



Contact us when you need the best recycling solutions

Our innovative staff has years of experience in environmental technology»



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SERIE  
**EMC**

07  
2010

ECOMATION® PROCESS LINE  
(E-WASTE RECYCLING)



**ECOMATION**  
Recycling Technologies

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**ECOMATION®**  
converts e-waste to  
valuable raw materials  
(E-Waste Recycling)

**Environmental technology**

**Ecomation Oy**

Ecomation Oy is a Finnish company designing and supplying machinery and process systems for recycling, especially for electrical and electronic (WEEE) scrap, and for construction waste and plastic recycling processes.

We also provide for instance counseling for corporations in the recycling sector.

We have our own manufacturing and testing plant and offices in southern and northern Finland.

**Ecomation is supplying technology solutions for serving of ecological goals with the best economic efficiency.**

**"PRODUCTS AND SOLUTIONS FOR TODAY'S SOPHISTICATED PROSPECTOR"**

**COPPER, GOLD AND OTHER PRECIOUS METALS**



**PLASTICS**



**STEEL**



**ALUMINIUM AND LIGHT ALLOYS**



**Finland**

Ecomation Oy  
Merikoskenkatu 11 A6  
FI 90500 OULU

Ecomation Oy  
Helenanpiha 7  
FI 24240 SALO

Phone: +358 400 785 058  
Fax: +358 2 733 3355

[info@ecomation.com](mailto:info@ecomation.com)

VAT reg. Nro: 2120945-2

**Scandinavians countries**

e-mail: [scandinavia@ecomation.com](mailto:scandinavia@ecomation.com)  
Phone: +358 44 300 3451  
Fax: +358 2 733 3355

**Other countries**

e-mail: [sales@ecomation.com](mailto:sales@ecomation.com)  
Phone: +358 400 785 058  
Fax: +358 75 325 7801

**Latin-American and African countries**

e-mail: [info@ecomation.com](mailto:info@ecomation.com) / [latinoamerica@ecomation.com](mailto:latinoamerica@ecomation.com)  
Phone: +358 45 321 3451  
Fax: +358 75 325 7801





## The-art Recycling Technologies

The state-of-the-art recycling of e-waste comprises three steps:

### First Step

The first step in the recycling process is the removal of critical components from the e-waste in order to avoid dilution of and / or contamination with toxic substances during the downstream processes. Critical components include, e.g., lead glass from CRT screens, CFC gases from refrigerators, light bulbs and batteries.

### Second Step

Mechanical processing is the next step in e-waste treatment, normally an industrial large scale operation to obtain concentrates of recyclable materials in a dedicated fraction and also to further separate hazardous materials. Typical components of a mechanical processing plant are crushing units, shredders, magnetic- and eddy-current- and air-separators. The gas emissions are filtered and effluents are treated to minimize environmental impact.

## ECOMATION® Process line, Series EMC (e-waste recycling)

A Container version for a WEEE-scrap processing means a complete process line which is constructed into two or three sea containers depending on case for being easy to transport and remove to another place and instantly ready to operate. It can be equipped with an aggregate so it will work totally independent anywhere.



The EMC line unit is design for a process capacity is limited to 1 metric t /h (500-1000 kg) at most because it's compact size, but it is possible to use parallel units for reaching all capacity needs.

The versatile construction of Ecomation series EMC processing lines gives many possibilities for different applications following the material to process and the client needs.

### ECOMATION PROCESS LINE FOR WEEE-SCRAP

#### Material balance

**Input** 1000 kg  
Consumer electronics, small appliances...

#### Pre treatment

* Aluminium	12%	120 kg
* Iron metals	5%	50 kg
* Plastics	5%	50 kg

**To process line** 780 kg

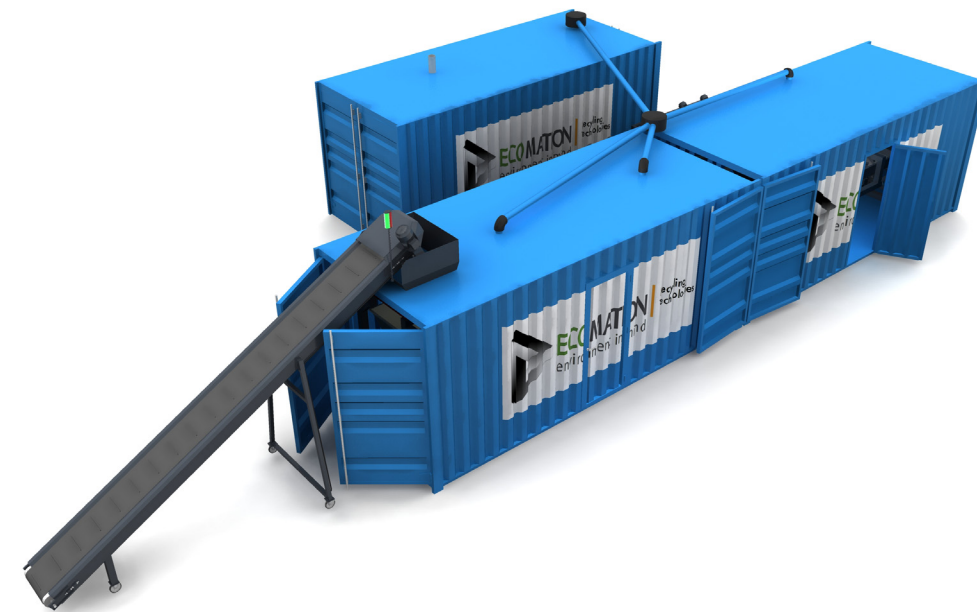
#### Outputs after process

* Iron metals	30%	234 kg
* Copper	18%	140 kg
* Aluminium	0%	0 kg
* Plastics	50%	390 kg
* Dust	2%	16 kg

#### Results

* Iron metals	284 kg
* Copper	140 kg
* Aluminium	120 kg
* Plastics	440 kg
* Dust	16 kg

*Note! All values are estimated*



*“Our products are manufactured in accordance with the highest quality standards and principles”*

### Advantages of Ecomation® solutions

- The recovery of raw materials is activated
- That means also reducing of the CO2 footprints of an industrial production
- The load on environment can be decreased by:
  1. Boosting the use of secondary raw materials
  2. Reducing the energy consumption during the whole product generation process and during the whole life span of an industrial product
- The pollution of soil and water during treatment of waste can be prevented
- The customer is contributed to catch up the aims of sustainability
- The treatment process of waste can be made to fulfill the directives and the orders of the authorities and be economically beneficial at the same time
- That means also reducing of the CO2 footprints of an industrial production



### Third Step

The third step of e-waste recycling is refining. Refining of resources in e-waste is possible and the technical solutions exist to get back raw with minimal environmental impact. Most of the fractions need to be refined or conditioned in order to be sold as secondary raw materials or to be disposed of in a final disposal site, respectively. During the refining process, to three flows of materials is paid attention: Metals, plastics and glass.

### Important to notice



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