

# **Japanese Copper Fabricating Industries in Asia**

**International Wrought Copper Council  
Joint Meeting in Seoul  
May 11, 2009**

**The Furukawa Electric Company Limited  
Mitsuyoshi Shibata**

- 1) Brief Introduction of Furukawa Electric
- 2) Japanese Wire and Cable Industry in Asia
- 3) Furukawa's Exodus 1: Automotive Wire Harness Assembly
- 4) Japanese ACR Copper Tube Industry in Asia
- 5) Furukawa's Exodus 2: ACR Copper Tube

# Furukawa Group

FURUKAWA ELECTRIC

Founder, Mining • Smelting • Refining

Ichibei Furukawa



Furukawa Co.



Mining • Smelting • Machinery

Nippon Light Metal

Aluminum

Furukawa Electric

Wire & Cables • Non Ferrous Metals

ADEKA

Chemicals • Food

Yokohama Rubber

Rubber • Tires

Zeon Corp.

Petrochemicals • Plastics

Fuji Electric

Power Electric Devices

Fujitsu

Computers • Telecom Devices

# Profile

Company name: The Furukawa Electric Co., Ltd.  
President: Masao Yoshida  
Foundation: 1884  
Net sales: JPY 1,174 billion (FY2007)  
Employees: 37,669 (as at end of Mar. 2008)

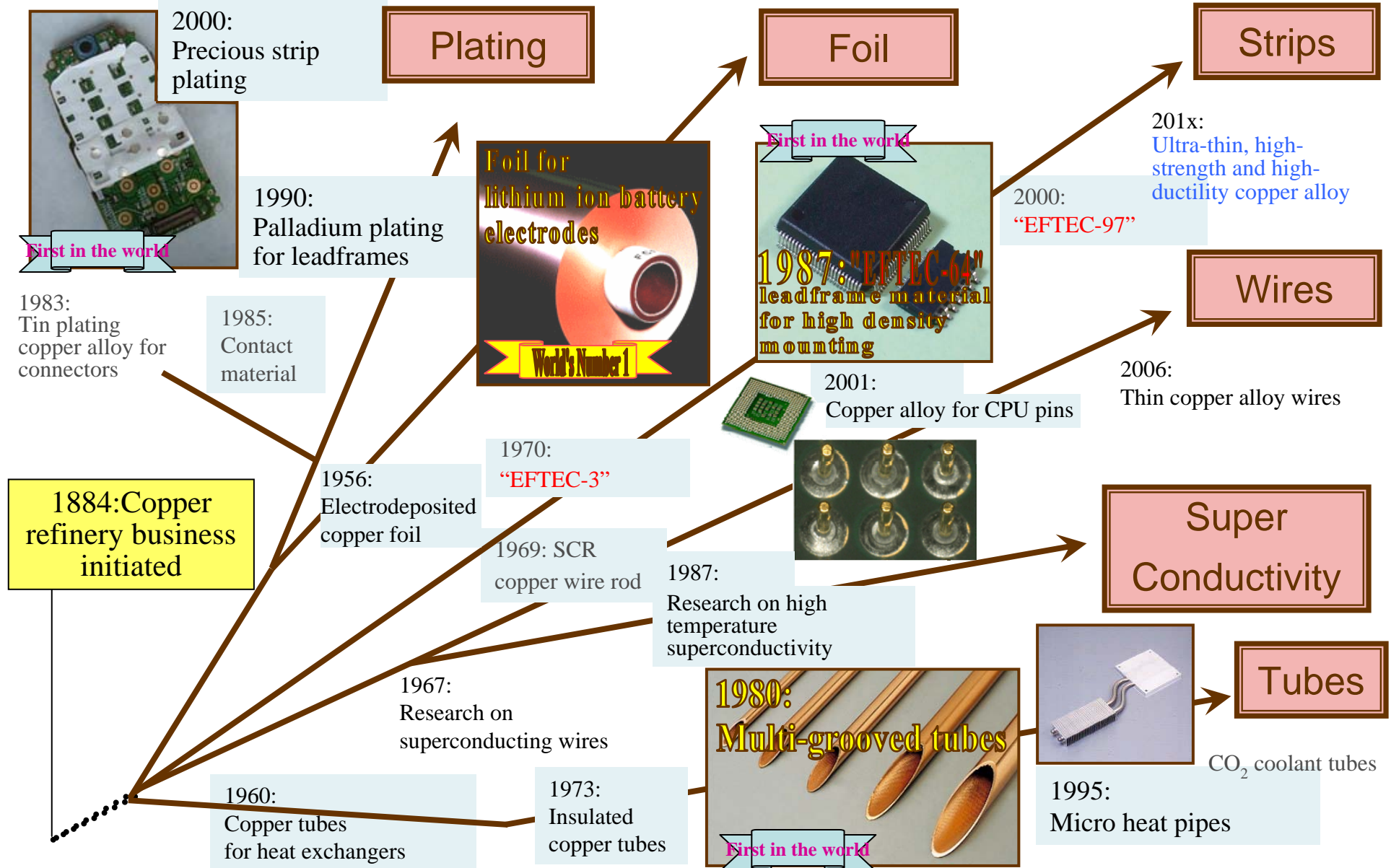
**Operation base: 67 bases over 18 countries**

- Asia: 49
- American Continent: 13
- Europe: 5

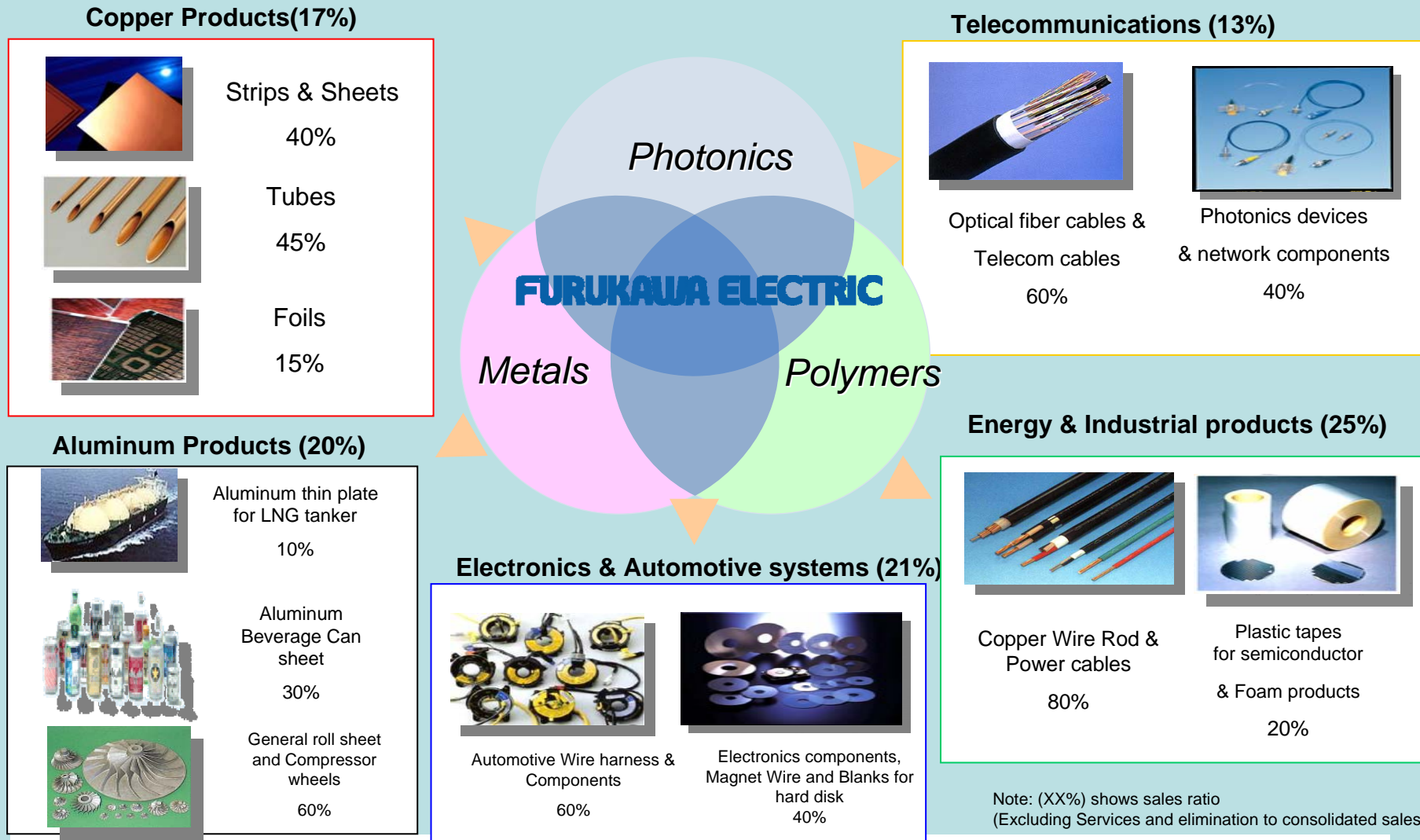


# Innovations in Copper

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## Three core materials across Five business segments

