ALBA Treasure raw materials.

IWS

環境保護署
Environmental Protection Department

Media Briefing

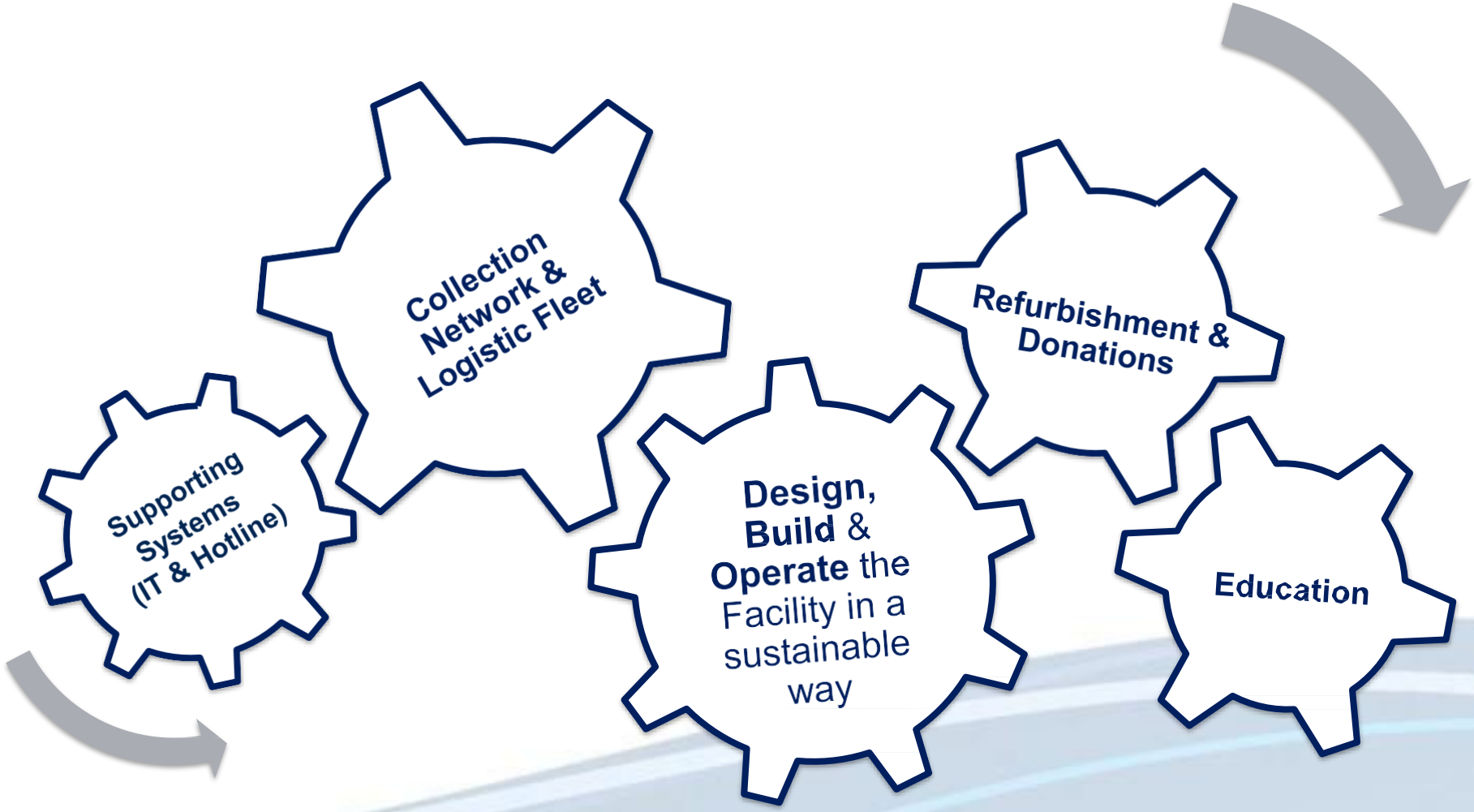
07 Mar 2018

www.weee.com.hk
E-Waste Collection Hotline
廢舊電器回收熱線: 2676 8888

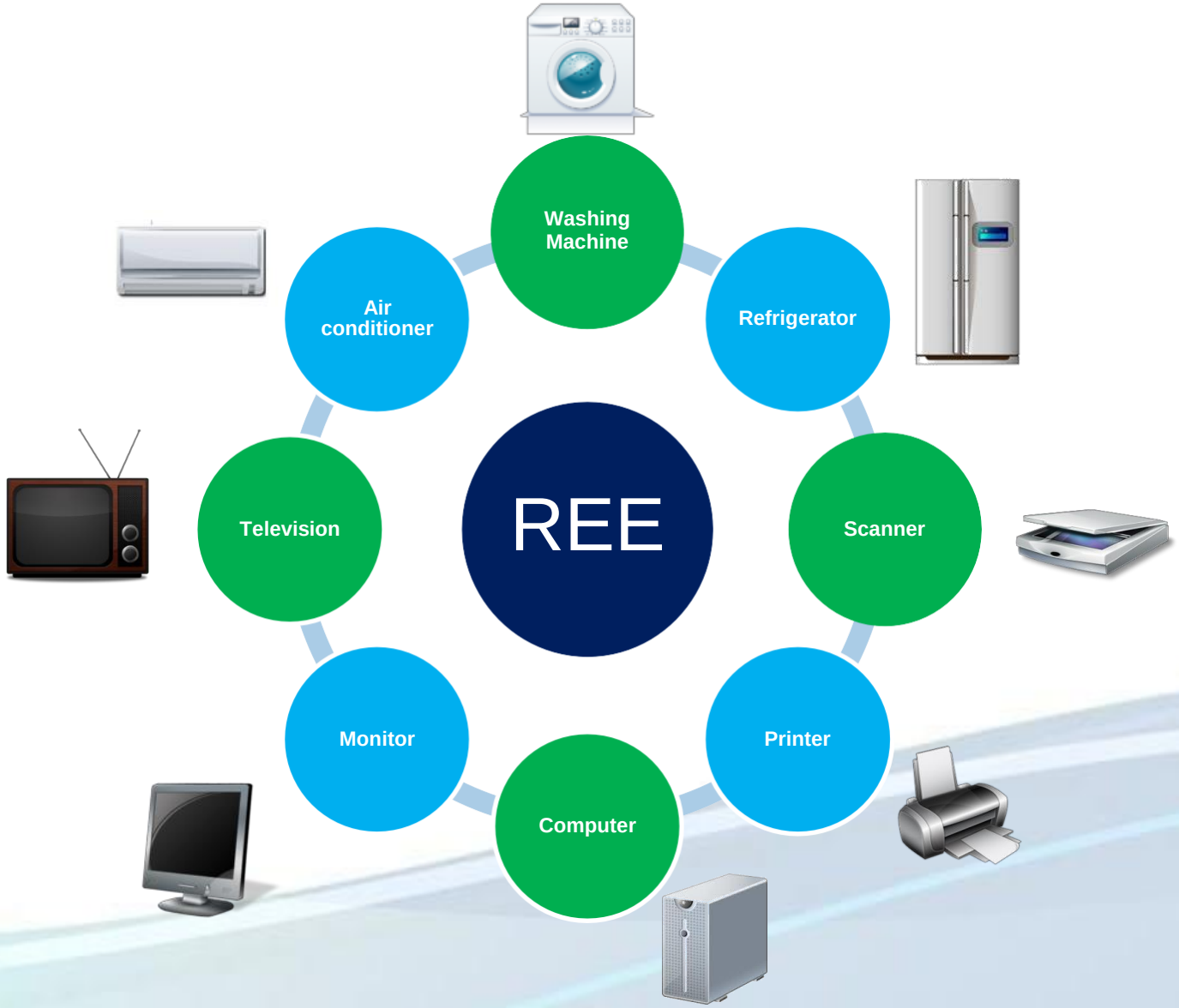
Scopes of Project

Project Overview

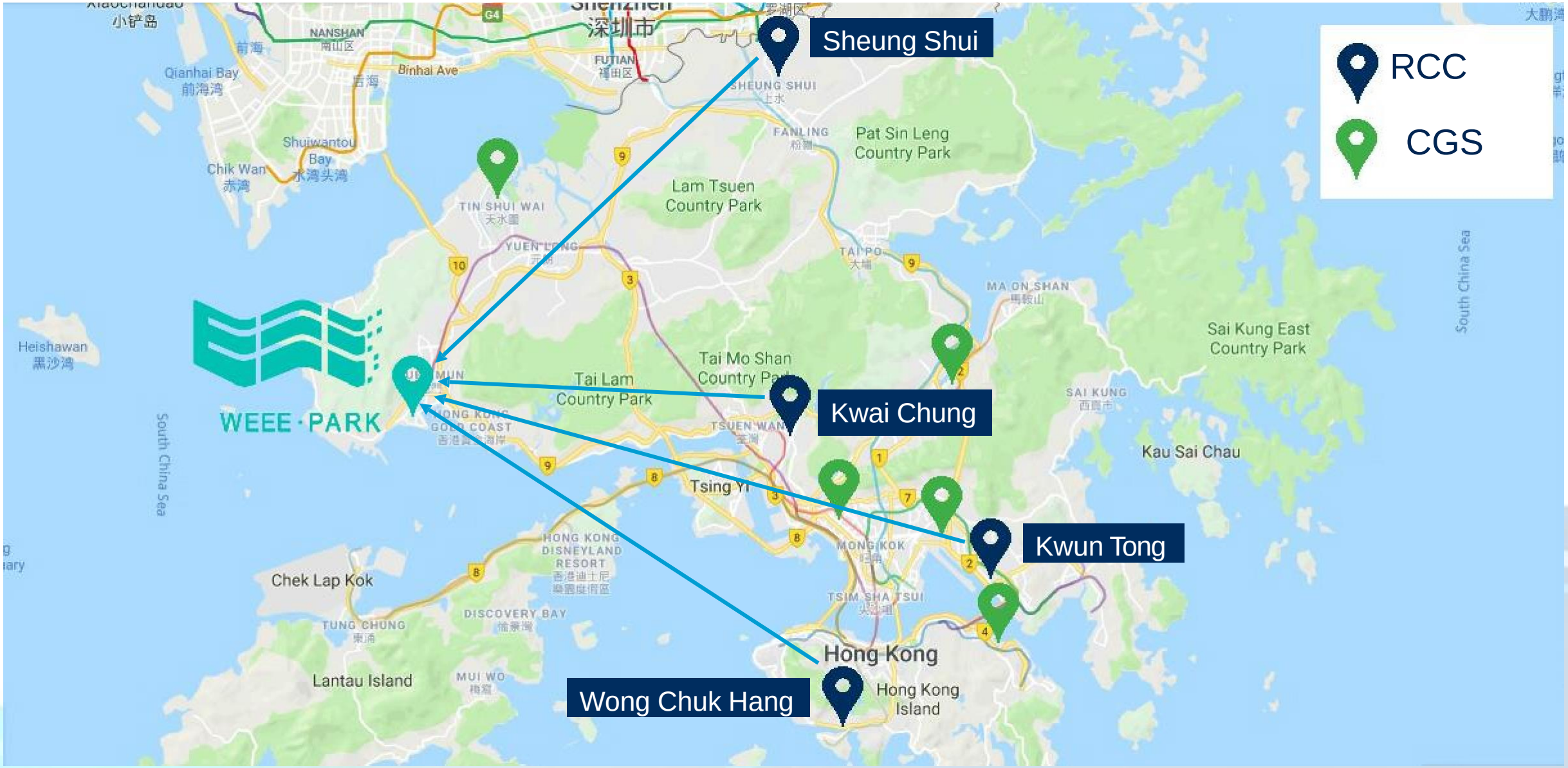
- Contract awarded to ALBA IWS in March 2015
- A joint venture of a German recycling specialist ALBA Group and a local waste management service provider IWS Group
- JV to develop the first integrated WEEE treatment facility in Hong Kong
- “Design-Build-Operate-Transfer”-agreement: asset ownership and financing through Hong Kong Government
- Contract duration: 10 years after technical completion.



