


NMD *NIPPON
MAGNETIC
DRESSING*

 **NIPPON MAGNETIC DRESSING Co.,Ltd.**
日本磁力選鉱株式会社

<http://www.nmd.co.jp>



Our business concept



Our business is the innovative utilization of natural resources to their fullest potential.

Our goal is the satisfaction of our customers, the development of our company and the happiness of our employees.

Greeting



Mitsuhsa Harada
President

Since our company establishment, we have developed much kind of businesses such as mainly recycling the steelmaking slag and other by-products out of steelmaking fields.

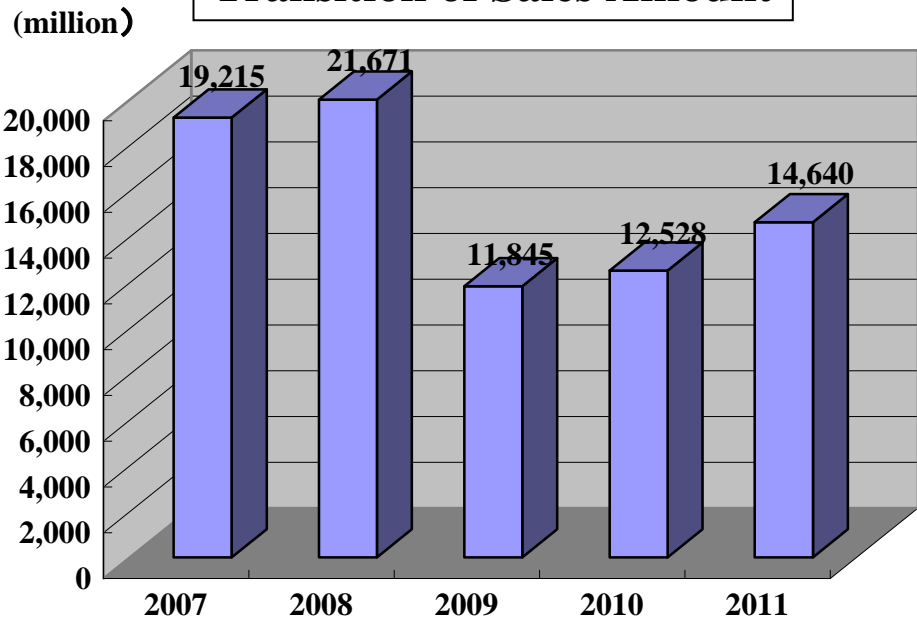
Today when environment is valued, it has become important subject not to injure natural environment. As natural result, nowadays, recycling has been more indispensable for every industrial field. Custom inquiries from every industrial field have been remarkably increasing.

We have the confidence to contribute to those expanding social needs by using our recycling technologies and processing know-how acquired from long time experiences.

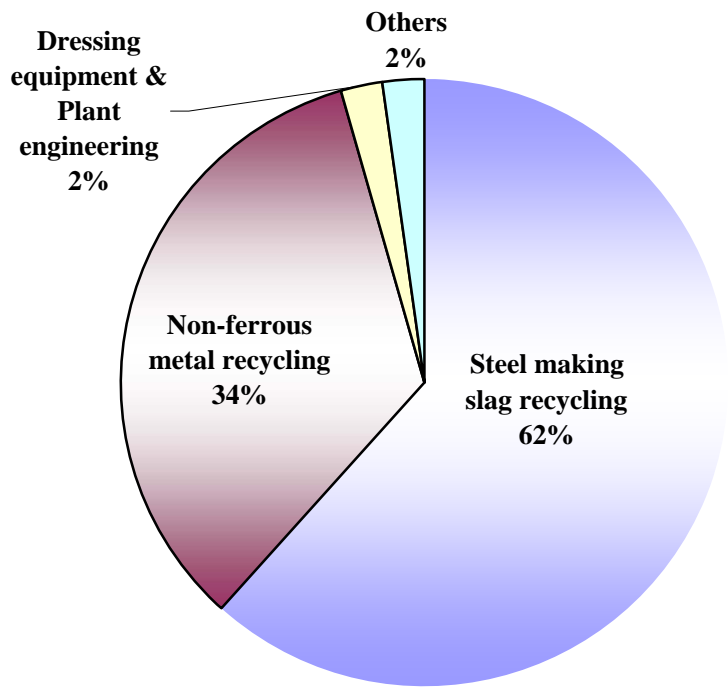
Company Overview

- ☆ **Company name** NIPPON MAGNETIC DRESSING CO.,LTD.
- ☆ **Establishment** February 1949
- ☆ **Capital** 448.6 million yen
- ☆ **Sales** 14.640 billion yen (2011.9)
- ☆ **Number of Employees** 406 persons
- ☆ **Business Categories**
 - I. Dressing business
Recovering of granular pig iron, Stainless ground metal and dressed slag
 - II. Manufacturing and Sales business of steel-making materials
Granular steel iron, Coolant, Briquette, Cement material, Welding flux
 - III. Non-ferrous metal recovering business
Special steel melting, Recovery of copper, Manufacturing of Aluminum chip, Magnesium desulfurizer, Reproduction of magnesium by melting, Magnesium chip and shot for Thixomold
 - IV. Environmental recycling business
Garbage processing and Consumer electronic recycling work and manufacturing of Weight material
 - V. Designing, Manufacturing and sales of Recycling equipment for Resources
magnetic separator, Non-ferrous metal separator
 - VI. Plant designing and engineering business
Slag processing plant, Incidental Plant related to non-iron ferrous and steelmaking and Garbage processing plant
 - VII. housing business
Leasing business of housing lot and mansion
 - VIII. Other Businesses
Plant facilities and land leasing and Insurance agency business

