



CE-SPIRE-05-2019

## REVaMP

Full Title: Retrofitting equipment for efficient use of variable feedstock in metal making processes

### Aim:

The objective of the REVaMP project is to develop, adapt and apply novel retrofitting technologies to cope with the increasing variability of material and energy feedstocks and to ensure their efficient use. This will be demonstrated through a number of different use cases from electric and oxygen steelmaking, to aluminium refining and lead recycling. The performance and benefits of the technologies will be assessed and quantified.

### Concept:

Existing metal production plants need to be retrofitted with appropriate sensors, for efficient characterisation of metal scrap in terms of their chemical composition analysis and for furnace operation, to cope with the varying conditions of the feedstock regarding materials and energy. Furthermore, the selection of the optimal feedstock in terms of material and energy efficiency must be improved by application of appropriate process control and decision support tools. Also, solid scrap preheating systems operated with waste derived fuel can increase the energy efficiency of the melting processes. To monitor and control the process behaviour in an optimal way, model-based software tools will be developed and applied. The developed retrofitting solutions will be evaluated in terms of economic and ecological effects, as well as cross-sectorial applicability in other process industries. The project results shall be valorised, disseminated and exploited for the metal making sectors and process industry in general.

### Start date:

01/01/2020

### End date:

31/12/2023