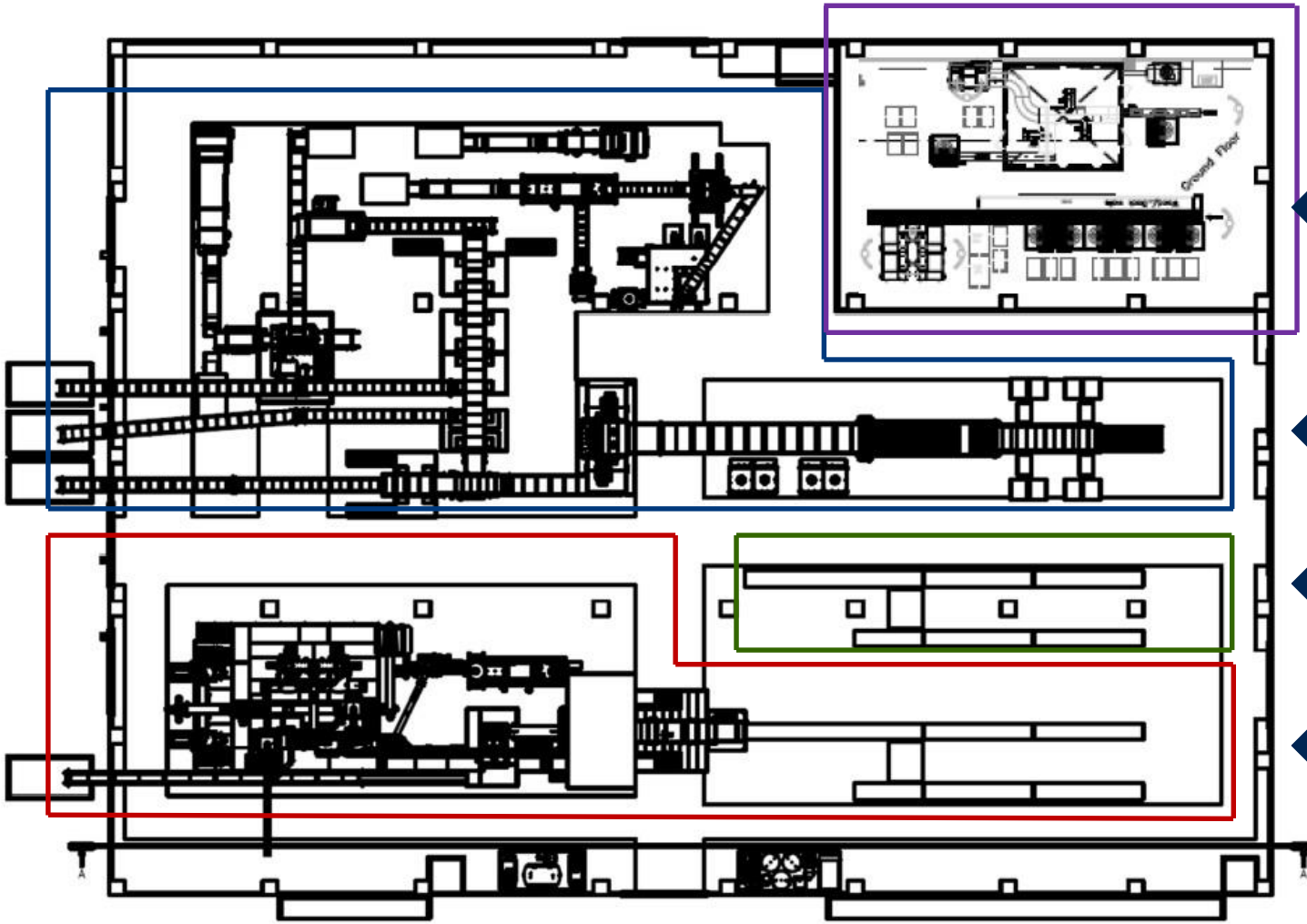
Regulated Electrical Equipment (REE)



Collection Network



Process Equipment Layout



TV-sets & Monitors
(CRT, LCD)