Transition of Sales Amount



Sales Composition Ratio



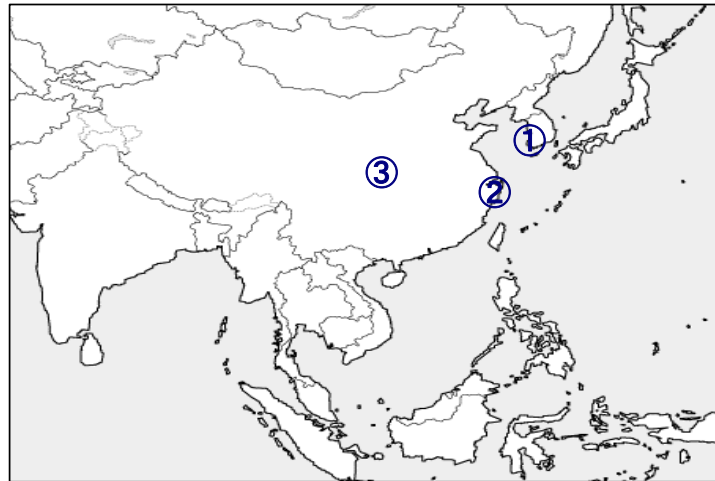
Our History

1949th.	▪	Founding of Company
1950th.	▪	Started dust processing and briquetting
1951st.	▪	Started manufacture and sales of magnetic separators
1955th.	▪	Started processing of open hearth furnace slag (Yawata / Kitakyushu)
1957th.	▪	Started processing of BOF slag (Yawata / Kitakyushu)
1959th.	▪	Started mining (Yoshiwara mine / Kitakyushu)
1962nd.	▪	Established Tokyo office
	▪	Started manufacturing of deoxidized briquette
1963rd.	▪	Established the "Nippon Toseki Co., LTD."(Recycling nonferrous metals)
1964th.	▪	Established the "Izumiyama Seido Co.,LTD. "(Gathering, processing, and sales of ceramic raw materials)
1965th.	▪	Started operation by the new type furnace (T.R.B : Tunnel kiln, Rotary kiln, Briquetting)
1967th.	▪	Started processing, recycling of used flux
	▪	Started processing of EF slag (Wakamatsu / Kitakyushu)
1970th.	▪	Started processing of Pre-treatment slag (Kanda / Fukuoka)
	▪	Started metal recovery from stainless steel slag (Syunan / Yamaguchi)
1973rd.	▪	Started processing of BOF slag (Mizushima / Okayama)
1974th.	▪	Established the " Nissen Development Co.,LTD. " (Real estate business)
1975th.	▪	Started processing of EF slag & ballast sales (Izumiotsu / Osaka)
1976th.	▪	Started processing of BOF slag (Tobata / Kitakyushu)
1977th.	▪	Started processing of BOF slag (Ooita)
1978th	▪	Started processing of BOF slag & EF slag (Osaka)
1979th.	▪	Started processing Fe-Cr slag (Yawata / Kitakyushu)

1982nd.	▪	Completed electric furnace plant & started production of steel shot
1984th.	▪	Started manufacturing of hand warmer
1985th.	▪	Started processing & briquetting of slag (Sodegaura / Chiba)
1988th	▪	Started briquetting in Tsurumachi at Osaka
1989th.	▪	The 40th anniversary of founding, the reconstruction work completion of the headquarters
1995th.	▪	Started manufacturing of Mg desulfurizer
	▪	Founder Dr. Genzaburo Harada passed away
1996th.	▪	Started manufacturing nugget type copper
1998th.	▪	Established J/V "NJ Eco Service Co., LTD. "
	▪	Established J/V "Tokyo-Wan Butsuryu Co., LTD. "
1999th.	▪	Established J/V "Han Kook Matics Co., LTD. " (Pusan / Korea)
	▪	Started shreder residue recycling business
2000th.	▪	Started shreder residue recycling business
2001st.	▪	Started aluminum recycling (Oyama / Tochigi)
	▪	Started operation of crushing & separating at the home appliance recycling company (Nagoya)
2002nd.	▪	Started magnesium recycling (Oyama / Tochigi)
2003rd.	▪	Acquired ISO9001
2004th.	▪	Established J/V "Shanxi Nissen Yi-Wei Magnesium Co., LTD. " (Shanxi Province / China)
2005th.	▪	Acquired ISO14001
	▪	Started the comprehensive recycling business of nonferrous metals for domestic circulation (Built Hibiki 1st. Plant in Kitakyushu Eco Town)
2007th.	▪	Established J/V " Shanghai Kaituo Magnetic Dressing Metal Co., LTD. " with Baosteel Group Shanghai No.1 Iron & Steel Co., LTD.
2008th.	▪	Built Hibiki 2nd. Plant in Kitakyushu Eco Town
2009th	▪	The 60th anniversary of founding,

