

IMnI Annual Conference 2003 in Rio de Janeiro

Japan & Asia :
An Overview of Mn production & Future Trends

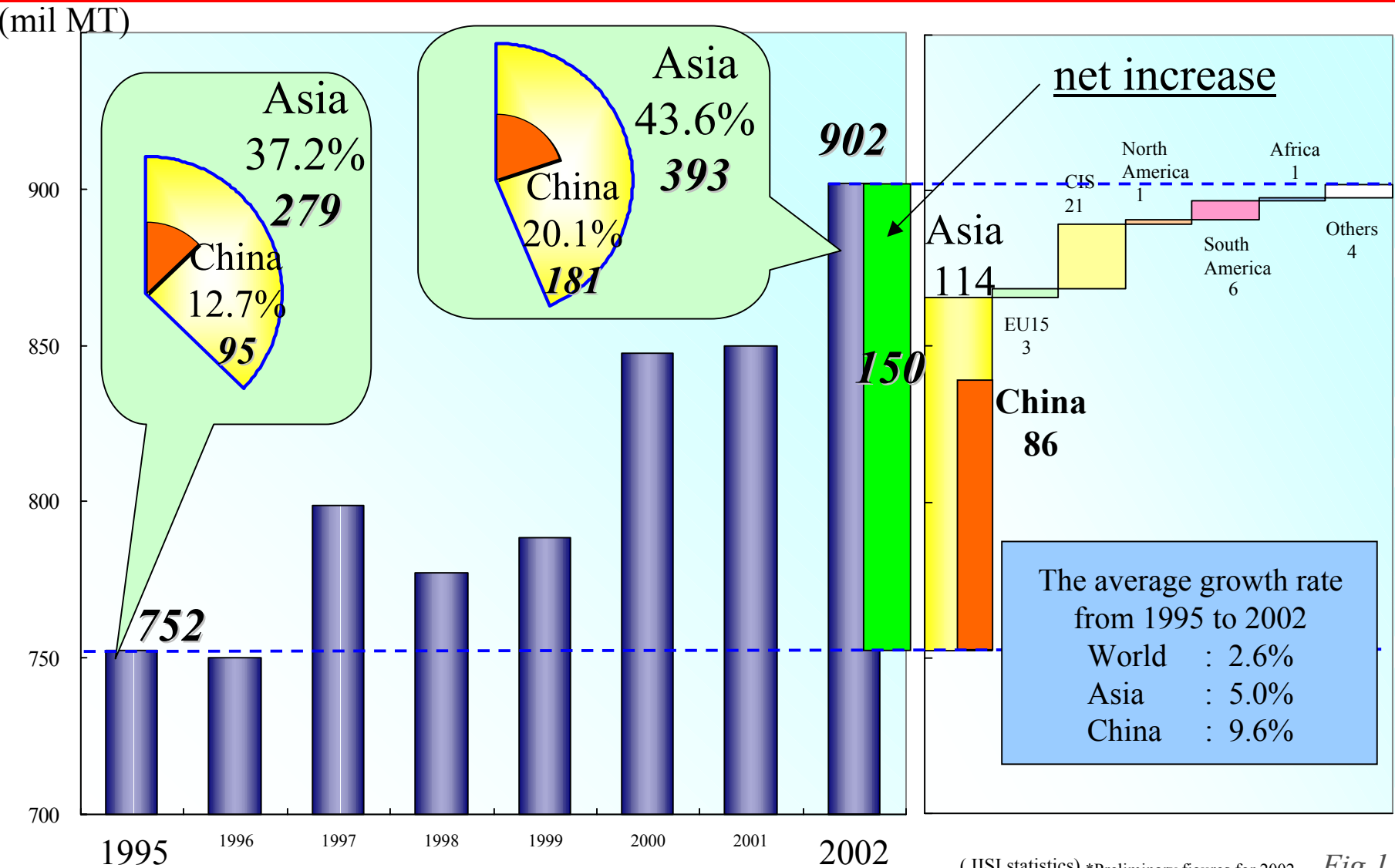
June 3- 6, 2003



Nippon Denko Co., Ltd.

