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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 13-14 November 1997 meeting.

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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 two yearly report (DSTI/SI/SC(96)21).

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 about 73.5 million tpy in the non-OECD market economies, most of which will come on stream in Southeast Asia. Little change is foreseen in central and eastern European economies and in the NIS, where most projects are modernisation projects with little increase in crude steelmaking capacity, but with an improvement in the yield and quality of finished products. In China, with the orientation been given primarily to the quality of the products, rather than the quantity, steelmaking capacity in the year 2000 should be around 120 million tpy.

ACTION

The document is for consideration at the Committee's meeting on 13-14 November 1997.

MAJOR DEVELOPMENTS IN STEELMAKING CAPACITY IN THE NON-OECD AREA

I. INTRODUCTION

1. At its 50th meeting, the Committee considered and approved the two-yearly report on developments in steelmaking capacity in non-OECD countries (DSTI/SI/SC(96)21).

2. This document, which presents all changes that have occurred since the preparation of the previous report, consists of four parts: an introduction; a summary report on developments of major steelmaking projects in the non-OECD market economy area (Part II); a report on steel industry developments in central and eastern European economies (Part III); and a report on the developments in China and other non market economies (Part IV). Details are presented in the attached tables.

3. In Part II of the report, 21 projects have been identified as major steelmaking projects with a planned capacity increase of 500 000 tonnes per year or more. Six smaller projects, including two specialty steel projects, are also included, as is information on the installation of additional rolling mills or equipment.

4. In Part III, very few changes are taking place in the central and eastern European countries (including the NIS), and only some modernisation programmes are reported. Five major projects and smaller one are reported for China, and two major projects are reported for Vietnam in Part IV.

5. 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 STEELMAKING CAPACITY IN THE NON-OECD MARKET ECONOMY AREA

6. The main features of steelmaking capacity developments in the non-OECD market economy area since the preparation of the two-yearly report in October 1996 are given below :

- **Latin America :** Restructuring continues in the Latin American steel industry, and investment has restarted. In Brazil, the Gerdau Group, Brazil's largest long-products steelmaker, has merged all of its steel mills into one company to simplify its shareholding structure. In the field of investment, Açominas and CST are planning the installation of additional blast furnaces of a capacity of 1.2m tpy each. Cosipa is installing additional continuous casters and by 1999, 100 per cent of its production will be continuously cast. Acesita is installing an additional 140 000 tpy stainless steel capacity. In Argentina, most

of the expansion is in rolling capacity, as it is in Chile and Colombia. In Trinidad and Tobago and in Venezuela, two major DRI plants will be built, mainly for export .

-- **Africa** : South Africa plans to become a major player on the stainless steel market in the next three years. Iscor is finishing the construction of its new plant at Saldana Bay, and the additional 1.3m tpy in steelmaking capacity are expected to come on stream by the end of 1997. In Morocco, Sonasid is planning a new 600,000 tpy steel plant for the year 2000. In Mozambique, U.S. Enron Corp. and South African IDC have reached an agreement to build a 3.5m tpy steel plant with start-up scheduled for the year 2001.

-- **Middle East :** in the Middle east area, in order to be able to meet a rapidly growing demand, steelmaking capacity is increasing more rapidly than in past years. In Iran, intensive state support for the steelmaking sector, which is at present entirely nationalised, has already held out the prospect of achieving a total capacity of 11m tpy of finished products by the year 2000. In support of this goal, NISCO is building some 2.5m tpy of additional capacity on two sites. In Egypt, while a new project for a 600,000 tpy steelplant is now underway, several smaller projects for mini-mills have received the go-ahead from the government. In Saudi Arabia, Hadeed is expanding its capacity by a further 850,000 tpy, while in Kuwait, the first rolling mill in the country is under construction.

-- **Southeast Asia** : This is the area where more steelmaking projects are underway and will continue to be developed during the next few years.

  -- In **India**, while many new projects are under consideration, the Indian metals trading company MMTC will begin producing steel with a 1.1m tpy steel plant in Daitari (Orissa district). The Secretariat has revised the figures for India since the publication of the last two-yearly report. The Indian steelmaking capacity installed at the end of 1996 should be 29.8m tpy instead of 28.3m tpy, and the total increase planned between 1997 and 2000 is now 28.6m tpy instead of 28.4m tpy. As a result, Indian steelmaking capacity in the year 2000 should be around 58.5m tpy, or 1.8m tpy over the level we published last year.

  -- In **Chinese Taipei**, CSC has completed its fourth expansion plan and its Kaoshiung steel plant has now reached a capacity of 8.05m tpy. The Yieh Loong Group has signed a contract with IHI of Japan for the supply of three blast furnaces, with a total capacity of 7.5m tpy, for its new plant in Taiwan.

  -- In the rest of the area, steelmaking capacity increases to the year 2000 should reach some 16.4m tpy. In Indonesia, several rolling mills are being built as a result of joint ventures with Indian, Japanese or Korean companies. In addition, the Gunawan group is planning the construction of two integrated steel plants, both with steelmaking capacity of 2.5m tpy. Several other projects are underway for the construction of mini mills. In Malaysia, some of the projects mentioned in the previous report have been dropped. However, steelmaking capacity for the country should increase by 6.1m tpy between now and 2000.

III. STEEL INDUSTRY DEVELOPMENTS IN CENTRAL AND EASTERN EUROPEAN COUNTRIES AND THE NIS.

Central and Eastern European countries

7. The Czech Republic, Hungary and Poland are now Members of the OECD and will not appear any longer in this report. This area now only includes Albania, Bulgaria, Romania and the Slovak Republic.

8. In Romania, modernisation is taking place at two steel plants. CSR Resita is transforming itself into an EAF-based plant with a capacity of 530,000 tpy, and the modernisation of the plant is expected to be completed by the end of the year. Siderca SA is revamping its Calarasi plant with new EAF furnaces and new continuous casters.

New Independent States

9. For the total of the NIS, crude steel production during the first eight months of 1997 was 3 per cent higher than during the same period of 1996. Steel production declined slightly, by 1.9 per cent in Russia, but increased by 12.2 per cent in Ukraine and by 11 per cent in Kazakhstan. Domestic steel markets started recovering in 1997 in Russia and Ukraine, but these two countries still remain major steel exporters due to growing demand for semi-finished products world-wide and due to the important need to export to earn hard currency.

10. While the Russian Ministry of the Economy has approved the new plan for restructuring the iron and steel industry in the period to 2005, very little change in production capacity have been noted during the last twelve months.

11. In Ukraine, some modernisation is taking place. DMK is financing its own modernisation. The steel plant has been profitable since 1991 and these profits have been invested in the fund for the modernisation programme. The Donetsk Iron and Steel Works (DMZ) is installing a new EAF shop and should then be able to close down the remaining of the open hearth furnaces. In Belarus, the Zhlobin Metallurgical Works started modernisation of all of its installations.

IV. STEEL INDUSTRY DEVELOPMENTS IN CHINA AND OTHER NON MARKET ECONOMIES

12. The Secretariat has revised the data on Chinese steelmaking capacity reported last year. Crude steelmaking capacity in 1996 should be 108.2m tpy instead of 103.5m tpy. However, the Chinese government announced in its ninth five-year development plan that the emphasis would be put on improving the quality and the range of products produced rather than continuing developing capacity. The revised figure for Chinese steelmaking capacity in the year 2000 has now been revised downwards and should be 120.1m tpy, 13m tpy less than what was reported last year.

13. Information on five major projects and smaller one which are firm are reported in the tables. In Shanghai, the Baoshan Group's third phase expansion is in progress and the capacity increase should be about 3m tpy. Guangzhou Zhujiang Steel is building a new EAF based steel plant with a capacity of 820m tpy. Handan Iron and Steel General Works is one of the first Chinese steelmakers to install thin slab casting. Krupp Thyssen Nirosta and Shanghai Pudong Iron and Steel group are building a 500,000 tpy stainless steel plant in Shanghai. Finally, China is to go ahead with the 1.6m tpy Ningbo project.