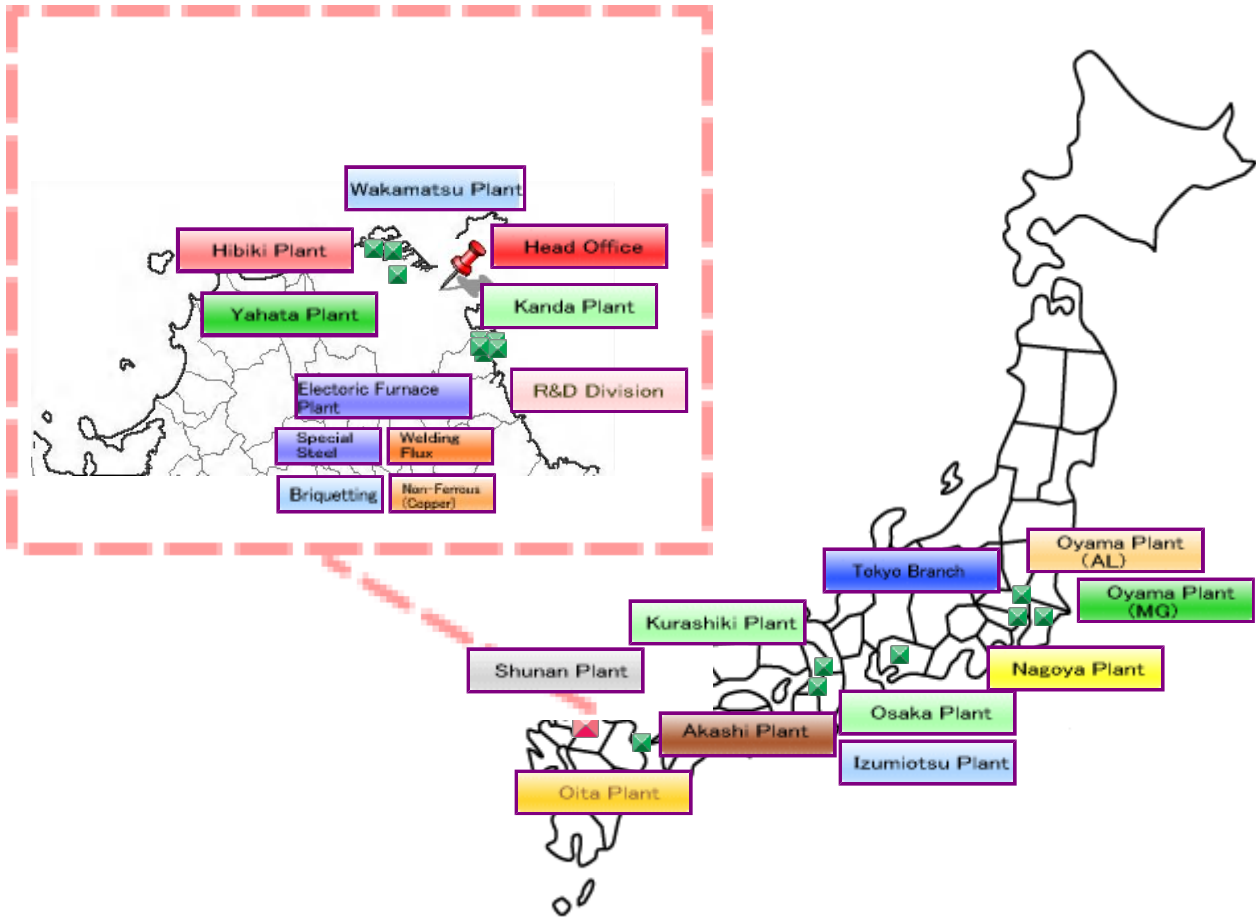
Overseas Activities











Detail	Client
Supply The Magnetic Separator *High Gauss Magnetic Separator <HIGAMS 17 units >	Philippines The first export (WDA class wet magnetic separator)
	Korea POSCO Gwangyang
	China Maanshan Iron & Steel Wuhan Iron & Steel Baosteel Guangzhou JFE Steel Sheet Shougang Group
	India Tata Steel
Technical Assistance Agreement for Slag Processing	Korea POSCO Pohang Samsung Heavy Industries POSCO Kwangyang Phase 1
	Ukraine Makeevka Steel
	China Shanghai No.1 Sinosteel Equipment & Engineering Beijing Rilian Yongtuo Magnetic Separation
	Russia Chelyabgiprometz
Supply Equipment for Slag Processing	China Baosteel (Steelmaking Slag)
	Korea POSCO Kwangyang Phase 2 (Converter Slag)
	Ukraine Makeevka Steel
Corporate Participation	Korea Inchong Steel Han Kook Metics Co., LTD. ① * Magnetic separator manufacturing & sales
	China Shanxi Nissen Ye-Wei Magnesium Co., LTD. ② * Mg alloy products manufacturing & sales Shanghai Kaituo Magnetic Dressing Metal Co., LTD ③ * The stainless slag processing





Head office, Branch, Plant/Division

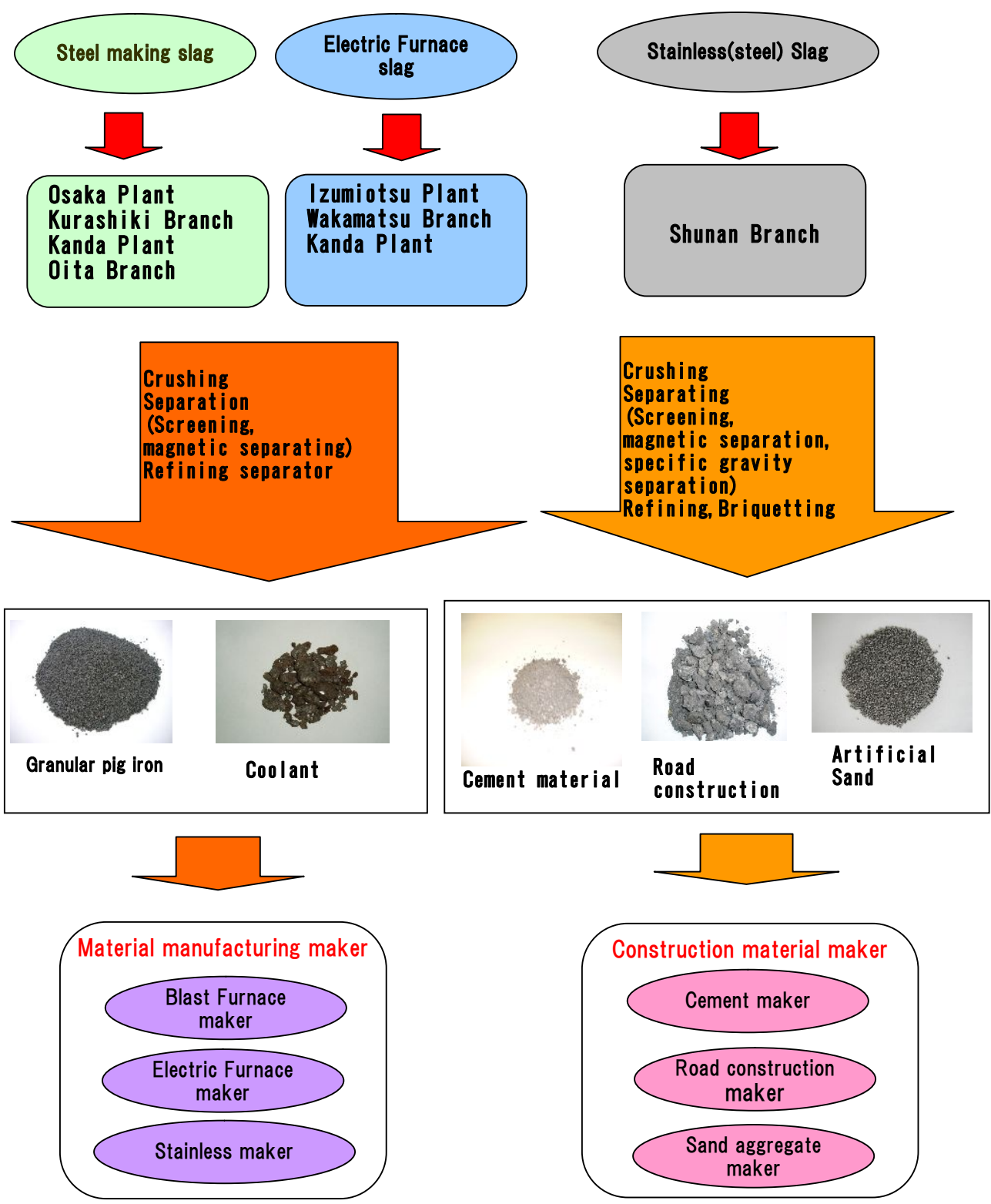


- | | |
|---|---|
|  Steel Making Slag |  Comprehensive Non-ferrous Metal |
|  Electric Furnace Slag |  Aluminum |
|  Stainless Slag |  Copper |
|  counter weight material |  Electorical Products |
| |  Special steel |
| |  Magnesium |

Business categories

Business name	Main products and works	Division in charge	Plant
Steelmaking Slag Recycling	Steelmaking slag processing (Granular pig iron, Stainless metal, Dressed slag) Coolant, Road construction material, Cement material	Sales Dept.	Oita plant Wakamatsu plant Shunan plant Kurashiki plant Osaka plant Kanda plant Izumiotu plant
	Used flux recycling & flux manufacturing Recycling used submerged flux Flux manufacturing for secondary refining	Sales Dept.	Electric furnace plant: (Welding flux production Div.)
	Slag improving agent, etc	Tokyo branch	
	Counter weight material	Akashi plant	
Non-ferrous Metal Recycling	Recovery of non-ferrous metal from mixed metal High quality aluminum recovery from aluminum scrap High quality copper recovery from waste electrical wire	Sales Dept.	Electric furnace plant: (Non-ferrous metal production Div.) Oyama plant Hibiki plant Nagoya plant
	Magnesium recycle (Magnesium ingot, Thixo-chip, Desulfurization agent)		Oyama plant
	Special steel recycling Mother metal of special steel Steel shot, Briquette	Sales Dept.	Electric furnace plant: (Special steel production Div.) Briquetting Div.
Environmental Equipment Manufacturing and Sales	Manufacturing and sales of magnetic separator Manufacturing and sales of non-ferrous metal separator and various kinds of separators	Separator sales promotion Dept. Engineering Division	
Plant Engineering	Slag processing plant Incidental plant of steelmaking slag processing and non-ferrous metal separating Briquette, removing iron metal plant from rolling oil Various kind of separating plant	Engineering Division	
Research & Development	Research and development, test Quality control	Research & Development Division	

