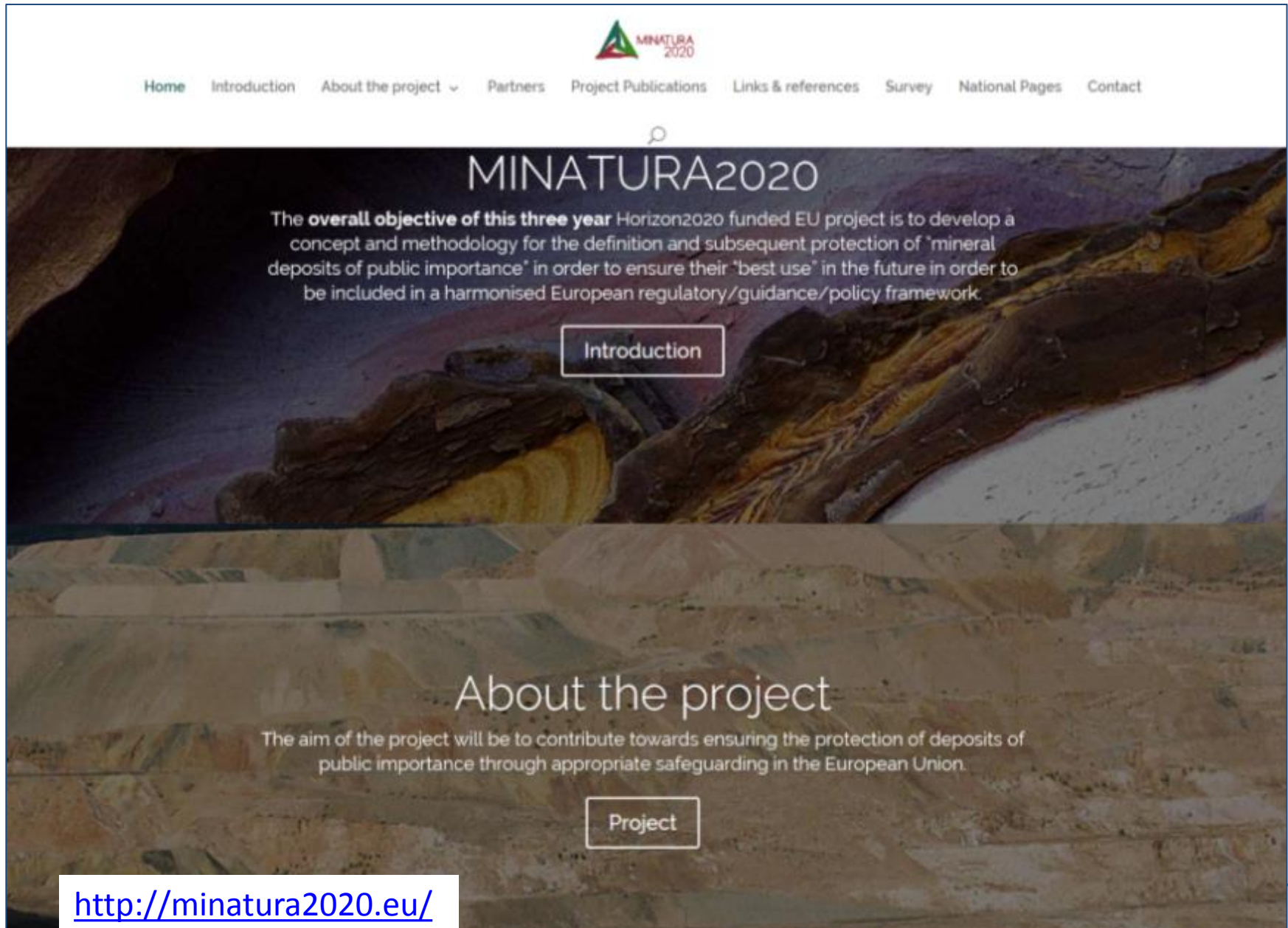
Imagefilm




The film contains valuable information on the subject of raw materials, mining and of course the BIOMore project including easy to understand animations of the planned process itself and potential future implementation as well as a statement of the European Commission. The film also shows the objectives of the project and all the partners. It ultimately shows ways and


<http://www.biomore.info/home/>

H2020 projects (some of them)





[Home](#) [Introduction](#) [About the project](#) [Partners](#) [Project Publications](#) [Links & references](#) [Survey](#) [National Pages](#) [Contact](#)



MINATURA2020

The **overall objective of this three year** Horizon2020 funded EU project is to develop a concept and methodology for the definition and subsequent protection of "mineral deposits of public importance" in order to ensure their "best use" in the future in order to be included in a harmonised European regulatory/guidance/policy framework.