14. In Vietnam, the government finalised plans to build a 4.5m tpy integrated steel plant in Thach Khe in northern Vietnam. Several other joint venture projects are under study and are reported as possible projects in the tables.

EXPLANATORY NOTES

1. Abbreviations used for equipment are:

BF	Blast furnace, of which:
	-- charcoal
	-- coke-based
	-- mini
	Smelting reduction plant
OH	Open hearth furnace
LD	LD Basic oxygen furnace
OBM	Oxygen Baden Maxhütte
LWS	Loire - Wendel - Sprunk
AOD	Argon Oxygen Decarburisation Unit
EOF	Energy Optimising Furnace
BS	Basic Bessemer Converter
EF	Electric arc furnace
ERP	Electric reduction pig iron furnace
UHP	Ultra high power furnace
DR	Direct reduction unit, of which:
	-- Codir
	-- Corex
	-- HYL
	-- HYL III
	-- Krupp
	-- Midrex
	-- Plasma
	-- SLRN
CC	Continuous casting machine
TSC	Thin Slab Caster
BTM	Billet mill
SLM	Slabbing mill
BLM	Blooming mill
Hot	Hot strip mill
Cold	Cold strip mill
Plate	Plate mill
WR	Wire rod mill
STR	Bar, section, shape, beam or angle mill
SMLS	Seamless tube mill
EGL	Electro-galvanising line
HGL	Hot dip galvanising line
ERW	Electric-resistance welded pipemill
CAPL	Continuous annealing and pickling line
EQF	Equalising furnace
HBI (HYL)	Hot briquetted iron
MSC	Medium thickness slab caster
Tin plate	Tin plate

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 beginning 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 1996. Earlier sources were given in the previous two-yearly report. 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
MJ	Mining Journal
FT	Financial Times
SA	Steels Alert
ST	Steel Times
TK	Tekkokaiho/tekkokai (published by the Japan Iron and Steel Federation)
TS	Tekkoshimbun (published in Japan)
SEAISI	South East Asia Iron and Steel Institute Newsletter
MPTI	Metallurgical Plant and Technology International
IHT	International Herald Tribune
ISWW	Iron and Steel Works of the World (published by Metal Bulletin Books)
ATN	Asia Times News
NET	Internet
NKS	Nikkan Kogyo Shimbun (published in Japan)
NS	Nikkei Shimbun (Nihon Keizai Shimbun)
NW	Nikkei Weekly
SS	Sangyo Shimbun (published in Japan)

Country : **BRAZIL**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
ACESITA (Cia Aços Especiais Itabira):					P			
			140	(Firm)		Dec 1997	Acesita is near the end of a $500m project to upgrade and expand its stainless production. By december 1997, the company will have 300,000 tpy of stainless sheet making capacity. Acesita will transfer all production of 300 series stainless hot rolled coils to the new hot strip mill planned by CST and will concentrate on other grades, including 400 series ferritic stainless and silicon electrical steel.	MB 06-Mar-97
	(160)		(140)					
ACOMINAS (Aço Minas Gerais SA):					P			
Ouro Branco	2700		1200	(Possible)			Açominas expansion plan would cost some $300-500m, and includes the installation of continuous billet and bloom casting, installation of coal fines injection at the existing blast furnace, and the construction of a second 1.2m tpy blast furnace. The project aims to raise the company's crude steel capacity from 2.5m tpy to 3.7m tpy. The company would continue to produce slabs, billets and blooms and there are no plans to move downstream into rolled products.	MB 05-Jun-97
		BF	(1200)	BF				
		LD x 2		CC				
		TSC		SLM				
		BLM		BLM				
		SLM		BTM				
		BTM						
		Hot						
COSIPA (Cia Siderurgica Paulista):					P			
Cubatao	4000			(Firm)		1999	Cosipa, Brazil's third-largest flat-rolled producer, has approved a $200m investment to install a 1.2m tpy continuous slab caster by 1999. By 1999, all the flat-rolled output will be continuously cast. The new continuous caster will improve product quality and reduce costs by $20 to $30 per tonne of slabs.	AMM 04-Apr-97
		BF x 2	(1200)	CC				
		LD x 6						
		SLM						
		CC x 3						
		Plate						
		Hot						

Country : **BRAZIL (2)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
CST (Cia Siderurgica Tubarâo):					P			
Jardim Limoeiro - Vitoria	3600		1200	(Firm)		1998	CST, Brazil's largest slab producer, has approved plans to install a $290m 1.2m tpy blast furnace by late 1998. In addition, CST plans to install a $170m 2.5m tpy continuous slab caster. CST has moved nearer to its planned entry into downstream markets by issuing an invitation to plantmakers to bid for supply of a hot strip mill to roll 2m tpy of carbon steel and 200,000 tpy of series 300 stainless steel. CST plans to start up the mill in the second half of 2000, in response to growing demand for flat rolled steel products in the Brazilian domestic market. Installation of the mill will also mark the completion of a $1.6bn investment programme that has been underway since its privatisation in 1992.	AMM 08-Mar-96 MB 19-Jun-97
	(200)							
		BF	(1200)	BF				
		LD x 2		TSC				
		CC x 2	(2000)	Hot				
		SLM						
USIMINAS (Usinas Siderurgicas de Minas Gerais):					P			
Ipatinga	4550			(Firm)		1999	Nippon Steel and Mitsui & Co have been awarded the contract to supply a 600,000 tpy continuous annealing and pickling line to Usiminas. The contract is part of the Brazilian steelmaker's CR expansion project to meet rising demand for flat rolled products from the country's auto sector. Usiminas has approved a $262m investment to install a 400,000 tpy galvanizing line which will boost galvanized steel output to 760,000 tpy from the current 360,000 tpy by 1999.	MB 23-Jun-97 AMM 07-Apr-97
		BF x 3		CAPL				
		LD x 5	(400)	EGL				
		CC x 3						
		TSC x 2						
		SLM						
		Plate						
		(400) Hot						

Country : **ARGENTINA**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
ACINDAR (Industria Argentina de Aceros SA):					P			
Villa Constitucion	1120		150	(Firm)		1998	Argentina's principal producer of long products plans to boost its crude steel production from current level of around 1.05m tpy to some 1.2m tpy within three years to help meet growing domestic demand. Acindar will raise its capacity from 1.1 to 1.2m tpy of crude steel via modifications in the DRI and CC plants. The Midrex DRI plant will be expanded by 150,000 tpy by July 1997, and in the first quarter of 1998the continuous casterwill be modified to a capacity of 1.2m tpy. Acindar also aims to increase productivity in the wire plant and introduce greater variety in bar production.	MB 26-May-97
		DR (MIDREX)	(150)	DR (MIDREX)				
		EF x 3	(100)	CC				
		CC x 3						
		WR						
		STR						
Comesi (Comesi Saci):					P			
Buenos Aires				(Firm)		1999	Siderar has bought up Comesi for $65mComesi is Argentina's biggest galvanizing company.	MB 17-Apr-97
	(170)	EGL x 2						

Country : **ARGENTINA (2)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
SIDERAR ACEROS PARANA ex-SOMISA (Sociedad					P			
San Nicolas	3950			(Possible)		2001	Siderar, a unit of Italy's Techint, is moving along plans for a $1bn expansion which could double the company's flat rolled steel capacity to 4m tpy over the next few years. The increased capacity is needed to meet growing demand for flat rolled stell.	AMM 29-Jul-97
		BF x 2	(2300)	Hot				
		OH x 5						
		LD x 3						
		CC x 3						
		BLM						
		BTM						
		STR						
	(1700)	Hot						
		Cold						
		SLM						