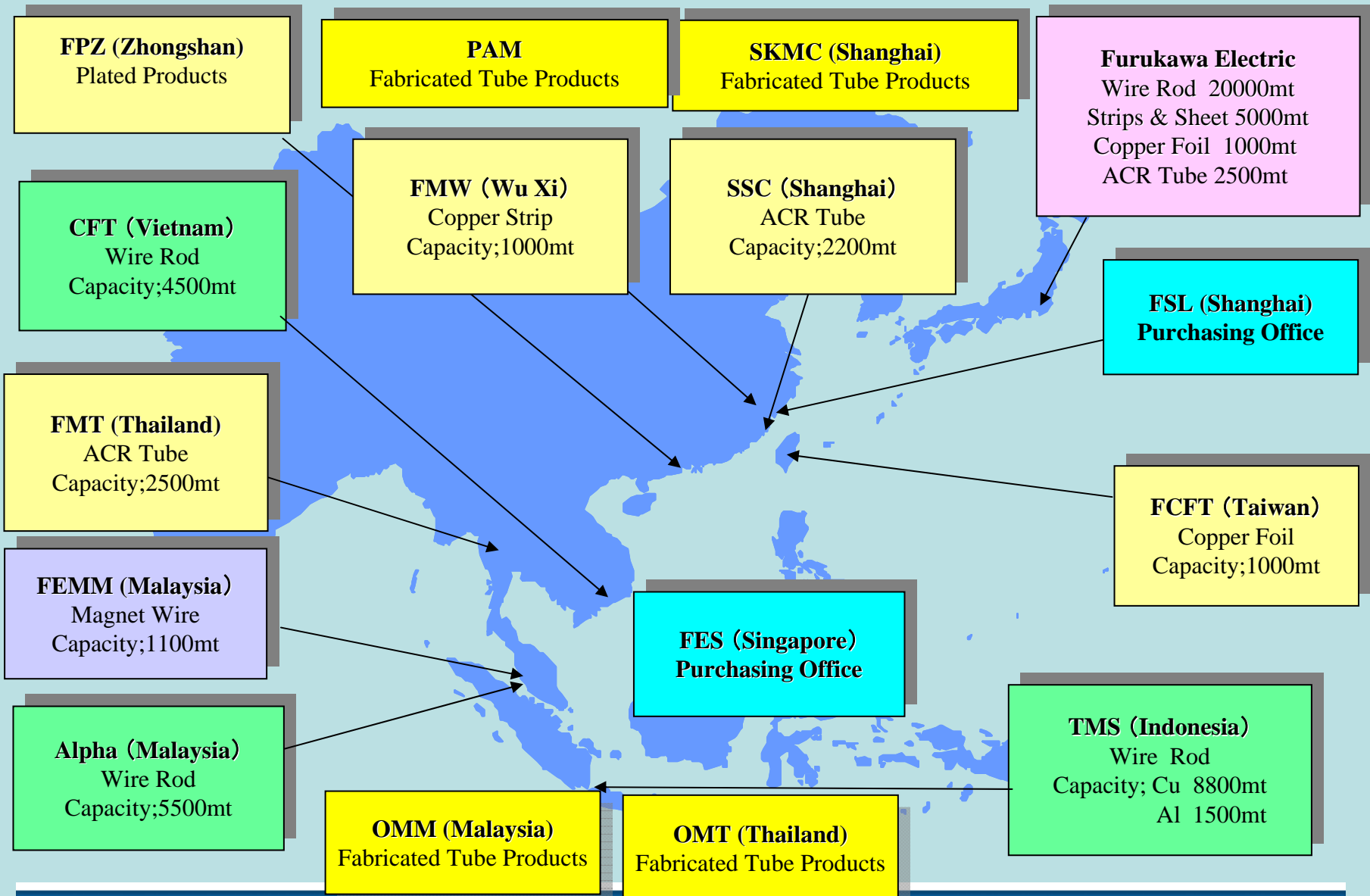


Note: (XX%) shows sales ratio (Excluding Services and elimination to consolidated sales)



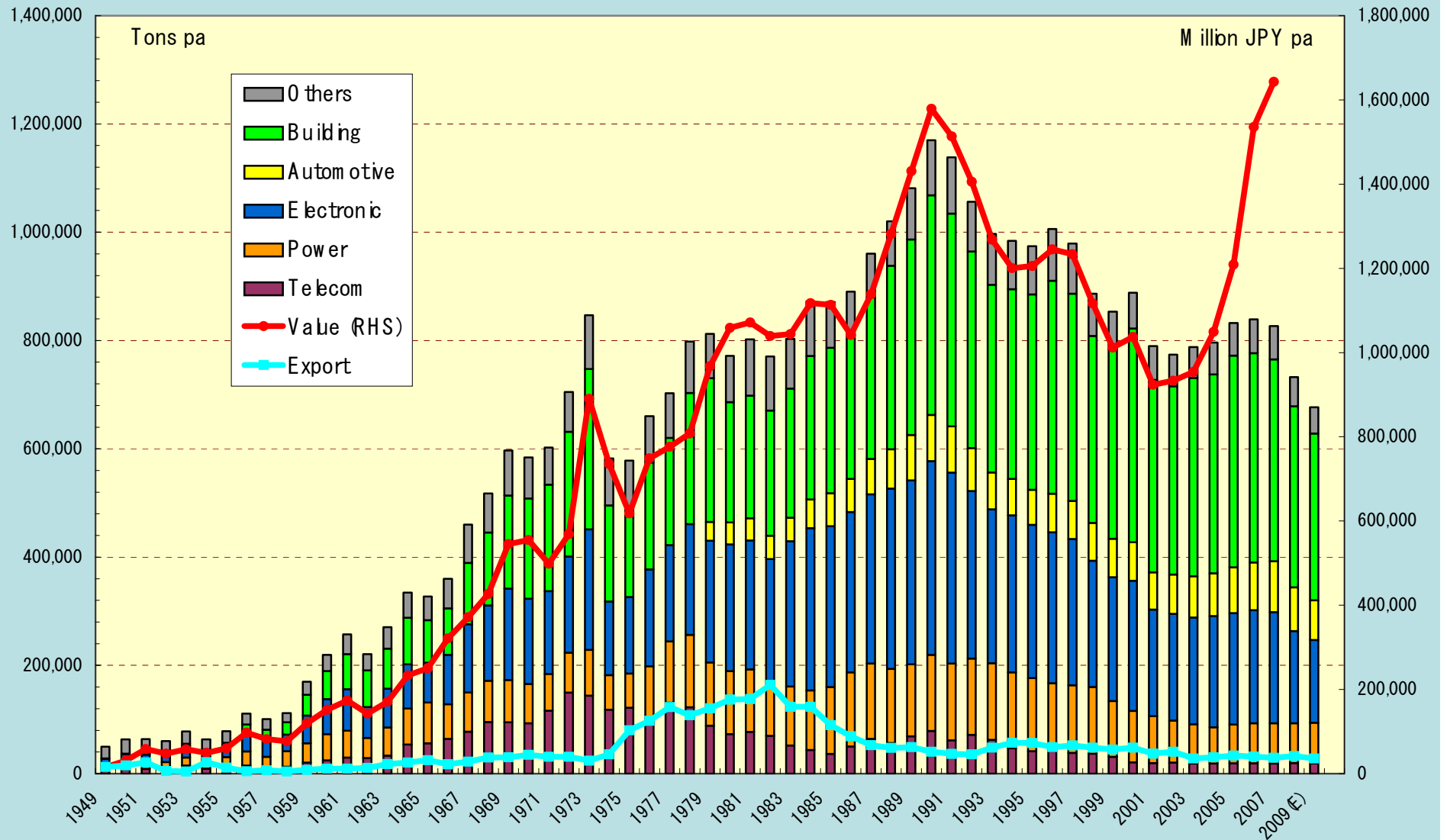
# Consumption of Refined Copper for Asian Operations

