

Advices from Personal Coordinator Experience(s):

- H2020 ITN-ETN ATHOR (October 2017 March 2022)
- Horizon Europe DN-ID CESAREF (October 2022 September 2026)

Prof. Marc HUGER

Thermo-Mechanics of Ceramics at Institute of Research for CERamics (IRCER) - UMR CNRS 7315 - Limoges - France





Timeline and different steps

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

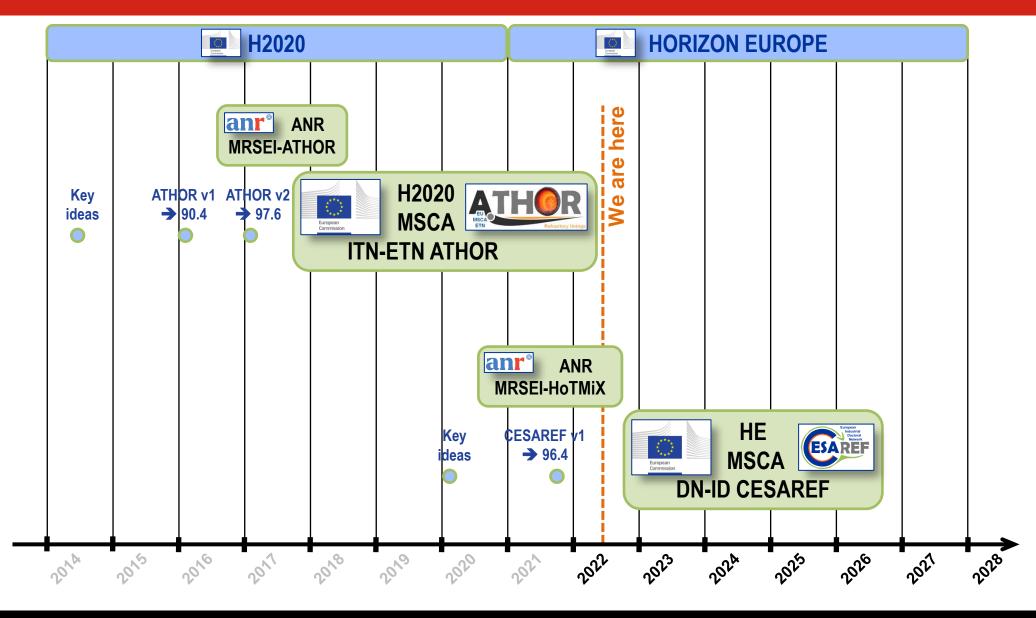
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Preparatory stage to a Doctoral Network

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

- → Start with some key scientific ideas
- → Think out the box
- → From the state of the art identify current bottlenecks
- → Estimate what should/can be provided beyond the state of the art
- → Identify main innovations that could be provided to the community







Preparatory stage to a Doctoral Network

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

- → Start with a small core of colleagues you could have abroad
- → Enlarge progressively the group with some complementary competencies
- → Don't be to much focused on your own area of expertise
- → Find a good equilibrium between academics and industrial partners
- → Find a good balance between beneficiaries and associated partners
- → Cover enough countries within Europe





Example of ATHOR

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

ATHOR (Advanced THermomechanical multiscale

mOdelling of Refractory linings)

→ 6(7) Academic Poles:

- University of Limoges (FR) / IRCER
- University of Krakow (PL) / AGH
- University of Aachen (DE) / GHI
- University of Leoben (AT) / COC
- University of Orléans (FR) / LaMé
- University of Minho & Coimbra (PT) / ISISE

→7(8) Industrial Partners:

- Altéo Alumina Gardanne (FR)
- Imerys Refractory Minerals Villach (AT)
- Pyrotek Scandinavia AB Ed (SE)
- RHI Magnesita Wien (AT)
- Saint-Gobain Cavaillon (FR)
- TataSteel IJmuiden (NL)
- Safran Colombes (fr)
- FIRE Montréal (CA)







Example of CESAREF

Coordinator Experience(s)

My personal advices about...