President Keigo Takahashi

★ World crude steel production



★ Manganese ferroalloy production in Asia

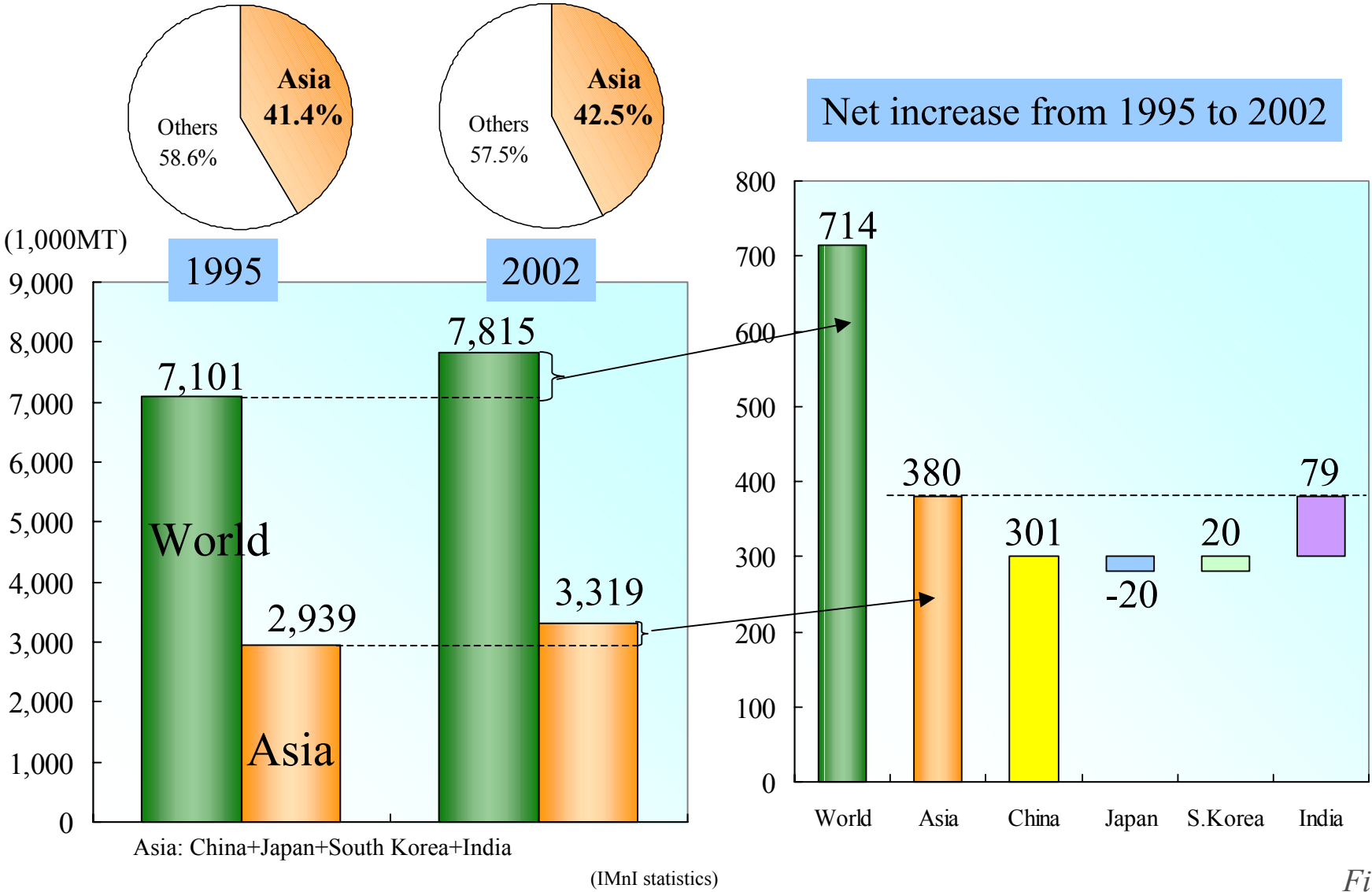
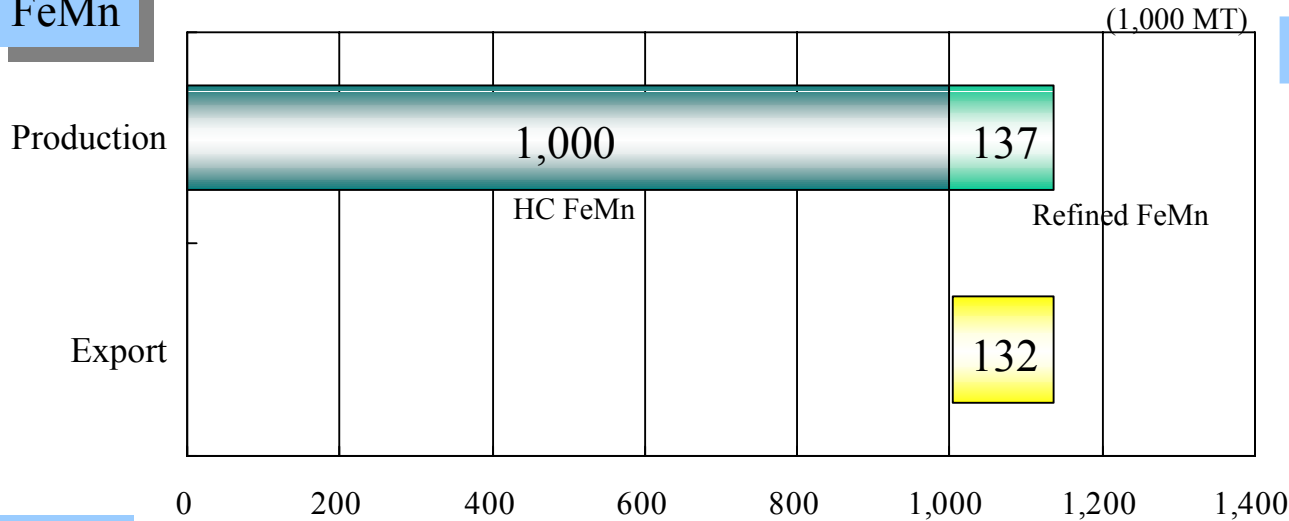


