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**Or. Eng.**

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**MAJOR DEVELOPMENTS IN STEELMAKING CAPACITY IN THE  
NON-OECD AREA**

*The attached report is for consideration by the Steel Committee at the 29 May 1998 meeting.*

**65374**

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## **SUMMARY**

The attached note summarises new information on possible increases in steelmaking capacity in the non-OECD area collected since the publication of the last half-yearly report (DSTI/SI/SC(97)36).

Revised and additional information on the developments that are likely to take place during the next three to four years show a possible increase in steelmaking capacity of more than 78 million tonnes per year (tpy) in the whole non-OECD area, of which Southeast Asia (including China) accounts for 58 million tpy. In other areas, changes in steelmaking capacity are less prominent. In Latin America, interest is focusing more on ironmaking and flat rolling. In central and eastern Europe and NIS, privatisation and modernisation is in progress, without much effects on steelmaking capacity.

## **ACTION**

The document is for consideration at the Committee's meeting on 29 May 1998.

## MAJOR DEVELOPMENTS IN STEELMAKING CAPACITY IN THE NON-OECD AREA

### I. INTRODUCTION

1. At its 51st meeting in November 1997, the Committee considered and approved the half-yearly report on developments in steelmaking capacity in non-OECD countries (DSTI/SI/SC(97)36).
2. This document, which presents all changes that have occurred since the preparation of the previous report, consists of five parts: an introduction; a summary report on developments of the steel industry in Latin America (Part II), in Africa and Middle East (Part III), in Southeast Asia (Part IV) and in eastern European countries and the NIS (Part V).
3. Details for all the projects -- including existing capacity and equipment, proposed additional capacity and equipment, ownership and proposed start-up dates -- are presented in the attached tables. It should be stressed that the purpose of the report is to present information and material gathered from a variety of sources. The classification of projects and comments do not, in any way, represent a judgement or imply a view on the feasibility or advisability of the projects.

### II. DEVELOPMENTS OF THE STEEL INDUSTRY IN LATIN AMERICA

4. A number of projects are under way, particularly in Brazil and Venezuela. In Brazil, the focus is on flat rolling and galvanising, reflecting increasing demand from the automotive and household appliance sectors, while in Venezuela, large-scale investment is occurring in direct-reduction facilities.
  - In **Brazil**, CSN is planning to set up a new 1.2 million tpy mini mill to produce hot/cold coils and galvanised sheets. The company is proceeding with at least two other galvanising projects, one of which is a joint venture with IMSA of Mexico. CST, a semifinished steel manufacturer, is planning to expand its activity by installing a 2 million tpy hot-rolling mill. Gerdau, Brazil's largest long-product manufacturer, is planning to move into flat products with the creation of a subsidiary which is constructing a 300 000 tpy cold-rolling mill and a 200 000 tpy galvanising line. Usiminas is setting up a joint venture with Nippon Steel to build a 400 000 tpy galvanising plant. The company is also installing a 1 million tpy cold-rolling mill at its Ipatinga works. Investment in upstream facilities, on the other hand, is very limited. In ironmaking, Belgo-Mineira is installing a new blast furnace (to be operational by 2000), replacing four existing furnaces. A second blast furnace being built by CST is expected to start up in May this year. In steelmaking, no investment plans have been reported, except for the flat-rolling mini mill project by CSN.
  - In **Venezuela**, the privatisation of Sidor was completed in January 1998. The consortium which purchased the company announced a \$600 million modernisation programme which includes the modernisation of DRI facilities and the installation of a ladle furnace. This modernisation could result in an increase in its steelmaking capacity of 500 000 tpy. Four

companies are proceeding with the construction of DRI units, which is likely to increase Venezuela's direct-reduction capacity by more than 7 million tpy. In steelmaking, an electric-furnace based slab plant is under consideration, but this is still at an initial stage.

- In the rest of the area, Siderar of Argentina is likely to move ahead with its pending plan to construct a 2 million tpy new melt shop equipped with a thin-slab caster. In Trinidad and Tobago, Essar Group of India is jointly studying a project to construct a 1.2 million tpy DRI unit with a local company, Nasco Ltd.

### **III. DEVELOPMENTS OF THE STEEL INDUSTRY IN AFRICA AND MIDDLE EAST**

#### **Africa**

5. In South Africa, Iscor is proceeding with the construction of a 1.25 million tpy flat-rolling mini mill at Saldanha Bay. At the site adjacent to this project, the construction of a cold-rolling and galvanising plant is under way as a joint venture between Swiss trader Duferco and the South-African state-owned Industrial Development Corp. In Mozambique, a DRI/electric-furnace based slab plant, with annual capacity of 3.4 million tonnes, is under consideration by Enron Corp of the United States and the IDC. In Morocco, Sonasid was privatised in December 1997, and is planning to construct a 600 000 tpy melt shop to feed its rolling mill.

#### **Middle East**

6. In Iran, a 550 000 tpy long-product mini mill is under construction by Nisco. The first phase of the construction is expected to become operational by mid-1999. The company plans to install DRI facilities and expand its steelmaking capacity to 1.8 million tpy in subsequent phases. In Qatar, a 1 million tpy slab mini mill is being evaluated by Qatar and Kuwait interests. In Egypt, ANSDK is proceeding with its first flat-rolling mini mill. An 800 000 tpy capacity DRI unit, a 1 million tpy melt shop with a thin-slab caster and a hot-strip mill have already been ordered. The start up is expected by 2000. In 1997, a decision was made to divide state-owned Hadisolb into three entities -- a steel plant and two other activities -- in preparation for privatisation.

### **IV. DEVELOPMENTS OF THE STEEL INDUSTRY IN SOUTHEAST ASIA**

7. The economic crisis has resulted in having a number of projects being put on hold in east Asian countries. However, quite a few remains under way.

- In **India**, many new projects are under way. Ispat, Jindal Vijaynagar and Nagarjuna are proceeding with the construction of integrated steel mills to produce hot-rolled coils. Ispat is installing a blast furnace through its subsidiary company, which is expected to be commissioned in 1998. Jindal Vijaynagar is installing two Corex units, one of which is expected to be put into operation in the second quarter of this year. Nagarjuna is relocating used facilities from Spain. In the meantime, Tata Steel's project to construct a 10 million tpy greenfield integrated mill is facing a long delay, though the project has not been abandoned. The company, on the other hand, continues the modernisation of its

Jamshedpur works, which includes the replacement of existing open hearths with new LD converters and an increase in continuous casting usage to 100 per cent.

- In **Chinese Taipei**, the Yieh Loong group is proceeding with the construction of a 7.5 million tpy integrated steelworks. The construction is expected to begin by late 1998. The completion of the first stage is expected in 2002.
- In **ASEAN** countries<sup>1</sup>, emphasis has been on flat rolling. Several large-scale investment projects are in progress, despite the economic crisis. In Indonesia, the construction of a 1 million tpy flat-rolling mini mill by KS-Posco began in October 1997, but it is reportedly facing a delay due to financial difficulties. The Indonesian Government is considering to partly privatise Krakatau Steel and is seeking foreign investors to take a 10-20 per cent stake in the company. In Malaysia, three flat-rolling projects are proceeding; the projects are likely to raise the country's capacity in hot-rolled coils by 4.1 million tonnes. The Jacinto group of the Philippines started construction of a 1.25 million tpy flat-rolling mini mill in August 1997; start-up is expected in 2001 or after. In Thailand, NSM commissioned a 1.5 million tpy flat-rolling mini mill in November 1997; and Siam Strip Mill is proceeding with its 1.7 million tpy flat-rolling mini mill project, which is expected to start up in January 1999. In addition, a 1 million tpy cold-rolling mill by Siam United Steel is expected to be commissioned in 1998. In the meantime, several other projects have been either cancelled or put on hold, including the construction of Thailand's first integrated steelworks by TSSI. Vietnam has been studying the construction of a 4.5 million tpy integrated steelworks. The project is still at an initial stage of planning, however.
- In **China**, restructuring of the state-owned steel sector is under way. The Government is considering to reduce the 3.5 million workforce in the steel industry by 500 000 by 2000. The Government is also proceeding with the merger of steelworks as a way to avoid duplication in investment and to stimulate product rationalisation. In September 1997, Hangang took over Wuyang Steel and Iron Co, and in March 1998, the plan to merge Baoshan, Wuhan and Shanghai steelworks into a single entity was reported.
- In the field of investment, Baoshan's third phase modernisation programme is in progress, which could raise its steelmaking capacity by 3 million tpy by 2000. In March 1998, a 720 000 tpy cold-rolling mill and a tin plate line, both included in the programme, were commissioned. Hangang is in process of building a 2.5 million tpy melt shop and flat-rolling mill.
- The secretariat has revised the data on existing steelmaking capacity of China, based on the latest figures compiled by Chinese Ministry of Metallurgical Industry. Its steelmaking capacity in 1997 should be 118.4 million tpy. The figure for steelmaking capacity in 2000 has been revised accordingly, from 120.1 million tpy to 131.7 million tpy.

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1. ASEAN countries include Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Laos and Myanmar.

## **V. STEEL INDUSTRY DEVELOPMENTS IN CENTRAL AND EASTERN EUROPEAN COUNTRIES AND THE NIS**

### **Central and Eastern European countries<sup>2</sup>**

8. In central and eastern Europe, privatisation of major steel mills is proceeding, but no capacity increase in steelmaking is reported. In Bulgaria, the Government is privatising all the country's three steelworks. In Romania, a sizeable reduction in the workforce is planned in Sidex (Galati), in preparation for privatisation. VSZ of Slovak Republic formed a joint venture with US Steel group of the United States in February 1998 to produce tin plates.

### **New Independent States**

9. In this area, very few changes in steelmaking capacity are noted; however, modernisation of facilities is proceeding in some companies, mainly through the installation of converters and continuous casters. In Russia, Magnitogorsk is installing its third converter which is expected to be commissioned by the end of 1999. The company intends to replace all remaining open hearths with the new converter. Nizhny Tagil has been re-building its production facilities since the early 1990s. Under the programme, two continuous casters were installed, in 1995 and 1996. The company is planning to install two more casters and a plate mill. In Ukraine, Donetsk and Krivoy Rog are installing continuous casters.

