

China's Market Situation : Production Capacities and Challenges Ahead

2003 IMnI Annual Conference in Rio de Janeiro

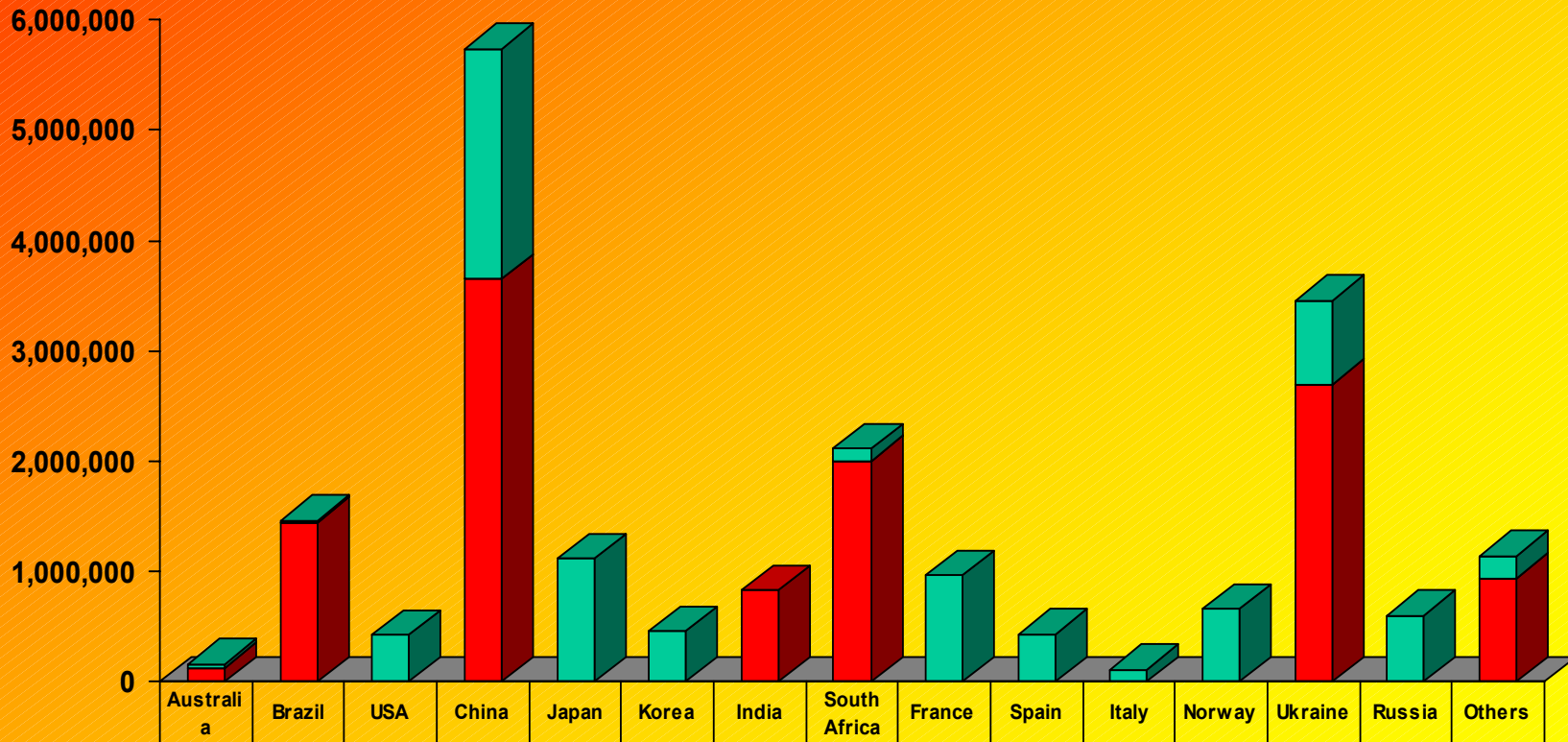
Presented by Xie Xin Min

Chairman of China Ferroalloy Industry Association &
President of Emei Chuantou Ferroalloys Group Co., Ltd.

