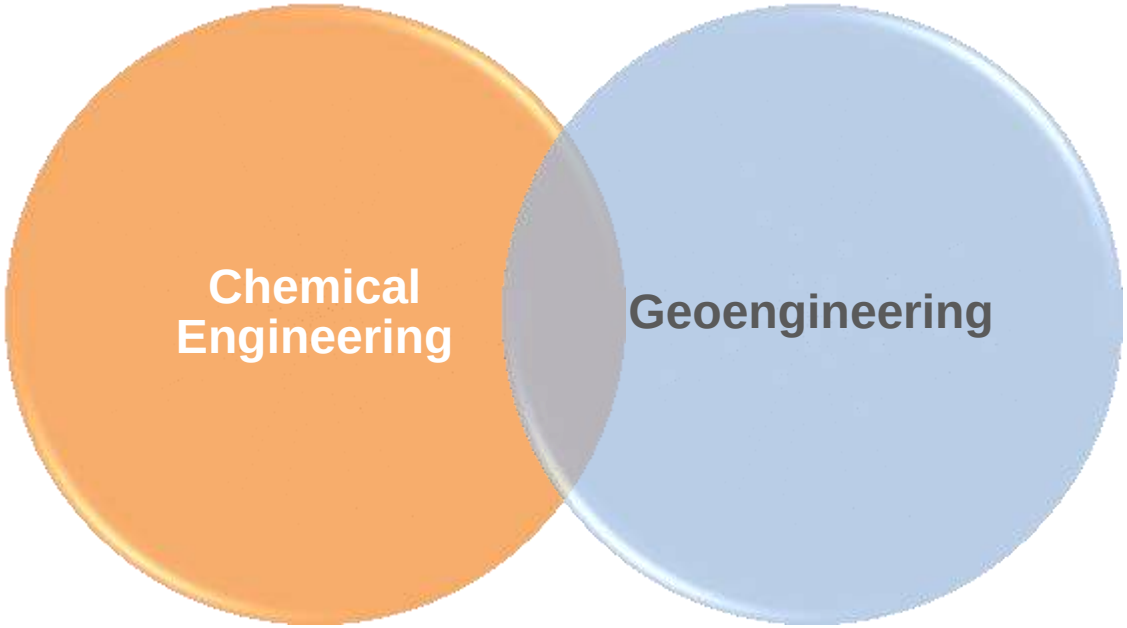
CERENA

Centro de Recursos
Naturais e Ambiente

http://www.cerena.pt/

Mission

Host research related to the sustainable use of natural resources, including energy, as well as their impact on the environment



Objectives

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To perform excellent research

To promote industrial leadership

To give response to present societal challenges, at a regional, national and international level concerning the sustainability of modern society that are related to the use of resources and the impact of this use in the environment.

Strategy

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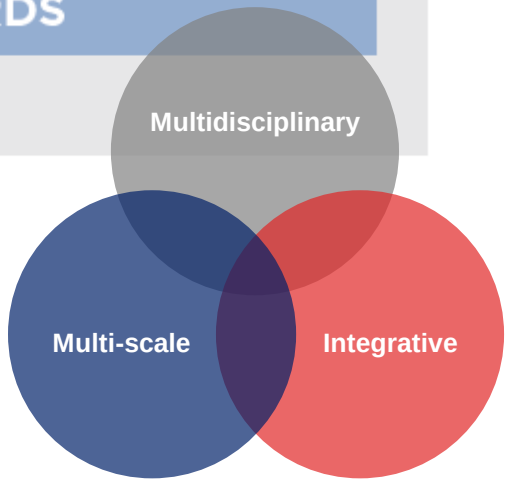
ENERGY	ENVIRONMENT	RAW MATERIALS