E- Scrap
(Computers Washing Machines)

Air Conditioners
(CFC & non- CFC)

Refrigerators
(CFC & non- CFC)

What's inside E-waste

Harmful Substance

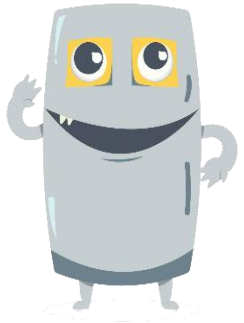
Refrigerant

Cadmium

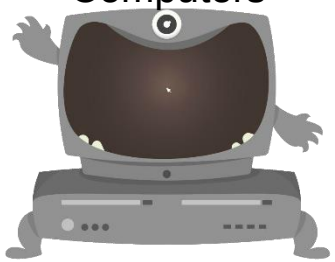
Lead

Mercury

Refrigerators

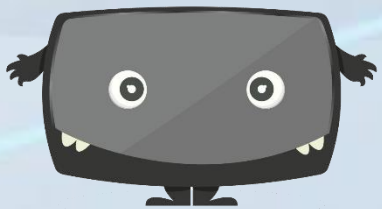


Computers



CRT TVs

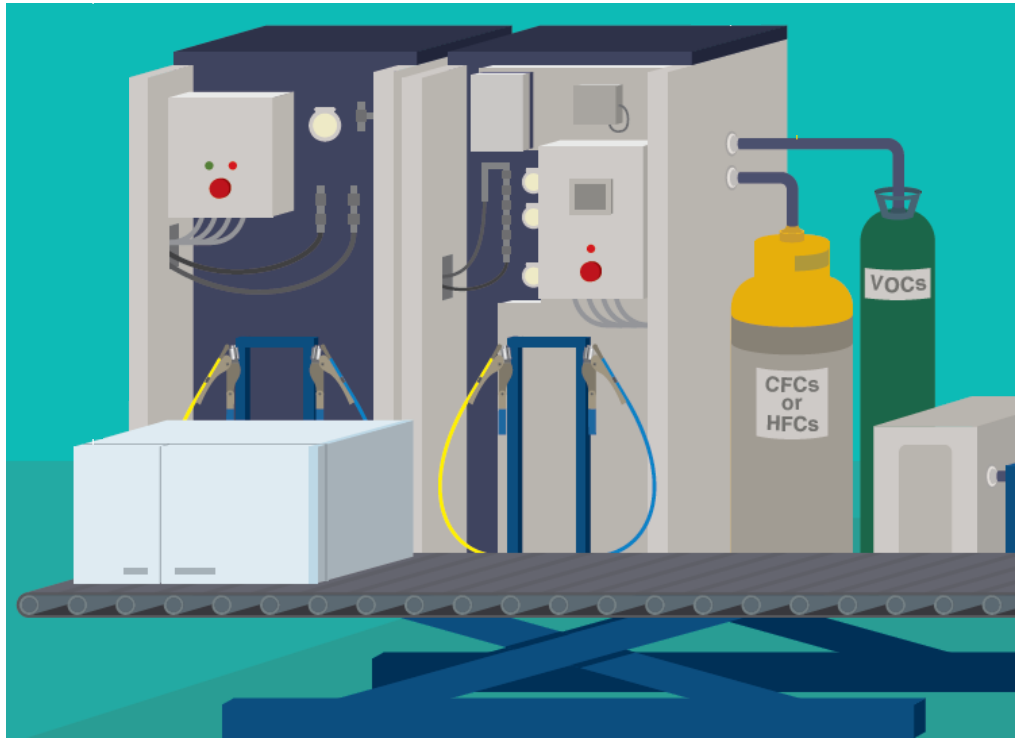
Flat Screen TVs



Copper
Iron
Aluminum
Precious Metal
Plastics

Detoxification Technology

Refrigerant Extraction



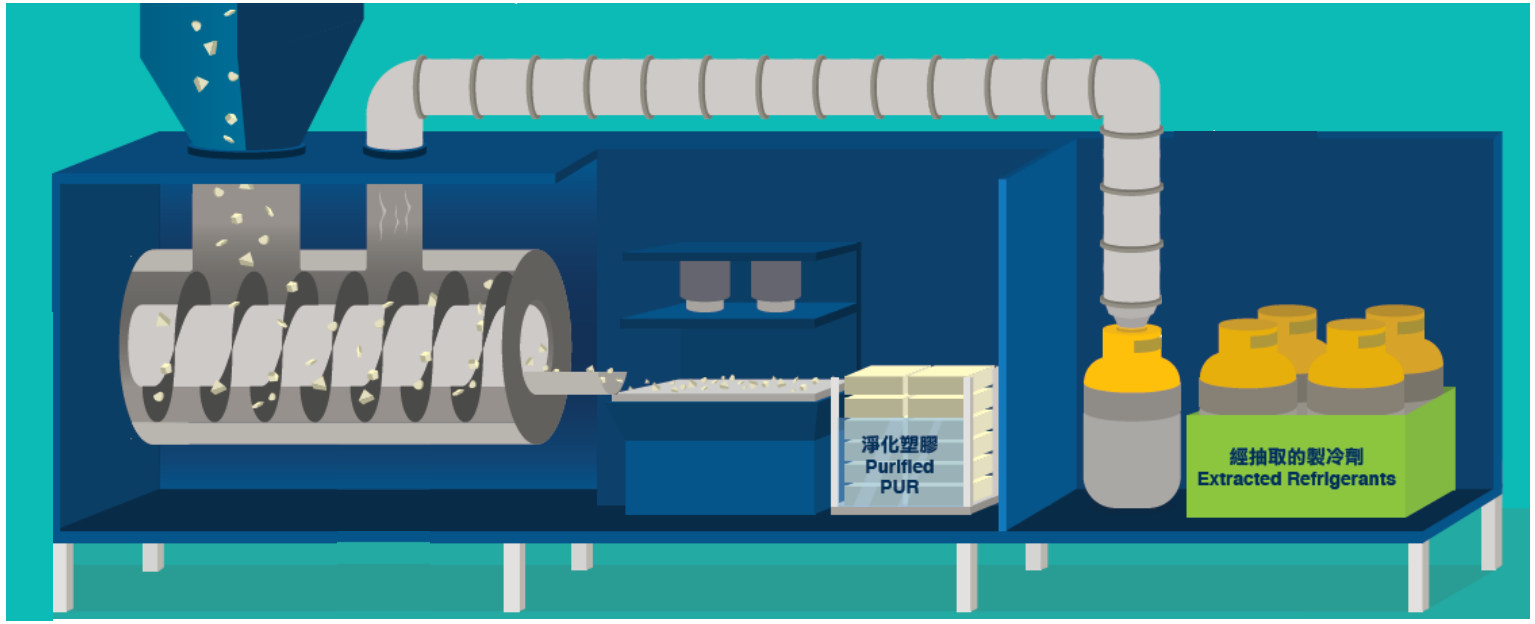
Location: Line 1 &2

Function:
To extract climate relevant gases or ozone depleting gases and gases with high global warming from Refrigerator and AC before shredding