- I. Manganese Ore* 锰矿
- a) Domestic Ore* 国内矿
- b) Imported Ore* 进口矿

China is the largest country of manganese ore consumption in the world

中国是世界最大的锰矿消耗国

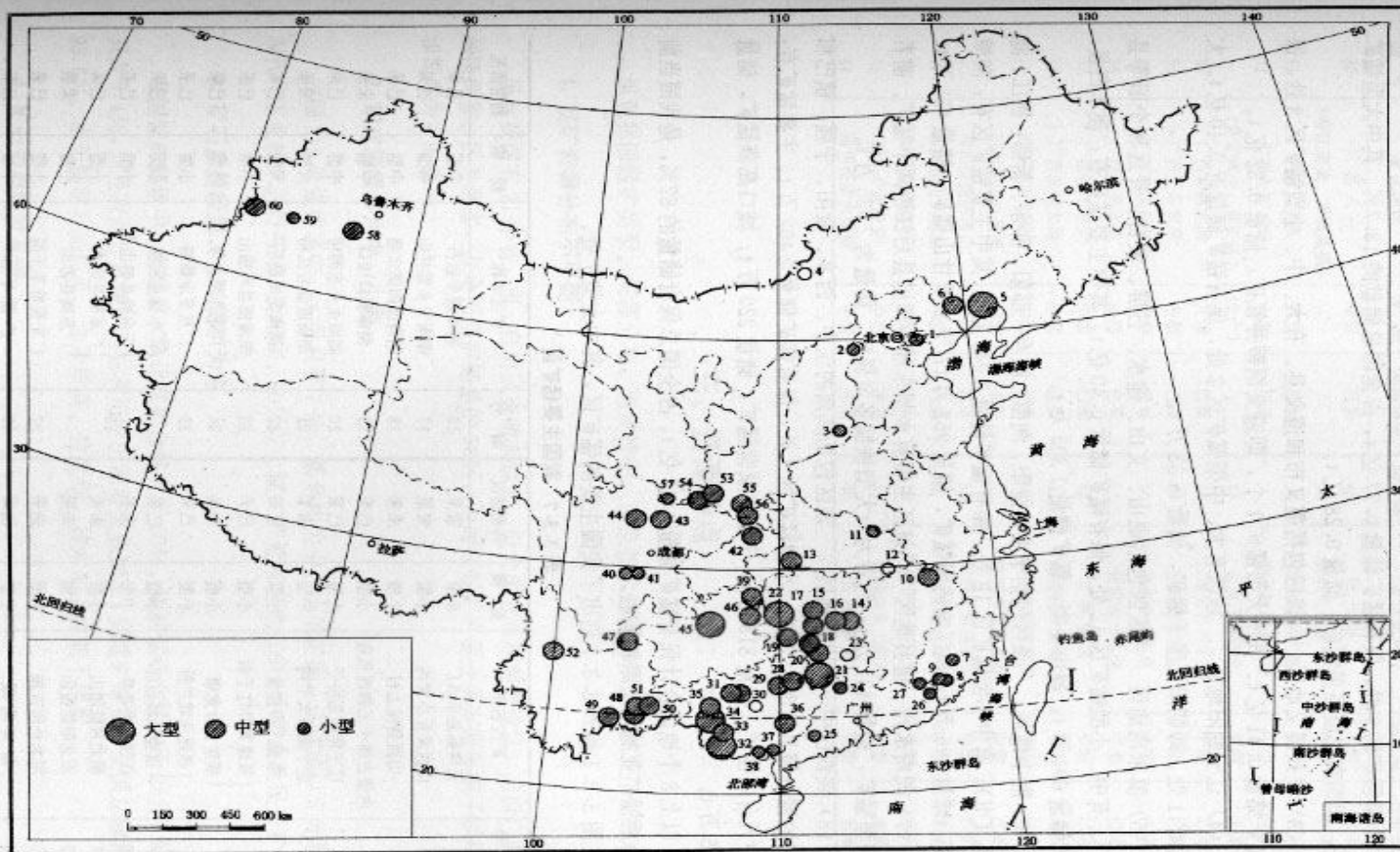


Import 2002	34,990	17,465	426,633	2,080,150	1,114,636	457,767		108,677	968,488	431,720	111,716	660,348	754,733	597,659	207,706
Local ore's consumption	129,522	1,445,511		3,650,000			831,691	2,006,247					2,700,000		936,530

