

HJK CONSULTING ENGINEERS

Project Management – Technology – Operating – Consulting Excellence



WORLD STEEL INFORMATION

Production, Market/Economy Data – Actual & Forecasting,
Market & Feasibility Studies, Historical Data,



Actual market data, projections based on reliable resources combined with long-term experienced experts, and in cooperation with international institutions, universities allows HJK Consulting Engineers to provide its clients with reliable studies concerning actual economic situations and projections globally and/or tailored to specific customer needs.

For further details please contact:

Hans-Joerg Klapf

CEO/Owner of HJK Consulting Engineers GmbH

Am Ipfbach 55

4490 St. Florian / Austria

Phone: +43 664 8872 7465

Mail: office@hjkcon.com

WORLD STEEL INFORMATION

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World Population Growth - Projection

	1970	1980	1990	2000	2010	2020	2030	2040	2050
EU 28									
Austria	7,467,086	7,549,433	7,707,000	8,051,000	8,292,000	8,656,000	8,844,000	8,894,000	8,846,000
Belgium	9,655,549	9,859,242	9,978,000	10,268,000	10,400,000	10,520,000	12,019,000	12,315,000	12,527,000
Bulgaria	8,489,574	8,861,535	8,821,000	8,800,000	7,700,000	6,400,000	6,300,000	5,691,000	5,154,000
Croatia	4,411,000	4,588,000	4,776,000	4,400,000	4,310,000	4,162,000	3,977,000	3,771,000	3,554,000
Cyprus	613,735	685,510	767,000	943,000	1,104,000	1,218,000	1,300,000	1,359,000	1,402,000
Czech Republic	9,858,071	10,304,193	10,324,000	10,263,000	10,507,000	10,573,000	10,461,000	10,194,000	9,965,000
Denmark	4,928,757	5,123,027	5,100,000	5,180,000	5,551,000	5,776,000	6,003,000	6,173,000	6,299,000
Estonia	1,362,295	1,477,219	1,500,000	1,500,000	1,332,000	1,295,000	1,243,000	1,183,000	1,129,000
Finland	4,606,307	4,606,307	4,606,307	5,116,000	5,368,000	5,500,000	5,706,000	5,739,000	5,752,000
France	51,956,248	55,956,248	58,000,000	59,387,000	62,961,000	65,720,000	68,007,000	69,931,000	71,137,000
Germany	78,167,000	78,167,000	78,167,000	81,896,000	80,435,000	78,392,000	79,294,000	77,300,000	74,513,000
Greece	8,700,006	9,000,000	9,132,000	10,954,000	11,170,000	10,825,000	10,480,000	10,124,000	9,705,000
Hungary	10,300,000	10,700,000	10,385,000	10,224,000	10,015,000	9,685,000	9,275,000	8,784,000	8,318,000
Ireland	2,957,250	3,400,000	3,563,000	3,842,000	4,617,000	4,874,000	5,204,000	5,519,000	5,789,000
Italy	53,821,850	54,433,883	57,008,000	57,147,000	58,000,000	57,741,000	59,100,000	58,078,000	56,513,000
Latvia	2,359,160	2,511,701	2,664,000	2,871,000	3,000,000	3,190,000	1,806,000	1,692,000	1,593,000
Lithuania	3,139,689	3,413,202	3,697,000	3,800,000	3,800,000	2,795,000	2,655,000	2,505,000	2,375,000
Luxembourg	339,171	364,150	380,000	380,000	500,000	605,000	678,000	743,000	803,000
Malta	302,650	316,645	316,645	316,645	412,000	423,000	428,000	423,000	411,000
Netherlands	13,038,526	14,149,800	15,000,000	15,800,000	16,632,000	17,185,000	17,605,000	17,738,000	17,602,000
Poland	32,664,300	35,574,150	36,195,000	38,480,000	38,575,000	38,407,000	37,207,000	35,286,000	33,136,000
Portugal	8,680,431	9,766,312	10,000,000	10,279,000	10,585,000	10,161,000	9,845,000	9,576,000	9,216,000
Romania	20,250,398	22,242,653	22,000,000	22,128,000	20,299,000	18,848,000	17,639,000	16,449,000	15,207,000
Slovakia	4,538,223	4,979,815	5,270,000	5,386,000	5,407,000	5,435,000	5,353,000	5,136,000	4,892,000
Slovenia	1,724,891	1,901,315	2,007,000	1,989,000	2,052,000	2,075,000	2,054,000	2,003,000	1,942,000
Spain	33,814,531	37,439,035	39,192,000	40,750,000	46,601,000	46,194,000	45,920,000	45,647,000	44,840,000
Sweden	8,042,801	8,310,531	8,559,000	8,872,000	9,382,000	10,120,000	10,766,000	11,290,000	11,881,000
United Kingdom	55,663,250	56,314,216	57,110,000	58,867,000	62,717,000	66,700,000	70,113,000	72,840,000	75,361,000
TOTAL REGION	441,985,752	464,166,151	476,788,000	486,648,000	502,085,000	507,887,000	509,282,000	506,383,000	499,862,000

