

# Chemical removal of unwanted metal components for a metal alloy recycling process

## Summary

Profile type

**Technology request**

Company's country

**France**

POD reference

**TRFR20260529025**

Profile status

**PUBLISHED**

Type of partnership

**Research and development  
cooperation agreement**

Targeted countries

- **Netherlands**
- **Denmark**
- **Portugal**
- **Slovenia**
- **Estonia**
- **Ireland**
- **Spain**
- **United Kingdom**
- **Slovakia**
- **Poland**
- **Lithuania**
- **Latvia**
- **Czechia**
- **Croatia**
- **Bulgaria**
- **Norway**
- **Switzerland**
- **Finland**
- **Italy**
- **Sweden**
- **Belgium**
- **Hungary**
- **Greece**
- **Austria**

## • Luxembourg

Contact Person

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Term of validity

**24 Jun 2026****24 Jun 2027**

Last update

**24 Jun 2026**

## General Information

### Short summary

A French SME active in the recycling and production of non-ferrous alloys is facing a technical problem when recycling used metal parts which have received a surface treatment using tin (Sn) and / or nickel/chromium (Ni/Cr). It is looking for an industrial or research and technology partner able to develop a chemical remover which will be upscaled at industrial level for an efficient removing of these elements from the metal parts before recycling under a research and development agreement.

### Full description

In the metal recycling sector in which the SME operates, the company produces non-ferrous materials with varying compositions.

To do so, it sources metallic waste and end-of-life metal products from various origins, most of which are made of zinc and aluminium alloys. Many of these products have also undergone surface treatment using tin and or nickel/chromium, which improves their brightness and resistance to wear.

Unfortunately, even very small quantities of tin are incompatible with the level of purity required by international standards for some of the alloys that the company produces and sells.

It is therefore necessary to remove the tin, even when it is only present as a very thin layer on the batches of products to be recycled. Mechanical removal of this tin-based or Ni/Cr based layer has proven ineffective. The company is therefore seeking a chemical removal solution.

To date, the company has worked with another partner that was able to develop a low-TRL experimental chemical method. However, this method has several drawbacks, notably significant heat generation, which make it difficult to scale up to an industrial level. There is no more cooperation of the company with that partner but the initial research results are owned by the SME.

The SME is now looking for an industrial partner or research centre capable of either improving the existing research results in order to develop a chemical process suitable for removing tin layers from metal scrap at industrial scale, or launching a new research study from scratch with the same objective.

It is looking for a research and development cooperation agreement

## Advantages and innovations

## Technical specification or expertise sought

The partner sought should have expertise in chemical processes for metals, particularly processes used to remove metallic components from parts of alloys of different composition.

The partner sought could be either a laboratory or technical centre specialized in materials or a metal processing industrial company

## Stage of development

**Available for demonstration**

## IPR Status

**Secret know-how**

## IPR Notes

## Sustainable Development goals

**• Goal 9: Industry, Innovation and Infrastructure**

## Partner Sought

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## Expected role of the partner

- Finalize and improve the current chemical methodology which has been experimentally developed by a no-longer existing external partner. The R&D report is available from the company

Or

- Develop from scratch a chemical remover able to remove at industrial scale tin, chromium and nickel elements contained on surface treatments made of Zn or Zn-Al alloy metal scraps

The partner should be able to provide the chemical remover composition to the company which will test it on its process.

## Type of partnership

## Type and size of the partner

**Research and development cooperation agreement**

- R&D Institution
- SME  $\leq 10$
- SME 50 - 249
- University

## Dissemination

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Technology keywords

- **03004010 - Special chemicals, intermediates**
- **02007011 - Non-ferrous Metals**
- **02007010 - Metals and Alloys**

Market keywords

- **08001012 - Speciality metals (including processes for working with metals)**
- **08005 - Other Industrial Products (not elsewhere classified)**

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- **Austria**
- **Luxembourg**

Sector groups involved

- **Energy-Intensive Industries**