a. China's Manganese Ore Reserves 中国锰矿储量

- Up to now, 213 deposits have been found in China and some of them were developed. Manganese ore reserve is estimated at 600 Million Tons.
- 至今为止，中国共有213处矿区被探明，其中部分已开发。锰矿总储量约6亿吨。

Mn Mine Locations



本图上中国国界线系按照中国地图出版社1989年出版的1:400万《中华人民共和国地形图》绘制

图 3.3.1 中国锰矿分布图

Geographic Reserves

地理位置

- About 80% of Manganese Ore reserves are located and produced in the south-western provinces。
- 80%的锰矿是在西南省分布和生产的。

Grade品位

- Grade is relatively low with an average Mn content approx. 30%
- 品位相对来说比较低，平均含锰量为30%

Ore Production 锰矿生产

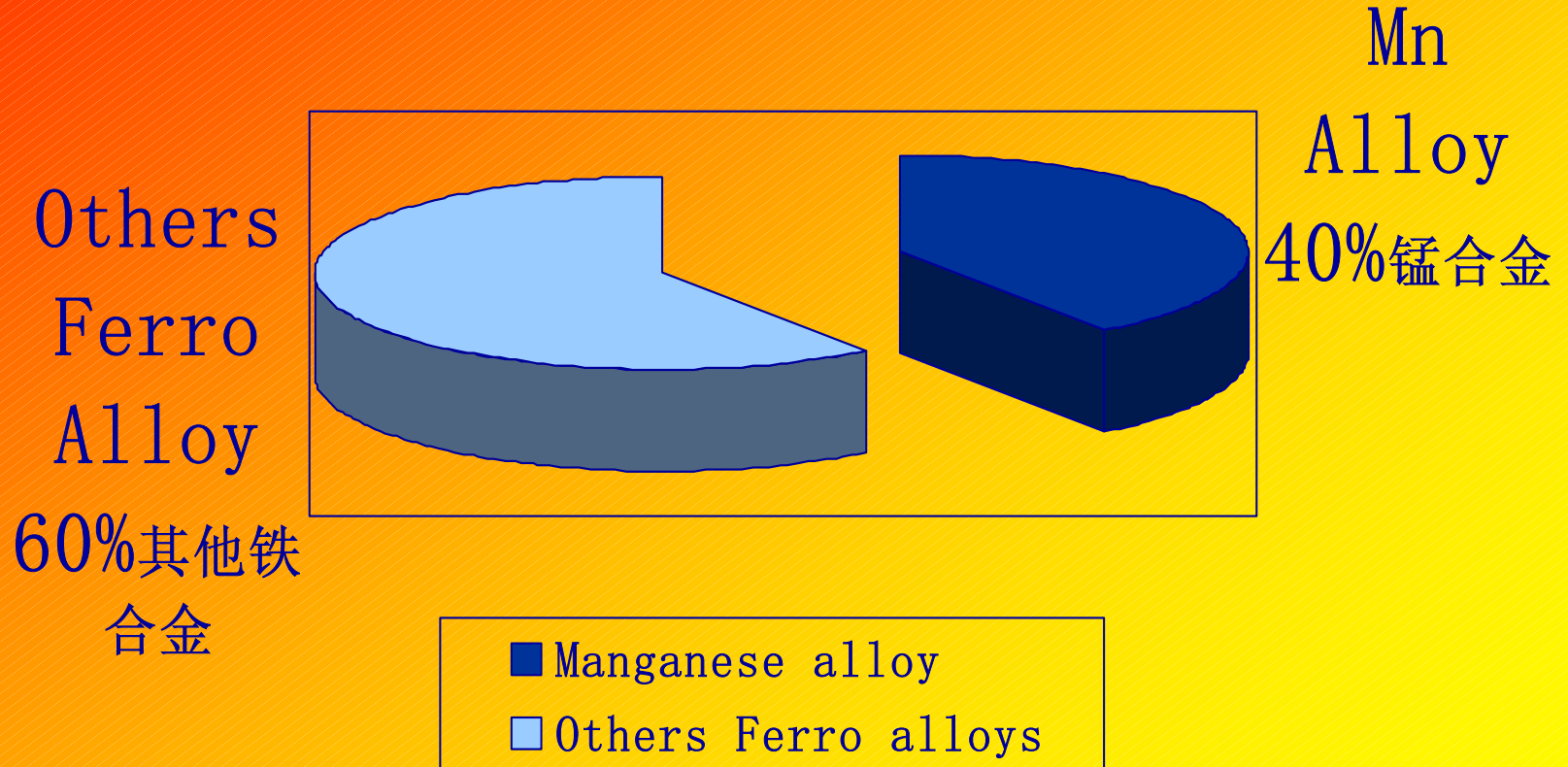
- Current Annual Production:
3.5—4.0 Million Metric Tons