Other Europe

WORLD STEEL INFORMATION

Production, Market/Economy Data – Actual & Forecasting,
Market & Feasibility Studies, Historical Data,

Hot Rolled Products Production (Projection)															
	2000					2007					2012				
	HR	HR FLAT	%	HR LONG	%	HR	HR FLAT	%	HR LONG	%	HR	HR FLAT	%	HR LONG	%
Other Europe															
San Marino															
Serbia															
Svalbard and Jan Mayen Islands															
Switzerland															
Turkey	12,170	3,500	28.8%	8,670	71.2%	3,726					9,469	32.4%	19,800	67.6%	
Region Total	12,170	3,500	28.8%	8,670	71.2%	3,726					9,469	32.4%	19,800	67.6%	
C.I.S.															
Armenia															
Azerbaijan															
Belarus															
Georgia															
Kazakhstan															
Kyrgyzstan															
Moldova, Republic of															
Other CIS															
Russian Federation	44,150	22,700	51.4%			56,800	35,200	62.0%	21,600	38.0%	43,744	16,261	60.7%	10,513	39.3%
Tajikistan															
Turkmenistan															
Ukraine	20,649	6,530	31.6%	14,119	68.4%	25,060	8,460	33.8%	16,600	66.2%	215,372	115,490	53.6%	99,882	46.4%
Uzbekistan															
Region Total	64,799	32,921	41.5%	38,214	58.5%	85,468	47,081	55.1%	42,552	49.8%	29,052	133,943	67.7%	150,267	32.3%
North America															

WORLD STEEL INFORMATION

Production, Market/Economy Data – Actual & Forecasting,
Market & Feasibility Studies, Historical Data,

World Pig Iron Production (Projection by Region)														HJK CONSULTING ENGINEERS	
	1995	2000	2005	2010	2011	2012	2013	2014e	2015e	2016e	2017e	2018e	2019e	2020e	
EU 28	120,294	115,016	112,182	94,501	94,260	91,160	247,000	398,000	456,450	435,000	831,077	942,661	893,570	837,582	
Other Europe	4,678	6,001	8,486	9,635	10,184	775	1,028	14,150	10,000	9,978	8,583	6,718	6,525	7,016	
C.I.S.	60,171	74,243	82,816	77,923	80,174	77,000	27,000	-803,023	-222,940	203,464	380,169	429,824	467,607	508,817	
North America	63,496	61,638	49,543	39,218	32,000	32,000	39,704	44,079	49,213	41,280	37,024	36,717	36,424	36,202	
South America	28,107	31,627	38,300	530	531	454	71,234	-528	-4,196	3,009	58,289	68,788	76,140	82,988	
Africa	8,630	536	8,300	5,064	5,499	4,161	7,219	7,900	7,400	7,400	7,848	8,396	8,763	8,775	
Middle East	1,532	2,000	2,000	2,540	2,242	2,143	3,345	762	762	5,252	5,307	6,310	7,355	7,359	
Asia	228,688	269,000	2,873	763,117	826,723	854,412	833,300	740,000	728,648	5,150	706,301	704,748	654,253	632,669	
Oceania	8,101	7,652	6,855	6,672	5,924	4,300	4,300	4,050	2,281	2,184	2,066	2,065	2,079	2,090	
World Total	523,697	575,924	801,701	1,034,859	1,047,611	1,000,010	1,85,965	1,06,762	1,032,349	1,804,383	2,037,663	2,206,227	2,152,716	2,123,499	
thousand tonnes															
Status as of 26-Aug-15															

