



# NRM

## NEW RESOURCES METALLURGY



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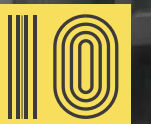
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VIETNAM HAI DUONG  
NEW RESOURCES  
METALLURGY  
SHAREHOLDINGS  
COMPANY

- TO SURVIVE ON QUALITY
- TO DEVELOP ON INNOVATION

CÔNG TY CỔ PHẦN LUYỆN KIM  
TÂN NGUYÊN HẢI DƯƠNG VIỆT NAM



TEN YEARS OF  
CONSISTENCY







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# INTRODUCTION



New Resources Metallurgy (NRM) is a British-Vietnamese joint venture established in August, 2009. It is the largest ferroalloy producer in Vietnam, and a competitive manganese alloy producer in the world.



NRM mainly focuses on the production of Silicon Manganese and High/Medium/ Low Carbon Ferromanganese. We are the only producer of MC/LC FeMn in Vietnam. Most of our products are exported to the overseas markets including Japan, Korea, Southeast Asia and Europe.

“ To survive on quality, to develop on innovation ” is our philosophy. With consistent quality and persistent innovation, NRM has been widely recognized by our global users. We sincerely welcome customers from all over the world to cooperate and develop together.





# LOCATION

## North Vietnam

The company is located at Kinh Mon County, Hai Duong province, where the land and water transportation are both convenient. It is only 20km from Hai Phong .

We own two self-governing wharfs where the water route is connected directly to the ports of Hai Phong and Ha Long.



**NRM**

Phu Thu, Kinh Mon, Hai Duong

- Two private wharfs connected to major ports
- Expressway connected to major cities



**Friendship Pass (Youyi Guan)**

Gate to Guangxi, China

Distance: 200km



**Ha Noi**

Capital of Vietnam

Distance: 80km



**Hai Phong**

Second largest port of Vietnam

Distance: 20km



**Ha Long**

Port & Tourist Attraction

Distance: 50km

# GLOBAL BUSINESS

NRM has established cooperative relationship with partners from more than 30 countries & regions of all continents.

## Main Markets:

Japan, Korea, Southeast Asia, Europe, Domestic

## Main Users:

ArcelorMittal, Formosa Ha Tinh Steel, Hoa Phat Steel, Hyundai Steel, JFE Steel, Nippon Steel, POSCO, Sinosteel.



## Company Scale

**5** Electric arc furnaces

**150000+**

Tons of annual capacity

**2** Refining furnaces

We have five electric furnaces and two refining furnaces in three plants, where the total annual capacity exceeds 150,000 tons.



# HISTORY

2019-08-03

NRM celebrates its 10th anniversary

2017

Annual output of the factory reached 120,000 tons

2015-11

NRM obtained the Certificates of ISO 9001, ISO 14001 & OSHAS 18001

2013-05-28

The first 16500 KVA EAF went into operation

2012-06-18

The sintering workshop went into operation

2011-06-14

The first refining furnace went into operation

2010-05-25

The Labor Union of NRM was established

2009-10-29

The first furnace of the company went into operation

2009-08-03

Vietnam Hai Duong New Resources Metallurgy Shareholdings Company was formally established

2009-07-02

Golden Resources International Group signed joint venture contract with Tan Phu Xuan JSC. and Tan An LLC. of Vietnam

# FACTORY



Plants

Facilities

Yard

Office



Plant 1  
2 x 6300 KVA EAF



Laboratory



Wharf



Office Area



Plant 2  
2 x 1800 KVA Refining  
1x 1800 KVA EAF



Sintering Workshop



Product Warehouse



Meeting Room



Plant 3  
2 x 16500 KVA EAF



Dedusting System



Raw Material Warehouse



Training Room



# MAIN PRODUCTS

## SILICON MANGANESE

Silicon Manganese (SiMn) is an alloy that consists of manganese, silicon, iron, a small amount of carbon, etc. It is a ferroalloy with the largest production and wide applications.

SiMn is often used in steelmaking as a complex deoxidizer, and as a reducing agent in the production of medium/low carbon ferromanganese and manganese metal through the electro-silicothermic process.