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

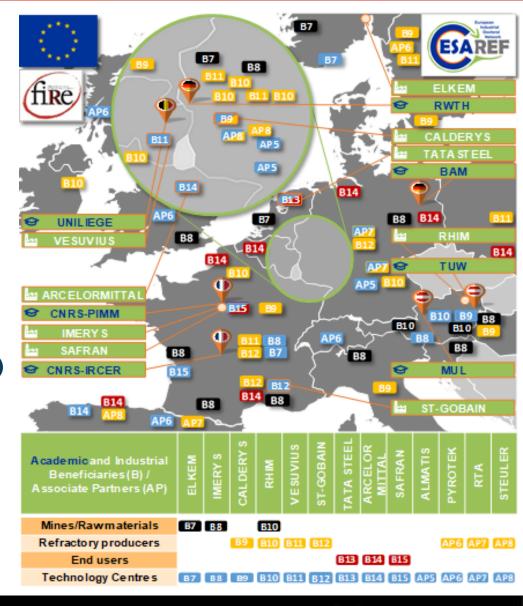
... After the project

Expected impacts

Conclusions

CESAREF (Concerted European action on Sustainable Applications of REFractories)

- → 15 Beneficiaries (6 Academics + 9 Industrials)
- → 10 Associated Partners (Academics + Industrials)
- → 15 PhD (50% with Academics, 50% with Industrials)







Training (and communication) is (are) essential

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

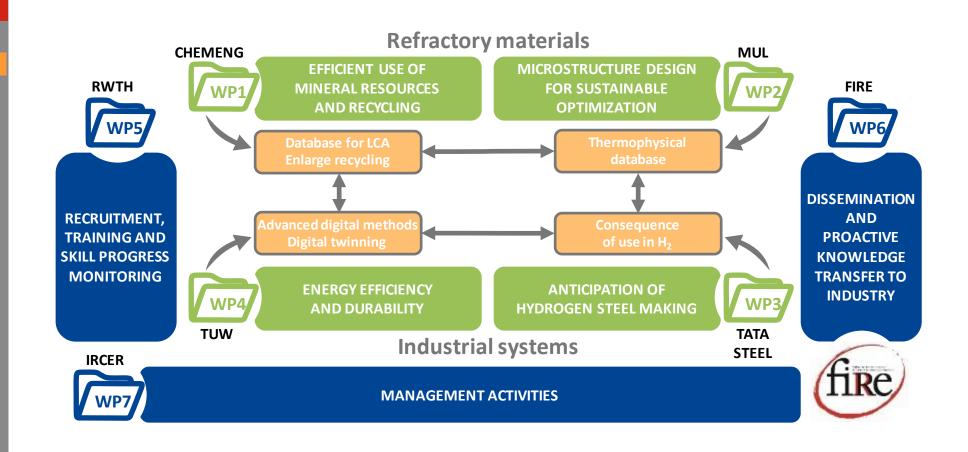
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Training (and communication) is (are) essential

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

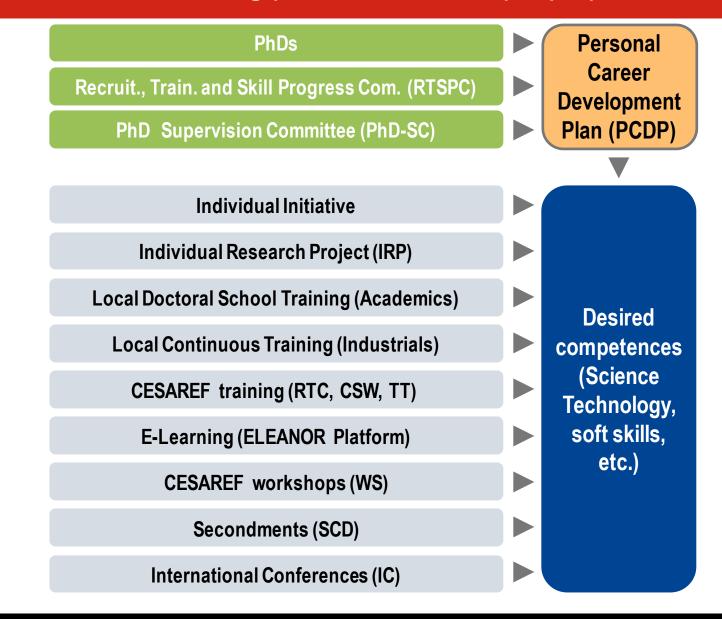
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Training (and communication) is (are) essential