OIL & GAS

EVALUATION & VALORIZATION OF RESOURCES

NATURAL &TECHNOLOGICAL HAZARDS

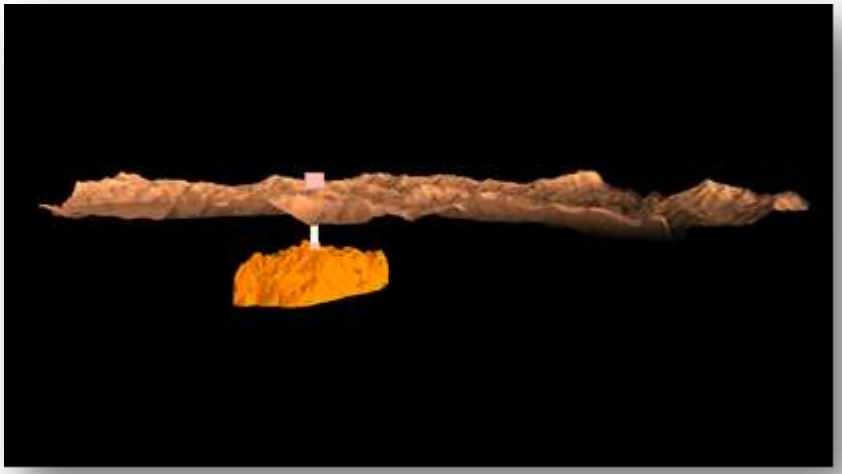


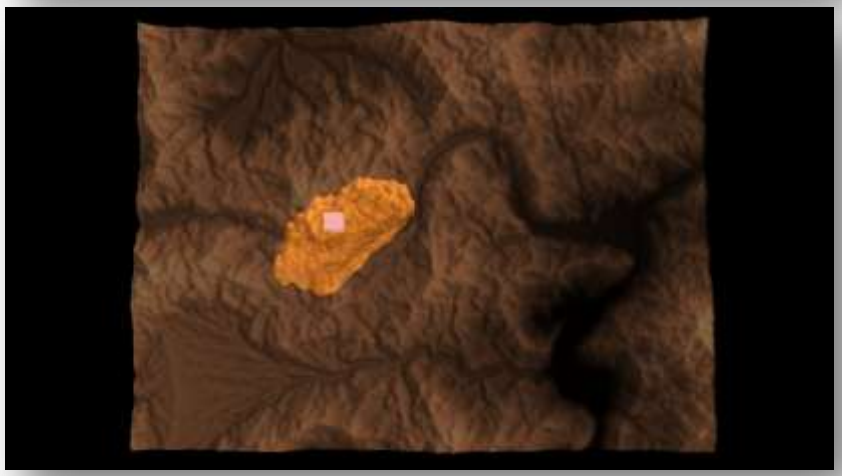
Research

Evaluation & Valorisation of Resources

Exploration techniques and modeling methodologies to evaluate resources – mineral deposits and landfills

- Development of a geostatistical framework allowing for a rapid and sequential update of the short-term resource/reserve model utilizing highly dense sensor based data generated from online material characterization
- Development of rapid and real-time optimization methods in the context of long-term mine development, short-term sequencing, production control and auxiliary processes





Research

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Evaluation & Valorisation of Resources

More selective, energy efficient and environmentally sustainable methods for extraction, processing and metallurgy of mineral and secondary raw materials

- Geobioleaching of tungsten ores and lithium minerals
- Geobiotechnological and hydrometallurgical processes for oxidic and sulphidic ores and concentrates
- Alternatives to cyanide leaching for producing gold concentrates

Research

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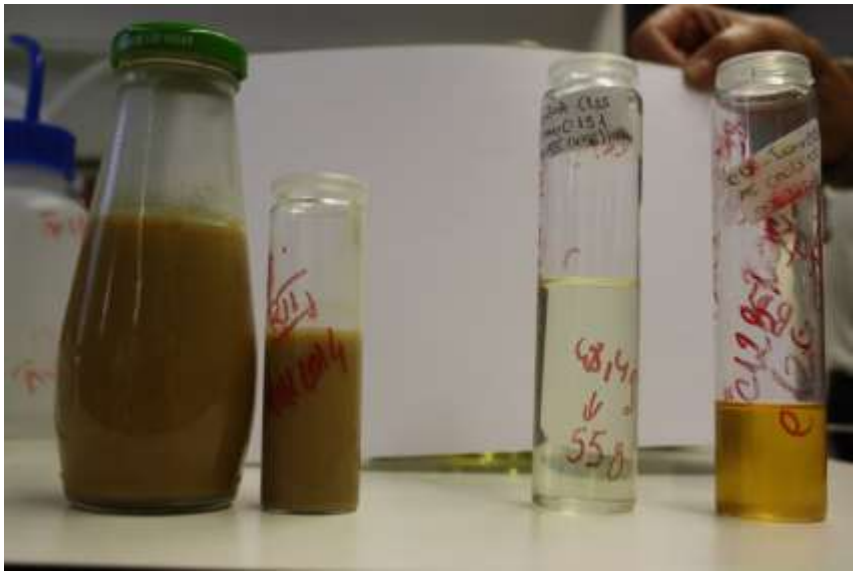
Evaluation & Valorisation of Resources

Reduce, Reuse and Recycle

- Development of new hydrometallurgical and bio-hydrometallurgical processes in order to recover the basic metals and effluents treatment;
- Development of ion-exchange and solvent extraction processes in order to separate elements with similar chemical behaviour.