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# Copper Wire & Cable Production in Japan

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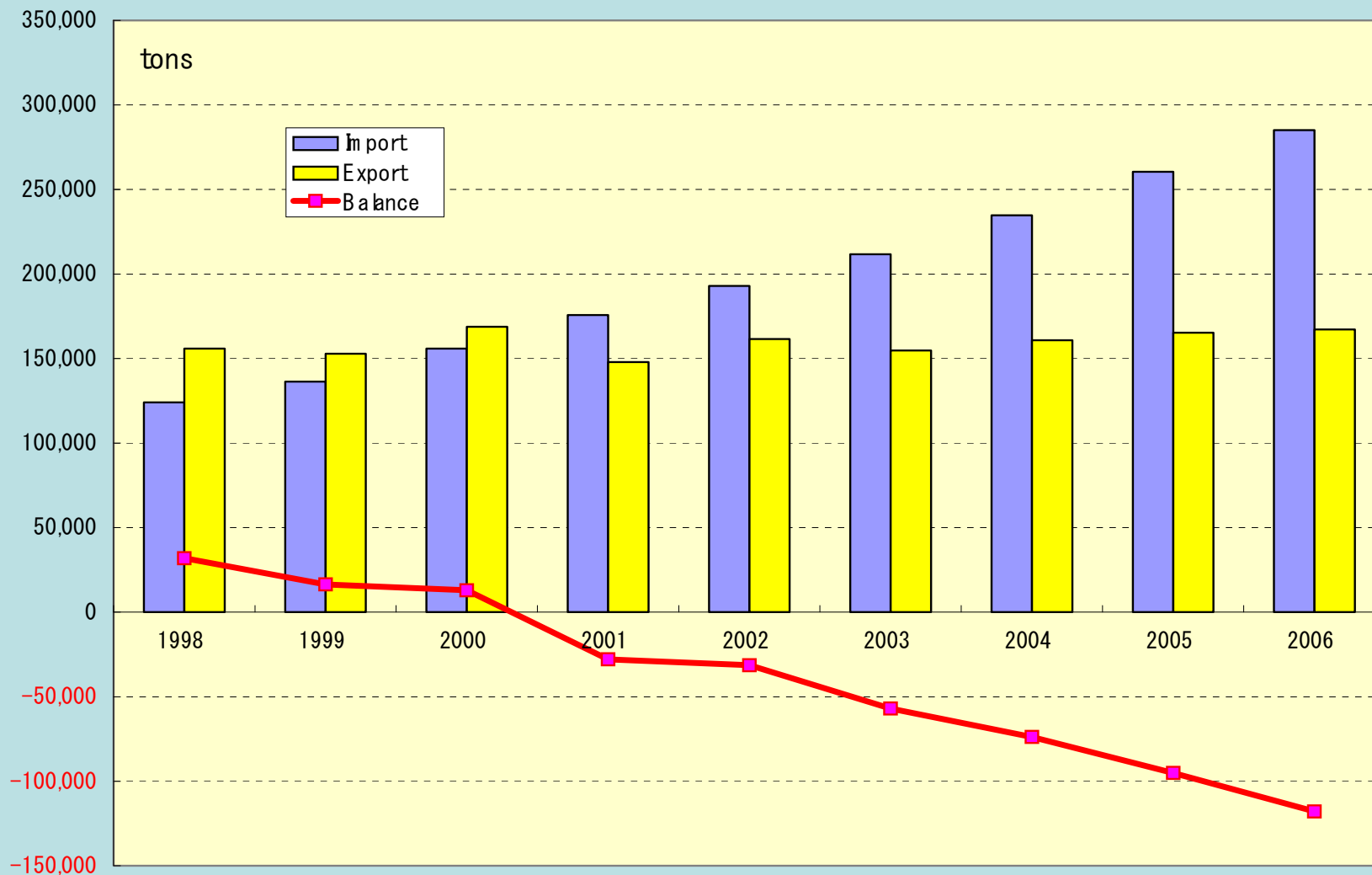


(Source: The Japanese Electric Wire & Cable Makers' Association)



# Export/Import of wire & cable of Japan

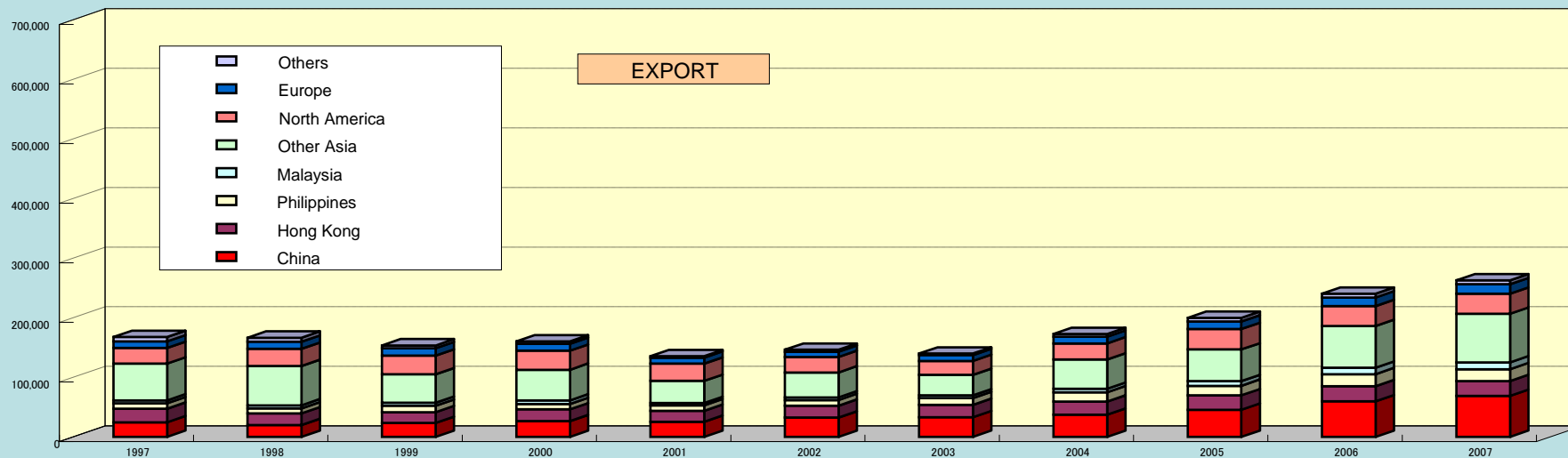
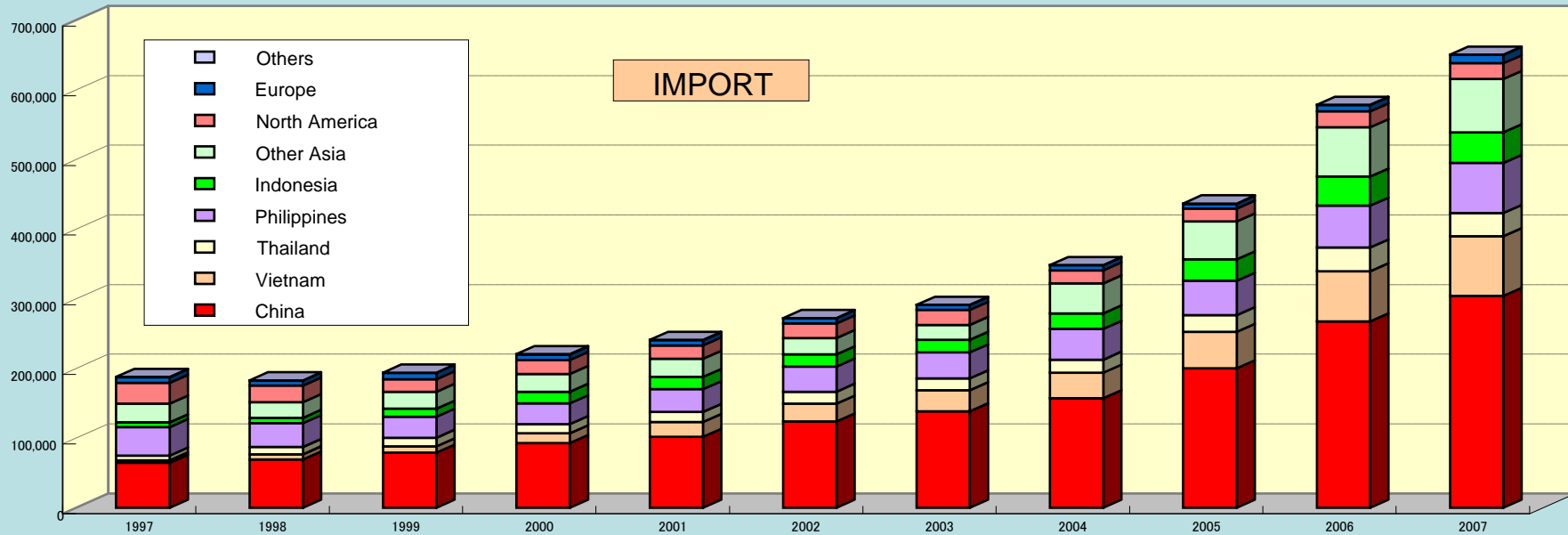
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(Source: Japan Electric Wire & Cable Trading Association)