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

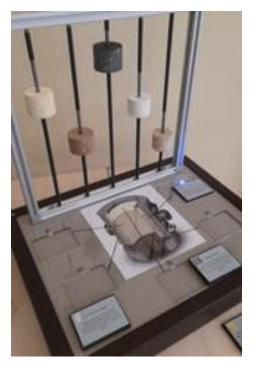
Expected impacts

Conclusions

Interactive travelling exhibition



The World of High Temperature Science













Ask for an ANR MRSEI support

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

- → Montage de Réseaux Scientifiques Européens ou Internationaux (MRSEI)
- → Financing WorkShops/Brainstorming sessions (about 20 k€)
- → Financing consulting help (max 10 k€)
- → Strengthening the consortium with pertinent additional partners
- → Strengthening the consortium with additional academic partners
- → Strengthening Scientific WorkPackages
- **→** Strengthening the Training Programme







Ask for an ANR MRSEI support

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

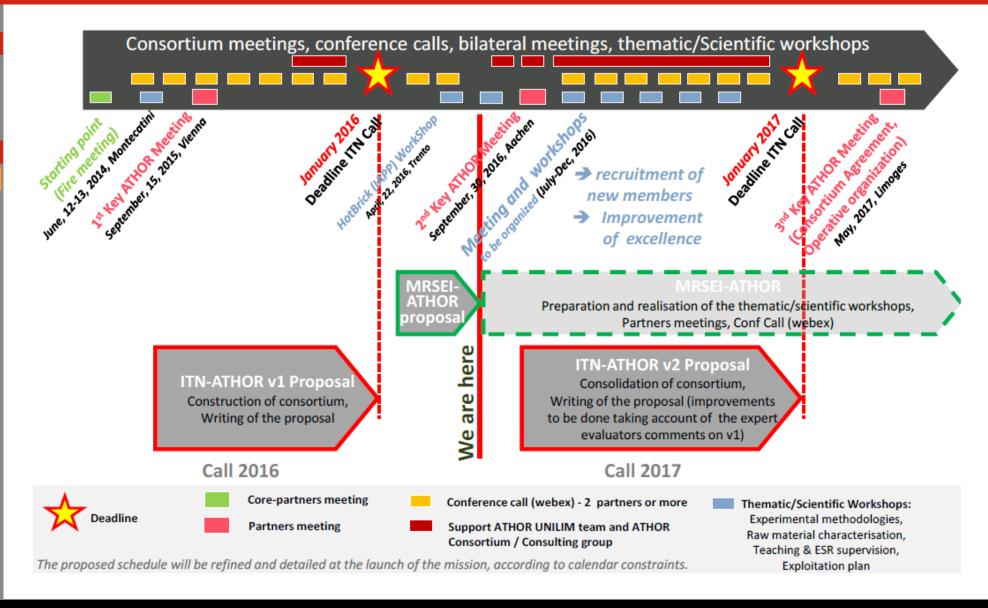
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Find help upon really experienced people

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

- → When beginner, find strong support around you
- → Internal support in small structure are not always pertinent
- → Find money to be able to pay for an external really professional consulting
- → Involve colleagues around you who should be available and efficient





Share all documents within the consortium

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

- → Setup a dedicated cloud to your project
- → Organised a well structured folders with all the working documents
- → Ensure that your partners access/consult/ contribute to these working documents