Fig 2

★ Manganese ferroalloy in China

(2002)

FeMn

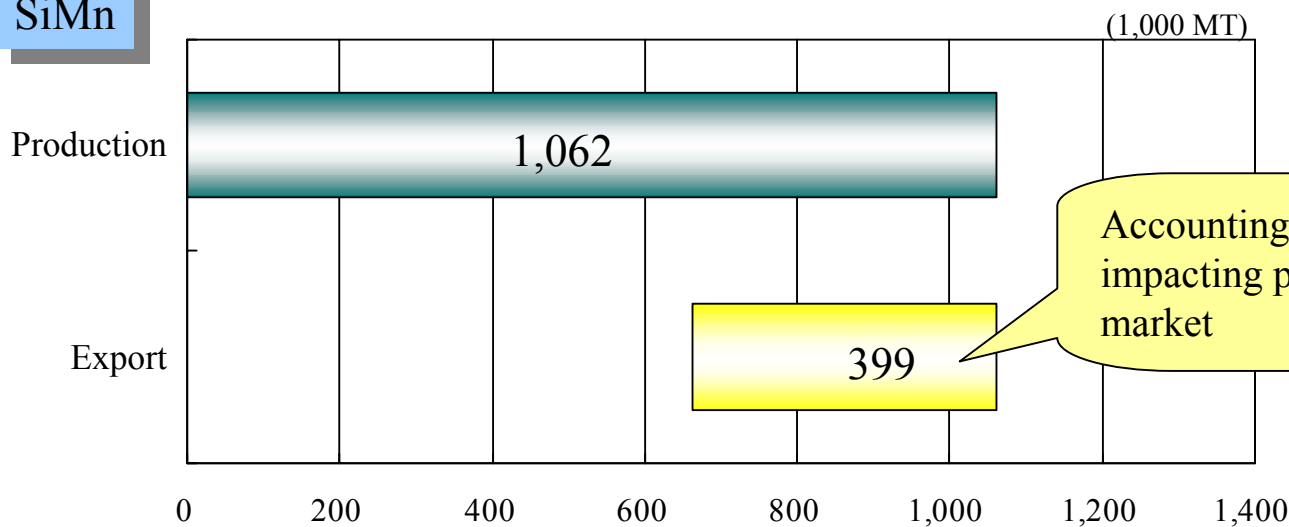


Total manganese ferroalloys
(HC FeMn+Refined FeMn+SiMn)
(1,000 MT)