How does it work:
Extract refrigerant and oil from appliance by piercing the ‘cooling circuit ‘with special pliers.
Separation of refrigerant and lubricating oil by heat; recovery of both oil and refrigerant in appropriate receptacles while refrigerant will be stored at gas cylinders for further process.

Detoxification Technology

Insulation Foam Cleaning System



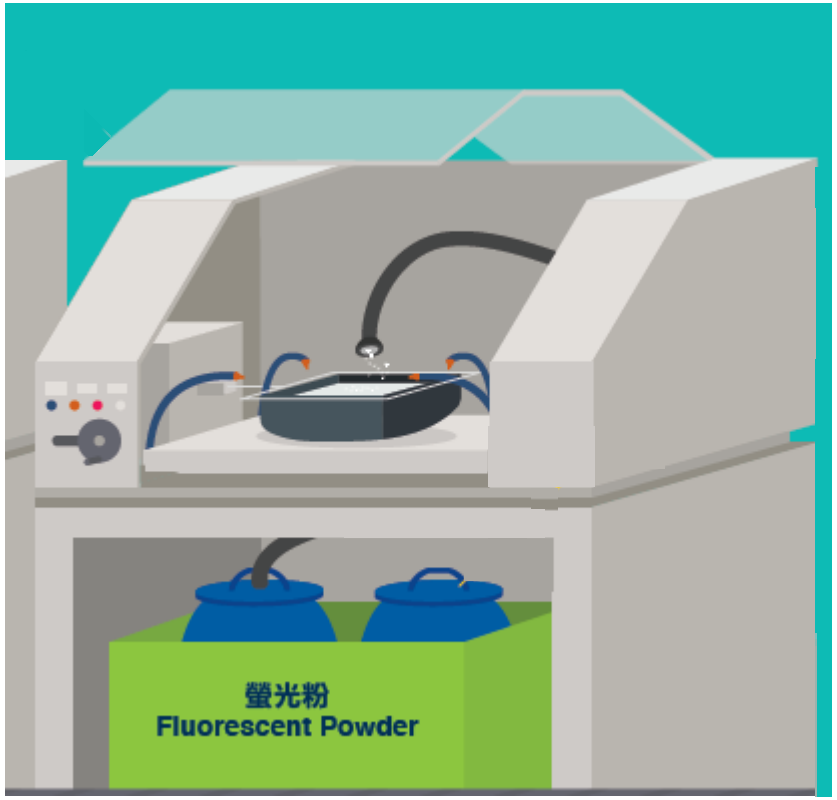
Location: Line 1

Function:
Purify PUR foam that is used as insulation in refrigerators as it contains refrigerant or flammable substances

How does it work:
Use steam to release refrigerant from foam; subsequent filtration process recovers released refrigerant

