



Horizon2020 Information Days on Public-Private Partnerships

Brokerage event
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Copper Recycling: efficiency enhancement of copper waste recycling process
SIMAR SOCIETÀ METALLI MARGHERA S.P.A.
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ORGANIZATION/COMPANY

Simar S.p.a, part of Cordifin Group, is an Italian Company which operates in the market of non-ferrous metals, at national and international level, and plays an important role in the supply of laminates, alloys and wire zinc.

Simar's production plant is based in Porto Marghera and its history began in 1936. Since then, it experienced significant improvements with the aim to become an international industrial hub. Considerable investments address to Research & Development activities in order to find innovative solutions for specific purpose.

Simar's main products are:

- *Rolled zinc for building and construction*
- *Rolled « GM » zinc*
- *Alloys for pressure die-casting*
- *Alloys with high aluminium content*
- *Alloys for centrifugal casting*
- *Zinc wire*

PROJECT IDEA

The project aims to improve and implement a new technology developed by SIMAR and based on a top-blown rotary converter (Kaldo furnace) for developing an innovative solution for recycling complex copper-containing materials. The goal is to process both slag waste material produced by copper plants and industrial scraps that are actually considered dangerous waste and not recycled (flue dust, catalysts, collector dust, slimes from electroplating wastewater, electronic waste etc).

In particular, the improvement of the new process (process control, process efficiency, dust emissions, etc.) will make the recycling of waste with low concentration of copper and with complex composition economically sustainable.

This will allow:

- limiting the negative environmental impact of industrial and dangerous/hazardous waste
- reducing waste incineration and disposal in landfills
- improving waste management minimizing the cost of waste transportation
- reducing demands on natural resources
- decreasing greenhouse gas emissions
- reducing gas emissions

- Relevant key component:

Waste2Resource

Avoidance, valorisation and re-use of waste streams within and across sectors, including recycling of post-consumer waste streams and new business models with the ambition to closing the loop.

- SPIRE related Horizon 2020 call:

SPIRE-04-2016

SPIRE-07-2016

EE-17-2016

EXPECTED IMPACT

The project's expected impact will be:

- realisation of an innovative industrial-scale plant capable of successfully treating and recycling complex copper-containing materials
- technological validation and performance analysis of the plant/system
- reduction of overall energy consumption of about 15%
- maximisation of the capability of recycling copper from complex industrial waste with a minimum copper content of 5%
- improvement of the productivity 25% (from 9000 to 11000 tons/year of Cu)
- reduction of dust emissions 5% (from 0,41 to 0,39 kgdust/tonCu)
- industrial demonstration of the effectiveness of the new recycling plant that can be replicated in EU.

EXISTING PROJECT CONSORTIUM



SIMAR S.P.A



THE DEPARTMENT OF INDUSTRIAL ENGINEERING OF THE
UNIVERSITY OF BOLOGNA

LOOKING FOR PARTNERS

We are looking for industrial partners, public bodies and end-users.

CONTACT DETAILS

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