<SLAG>

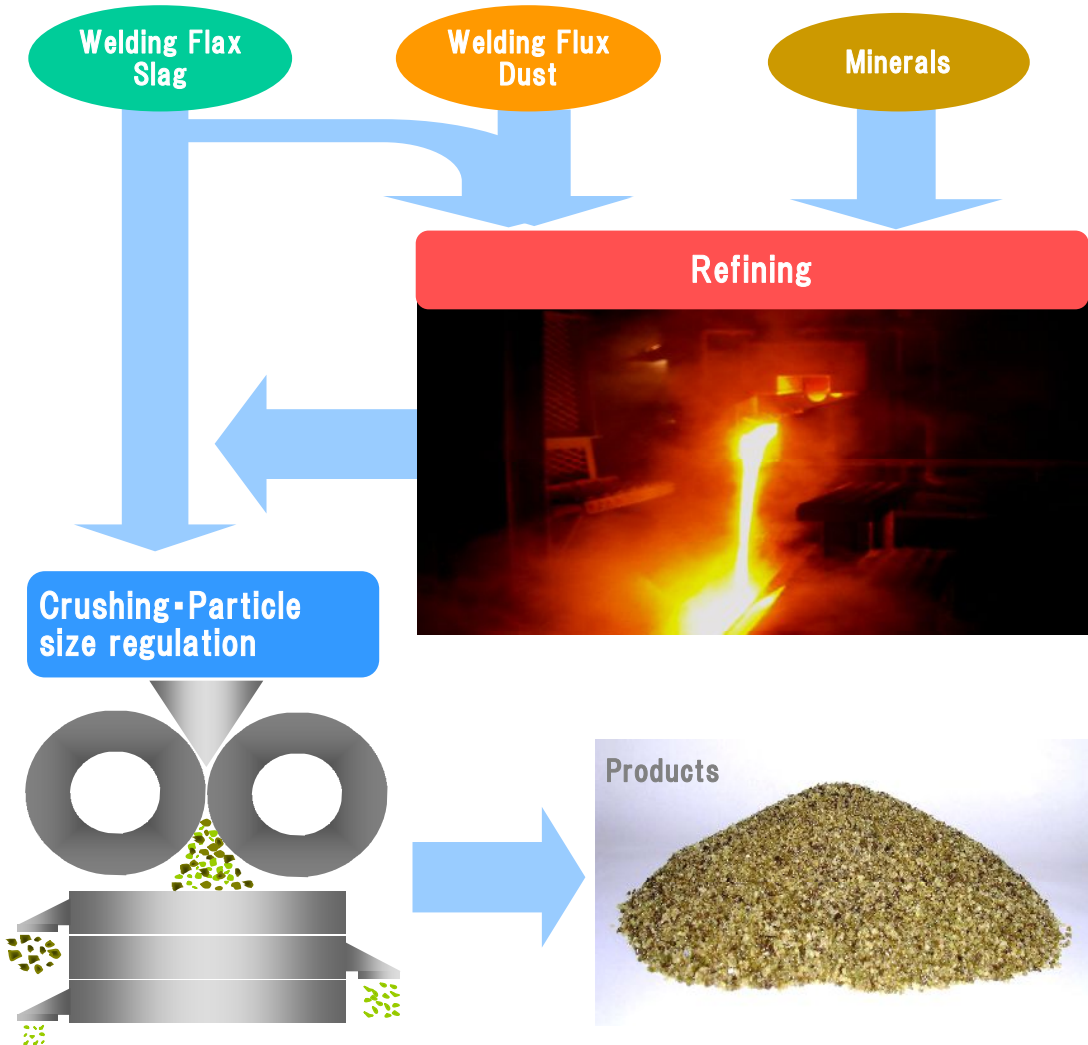


< Flux >



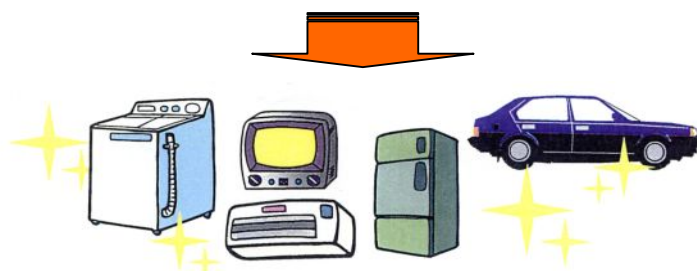
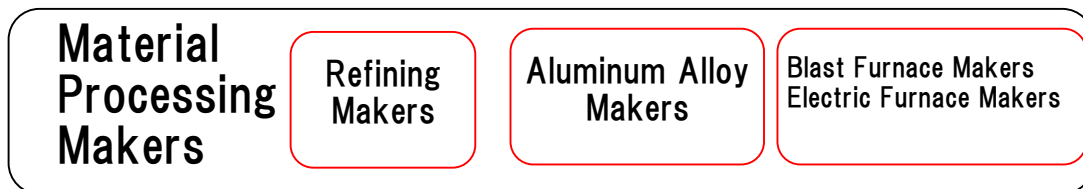
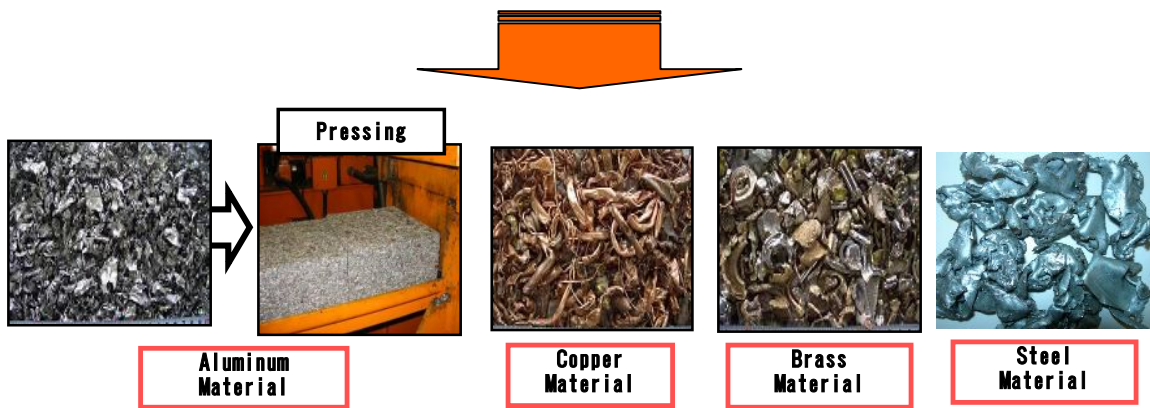
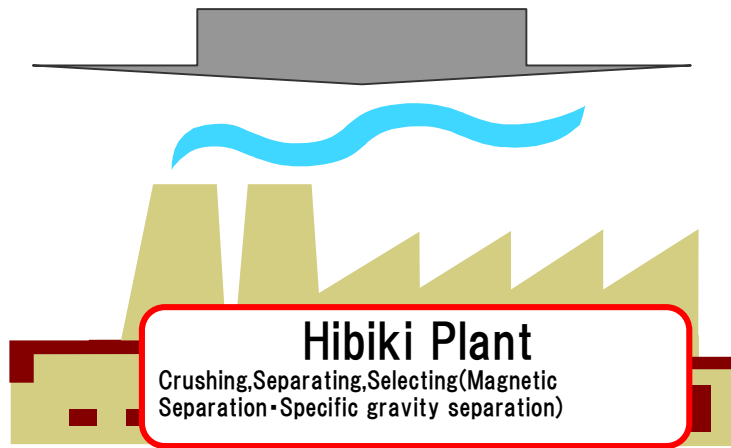
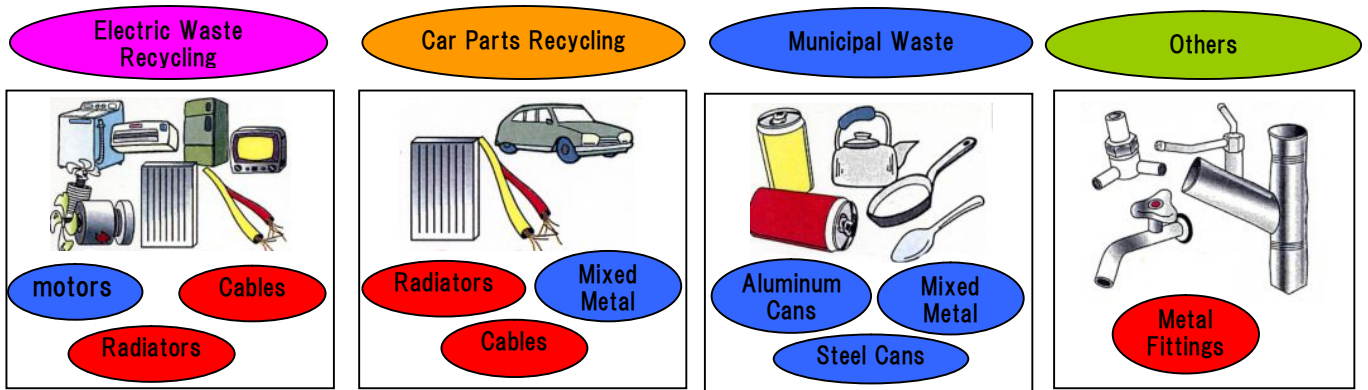
Contents

