

## ATHOR

Advanced THERmomechanical multiscale mODelling of Refractory linings

In February 2018, a consortium of **7 academic poles and 8 industrial leaders**, brought together by FIRE and funded by the **Marie Skłodowska-Curie Actions**, kicked off the ATHOR project. The project was dedicated to the training of **15 early-stage researchers (ESRs) in multi engineering fields** needed to obtain a better understanding of the thermomechanical behaviour of refractory linings used in the steel industry. Four years later, approaching the end of the project (March 2022) and the start of 15 new careers, we invite you to participate in our final meeting and see the highlights of the cutting-edge research in areas such-as: **material characterization, impact of corrosion on thermomechanical properties, thermal shock resistance, modelling of non-linear thermomechanical behaviours, instrumentation of industrial devices** and measurement in operation conditions.

**SAVE THE DATE: Friday 25 February 2022**

Places are limited to 50 within the room due to COVID regulations, please contact Glyn Derrick [glyn.derrick@unilim.fr](mailto:glyn.derrick@unilim.fr) as soon as possible to confirm your presence

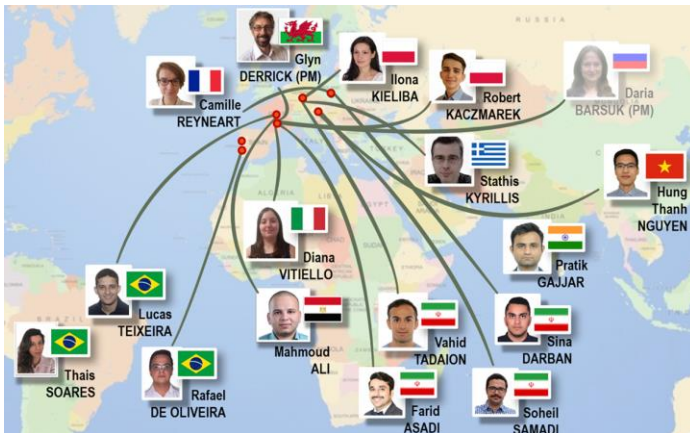
## Final Meeting

The meeting will include presentations from European policy officers, European Steel Technology Platform (ESTEP), ATHOR industrial partners, **round table panel discussions with the ATHOR ESRs and experts** as well as poster presentations showcasing the 15 research projects. There will also be the opportunity to experience the interactive travelling exhibition developed during the ATHOR project - Ceramik.

## Venue

Représentation de la Région Nouvelle-Aquitaine à Bruxelles  
[WebSite](#) - Place: [21 rue Montoyer - 1000 Brussels - Belgium](#)  
Telephone: +32 2 318 52 69

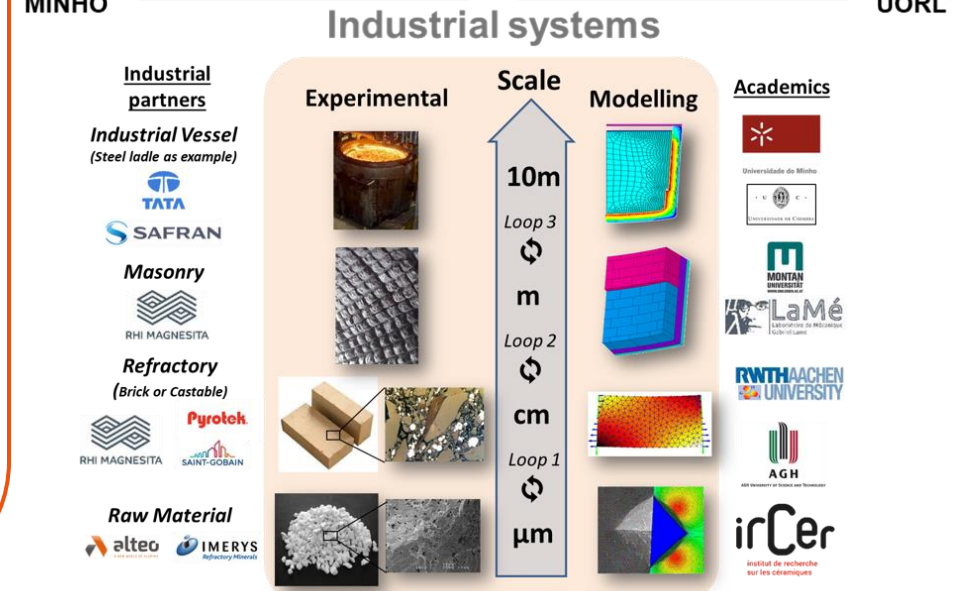
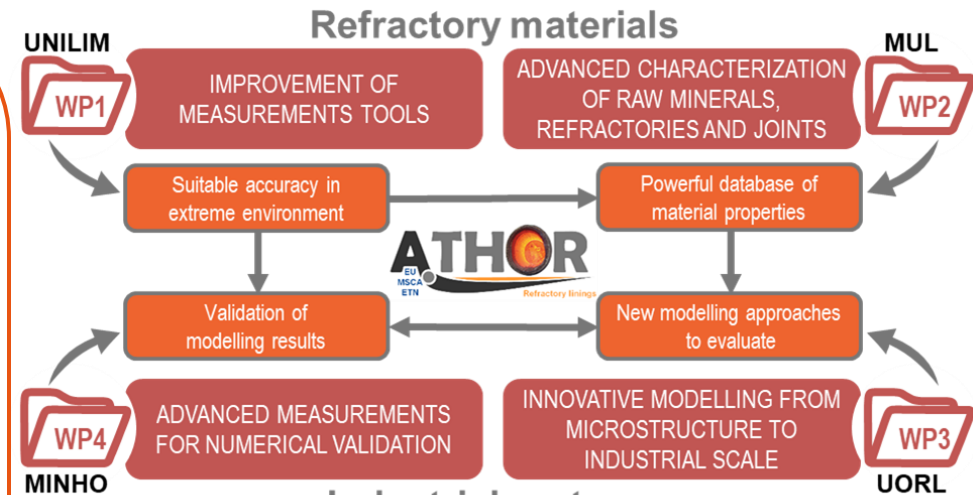