目前年产量为3.5—4百万吨

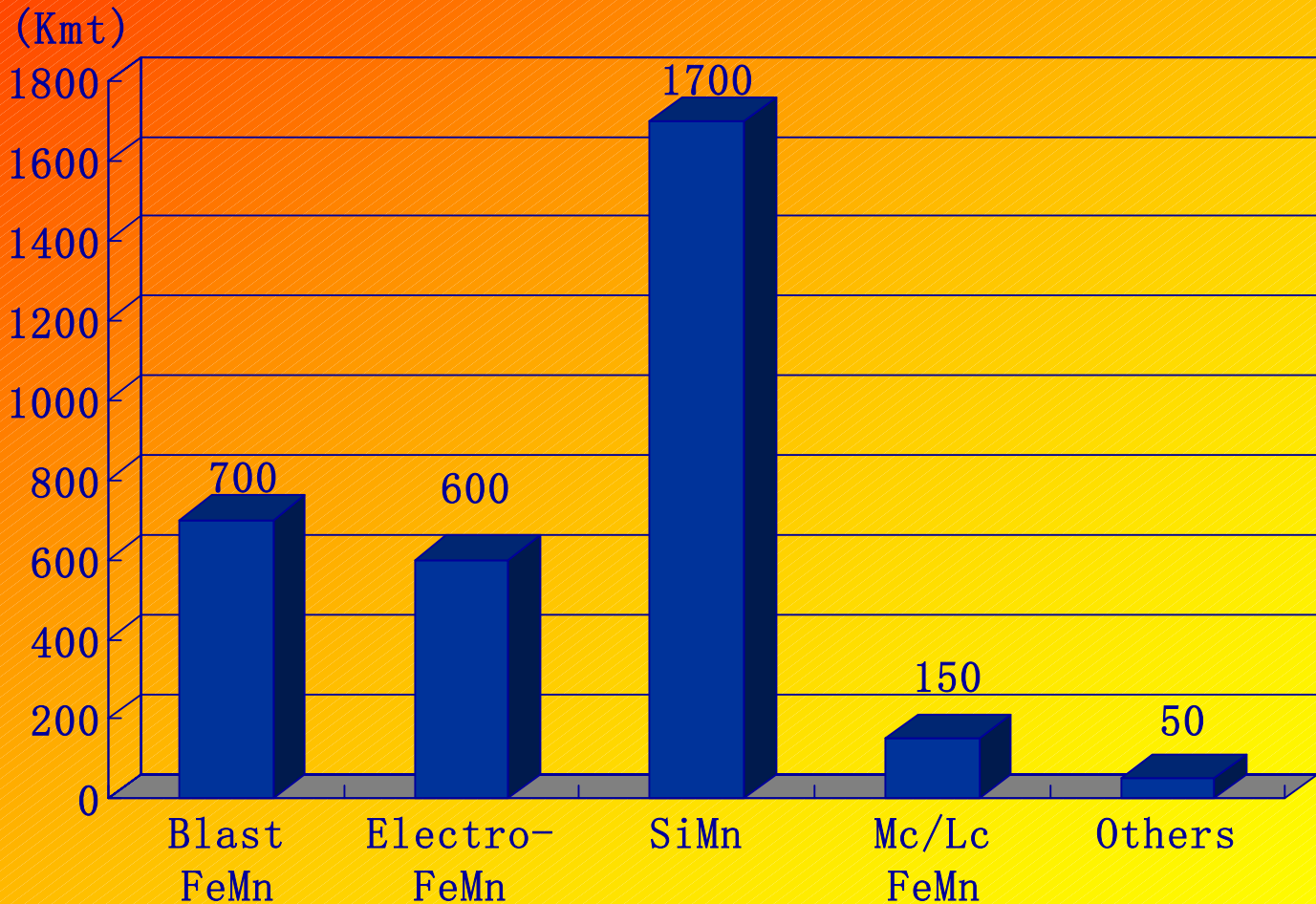
II. Manganese Alloys 锰合金

a. Production Capacity: 7.5 Million Tons

产能: 750万吨



Production Capacity of Mn alloys(Break-down)