Capacity
2,700
Production
2,199

Represents 28% of world production

SiMn

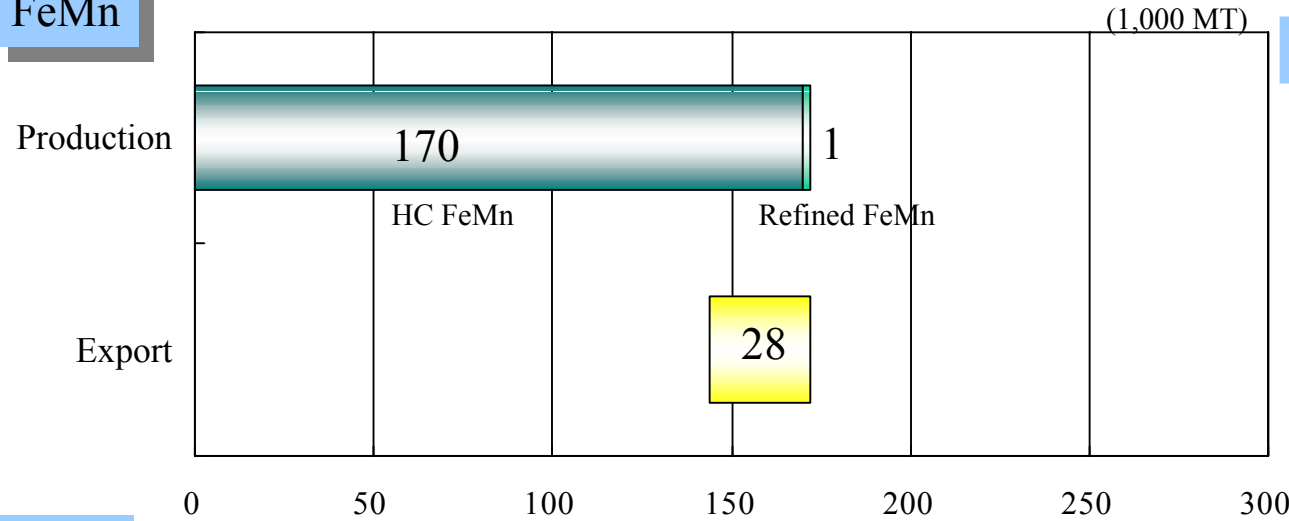


Accounting for 21% of world trade impacting particularly on the Asian market

★ Manganese ferroalloy in India

(2002)

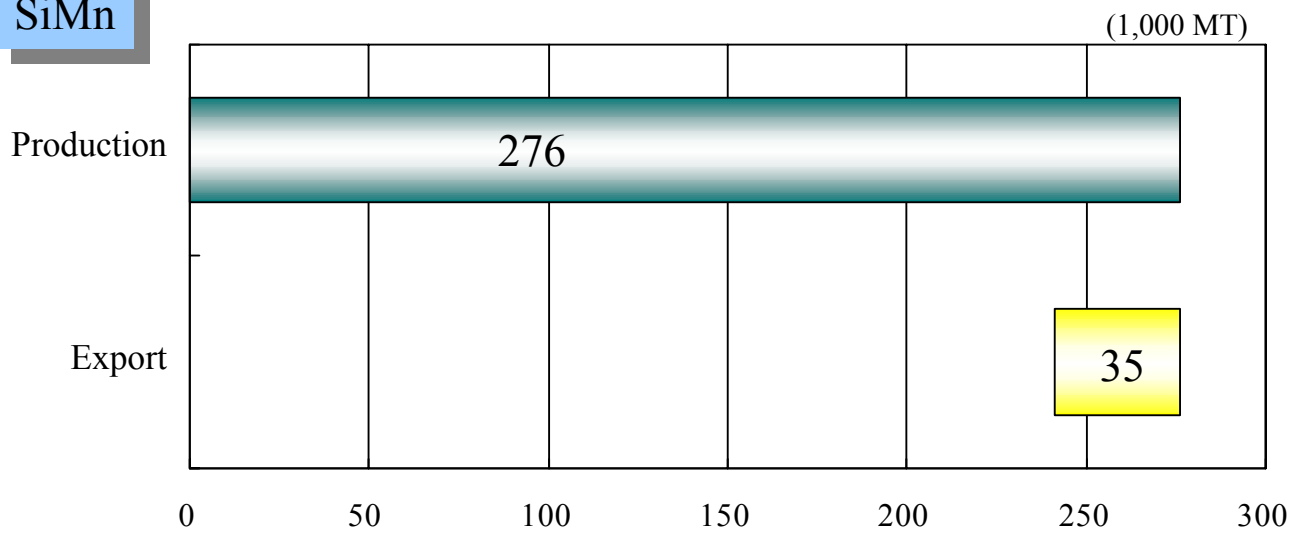
FeMn



Total manganese ferroalloys
(HC FeMn+Refined FeMn+SiMn)
(1,000 MT)