source: WSA, SEAI, IMF

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WORLD STEEL INFORMATION

Production, Market/Economy Data – Actual & Forecasting,
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World DRI Production (Projection by Region)														HJK CONSULTING ENGINEERS	
	1995	2000	2005	2010	2011	2012	2013	2014	2015e	2016e	2017e	2018e	2019e	2020e	
EU 28	534	580	554	568	517	560	340	1,200	1,552	1,465	1,382	1,391	1,398	1,407	
C.I.S.	1,678	1,920	3,340	4,700	5,200	5,000	358	1,699	-1,455	3,162	4,730	5,084	5,130		
North America	6,196	9,794	8,932	9,040	586	680	5,800	6,803	5,393	5,247	5,212	5,208	5,232	5,305	
South America	6,718	8,326	11,200	5,459	230	100	3,995	-4,247	-3,136	3,008	4,827	6,021	6,538	7,336	
Africa	2,798	3,000	6,350	5,000	4,000	5,144	3,979	5,572	6,280	6,100	6,172	6,243	6,373	6,356	
Middle East	5,430	5,000	10,499	15,467	19,528	19,235	22,960	24,570	21,000	27,921	32,766	32,568	37,051	37,038	
Asia	7,174	8,564	19,000	29,570	25,217	23,460	22,000	20,000	21,731	23,992	26,140	27,622	28,439	28,921	
Oceania		1,215	990												
World Total	30,528	41,009	56,896	70,167	70,167	62,000	53,900	80,000	49,524	66,735	79,660	83,782	90,115	91,493	
thousand tonnes															
Status as of 26-Aug-15															

source: WSA, SEAI, MIDREX, IMF

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WORLD STEEL INFORMATION

Production, Market/Economy Data – Actual & Forecasting,
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Average Region	10,012	13,279	16,259	19,173	20,179	20,610	20,780	21,113	21,509	22,100	22,920	23,894	24,902	26,015
South America														
Argentina	10,280.3	12,113.2	14,229.1	19,549.8	21,385.2	21,698.6	22,404.3	22,582.5	22,458.8	22,567.5	22,834.2	23,145.2	23,436.3	23,738.7
Bolivia, Plurinational State of	3,065.5	3,459.5	4,045.2	5,038.4	5,305.3	5,574.2	5,927.9	6,220.9	6,451.1	6,670.6	6,951.6	7,247.3	7,544.1	7,775.4
Brazil	8,252.3	9,139.4	11,076.1	14,342.3	15,065.4	15,461.6	15,788.9	15,996.3	16,040.6	16,209.3	16,786.5	17,414.8	18,066.6	18,756.8