Standard Specifications						
Grade	Chemical Indicators(%)					
	Mn (min.)	Si (min.)	C (max.)	P (max.)	S (max.)	B (ppm max.)
Mn55Si27	55	27	0.1	0.1	0.01 ~ 0.04	/
Mn60Si18	60	18	0.8	0.15		
Mn60Si14	60	14	1.8 ~ 2.5	0.15 ~ 0.3		50~250
Mn65Si17	65	17				
Mn70Si16	70	16				
Mn72Si16	72	16				
Size: 10-50mm-90% min						

(Other specifications are available on request)

120,000 MT

Annual production capacity  
of SiMn + HC FeMn



## HIGH CARBON FERROMANGANESE



Standard Specifications					
Grade	Chemical Indicators(%)				
	Mn (min.)	C (max.)	Si (max.)	P (max.)	S (max.)
Mn78C8.0	75-78	7.0 ~ 8.0	1.0 ~ 4.5	0.15 ~ 0.4	0.01 ~ 0.04
Mn73C7.5	70-74				
Mn65C7.0	62-70				
Size: 10-50mm-90% min					

(Other specifications are available on request)

High carbon ferromanganese (HC FeMn) is an alloy mainly composed of manganese, iron and a certain amount of carbon (2%~8%).

It is widely used in steelmaking as a deoxidizer and alloy additive that enhances the strength and function of steel. It is also used in the production of medium/low carbon ferromanganese. Our HC FeMn products are produced using EAF.





MEDIUM/LOW CARBON  
FERROMANGANESE

30,000 MT

Annual production capacity  
of M/LC FeMn



Medium and low carbon ferromanganese is an alloy mainly composed of manganese, iron and a certain amount of carbon (<0.7% for low carbon, 0.7%~2.0% for medium carbon).

It is widely used in steelmaking as a deoxidizer and alloy additive that enhances the strength and function of steel. Our M/LC FeMn products are produced by electro-silicothermic process.



Standard Specifications					
Grade	Chemical Indicators(%)				
	Mn (min.)	C (max.)	Si (max.)	P (max.)	S (max.)
Mn80C0.5	76-82	0.5	0.5 ~ 2.0	0.15 ~ 0.4	0.01 ~ 0.04
Mn80C0.8	78-82	0.8			
Mn80C1.0	78-82	1.0			
Mn80C1.5	78-82	1.5			
Mn78C2.0	74-82	2.0			
Size: 10-50mm-90% min					