Production
447

SiMn



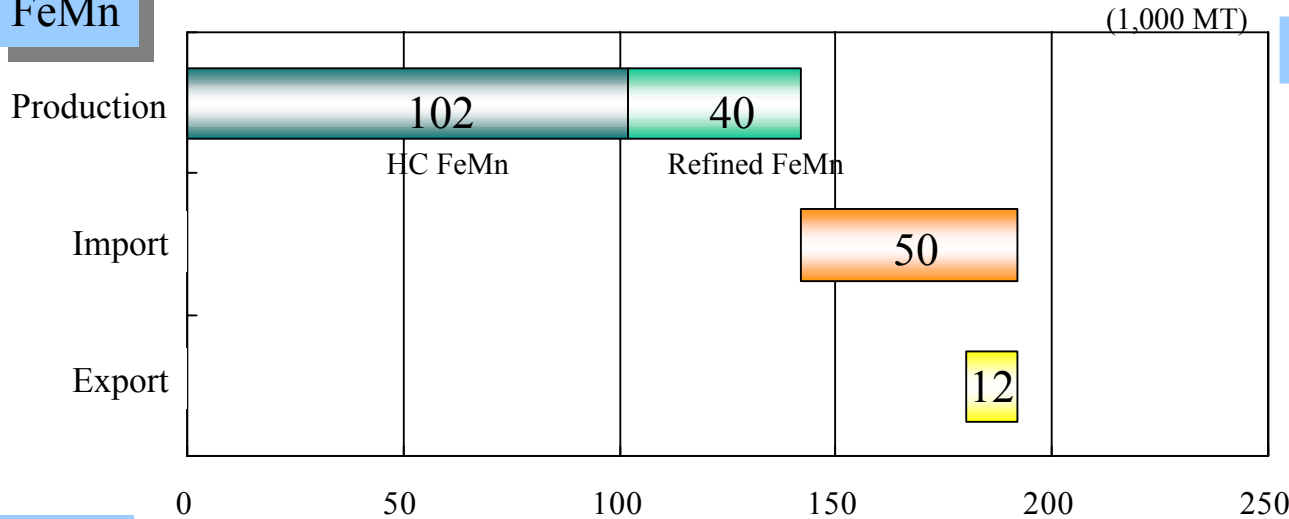
(IMnI statistics)

Fig 4

★ Manganese ferroalloy in South Korea

(2002)

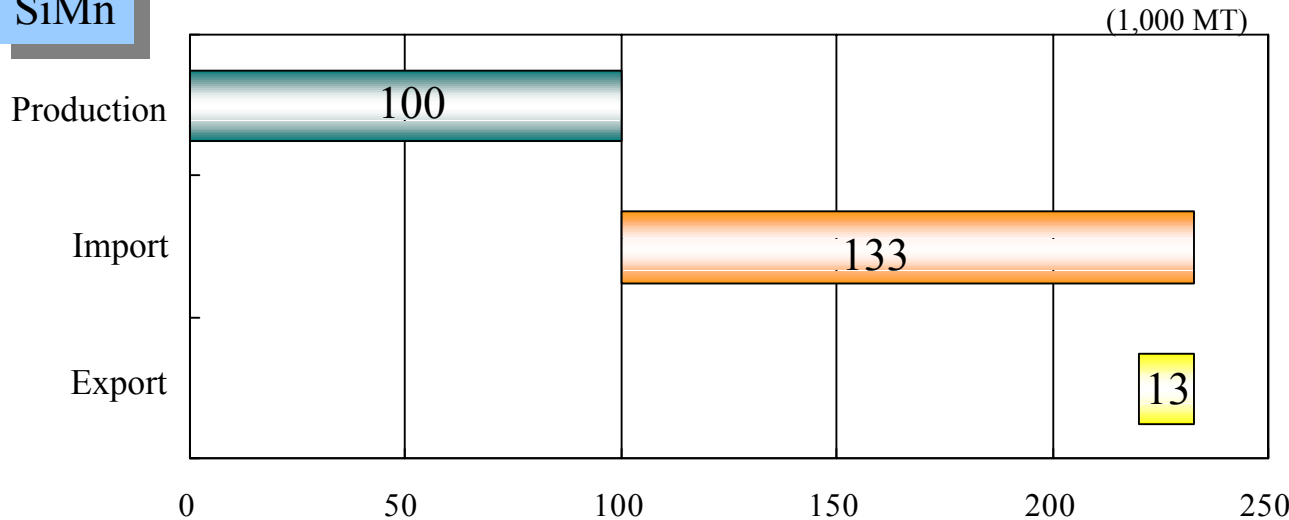
FeMn



Total manganese ferroalloys
(HC FeMn+Refined FeMn+SiMn)
(1,000 MT)

