

*“ Nothing is lost  
nothing is created  
everything changes ”* Lavoisier

Our recycling service is at your disposal to recover your **tin-**,  
**lead-** and **silver-based** scraps.

**metaconcept**  
Recyclage

# The main stages of the recovery process

## INITIAL PACKAGING

**METACONCEPT** supplies its client with free collection containers for the sealed packaging of goods in accordance with regulations.

## TRANSPORTATION AND CHECKS

**METACONCEPT** has formed partnerships with different service providers licensed to transport tin-based alloy scraps. The scraps are generally palletised to enable the quick and safe handling of the goods. Upon arrival at our storage and sorting centre in Lyon-Chaponost, the goods are immediately weighed and checked.

## SORTING AND PRE-TREATMENT

Some goods require no transformation and are processed as they are. Other scraps comprise non-metallic substrates such as paper, cardboard, adhesives, chemical derivatives or other materials that formed part of the final product. In these cases, the waste is pre-treated to separate and sort the different materials.

## REDUCTION OF OXIDES

Tin-based scraps are first processed in a rotary furnace to reduce the oxides so that all available metal can be collected. This stage forms the basis of the recycling process. It is carried out at a very high temperature and produces a 100% metallic material.

## SEPARATION OF METALS

The scraps undergo a distillation process at more than 1300°C in order to separate the various metals constituting the alloy.

This extremely complex stage requires a controlled environment for effective separation to be achieved. This process enables the recovery of tin in its pure state or from a tin-based alloy which, after a refining stage, is reused as a secondary raw material.

## ELIMINATION OF IMPURITIES

This final stage allows for the elimination of any impurities that remain in the metal following distillation. Then, depending on the level of impurities permitted in the final application, a pure tin at 99.90% or LME quality tin (99.85%) is obtained. From this stage, it is possible to produce a lead-based or lead-free alloy.