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2. Central and eastern European countries include Albania, Bulgaria, Romania and the Slovak Republic. Since the Czech Republic, Hungary and Poland are members of the OECD, they do not appear in this report.

## EXPLANATORY NOTES

1. Abbreviations used for equipment are:

BF	Blast furnace, of which: -- charcoal -- coke-based -- mini
EPIF	Electric pig iron furnace
Corex	Corex ironmaking unit
DR	Direct reduction unit, of which -- Codir -- Finmet -- Fior -- HYL -- Krupp -- Midrex -- Plasma -- SLRN
Iron Carbide	Iron Carbide
OH	Open hearth furnace
LD	LD Basic oxygen furnace
BS	Basic Bessemer converter
EF	Electric arc furnace, of which -- DC
EOF	Energy optimising furnace
CC	Continuous casting machine, of which -- slab -- thin slab -- bloom -- billet -- round billet
SLM	Slabbing mill
BLM	Blooming mill
BTM	Billet mill
WR	Wire rod mill
STR	Bar, section, shape, beam or angle mill
Plate	Plate mill
Hot	Hot strip mill
SMLS	Seamless tube mill
Cold	Cold strip mill
HGL	Hot-dip galvanising line
EGL	Electro galvanising line
Tin plate	Tin plate
ERW	Electric-resistance welded pipe mill

2. Capacity figures are nominal or rated capacity. The unit of capacity figures is a thousand tonnes per year, unless otherwise stated.
3. “Existing capacity” and “Existing equipment” are those estimated at the end of 1997. “Capacity” in 2000 is that estimated at the end of 2000.
4. The capacity figures given in this report have been estimated on the basis of the most reliable information available. Nevertheless, as the information sources are limited, many of the capacity figures quoted relate to the nominal or rated capacity. In some cases, however, nominal capacity figures have been modified in line with data on actual production or aims of modernisation projects.
5. The “Ownership” column shows a distinction between state-owned plants or projects (S) and those which are privately-owned (P).
6. Sources of information are indicated in the column “Source”. The sources given relate to developments since September 1997 in principle. Listed capacity figures are not necessarily identical to these sources’ estimates. The abbreviations used in the “Source” column are:

AMM	American Metal Market
MB	Metal Bulletin
MBM	Metal Bulletin Monthly
ISWW	Iron and Steel Works of the World (published by Metal Bulletin Books)
ST	Steel Times
TS	Tekko Shimbun (published in Japan)
SS	Sangyo Shimbun (published in Japan)
SEAISI	South East Asia Iron and Steel Institute Newsletter
FT	Financial Times
WSJ	Wall Street Journal
IHT	International Herald Tribune
NW	Nikkei Weekly
CNN	Cable News Network (on the Internet)
DJ	Dow Jones Newswires (on the Internet)
Reu	Reuters Ltd (on the Internet)
Bday	Business Day (published in Thailand, on the Internet)
Bpost	Bangkok Post (published in Thailand, on the Internet)
	The Economic Times (published in India, on the Internet)
FE	The Financial Express (published in India, on the Internet)
Hindu	The Hindu (published in India, on the Internet)
ManiB	Manila Bulletin (published in the Philippines, on the Internet)



Country : **NIGERIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Ajaokuta Steel Co Ltd</u>	Ajaokuta	1350	BF LD x 3 CC x 3 BTM WR STR		(Possible) Hot	S		The Nigerian government allocated \$800 million towards rescuing the nation's idled steel industry. Ferrostaal of Germany and VAI of Austria have been working on completing Ajaokuta's flat products plant which had been left incomplete.	MB 05-Mar-98

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Country : **SOUTH AFRICA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Duferco Steel Processing Ltd</u>	<u>Saldanha Bay</u>				(Firm)  (610) Cold HGL	P	1999	The company is a 50/50 joint venture between Swiss trader Duferco and the Industrial Development Corp (IDC) of South Africa. The construction is under way at the site adjacent to the Iscor/IDC hot-coil plant. Commissioning is expected to be in early 1999.	MB 11-Dec-97
<u>ISCOR ( South Africa Iron &amp; Steel Industrial Corp. ):</u>	<u>Pretoria</u>	800				P		Iskor is to shut down most operations at Pretoria works. The plant is Iscor's oldest steelworks and has been unprofitable since the early 1980s. The Corex ironmaking plant will continue to be operated.	MB 28-Aug-97 MB 10-Jul-97
<u>Saldanha Steel (JV with IDC)</u>			Corex EF x 2 CC (slab)	1250	(Firm)		1998	Mannesmann-Demag has been awarded the contract for the construction of the entire plant. The start-up is expected to be delayed due to a riot of its workers in February 1998.	MB 09-Feb-98 ST 01-Feb-96 MB 18-Nov-96
			Corex DR (MIDREX) CC (isc) EF Hot						

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Country : **ZIMBABWE**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Steelmakers Ltd</u>	Redcliff	(42)	STR			P	1998	Steelmakers Ltd, a Kenya-based mini-steel plant and hot-rolled coil maker, set up a light section mill in Redcliff, Zimbabwe. The production at the \$20 million mill started in January 1998. The mill mainly uses re-rollable material generated from nearby Ziscosteel.	MB 17-Nov-97

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Country : **OTHERS**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<b>MOROCCO</b>									
<u>Gonvarri</u>	Casablanca			(200)	(Firm) STR	P		Spanish industrial group Gonvarri has started work on a 200 000 tpy steel plant, which is expected to be operational in May 1998.	NET 12-Nov-97
				600	(Possible)	S/P	2000	The company agreed to buy Casablanca-based Longometal Industries, which has 100 000 tpy reinforcing bar capacity. Sonasid plans to construct a melt shop to feed its rolling mill, whose expansion is also planned. The company was privatised in December 1997, and is controlled by Spain's Marcial Ucin which holds a 8.5 % stake.	MB 16-Feb-98 MB 06-Feb-97
		(480)	WR	(600)	EF				
				(180)	WR				
<b>MOZAMBIQUE</b>									
<u>ENE ( Enron Corp. ):</u>	Maputo			3400	(Possible)	P	2001	Enron Corp of the United States and the Industrial Development Corp (IDC) of South Africa plan to build a 4 million tpy DRI and 3.4 million tpy slab plant in the Maputo area. Mitsui and Duferco are also likely to participate in the project. The results of feasibility study of the project was submitted to Mozambican government at the end of 1997, and should the results meet with the government's approval the partners proceed to attempt to raise finance.	MB 01-Jan-98 MB 10-Nov-97 NET 29-Aug-97
		(4000)	DR	(3400)	EF				
		(3400)	CC (slab)						

Country : **ALBANIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Elbasan Steelworks</u>	Elbasan	400						The plant operates electric arc furnaces fed with domestic scrap, having stopped all blast furnaces operation in 1992. In October 1997, Marc Rich signed a memorandum of understanding with Albanian government to run the plant. Rich plans to restart one of the two blast furnaces to produce pig iron for export. Steelmaking and rolling facilities are also to be taken over by Rich.	MB 03-Nov-97
	(formerly Steel of the Party Metallurgical Combine)		BF x 2						
			LD						
			EF x 3						
			CC x 2						
			STR x 2						
			WR						

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Country : **BULGARIA**

Unit : million tonnes per year

<u>Company</u>	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Kremikovtzi Iron and Steel Works</u>	Sofia	2000				S		The Bulgarian government has been carrying on the privatisation of Bulgaria's three steelworks -- Stomana, Promet and Kremikovtzi. The first tenders were scheduled to take place in March or April.	ST 01-Feb-98 MB 02-Mar-98
			BF x 3 LD x 3 OBM EF x 3 CC (slab) x 2 BLM SLM Hot Cold x 3 SMLS						
<u>Promet</u>	Burgas	(800)	STR			S		An original plan in the 1980s included the installation of a DRI unit, a meltshop and a bar/section rolling mill, but only the rolling mill was built in 1986. The mill is operating using Stomana blooms and Kremikovtzi billets. The privatisation of the company is in	ST 01-Feb-98 MB 02-Mar-98

Country : **BULGARIA (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Stomana Iron and Steel Works ( formerly Lenin Iron and Steel Works)</u>									
	Pernic	800				S		The company closed its blast furnaces and open hearth furnaces in 1991, and is operating only its electric furnaces. The privatisation of the company is in progress.	ST 01-Feb-98 MB 02-Mar-98
			EF x 8 CC x 3 STR x 2 Plate WR						

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Country : **ROMANIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Ductil SA</u>		(280) (25)	WR HGL			P		In October 1997, Singaporean trader Windmill International acquired a 50.98 per cent stake in Ductil which had been held by the Romanian State Ownership Fund.	MB 27-Oct-97
<u>Oteinox SA Târgoviste</u>		(100)	STR Cold					The company is a stainless re-roller. In October 1997 it was purchased by Samsung Deutschland, which intends to invest some \$35 million to double production of cold-rolled stainless steel. The plant also has a 100 000 tpy carbon-steel bar/wire rod mill.	MB 27-Oct-97
<u>Siderca SA Calarasi</u>	Calarasi	2200	BF (1800) (400)			S		A new 80-tonne EBT electric arc furnace supplied by Mannesmann Demag replaced two older furnaces in early 1997. A continuous bloom caster was also put into operation. The company is seeking an additional investment to make the 1.8 million tpy integrated capacity fully operational.	MB 27-Nov-97
			LD x 2 EF CC x 6 STR x 2						



Country : **ROMANIA (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Sidex SA Galati</u>	Galati	10000				S		Sidex announced to lay off a third of its 36 200 employees by 2000, to prepare for privatisation.	DJ 13-Mar-98
			BF x 6						
		(10000)	LD x 9						
			CC x 7						
			SLM						
			Plate x 2						
			Hot						
			Cold						
			HGL						



Country : **SLOVENIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Slovenske Zelezarne ( Acroni Zelezarna ):</u>									
	Store	130				S		The Slovenian government plans to sell off the country's steel industry. Several European companies, including Swedish sections producer Inexa Profil AB, are reportedly interested in bidding to buy the Store works.	MB 26-Feb-98 MB 11-Dec-97 MB 10-Nov-97
		(130)	EF						
			CC						
			STR x 2						