Capacity
387
Production
242

SiMn

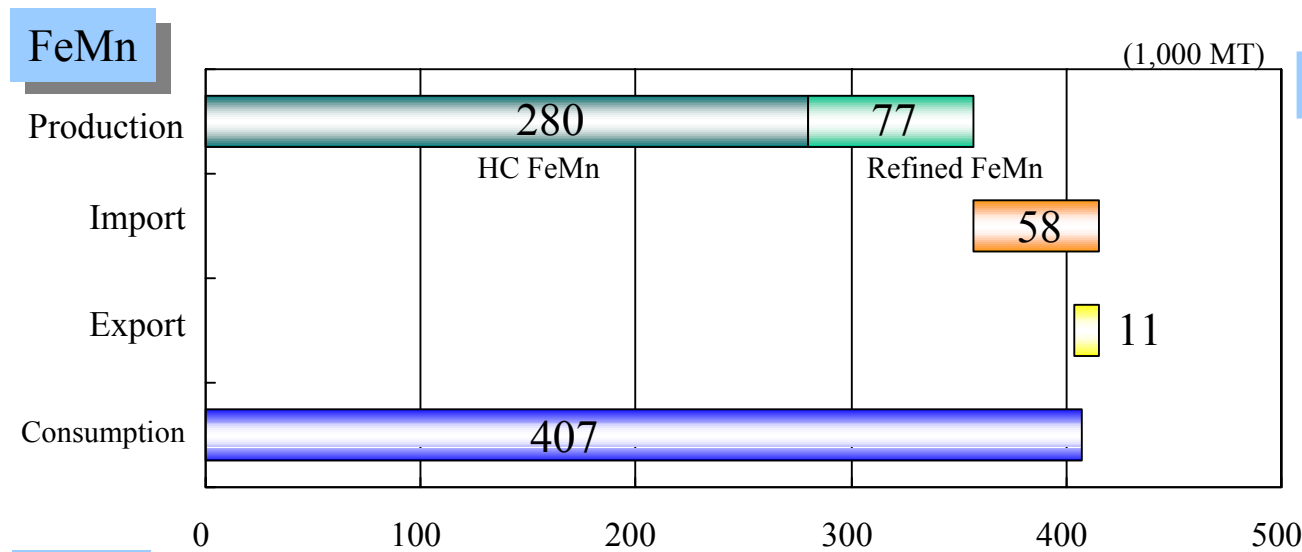


(IMnI statistics)

Fig 5

★ Manganese ferroalloy in Japan

(2002)



Total manganese ferroalloys
(HC FeMn+Refined FeMn+SiMn)
(1,000 MT)

Effective capacity
613

Production

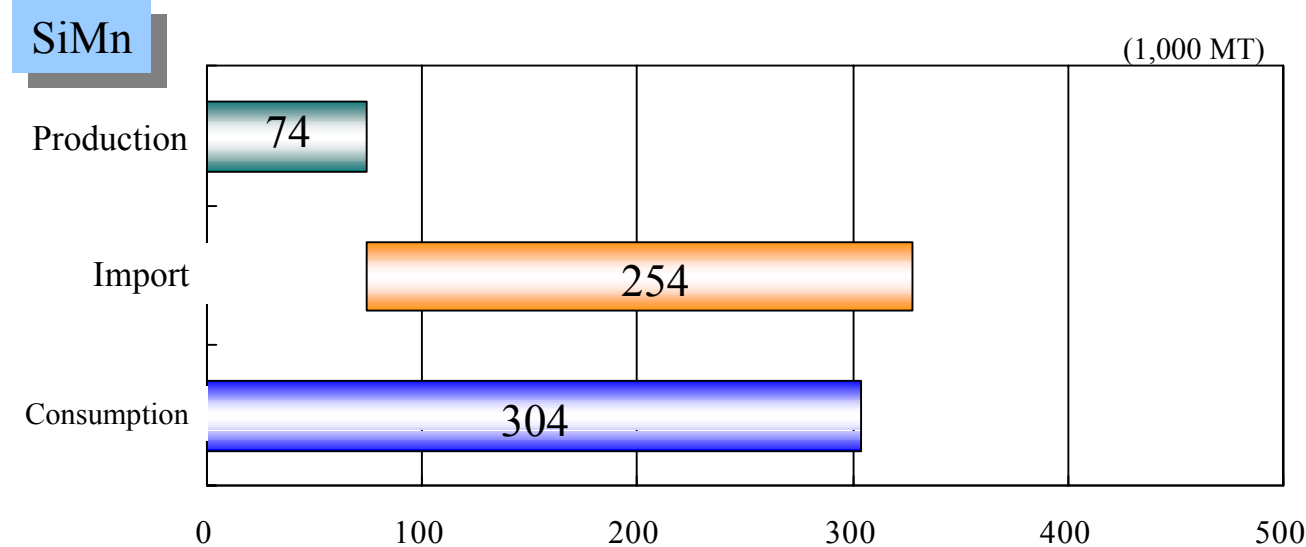
Saleable tonnage

431

Including tonnage

used as raw materials

562



(IMnI statistics)
(Consumption: JISF statistics)

