

EIT-KIC Raw Materials FCT|NOVA Core members



R. Martins, J. Kullberg, A. Reis,
A. Ribeiro, J. Veiga, S. Barreiros,
J. Almeida

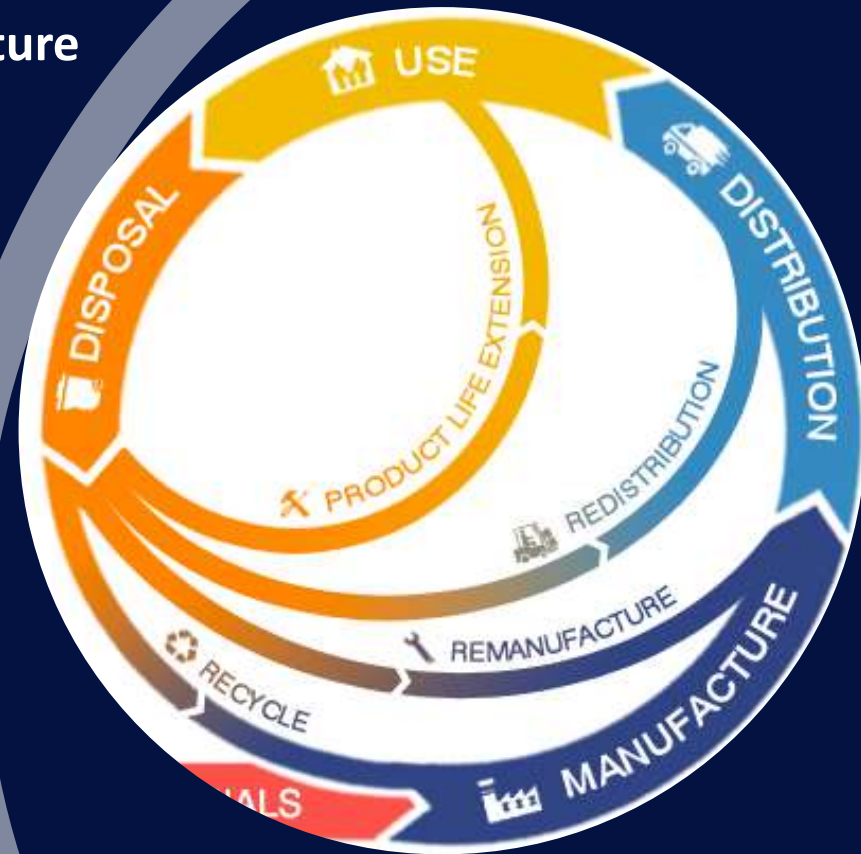


FCT | NOVA Strategy for the KIC Raw Materials

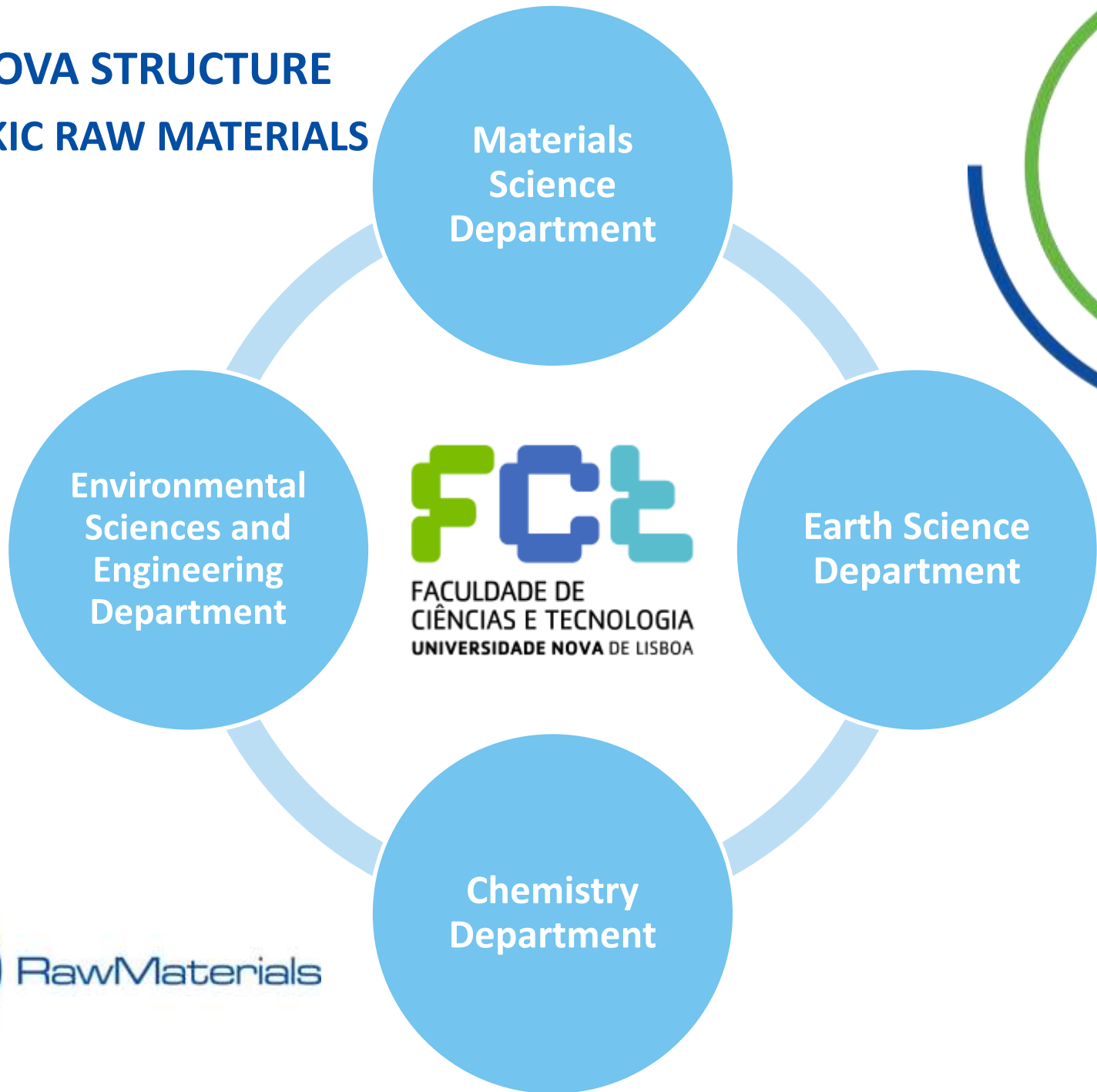
To establish a Value Chain within the structure

GOING FROM MINING TO RECYCLING

CLOSING THE LOOP WITH CIRCULAR ECONOMY



FCT | NOVA STRUCTURE AT EIT-KIC RAW MATERIALS



FCT | NOVA Value Chain

RECYCLING / CIRCULAR ECONOMY

CENSE

Centro de Investigação em
Ambiente e Sustentabilidade

PROCESS EFFICIENCY/SUBSTITUTION

CENIMAT/I3N

Centro de Investigação em
Materiais do I3N - Instituto de
Nanoestruturas, Nanomodelação e
Nanofabricação

PROCESS EFFICIENCY/SUBSTITUTION
CIRCULAR ECONOMY

LAQV

Laboratório Associado para a
Química Verde - Tecnologias
Limpas e Processos

UCIBIO

Unidade de Ciências
Biomoleculares Aplicadas

EXPLORATION/MINING

GeoBioTec

Geobiociências, Geoengenharias e
Geotecnologias



Earth Sciences Department

Head: Prof. J. Kullberg

Research Center:



GeoBioTec - Geobiociências, Geoengenharias e Geotecnologias
Coordinator: Prof. José António Almeida

Area: Exploration/Mining



Materials Science Department

Head: Prof. R. Martins

Research Center:



i3N - Instituto de Nanoestruturas, Nanomodelação e Nanofabricação
Coordinator: Prof. Elvira Fortunato

Area: Process Efficiency / Substitution



Chemistry Department

Head: Prof. M. J. Romão

Research Center:



LAQV - Laboratório Associado para a Química Verde - Tecnologias Limpas e Processos

Coordinator: Prof. Manuel Nunes da Ponte



UCIBIO - Unidade de Ciências Biomoleculares Aplicadas

Coordinator: Prof. Maria João Romão

Area: Process Efficiency/SubstitutionCircular Economy



Environmental Sciences and Engineering Department

Head: Prof. J. Seixas

Research Center:



CENSE - Centro de Investigação em Ambiente e Sustentabilidade

Coordinator: Prof. Alexandra Ribeiro

Area: Recycling / Circular Economy

EIT – An European Initiative

- Knowledge and Innovation Community (KIC)
- About 130 members (1/3 universities, 1/3 RTOs, 1/3 industries)



- 350 M€ funding for education / business creation / innovation projects

BECOMING A MEMBER

<http://eitrawmaterials.eu/about-us/partners/>

Core Partners

Can participate to an unlimited number of projects and activities **without funding limitations**

Core Partners membership fees are **100K€ in cash + 900k€ of in-kind contribution (KCA)**

Associate Partners

Can participate to collaborative projects **with funding limitations (300k€/year)**

Associate partners membership fees are **30k€ in cash + 300k€ of in-kind contribution (KCA)**

Task Partners

Contribute to actions/tasks. **No membership fees** and **funding capped to 60k€/year**

SCOPE OF ACTIVITIES

- **EXPLORATION** (J. Kullberg, J. Almeida, S. Barbosa)
Mining exploration and raw materials resource assessment
- **MINING** (J. Kullberg, J. Almeida, S. Barbosa, A. Ribeiro)
Mining in challenging environments (city, deep sea, etc.)
- **PROCESS EFFICIENCY** (A. Reis, J. Veiga, A. Ribeiro, J. Almeida)
Increase resource and efficiency in mineral and metallurgical processes
- **SUBSTITUTION** (R. Martins, A. Reis, J. Veiga, S. Barreiros)
Substitution of critical/toxic materials in products and for optimized performances
- **RECYCLING** (A. Ribeiro, J. Veiga, J. Almeida)
Recycling and materials chain optimization of end-of-life products
- **CIRCULAR ECONOMY** (A. Reis, A. Ribeiro, J. Veiga, S. Barreiros)
Design of products and services for the circular economy

RUNNING PROJECTS INVOLVING FCT NOVA

1. SUPERSMART. Scale-Up of Printed Electronics Recyclable SMART materials.

Lead Partner: Arkema. Area D4 Validation & Acceleration.

Segment Up-scaling projects (D4.2). PI from FCT NOVA: R. Martins, CO PI: L. Pereira.

2. PHOS-FORCE. Market ready technologies for P-recovery from municipal wastewater.

Lead Partner: Veolia Deutschland GmbH. Area: D4 Validation & Acceleration Segment: Up-scaling projects (D4.2). PI from FCT NOVA: A. Reis.

3. raPHOSafe. Classification and Sorting of Radium-rich Phosphogypsum Tailings. Proposal Number: 17027. Lead Partner: DMT GmbH & Co. KG. Area: D6 Regional Innovation Scheme (RIS). Segment: Regional Innovation Schemes (D6). PI from FCT NOVA: S. Barbosa, J. Kullberg, J. Almeida.

4. Raw Matters Ambassadors at Schools 3.0. Proposal number: 17146. Lead Partner: Consiglio Nazionale delle Ricerche (CNR). Area D3 Learning & Education. Segment Wider Society Learning (D3.5). PI from FCT NOVA : J. Veiga. Co PI R. martins and Rui Igreja



RUNNING PROJECTS INVOLVING FCT NOVA:

5. **IDS-FunMat-Inno-2**. International Doctoral School in Functional Materials & Innovation (2nd cohort). Proposal Number 17184.

Lead Partner Université de Bordeaux. Area D3 Learning & Education.

Segment PhD Education (D3.3). PI from FCT NOVA: R. Martins. CO PI: J. Veiga, J. Kullberg;

6. **TravelEx1**. Underground resources travelling exhibition. Proposal Number 17225.

Lead Partner Université de Lorraine (UL). Area D3 Learning & Education. Segment Wider Society Learning (D3.5). PI from FCT NOVA: J. Kullberg.

SOME RUNNING EDUCATIONAL PROJECTS

IDS-INN= FunMat PhD program

FCT|UNL Integrates the program since November 2016 with **3 PhD students** involving the areas of Materials, Green Chemistry and Recycling.

Novelty

An **industry** mentor is mandatory (at least for about one year of all PhD work) and the student receives an annual grant for mobility of about 5500€.