b. Producers of Mn alloy 锰合金厂

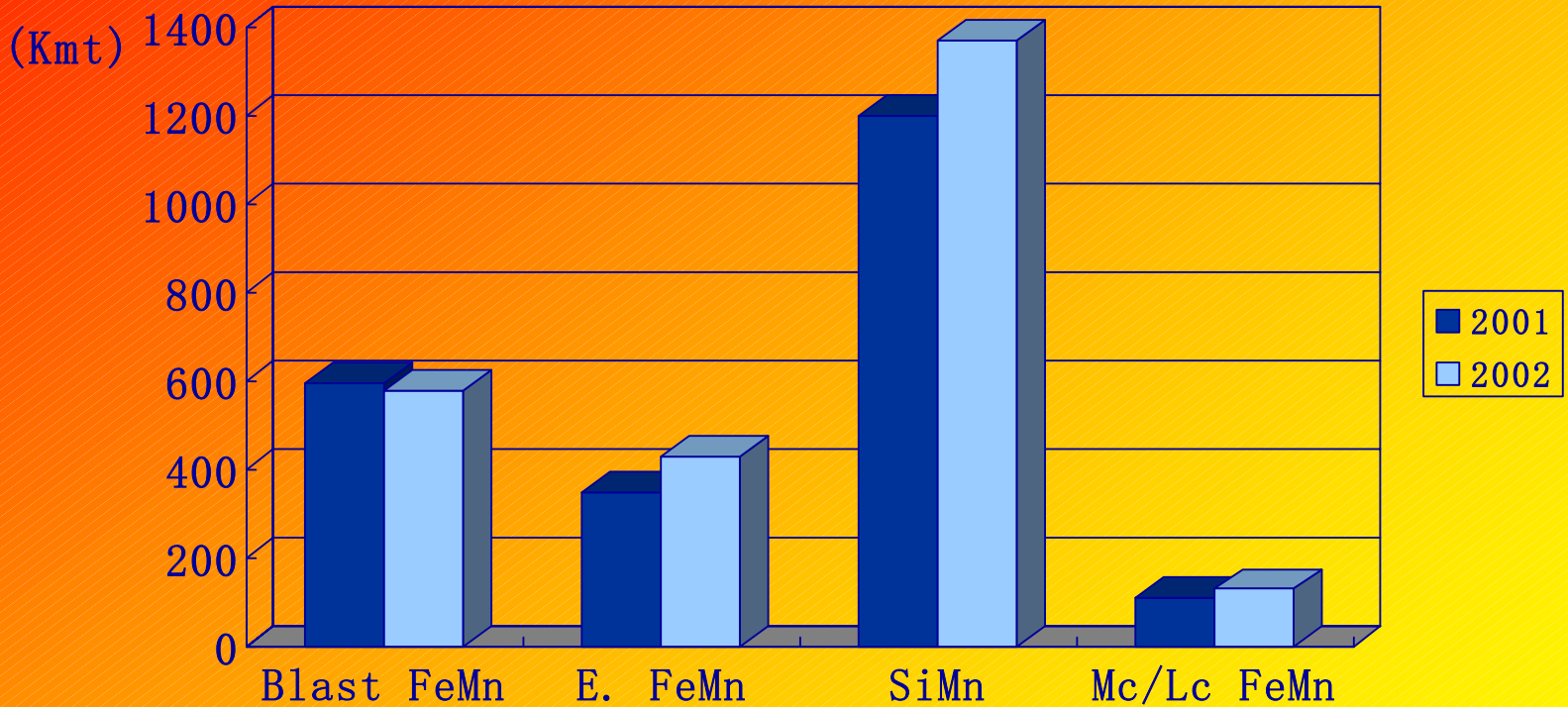
many but small, scattered in eastern, central and southwestern areas 大量小厂，分散在东北，中部和西南部。