- V 👧 03 ETN-ATHOR
- > a 00 Proposal-Valuation-GA-CA
- > a 01 Potential Additional Funds
- > 👧 10 Team
- > 🌄 11 GanttChart-ActionsPlan
- > 👧 13 Meetings
- > 🌏 20 Supervisory Board (SB)
- > a 21 Finance Committee (FC)
- > 🌄 22 Industry Advisory Board (IAB)
- 25 Recruit, Skill Prog. Com. (RSPC)
- > 👧 27 ESR Council (ESRC)
- 29 Train. Know. Transfer Com. (TKTC)
- > 40 State of the Art
- > 👧 51 WP1 Improvement of measurements tools
- > 2 WP2 Advanced characterization
- > 53 WP3 Innovative modelling
- > 👧 54 WP4 Advanced measurements
- 55 WP5 Training Mobility
- > 👧 56 WP6 Knowledge Dissemination
- 57 WP7 ATHOR management activities
- > a 60 ESRs Working Space
- > 👧 65 ESR Periodic Report
- > 👧 70 Dissemination
- > 👧 72 Scientific Publications
- > 👧 90 Deliverables and milestones
- > 🌉 Image gallery
- > 👧 Public





Writing/layout style

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

- → Write confidently (use present time instead of future time)
- → Don't overload your proposal with too much text
- → Feel sorry for the 3 reviewers reading all these proposals
- → Be aware that reviewers are usually generalists, not specialists in your area
- → Neat and concise language and layout are key
- → Respect the recommendation (5,000 to 6,000 characters per page, including spaces)
- → Find and use successful model of proposal







Coordinator Experience(s)

My personal advices about...

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

→ Setup a Graphic Charter for the different documents of your proposal

Call: [HORIZON-MSCA-2021-DN-01] - [MSCA Doctoral Networks 2021]

- Enhanced design characterization routes for better process and material sustainability.
- New process optimization through novel computing and monitoring technics with regards to energy efficiency,
- New characterization devices for non-destructive tests to assess end-of-life and recyclability parameters,
- · Innovative environmental assessment tools for the ecodesign of refractory materials

CESAREF - DN-ID

- Enhanced process control, monitoring opportunities, more efficient installation procedures for refractory users, • Optimization method for ladle logistics in the I&S plant
- regarding energy efficiency and refractory durability, • Faster adoption of research outcomes by the industry through training and technology transfer.

Table 1: Work Package List

WP No.	WP Title	Activity Type	Lead Benef.	Lead Benef.	Involved PhDs	Start Month	End month
WP1	Efficient use of mineral resources and recycling	Research	B2a	CHEMENG	1, 2, 3	4	40
WP2	Microstructure design for increased sustainability	Research	B3	MUL	4, 5, 6, 7, 8, 9, 10	4	40
WP3	Anticipation of Hydrogen Steel Making	Research	B13	TATASTEEL	11, 12	4	40
WP4	Energy efficiency and durability	Research	B5	TUW	13, 14, 15	4	40
WP5	Training, mobility, sustainable recruitment and transfer of knowledge	Training	B4	RWTH	ALL	1	48
WP6	Proactive knowledge dissemination, industrial liaison and outreach	Dissemination	AP4	FIRE	ALL	1	48
WP7	CESAREF management activities	Management	B1a	IRCER	ALL	1	48

1.2. Soundness of the proposed methodology

1.2.1. Overall methodology

CESAREF's objectives are identified through seven individual Work Packages (WPs) presented Table 1. The first four WPs will deal with the scientific objectives coupling experimental, numerical, and environmental aspects like in similar networks of public and private actors. 17,18,19,20,21 The last three WPs are dedicated to the training and outreach activities, coordination of the network, and dissemination of results.

WP 1 - Efficient use of mineral resources and recycling will deal with the 4 challenges associated with circular economy: feed the loop, design the loop, slow down the loop and close the loop. The Life Cycle Assessment methodology (LCA), which has become a standard environmental evaluation tool (ISO 14040 - 14044:2006), will play a key role in this WP. Feeding the loop in a sustainable way requires knowledge about raw materials extraction (including secondary raw materials) to build robust inventory databases. Designing the loop means having access to relevant production routes of several types of refractories (bricks, precast blocks, unshaped products), to optimize them in an eco-design perspective. Slowing down the loop refers to the value of the environmental footprint of the refractories once applied in the steel industry. The impact of several operating parameters has to be assessed to both reduce the environmental impact and costs associated to refractories for the steel industry. Closing the loop means working on recycling routes and the associated environmental impacts, including the recycling process and re-use of secondary materials, relying namely on model material systems. WP1 will benefit from the CESAREF industrial network, to access the required primary resources allowing relevant inventory databases to be built, calculate the environmental impacts (climate change and resource depletion among many others), and propose ecodesign strategies so the sector contributes to the EU Green