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Country : **ARGENTINA**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>ACINDAR (Industria Argentina de Aceros SA):</u>									
	Villa Constitucion	1200		400	(Firm)	P	2000	Acindar plans to increase its steelmaking capacity from 1.2 million tpy to 1.6 million tpy by 2000. This increase is likely to be attained by eliminating bottlenecks, without the construction of new steelmaking facilities. The company contracted with Morgan Construction of USA to revamp its WR mill, which will increase its capacity to 645 000 tpy through increased rolling speed. At the general meeting in December 1997 Acindar decided to take over Laminifer SA and Impecco SA, both welded tube producers.	MB 20-Nov-97 MB 24-Dec-97
			DR (MIDREX) EF x 3 CC x 2  (600) WR STR ERW HGL						
<u>Siderar Saic ( formerly Aceros Parana, ex Somisa ):</u>									
	San Nicolas	3500		2000	(Possible)	P		Considerable ironmaking and steelmaking capacity is idled at San Nicolas works. The production of long products has been ceased since the privatisation of the company. An \$800 million plan to construct a new steelmaking facility and a thin slab caster at the San Nicolas works, which the company has been considering for several years, is possibly taken into account by the board this year.	MB 30-Mar-98 AMM 15-Dec-97
			BF x 2  (3500) LD x 3 CC STR Hot Cold Tin Plate	(2300) (2000) (2000)	Hot EF CC (isc)				

Country : **ARGENTINA (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
Sociedade Industrial Puntata SA (Sispa)									
Villa Mercedes, San Luis								The company was acquired by Brazilian steelmaking group Gerdau in late 1997. Gerdau plans to bring the works up to full capacity within 12 months, which is currently working at half of the capacity.	MB 18-Dec-97 MB 13-Oct-97

(75) STR

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Country : **BRAZIL**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>ACESITA (Cia Aços Especiais Itabira):</u>									
	Timóteo, Minas Gerais	1260			(Possible)	P			IBS 14-Nov-97
		(190)	BF (Charcoal) x 2 LD						
		(1070)	EF x 3 CC x 3 SLM BLM STR Hot Cold x 3						
	Timóteo, Minas Gerais				(Firm)		Apr 1998	Acesita plans to start up its new cold-rolling mill in April 1998, which will raise its stainless rolling capacity from 160 000 tpy to 290 000 tpy.	MB 09-Apr-98 MB 22-Jan-98
	(stainless)	(160)	Cold	(130)	Cold				
<u>ACOMINAS (Aço Minas Gerais SA):</u>									
	Ouro Branco	2400			(Possible)	P	1999	A consortium including NatSteel of Singapore, Gerdau of Brazil, Marubeni of Japan and SSB of Malaysia took a share in Acominas in 1997. This is regarded as a move to prompt the company's improvement programme which includes the installation of a continuous billet caster and the introduction of coal fines injection in the blast furnace and an oxygen substance in the steelmelting shop. The programme is expected to be completed in two year term. A plan to expand steelmaking capacity by 1.2 million tpy is still under consideration.	MB 08-Sep-97 MB 28-Aug-97
			BF LD x 2 BLM SLM BTM		CC (billet)				

Country : **BRAZIL (2)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Cia Siderurgica Belgo-Mineira</u>									
Grande Vitória, Cariacica	(formerly Cofavi)	360 (360)	EF			P		In October 1997, Belgo-Mineira restarted light/ medium section mills at its Grande Vitória plant, which were formerly run by Cofavi and idle for nearly two years. In 1993 Belgo-Mineira acquired the plant and restarted 360 000 tpy meltshop. Billets from the plant had been shipped to the company's main steelworks at João Montevade.	MB 20-Oct-97
		CC x 3 (300)	STR x 2						
Joao Montevade Sabara		1000			(Firm)		2000	The company announced a \$260 million investment programme which includes the installation of a new blast furnace and the expansion of its billet casting capacity. The new blast furnace will replace four existing blast furnaces at the site which are charcoal and coke based.	MB 20-Oct-97
<u>CSN ( Companhia Siderurgica Nacional ):</u>									
CSC (Cia Siderurgica do Ceará)	(mini-mill project)		BF x 5 (1000)	(1040)	BF				
		(800)	CC						
		(1200)	WR x 2						
				1200	(Possible)		1999-	CSN plans to construct a flat-rolling mini mill in the northeastern state of Ceará with total investment of \$650 million. Site work started in 1997 for the first stage, in which a 200 000 tpy galvanising line is constructed.	MB 03-Nov-97 MB 22-Sep-97
					DR			Following its start-up, expected in 1999, a cold-rolling mill, steel meltshop, thin slab caster and a DRI plant are to be constructed.	
				(1200)	EF			The company is reportedly considering to build two more flat-rolling mini mills, each with 1 million tpy capacity.	
					CC (tsc)				
					Hot Cold HGL				
				(200)	HGL				

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Country : **BRAZIL (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
JV with IMSA (Mexico), southern Brazil				(Possible)			2000	Imasa Acero SA of Mexico and CSN signed a letter of intent in March 1998 to study a possible \$300 million joint venture to produce cold-rolled and galvanised products for the construction and home appliance industries in Brazil.	REU 27-Mar-98 DJ 27-Mar-98 AMM 31-Mar-98
Presidente Vargas, Volta Redonda		4600		(450) Cold (300) HGL			2000	CSN proceeds with its \$1.4 billion investment programme running from 1995 through 2000 despite domestic economic slowdown. The construction of a 300 000 tpy hot-dip galvanising line is a part of the programme. The company also plans to build another 300 000 tpy galvanising line for the automotive industry. Thyssen Krupp Stahl of Germany and CSN signed an accord in October 1997 to study the feasibility of a possible joint venture to this end.	MB 23-Oct-97 REU 20-Oct-97 AMM 15-Jan-98
			(4400) BF x 2 (4600) LD x 3 CC (slab) x 3 STR Hot x 2 Cold x 3 HGL x 3 Tin plate x 5		(Possible)				



Country : **BRAZIL (4)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Gerdau SA</u>						P			
- Laminadora do Sul, Nova Santa Rica				(Firm)			2000	Gerdau plans to move into flat products with the creation of a subsidiary which will build a CR mill and a galvanising line. Gerdau has already purchased the site, and civil construction work will start in second-half of 1998. The plant is expected to begin operation by 2000, at the capacity of 400 000 tpy (a total of cold-rolling and galvanizing) at the first stage, and subsequently expanded to 500 000 tpy by 2005-6 as the second stage. The product is mainly aimed at automakers in southern Brazil.	AMM 02-Apr-98 MB 19-Mar-98 AMM 17-Mar-98 AMM 04-Dec-97
(CR mill joint venture)				(300) (200)	Cold HGL				
Santa Cruz, Rio de Janeiro		2445		(Firm)			1999	Gerdau has signed an agreement with the Rio de Janeiro state government to confirm its decision to invest in expanding its Santa Cruz works. A new 450 000 tpy bar/ section mill has already been ordered with Danieli and scheduled to come on stream in 1999. Steelmaking capacity (2 445 000 tpy) is for the total of Gerdau SA.	AMM 04-Dec-97 MB 16-Apr-98
(formerly Cosigua)		(1000)	EF x 2 CC (billet) x 2 STR WR	(250)	STR				

DSTI/SU/SC(98)14

Country : **BRAZIL (5)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>CST ( Cia Siderurgica Tubarão ):</u>									
	Jardim Limoeiro - Vitória	3800			(Firm)	P		In February 1998 a \$150 million, 2.2 million tpy continuous slab caster was installed. A new \$182 million blast furnace is to be commissioned in May. The company also plans to expand its activity into downstream products.	AMM 08-Apr-98 MB 19-Jun-97
		(3300)	BF	(1200)	BF				
		(3800)	LD x 2		CC (isc)				
		(2000)	CC (slab) SLM	(2000)	Hot				
		(2200)	CC (slab)						
<u>USIMINAS ( Usinas Siderurgicas de Minas Gerais ):</u>									
	Ipatinga	4200			(Firm)	P	1998-2000	Usiminas has placed orders for the rebuilding of its two continuous slab casters and the building of a new slab caster. The investment is among the programme to increase cold-rolling capacity by 1 million tpy by 2000. The new caster is expected to put into operation in the second quarter of 1998.	MB 26-Feb-98 AMM 07-Apr-97
			BF x 3						
			LD x 5	(1000)	Cold				
			CC (slab) x 3 SLM		CC (slab)				
		(960)	Plate						
		(2400)	Hot						
			Cold x 2						
		(360)	EGL						
	Ipatinga (galvanizing JV)				(Firm)		1999	In December 1997, Usiminas and Nippon Steel of Japan agreed to set up a joint venture to build and operate a 400 000 tpy galvanising plant aimed at supplying mainly to vehicle manufactures. A production line will be built alongside an existing Usiminas Ipatinga facilities. The venture is held 60 per cent by Usiminas and 40 per cent by Nippon Steel.	MB 26-Feb-98 AMM 22-Dec-97 MB 15-Dec-97 FT 09-Dec-97
				(400)	HGL				

Country : **COLOMBIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
Acerias Paz del Rio SA	Belencito	300	BF LWS x 2 BS EF CC (225) WR x 2 (75) Hot			P		The company is Colombia's sole integrated steelmaker, currently in receivership.	MB 20-Nov-97

DSTI/SU/SC(98)14

Country : **PERU**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Aceros Arequipa</u>	Pisco	340	(30) DR x 2 EF x 3 CC x 2 STR STM		(Possible)  DR	P	2001	The company is seeking a partner for a project to build a new DRI plant.	MB 17-Nov-97