Country : **VENEZUELA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Posven (Posco Venezuela):					P		Posco+Hyundai+Dongbu Steel	
Punta Cuchillo			1500	(Possible)			Posco and two other Korean steel companies, 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. Posco, which will hold 60% of the new Posven company, intends to take 1.05m tpy of the plant's output to feed a 2m tpy electric furnace/thin slab casting plant now under construction at its Kwangyang works.	MB 27-Jan-97
			(750)	DR (HYL III) x 2				
SIDOR (CVG Siderurgica del Orinoco CA):					P			
Matanzas	5400			(Firm)			Sidor's seamless pipe plant is to be privatised. On offer is a complete seamless pipe plant, comprising a 150 tonne furnace, rounds caster, pipe mill of 300,000 tpy capacity and finishing plant of 200,000 tpy, along with a separate mill of 60,000 tpy.	MB 19-May-97
		DR (MIDREX) x 4						
		DR (HYL) x 4						
		OH x 4						
		EF x 10						
		CC x 6						
		BLM						
		STR x 4						
	(1000)	Hot						
		Cold x 2						
		SMLS x 3						
	(250)	Plate						
		SLM						

Country : **CHILE**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
CSH (Cia Siderurgica Huachipato):					P			
Huachipato	1300			(Firm)			CSH plans to install a 1m tpy billet caster to allow it to increase long products output for the growing domestic market. The installation of a 5 or 6 strand caster to make 150mm billets should help CSH to achieve a 96% product yeld rate from its crude steel output.	MB 14-Apr-97
		BF x 2	(1000)	BTM				
		LD x 2						
		EF						
		CC						
		BLM						
		Hot						
		Plate						
		Cold						
		SLM						

Country : **COLOMBIA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Acesco (Acerias de Colombia SA):					P			
Baranquilla				(Firm)		1997	Colombian galvanizing company Acerias de Colombia SA (Acesco) is in the final stage of installing a 280,000 tpy CR millin order to serve potential growth in the Colombian market. At present Colombia imports all its CR steel from Venezuela, and the local market consumes arount 450,000tpy. The new $40m installation, supplied by Kvaerner Davy's Spanish subsidiary Cosim, includes a pickling line, single stand reversing mill, annealing facilities and cut to length lines. In a second phase it may be possible to expand the installation up to a capacity of 600,000 tpy.	MB 02-Dec-96
	(80)	HGL	(70)	HGL				
			(2800)	Cold				

Country : **OTHERS**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
TRINIDAD TOBAGO								
Ispat International					P			
Point Lisas				(Firm)		1998	Plans to construct a 1.36m tpy DRI plant in Trinidad and Tobago were announced by ISPAT International Ltd and Midrex. Cost estimates range from $243m to $ 250m. The plant is scheduled for completion and start-up in September 1998.	AMM 09-Jan-97
			(1360)	DR (MIDREX)				

Country : **SOUTH AFRICA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Columbus Stainless (joint venture):					P			
Middelburg							Gencor's fission into a London-based metal company, Biliton plc, and Gencor Ltd, on July 1 will change the ultimate structure of Columbus Stainless and open the gate for indirect foreign investment. Biliton is fully committed to going forward with the Columbus project wher full production and break-even are expected in 1999. The company intends to be amongst the world's top ten stainless steel producers by the turn of the century.	MB 23-Jun-97
	(600)	EF CC SLM Cold						
DUFERCO STEEL PROCESSING Ltd.					P		Joint venture	
Saldanha Bay				(Firm)		1999	The Duferco/Industrial development Corp (IDC) joint venture is forging ahead with its plan to build a cold rolled strip plant adjacent to the Iscor/IDC 1.25m tpy hoy coil plant at Saldanha Bay and has ordered a $131m cold mill complex from the UK subsidiary of VAI. Duferco and IDC have set up a new company Duferco Steel Processing Ltd. to manage the plant.	MB 30-Jun-97
			(610)	Cold				
ISCOR (South Africa Iron & Steel Industrial Corp.):					P			
Pretoria	750			(Possible)			ISCOR may mothball its Pretoria plant, South Africa's oldest steelwork and the site of the world's first Corex iron making unit. Should that option be taken, both the Corex plant and the 850,000 tpy slab making facility will be affected. About 200 of the 1,400 employees will be kept for maintenance work.	MB 10-Jul-97
		SRP BF x 2 EF x 4 WR						

Country : **SOUTH AFRICA (2)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Saldana Bay			1300	(Firm)		1997	Mannesmann-Demag has been awarded the contract for the construction of the entire plant which will go into operation at the end of 1997. Iscor and IDC plan to double the output to 2.5m tpy by 2 000.	ST 01-Feb-96 MB 18-Nov-96
				DR (Corex)				
				CC				
				TSC				
				Hot				
Scaw Metals Ltd					P			
Germiston	500			(Firm)		1997	Scaw Metals has commissioned a new 75MW electric arc furnace and 150,000 tpy direct reduced iron kiln at its Germiston works.	MB 23-Jan-97
		DR x 3						
		EF x 6						
		CC x 3						
		WR						
		STR						

Country : **NIGERIA**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
NSDA (Nigerian Steel Development Authority):					S			
Warri (Aladia) (Delta Steel)	1000	DR (MIDREX) EF x 4 CC x 3					The Nigerian government has revived its previous plans to lease mills in its largely inactive steel sector, and has been negociating with a Chinese delegation with a view to restoringh viability to the idled Delta steel plant at Warri. The mill needs $50m repair to restore production to a level of 35% of its 1m tpy capacity.	MB 05-Jun-97

Country : **ZIMBABWE**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
ZISCO (Zimbabwe Iron & Steel Co.):					S/P			
Redcliff	1000			(Firm)		1996	Privatisation of the mill should be completed by January 1999. Ziscosteel has secured a partner willing to finance 75% of the estimated $200m needed to revamp the company. The revamp costs are separate from the $50m N°4 blast furnace rehabilitation, which is being undertaken by China's Shougang International, which could see production rise to close to 1m tpyfrom its present output of under 250,000 tpy.	MB 26-Jun-97
		BF x 4		LD				
		LD x 2						
		CC						
		BTM						
		STR						

Country : **OTHERS**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
MOROCCO								
SONASID (Sté Nationale de Sidérurgie):					S/P			
Nador			600	(Firm)		2000	Moroccan wire rod producer plans to build a 600,000 tpy melting shop to supply its rolling mills. The company will provide 75% of the estimated $80m investment itself. This revised project will see the erection of an EAF and continuous caster to supply the rod mill which will also be boosted from the current 420,000tpy to 600,000 tpy.	MB 06-Feb-97
	(420)	STR	(600)	EF				
		WR		CC				
			(180)	WR				
MOZAMBIQUE								
ENE (Enron Corp.):					P		Enron Corp (USA) and IDC (South Africa)	
Maputo			3500	(Possible)		2001	U.S. Enron Corp (ENE) and South African state-owned Industrial Development Corp. (IDC) have broadened thei cooperation agreement and the goal now is to make steel. The new larger project envisages production of between 3 and 3.4 million tonnes of steel slabs annually. Site preparations and construction on the Maputo Steel Project will commence in July 1998, with start-up scheduled for January 2001. The combined investment for the integrated project of nearly US $ 1.6 billion will be one of the largest in Africa and will make Mozambique a world leader in the production of steel slabs.	NET 29-Aug-97

Country : **OTHERS (2)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
ZAMBIA								
Art (Art Engineering):					P			
Ndola			20	(Firm) STR		1998	A joint venture between Zambia's Art Engineering and Mombasa-based Kenya United Steel Co (Kusco) will provide this central African country with its first steel plant in the next few months. Trials on the 20,000 tpy re-rolling mill are expected to commence in July with the production range consisting of a variety of small sections. Billet supply will probably come from Ziscosteel. The joint venture plans eventually to add a melting shop to take advantage of scrap generated by the mining activities in the area.	MB 29-Jul-97