Detoxification Technology

Extraction of Fluorescent Powder



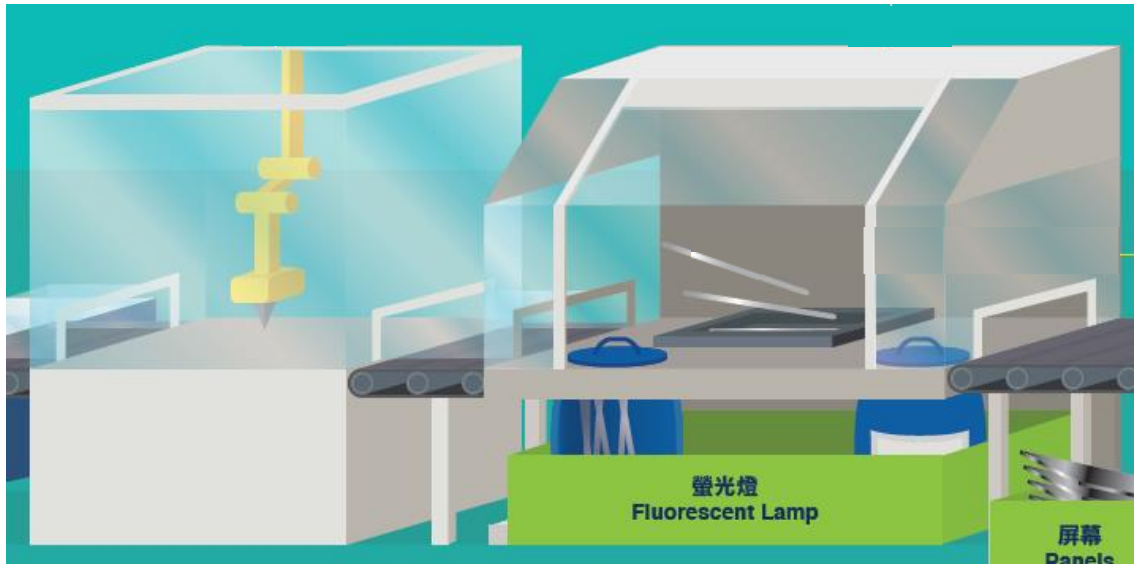
Location: Line 4 (CRT Line)

Function:
Remove coating of fluorescent powder on the inside of old type TVs and Monitors (CRTs)

How does it work:
Hot wire allows clean separation of CRT into funnel / front glass part allowing access to fluorescent powder.

Detoxification Technology

Automatic robot arm cutting technology



Location: Line 4 (CRT Line)

Function:
Safely remove the mercury containing fluorescent tubes from the back of the display panel.

How does it work:
The fully-automated robotic arm is mounted with a sensor to automatically adjust the cutting position according to the size of the screen. This process is carried out in an enclosed environment under negative air pressure to prevent mercury leakage.
Tubes will be removed manually in the subsequent work station.

Sorting Technology

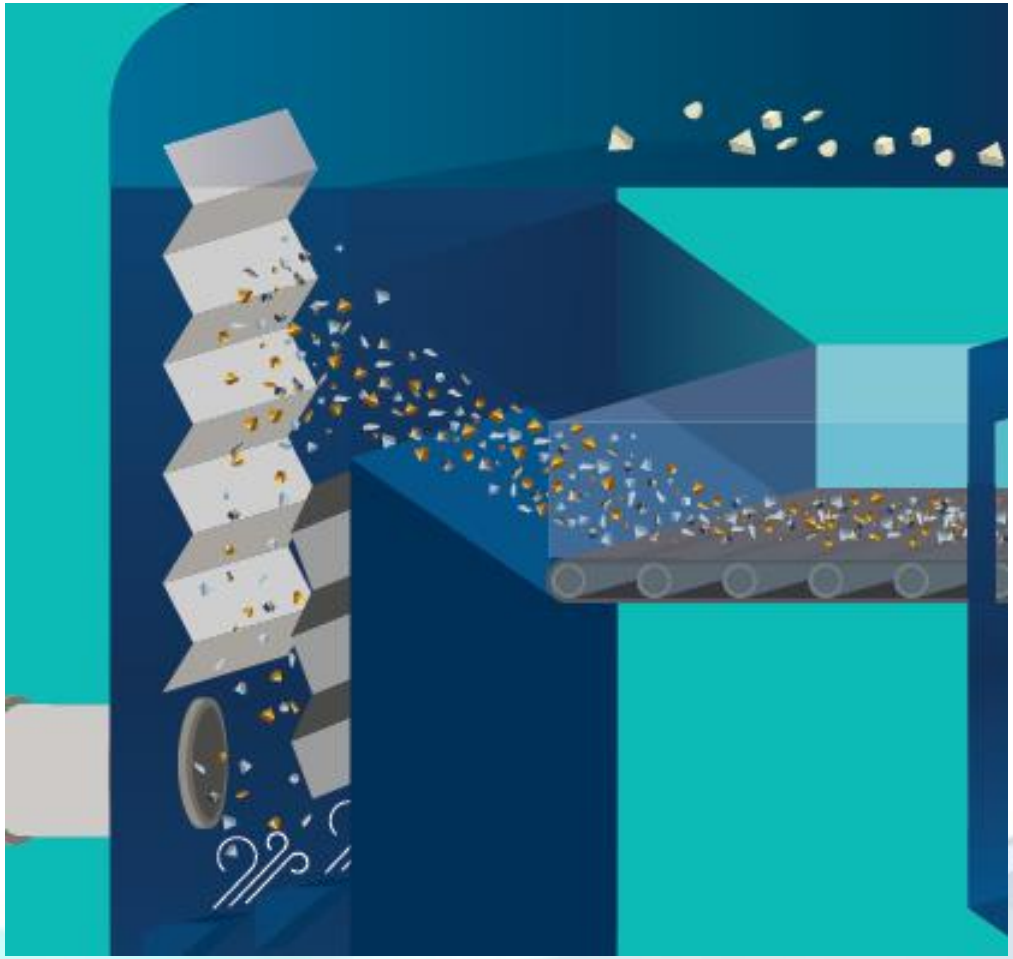
By Magnetic Field

Location: Line 1

Function:
Using magnetic separator to separate ferrous metals are separated and collected.