Country : **VENEZUELA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>COMSIGUA ( Complejo Siderurgico de Guayana ):</u>						P			
	Punta Cuchillo			(Firm)			July 1998	The plant is due to be commissioned in July 1998.	MB 08-Dec-97
	(Puerto Ordaz)		DR (MIDREX)	(1000)	DR (MIDREX)				
<u>Ferrominera Orinoco (FMO)</u>						S			
	Puerto Ordaz			2200	(Possible)			A state-owned iron ore producer FMO is planning to construct a new joint venture iron ore pellet and HBI plant at Puerto Ordaz. It is also considering the construction of a melt-shop to produce slabs.	MB 30-Mar-98 MB 08-Dec-97
				(2500)	DR				
				(2200)	EF				
				(2200)	CC (slab)				
<u>Posven ( Posco Venezuela ):</u>						P			
	Punta Cuchillo			(Firm)			1999	Posco, Hyundai and Dongbu Steel, are to go ahead with a project to build a large new DR plant in Punta Cuchillo. The plant will consist of two HYL III DR modules each with a capacity of 750,000 tpy. The plant is due to be commissioned in 1999.	MB 08-Dec-97 MB 27-Jan-97
				(1500)	DR (HYL III) x 2				

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Country : **VENEZUELA (2)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>SIDOR ( CVG Siderurgica del Orinoco CA ) :</u>									
	Matanzas	3600		500	(Firm)	P	1998-	In January 1998, a 70% stake in Sidor was sold to Consorcio Siderurgia Amazonia Ltd., a consortium which had won the bid in an auction of Sidor on 17 December 1997. The consortium comprises Techint group (including Argentina's Siderar, Mexico's Tasma and Panama's Techint Engineering Co), Hylsamex of Mexico, Sivensa of Venezuela and Usiminas of Brazil. Techint group and Hylsamex each hold 35% of the consortium, Sivensa holds 20% and Usiminas 10%. The Venezuelan government hopes to sell a part of its 30% stake in Sidor to Sidor employees and float the remainder in the local market. The new investors announced a \$600 million modernisation programme of the company, which includes the modernisation of the DRI facility and the installation of a ladle furnace. The company's overall crude steel capacity is expected to be raised from current 3.6 million tpy to 4.1 million tpy within a year.	DJ 27-Jan-98 MB 22-Dec-97 MB 02-Mar-98
			DR (MIDREX) x 4 DR (HYL) x 4 (3600) EF x 10 (1200) CC (billet) x 3 (3000) CC (slab) x 3 CC (round) (750) STR (450) WR (90) Plate (2100) Hot (1450) Cold SMLS Tin plate x 2						

Country : **VENEZUELA (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>SIVENSA ( Siderurgica Venezolana ):</u>									
Orinoco Iron project (JV with BHP)					(Firm)	P	1999	Orinoco Iron is a 50/50 joint venture between International Briquette Holding (IBH) of Venezuela and Australia's BHP. Sivenasa and Ferrominera Orinoco have about 55% and 18% stakes in IBH, respectively. The joint venture constructs a 2.2 million tpy hot briquetted iron unit at a total cost of \$776 million. Civil construction work is under way and the plant is due to start up in November 1999. Orinoco Iron will absorb the existing 400 000 tpy Fior DRI plant, resulting in the total capacity of 2.6 million tpy.	AMM 20-Nov-97 MB 04-Dec-97
	(Puerto Ordaz)	(400)	DR (Fior)	(2200)	DR (Finmet)				
Vemprecar								Some 450 000 tpy of output is used at the Sidetur steel mills, a subsidiary of Sivenasa. Sivenasa plans to expand DR capacity by 100 000 tpy to 815 000 tpy in September 1998 by enlarging its furnace diameter.	MB 04-Dec-97
	(Puerto Ordaz)	(715)	DR (MIDREX)						

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Country : **OTHERS**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<b>PARAGUAY</b> <u>Acepar ( Aceros del Paraguay SA ):</u>	Villa Hayes	150				S/P		Acepar is Paraguay's sole steelworks. In October 1997 the Paraguayan government sold the company to Cosipar consortium, a group of private sector Paraguayan investors.	MB 08-Dec-97
			(175) BF (Charcoal) x 2 (180) LD x 2 CC						
			(150) STR						
<b>TRINIDAD TOBAGO</b> <u>Essar Group/ Nasco Ltd</u>	Point Lisas					P		Essar of India and Nasco of Trinidad are studying a project to construct a 1.2 million tpy DRI plant in Trinidad. Nasco applied for a licence to produce DRI more than two years ago and has since been looking for a partner. Essar already operates a 1.7 million tpy DRI plant in India, and has a cold-rolling joint venture in Indonesia.	MB 13-Nov-97
					(Possible)				
				(1200)	DR (MIDREX)				



Country : **EGYPT**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
Al Ezz Steel Rebars Co	Sadat City			350	(Firm)	P	1998	A meltshop and the second reinforcing-bar mill is to be commissioned.	MB 14-Dec-95
									AMM 13-Sep-95 MB 10-Apr-97
Alexandria National Iron & Steel Co (ANSDK):	El-Dikheila	840	(300) STR	(350) EF CC (400) STR	(Firm)	S/P	Oct 1998	A second DRI module began trial operations in September 1997. The \$115-million module was supplied by Kobe Steel. A second bar mill with a capacity of 300 000 tpy is under construction and should be commissioned by October 1998.	MB 16-Feb-98
Flat-product works, El-Dikheila				1000	(Firm)		2000	ANSDK proceeds with the construction of its first flat-rolling mill. The contract for the supply of equipment was concluded in December 1997. A Midrex DRI module (800 000 tpy) is to be supplied by Kobe Steel, a 160-tonne electric furnace (1 million tpy) and a 160-tonne ladle furnace by NKK, a thin slab caster and hot strip mill (1 million tpy each) by Germany's SMS.	MB 16-Feb-98

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Country : **EGYPT (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
Alexandria Steel Melting Co ( The Hatem El-Hawary Group ):						P			
				(Possible)				A 30 tonne electric furnace has been acquired from Danieli and to be installed in 1998. The commissioning of the furnace, however, is expected to delay until the company secure an adequate electricity supply.	MB 10-Feb-97
				EF					
<u>Suez Steel Co</u>	Adabia, Suez			600 (Firm)		P	1999	The company awarded a contract with Voest-Alpine Industrieanlagenbau GmbH for a 600 000 tpy billet mini mill.	AMM 14-Jul-97
				(600) EF					
				LF					
				(600) CC (billet)					
<u>The Egyptian Iron &amp; Steel Co. ( Hadisob ):</u>						S			
	Helwan	1300							
			BF x 4					In 1997 it was decided to divide the company into two entities in preparation for its privatisation: one half will comprise the steel plant while the other will comprise ancillary activities such as mining, transport, workshops and housing.	MB 06-Nov-97
			LD x 3						
			EF x 2						
			CC x 6						
			STR x 3						
			Plate						
			Hot						
			Cold						

Country : **IRAN**

Unit : million tonnes per year

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>National Iranian Steel Co ( Nisco ) :</u>								
Khorasan Steel Complex, Neyshabur			550	(Firm)	S	1999	The contract for a new bars and light sections mini mill was finalised in November 1996 with Danieli. The construction is carried out in three phases. At the first phase, whose commissioning is expected by mid-1999, a 110 tonne electric furnace, a ladle furnace, a billet CC and a rolling mill will be constructed. The ground work of the site has already been completed. The mini mill will be fed with a mixture of local scrap, and pig iron and DRI sourced from Nisco's other plant. In the following two phases, the steelmaking capacity is to be raised to 1.8 million tpy, and the construction of DRI unit is planned.	MB 12-Jun-97
	(550)	EF		LF				
				CC (billet)				
				STR				
Mobarakeh Steel Co, Esfahan	3200							MB 09-Feb-98
	(3200)	DR (MIDREX) x 5	(500)	Hot			The company placed an order with Demag Italmipianti for the revamp of the hot strip mill, which will increase its capacity from 2.6 million tpy to 3.1 million tpy.	
	(3200)	EF x 8						
	(2700)	CC x 4						
	(2600)	Hot						
	(1000)	Cold						
	(200)	HGL						

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Country : **SAUDI ARABIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Seamless Tube Project</u>				(Possible) (110)				A private sector group has formed a consortium of investors to set up the first seamless tube mill in Saudi Arabia.	MB 30-Oct-97

Country : **OTHERS**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<b>JORDAN</b>									
<u>General Specialised Steel Manufacturing Co</u>									
	Sahab			(250)	(Firm) STR	P	1998	The company installs second-hand facilities from a variety of suppliers in Canada, France and the United Kingdom.	MB 03-Jul-97
<b>KUWAIT</b>									
<u>United Industrial Steel Co</u>									
	Kuwait City			(300)	(Firm) STR	P	1999	Kuwait's National Industries Co and the Qatar Steel Co (Qasco) signed a memorandum of understanding to build a 300 000 tpy rolling mill in Kuwait. A feasibility study is to be carried out at the beginning of 1998. The joint venture is likely to be held 40% by Qasco, 9% by Qatar Industrial Manufacturing Co, and 41 % by NIC, with the balance by Gulf Investment Corp.	MB 26-Feb-98 MB 15-May-97
<b>OMAN</b>									
<u>DRI plant project</u>					(Possible)			A feasibility study to set up a 1.2 million tpy DRI plant is under way.	NET 19-Jan-98
				(1200)	DR				

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Country : **OTHERS (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<b>QATAR</b> <u>A Qatar/Kuwait slab JV</u>				1000	(Possible)  EF CC (slab)		2001	A Kuwaiti/Qatar Steel Co joint venture to produce 1 million tpy of slab in Qatar is under evaluation. The feasibility study is to be conducted and the production is expected to begin in the first quarter of 2001.	MB 05-Mar-98
<u>QASCO ( Qatar Steel Co Ltd. ):</u>		415		500	(Possible)  EF Hot	S		The company has been looking into diversifying into flat products. A feasibility study for a 500 000 tpy capacity plant is due to be completed in 1999 or 2001. The privatisation of the company is under consideration. The company is currently 100% state-owned, after the government bought out 30% stake in the company from Japanese interests in early 1997.	MB 05-Mar-98 DJ 14-Jan-98
<u>Qatar Hot Briquetted Iron Company ( QABICO ):</u>				(2000)	(Possible) DR		1999	QABISCO plans to produce 2 million tpy of hot briquetted iron by the end of 1999. The venture is held 51% held by Qatar companies, including Qasco which holds 31% of the venture. The remaining 49% is held by foreign interests.	CNN 22-Feb-98
<b>UNITED ARAB EMIRATES</b> <u>Ahli Steel Co.</u>	Al-Ramool/Dubai					P		The government required the company to shift its operations from Al Ramool, Dubai, to a heavy industrial zone in Jebel Ali, Dubai. The operations at the old Al Ramool have already been closed down.	MB 09-Feb-98