1. Recycling welding flux slag and dust.
2. Manufacturing and sale of various types of flux.
3. Manufacturing and sale of various types of non-ferrous metal-oxide.

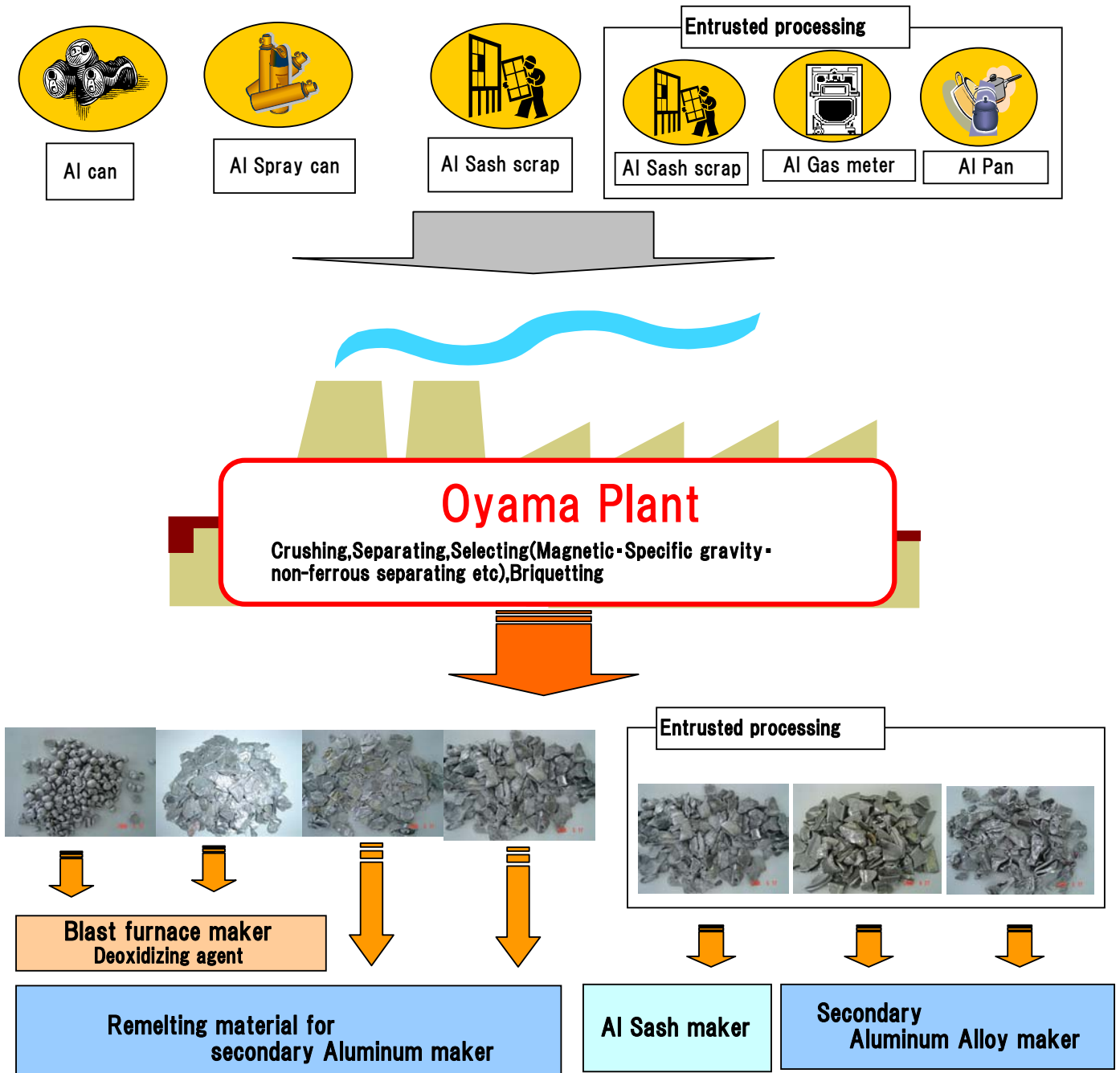


Contact us if you have your own requirement for constituent.