KIC EIT Raw Materials labelled IDS-FunMat-INNO Doctoral Program

SPRING SCHOOL ON LIFE CYCLE OF MATERIALS AND PROJECT & RISK MANAGEMENT

23-29 APRIL 2017 IN CAPARICA

Organised by:



In collaboration with:



Sponsored by:

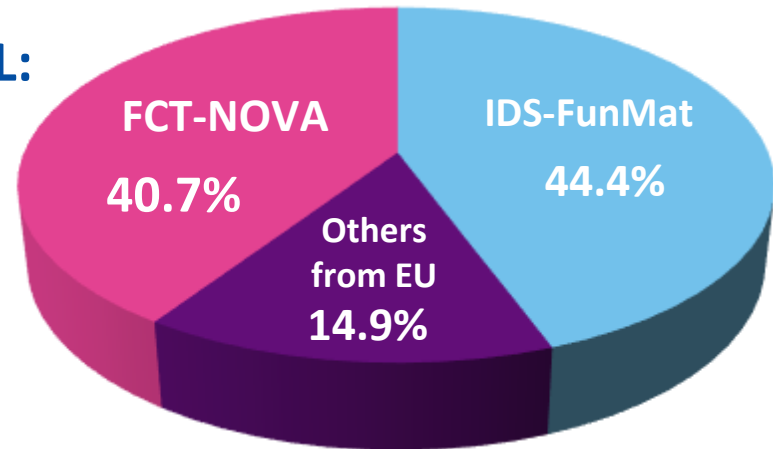


EXECUTIVE SUMMARY:

6 days of Spring School, including 1 ½ days of visits to Mining & Recycling sites, 1 ½ days of course on Project and Risk Management, 1 day of lectures on life cycle of materials, mining & exploration, substitution of critical & toxic raw materials, recycling & circular economy, criticality & sustainability assessment, ½ day of project work, ½ day of materials science lab visit (working on substitution), plus 1 day of arrival, welcome reception and excursion.

ATTENDED TO THE SPRING SCHOOL:

- 12 PhD Students of the *IDS-FunMat*;
- 4 PhD Students from Leoben University;
- 11 PhD Students from FCT|NOVA



MINE VISIT - Neves Corvo Mine explored by SOMINCOR

- (approx. 200 km from Lisbon): Ores of poly-metallic sulphides – mainly copper and zinc
Visit to the mineral separation and preparation plant.

Coordination: Prof. José Almeida(FCT|NOVA, PT)



RECYCLING PLANT VISIT - AmbiGroup plant

- Recycling of main metals (Cu, Al, Zn) and metal alloys (Zn, stainless steel, magnetic steel, brass).

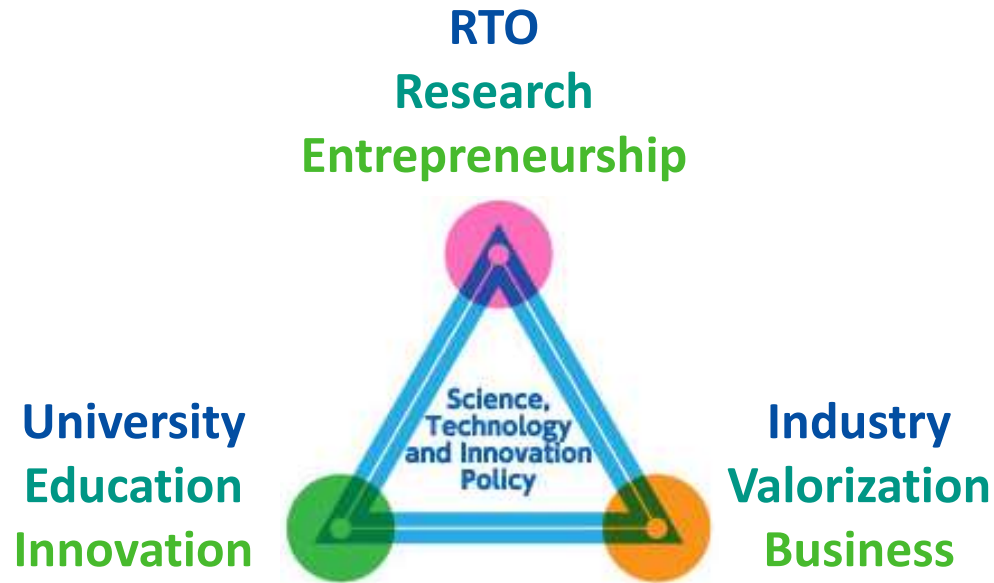
Coordination: Prof. José Almeida (FCT|NOVA, PT)