WP 2 - Microstructure design for increased sustainability will deal with the characterization of selected materials at room and high temperature in virgin state, after service, or after exposure to H₂ or other combustion atmospheres. Conventional and specific experimental techniques, based on the use of European large-scale facilities like synchrotron radiation sources, will be used to determine the relationships between structure, microstructure and macroscopic properties. Alongside thermal expansion. thermal conductivity will be tested, as well as the Young's modulus by ultrasonic echography or the resonant frequency method, X-ray tomography and diffraction under synchrotron radiation source will be applied to investigate structural and microstructural evolutions of refractories in service or due to H2 containing atmospheres. Stress-strain relationships and creep laws will be determined from tension and compression tests and work of fracture by wedge splitting tests. WP2 will take advantage of the CESAREF network to apply complementary experimental devices useful for each task. If different methods are available within the network, the most appropriate will be used to obtained key experimental results and improve the global outputs of the project.

20 H2020 ITN Project ATHOR (Advanced THermomechanical mOdelling of

Refractory linings), 2017-2022.





¹⁷ ANR Project NOREV (NOuveaux REfractaires Verriers) 2007-2010.

¹⁸ ANR Project DRulDe (Durabilité des Réfractaires utilisés dans l'Incinération des

ANR Project HoTMiX (High Temperature, Microstructure and X-ray), 2020-2023 19 ANR Project ASZTech (Alternative Sustainable Zirconia Technology), 2013-2017

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charte

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

→ Setup a pertinent Logo

Example of ATHOR and CESAREF









Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

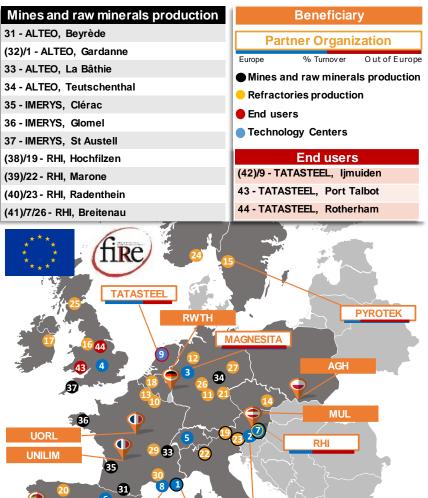
Conclusions

→ Setup pertinent Figures

Example from ATHOR

1 - ALTEO, Gardanne 2 - IMERYS, (CARRD) Villach 3 - MAGNESITA, Hilden 4 - PYROTEK, Milton Keynes 5 - PYROTEK, Sierre 6 - PYROTEK, Zaragoza 7 - RHI, Leoben 8 - ST-GOBAIN, (CREE) Cavaillon 9 - TATASTEEL, Ijmuiden Refractories production 10 - MAGNESITA, Flaumont 11 - MAGNESITA, Kruft 12 - MAGNESITA, Oberhausen 13 - MAGNESITA, Valenciennes 14 - PYROTEK, Blansko 15 - PYROTEK, Ed 16 - PYROTEK, Warrington 17 - RHI, County louth 18 - RHI, Evergem 19 - RHI. Hochfilzen 20 - RHI, Lugones 21 - RHI, Marktredwitz 22 - RHI, Marone 23 - RHI, Radenthein 24 - RHI, Porsgrunn 25 - RHI, Stirlingshire (26)/7 - RHI, Breitenau /Trieben/Veitsch 27 - RHI, Aken 28 - ST-GOBAIN, Rödental 29 - ST-GOBAIN, (Savoie) Lyon 30 - ST-GOBAIN, (SEPR) Le Pontet