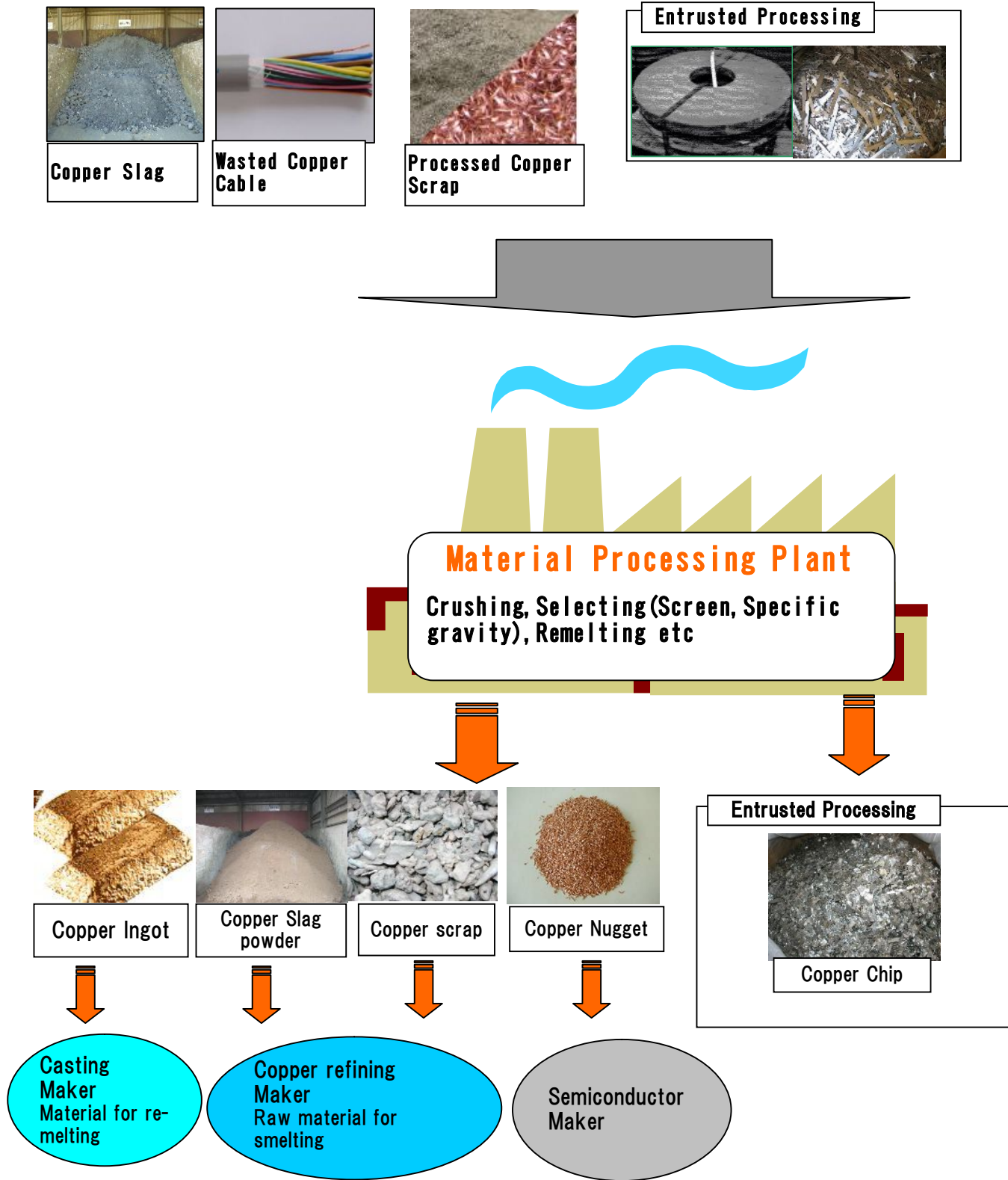
<Non-ferrous metal Recycling - Hibiki Plant>