Country : **OTHERS (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
	Jebel Ali, Dubai			200	(Firm)		Sept-1999	The company builds a new mill, rather than move the old plant to the new site. The new facilities include an electric furnace, continuous caster and rolling mill. The company plans to add light structural sections and wire rods to its current product mix of reinforcing bars.	MB 09-Feb-98
					EF				
					CC				
					STR				
						S	2000	A \$74 million contract for a 500 000 tpy bar rolling mill was signed in May 1997 between SMS Schloemann Siemag of Germany and state-owned General Industry Corp. The contract come into effect in February 1998 and SMS has started work on designing and manufacturing of the plant. The start up is expected by early 2000.	NET 15-Apr-98 MB 02-Dec-96
				(500)	STR				

General Industry Corp ( GIC ):

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Country : **RUSSIA**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Lebedinsky GOK</u>	Belgorod			(1000)	HBI (HYL)	P	1998	The main buildings of the plant and the installation of most of the equipment has been nearly completed. A delay is expected, however, in the start-up of the plant, due to cold winter which hampered work on installing the refractory lining of the furnace. The plant is expected to reach its full design capacity after October 1998. The company also plans the construction of a second HBI unit and a mini-steelworks.	MB 24-Dec-97
<u>Magnitogorsk Iron and Steel works Combine</u>		16000					1999, 2001	In April 1998, the No1 blast furnace, which was closed for reconstruction in 1987, was relit. The company hopes to have all ten of its blast furnaces operational by 2005 (currently six is under operation). The construction of the third converter and a cold rolling mill is proceeding. The converter is expected to be commissioned by the end of 1999. On completion of the converter, the company plans to close down its remaining four open hearths. The cold rolling mill is scheduled to be completed in three years.	MB 16-Apr-98 MB 12-Mar-98 DJ 10-Mar-98
			BF x 10 OH x 4 LD x 2 CC x 4 SLM BLM x 2 BTM Hot Cold STR x 5 WR x 2	(2000) (2000)	Cold LD				



Country : **RUSSIA (2)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Nizhny Tagil Iron &amp; Steel Works ( NTMK ) :</u>									
		5300			(Firm)	P		NTMK started re-building its production facilities in the early 1990s. In the programme, two continuous casters were installed, in 1995 and 1996. The third, a specialised beam-blank caster, was scheduled to be commissioned by the end of 1997. The company is currently seeking funding for a fourth continuous caster. It also plans to install a new plate mill to replace an antiquated one.	MB 12-Sep-97
			BF x 6		LF				
			LD x 3		CC x 2				
			OH x 8		Plate				
			CC x 2						
			BLM						
			STR						
			Plate						
			Hot						
			Cold						
<u>Orsk-Khalilovo Iron and Steel Combine</u>									
	Novo-Troitsk	4500			(Firm)			The work has a capacity of around 3m tpy of pig iron, 4.5m tpy of crude steel and 3m tpy of rolled products.	AMM 18-Dec-97
			BF x 4		CC (slab)			The company placed an order for a slab caster and ladle furnace with Mannesmann Demag.	MB 01-Dec-97
			OH x 7		LF			Demag will also carry out a comprehensive modernisation of the hot-rolling mill, which will increase its capacity by 800 000 tpy.	
			BS x 3		(800) Hot				
			EF x 2						
			CC						
			BLM						
			Plate						
			Hot						
			STR						

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Country : **RUSSIA (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>OSKOL Electric Steel Works ( Formerly Kurk Works OEMK ) :</u>									
	Stary Oskol	1700			(Firm)	S/P	1999	The company has obtained a total of \$118 million in financing for its modernisation and expansion plans from the European Bank for Reconstruction & Development and others, which helped the company to construct the mill.	MB 09-Mar-98
			DR (MIDREX) x 4	(1000)	WR				
			LD x 2						
			EF x 4						
			CC x 4						
			STR						
			WR						
<u>Zapsib-West Siberian Steel Works</u>									
	Antonovskava	11250						The company was declared bankrupt in 1997 and is undergoing a 15-month period of protection from creditors. Although the merger with neighbouring Kuznetsk steel works was considered, the procedure is unsettled.	MB 02-Feb-98 MB 09-Feb-98 MB 12-Feb-98
	(near Novokuznetsk)		BF x 6						
			LD x 6						
			EF						
			CC x 2						
			BLM						
			Hot						
			STR						
			WR						
<u>Zlatoust Iron and Steel Works</u>									
	Zlatoust	(800)						The company went bankrupt and was taken over by an government-appointed administrator after a local court ruling which decreed that the plant be taken into receivership.	MB 12-Mar-98
			EF						
			OH x 9		(specialty steel)				
			BLM						
			STR						

Country : **UKRAINE**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Donetsk Iron and Steel Works (Donetsk Metallurgical works (DMZ))</u>									
	Donetsk	1300			(Firm)	P	1999	Danieli of Italy is to supply Donetsk with a 120-tonne LF and a continuous billet caster. These new facilities are scheduled to be commissioned during the first half of 1999.	AMM 03-Apr-98 MB 02-Apr-98
			BF x 2 EF x 2 OH x 5 CC BTM STR x 3		LF CC (billet)				
<u>Krivoy Rog Iron and Steel Works</u>									
	Krivoy Rog	10650			(Firm)		2000	The company installs a ladle furnace and two continuous casting machines. The facilities have already ordered and the work is expected to start in June 1998, and scheduled to begin operating in 2000.	MB 16-Apr-98
			BF x 7 OH x 2 LD x 10 EF x 4 BLM x 3 STR x 6 WR x 2 Hot		LF CC x 2				

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Country : **UKRAINE (2)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Zaporozhnye Steel Works ( Zaporozhstal ) :</u>									
	Zaporozhye	5000			(Possible)			Zaporozhstal operates 5 blast furnaces and 9 open hearth furnaces. It produces hot rolled and cold rolled carbon and low-alloy sheet, cold rolled form sections, hot dip galv and colour-coated sheet. The mill also produces hot and cold rolled stainless sheet and stainless polished plate. The company is scheduled to be privatised; however, the State Property Fund of Ukraine, the state privatisation body, reportedly cancelled the first tender to sell 24 per cent of the stake in March 1998.	MB 16-Feb-98 MB 29-Sep-97 CNN 24-Mar-98 MB 16-Mar-98
			BF x 5		Cold				
			OH x 9						
			SLM						
			Hot						
			Cold						
			HGL						

Country : **OTHERS**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<b>KAZAKHSTAN</b>									
<u>Ispat Karmet JSC</u>	Karaganda	6300			(Firm)	P	1998	Ispat International acquired the Karaganda Metallurgica Combine from the Kazakh government in November 1995. In December 1997, Ispat Karmet signed a \$450 million loan agreement with the European Bank for Reconstruction and Development and the International Finance Corporation. The loan will be allocated to the company's \$800 million modernisation programme, with the remaining \$350 million paid by Ispat itself. The main projects in the programme are the construction of a new Galvalume coating line and a new coke oven battery, and the reconstruction of the plant's No3 blast furnace. A part of the loan will be spent on environmental improvements.	MB 11-Dec-97 AMM 10-Dec-97 KARME T
		(5260)	BF x 4 OH x 2	(320)	HGL				
		(6300)	LD x 3						
		(6000)	SLM						
		(5200)	Hot						
		(1400)	Cold						
		(800)	Cold						
		(375)	Tim plate						
<b>MOLDOVA</b>									
<u>Moldova Steel Works</u>	Rybnitsa	800						The company completed the upgrading of one of the two furnaces, which raised capacity from 700 000 tpy to 800 000 tpy	MB 23-Oct-97
		(800)	EF x 2						
		(800)	CC x 2						
		(700)	STR						

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Country : **OTHERS -(2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<b>UZBEKISTAN</b>									
<u>Uzbek Iron and Steel Works</u>									
	Bekabad	1170						In 1998, a 34 per cent of the stake was sold to four investors -- the National Bank of Uzbekistan, the Almalıy metals plant, the Navoi metals plant and Daewoo (each an 8.5 % share). A further 10 per cent is planned to be sold to foreign investors in the near future.	MB 02-Mar-98
		(750)	EF x 2						
		(320)	OH x 3						
		(1180)	CC (billet) x 4						
		(1240)	STR x 2						

Country : **FORMER YUGOSLAVIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
Rudnici i Zelezara	Skopje	980						A majority stake in Skopje's electric arc furnace and plate mill was sold to Swiss trading house Dufenco in 1997. The remaining equipment was divided into three separate entities for the purpose of the sale -- electric pig iron furnaces, hot strip mill, and cold reduction mill and coating lines. Balkan Steel International, a Paris-based trader, signed a one-year management contract with the Macedonian government to run the hot strip mill, and the long-idled mill restarted production at the end of December 1997. Dufenco also confirmed that it wanted to bid for a controlling 24.27% stake in cold rolling mill of Skopje.	MB 09-Apr-98 MB 22-Jan-98 MB 27-Nov-97 MB 10-Nov-97
		(430)	ERP x 5						
		(700)	LD x 2						
		(400)	EF						
		(360)	CC x 3 Plate						
		(600)	Hot						
		(600)	Cold x 2 HGL						

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Country : **CAMBODIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
Sun Wah Galvanizing	Sihanoukville				(Firm)		1998	The company is a 70/30 joint venture between Sun Wah Group of Hong Kong and Marubeni of Japan. The work is expected to start in January 1998.	MB 27-Oct-97
				(12)	HGL				