[Introduction](#)

About the project

The aim of the project will be to contribute towards ensuring the protection of deposits of public importance through appropriate safeguarding in the European Union.

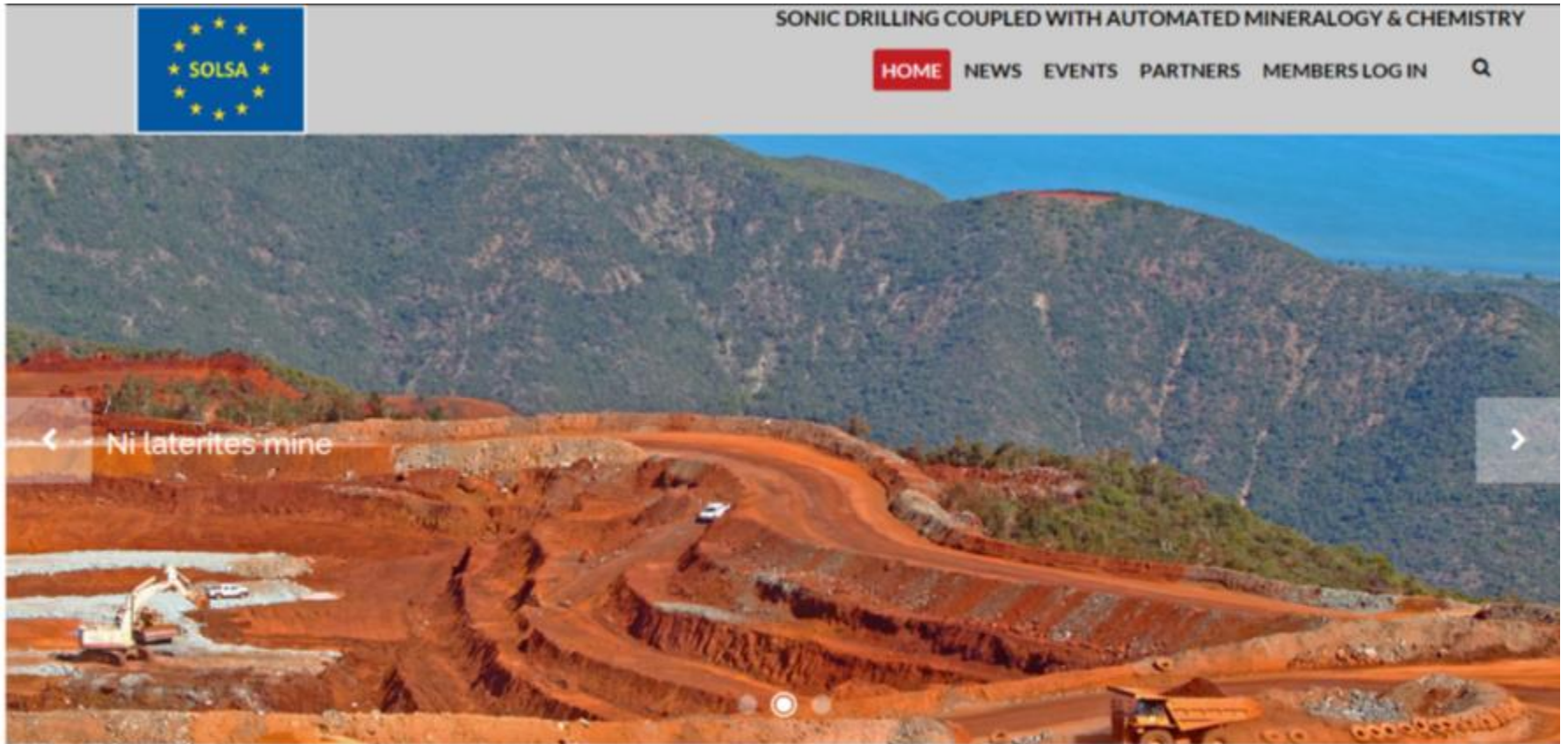
[Project](#)