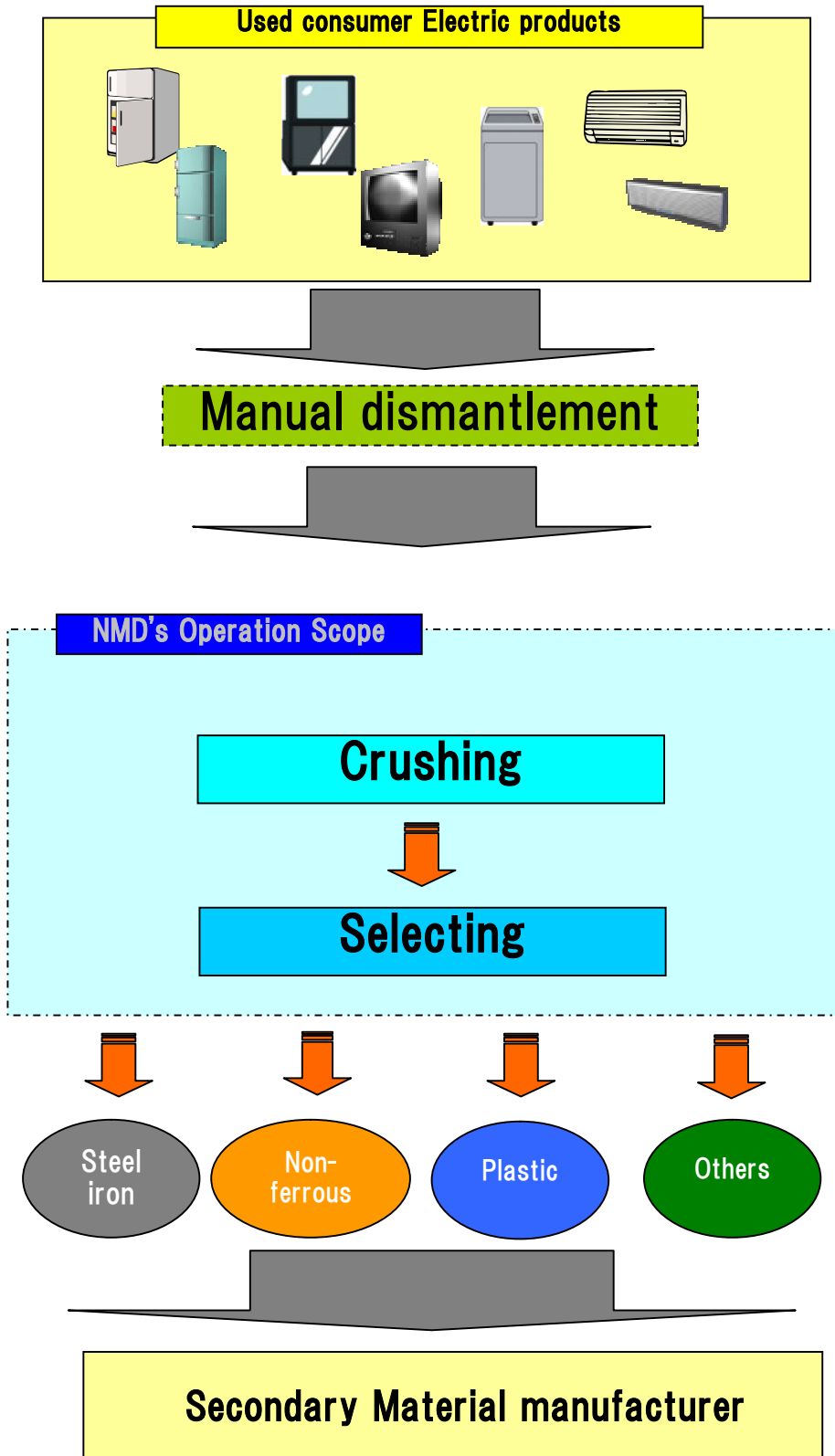
<Aluminum Recycling - Oyama Plant>



<Copper Recycling – Material Processing Plant>

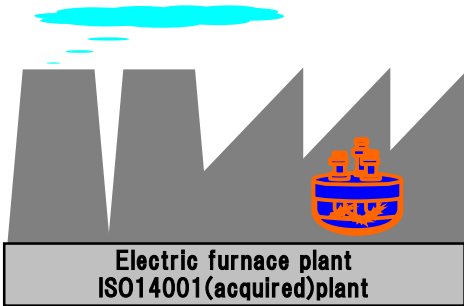
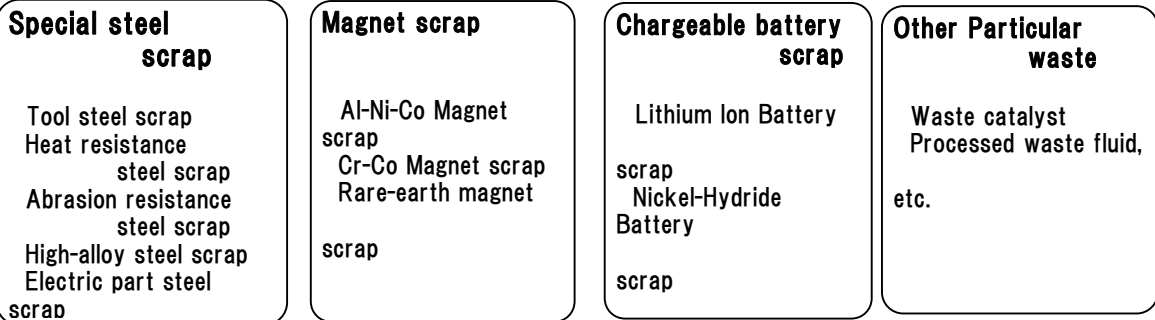


<Processing in Green Cycle Corporation>



<Special steel recycling
- Special steel division Electric furnace plant >

We have refined various scrap generated from special steel, magnet and battery maker and also recovered special steel containing valuable metal by Electric Furnace. Then we have provided secondary alloy ingots that satisfy customer's needs.



Material acceptance ⇒ Preliminary processing ⇒ Mixing ⇒ Melting for Homogenization-Removing impurity and refining ⇒ Quality control ⇒ Forming ⇒ Products



Special steel maker

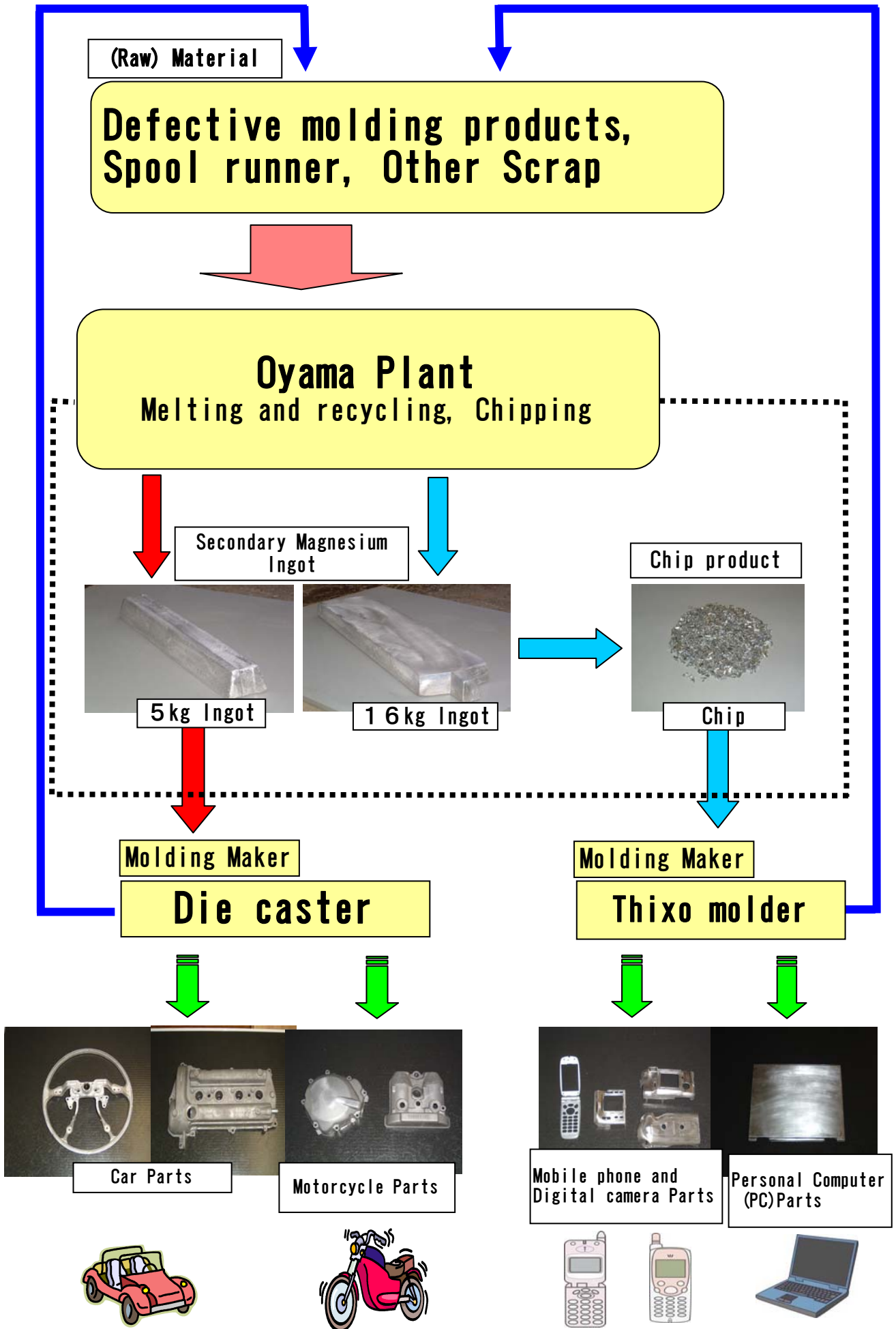
- Fe-Mo-W-Co-V steel alloy
- Fe-Co-Ni-Mo steel alloy
- Fe-Ni steel alloy
- Fe-W steel alloy
- Fe-Mo steel alloy, etc.



Magnet maker (Domestic and overseas)

- Fe-Co-Ni-Cu steel alloy
- Fe-Cr-Co steel alloy
- Fe-Ni steel alloy
- Fe-Co steel alloy, etc.

<Magnesium Recycling - Oyama Plant>



**Manufacturing and sales Business
of Environmental Equipment**

We develop and sale of Environmental Equipment, mainly various kinds of separators, based on our processing technology for waste material cultivated by our wide and long business experiences in our own plant.

Leading products

When the cursor is moved on the character of each separator, photograph is poppod up.
However, there is the one to have changed the specification, so please inquire details to us.