Status as of 26-Aug-15 Seite 2 von 5

GDP (PPP) per Capita (Projection by Country)														HJK CONSULTING ENGINEERS
	1995	2000	2005	2010	2011	2012	2013	2014e	2015e	2016e	2017e	2018e	2019e	2020e
Chile	9,129.9	11,375.6	15,087.7	18,911.3	20,188.1	21,450.8	22,599.5	23,971.4	25,366.3	24,451.4	25,584.1	26,818.9	28,097.5	29,460.3
Colombia	6,254.5	6,621.3	7,347.7	10,805.7	11,618.9	12,450.8	12,851.4	13,300.5	13,851.0	14,413.6	15,125.3	15,916.7	16,738.7	17,601.0
Ecuador	5,476.9	5,816.3	7,672.1	9,115.9	9,861.7	10,311.7	10,911.2	11,379.6	11,788.3	12,391.8	12,974.9	13,569.1	14,192.4	
Guyana	2,833.5	3,670.1	4,131.5	5,487.4	6,177.7	6,551.5	6,541.2	6,895.5	7,199.7	7,609.7	8,055.6	8,534.1	8,954.2	9,391.9
Paraguay	4,818.4	4,783.9	5,353.4	6,875.1	7,197.9	7,601.4	8,112.1	8,448.6	8,716.5	9,047.0	9,438.2	9,857.9	10,277.7	10,713.5
Peru	4,633.8	5,301.8	6,800.4	9,619.7	10,923.3	11,831.4	11,555.8	11,817.0	12,187.4	12,787.8	13,558.2	14,296.6	15,004.4	15,747.8
Suriname		7,789.7	10,656.4	13,679.2	14,411.7	15,379.3	16,079.7	16,623.4	17,062.2	17,813.4	18,833.2	19,993.5	21,099.4	22,249.7
Uruguay	8,496.4	9,868.1	11,358.8	16,234.8	17,723.0	18,638.3	19,678.7	20,556.3	21,246.9	22,115.7	23,171.0	24,370.7	25,595.2	26,962.2
Venezuela, Bolivarian Republic of	11,397.3	11,627.4	13,462.6	16,435.0	17,209.7	18,225.5	18,452.9	17,694.5	16,346.5	15,683.2	15,365.8	15,221.7	15,209.4	15,271.0
Average Region	6,785	7,631	9,351	12,175	13,011	13,599	14,240	14,548	14,697	15,096	15,675	16,316	16,966	17,655
Africa														
Algeria	6,980.4	8,246.8	11,077.9	12,613.0	12,970.9	13,356.8	13,781.4	14,258.6	14,470.5	14,971.2	15,627.0	16,313.3	16,957.1	17,610.3

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2 Overall Scoring

ITEM	CNBM	DANIELI	SINOSTEEL
PHASE I	48.3%	96.6%	52.9%

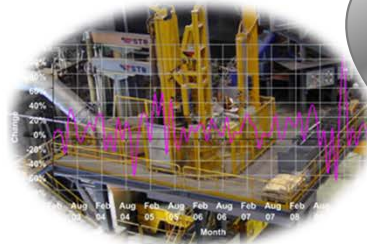
3 Process Capability

3.1 Performance Figures

ITEM	CNBM	DANIELI	SINOSTEEL
EHF	95/50 *1	100	88/45 *1
LF	100/50 *1	100	95/50 *1
VD	N/A	N/A	N/A
CCM	100/50 *1	100	94/50 *1
RHF I	61/50 *1	100	79/45 *1
RM I	61/50 *1	100	79/45 *1
RHF II	87/50 *1	100	79/45 *1
RM II	87/50 *1	100	79/45 *1

- *1 Refer to commercial assessment report, chapter 4.1
- VD Plant rated "N/A" since it isn't required for finished products to be produced, however it is considered in the Layout for possible future implementation.

Feasibility Study



BIDDER

BM/BSIET
(financing proposal
omitted)

No ITB Compliance

- Design Code is Chinese Standards
- NO PHASE II quoted
- NO 230 kV substation included
- Doesn't meet early production as required
- Doesn't meet quality requirements required
- Low technical and process related competence shown during clarification
- No many exclusions like Fire Fighting, Raw Water Treatment, Soil Investigation, Landscaping, Mobile Equipment, etc.
- Possible legal impact due to patent issues
- Non compliance with Environmental issues

ITB Compliance

NONE

- No piling include
- Mobile Equipment excluded, but Specifications will be provided for rent & lease or purchase

- Option for Shredder & VD Phase I priced
- Product Mix matching ITB at 99.99%
- Reference of 124 Turnkey Projects
- Reference on 37 Lump Sum Turn Key Projects
- Full In-house resource availability

financing proposal
(omitted)

- Design Code is Chinese Standards
- NO PHASE II quoted
- Low technical and process related competence shown during clarification
- Can't match quality requirements with proposed process
- Doesn't meet early production as required
- Doesn't meet Product Mix requirements required
- Possible legal impact due to patent issues
- Non compliance with Environmental issues

NONE

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