<http://minatura2020.eu/>

Centro para el Desarrollo Tecnológico Industrial

oficial

H2020 projects (some of them)



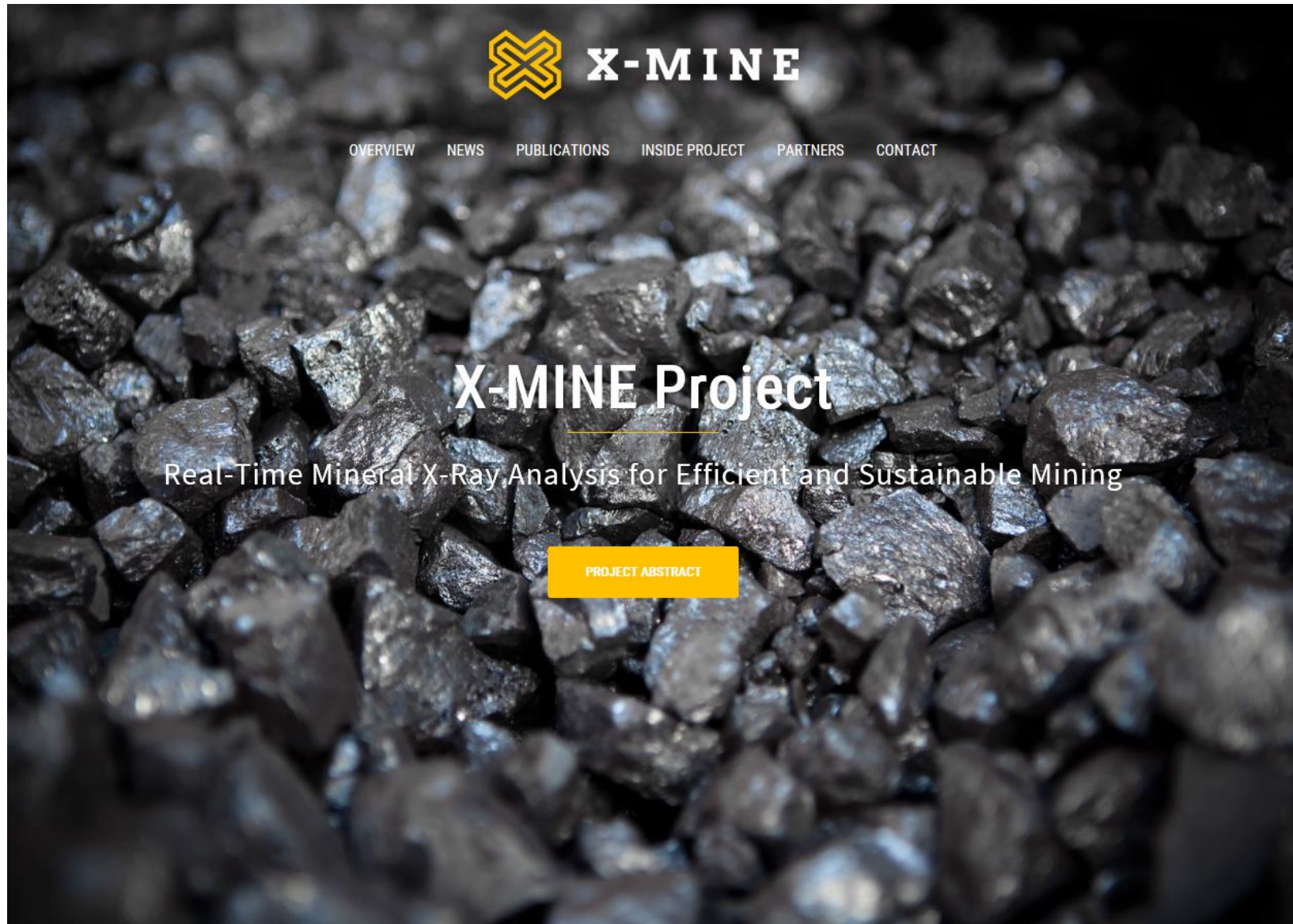
Discover SOLSA

An Innovative Project for Sustainable Exploration Technologies and Geomodels

ON-LINE-ON-MINE-REAL-TIME

<http://www.solsa-mining.eu/>

H2020 projects (some of them)



<http://www.xmine.eu/>

Raw Materials: SC5 – H2020

And for 2019 and 2020???????