# Export/Import of Japan by Regions

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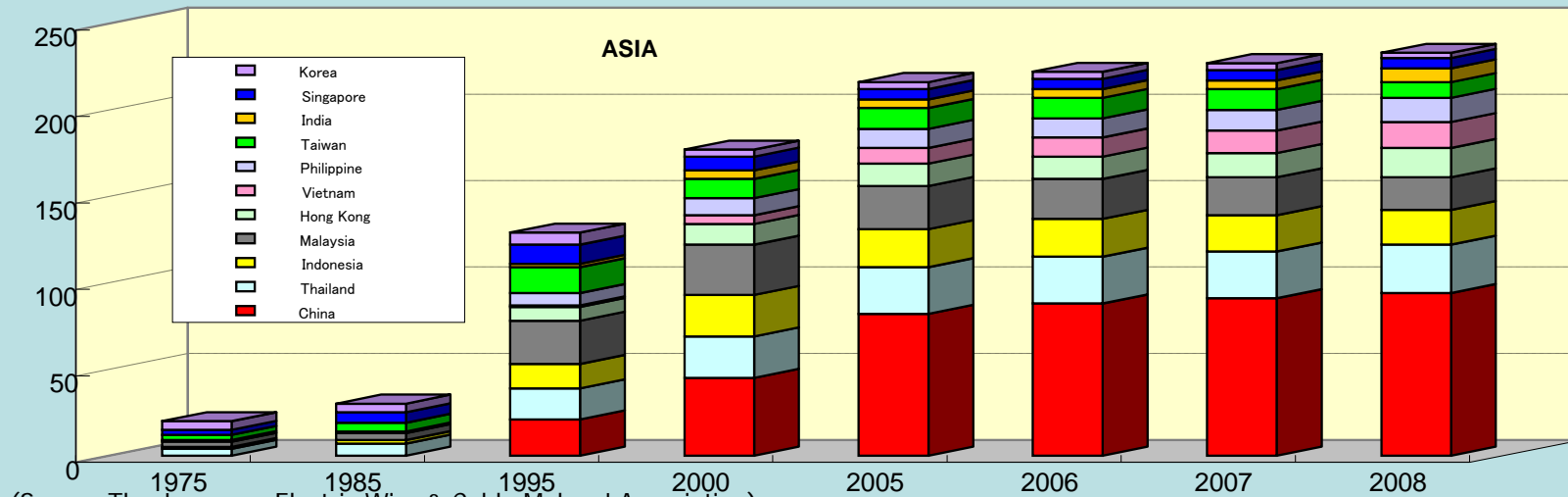
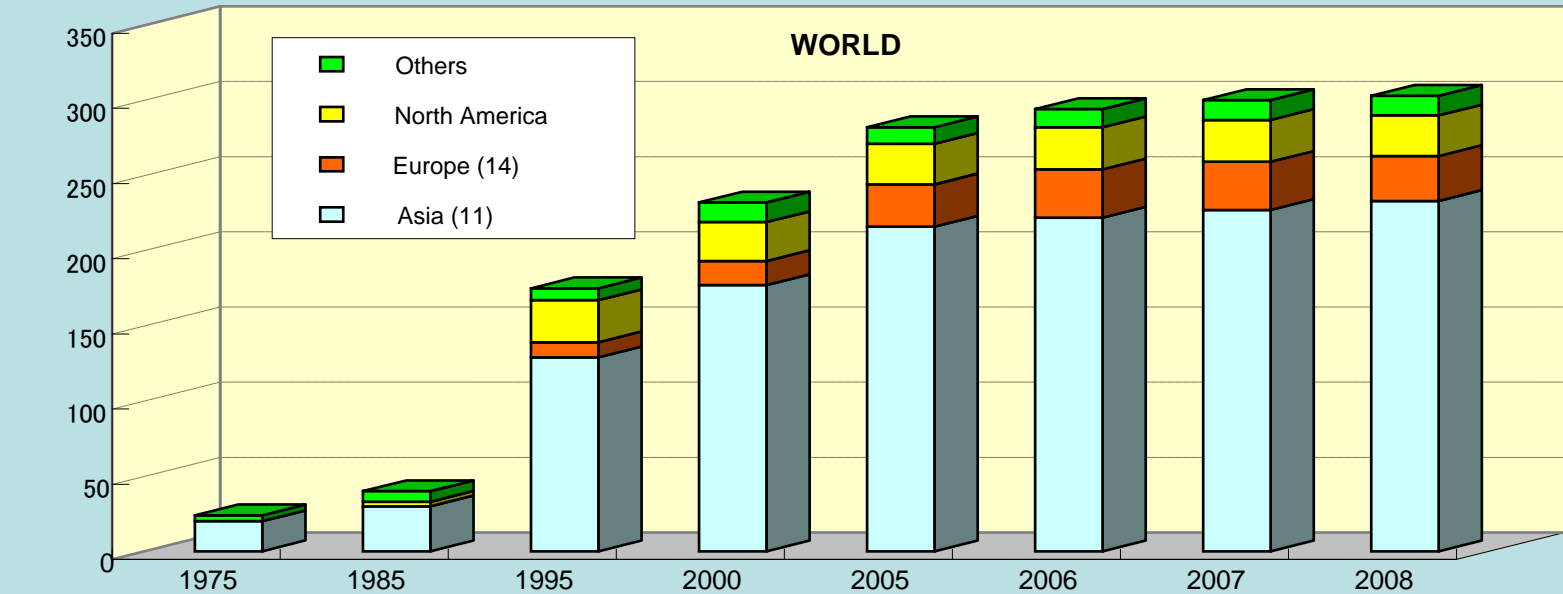


(Source: The Japanese Electric Wire & Cable Makers' Association) Units: million JPY