Country : **IRAN**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
National Iranian Steel Corp. (Khouzestan Steel Co):					S		Subsidiary of National Iranian Steel Co in Ahwaz	
Ahwaz (Subsidiary of NISCO in Ahwaz)	350		150	(Firm)		1998	Two of the four electric arc furnaces have been demolished and, under a contract with fuchs of Germany, a new 60-tonne EAF with a ladle furnace and billet caster is to be commissioned in early 1998. This site's capacity will then rise to 500,000 tpy.	MB 26-May-97
		EF x 2		EF				
		CC x 2		CC				
		WR						
		STR						
Ahwaz	1700		2300	(Firm)		2001	The capacity of four of the six existing 180-tonne EAF is being raised by increasing the transformer capacity from 78 120 MVA. Total capacity should rise from 1.7m to 4m tpy. An eighth DRI module is to be commissioned early in 1998.	MB 26-May-97
	(1800)	DR (MIDREX) x 3		LD x 2				
		DR (HYL) x 3		CC x 2				
		EF x 6	(700)	DR				
		CC x 3	(550)	STR				
		STR						

Country : **SAUDI ARABIA**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
HADEED (Saudi Iron & Steel Co):					S/P			
Al-Jubail	2450		850	(Firm)		1999	Saudi Iron and Steel Co.(Haded) has signed a $1.26bn bank loan to finance expansion. Most of the loan will be used to finance the flat rolled steel project, construction of which has already begun. The remainder will be used to finance the construction of a new DRI plant that will supply raw material for the steel plant.	AMM 08-Jan-97
		DR (MIDREX) x 4		EF				
		EF x 2		CC				
		CC x 3	(800)	Hot				
		STR	(400)	Cold				
		WR						
		Hot						

Country : **OTHERS**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
KUWAIT								
United Industrial Steel Co					P		NISCO+Kuwaiti investors	
Kuwait City				(Firm)		1999	A joint venture between Iran and Kuwait to install a 300,000 tpy rebar rolling mill in the Gulf state. The $70m project is 49% owned by NISCO and 51% by Kuwaiti private investors.	MB 15-May-97
			(300)	STR				

Country : **INDIA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Apeejay-Surrendra Group					S/P			
Durgapur			600	(Possible)			Culcutta-based Apeejay Surrendra Group set up a joint venture with Japanese trading house Marubeni in mid-1996 to produce 150 000 tpy pig iron, 312 500 tpy of billet for sale, and 300,000 tpy of wire rod.	MB 06-Mar-97
Bhushan Steel & Strips					P			
Delhi							The new Hitachi CR mill with the capacity of 360 000 tpy started up on 15 August 97. The compary already has a CR mill and hot-dip galvanizing lines in opération.	MB 04-Sep-97
		EF STR						
	(480)	Cold x 2						
		HGL x 2						
Maharashtra				(Possible)			The company is proposing to build a new integrated plant, with an initial capacity of 500 000 tpy.	MB 06-Mar-97
Essar Group					P			
Hazira Gujarat	2000			(Possible)			The company is looking at the installation of one or two BFs in the next phase of expansion. There has been no decision on the number and size of the furnace.	MB 14-Apr-97
	(1240)	DR (MIDREX) x 3		BF				
	(2000)	EF x 3						
		CC x 2						
	(2000)	Hot						

Country : **INDIA (2)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Neelachal Ispat Nigam Ltd (MMTC Group):					P			
Daitari			1000	(Firm)		2000	The Indian metals trading company MMTC plans to enter the steel production through Neelachal Ispat Nigam Ltd. (NINL), which operates the new integreted steel plant where a 1 920 cu meter 1.1 m tpy blast furnace is to be constructed.	MB 02-Dec-96
(Orissa)			(1100)	BF				
				LD x 2				
				CC				
			(320)	WR				
SAIL (Steel Authority of India Limited):					S			
Bokaro	4000							
		(4585) BF x 5						
		(4000) LD x 7						
		(3449) SLM						
		(3363) Hot						
		(100) Cold x 2						
		(170) HGL						

Country : **CHINESE TAIPEI**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
China Steel Corp.					S/P			
Kaohsiung	8050			(Firm)			CSC started commissioning 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 CSC's steelmaking capacity by 2.4m tpy to the total of 8.05m tpy.	MB 28-Nov-96 AMM 12-Nov-96
	(7790)	BF x 4						
	(8050)	LD x 6						
		CC x 9						
	(900)	BLM						
	(480)	WR						
	(650)	STR x 2						
	(600)	Plate						
	(3451)	Hot						
	(952)	Cold x 2						
	(200)	EGL						
Yieh Lien Steel Ltd. (Yieh Loong Group):					P			
				(Possible)		1998	Yieh Lien, a subsidiary of Yieh Loong Corp., plans to build a stainless plate production line with an annual capacity of 50 000 tonnes.	AMM 11-Jun-97
			(50)	Plate				
Yieh Loong Co. Ltd.					P			
Kaohshiung								
	(163)	ERW						

Country : **CHINESE TAIPEI (2)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Yieh Loong Group					P			
Tainan			7532	(Firm)		2001	A contract has been signed with IHI of Japan for the supply of three blast furnaces, each with an inner volume of 3 800 cu meters, for a total capacity of 7.5m tpy. Construction is expected to begin this year and the No.1 blast furnace will be blown-in in November 2001, and No.2 in 2002, No.3 in 2003, respectively.	MB 25-Nov-96
			(7178)	BF x 3				
			(7532)	LD x 5				
				CC				
			(1200)	WR				
			(750)	STR				
			(800)	Plate				
Yieh United Steel (Yieh Long Group):					P			
Kaohsiung				(Firm)		1997	The third CR mill, supplied by France's DMS, with the capacity of 75 000tpy (stainless), will start hot trials in September or October of 1997.	MB 02-Jun-97
	(160)	Cold x 2	(75)	Cold				

Country : **INDONESIA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Essar Dhananjaya					P			
Jakarta				(Possible)			Essar Dhananjaya is a joint venture company set up by Essar Group of India and Garama Group of Indonesia.	ATN 13-Mar-97
			(200)	Cold				
Gunawan Group					P			
Surabaya				(Possible)		1999 & 2000	Aside from its two integrated steel mill projests organized by Baja Inti Manunggal, the Gunawan group is also planning to build a 220 000 tpy CR mill, along with galvanizing and coil coating lines each of 60 000 tpy at Surabaya.	MB 15-Sep-97
			(200)	Cold				
			(60)	HGL				
KS Posco					S/P			
Cilegon				(Firm)		1998	KS Posco is a joint venture company set up by PT Krakatau Steel and Posco. The construction is planned at Krakatau's existing site at Cilegon. Second phase expansion to double the capacity to 2m tpy by 1999 or 2000 is also considered.	MB 08-Jul-97
			(1000)	Hot				

Country : **INDONESIA (2)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
PT Baja Inti Manunggal (Gunawan Group):					P			
Batan Island			2500	(Possible)		1999-2008	The Gunawan Group of Indonesia announced its intention to build two new integrated steel plants from 1999 to 2008, both with steelmaking capacity of 2.5m tpy. PT Baja Inti Manunggal will handle both project.	MB 15-Sep-97
			(2000)	BF				
			(2000)	LD				
			(500)	EF				
				CC				
			(1200)	Hot				
			(500)	Cold				
			(800)	Plate				
			(300)	STR				
Gresik, East Java			2500	(Possible)		1999-2008	The Gresik plant, first of the two to be operational, will be producing slabs, blooms and coils by 2000.	MB 15-Sep-97
			(2000)	BF				
			(2000)	LD				
			(500)	EF				
				CC				
			(1200)	Hot				
			(1000)	Cold				
			(500)	STR				
			(100)	Tin Plate				
			(100)	EGL				
PT Gunawan Dian Steel Pipe (Gunawan Group):					P			
Surabaya				(Firm)		1998	Commercial production of UOE pipes at the company's 300 000 tpy mill will begin in the second quarter of 1998.	MB 15-Sep-97
			(300)	ERW				

