



€ 5.8 MEUR



42 MONTHS

1 October 2020-31 March 2024



11 PARTNERS



7 COUNTRIES



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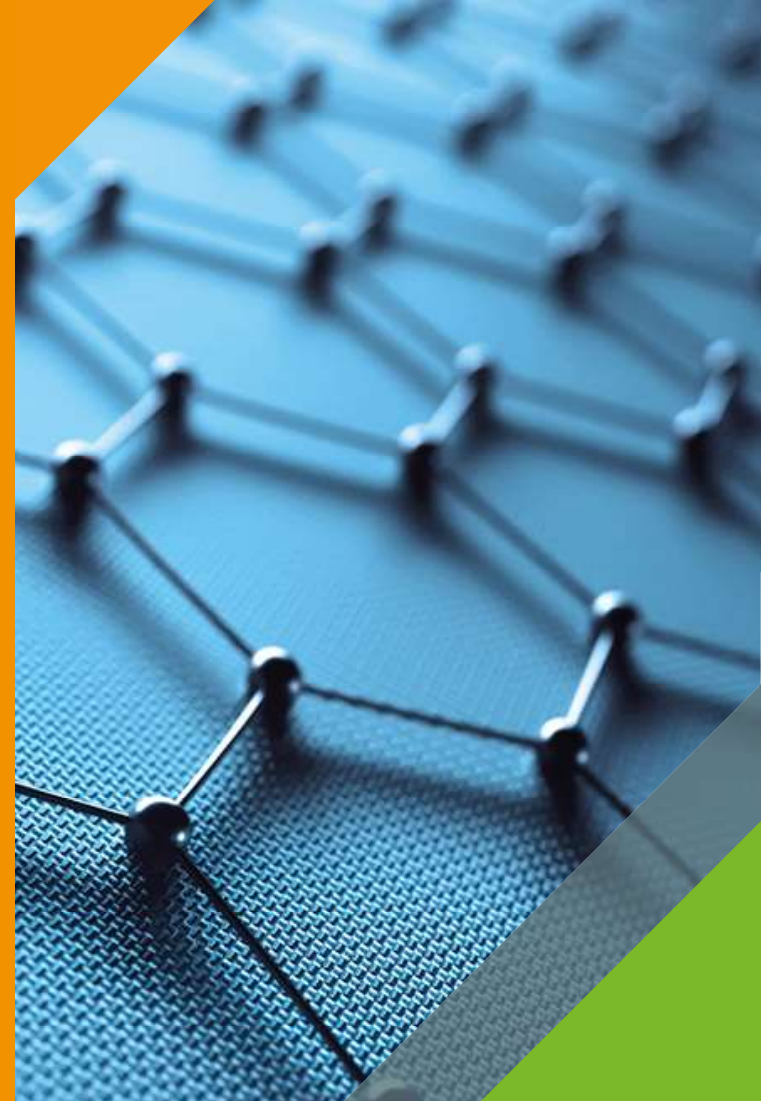
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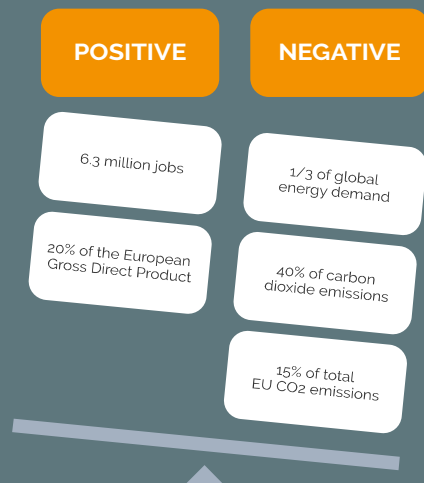


ACHiEF

Innovative high performance Alloys
and Coatings for Highly EFFicient
intensive energy processes

Why Energy Intensive industries?

- Energy Intensive industries (EII) are a major part of the EU economy, generating 20% of the GDP and creating 6.3 million direct jobs opportunities.
- EIIs, embedded in many strategic value chains, make up more than half of the energy consumption of the EU industry. EIIs produce goods and materials that enable emissions reduction in other sectors of the economy, including transport, construction and power generation.
- EIIs are responsible for 1/3 of the global energy demand and 40% of CO₂ emissions. In the EU, 15% of CO₂ emissions come from EII.
- EIIs have to contribute to the European Action plan on energy efficiency by saving 20% of primary energy.

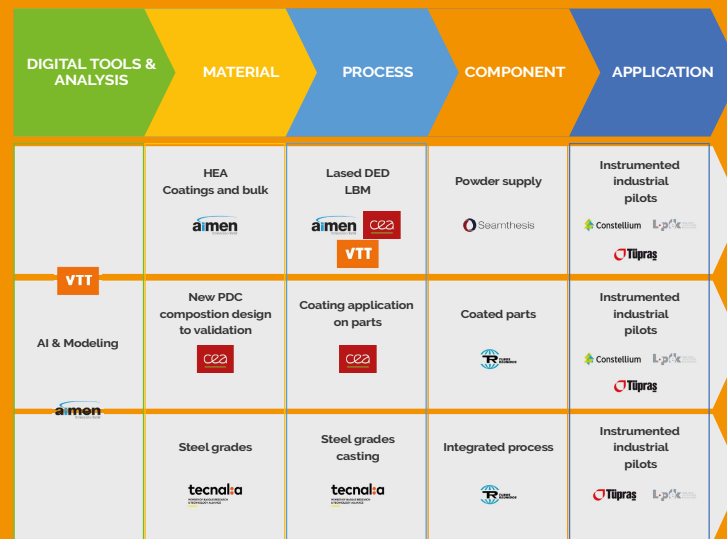


ACHIEF contributions

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

How will the project achieve this?

- Implementing novel Integrated Artificial Intelligence-aided Materials Toolbox (IAIMT),
- Developing novel efficient materials & coating solutions,
- Validating the developed materials & coating solutions in three end user's cases: aluminum, steel, petrochemicals,
- Promoting and disseminating the results of the project.



From TRL3 to TRL5

ACHIEF addresses different technological and materials solutions, starting from TRLs 3-4, with the goal of taking them to an overall final TRL5. These solutions will be further studied and developed through extensive laboratory tests for screening of advanced high-performance materials (TRL3). Subsequently, the concept will be validated at laboratory level (TRL4) and followed by its demonstration at relevant environments in three end user's cases (TRL 5): CONSTELLIUM (France), ARCELOR MITTAL SESTAO (Spain), TUPRAS (Turkey).



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:

- cutting energy consumption by at least 32.5% and CO₂ emissions by 40% by 2030,
- improving energy efficiency by 30%,
- reducing CO₂ emissions and resource utilization by 20%, and
- increasing lifetime equipment of more than 20%.