LABS TOUR @NOVA



THE TRIANGLE RULE



The KIC finances collaborative projects on 3 conditions:

To fit in one of the proposed **activities**, to be in the **scope** of the value chain of raw materials, and to target one of the priority **markets** identified

EIT RAW MATERIALS TIMELINE (1)

Work with the timeline...

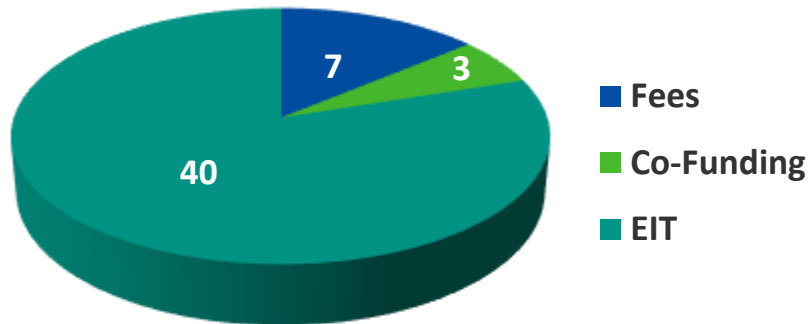


UPSCALING PROJECTS

- **Duration:** between 1 and 4 years
- **High TRL:** from 5 to 7/8
- **Consortium:** at least 3 Core / Associate partners
from 2 different CLC or 2 different countries
with a mix of industrials and/or RTO and/or academics
- **Budget:** 25% KAVA / 75% KCA
KAVA = 100% of direct cost + 25% indirect costs
additional overhead claimed as co-funding or KCA (or not claimed)
- **Co-funding:** 10-15% of KAVA required
- **Feasibility study** (GO vs NO-GO) & **Backflow** to the KIC proposed
- Educational component encouraged

FROM 2017 BUDGET...

- **Global budget:** 50M€ (*budget requested at Business Plan 2017*)



- **50-70% for upscaling projects:** **35-45% Exploration / Mining**
15-25% Processing
35-45% Substitution / Recycling / Circular economy

2-3 Large size projects (2-5 M€)
3-4 Medium size projects (1-2 M€)
5-10 Small size projects (< 1 M€)

EDUCATIONAL PROJECTS

- **Duration:** between 1 and 4 years
Master – PhD – Lifelong Education
Wider Society Learning
- **Consortium:** at least 3 Core / Associate partners
from 2 different CLC or 2 different countries
with a mix of industrials and/or RTO and/or academics
- **Budget:** 50% KAVA / 50% KCA
KAVA = 100% of direct cost
co-funding encouraged
- **Split of the budget:**
 - 20% Raw Materials Academy**
 - 40-60% Higher Education**
 - 20-40% Wider Society and Lifelong Learning**

INTERNATIONALISATION & RIS ELIGIBILITY

- **Internationalisation**

projects that are building on the results and experiences of earlier projects

- **Regional & Information Scheme**

case-by-case basis projects; may include for example mobility programmes for students and professors, study visits, scientific and technical valorisation of the results, technology transfer, support of local start-ups, joint communication and networking events