Country : **INDONESIA (3)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
PT Jakarta Kyoei Steel Works					P			
Jakarta Selatan							PT Jakarta Kyoei Steel began operations in 1974 as a joint venture company with Kyoei Steel of Japan. Kyoei relinquished its share in 1980s and the mill has since been fully Indonesian-owned.	
	(120)	STR						
Serang			360	(Firm)		1999	PT Jakarta Kyoei Steel constructs a new mini mill to produce structural sections. The machinery has already arrived from Japan.	MB 26-May-97
			(360)	EF				
			(360)	STR				
PT Krakatau Steel					S			
Cilegon	2400			(Possible)			The upgrading of the existing hot strip mill will increase its capacity from current 2m tpy to 2.5m tpy, which is to be completed by 1999.	MB 08-Jul-97
	(2300)	DR (HYL) x 4						
	(2400)	EF x 10						
		CC x 8						
	(240)	WR						
	(2000)	Hot						
	(850)	Cold						
PT Latinusa					P			
Cilegon				(Possible)			PT Latinusa is planning to add a socond tinplate line to double its capacity.	MB 19-May-97
	(130)	Tin Plate	(130)	Tin Plate				

Country : **INDONESIA (4)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
PT Maspion Stainless Steel Indonesia					P			
Surabaya				(Firm)		1997	PT Maspion Stainless Steel Indonesia (MSSI) is a JV between PT Alumindo Light Metal Industry, which is a part of Maspion Group (Indonesia), Kanematsu, Sumitomo Metal Industries and Nippon Yakin Kogyo (Japan).	MB 27-Jan-97 AMM 11-Feb-97
			(50)	Cold				
PT Perkasa Stainless Steel					P			
Cikarang				(Firm)		1999	Posco and Indonesia's PT Metro Group agreed on June 16 to construct a 75 000 tpy stainless CR mill. The capacity is scheduled to rise to 130 000 tpy in a second phase by 2003. The plant is built and managed by PT Posnesia Stainless Steel Industry.	MB 19-Jun-97
			(75)	Cold				

Country : **PHILIPPINES**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Bacnotan Steel Industries Inc.					P			
Calaca			320	(Firm)		1999	Bacnotan Steel Industries Inc., a joint venture company established by Bacnotan Gr., Kawasaki Steel Corp.,etc., builds an electric-arc-furnace-based reinforcing bar mill with the capacity of 320,000 tpy.	AMM 17-Sep-96
			(320)	EF				MB 16-Sep-96
			(320)	CC				
			(320)	STR				
Core Steel Industries Ltd.					P			
Cagayan de Oro				(Firm)		1998	Core Steel, 33.3% owned by the Philippine's Primus Group and the balance by Singapore subsidiary of Japan's Itochu Corp., plans to build a 70 000 tpy CR mill. The Zensimir mill, the key component in the new CR plant, had been installed at Kawasaki Steel's Fukiai works since 1968 and will be moved to Core Steel which expects to start operation in 1998.	MB 22-May-97
								AMM 22-May-97
			(70)	Cold				
Jacinto Group					P			
Phividec, Villanueva			1250	(Firm)		2000	Jacinto Gr. signed a JV agreement in October 1996 with Danieli of Italy, which is coming as an investor, major contractor, process technology provider and equipment supplier for the first phase of the project. Phase one of the project will incrude an electric arc furnace, thin slab casting and a compact hot strip mill. The installing of a coal-based iron-making plant, cold rolling mill and CGL is planned as a second phase of the project.	MB 07-Jul-97
			(1250)	EF				
			(1250)	TSC				
			(1250)	Hot				
Milwaukee Industries Corp.					P			
Pampanga	250						Milwaukee Industries started its new electirc steelmaking plant in 1996.	
	(250)	EF						
	(250)	CC						

Country : **PHILIPPINES (2)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Philippine Steel Coating Corp.					P			
Balayan, Batangas				(Firm)		1997-1998	Construction began in July 1996 and the project, comprising a 300 000 tpy CR mill and three coating and processing lines, is due to come on stream in late 1997 or early 1998.	MB 13-Jan-97
			(300)	Cold				
			(240)	HGL				
Cabuyao, Laguna								
	(100)	HGL						
Puyat Steel Corp.					P			
Mandaluyoug								
	(100)	HGL						
Rosario, Batangas				(Firm)		1997	The 150 000 tpy continuous galvanizing line is due to start up in the second/ third quarter of 1997. The company has an existing 100 000 tpy hot-dip galvanizing operation at Mandaluyong.	MB 13-Jan-97
			(150)	HGL				
SteelAsia Manufacturing					P			
Meycauayan, Bulacan								
	(400)	STR						

Country : **PHILIPPINES (3)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources	
Smokey Mountain				(Firm)		1998	SteelAsia, a joint venture of Singapore's NatSteel and two Filipino partners, plans to build a second rolling mill with the capacity of 500 000 tpy. SteelAsia has already contracted Danieli to supply the equipment.	AMM	05-Mar-97
								MB	20-Feb-97
			(500)	STR					

Country : **MALAYSIA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Amsteel Mills					P			
Klang, Selangor	750		750	(Firm)		1998	Amsteel has a new meltshop and combination mill under construction at a site of Selangor, which are due to start up in June 1998. The new facility will boost Amsteel's existing capacities to 1.5m tpy for billet and to 1.3m tpy for rolled products.	MB 10-Apr-97
		EF	(750)	EF				
		CC	(750)	CC				
		WR	(450)	STR				
		STR						
Labuan, Sabah				(Possible)			Amsteel Mill integrated Sabah Gas Industries as the company's HBI Oparation in 1992. It has a plan to add a 1m tpy DRI plant.	MB 12-Dec-94
	(660)	DR	(1000)	DR				
Antara Steel Mills					P			
Jalan Panda	500			(Firm)		1995	Antara Steel is in the process of installing a medium section rolling mill for commissioning in spring 1995.	
	(500)	EF	(250)	STR				
	(130)	STR x 3						
Dah Yung Steel (M) Sdn Bhd					P			
	40							
	(40)	EF						
	(50)	STR						

Country : **MALAYSIA (2)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Gunawan					P			
Kemanan			1350	(Firm)		1998	Gunawan relocates a used BF from Hoogovens (the Netherlands), which is under construction. Converter and CC are also used equipments of Voest Alpine (Austria). There is no plan to construct coke ovens, and all the cokes are to be imported.	SS 20-May-97
	(250)	Plate	(1350)	BF				
			(1350)	LD				
			(1350)	CC				
Ji Kang Dimensi Sdn Bhd					P			
Pahang				(Firm)			Ji Kang Dimensi rolls imported slabs. The company hopes to construct a steelmaking plant.	MB 17-Feb-97
	(350)	Plate						
Malaysia Steel Works					P			
Klang, Selangor			250	(Firm)		1997	The new meltshop is supplied by Danieli and now under construction.	MB 10-Apr-97
			(250)	EF				
Pataling Jaya, Selangor								MB 10-Apr-97
	(100)	STR						
Megasteel					P			
Selangor			2000	(Firm)		1998	Megasteel is Malaysia's first hot strip mill project, led by Amsteel/Lion Group.	MB 10-Oct-96
			(2000)	EF				
			(2000)	TSC				
			(2000)	Hot				

Country : **MALAYSIA (3)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Nusantara Steel Corp.					P			
Pulau Indah			1600	(Possible)		1999	Nusantara was awarded a federal licence to operate 1.6m tpy hot mill in 1991, however, the plan was long believed to have been cancelled afterwards, while the project by Amsteel/Lion Group emerged as most likely to be the first entrant to the production of flat products. Nusantara signed a memorandum of understanding with Jacinto Metals (the Philippines) to set up a 1.6m tpy DRI plant.	MB 10-Oct-96
			(1600)	EF				
			(1600)	Hot				
				Plate				
			(1600)	DR				
Perwaja Steel					S			
Gurun	760							
	(760)	EF x 2						
	(760)	CC						
	(450)	STR x 2						
Kemaman, Trengganu	700							
	(700)	EF x 3						
		CC						
	(1200)	DR (HYL III)						
Southern Steel Bhd					P			
Prai	500		500	(Firm)		1997	Southern Steel is building its second 500 000 tpy meltshop. It also added third rolling mill with the capacity of 300 000 tpy, which increased the total rolling capacity to 1m tpy.	MB 10-Apr-97
	(500)	EF	(500)	EF				
	(500)	CC	(300)	STR				
	(700)	STR x 2						