# Production Transfer of Japanese Wire & Cable Industry

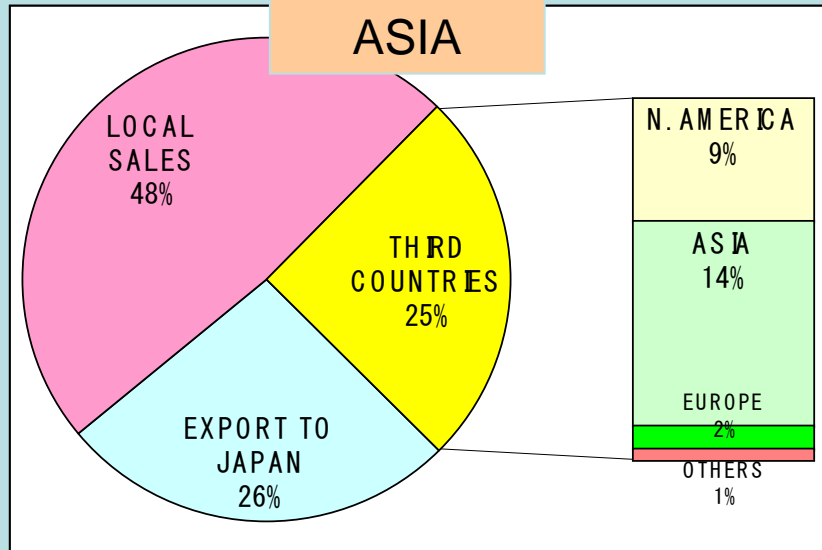
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Number of Operations



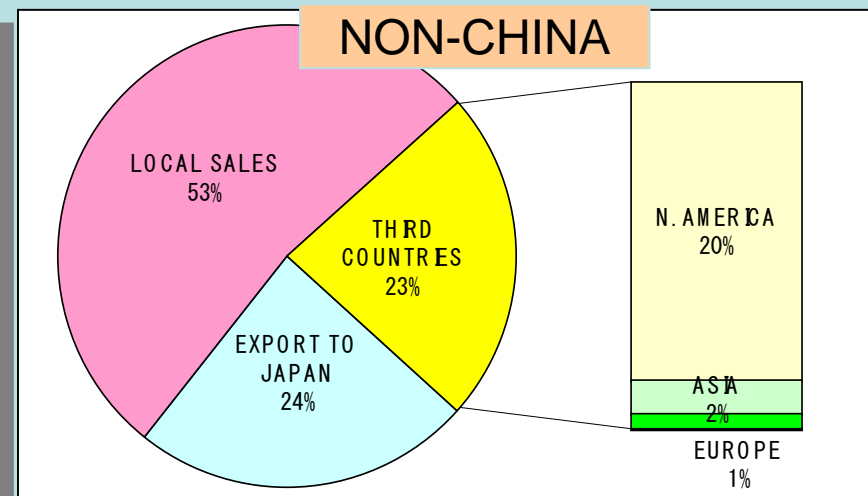
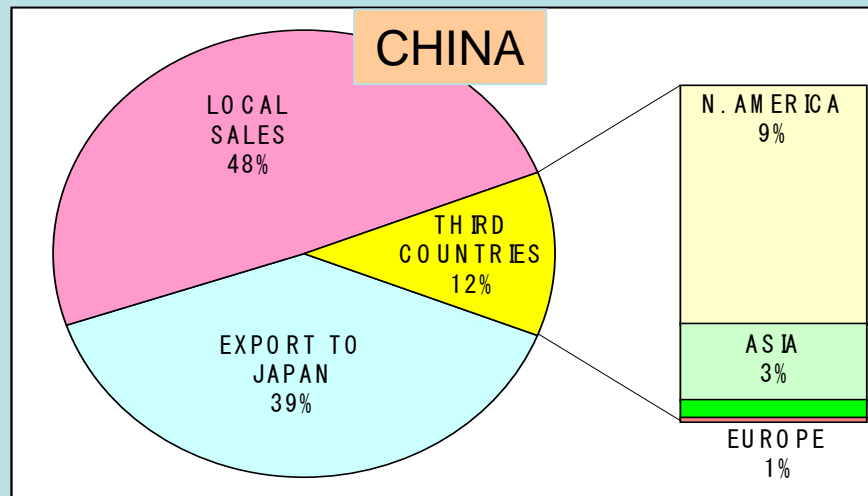
(Source: The Japanese Electric Wire & Cable Makers' Association)

# Sales of Asian Operations



154 Japanese Wire & Cable Operations In Eleven Asian Countries in 2006

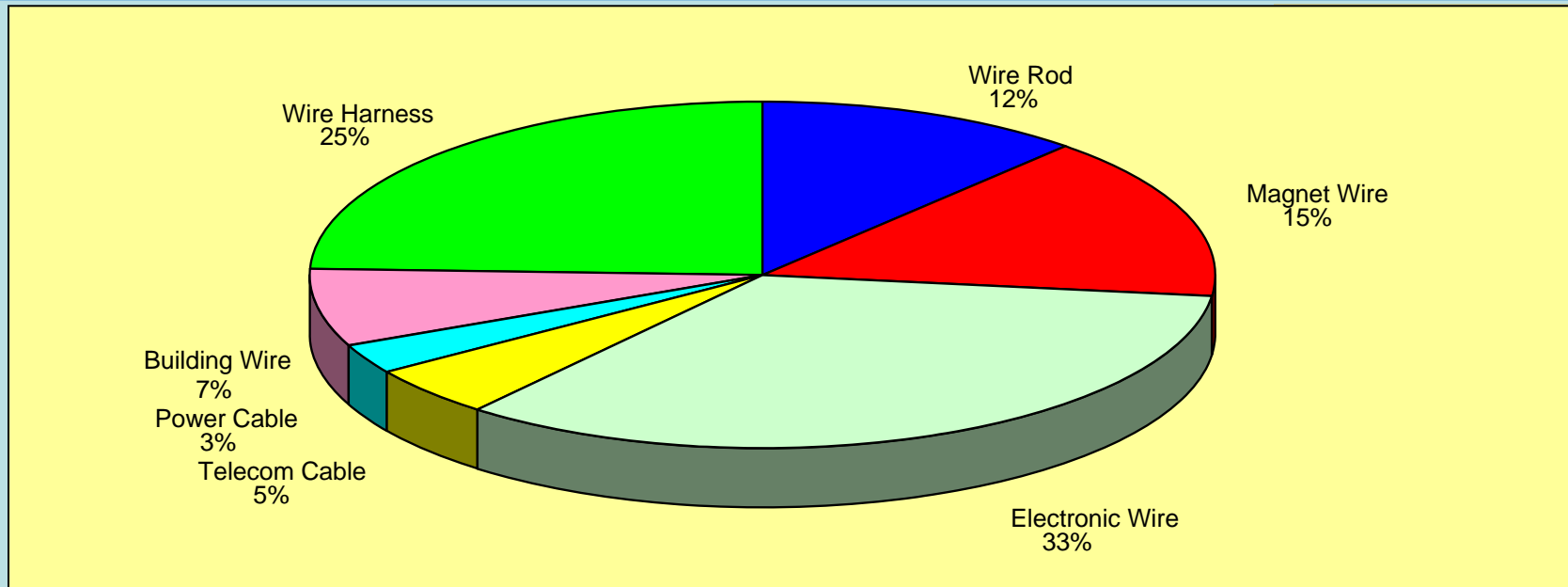
- 1) ASIA Total (154)      932 billion JPY
- 2) CHINA (65)            248 billion JPY
- 3) NON-CHINA (89)      684 billion JPY



(Source: The Japanese Electric Wire & Cable Makers' Association)