Country : **CHINA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>An Feng Steel</u>	Shantou			(300)	HGL	P	end 1998	An Feng Steel of Chinese Taipei is planning to build a new galvanising and colour coating plant in China.	MB 16-Oct-97
<u>Anyang Iron &amp; Steel Group Co. Ltd. (Anyang):</u>						S			
	Anyang, Henan	1540		700	(Firm)		1999	The company has contracted VAI of Austria to build a new steel plant and continuous caster. The mill will consist of a 100 tpy finger shaft furnace, a 100 tpy LF and a single-strand continuous slab caster.	MB 09-Mar-98
		(1120)	BF x 8	(700)	Shaft furnace				
		(1440)	LD x 3		LF				
		(100)	EF x 2	(700)	CC (slab)				
		(930)	CC						
		(875)	SMLS						

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Country : **CHINA (2)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Baoshan Iron and Steel Co. ( Baoshan ):</u>									
	Shanghai	8700		3000	(Firm)		-2000	The company is proceeding with the third phase expansion, which consists of: a BF (under operation since 1994), two LD converters, two twin-shell EAFs (commissioned in 1997), three CCs, a hot-strip mill (commissioned in 1996), a cold-strip mill and tin-plate mill (both commissioned in March 1998). A 1.12 million tpy cold-strip mill, a 260 000 tpy EGL and an HGL was added subsequently in the third phase expansion. In March 1998, the plan to merge Baoshan and Wuhuan Iron & Steel was announced.	REU 24-Mar-98 DJ 10-Mar-98 MB 09-Mar-98
		(9750)	BF x 3 LD x 3	(3000)	LD x 2 CC x 3				
		(1000) (3445)	EF x 2 SLM	(1120)	Cold HGL				
		(500) (6700) (2100)	SMLS Hot x 2 Cold HGL	(260) (400)	EGL WR				
		(4000) (720) (400)	CC x 2 Cold Tin Plate						
<u>Fujian Sino-Japan Metal Corp</u>									
	Fuzhou, Fujian					P	1998	The company is a 65/35 Japanese-Chinese Taipei joint venture established in December 1995. Main shareholders are NKK (15%), Okura & Co (12%), Marubeni Corp and Sumitomo Corp (11.5% each), while Tung Ho Steel of Chinese Taipei holds 35 per cent. An electronic tinning line had been relocated from NKK's Keihin works and began trials in February 1998.	MB 02-Feb-98
		(150)	Tin Plate						

Country : **CHINA (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Great Wall Special Steel Co.</u>									
	Sichuan			500	(Possible)		2000-	The company announced a plan to build a new 500 000 tpy steelworks.	MB 24-Nov-97
				(500)	EF (DC) CC				
<u>Guangzhou Zhujiang Iron &amp; Steel Co.</u>									
	Zhujiang			820	(Firm)		1999	Guangzhou Zhujiang Steel was established in 1993 as the first flat product minimill in China. Voest-Alpine and Fuchs have won a contract to supply a 150-tonne EF and relevant equipment. A contract for CSP slab caster and hot strip mill has already been placed, and the plant is expected to be completed in 1998 with the production expected to start in 1999.	MB 23-May-94 NKS 09-Jun-94 MB 16-Sep-96 AMM 04-Sep-96
				(820)	EF CC (tsc)				
				(792)	Hot				
				(300)	Cold				
<u>Guiyang Steel</u>									
		100		300	(Firm)		end 1999	Italian plantmaker Techint is to supply an electric arc furnace and Concast is to build a continuous caster. The project is financed by the Asian Development Bank.	MB 26-Feb-98
		(100)	EF x 2	(300)	EF				
				(300)	CC				
					STR				

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Country : **CHINA (4)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Handan Iron &amp; Steel General Works (Hangang):</u>									
	Hebei	1530		2500	(Firm)	S	2000	Handan is also considering to install a new blast furnace in order to cope with insufficient ironmaking capacity. The company took over Wuyang Steel and Iron Co on 8 September 1997.	MB 16-Oct-97
		(1523)	BF x 4	(2500)	LD				
		(1530)	LD x 3	(2500)	CC (isc)				
		(1795)	CC	(2500)	Hot				
		(1633)	STR	(1000)	Cold				
<u>Jiuquan Iron and Steel Co. (Jiugang):</u>									
	Jayuguan, Gansu Province	1010			(Possible)	S			FT 06-Jan-98
		(1200)	BF x 2	(500)	Plate				
		(1000)	LD x 3						
		(10)	EF						
		(630)	CC						
		(580)	WR						
<u>Ningbo project</u>									
	Ningbo			1600	(Firm)		2000	China is to go ahead with plans to build a new integrated steel plant at Ningbo. The project involves Baoshan Steel, Zhyong Iron & Steel and a foreign partner. Construction will begin next year and will cost 20 bn yuan. When complete the works will produce 1.6 m tpy of crude steel and 1.44 m tpy of rolled products.	MB 11-Jan-96
				(1440)	Rolled products				

Country : **CHINA (5)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Shanghai Krupp Stainless Steel Co. Ltd</u>									
	Pugond New Area, Shanghai			(Firm)	(Firm)		2001	Krupp Thyssen Stainless (KTS) and Shanghai Pudong Iron & Steel signed in December 1997 to establish a 440 000 tpy stainless strip mill in Shanghai by 2006. The joint venture company will be held 60 per cent by KTS, with Pudong taking the balance. At an initial stage, a 72 000 tpy cold-rolling mill is to be completed by 2001. The construction of an additional cold-rolling mill, hot-rolling mill and meltshop is planned at the subsequent stage, to be completed by 2006.	MB 22-Dec-97 AMM 19-Dec-97
				(72) Cold					
<u>Wuhan Iron and Steel Group Co. (Wugang):</u>									
	Wohan, Hubei	4245		(Firm)	(Firm)	S	1999	The company has ordered two 5-strand bloom casters from VAI. The casters will be used to produce high-quality steel for the automotive industry. Commissioning is expected by the end of 1999.	AMM 03-Apr-98
		(6240)	BF x 5		CC (bloom) x 2				
		(2500)	OH x 6						
		(1590)	LD x 3						
		(2700)	CC x 5						
			STR x 2						
		(3000)	Hot						
		(1000)	Cold x 2						
		(550)	Plate						
		(160)	EF x 7						
		(2450)	BLM						
			BTM						
		(300)	Tim Plate						
		(100)	HGL						

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Country : **CHINA (6)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
Zuhai Steel Co.	Zuhai (Guangdong province)			500	(Stainless)  EF  STR	S	1997	Danieli is going to install a 500 000 tpy mini-mill in the special economic zone of Zuhai, next to Macav. Zuhai's first steelwork will have a 100 tonnes EAF and will produce 12 50 mm rebar and 25 100 mm sections on a "flexible heavy duty" rolling mill. Construction has already started and commissioning is expected in mid-1997.	MB 31-Jul-95

Country : **CHINESE TAIPEI**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>An Feng Steel Co. Ltd</u>	Kaohsiung	(2000)	Hot	(1000) (300)	Cold HGL	P	1997-98	CR and EGL are going to be operated through Jenn An Steel. An Feng is also constructing a similar HGL plant in China.	MB 16-Oct-97
<u>China Steel Corp.</u>	Kaohsiung	8054				S/P		CSC commissioned its No.4 blast furnace in November 1996, which is part of the forth expansion of the company. The expansion, including the company's sixth basic oxygen converter, its sixth slab CC and its second hot strip mill, has increased the steelmaking capacity by 2.4m tpy to the total of 8,05m tpy.	MB 28-Nov-96
		(7790)	BF x 4						
		(8054)	LD x 6						
			CC x 9						
		(900)	BLM						
		(480)	WR						
<u>Kuei Yu Industrial</u>	Taichung			3250	(Firm)	P	1998	CSC holds 30% of Kuei Yu. Could be delayed.	AMM 29-Dec-95
				(3250)	EF				
				(3250)	CC				
				(600)	STR				
		(400)	WR						
		(960)	Hot						

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Country : **CHINESE TAIPEI (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Yieh Hsing Enterprise</u>						P			
	Chiao Tou Hsiang, Kaohsiung	350						The company takes part in the construction of an integrated mill which is being undertaken by Yieh Loong Group. This is treated independently in this report.	
		(350)	EF						
		(350)	WR						
		(200)	WR						
		(196)	ERW x 4						
		(66)	Cold						
<u>Yieh Loong Enterprise</u>						P			
	Kaohsiung							Yieh Loong commissioned 2.4m tpy hot strip mill in 1997. The company is undertaking the construction of a 7.5m tpy integrated steel mill with its affiliate companies. This is treated independently in this report.	
		(2400)	Hot						
		(420)	Cold x 2						
		(100)	ERW						
<u>Yieh Loong Group</u>						P			
	Chigu, Tainan			7500	(Firm)		2002	Yieh Loong group signed with IHI for the supply of three BF's in 1995. First-stage construction is prospected to begin by late 1998. The running of the integrated mill will be undertaken among Yieh Loong group companies: Iron and steelmaking -Taiwan Steel; Section mill - Lien Kang; Bar and wire rod - Yieh Hsing; Hot strip mill - Yieh Loong; Plate - Yieh United.	MB 20-Oct-97 MB 25-Nov-96 MB 16-Nov-95
	(Integrated steel plant)			(7500)	BF x 3				
				(7500)	LD x 5				
				(750)	STR				
				(600)	WR				
				(2300)	Hot				
				(600)	WR				
				(800)	Plate				



Country : **CHINESE TAIPEI (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Yieh Phui Enterprise ( Yieh Loong Group ):</u>									
Yu Liao Works									
		(600)	Cold x 2	(1300)	Cold			The construction of a cold mill started in 1996, while fourth HGL plan is reportedly cancelled.	SS 19-Jul-95
		(750)	HGL x 3	(400)	HGL				
<u>Yieh United Steel ( Yieh Long Group ):</u>									
	Kaohsiung	800			(Firm)	P	1997	The third CR mill, supplied by France's DMS, with the capacity of 75 000tpy (stainless), is to be commissioned in 1997. The starting of the operation has not been confirmed.	MB 02-Jun-97
		(800)	EF x 2	(75)	Cold				
		(800)	CC x 2						
		(600)	Hot						
		(160)	Cold x 2						