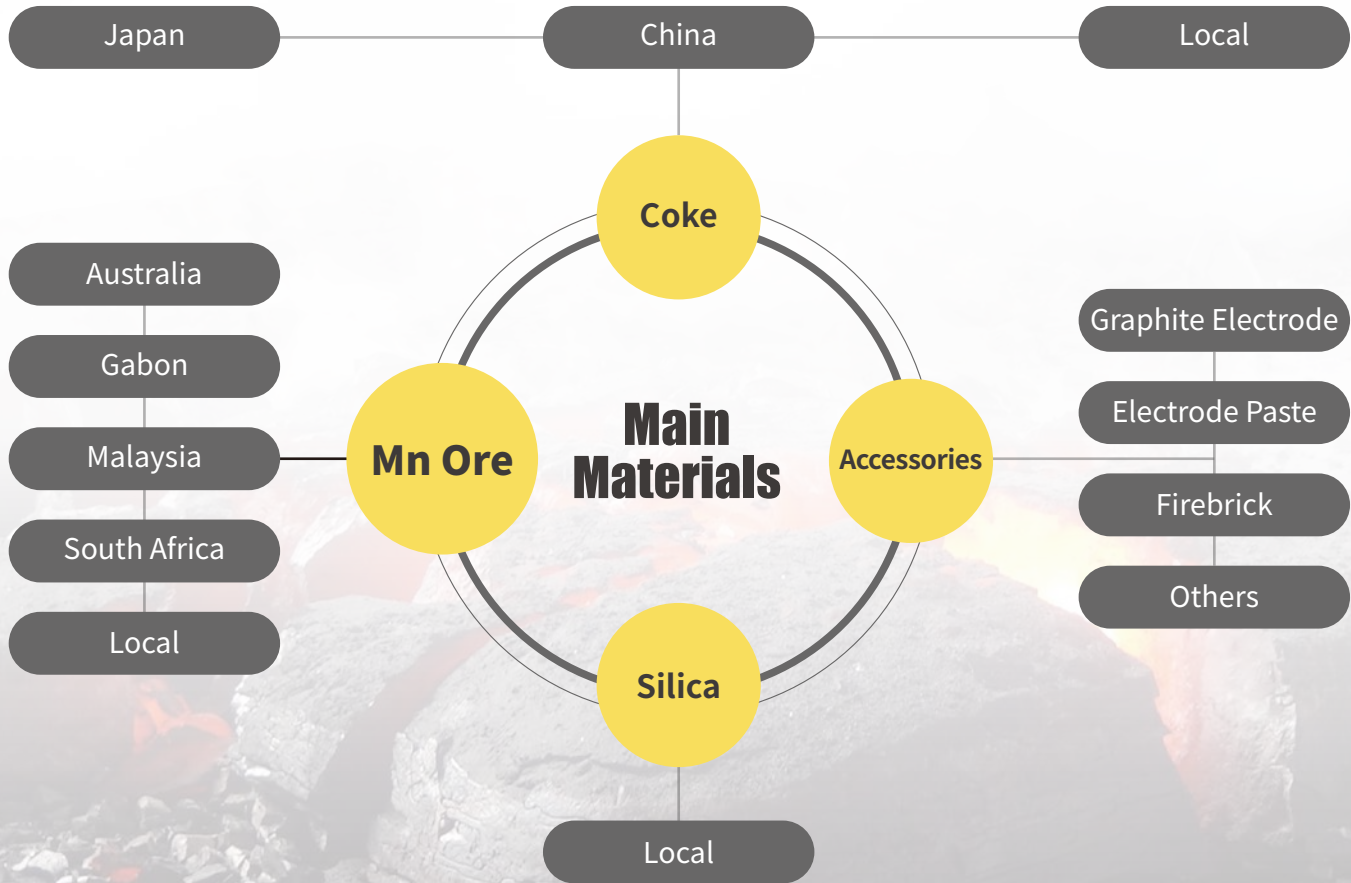
(Other specifications are available on request)

RAW  
MATERIALS

Vietnam is rich in its mineral resources, abundant in raw materials for smelting such as manganese ore, silica and limestone.