IMERYS

ALTEO

ST-GOBAIN

UMINHO



Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

→ Setup pertinent Figures

Example from ATHOR

Industrial partners

Industrial Vessel (Steel ladle as example)





Masonry



Refractory (Brick or Castable)

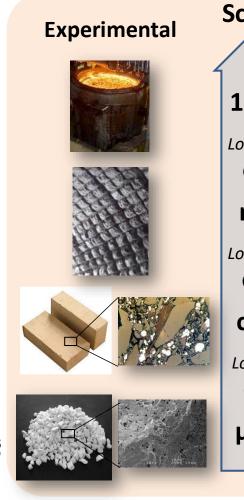


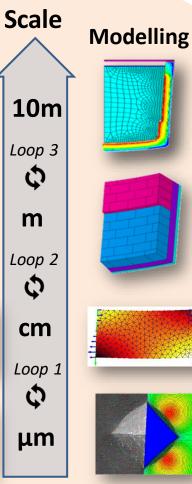


















Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charte

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

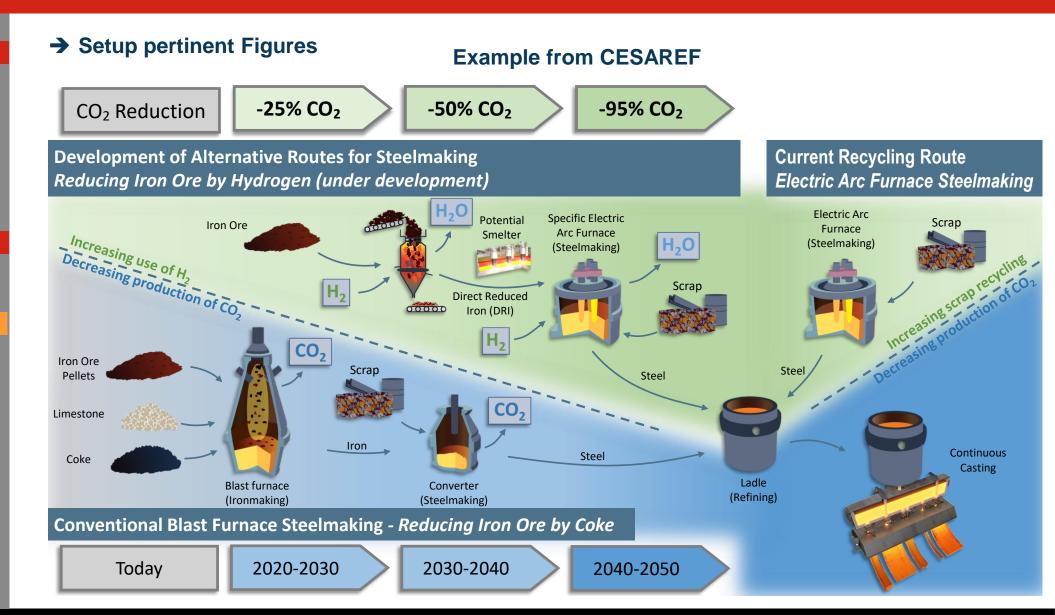
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charte