Fig 6

★ Manganese ore situation in Asia

(2002)

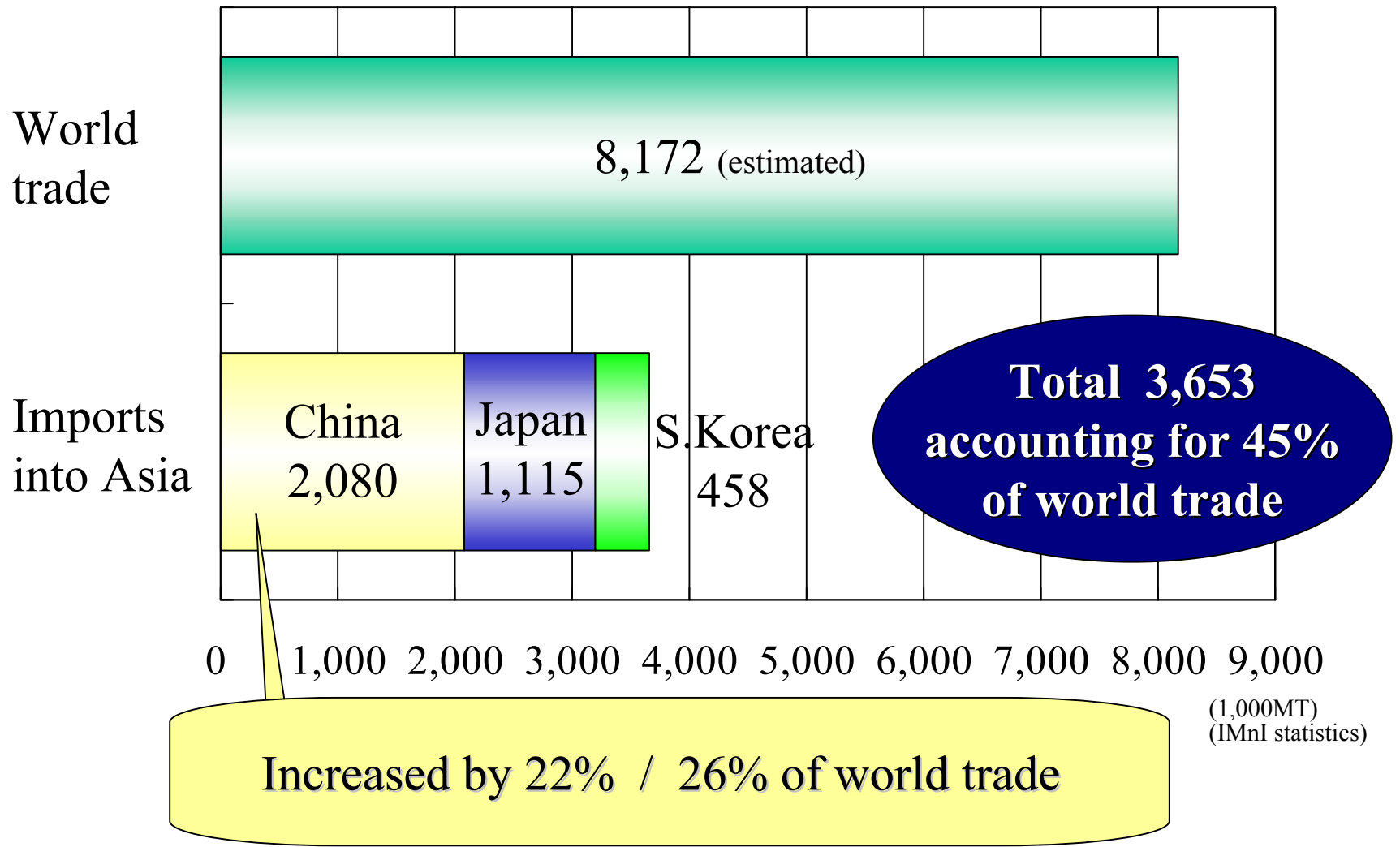
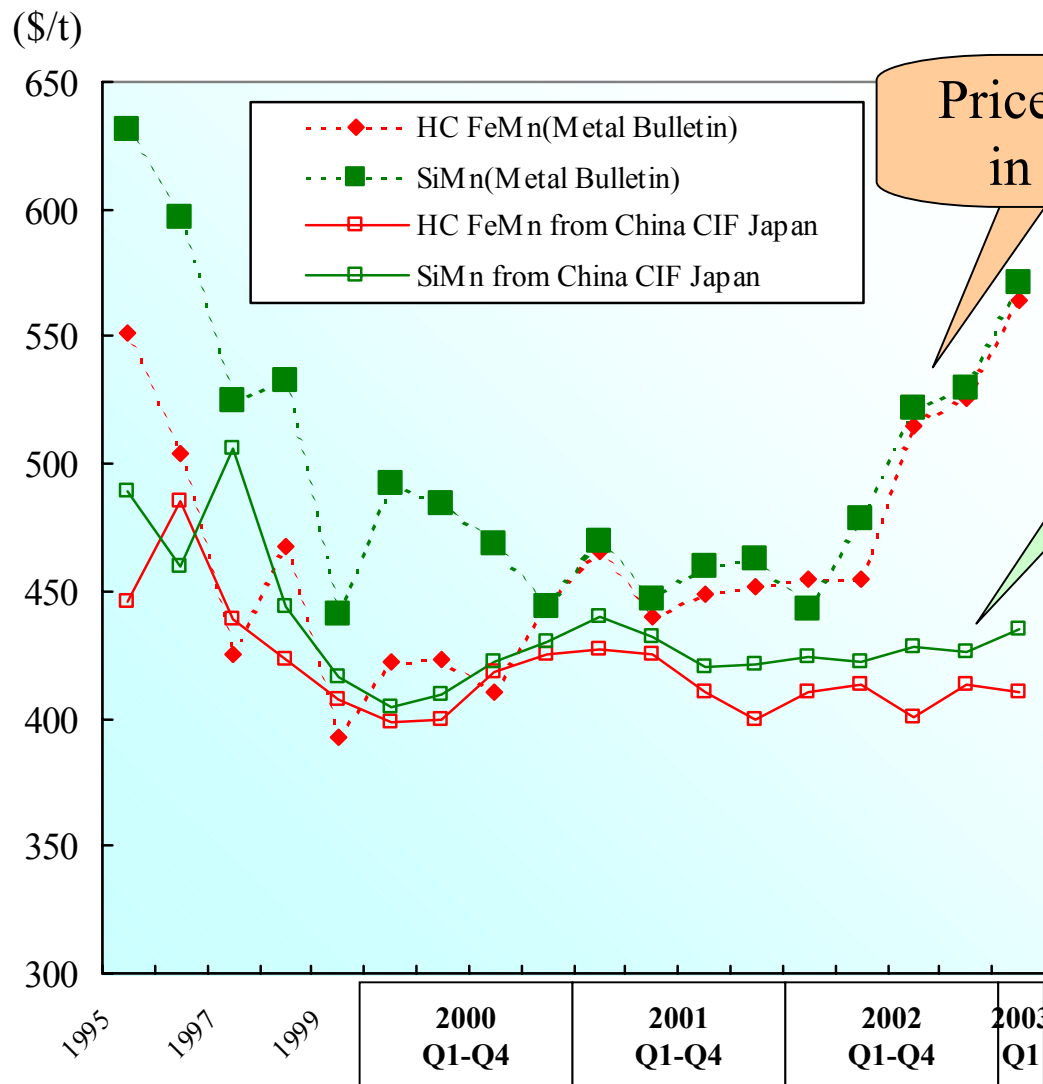


Fig 7

★ The establishment of a supply system meeting customers' demand and an orderly market in world trade



Prices on a recovering track in the European market

Import prices from China to Japan
Late to recover but recently prices have begun to move up

*< Asian market >
Hoping for a reasonable situation reflecting world market*

★ Promotion of efficiency

● Japanese ferroalloy industry

1960's and 1970's

Aimed for stable supply to meet demand

Grouping, consolidation



Up-sizing of facilities

Further developing efficient technology through continued efforts at resource-saving, energy saving and labor saving

● Chinese ferroalloy industry

Recently ferroalloy demand is expanding due to increase in crude steel production



On-going structural adjustment

1. Promotion of enlarging producers
2. Disposal of small and outmoded facilities
3. Promotion of environmental protection measures
4. Promotion of technology

Further development of the ferroalloy industry by sound competition among competitive producers for further improved efficiency

★ Environmental protection measures

Greater consideration of the global environment

- Measures to counter air and water pollution
- Reduction of carbon dioxide emissions to combat global warming
- Emission control of polluting chemical substances like manganese
 - OECD has been encouraging the establishment of the PRTR system
 - Japan decided on the implementation of the PRTR system in 1999



It is important and urgent to take energy-saving and environmental protection measures