



ACHIEF

May 2022

PRESS-RELEASE

ACHIEF – End of the 1st Reporting Period

[Grenoble – May 2022] The first 18 months of the ACHIEF project just came to an end. On Wednesday, 25th May 2022, the ACHIEF Consortium met the European Commission to present and review the project's progress so far.

During the first period of the project, the [eleven partners](#) have been working collaboratively to deliver expected results to **enhance energy efficiency in the Energy Intensive Industrial sector**.

Significant steps have been taken. In terms of technical and technological progress, the development of the artificial intelligent tool has been achieved. During the process, the materials behaviour models were produced according to the specifications and operational parameters generated to characterise each use case applied in the industrial process.

The development of this tool is still in the early stages. However, once the simulations will be validated, the simulation tool is presumed to provide materials such as novel Polymer Derived Ceramics (PDC) and High Entropy Alloys (HEA), that are expected to meet the challenges of ACHIEF objectives.

Moreover, coding of the generative models for HESAs and Cr-steel has just started, as well as the second step for several novel materials. To select the best elements, [CEA](#), [AIMEN](#) and [VTT](#) have used artificial intelligence to perform preliminary tests. They have carried out the simulation of different use cases at laboratory scale allowing the assessment of material behaviour under the drastic conditions of the three Energy Industry plants ([Constellium](#), [ArcelorMittal](#) and [Tupras](#)).

[TECNALIA](#) and [TUBOS REUNIDOS INDUSTRIAL](#) have designed novel Cr-steel grades for creep application that have been cast at laboratory scale and are currently under characterisation.



The project has received funding from the European Union's Horizon 2020 research and innovation program under Grant Agreement N° 958374.

At the moment, the different sensors provided to characterise novel materials are under manufacturing and represent a scientific challenge to allow them to operate in harsh environments.

During the next months, materials will be characterised more precisely which will facilitate the identification of the best candidates. Once the process is finalised, the production of these materials will be upscaled to be validated at industrial level.

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Meet the Consortium



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