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

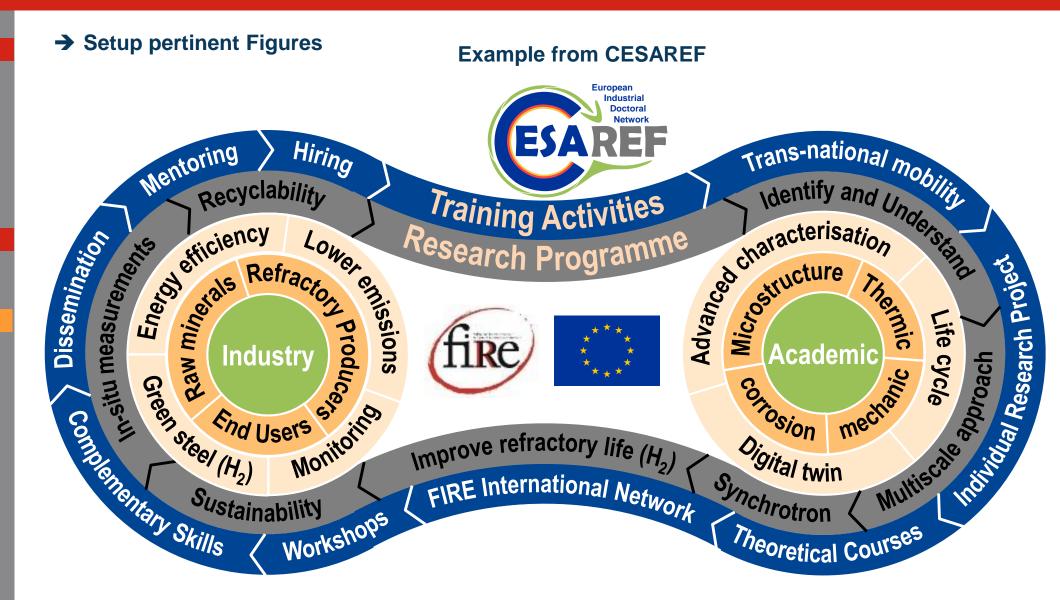
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

→ Setup pertinent Figures

Example from CESAREF

Efficient use of mineral resources and recycling

- → Reliable LCA inventories related to extraction/production
- → Recycling routes / associated environmental impacts
- → Whole environmental footprint



Microstructure design for increased sustainability

- → Influence of microstructure on mesoscale properties
- → Effects of thermo-chemo-mechanical loads at mesoscale
- → Integrated tools to design optimum material microstructure

Energy efficiency and durability

- → Design non-destructive tests to assess potential second use
- → Computing and monitoring refractory lining performance
- → Optimization approach with regard to energy consumption



Anticipation of Hydrogen Steelmaking

- → Basic science knowledge considering H₂ environment at high temperature
- → From laboratory analyses to future industrial steel process
- → Design tools for application of refractories in future reactor design





Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charte

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

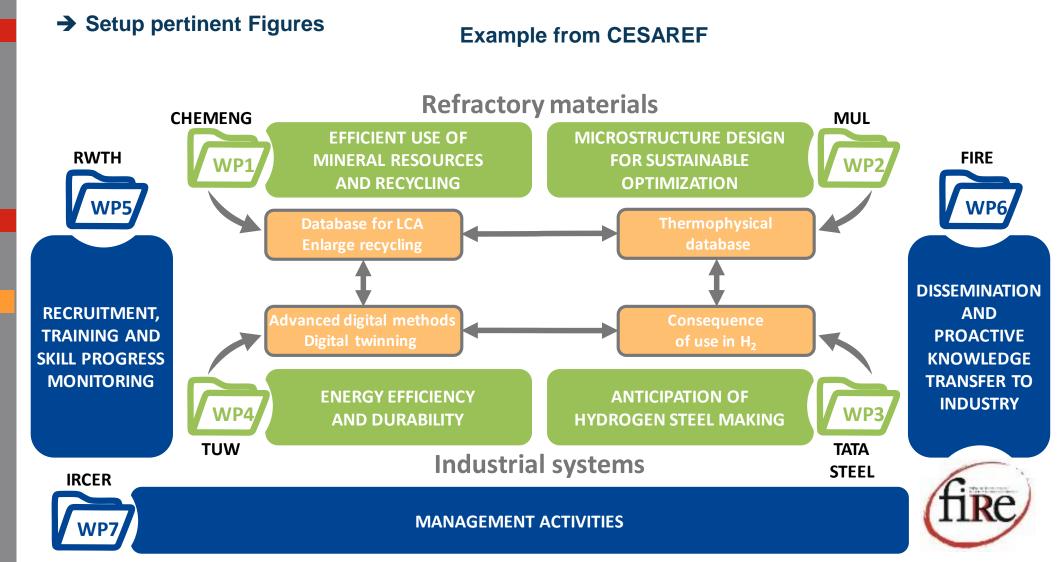
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Launching different actions within the 4-5 months before starting point