Sorting Technology

By Density



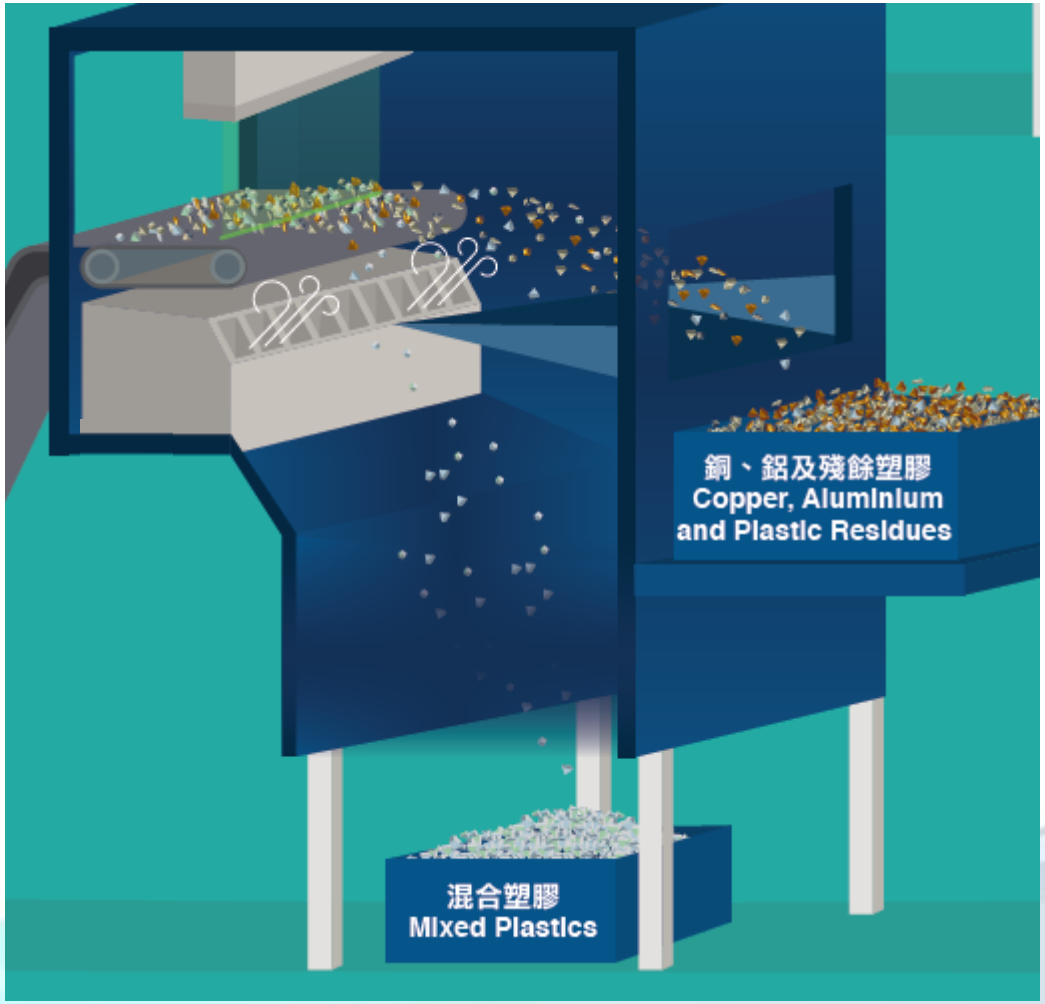
Location: Line 1 & 3

Function:
Separate PUR foam from plastics and non-ferrous metals

How it works:
An upstream air flow will bring Lightweight PUR foam to the upper channel whereas the heavier material i.e. plastics and metals will be separated