CE-SC5-07-2018-2019-2020: Raw materials innovation for the circular economy: **sustainable processing, reuse, recycling and recovery schemes** (Innovation Actions)

- a) Sustainable processing and refining of primary and/or secondary raw materials (2019, 2020)
- b) - c) – d)

CE-SC5-08-2018-2019-2020: **Raw materials policy support actions for the circular economy** (Coordination and Support Actions)

- a) - b)
- c) **Responsible sourcing of raw materials in global value chains (2019)**

SC5-09-2018-2019: **New solutions for the sustainable production of raw materials** (Research and Innovation Actions)

- b) Digital mine (2019)
- c) Recovery of metals and minerals from sea resources (2019)

Raw Materials: SC5 – H2020

And for 2019 and 2020??????

SC5-10-2019-2020: Raw materials innovation actions: **exploration and Earth observation in support of sustainable mining** (Innovation Actions)

- a) Integrated exploration solutions (2019)
- b) Services and products for the extractive industries life cycle (2019)

CE-SC5-07-2020: Raw Materials Innovation for the Circular Economy

CE-SC5-08-2020: Raw Materials policy support actions for Circular Economy: Expert Network on Critical Raw Materials

SC5-10-2020: **Raw materials Innovation actions: Mining pilots;** Pilots on substitution of Critical Raw Materials

SC5-24-2020: **Sustainable management in extractive industries**

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Conclusion

- R&I, instrument + opportunity
- Aligned with EU Raw Materials policies and initiatives
- Focus on technological aspects but also on sustainability, environment, health, security and social acceptance, and ...business/exploitation.
- Different options/programmes/initiatives to different needs

Don't miss the opportunities !!!!!

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- Information

Information



Some events:

- 8-9/11/2017 (Brussels), [InfoDay SC5-Calls 2018](#)
(Presentations and video-record are available)
- 6-10/11/2017 (Brussels), [Raw Materials Week](#)
- Additional events:
 - [EC- R&I-Environment](#)
 - [esHorizonte2020](#)

More information:

- [EIP de Materias Primas](#) → SIP
- [Commitments EIP-Raw Materials](#)
- [Horizon 2020](#)
- [esHorizonte2020](#)
- [EC- R&I-Environment](#)
- [CORDIS - EU research projects](#)
- [LIFE](#)



RESEARCH & INNOVATION

European Commission

Participant Portal

European Commission > Research & Innovation > Participant Portal > Home

- HOME
- FUNDING OPPORTUNITIES
- HOW TO PARTICIPATE
- PROJECTS & RESULTS
- EXPERTS
- SUPPORT

LOGIN REGISTER



Horizon 2020 Funding

Starting from 1/1/2014

HORIZON 2020
Dashboard

H2020 DASHBOARD:
Statistics on H2020 proposals, success rates, funded projects and participants.

Projects for Policy (P4P)

On this site you can find and secure **funding** for projects under the following EU programmes:

- **2014-2020** Horizon 2020 - research and innovation framework programme
- **2007-2013** 7th research framework programme (FP7) and Competitiveness & Innovation Programme (CIP)
- 3rd Health Programme, Asylum, Migration and Integration Fund, Consumer Programme, COSME, European Statistics Programme, Hercule III Programme, Internal Security Fund Borders, Internal Security Fund Police, Justice Programme, Pilot Projects and Preparatory Actions, Promotion of Agricultural Products Programme, Research Fund for Coal & Steel, Rights, Equality and Citizenship Programme and Union Civil Protection Mechanism

Non-registered users

- search for funding
- read the H2020 Online Manual & download the legal documents
- check if an organisation is already registered
- contact our support services or check our FAQs

Registered users

- submit your proposal
- sign the grant
- manage your project throughout its lifecycle
- register as expert advising the Commission



WHAT'S NEW?



FUNDING OPPORTUNITIES



HOW TO PARTICIPATE



WORK AS AN EXPERT



MY PERSONAL AREA



INFORMATION AND SUPPORT

Of interest.....