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Country : **INDIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Bellary Steels &amp; Alloys Ltd</u>	Bellary, Karnataka	50		500	(Possible)		1998	A joint venture with Shougang (China), which also provides technical assistance.	ET 09-Nov-97
		(60)	DR (SLRN) x 2	(500)	BF				
		(50)	EF	(500)	LD				
		(50)	CC	(500)	STR				
		(60)	STR x 2						
<u>Bhushan Steel &amp; Strips</u>	Delhi					P		The second CR mill with the capacity of 360 000 tpy started up in 1997.	MBM 01-Nov-97
			EF						
			STR						
		(500)	Cold x 2						
			HGL x 2						
	Maharashtra				(Possible)		2001	The company plans to set up two separate cold-rolling and galvanising steel plant in Maharashtra and West Bengal. The total investment is estimated at \$400 million. Both units are scheduled to start up by 2001.	AMM 10-Apr-98
				(300)	Cold				
					HGL				
	Maharashtra			500	(Possible)				MB 06-Mar-97
				(500)	EF				

Country : **INDIA (2)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
	West Bengal			(300)	(Possible) Cold HGL		2001		AMM 10-Apr-98
<u>Essar Steel</u>	Hazira, Gujarat	2000			(Firm)	P	2001	Essar has placed an order with Demag Italia for a 1 million tpy blast furnace. The work is expected to start during fiscal 1998. The company also hopes to increase the capacity of the hot strip mill by 1 million tpy, to 3 million tpy.	MB 14-Apr-97 AMM 19-Mar-98 ET 02-Mar-98
			(1680) (2000) (2000) (2000)	DR (MIDREX) x 3 EF x 3 CC x 2 Hot	(1000) (600) (1000)	BF Cold Hot			
<u>Ispat Industries Ltd ( former Nippon Denro Ispat ):</u>	Nagpur, Maharashtra			(285) (125)	Cold x 2 HGL				
	Raigad, Maharashtra		(1700)	Hot	1800 (Firm)  (1800) EF (1800) CC (1300) Hot			The hot-strip mill started operation in 1998. The company plans to add 1.3 million tonnes of hot-rolling capacity at the second stage.	AMM 05-Jan-98

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Country : **INDIA (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Ispat Metallics</u>	Raigad, Maharashtra	(1000)	DR (MIDREX)	(2000)	BF (Firm)		1998	The company relocates the former Thyssen blast furnace which was shut down in 1992.	ET 16-Feb-98
<u>Jindal Strips Ltd</u>	Hisar	(250) (250)	(Stainless) EF x 2	(60)	Cold			After the failure in negotiations with Ugine to set up a stainless cold-rolling joint venture, Jindal Strips decided to build a cold-rolling mill on its own. The construction of a 60 000 tpy cold rolling mill is under consideration.	FE 20-Apr-98
	Raigarh	(500)	DR x 5 EF x 2 CC						
	Vasind, Mumbai	(270)	Cold x 4						

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Country : **INDIA (4)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Jindal Vijaynagar Steel Ltd (JVSL)</u>									
Vijaynagar, Karnataka		(1600)	Hot	1570	(Firm)		1998-99	The first hot-strip mill started operation in 1997, which rolls purchased slabs. The first Corex-C2000 unit is expected to start-up in the second quarter of 1998, followed by the second in the early 1999. The company submitted a bid through an international trading company to buy a Corex and a DRI unit from bankrupt Hanbo Iron & Steel of Korea.	AMM 29-Dec-97 MB 19-Feb-98 MB 01-Jan-98
				(800)	Corex				
				(800)	Corex				
				(1570)	LD				
					CC				
				(800)	Corex				
				(800)	DR				
<u>Nagarjuna Steels Ltd</u>									
Mangalore, Karnataka				2500	(Firm)	P	1999	The company bought and relocates a sinter plant, three converters, three continuous slab casters and a hot-strip mill from Altos Hornos Vizcaya of Spain.	AMM 26-Nov-96
					BF x 2				
				(2500)	LD x 3				
				(2500)	CC x 3				
				(2500)	Hot				
<u>Rashtriya Ispat Nigam Ltd (Vizag Steel)</u>									
Vishakhapatnam, Andhra Pradesh		3200		1000	(Possible)		2000	The company has a plan to increase its steelmaking capacity to 4 million tpy by installing additional steelmelting and continuous casting facilities.	MB 13-May-96 VIZAG
		(3400)	BF x 2						
		(3200)	LD						
		(3196)	CC x 6						
		(1510)	STR x 2						
		(850)	WR						

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Country : **INDIA (5)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>SAIL ( Steel Authority of India Ltd ) :</u>									
	Alloy Steel Plant (Durgapur)	(260)	EF x 3	140	(Firm)	S		Steelmaking capacity is planned to be increased to 400 000 tpy.	MB 20-Apr-95
		(260)	CC		CC				
			BLM						
			STR						
	Bhilai	4000							
		(4080)	BF x 7						
		(2500)	OH x 6						
		(1500)	LD x 3						
			CC x 5						
		(2500)	BLM						
		(1501)	BTM						
		(400)	WR						
		(1250)	STR x 2						
		(950)	Plate						
	Bokaro	4000		360	(Firm)		1998	Steelmaking capacity is to be raised by 360 000 tpy in the modernisation programme.	
		(4585)	BF x 5						
		(4000)	LD x 7						
		(3449)	SLM						
		(3363)	Hot						
		(100)	Cold x 2						
		(170)	HGL						

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Country : **INDIA (6)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
	Dagaon, Assam			(40)	HGL (Firm)		early 1999	The first venture of SAIL in the north eastern states of India. The civil works are at an advanced stage.	HINDU 14-Mar-98
	Durgapur	3402			(Possible)			The facilities are planned to roll materials currently sold as semifinished products.	MB 12-Feb-96
		(2088)	BF x 4	(400)	STR				
		(1802)	LD x 3	(400)	WR				
		(1600)	OH x 8						
		(773)	CC x 2						
		(950)	BLM						
		(491)	BTM						
		(492)	STR x 2						
		(100)	Hot						
	Rourkela, Orissa	1900							
		(2000)	BF x 4						
		(1900)	LD x 7						
		(1660)	CC x 2						
		(1800)	SLM						
		(280)	Plate						
		(1106)	Hot						
		(669)	Cold x 3						
		(130)	ERW						
		(150)	Tim Plate						
		(160)	HGL x 2						

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Country : **INDIA (7)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
	Salem			421 (Firm)			1999	Sail is planning to convert its Salem stainless steel plant into a fully integrated works with an electric arc furnace and a slab caster. The cost of this project will be Rs 5.95 bn.	MB 21-Sep-95
	(Stainless Steel Plant)	(270)	Hot x 2	(421)	(Stainless)				
		(72)	Cold x 2	(421) EF (421) CC					
<u>Tata Iron &amp; Steel Co.</u>						P			
	Gopalpur, Orissa			10000	(Possible)		2000 -	A long delay is foreseen in Tata Steel's project to construct a greenfield integrated steel mill at Gopalpur Orissa. The project, however, has not been abandoned. The construction of a 1.9 million t py cold-rolling mill, initially included in the project, has been put on hold.	MB 12-Mar-98
	Jamshedpur			3000	500 (Firm)			In the 4th phase modernisation, the company plans to replace the existing open hearths with new LD converters, which is expected to result in capacity increase by 500 000 tpy. The modernisation programme will also realise 100 per cent CC operation. The company placed orders with Hitachi and Mitsubishi for a 1.2 million tpy cold-rolling mill, which is expected to be commissioned in September 2000.	MB 12-Mar-98 MB 10-Mar-97 ET 24-Oct-97
		(2852)	BF x 7	(1200)	CC				
		(800)	OH x 7	(1000)	Hot				
		(2200)	LD x 4	(600)	WR				
		(2000)	CC x 4	(1200)	Cold				
		(2000)	SLM x 2						
			BLM x 2						
			BTM						
		(680)	STR x 2						
		(1180)	Hot x 2						
		(52)	SMLS x 2						
		(193)	ERW x 2						
		(66)	HGL						



Country : **INDONESIA**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>PT KS-Posco</u>	Cilegon, West Java			1000	(Firm)	Nov1999 (orig)		Held by Posco (40%), Krakatau (40%), Korindo (10%) and Nusamba (10%). The construction began in October 1997; however, due to financing difficulties, it was decided in January 1998 to postpone by 6 months.	MB 29-Jan-98 MB 23-Oct-97
<u>PT Little Giant Steel</u>	Semarang, Java	(250)	Cold		(1000) EF (1000) CC (isc) (1000) Hot	P		PT Little Giant is a JV between Kao Hsing (Chinese Taipei) and PT Raja Besi Semarang. Came on stream in 1996. Hot band is sourced from the USA, Japan and Krakatau.	
<u>PT Maspion Stainless Steel Indonesia</u>	Manyar Gresik, East Java	(50)	Cold			P	1997	PT Maspion Stainless Steel Indonesia (MSSI) is a JV between PT Alumindo Light Metal Industry, Kanematsu, Sumitomo Metal Industries and Nippon Yakin Kogyo (Japan). Started operation in 1997. The first stainless CSM in Indonesia.	
<u>PT Ponesia Stainless Steel (Perkasa)</u>	Cikarang				(Firm)		1999	Posco holds 70 per cent. The construction started in December 1997. Hot band is going to be sourced from Posco.	MB 30-Oct-97
				(75)	Cold				