Country : **THAILAND**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Bangkok Steel Industry					P			
Nakorurachasima				(Firm)		1997	Construction of this new 500 000 tpy rolling mill began in August 95.	ST 01-Jan-97 MB 26-Feb-96
			(500)	STR				
			(60)	HGL				
LPN Plate Mill Co.					P			
Samutprakarn				(Possible)			LPN started the operation of a plate mill in 1994. The company awarded contracts to US plantmaker Tippens for hot and cold strip mills which form the company's third phase of development.	MB 06-Jul-96
	(400)	Plate	(1200)	Hot				
			(900)	Cold				
NTS Group (Nakorn Thailand Steel):					P			
Bowin	400							
	(400)	EF						
	(400)	CC						
	(300)	WR						
Sahaviriya Plate Mill (SPM):					P			
Bangpakong							SPM is 75% owned by Sahaviriya Group and 25% by Hong Kong investors. The company began oparation of a plate mill in 1996, the second in Thailand following LPN Plate Mill. The production in 1997 is planned to be 300 000 tonnes and the company plans to double its capacity in 1998.	MB 07-Apr-97
	(300)	Plate						

Country : **THAILAND (2)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Sahaviriya Steel Industries Public Co.					P			
Bangsaphan			(2400)	Hot			The Group started Thailand's first HR mill in 1994. It also operates CR mill and EGL at the same site, both through JV companies.	MB 17-Nov-94
Siam Integrated Cold Rolled Steel (Sisco):					P			
Rayong				(Possible)		1998	Siam Steel Pipe (SSP) Group, which is constructing HR minimill through its affiliate Siam Strip Mill Co.(SSM), is also installing a CR mill on the same site which is due to start up at the same time as the hot mill. Siam Integrated Cold Rolled Steel Public Co.(Sisco), a subsidiary of SSP, will be overseeing the CR mill operation.	MB 23-May-96
			(500)	Cold				
			(250)	HGL				
Siam Strip Mill Co.					P			
Rayong			1800	(Firm)		1998	Sumitomo Corp. and Mitsubishi Heavy Industries Ltd. have jointly won an order for an integrated hot-rolled steel-sheet production plant. The order involves the construction of an electric furnace as continuous slab-casting machine and a hot-rolling mill. Opeations will start in 1998 with an initial capacity of 1.8m tpy which will be raised to 3.2m tpy in the following years.	NW 11-Mar-96
			(1800)	EF				
			(1800)	MSC				
			(1800)	Hot				
Siam United Steel					P			
Mab Ta Phut, Rayong				(Firm)		1998	Siam United Steel is a Thai-Japan-Korea joint venture company, whose main shareholders inclede Siam Cement, TTP of Thailand, Nippon Steel, Kawasaki Steel, Sumitomo Metal, Mitsui Corp. of Japan and Posco of Korea. The company, established in 1995, is the second CR mill project in Thailand, following Thai Cold Rolled Steel Sheet, a joint venture between Sahaviriya Group of Thailand and NKK of Japan	TS 03-Oct-96 MB 16-Sep-96
			(1000)	Cold				

Country : **THAILAND (3)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Siam Yamato Steel Co.					P			
Rayong	600						Siam-Yamato is a 51/49 Thai-Japan joint venture. Shareholders include Siam Cement group of Thailand, Yamato Kogyo, Mitsui & Co., Sumitomo Corp. of Japan. The company is the first to produce wide-flange beams in Thailand.	
	(600)	EF						
	(600)	CC						
	(600)	STR						
Thai Coated Steel Sheet					P			
Bangsaphan				(Possible)			Thai Coated Steel Sheet is a joint venture company by Sahaviriya and NKK. It has a plan to increase its capacity to 180 000 tpy.	AMM 02-Jul-97
	(135)	EGL	(45)	EGL				
Thai Cold Rolled Steel Sheet Public Co.					P			
Bangsaphan							Thai Cold Rolled Steel Sheet is owned 30 percent by Japanese business interests and 70 percent by Thai partners. The main shareholders are NKK, Marubeni (Japan), and Sahaviriya Group (Thailand). It started operation in 1997, as the first CR mill in Thailand. Sahaviriya already operates HR mill amd Galvanizing line (through JV) at the same site.	AMM 02-Jul-97
	(1000)	Cold						
THAI Special Steel Industry (TSSI):					P			
Rayong			2150	(Firm)		1998	The project will include a blast furnace with a capacity of 2.75m tpy, a basic oxygen furnace and a caster with 2.15m tpy of bilet capacity. Until the new steel mill is in production, the rod mill is to be supplied with imported billet.	AMM 14-Apr-97
	(500)	WR	(2750)	BF				
			(2150)	LD				
				CC				

Country : **THAILAND (4)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
VSST (Siam Steel Pipe (SSP) Group):					P			
			600	(Possible)			VSST has signed a letter of intent for a heavy section mini-mill with the capacity of 600 000 tpy.	AMM 20-May-97
			(600)	EF				
				CC				
			(600)	STR				

Country : **UKRAINE**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Dneprovsky Iron and Steel Works (DMK) (former Dzerzhinsky								
Dneprodzerzhinsk	4000						DMK is slowly but surely financing its own modernisation in the absence of investors. DMK currently operates 5 BF, 3 OH and two converters. It produces billets, rounds, rails, sheet piles, channels, beams, etc. The mill's crude steel capacity is 4m tpy. DMK has been running at a profit since 1991, and profits have been invested in the fund for the modernisation programme. The first major steps are the addition of another converter, the addition of a third continuous caster and the closure of the open hearth furnaces. The total cost for this work will be $100m, but further modernisation of the rail mill, heavy and medium section mills, axle mill and ball-rolling mills will bring the figure up $290m.	MB 26-Jun-97
		BF x 5		LD				
		LD x 2		CC				
		OH x 3		STR				
		BLM						
		STR Plate						
		WR						
		CC x 2						
Donetsk Iron and Steel Works (Donetsk Metallurgical works					P			
Donetsk	1800			(Firm)			A new EAF shop is being installed at DMZ at a cost of about $50m. Donetsk was privatised in November 1996.	MB 26-Jun-97
		EF		EF				
		OH						
		CC x 2						
		BTM						
		STR						

Country : **UKRAINE (2)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Zaporozhye Steel Works (Zaporozhstal):								
Zaporozhye	5000	BF x 5 OH x 9 SLM Hot Cold HGL					Zaporozhstal operates 5 blast furnacesand 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. Zaporozhstal has a crude steel capacity of 5m tpy, but is currently producing less than 3m tpy. A comprehensive plan for modernisation exists, at a total cost well over $1bn, but at the momentthere is little chance to secure the finance to fulfil it.	MB 23-Jun-97

Country : **OTHERS**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
BELARUS								
Zhlobin Metallurgical Works (Belarussian Steel Works (BMZ)								
Zhlobin	1200	EF x 3 CC x 3 STR WR		(Firm)			Austria's VAI has signed a contract worth a total of $38m with Belarussian Steel Works (BMZ) for the modernisation of the mini-mill's EAF, casters, rolling mills and tyre cord plant. The plant produced in 1996 900,000 tonnes of steel products, 65% of which were exported.	MB 17-Apr-97