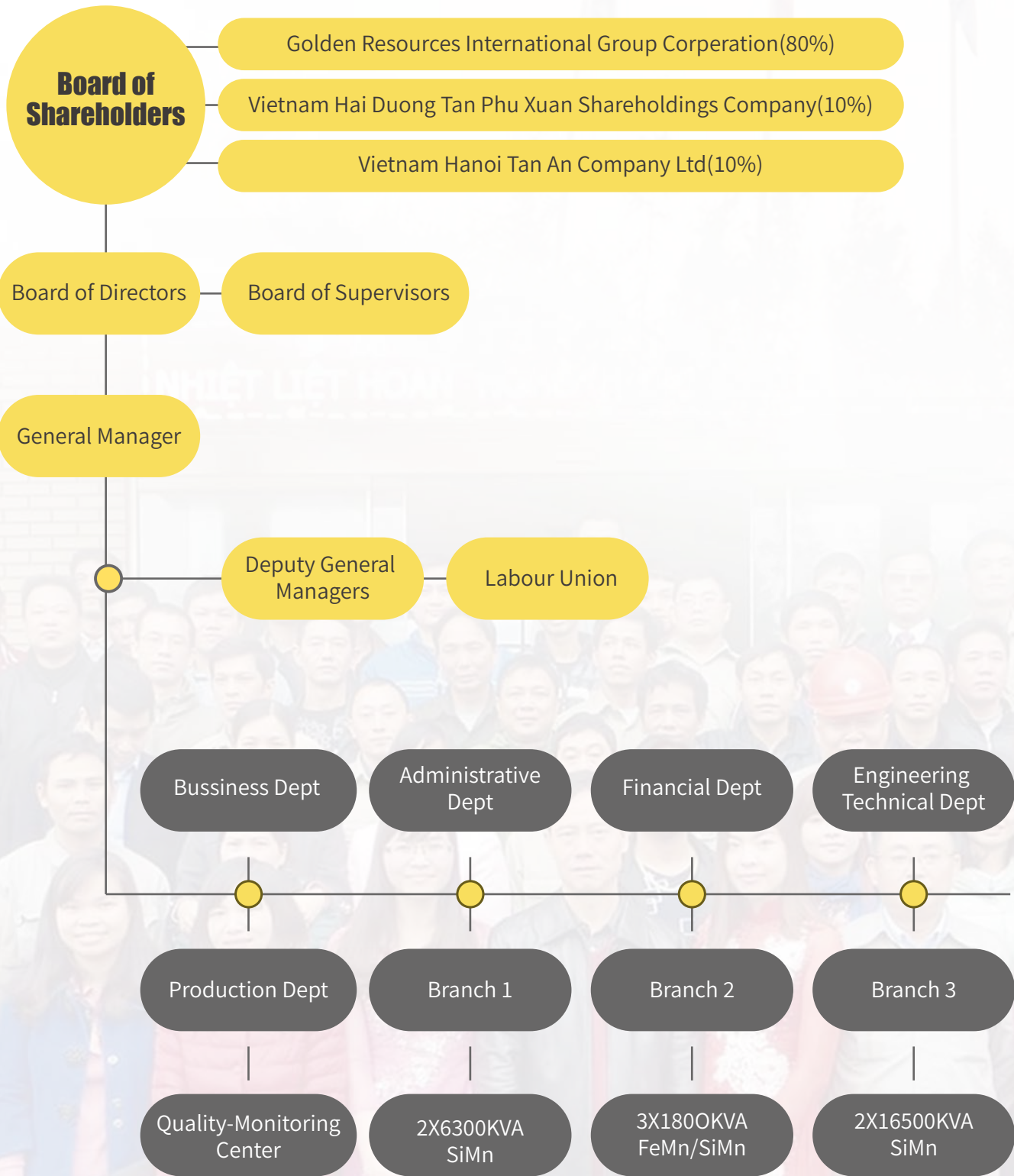
Meanwhile, we import manganese ore from countries including Australia, Gabon, Malaysia and South Africa, and purchase coke from Japan, China and the local market.

We have established long-term cooperation relationship with a number of mining giants, including South32, Comilog and CML.





# ORGANIZATION STRUCTURE



# CERTIFICATION



We have obtained three ISO certificates respectively for quality management (ISO 9001), environmental management (ISO14001) and OHS system (OHSAS18001).

In 2015, we joined International Manganese Institute(IMnI) and became one of its members.





# SOCIAL CONTRIBUTION



NRM actively participates in public welfare activities, and attaches great importance to the interests and cultural life of employees.

Our labour union frequently organizes cultural activities and competitions, received commendations from the State President and General Confederation of Labour of Vietnam.

Our enterprise culture is recognized by the local government and society, received numerous honors:

2x

National Awards

6x

Provincial Awards

10+

County Awards



# OHS

NRM provides a secure and healthful environmental of working and living for all of its employees.

We follow strictly to the employee health and safety standard of OHSAS18001. We believe that safety production is a basic protection of each employee's life and health, which are the most precious possessions of a enterprise to survive and develop.

# ENVIRONMENTAL PROTECTION

It is a primary part of our development strategy to minimise our impact on the surrounding environment.

Apart from complying with the international EMS of ISO 14001, we are also executing the following rules based on the features of our factory:

- 100% of comprehensive utilisation rate of waste.
- 100% of cooling water recycled.
- Plant coverage in factory area > 30%.
- Dedusting system exceeds national standard.
- FeMn residues reused in SiMn production; SiMn residues provided to the cement plants nearby.

100%

Comprehensive utilisation rate of waste

100%

Cooling water recycled

>30%

Plant coverage in factory area