# Asian Operations by Product Sectors

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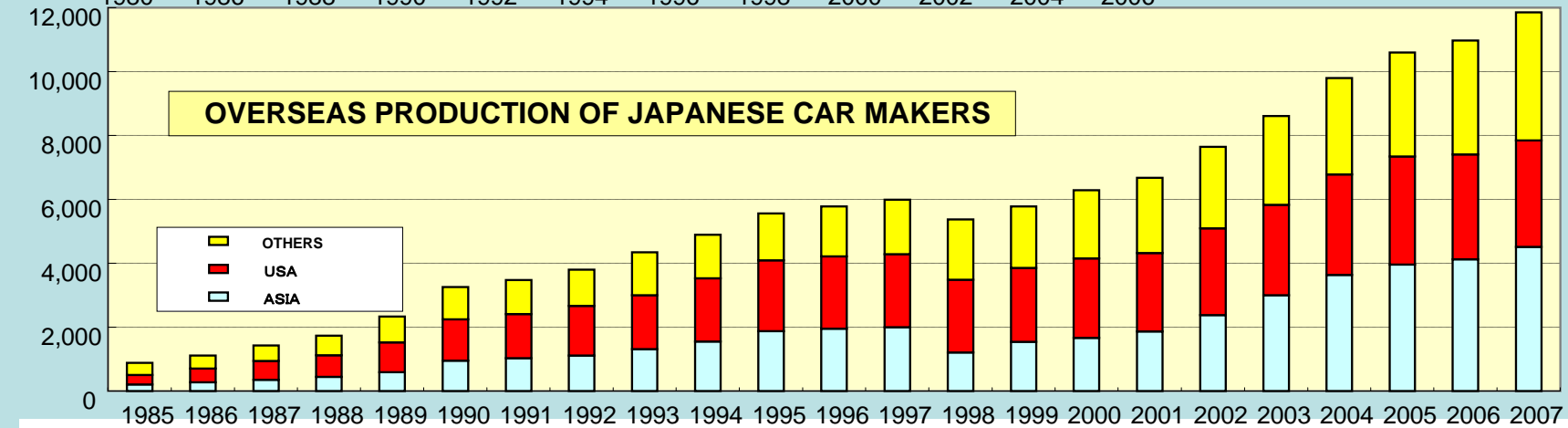
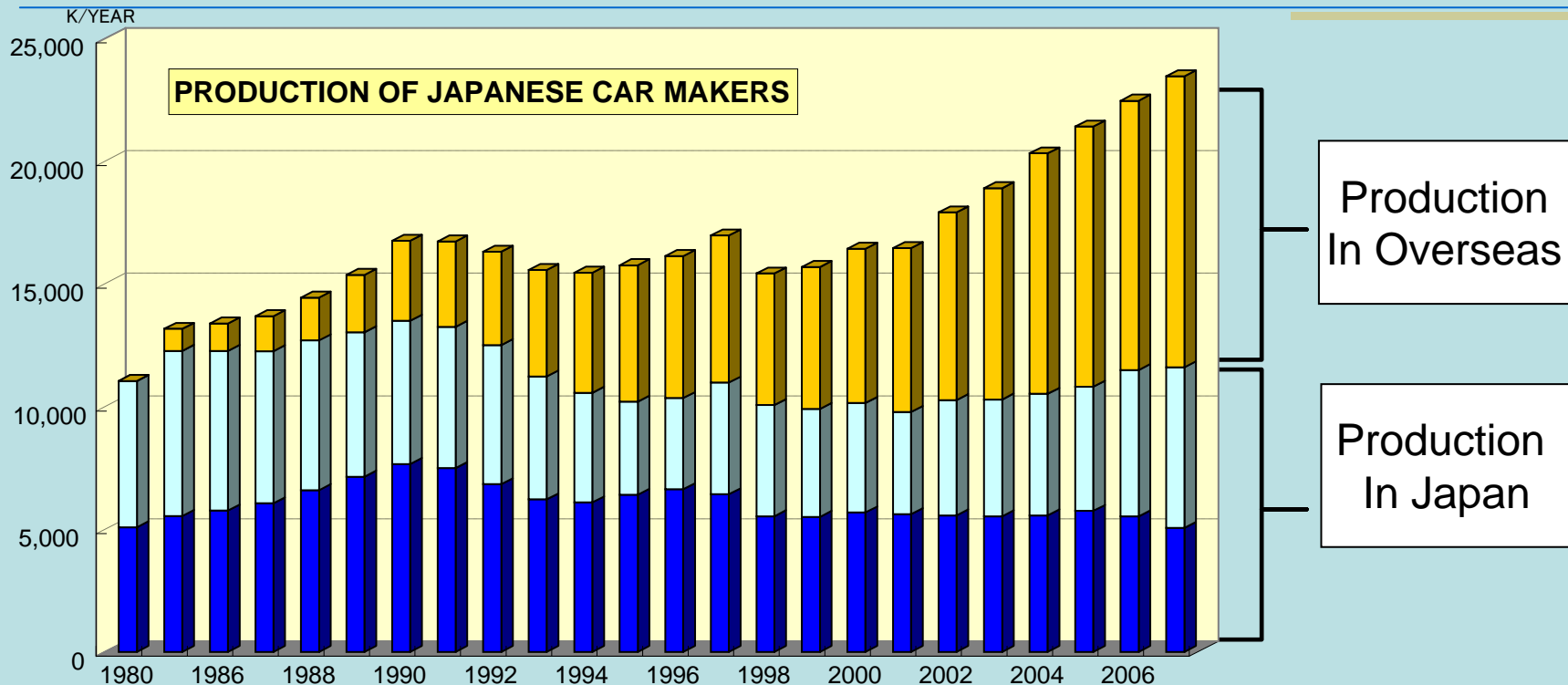


	Wire Rod	Magnet Wire	Electronic Wire	Telecom Cable	Power Cable	Building Wire	Wire Harness
China	7	7	42	9	3	11	25
Korea	0	1	1	0	0	0	1
Taiwan	3	3	5	1	0	1	1
Thailand	5	7	12	3	2	4	4
Hong Kong	0	3	14	2	0	1	1
Vietnam	1	0	6	0	0	0	8
India	1	0	1	1	1	0	5
Singapore	3	2	3	0	0	2	1
Malaysia	2	6	7	1	2	3	3
Philippines	0	2	2	0	0	0	10
Indonesia	5	2	7	0	0	1	8
<b>ASIA Total</b>	<b>20</b>	<b>26</b>	<b>58</b>	<b>8</b>	<b>5</b>	<b>12</b>	<b>42</b>

(Source: The Japanese Electric Wire & Cable Makers' Association)

# Production Transfer of Japanese Car Makers

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# Exodus 1-1 (Automotive Wire Harness Assembly)

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## 1st Stage (from mid 1980s to mid 1990s)

### (Background)

- Japan-US trade friction and strong Japanese Yen after Plaza Accord made Japanese car makers accelerated to transfer productions in North America.
- For survival in labor intensive wire harness assembly business, we needed to find an assembly location with a lower cost.



## 1st Stage (from mid 1980s to mid 1990s)

### (Actions)

- To start wire harness assembly in the Guandong area in China, with an OEM partner in Hong Kong for avoiding business risks
- To supply wires and components from Japan, assemble in China, and ship back to Japan, utilizing trade system in South China and Hong Kong
- Small size plant with one tenth of labor cost and limited investment, exclusively for the Japanese domestic market

## 2nd Stage (from mid 1990s to early 2000s)

### (Background)

- Further severe competition in Japan
- Japanese car makers started to transfer plants to Asia

### (Actions)

- 100% owned larger size wire harness assembly plant in Vietnam for demand in Japan, combined with local production of wire and components
- Collaboration with local assemblers in Asian countries for local production of Japanese car makers