Country : **ROMANIA**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
CSR SA Resista								
Resista	530			(Firm)		1997	CSR Resita, the oldest Romanian steelmaker is transforping itself into an EAF-based plant. Its coke ovens, sinter plant and blast furnaces closed down a year ago and its open hearth furnaces are being fed entirely with scrap. Spanish contractors are installing an 80-tonne EAF together with a ladla furnace and vacuum desgassing in a project that is expected to be completed before November this year.	MB 26-Jun-97
		BLM		EF				
		SLM		LD				
		STR x 2						
		Plate						
Siderca SA Calarasi								
Calarasi	400			(Unlikely)		1998	Some $38m funding have been secured for the revamping of the plant to bring it close to its 400,000 tpy capacity. Mannesman Demag won the contract to supply new machinery which will replace outdated equipment. A new four-stand rail and section mill is currently undergoing hot tests and will replace a rolling mill which produced medium sections. A new ladle furnace was built in the summer. In 1997, Mannesman Demag will deliver a new 80-tonne electric arc furnace which will replace two old unreliable furnaces. A new continuous caster will also be installed to make blooms.	MB 05-Dec-96
		EF x 2		LD				
		BLM		STR				
		STR		EF				
				CC				
				BLM				

Country : **SLOVENIA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Slovenske Zelezarne (Acroni Zelezarna):					S			
Jesenica	700						Stainless production of 40,000-45,000 tonnes is expected from Acroni Zelezarna Jesenice this year, as the state-run Slovenian mill continues its product shift towards special steels.	MB 03-Jul-97
		BF x 2						
		OH x 6						
		EF x 3						
		CC						
		Hot						
		Plate						
		Cold x 2						
		WR						

Country : **CHINA**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Anshan Iron & Steel Co. (Angang):					S			
Liaoning	8800			(Firm)		2002	Anshan Iron & Steel is to install a new 3.5m tpy hot strip mill which will be supplied by a consortium formed by Mitsubishi Corp., Mitsubishi Heavy Industries and other Japanese companies. Sumitomo Metal Industries, which also joins the consortium, will be providing technical advice on the running of the facility.	AMM 06-Jan-97 MB 16-Jan-97
	(8830)	BF x 10	(3500)	Hot				
	(5080)	OH x 13						
	(3500)	LD x 3						
	(160)	EF x 12						
	(2800)	CC x 4						
	(6900)	BLM x 2						
		Hot x 2						
		Cold x 2						
		Plate x 2						
		STR						
		SMLS						
Anyang Iron & Steel Group Co., Ltd.					S			
Anyang, Henan	1540							
	(1120)	BF x 8						
	(1440)	LD x 3						
	(100)	EF x 2						
	(930)	CC						
	(875)	SMLS						

Country : **CHINA (2)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Baoshan Group								
Shanghai	8700		3000	(Firm)		1997-2000	Third phase expansion is in progress and a part of the equipments have already begun operation. Equipments included in its phase III expansion are: a BF - under operation since September 94, two LD converters - expected to start in November 97, two EAFs (twin shell) - started operation in mid-97, three CCs - one for round billet and two for slabs, a HR mill - commissioned in December 96, a CR mill - expected to start operation in December 97 and a tin plate mill. The company, as the second set of the Phase III expansion, placed an additional contract for a CR mill with the capacity of 1 120 000 tpy, an EGL with 260 000 tpy and an HGL.	MB 11-Sep-97 MB 12-Jun-97 MB 15-May-97 NS 15-Apr-97 AMM 25-Aug-94 SS 24-Jan-97 AMM 21-Apr-97 ST 01-Aug-97
	(9750)	BF x 3	(3000)	LD x 2				
		LD x 3		CC x 3				
	(1000)	EF x 2	(700)	Cold				
	(3445)	SLM	(400)	Tin Plate				
	(500)	SMLS	(1120)	Cold				
	(6700)	Hot x 2		HGL				
	(2100)	Cold	(260)	EGL				
		HGL	(400)	WR				
	(4000)	CC x 2						
Baotou Works (Baogang):					S			
Baotou City, Inner	3540			(Firm)			German plantmaker SMS, under contract signed in May 1996, is to supply a thin slab caster and a rolling plant to China's three steelworks including Baotou Iron and steel.	MB 06-Jun-96
	(510)	BF x 3		TSC				
	(1520)	OH x 4		Hot				
	(2000)	LD x 3						
	(3000)	BLM						
		STR x 3						
		SMLS						
	(20)	EF x 3						

Country : **CHINA (3)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
Guangzhou Iron & Steel (GIS):								
				(Possible)		1998	Australian Overseas Resources and the Boulder Group of Sydney set up a joint venture with Guangzhou Iron & Steel of China to build a 100 000 tpy stainless steel rod and bar mill in China's Guangdong province.	MB 02-Dec-96
			(110)	WR				
Guangzhou Pacific Tinplate (Patin):								
							Patin began commercial production of 120 000 tpy tinning line in February 1997. The company was established in 1994 as a Japan-Hong Kong-China joint venture. Among shareholders are Nippon Steel, Itochu Corp and Mitsui & Co. of Japan, CNT Tin Plate of Hong Kong, Guangzhou Economic & Technological Development Zone Industrial Development Corp and Guanzhou Brewery of China. The product is mainly supplied for food canning applications.	MB 03-Mar-97
	(120)	Tin Plate						
Guangzhou Zhujiang Iron & Steel Co.								
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.	MB 23-May-94 NKS 09-Jun-94 MB 16-Sep-96
							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.	AMM 04-Sep-96
			(820)	EF				
				TSC				
			(792)	Hot				
			(300)	Cold				

Country : **CHINA (4)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Handan Iron & Steel General Works (Hangang):					S			
Hebei	1534		1500	(Firm)		1998	Handan wants to be one of the first steel plants in the country to install thin slab casting. The 2m tpy plant currently makes sections, bars and wire rod. Handan hopes to be able to start up a new 1.5m tpy thin slab caster together with a 500 000 tpy hot strip mill in 1998. The bank of China has already agreed a US$230m loan for the project, while Hanadan itself will fund the expansion to the tune of 2.3 bn yuan.	MB 05-Sep-94
	(1523)	BF x 4		TSC				
	(1530)	LD x 3	(500)	Hot				
	(4)	EF						
	(1800)	CC						
	(1633)	STR						
Hangzhou Iron & Steel Works (Hanggang):					S			
Hangzhou City	600			(Firm)			The company is to install a new billet CC with the capacity of 600 000 tpy, supplied by VAI of Austria.	MB 17-Feb-97
	(606)	BF x 3	(600)	CC				
	(500)	LD x 3						
	(100)	EF x 3						
	(660)	STR x 5						
Jiuquan Iron & Steel Co. (Jiugang):					S			
Jayuguan, Gansu Province	1010							
	(1200)	BF x 2						
	(1000)	LD x 3						
	(10)	EF						
	(630)	CC						
	(580)	WR						

Country : **CHINA (5)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Kurpp Thyssen Nirosta/ Shanghai Pudong Iron & Steel Gr.					S/P			
Shanghai			500	(Possible)		1998-2000	Krupp Thyssen Nirosta and Shanghai Pudong Iron & Steel group signed a letter of intent on a 60/40 joint venture project to build a stainless steel plant in Shanghai. The greenfield development will be undertaken in three phases: the transfer of two zendzimir mills from Germany (phase 1), a hot strip mill installation (phase 2), and an installation of a 90t EF (phase 3).	MB 06-Mar-97
			(500)					
			(500)	EF				
				Hot				
				Cold				
Nanjing Iron & Steel Works					S			
	1300							
		BF x 4						
		LD x 3						
		EF						
		CC x 4						
		STR x 3						
		WR						
		Hot						
		Plate						
Nantong Baogang & Nippon Steel Co., Ltd.					S/P			
			240	(Possible)		1996	The company is a joint venture with Nippon Steel, Mitsui & Co. of Japan and Baoshan Iron & Steel Corp. of China. The mill is scheduled for start-up in 1996.	AMM 26-Dec-94
			(240)	EF				
			(240)	STR				