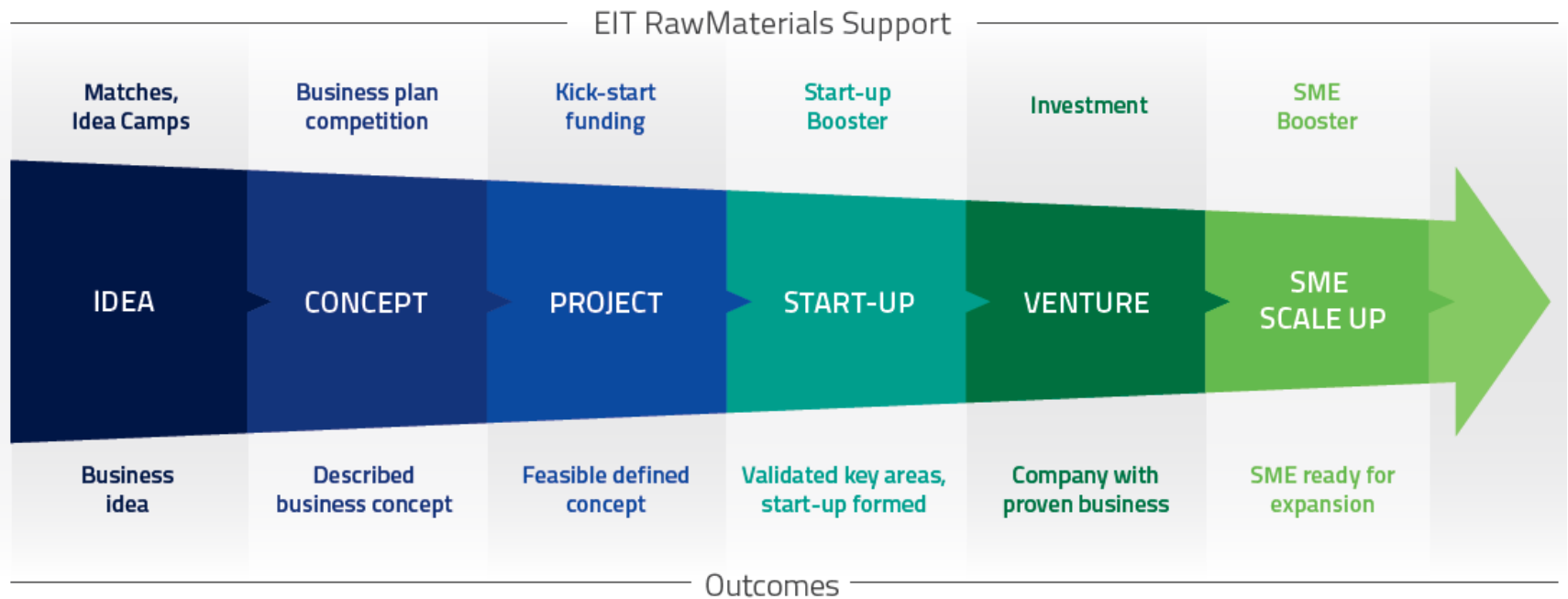
	Internationalisation	RIS
Targeted regions	EUNC: Neighbouring Countries of the EU	The East & South-East Europe (ESEE) region
	RDVP: Resource-rich developing economies (DR Congo, Bolivia, Peru, Liberia...)	
	RREM: Resource-rich emerging economies with strong activities in the RM sector (Brazil, Chile, South Africa, India, China...)	The Baltic countries
	TECH: Developed economies leading in the RM sector (Australia, Canada, USA, South Korea, Japan...)	

INTERNATIONALISATION & RIS PROJECTS

- **Consortium:** at least 3 Core / Associate partners
from 2 different CLC or 2 different countries
with a mix of industrials and/or RTO and/or academics
- **Budget:** KAVA = 100% of direct cost
co-funding encouraged, budget smaller than 200k€
- **Size and number of projects to be granted:**
5 internationalisation projects
5-10 Research & Information Scheme Projects

BUSINESS CREATION

- Yearly Business Idea Competition
- Yearly Start-up Challenge
- Match-making events



CONTACT PERSONS AT CLC LEVEL



Key Account Manager

didier.zimmermann@eitrawmaterials.eu

- ✓ Single contact to partners for all matters relating to partnership
- ✓ Works closely with HQ in the processing of partnership and membership
- ✓ Keeps a fluid communication with the partner
- ✓ Communicates and reminds partners of EIT RM events and other relevant news



Project Officers

julien.frey@eitrawmaterials.eu

serge.monturet@eitrawmaterials.eu

- ✓ Main contact for the project coordinator and consortium construction
- ✓ Reviews Bluebook data periodically to ensure consistency and correctness
- ✓ Guides project coordinator on correct reporting, budgetting in Bluebook
- ✓ Keeps fluid communication with the project coordinator
- ✓ Communicates, reminds, and helps project coordinator meet deadlines and processes



THANK YOU