- 250-300 in total, including: 总数250-300家，其中
- 160 SiMn smelters, 5-150Kmt averaged 160家硅锰厂，
产量为5000-150000吨每年
- 12 blast FeMn smelters, 20-100Kmt averaged 12家
高炉锰铁厂，产量20000-100000吨
- 60 electro FeMn smelters, 2-100Kmt averaged 60家
电炉锰铁厂，产量2000-100000吨
- 13 McLc FeMn smelters, 10-30Kmt averaged 13家
中低碳锰铁厂，产量10000-30000吨

Top 20 Producers



b. Actual Production in 2001 & 2002 实际产量



Year	Blast FeMn Output Ratio to prev year		E. FeMn Output ration to prev year		SiMn Output ration to prev year		Mc/Lc FeMn Output ration to prev year	
2001	597	-9.55%	350	25.6%	1,200	34.8%	110	0.1%
2002	580	-2.85%	430	22.9%	1,370	14.2%	130	18.2%

c. Domestic Consumption in 2002:

1.9 Million Tons of Mn Alloys

2002年国内消耗锰合金190万吨

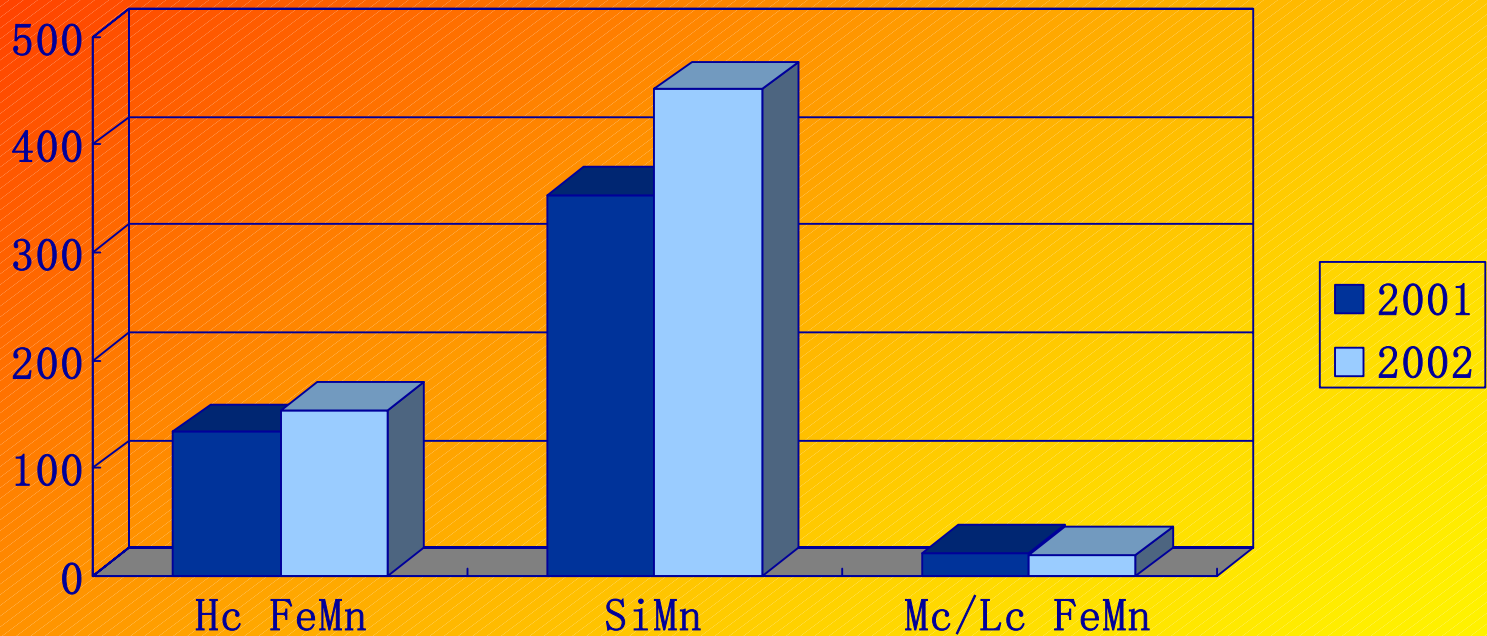
d. Statistics of Export 出口统计

- In 2002, alloy export 1.33 Million Tons, 27% of total production;
 - 2002年，出口铁合金133万吨，占总产量的27%
- Mn alloy export 0.6 Million Tons, 25% of total Mn Alloy production.
 - 出口锰合金60万吨，占总产量的25%

Mn Alloys Export in 2001 & 2002

2001及2002的锰合金出口状况

(Kmt)



Year	Hc FeMn Export Ration to Prev year		SiMn Export Ration to Prev year		Mc/Lc FeMn Export Ration to Prev year	
2001	133.7	-17.7%	353.4	-2.5%	21.7	-20.9%