【Leading products】	
	Pendant Type Permanent magnetic Separator
	Pendant Type Oil-cooling magnetic Separator
	Pendant Type Air-cooling magnetic Separator
	Drum type Magnetic Separator(Dry-Type:0.08~0.8tesla,Material temperature :less than 450°C)
	Drum-Type Magnetic Separator(Wet-Type:0.08~0.8tesla)
	Magnet Pulley(0.08~1.4tesla)
	Grid magnet
	Magnet Chute
	Non-Ferrous Metal Separator(Eddy-Current separator)

【Special Magnetic Separators】	
	Coupled Pole Magnetic Separator(Dry-type 2.8tesla)
	Magnet Filter (Wet-Type 2.8tesla)
	<u>High Gauss Magnetic Separator (HIGAMS 2.8tesla)</u>

【Specific Gravity Separator】	
	Air Separator
	Liquid Separation Machine(L. I. S. M.)
	Heavy Liquid separator

【Electrostatic separator】	
	Rotating Roll Type Electrostatic separator
	Couple Pole Plate Type Electrostatic Separator

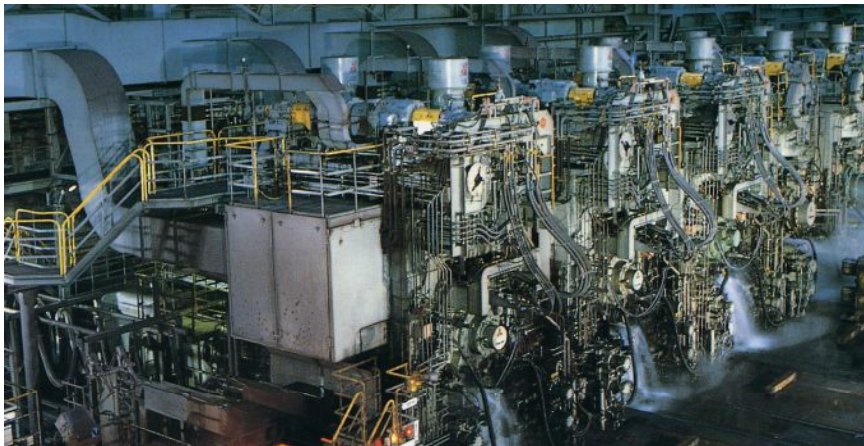
<High Gauss magnetic Separator(HIGAMS)>

HIGAMS is.....

This machine is developed for removal of ferrous particles from the used coolant and alkaline solutions in the cleaning line

★ Features ★

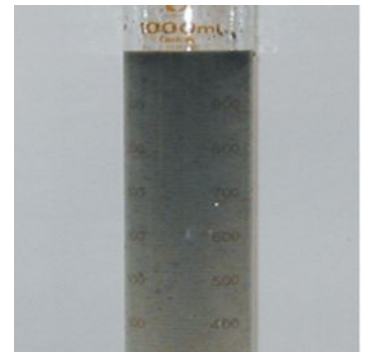
- 1)High removal ratio and able to remove of fine ferrous particles.
- 2)Able to reduce the rolling oil usage because of the efficient system.
- 3)Fully automated and maintenance free.



Cleaning process



Rolling oil
after removing
ferrous particle



Rolling oil
before removing
ferrous particle



Removing ferrous process

Plant Engineering

We cultivate our crushing and separating technologies by slag processing business since our establishment.
We contribute to the society by manufacturing plants making possible resource recycling.

Main Processing Plant and Equipment

【Slag processing plant】—Recovery valuable metal from slag and beneficial use of slag—

Processing plant of electric furnace slag
Processing plant of steel converter slag
Processing plant of PR-treatment slag
Processing plant of stainless slag
Briquetting plant of slag

【ASR-Processing Equipment of Non-ferrous metal separating】

—Separating equipment of ferrous and non-ferrous metal
and plastics in car shredder dust and crushing electric waste—

Crusher, Air separator
Heavy liquid separator(Wet type)
Water flow separator(Wet type)

【Processing plant of municipal waste】

Processing plant of recovery mixed metal from mixed carbide
Processing plant of recovery mixed metal from residue of melting process

【Separating equipment of processing construction waste】

Air separator, crusher and magnetic separator

Research and Development

We develop our separating technology to meet recycling specification of our customer need.

Main Business

Development research

- ❑ Development of recycling process
 - Technology leveraging the difference of physicality such as Specific gravity separation(Dry-Wet). Heavy liquid, Configuration separation, magnetic separation.
 - Separating technology leveraging metallurgy for melting and refining
 - Separating technology in chemical reaction
- ❑ Processing steel slag and its beneficial use
- ❑ Development of processing technology on welding flux and flux for refining and steel making
- ❑ Development and research of various types of separator
- ❑ Test of various types of separation

Quality control

- ☑ Promotion of efficient quality control
- ☑ Analyses of our products for Quality control
- ☑ Basic survey analyses of physicality for development and test
- ☑ Promotion of maintenance and management of ISO

Acquisition of Certification ISO (at the date of 13rd Oct 2006)

	ISO14001	ISO9001
Division	Head Office Kanda Plant Electoric furnace plant/Special Steel production Div. Electoric furnace plant/Welding Flux production Div. Electoric furnace plant/Non-ferrous production Div. Research & Development Izumiotu Plant Oyama Plant: Magnesium Plant Aluminum Plant Hibiki Plant	Head office Electoric furnace plant/ Welding Flux production Div. Research & Development Oyama Plant: Magnesium Plant Aluminum Plant
Business Activity, coverage of products and service	1. Production of Metal and non-metal products (Processing iron and steel slag,melting and refining of metal and non-metal) 2. Intermediate treatment of industrial waste 3. Designing and manufacturing of separator	1. Processing of welding flux 2. Chipping metal (Mg for desulphurization agent and chemical use, material for molding) 3. Design and production of metal ingot products
Assessment and registration	October 2005	April 2003
Certification Body	High Pressure Gas Safety Institute of Japan ISO Center	High Pressure Gas Safety Institute of Japan ISO Center

Group Companies

Company Name	Item
Nissen Home Service Co.,Ltd.	Apartment management Real estate business Insurance agency business
Fuso Chemical Co.,Ltd.	Production and distribution of chemicals and general merchandise
Ogonzan Cemeteries Co.,Ltd.	Selling agent of cemeteries, sale of stone
NJ Eco Service Co.,Ltd.	Recovery and sale of fused materials, business for waste disposal center (Supply of material and recovery of recycling material)
Tokyo-wan Butsuryu Co.,Ltd.	Loading and unloading,storage of aggregate. Ship Agent for transportation Aggregate
JK Line Co.,Ltd.	Domestic vessel rental Harbor transport business
Shanxi Nissen Yi-Wei Magnesium Co.,Ltd. <China Shanxi Tiyuan>	Magnesium scraps recycling,production of magnesium secondary ingot and thixo chip
Han Kook Matics Co.,Ltd. <Korea Busan>	Manufacturing and Sales of Magnetic Separator