Sorting Technology

Electromagnetic Metal Sensor

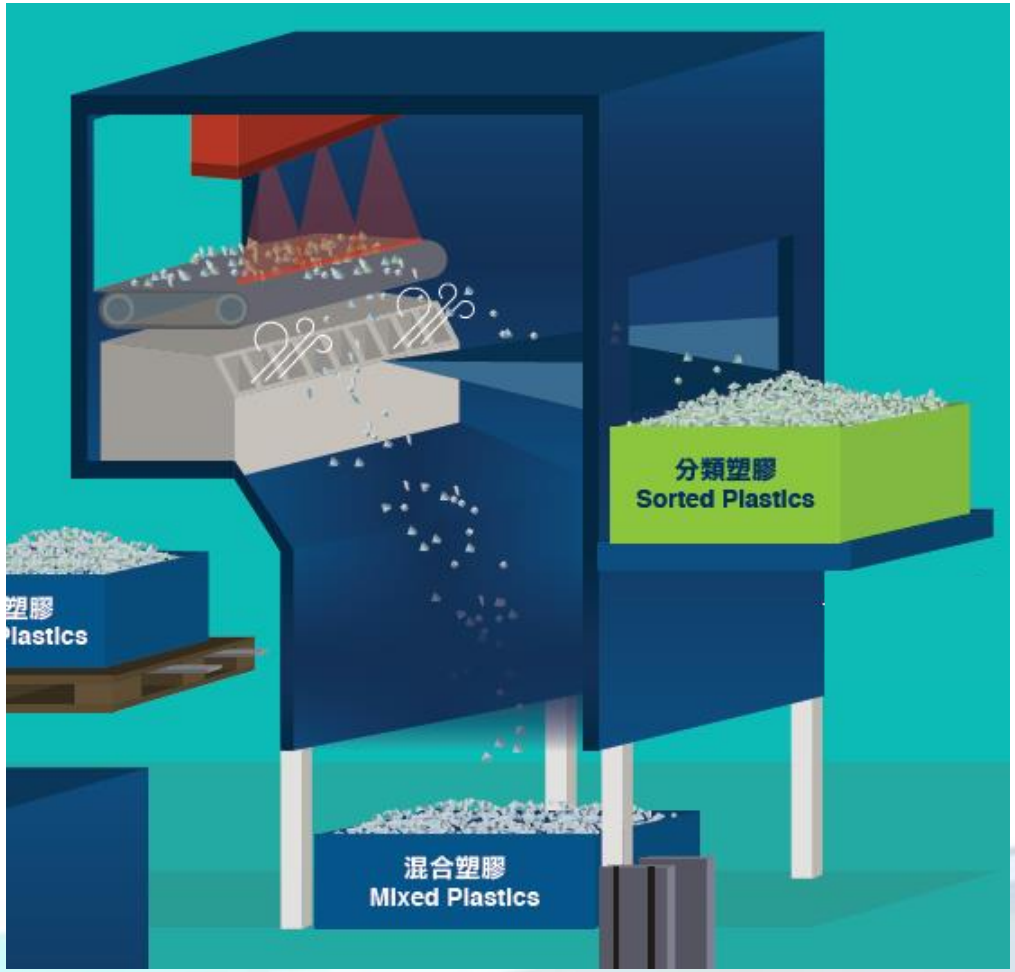


Location: Line 3

How it works:
Shredded materials will go through an electromagnetic metal sensor which can temporary magnetic properties to non-ferrous metal; at the end of the conveyor belt the non-ferrous metal is deflected and flies further while non metallic substances just fall down.

Sorting Technology

Near-Infrared Technology

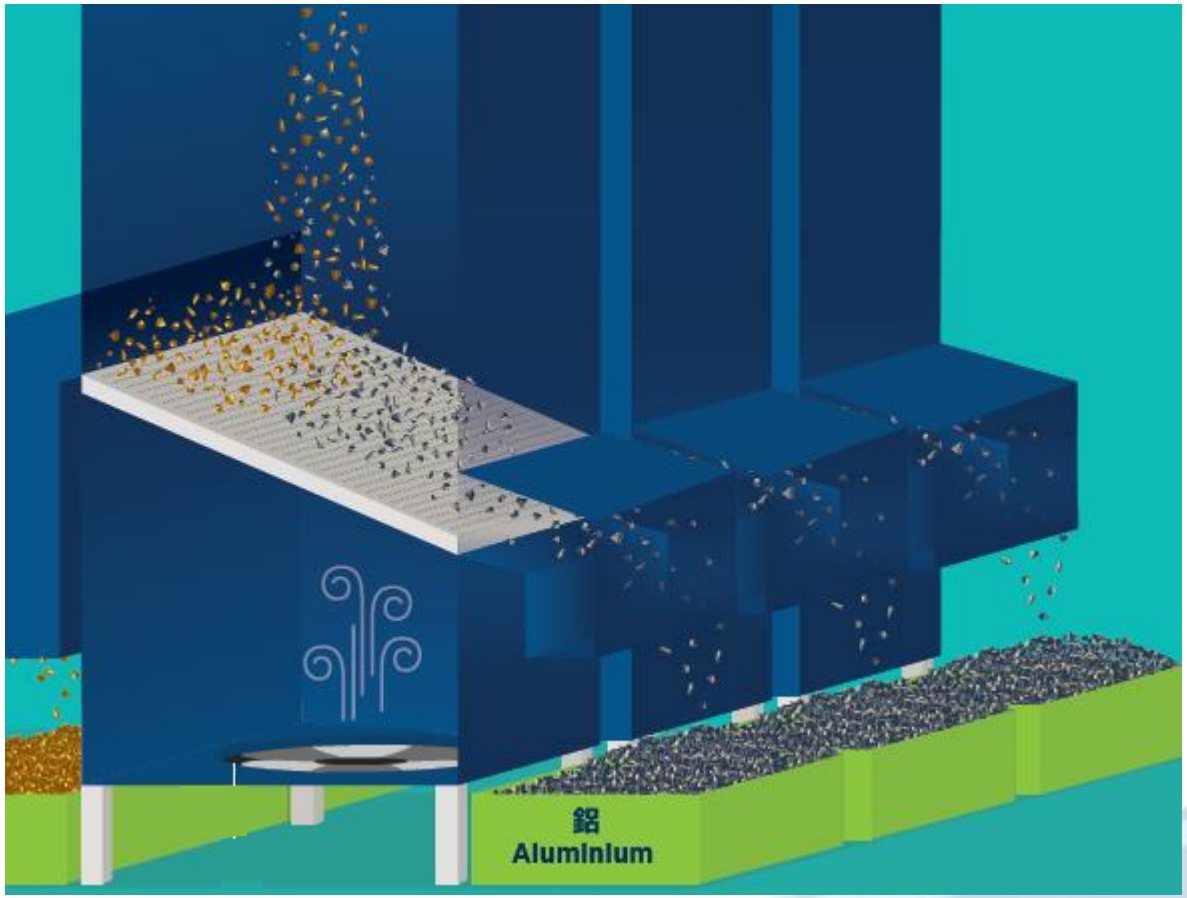


Location: Line 3

How it works:
Able to identify and sort different types of plastics

Sorting Technology

Air Floatation Table



Location: Line 3

How it works:
Separate the copper pellets from aluminium pellets according to their different densities.