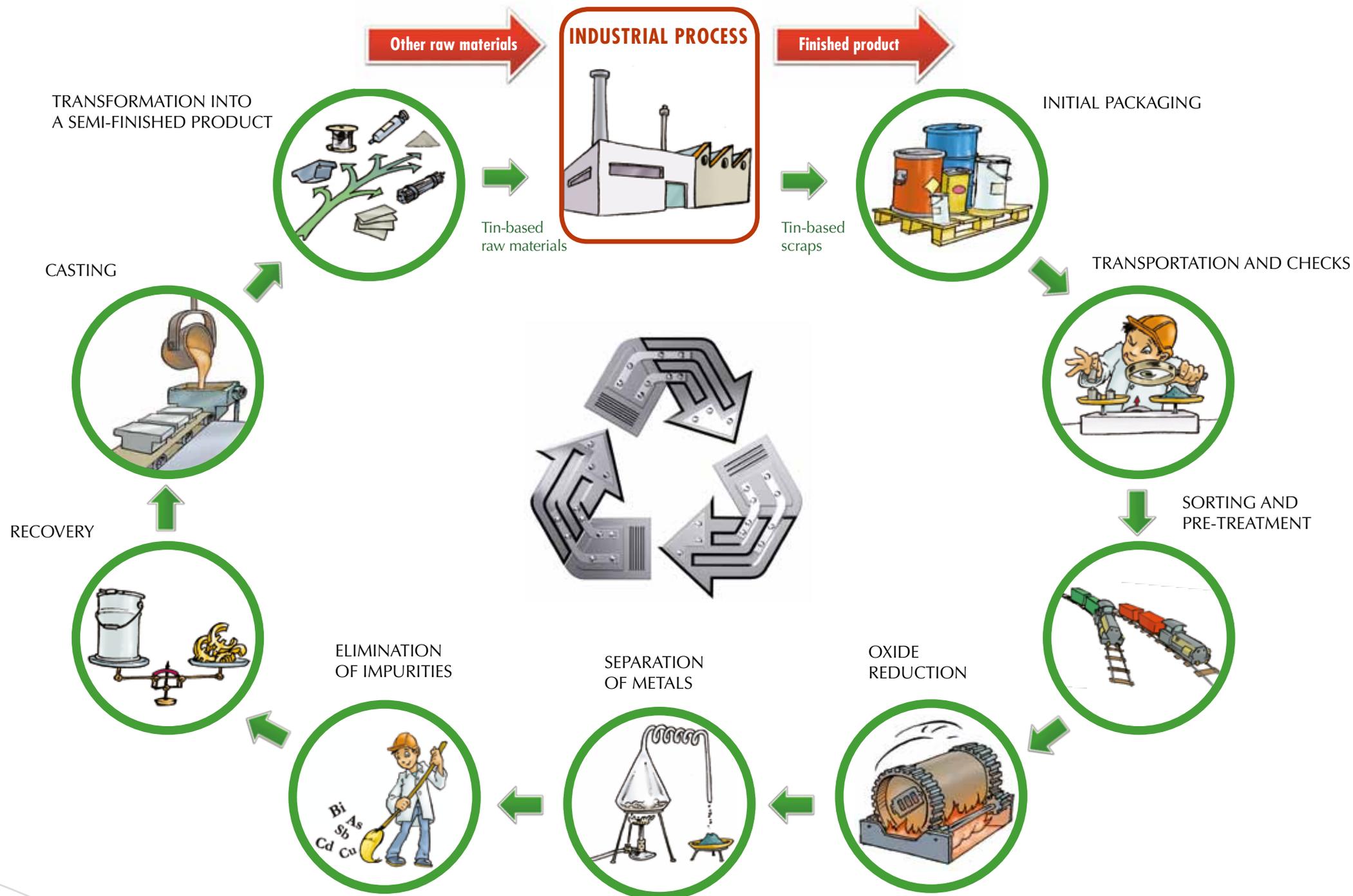
## RECOVERY

The recovery of the collected metal is carried out based on 3 main criteria: the metallic yield determined by the proportion of the metal obtained in relation to the raw scraps received, the percentage of tin, lead and silver after the final refining slag and the presence of impurities to be eliminated (Bismuth, Antimony, Copper, Cadmium, Iron, Aluminium, etc.). The combination of these 3 factors, applied to the market prices of the collected metals, allows for the determination of a precise financial value.

## CASTING – TRANSFORMATION INTO A SEMI-FINISHED PRODUCT

The refined alloy, which is transformed into ingots, then has a second life as a semi-finished product such as bars, wires, laminates, powder...







## SCRAPS PROCESSED

**METACONCEPT** is particularly specialised in processing the following scraps:

- Metallic oxides and dross from molten metal baths in the electronics and other industries
- Polluted brazing and tinning baths
- Wave soldering residues
- Jewellery waste
- Anode sprues and off-cuts
- Laminate and tinware off-cuts
- Waste from the manufacture of bearings and car radiators
- Metal baths used for electroplating
- Scraps from manufacturing using tin alloys

## “Recycling, squaring the circle”

Faced with ecological problems and their impact on our daily lives in the present and in the future, recycling is a simple and economical way of preserving our environment.

In all sectors, recycling is becoming more widely practised and prevents thousands of tonnes of CO2 from being released into the atmosphere

whilst presenting largely favourable economic benefits.

Aware of these issues, **METACONCEPT** has set up a department dedicated to recycling and has obtained all regulatory authorisations (scraps storage, treatment and transportation) so as to guarantee the scraps generator full traceability in relation to the treatment of its goods.

**Christophe EVRAT**  
President of the **METACONCEPT Group**

## NEW TREATMENT CENTRE

For several years **METACONCEPT** has been involved in collecting and recycling tin-, lead- and silver-based scraps.

We treat scraps in the form of metallic oxides, ash and manufacturing scraps.

Scraps comprising metallic compounds mixed with substrates such as plastics, cardboard, adhesives and chemical derivatives constitute complex waste and require pre-treatment.

In response to this need, **METACONCEPT** has developed equipment to enable the chemical and/or mechanical separation of metallic alloys from their bases to maximise the recovery.

## Our main partners:



Parc des Sables - 17 Route des Sables - 69630 CHAPONOST - France

Tel. + 33(0)472 668 914 - Fax + 33(0)478 513 837

[www.metaconcept.fr](http://www.metaconcept.fr) - [recyclage@metaconcept.fr](mailto:recyclage@metaconcept.fr)

