## www.achief.eu







Innovative high performance Alloys and Coatings for HIghly EFficient intensive energy processes

The **ACHIEF project** aims at improving process performance and energy efficiency in Ells by developing more durable materials components and equipment.

## How will the project achieve this?

- Developing innovative high-temperature strength and creep resistance materials based on novel High-Entropy Alloys (HEAs) to allow reaching higher process temperatures,
- Developing novel protective Polymer Derived Ceramic (PDC) coatings with improved high-temperature erosion and corrosion resistance,
- Developing high performance coatings based on HEA-nanocomposites with improved high-temperature wear and thermal fatigue resistance to protect industrial equipment employed in hot metal forming processes,
- Developing a new high Chromium steel grade with creep resistance 15% improved,
- Implementing advanced high-performance temperature sensors based on Fiber Bragg Grating technology and corrosion sensors based on Electrochemical Impedance Spectroscopy technique,
- Promoting and disseminating the results of the project to maximize the impact of ACHIEF.



## Making a difference

ACHIEF's is working towards making a difference in the future Energy Intensive industrial sector: more efficient and sustainable. The project novel intelligence solutions will make an ambitious contribution to the European Action plan on energy efficiency aiming at:

- $\blacksquare$  cutting energy consumption by at least 32.5% and CO<sub>2</sub> emissions by 40% by 2030,
- improving energy efficiency by 30%,
- reducing  $CO_2$  emissions and resource utilization by 20%, and
- increasing lifetime equipment of more than 20%.



![](_page_0_Picture_22.jpeg)

This project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 958374. This content only reflects the author's view. The European Commission is not responsible for any use that may be made of the information it contains.