SAVE-THE-DATE: Raw Materials Week 2018



http://ec.europa.eu/growth/content/raw-materials-week-2018_es

What's been funded?

Research & Innovation Projects - CALLS 2014 , 2015, 2016 and first part 2017

Climate action, environment, resource efficiency and raw materials
(H2020 projects)

Investing in European success .-
Environmental research and innovation
(FP7 projects)



Otros proyectos aprobados:

- [CORDIS - EU research projects](#)
- [LIFE](#)
- Projects from JPIs' and ERANETS'

What's been funded?

LOW-CARBON RESEARCH AND INNOVATION

Building a low-carbon, climate-resilient future



CDTI Centro para e



CIRCULAR ECONOMY RESEARCH AND INNOVATION

Connecting economic & environmental gains

DISCLAIMER



The contents of this presentation are for informal guidance and discussion purposes only.

In **no circumstance** the content of these slides can substitute the information provided in the official call documents and guidelines.

Thank you all

Lydia González

Representante Reto Social 5 – H2020
“Sherpa” EIP-Materias Primas

Dir. Programas Europeos, Espacio y Retornos Tecnológicos
CDTI

Mail.- lydia.gonzalez@cdti.es

Tel.- +34 91 581 5562/5500

Web.- www.eshorizonte2020.es, www.cdti.es,
@EsHorizonte2020, @CDTIoficial



+ info sobre programas y ayudas
para la
internacionalización de la I+D+I española

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Anexo.-

SC5 -H2020, Raw Materials:

Projects funded 2014 - 2017

CORDIS, Projects and Results Services .- https://cordis.europa.eu/projects/home_en.html

Research and Innovation Actions (RIAs)

Topic	Type of Action	Funded projects		
		Acronym	Title	EU contribut. (M€)
SC5-11a-2014	RIA	VAMOS	iViable and Alternative Mine Operating System!	9,2
SC5-11a-2014	RIA	Real-Time-Mining	Real-time optimization of extraction and the logistic process in highly complex geological and selective mining settings	5,6
SC5-11a-2014	RIA	BioMOre	New Mining Concept for Extracting Metals from Deep Ore Deposits using Biotechnology	8,6
SC5-11b-2014	RIA	FAME	Flexible and Mobile Economic Processing Technologies	7,5
SC5-11b-2014	RIA	OptimOre	Holistic Innovative Solutions for an Efficient Recycling and Recovery of Valuable Raw Materials from Complex Construction and Demolition Waste	5,1
SC5-11c-2015	RIA	Blue Nodules	Breakthrough Solutions for the Sustainable Harvesting and Processing of Deep Sea Polymetallic Nodules	8,0
SC5-11d-2015	RIA	SOLSA	Sonic Drilling coupled with Automated Mineralogy and chemistry On-Line-On-Mine-Real-Time	9,8
SC5-11d-2015	RIA	ROBUST	Robotic subsea exploration technologies	6,0
SC5-11d-2015	RIA	HiTech AlkCarb	New geomodels to explore deeper for High-Technology critical raw materials in Alkaline rocks and Carbonatites	5,4
SC5-11d-2015	RIA	UNEXMIN	Autonomous Underwater Explorer for Flooded Mines	4,9
SC5-11e-2015	RIA	METGROW PLUS	Metal Recovery from Low Grade Ores and Wastes Plus	7,9
SC5-11e-2015	RIA	INTMET	Integrated innovative metallurgical system to benefit efficiently polymetallic, complex and low grade ores and concentrates	7,8
SC5-12a-2014	RIA	INREP	Towards Indium free TCOs	5,0
SC5-12a-2014	RIA	INFINITY	Indium-Free Transparent Conductive Oxides for Glass and Plastic Substrates	4,0
SC5-12b-2015	RIA	Flintstone2020	Next generation of superhard non-CRM materials and solutions in tooling	5,0
SC5-12b-2015	RIA	EQUINOX	A novel process for manufacturing complex shaped Fe-Al intermetallic parts resistant to extreme environments	4,7

Research and Innovation Actions (RIAs)