## 3rd Stage (from mid 2000s to Now)

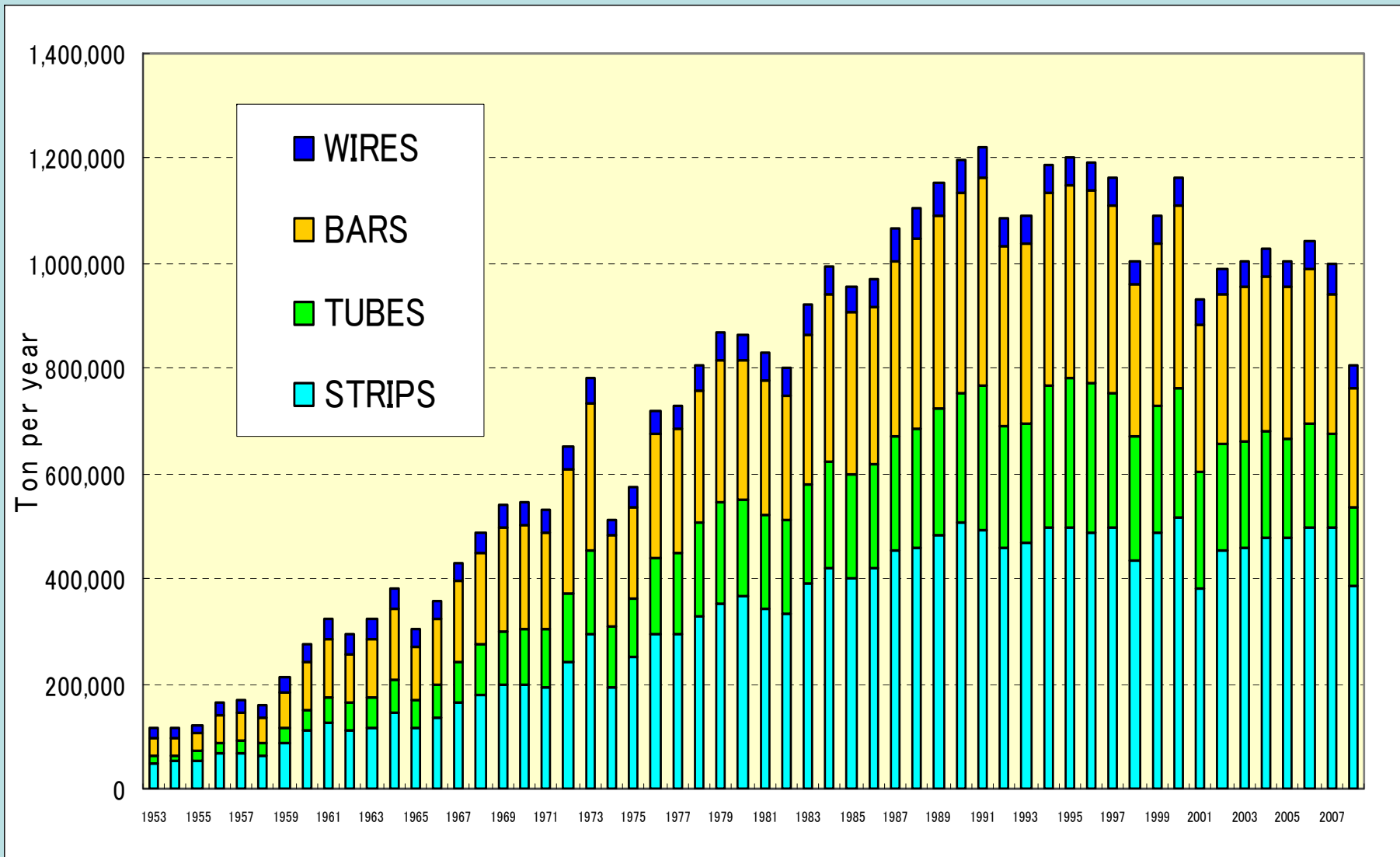
### (Background)

- Expecting large potential growth of car consumption in Asia
- Local car makers expanded production in this region

### (Actions)

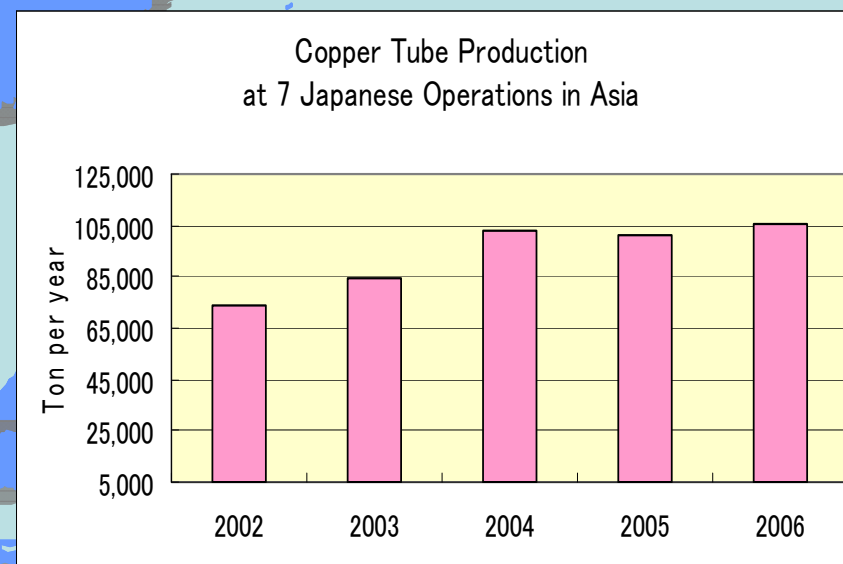
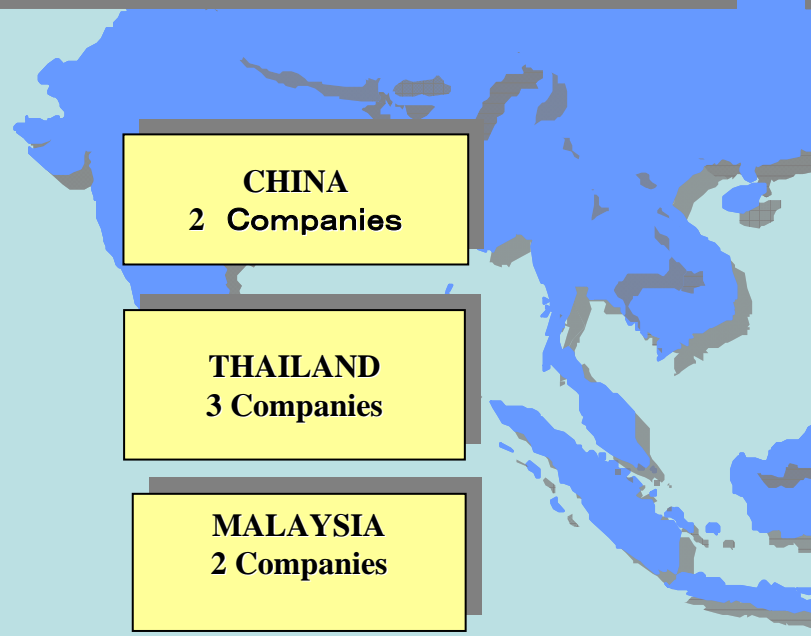
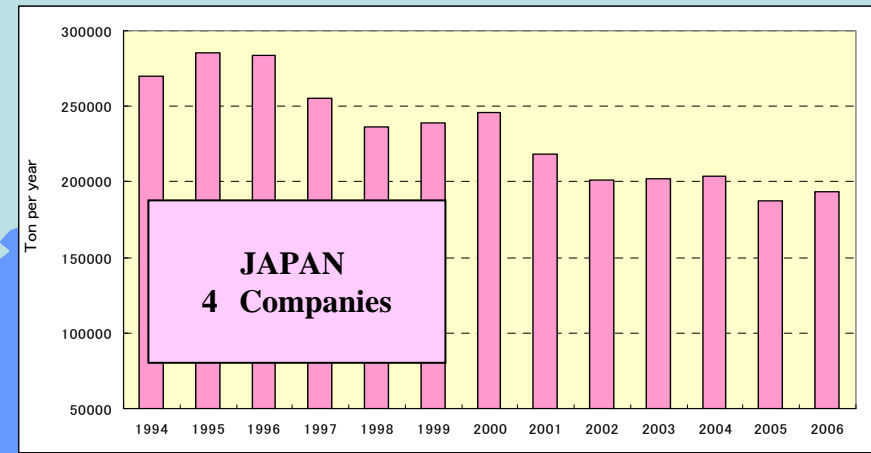
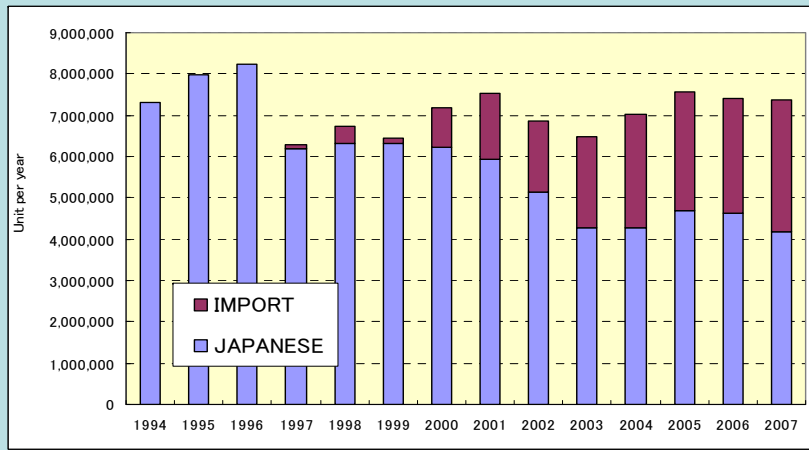
- The most appropriate production for global demand, including global production for wire and components
- Collaboration with local assemblers for domestic production of local car makers as well as Japanese