2002	153.5	14.8%	450.9	27.6%	20.2	-6.91%

As a leading producer, Emei Fe-Al As a leading producer, Emei Fe-Al Plant faces the challenges and has taken an earlier action in China.

作为国内锰工业的领先生产者，峨嵋积极面对挑战，及早采取了有力措施

Great changes have taken place in Emei Fe-Al plant in the last five years: 过去5年中，峨嵋铁合金厂进行的重大变革

Integrated with Sichuan Chuantou Group:

- Power Plant
- Alloy Plant
- Steel Mill

Actual production: 200 Kmt / per year 现实际产量：20万吨每年
150 Kmt Mn alloys 其中锰合金15万吨

Low cost strategy : Cheap electricity;

Low cost raw materials;

Skilled and cheap labour force;

低成本战略：便宜的电能，低成本的原材料，和低廉的劳动力。

Environment Improved: Dust collection;

Gas collection;

环境保护：烟尘处理，废气处理及利用。

Technologies reformed: Best blending ratio for local Mn ore with imported Mn ore

技术改进：获得国内矿与进口矿的最佳配比率

Stable and efficient management.

稳定高效的管理体制

China's Mn Industry—Challenges Ahead

- 1) Opportunities : --Growing Steel Production
(Growing demand of Mn Alloys)
 - Domestic Mn Ore, Cokes at cheap cost
 - Enough capacity and facility available
- 2) Goals :-- To nationalize industry by consolidation or merger
 - To integrate industry like Emei Fe-Al (smelter/power plant/steel mill in one group)