Country : **CHINA (6)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Ningbo Baoyong Special Steel Cold Rolling Co.					S/P			
				(Firm)		1998	The company is a stainless steel cold-rolling joint venture with Nisshin Steel Co., Hanwa Kogyo Co., and Mitsui & Co., of Japan; Baoshan Iron &Steel Corp. and Zheyong Iron & Steel	AMM 20-Sep-96 MB 09-Sep-96
			(80)	Cold				
Ningbo project								
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 prduce 1.6 m tpy of crude steel and 1.44 m tpy of rolled products.	MB 11-Jan-96
			(1440)	Rolled products				
Panzhihua Iron & Steel Co. (Pangang):					S			
Sichuan Province	2438							
		(2968) BF x 5						
		(2400) LD x 3						
		(30) EF						
		(1000) CC						
		STR						
		Hot						
		(580) Cold						
		HGL						

Country : **CHINA (7)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Additional Equipment	Owner ship	Start-up date	Comments	Sources
Shanghai Meishan Metallurgical Corp.					S			
Jiangsu Province			(2000)	(Unlikely)			It is planned to integrate the works by installing steelmaking and slab casting facilities. An agreement was signed in 1990 for the purchase of a hot strip mill from Nippon steel.	
	(1624)	BF x 2		BF				
				LD				
				CC				
				Hot				
				Cold				
Shanghai No1 Iron & Steel Works					S			
Shanghai	1956							
	(876)	BF x 3						
	(1655)	LD x 6						
	(294)	OH x 2						
	(7)	EF						
	(970)	CC						
	(600)	SLM						
Shanghai No3 Iron & Steel Works					S			
Shanghai	1793							
	(1100)	LD x 3						
	(481)	OH x 2						
	(212)	EF x 9						
	(1050)	CC x 6						
		STR						
		Plate						
		Hot						
		Cold						

Country : **CHINA (8)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Shanghai No5 Steel Works					S			
Shanghai	(1181)							
	(650)	LD x 3						
	(531)	EF x 10						
	(320)	CC x 4						
	(434)	BLM						
		STR						
		Hot						
		Cold						
Shenyang Toyo Steel					S/P			
Liaoning province	240						The company was set up in 1993 as a 60/40 joint venture of Japan's Toyo Steel Mfg. and Shenyang Steel Rolling General Mill. It started trial operation in 1996.	MB 12-Sep-96
	(240)	EF CC						
		STR						
Shenzhen Pohang Coated Steel								
Guangdong				(Firm)		1998	Shenzhen Pohang Coated Steel, set up by Posco and two local companies in November 1996, moves the No.1 continuous hot-dip line from Posco's Pohang works which was shut in October 1996, to Guandong province of China. The line was commissioned in 1977, with the capacity of 103 000 tpy. The company is Posco's third galvanizing venture in China, following China National Ferrous Metal Corp. in Dalian and a JV with Jiangsu Shagang Group near Shanghai.	MB 02-Dec-96 MB 13-Mar-97
			(100)	HGL				

Country : **CHINA (9)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Shuicheng Iron & Steel Co. (Shuigang):					S			
Quizhou	601							
	(986)	BF x 4						
	(600)	LD						
	(1)	EF						
	(365)	CC						
		STR						
Tianjin Steel Plants (Tiangang):					S			
Tianjin City	1431							
	(400)	OH x 2						
	(930)	LD x 3						
	(100)	EF x 4						
	(560)	CC x 4						
	(447)	BLM						

Country : **CHINA (10)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Wohan Iron & Steel					S			
Wohan, Hubei	4245			(Unlikely)			Cockerill Mechanical Industries SA (CMI), a plantmaking arm of Cockerill Sambre, has signed a memorandum of understanding for the supply of galvanizing steel production facilities to Wohan Iron and Steel.	MB 02-Dec-96
	(6240)	BF x 5		HGL				
	(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)	Tin Plate						
	(100)	HGL						
Yunnan Metallurgical Corp.								
Kunming				(Firm)		1997	The Japanese trader Marubeni Corp. and Yunnan Metallurgical Corp. of China reached a basic agreement to form a 50 000 tpy galvanized sheet joint venture at the town of Kunming, southern China.	MB 05-Sep-96
			(50)	HGL				

Country : **VIETNAM**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Bian Hoa Steel Works (Viscasa):								
Bian Hoa	120							
		EF						
		WR						
Integrated steel mill project					S			
Thach Khe			4500	(Possible)		2010	The Vietnam government finalized plans to build an integrated steel mill with the capacity of 4.5m tpy in northern Vietnam based on the Thach Khe iron ore deposit. The coustruction is to be executed within three phases: first with a cold strip mill and progressively move into upstream facilities.	MB 19-May-97 AMM 09-May-97
(Northern Vietnam)				BF				
				LD				
Maruviena								
Ho Chi Minh						1996	Maruviena started operation in March 1996. The company is a galvanizing venture jointly owned by Marubeni, Natsteel, NKK, and local Vietnamese company.	MB 25-Nov-96 TS 04-Jul-95
	(18)	HGL						
Natsteel Vina					S/P			
Thai Nguyen						1995	The company is a joint venture between Thai Nguyen Iron & Steel Works of Vietnam and Singapore's NatSteel.	MB 28-Sep-95
	(120)	STR						

Country : **VIETNAM (2)**

Company Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Saigon Steel Pipe Corp. (SSP):					S/P			
Ho Chi Minh				(Firm)		1997	SSP is a 51%-49% Korean-Vietnamese joint venture formed in 1995. The company is building a 70 000 tpy ERW pipe mill to be commissioned by October 1997. Main shareholders include Daewoo Corp., Seah Steel Pipe, both of Korea, and Waseco of Vietnam.	MB 03-Feb-97
			(70)	ERW				
Southern Steel Sheet Corp. (SSC):								
Bien Hoa						1997	SSC began the operation of Vietnam's first continuous galvanizing facility in July 1997. The company is owned by Vietnam's Southern Steel Union, Federal Iron Works of Malaysia and Nomura Trading of Japan.	MB 04-Sep-97
	(24)	HGL						
Thai Nguyen Iron & Steel Works (Tisco):					S			
Thai Nguyen	140						Tisco is under the direction of Vietnam Steel Corp. (VSC).	
		BF x 3						
		OH						
		EF x 5						
		STR x 2						
The Southern Steel Union (SSU):					S			
Ho Chi Minh, Bien Hoa	50						SSU originates from several private steel mills in southern Vietnam, which were nationalized and integrated into SSU in 1976. SSU is under the direction of Vietnam Steel Corp. (VSC).	
		EF x 12						
		STR x 2						
	(36)	HGL						

Country : **VIETNAM (3)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
Vietnam Shipbuilding Industry Corp. (Vinashin):								
Dung Quat industrial area			500	(Possible)			Vinashin carries out a pre-feasibility study to build a 500 000 tpy mini mill which will produce plate for the emerging shipbuilding industry. The construction is targetted to start in 1998. The scrap will be sourced from the company's planned activity of ship repairing and demolishing, which the company sees will generate 200 000 - 300 000 tpy of scrap.	MB 24-Mar-97
			(500)	EF				
			(500)	Plate				
Vina Kyoei Steel								
Phu My							Vina Kyoei Steel, part-owned by Japanese mini-mill Kyoei Steel, has a capacity of 240 000 tpy. The mill is designed to produce small bars, angles and wire rod. Initially, it will roll imported billets but has plans to add a melting shop.	
	(240)	STR						
		WR						
Vinausteel					S/P			
						1995	The company is a joint venture between the Thai Nguyen Iron and Steel Works of Vietnam and the Vietnam Investment Industry Co. of Australia.	MB 28-Sep-95
	(180)	STR						
VSC, China Steel Corp and Sheng Yu								
				(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 15-Sep-97 AMM 17-Sep-97
			(210)	Cold				

Country : **VIETNAM (4)**

Company / Plant or project	Existing Capacity	Existing Equipment	Increase capacity	Aditional Equipment	Owner ship	Start-up date	Comments	Sources
VSC-Posco					S/P			
Haiphong	(200)	STR				1995	VSC-Posco, a joint venture company by Vietnam Steel Corp. (VSC) and Posco, inaugurated 200 000 tpy bar/rod mill in September 1995.	MB 28-Sep-95