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Anshin Steel Industries</u>	Shah Alam, Selangor			600	(Firm)	P	1999		MB 10-Apr-97
		(170)	STR x 2	(600)	EF				
				(500)	STR				
<u>Malayawata Steel</u>	Prai	450				S/P		No2 melting shop, comprising an EAF (80t DC) and a billet CC, was opened in 1995, replacing No1 melting shop, comprising an LD converter (15t), an EAF (10t) and a billet CC (closed in 1996).	
		(158)	BF (Charcoal) x 2						
		(450)	EF						
		(450)	CC						
		(420)	WR x 2						
<u>Megasteel</u>	Selangor			2000	(Firm)	P	1998	Megasteel is Malaysia's first hot strip mill project, led by Amsteel/Lion Group.	MB 09-Mar-98
		(2000)	EF						
		(2000)	CC (tsc)						
		(2000)	Hot						
<u>Nusantara Steel Corp.</u>	Pulau Indah				(Firm)	S/P	2001 & 1999	A groundbreaking ceremony for the construction of a DRI plant was held in February 1998. The DRI project is a joint venture between Nusantara, the Sabah State government and the Hylsa-Ferrostaal consortium, while the HR project is a joint venture between Nusantara, the Sabah State government and Danieli-Siemens.	MB 09-Mar-98 BPOST 20-Feb-98
		(1300)	Hot						
		(1600)	DR						

Country : **MALAYSIA (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Perwaja Steel</u>	Gurun, Kedah					S		Blooms and beam blanks are sourced from Kemaman Works.	
		(700)	STR						
		(450)	WR						
	Kemaman, Trengganu	1460							
		(1200)	DR (HYL III) x 2						
		(1460)	EF x 4						
		(1329)	CC x 4						
<u>Southern Steel Bhd</u>	Prai	450			500 (Firm)	P	1997	Southern Steel is building its second 500 000 tpy meltshop. The third bar mill was commissioned in 1997, lifting rolling capacity to 1 million tpy.	MB 10-Apr-97
		(450)	EF		(500) EF				
		(450)	CC						
		(1000)	STR x 3						
<u>Tahan Steel</u>	Klang, Selangor						2000		MB 10-Nov-97
					(800) Hot				

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Country : **PAKISTAN**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
Siddiqsons Tin Plate Ltd	Windher				(Firm)	P	1999	The company is a joint venture to produce tin plate mainly for cans for vegetable oils. Mitsubishi Corp of Japan and Sollac unit of the Usinor Group of France each hold 7.1 per cent of the stake, while Pakistan's Siddiqsons Group holds 44.9 per cent. The remaining 40.9 per cent is financed by Pakistani banks. Cold-rolled sheet is to be imported mainly from Japan and France.	AMM 12-Mar-98 MB 09-Mar-98

Country : **PHILIPPINES**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Bacnotan Steel Corp</u>	Batangas			300	(Firm)		1998	A 70/30 joint venture between the Philippine and Japan. Japan's interests include Kawasaki Steel and Mitsui.	AMM 17-Sep-96 MB 16-Sep-96
<u>Core Steel Industries Ltd.</u>	Cagayan de Oro			(300)	EF	P		The 70 000 tpy CR mill (Sendzimir) which had been moved from Kobe Works of Kawasaki Steel was commissioned in March 1998. The company is held 67 per cent by Japanese interests headed by Itochu. Hot coil is supplied from Nasco's Illigan Works.	MB 22-May-97 AMM 22-May-97 MANIB 24-Feb-98
<u>Eastern Steel Fabricators</u>	Meycauayan, Bulacan		(70)		(stainless) Cold				
			(180)		STR			Started operation in 1998.	MB 01-Dec-97

DSTI/SU/SC(98)14

Country : **PHILIPPINES (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Jacinto Group</u>									
	Phividec, Villanueva			1250	(Firm)	P	2001 -	Work at the site began in August 1997. The first phase investment (\$636 million) includes the construction of an EF, a thin-slab caster, HSM and plate mill. The construction of a DRI unit is projected at the second phase.	MB 09-Mar-98
				(1250)	EF				
				(1250)	CC (isc)				
				(1250)	Hot Plate				
					DR				
<u>National Steel Corp. (Nasco ):</u>						S			
	Iligan	300							
		(300)	EF x 2						
		(300)	CC						
		(1700)	Hot x 2						
		(850)	Cold x 2						
		(300)	Tim Plate x 3						
<u>Philippine Steel Coating Corp.</u>						P	1999	Construction began in July 1996. The half of hot band is to be supplied from nasco and the rest to be imported.	MB 13-Jan-97
	Balayan, Batangas				(Firm)				
				(300)	Cold				
				(240)	HGL				
<u>SteelAsia Manufacturing</u>						P			
	Meycauayan, Bulacan							A joint venture between NatSteel of Singapore. Began operation in 1997.	
		(320)	STR						

Country : **PHILIPPINES (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<b>Existing Capacity</b>	<b>Existing Equipment</b>	<b>Increase capacity</b>	<b>Additional Equipment</b>	<b>Owner ship</b>	<b>Start-up date</b>	<b>Comments</b>	<b>Sources</b>
Smokey Mountain				(Firm)			1998	SteelAsia is a joint venture of Singapore's NatSteel and two Filipino partners. The construction started in 1997.	AMM 05-Mar-97 MB 20-Feb-97
				(500)	STR				





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Country : **THAILAND (2)**

Unit : million tonnes per year

Company	Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
<u>Sahaviriya Steel Industries Public Co.</u>	Bang Saphan	(2400)	Hot	(2000) EF (2000) CC (2000) Hot (1800) DR	(Possible)	P	2000 - The plan for a DR unit, a meltshop and the second HR mill has been put on hold until the economy improves.	BDAY 20-Oct-97 BPOST 26-Jan-98	
<u>Siam Integrated Cold Rolled Steel ( Sisco ).</u>	Rayong			(500) Cold (250) HGL	(Firm)	P	1998 Sisco is a subsidiary of SSM.	MB 23-May-96 MBM 01-May-97	
<u>Siam Steel Pipe (SSP)</u>				(1800) DR (500) STR	(Possible)	P	The project has reportedly been suspended.	BDAY 22-Sep-97 MB 23-May-96 MBM 01-May-97	

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Country : **THAILAND (3)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>Siam Strip Mill Co.</u>	Rayong			1700 (Firm)		P	1998-99	The plant is under construction, and expected to produce its first coil in January 1999. Sumitomo Corp of Japan is the full turnkey contractor for the project.	MB 02-Apr-98
		(1700)	EF x 2						
		(1700)	CC (slab)						
		(1700)	Hot						
<u>Siam United Steel</u>	Mab Ta Phut, Rayong			(Firm)		P	1998	Held by Siam Cement (31.25%), TTP (20% -- held by Kawasaki), Nippon Steel (26%), Kawasaki (7%), Posco (3%), and Sumitomo Metal (2.5%).	MB 01-Dec-97 MBM 01-May-97
		(1000)	Cold						
<u>Thai Coated Steel Sheet</u>	Bangsaphan			(Possible)		P		Thai Coated Steel Sheet is a joint venture between Sahaviriya and Japanese interests lead by NKK. It has a plan to increase its capacity to 240,000 tpy.	AMM 02-Jul-97
		(135)	EGL						
<u>Thai Cold Rolled Steel Sheet Public Co.</u>	Bangsaphan					P		Thailand's first CSM started operation in 1997. The company is 52 per cent held by Japanese interests, comprising NKK, Marubeni (23% each), Nichimen (6%) (after the Shareholders' meeting on 22 October 1997, in which the rise of the capital from 1.38 billion baht to 4.38 billion baht was decided).	
		(1000)	Cold						

Country : **THAILAND (4)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<u>THAI Special Steel Industry ( TSSI):</u>									
	Rayong			(2300)	(Unlikely)	P	cancelled	The construction of an integrated mill has been suspended. The company borrowed \$362.7 million and DM726.8 million (\$398.6 million) from German export bank. However, a subsequent report indicates the cancellation of the project.	AMM 11-Dec-97 BDAY 02-Sep-97
		(500)	WR	(3800)	BF				
				(2300)	LD				
				(2300)	CC				
<u>Thai-German Products</u>									
		(39)	ERW		(Possible)	P	suspended	The company is 100 per cent owned by Thai interests.	BDAY 22-Sep-97
				(700)	STR				

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Country : **VIETNAM**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
	<u>Billet plant project (Cailan port)</u>			500	(Possible)			NKK and Mitsubishi Corp carry out a study to build a 500 000 tpy billet plant at Cailan port in Quang Ninh province.	MB 16-Oct-97
	Cailan port, Quang Ninh			(500)	EF CC				
	<u>Billet plant project by SSC</u>				(Possible)			A feasibility to construct a 500 000 tpy billet plant started by Southern Steel Corp of Vietnam.	MB 16-Oct-97
				(500)	EF CC				
	<u>Integrated steel mill project</u>					S	2010	A study for the construction of an integrated steel mill has been undertaken since October 1996 by the Japan International Cooperation Agency (JICA), in conjunction with Vietnam Steel Copr (VSC) and the Japanese steel industry represented by Nippon Steel. The report of the study's findings is expected to be presented to the Vietnamese government by March 1998.	MB 16-Oct-97
	Muiron, Thach Khe/ Dung Quat, Danang			4500	(Possible)				
					BF x 2 (4500) LD x 3 CC				
					Hot				
<u>Posvina Co Ltd</u>						S/P		Posco plans to pull out from Posvina, a 50/50 joint venture with Vietnam Steel Corp (VSC), as part of Posco's restructuring efforts.	AMM 10-Apr-98
	Ho Chi Minh								
		(50)	HGL						

Country : **VIETNAM (2)**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
VSC, China Steel Corp and Sheng Yu									
Ho Chi Minh				(Possible)			2000	China Steel Corporation (CSC), Sheng Yu Steel of Chinese Taipei and Vietnam Steel Corp. signed a memorandum of understanding to form a joint venture to build a 210 000 tpy CR mill in Vietnam.	MB 16-Oct-97 AMM 17-Sep-97
				(220)	Cold				

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Country : **OTHERS**

Unit : million tonnes per year

<u>Company</u>	<u>Plant or project</u>	<u>Existing Capacity</u>	<u>Existing Equipment</u>	<u>Increase capacity</u>	<u>Additional Equipment</u>	<u>Owner ship</u>	<u>Start-up date</u>	<u>Comments</u>	<u>Sources</u>
<b>SINGAPORE</b>									
<u>NatSteel Ltd</u>	Jurong	600						A new 80t DC arc furnace replaced three existing EAFs in 1997.	MB 04-Sep-97
			(600) EF						
			(650) CC						
			(600) STR x 2						
			(350) WR						