# Brass Mill Production in Japan



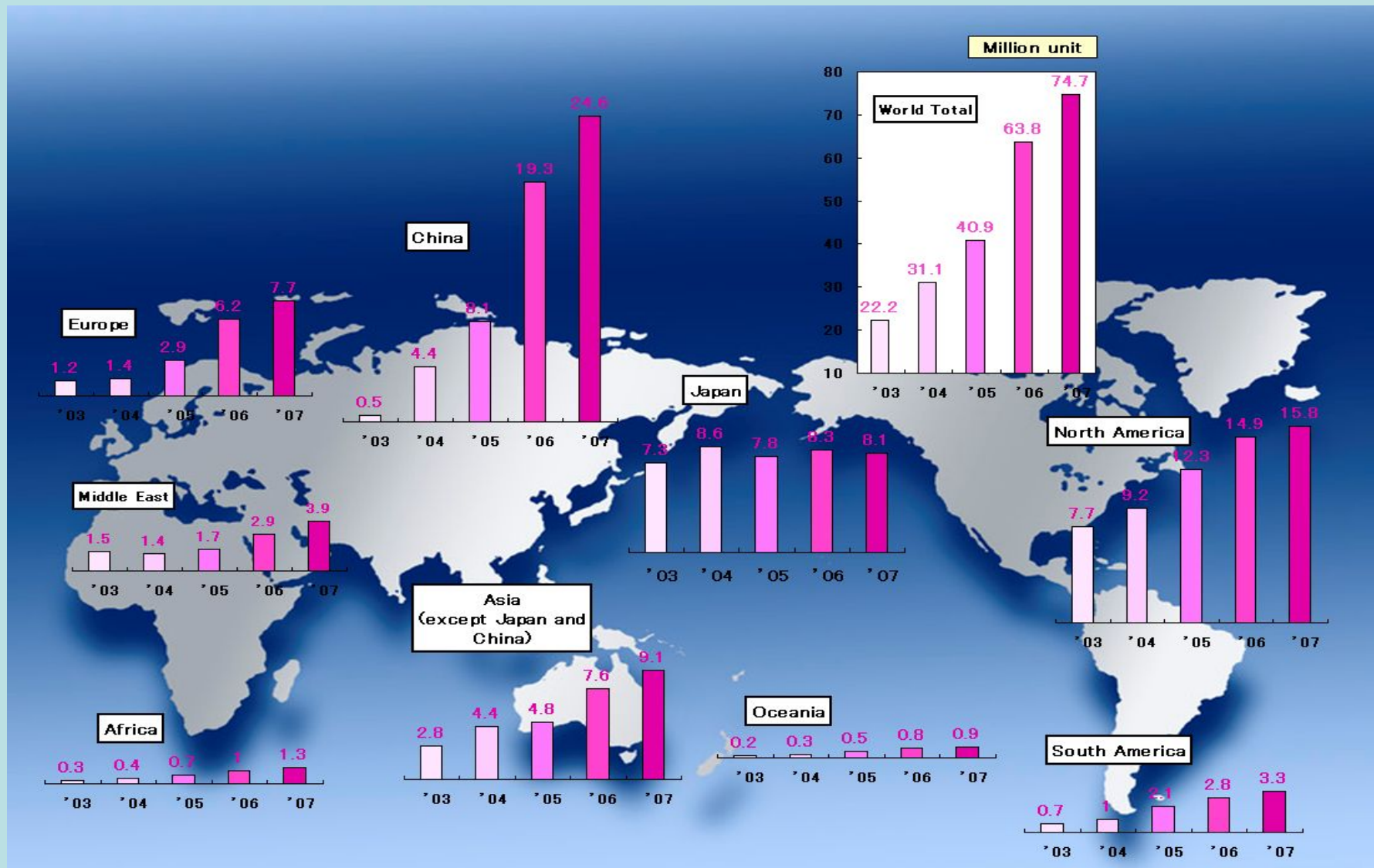
(Source: Japan Copper and Brass Association)

# Aircon sales in Japan and Japanese Copper Tube Production in Japan and Asia



(Source: Japan Copper and Brass Association)

# World Demand for Aircon



# Exodus 2-1 (ACR Tubes)

Period: Decade from mid of 1980s

## Market situations

- Japanese ACR manufacturers transferred production sites to SE Asia, by growth of the ACR market and appreciation of Japanese Yen
- Components makers were asked to transfer operations to supply parts locally: the same structure as the car manufacturing industry

## Our actions

- To establish the fabrication of ACR component operations in Malaysia.
- ACR tubes exported to Thailand from Japan, but lost price competitiveness due to high import duties.
- To start local production at the strong request of our customers



# Exodus 2-2 (ACR Tubes)

Period: From mid of 1990s until now

## Market situations

- ACR market surprising growth in China
- Japanese ACR manufacturers transferred production in China.
- Importing products from China and SE Asia, due to the fall of prices in the Japanese market.
- Demand of ACR tubes in China and SE Asia is increasing, despite declining in Japan

## Our actions

- To establish a joint venture plant with Hitachi for ACR tubes in Shanghai
- Fabricating ACR components operation in Shanghai and Guangdong

## Opportunities

- ✓ Diffusion of ACR and increase of demand of higher functional copper tubes for energy conservation
- ✓ Growth of emerging markets
- ✓ Development of application of heat-pump technology to hot water supply systems

## Threats and Risks

- ✓ Rising labor cost and energy cost
- ✓ Unstable political situations
- ✓ Global economy weakness
- ✓ Sudden change of Taxation
- ✓ AFTA
- ✓ Fluctuation of exchange rates
- ✓ High copper price and high volatilities
- ✓ Material substitutions

- Production of copper wire and cable in Japan dropped to 765 kt (minus 10.6% yoy)
- Forecast for 2009 will be 705 k tons (minus 7.9% yoy), assuming GDP change is minus 4.4%
- Production of brass mills in Japan dropped to less than 810 kt in 2008, at the same level of 1982, due to the effect of the global recession
- Forecast for 2009 is 600-700 kt, since no recovery in demand is expected

(Source: The Japanese Electric Wire & Cable Makers' Association)

(Source: Japan Copper and Brass Association)

- In the short term each company tries to restructure to reduce surplus inventory, employment, and capacity
- In the long term global consolidation in various areas of copper fabricating industries may happen to dissolve surplus capacity resulting from global competition and sluggish markets
- Critical circumstances may generate new business opportunities for copper fabricating industries, such as solar power generation and batteries, hybrid and electric cars, LED lighting, eco-electronic home appliances, and super conductivity by utilizing cutting edge technology
- Asian markets such as China, India, Thailand, and Indonesia will no doubt drive copper consuming markets.

- Asia and China are not only the “world factory” but also the “world market” despite weakness in the world economy
- Asia is no more the export base to USA, EU, and Japan, but the largest consuming region
- Copper related industries are dependent on the Asian market
- Asia is not a mature region but is expecting further development
- Technology innovation for an environmentally-friendly society will generate new copper application demands.

Thank you  
Any Questions?