Waste-to-energy

- Transesterification of waste oil
- Simultaneous lignin and cellulose depolymerisation
- Production of gasoline and diesel from oils and plastic wastes using solid acids and novel biocatalysts
- Refused-Derived Fuels



H2020 Projects

ACRONYM	TITLE (links to detailed information)	CERENA's Team Leader	PERIOD	FUNDING
FAME	Flexible and Mobile Economic Processing Technologies	António Fiúza	2015-2019	RIA
Real-Time-Mining	Real-time optimization of extraction and the logistic process in highly complex geological and selective mining settings	Amílcar Soares	2015-2019	RIA
CELMIN	Utilization of green chemicals in non-energy extractive industries	Teresa Carvalho	2014-2016	ERA-MIN
PATSYME	Passive Treatment Systems for Mine Effluents (with Metals Dissolved as Anionic Complexes)	António Fiúza	2014-2017	ERA-MIN
SUSMIN	Tools for sustainable gold mining in Europe	António Fiúza	2014-2017	ERA-MIN

H2020 Raw Materials next calls

Referência tópico	Título	Ano	Tipo de projeto	M€ por projeto	Orçamento disponível	Tipo de concurso	*Deadline*
	Call Greening the Economy						
SC5-13-2016/2017: New solutions for sustainable production of raw materials							
SC5-13a-2016	Sustainable selective low-impact mining	2016	RIA	3-7	*26 M€*	*Single-stage*	8 Mar 2016
SC5-13b-2016	New technologies for the enhanced recovery of by-products	2016	RIA	3-7		*Single-stage*	8 Mar 2016
SC5-13c-2017	New sensitive exploration technologies	2017	RIA	3-7	*10 M€*	*Single-stage*	7 Mar 2017
SC5-14-2016/2017: Raw materials Innovation actions							
SC5-14a-2016	Intelligent mining on land	2016	IA	8-13	*28 M€*	*Two-stage*	1ª fase: 8 Mar 2016 2ª fase: 6 Set 2016
SC5-14b-2017	Processing of lower grade and/or complex primary and/or secondary raw materials in the most sustainable ways	2017	IA	8-13	*56 M€*	*Two-stage*	1ª fase: 7 Mar 2017 2ª fase: 5 Set 2017
SC5-14c-2017	Sustainable metallurgical processes	2017	IA	8-13		*Two-stage*	1ª fase: 7 Mar 2017 2ª fase: 5 Set 2017
SC5-15-2016/2017: Raw materials policy support actions							
SC5-15a-2016	Expert network on Critical Raw Materials	2016	CSA	3	*5 M€ (incluindo 16a e 16b)*	*Single-stage*	8 Mar 2016
SC5-15b-2017	Good practice in waste collection systems	2017	CSA	1,5	*9.5 M€ (incluindo 16c)*	*Single-stage*	7 Mar 2017
SC5-15c-2017	Optimising collection of raw materials data in Member States	2017	CSA	1,5		*Single-stage*	7 Mar 2017
SC5-15d-2017	Linking land use planning policies to national mineral policies	2017	CSA	1,5		*Single-stage*	7 Mar 2017
SC5-15e-2017	EU network of mining and metallurgy regions	2017	CSA	3		*Single-stage*	7 Mar 2017
SC5-15f-2017	EU network of regions on sustainable wood mobilisation (wood supply)	2017	CSA	1,5		*Single-stage*	7 Mar 2017
SC5-16-2016/2017: Raw materials international co-operation							
SC5-16a-2016	Demand-supply forecast and raw materials flows at global level	2016	CSA	1	-	*Single-stage*	8 Mar 2016
SC5-16b-2016	Advancing the idea of a World Forum on Raw Materials	2016	CSA	1		*Single-stage*	8 Mar 2016
SC5-16c-2017	International network of raw materials training centres	2017	CSA	1	-	*Single-stage*	7 Mar 2017
SC5-17-2016: ERA-NET Cofund on Raw materials							
SC5-17-2016	ERA-NET Cofund on Raw materials	2016	ERA-NET-Cofund *	5	*5 M€*	*Single-stage*	8 Mar 2016

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