Topic	Type of Action	Funded projects		
		Acronym	Title	EU contrib. (M€)
SC5-13-2016	RIA	SCALE	Production of Scandium compounds and Scandium Aluminum alloys from European metallurgical by- products	7,0
SC5-13-2016	RIA	SLIM	Sustainable Low Impact Mining solution for exploitation of small mineral deposits based on advanced rock blasting and environmental technologies	7,0
SC5-13-2016	RIA	CHROMIC	efficient mineral processing and Hydrometallurgical RecOvery of by-product Metals from low-grade metal containing seCondary raw materials	4,9
SC5-13-2016	RIA	IMPACT	Integrated Modular Plant and Containerised Tools for Selective, Low-impact Mining of Small High-grade Deposits	7,0
SC5-13-2016	RIA	PLATIRUS	PLATInum group metals Recovery Using Secondary raw materials	7,0
SC5-13-2017	RIA	INFACT	Innovative, Non-invasive and Fully Acceptable Exploration Technologies	5,6
SC5-13-2017	RIA	Smart Exploration	Sustainable mineral resources by utilizing new Exploration technologies	5,2
SC5-13-2017	RIA	NEXT	New exploration technologies	6,9
SC5-13-2017	RIA	PACIFIC	Passive seismic techniques for environmentally friendly and cost efficient mineral exploration	3,2

Innovation Actions (IAs)

Topic	Type of Action	Funded projects		
		Acronym	Title	EU contribut. (M€)
SC5-14-2016	IA	SIMS	Sustainable Intelligent Mining Systems	12,7
SC5-14-2016	IA	X-MINE	Real-Time Mineral X-Ray Analysis for Efficient and Sustainable Mining	9,3
SC5-14-2017	IA	CROCODILE	first of a kind commercial Compact system for the efficient Recovery Of COBalt Designed with novel Integrated LEading technologies	11,6
SC5-14-2017	IA	RemovAL	Removing the waste streams from the primary Aluminium production and other metal sectors in Europe	11,5
SC5-14-2017	IA	NEMO	Near-zero-waste recycling of low-grade sulphidic mining waste for critical-metal, mineral and construction raw-material production in a circular economy	12,4
SC5-14-2017	IA	SecREETs	Secure European Critical Rare Earth Elements	12,9

ERANET Cofund

Topic	Type of Action	Funded projects		
		Acronym	Title	EU contribut. (M€)
SC5-17-2016	ERA-NET-Cofund	ERA-MIN 2	Implement a European-wide coordination of research and innovation programs on raw materials to strengthen the industry competitiveness and the shift to a circular economy	5,0

Coordination and Support Actions (CSAs)

Topic	Type of Action	Funded projects		
		Acronym	Title	EU contribut. (M€)
SC5-13a-2014	CSA	MINATURA 2020	Developing a concept for a European minerals deposit framework	2,1
SC5-13b-2014	CSA	INTRAW	International cooperation on Raw materials	2,1
SC5-13c-2015	CSA	MIN-GUIDE	Minerals Policy Guidance for Europe	2,0
SC5-13d-2015	CSA	VERAM	Vision and Roadmap for European Raw Materials	1,4
SC5-13e-2015	CSA	MICA	Mineral Intelligence Capacity Analysis	2,0
SC5-13f-2015	CSA	STRADE	Strategic Dialogue on Sustainable Raw Materials for Europe	2,0
SC5-15-2016	CSA	SCREEN	Solutions for CRITICAL Raw materials - a European Expert Network	3,0
SC5-15-2017	CSA	ORAMA	Optimising quality of information in RAW MATERIALS data collection across Europe	1,7
SC5-15-2017	CSA	MIREU	Mining and Metallurgy Regions of EU	3,0
SC5-15-2017	CSA	COLLECTORS	waste COLLECTiOn systems assessed and good pRacticeS identified	1,5
SC5-15-2017	CSA	Minland	Mineral resources in sustainable land-use planning	1,5
SC5-15-2017	CSA	ROSEWOOD	European Network of Regions On Sustainable WOOD mobilisation	1,5
SC5-16-2016	CSA	FORAM	Towards a World Forum on Raw Materials (FORAM)	1,1
SC5-16-2016	CSA	MinFuture	Global material flows and demand-supply forecasting for mineral strategies	1,0
SC5-16-2017	CSA	intermin	INTERNATIONAL NETWORK OF RAW MATERIALS TRAINING CENTRES	1,3