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

→ Grant Agreement

- Secure in advance the PIC Numbers, LEAR, PLSIGN
- Prepare (a little bit in advance) your different Beneficiaries and Associated Partners

→ Consortium Agreement

- Mandatory document signed by the Beneficiaries and the Associated Partners
- Generally based on LERU Model
- Agreement about central budget for the Management and Training Events

Management (typically 50% of MIC)

Management (typically 15% of RTN)





Launching different actions within the 4-5 months before starting point

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

→ Communication

- Recruitment is not an easy task
- A lot of efforts should be allocated to communication
- Anticipate the creation of your website

→ Recruitment

- You can not recruit in your own country
- European Master Students are absolutely not aware about MSCA
- A lot of extra European applicants
- Better if applicants have made their Master in Europe
- An absolute key point for the future success of the project





Life of the project

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

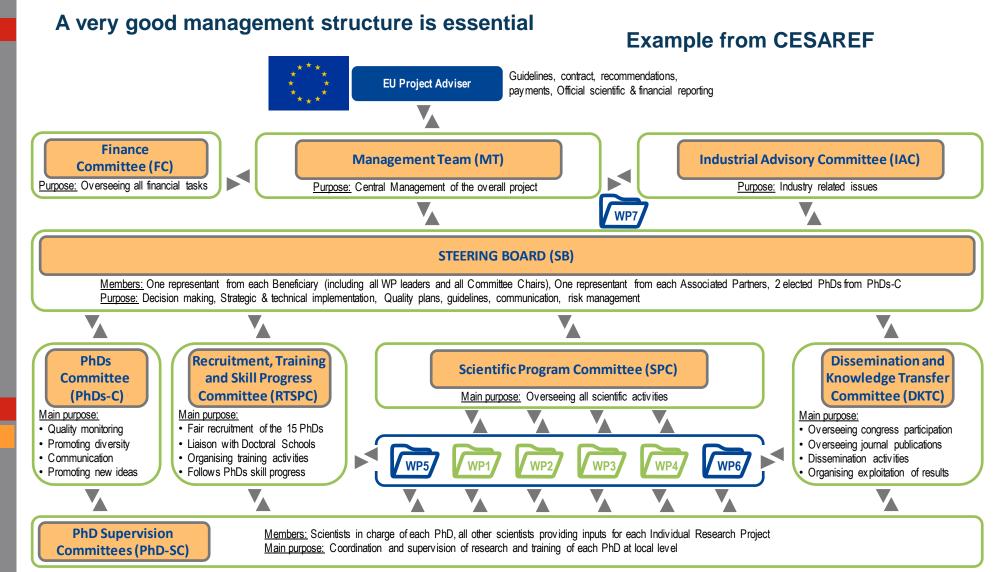
Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts







Life of the project

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

A pertinent Project Manager

- → Full time is preferable (in small structure)
- → PhD level is preferable (to help in many areas of the project)







Life of the project

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

Providing the Deliverables to the REA

- → Be realistic when you define the deliverable in the proposal
- → Not always easy to respect the provisional delivery month





After the project

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

What will remains after the project

- **→** Structuration of the European research area
- → Training materials (powerpoints, recordings) on a dedicated Moodle plateform





Conclusions

Coordinator Experience(s)

My personal advices about..

... preparatory stage

Some key ideas

Structure your network

... ANR MRSEI support

Setup Workshop/Brainstorming

Ask consulting help

... Proposal writing

Methodology

Layout style

Graphic charter

... Launching actions

Grant / Consortium Agreement

Communication / Recruitment

... During project

Management Structure

Project Manager

Reporting / Deliverables

... After the project

Expected impacts

Conclusions

High competition

No pain → No game

Your target should be minimum 95-96 for the total score of your proposal

Your proposal needs to be perfect

You need also some luck

Meticulous and timely follow-up of the different actions

Don't count your time

Clear communication required







Thank you for your attention







UMR CNRS 7315

12 rue Atlantis 87068 LIMOGES CEDEX FRANCE www.ircer.fr

Marc HUGER marc.huger@unilim.fr