## ATHOR THE KEY POINTS

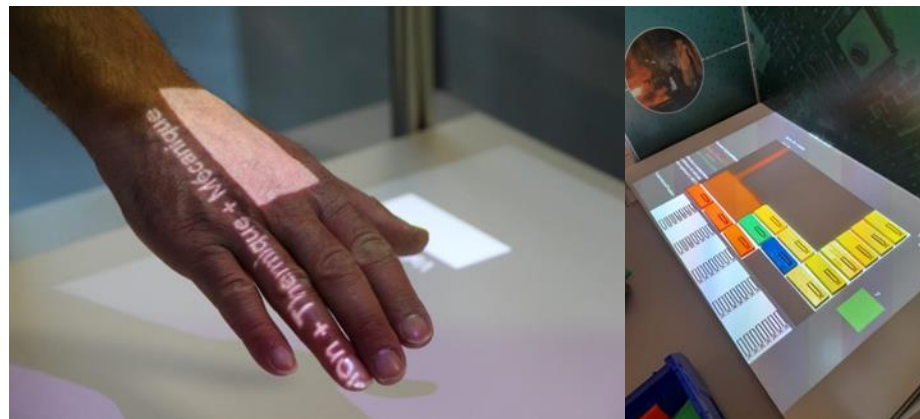
International companies and academic institutions across Europe were joined by **15 students from around the world** to use different approaches to investigate multiple issues effecting refractories at high temperatures.

From the micrometer to the 10's of meters scale have been studied. Improvement of existing, and development of **new methodologies for thermal and mechanical characterization of refractories** has taken place. A powerful and accurate database of materials properties has been created and used to **develop pertinent modelling approaches**. This has led to the calibration and validation of the numerical macro-models via a large-scale experimental campaign, including a 3D pilot scale ladle, which tested full scale models.



## DETAILED PROGRAM

- 08:30 - 09:00 - Registration and coffee
- 09:00 - 09:10 - **Welcome talk** by Dr Sido SINNEMA (*Secretary of FIRE*) and a representative from the Bureau de la region *Nouvelle-Aquitaine*
- 09:10 - 09:30 - **Introduction to this ATHOR Final Meeting** by Prof. Huger, Project Coordinator (*University of Limoges*)
- 09:30 - 09:50 - **MSC Actions in Horizon Europe. Academia-Business cooperation** by Dr Manuel GOMEZ HERRERO (*Europ. Com.*)
- 09:50 - 10:20 - **Industrial highlights of ATHOR and future expectations** by Dr Erwan GUEGUEN (*RHI Magnesita*)
- 10:20 - 10:30 - **Introduction to 'Cerami°k - The World of High Temperature Science'** by Camille REYNAERT (*Vesuvius*)
- 10:30 - 10:45 - **Introduction to ATHOR Scientific Posters** by Robert KACZMAREK (*RHI Magnesita*)
- 10:45 - 11:45 - **Posters** by ATHOR PhD Students, **'Cerami°k' exhibition** by Djamel HELLAL (*Centre Sciences*) and coffee break
- 11:45 - 12:30 - **Panel discussion by ATHOR PhD students** about their own feedback after such MSCA research program
- 12:30 - 14:00 - Lunch
- 14:00 - 14:30 - **Panel discussion by ATHOR Supervisors and Mentors** about their own feedback after such MSCA research program
- 14:30 - 15:00 - **Breakthrough technologies, decarbonisation roadmap in European steel making** by Dr Jean Theo GHENDA (*Eurofer*)
- 15:00 - 15:30 - **Future expectations in refractory area within the context of European Green Deal** by Dr David DUMONT (*Vesuvius*)
- 15:30 - 16:15 - **Posters** by ATHOR PhD Students, **'Cerami°k' exhibition** by Djamel HELLAL (*Centre Sciences*) and coffee break
- 16:15 - 16:45 - **Social innovation in ESTEP & the Clean Steel Partnership** by Delphine SNAET (*European Steel Technology Platform*)
- 16:45 - 17:00 - **ATHOR showcasing the importance of science and networking** by Christoph WOHRMEYER (*Imerys*)
- 17:00 - 17:15 - **Future actions and concluding words** by Dr Sido SINNEMA (*Secretary of FIRE*) and Prof. Huger (*University of Limoges*)



## INTERACTIVE TRAVELLING EXHIBITION

### 'Cerami°k - The World of High Temperature Science'

Aimed at the general public with a focus on secondary school students (11 - 18 years old). **Presenting complicated, fundamental research in a way that is fun and easy to understand**, ceramic science and refractory research issues are featured to promote scientific studies and careers in the refractory field among young people and the general public. Hands-on experiments have been designed to emphasize the posters, by, for example, being able to feel the different weights and textures of different materials, as well as presenting counter-intuitive observations to inspire the general public to ask questions and think outside the box.

