# STEEL AUTHORITY OF INDIA LIMITED



Performance Highlights

Q4 & FY 2017-18



#### **PERFORMANCE HIGHLIGHTS: FY2017-18**



## FINANCIAL PERFORMANCE

**❖** Net Sales : Rs 56893 Crore

**❖** EBITDA: Rs 5184 Crore

**❖** PBT : Rs (-) 759 Crore

**❖ PAT : Rs (-) 482 Crore** 

#### PRODUCTION & SALES PERFORMANCE

- **❖** Hot Metal Production : 15.983 MT
- Crude Steel Production: 15.021 MT
- **❖** Saleable Steel Production: 14.071 MT
- Semis component in production: 18.54% of saleable steel
- **❖** Value Added Production : 6.289 MT
- **❖** Production through concast route: 12.796 MT
- **❖** Saleable Steel Sales: 14.081 MT

## **PERFORMANCE HIGHLIGHTS: Q4 FY2017-18**



## FINANCIAL PERFORMANCE

**❖** Net Sales : Rs 16811 Crore

EBITDA : Rs 2625 Crore

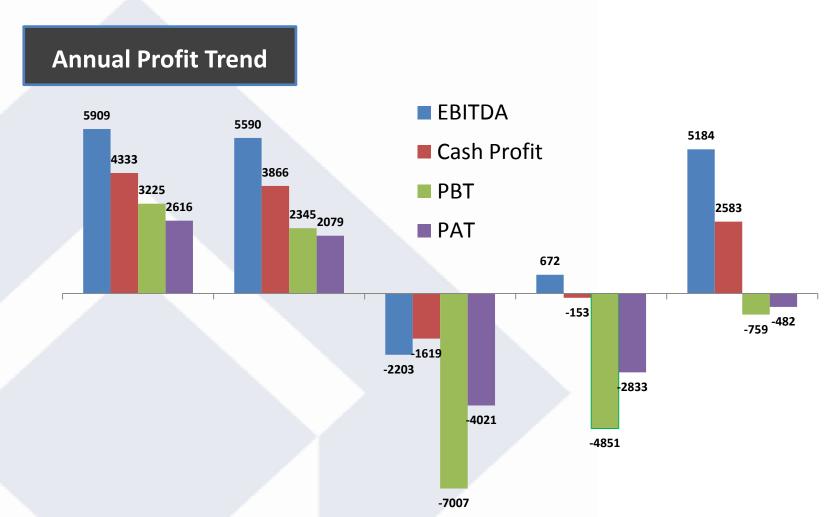
**❖** PBT : Rs 1186 Crore

**❖ PAT : Rs 816 Crore** 

#### PRODUCTION & SALES PERFORMANCE

- **❖** Hot Metal Production : 4.238 MT
- Crude Steel Production: 4.004 MT
- **❖** Saleable Steel Production: 3.610 MT
- Semis component in production: 17.40% of saleable steel
- **❖** Value Added Production: 1.655 MT
- **❖** Production through concast route : 3.406 MT
- **❖** Saleable Steel Sales: 3.738 MT





FY 16

FY 17

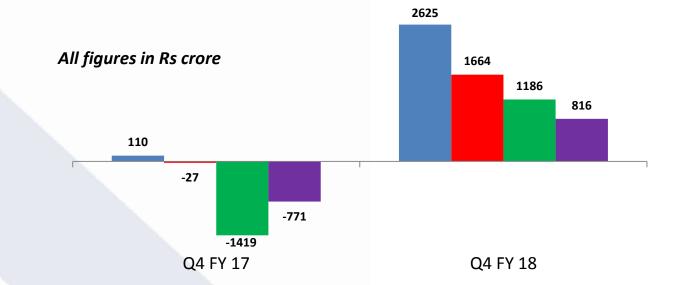
FY 18

**FY 14** 

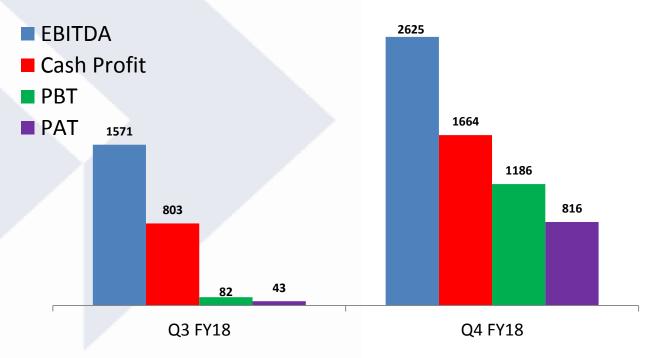
FY 15



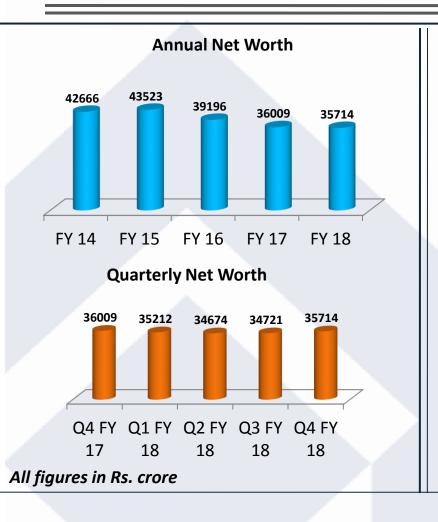
Quarterly
Performance
Q4 FY 18 vs
Q4 FY 17

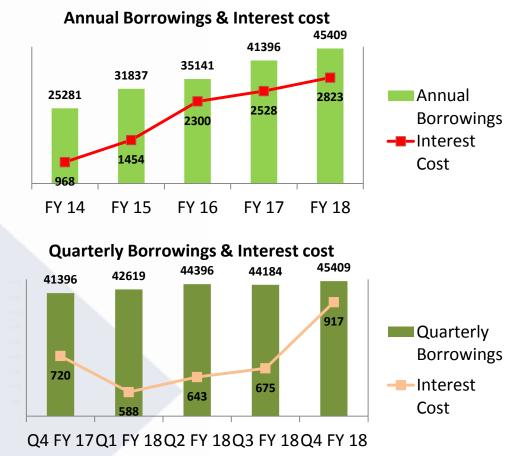


Quarterly
Performance
Q4 FY 18 vs
Q3 FY 18









		<b>Debt Equity Ratio</b>		
31/03/15	31/03/16	31/03/17	31/12/17	31/03/18
0.73	0.90	1.15	1.27	1.27

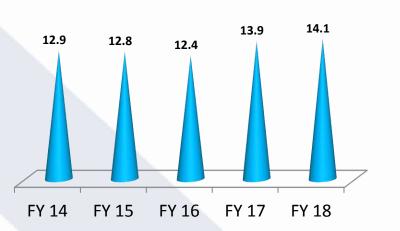
Rs. Crore (INDAS Compliant figures)	FY 18	FY 17	Q4 FY 18	Q3 FY 18	Q4 FY 17
Net Sales	56893	43866	16811	15193	12535
EBITDA	5184	672	2625	1571	110
Depreciation	3065	2680	848	760	744
Finance Cost	2823	2528	917	675	720
PBT Before Exceptional Items	-703	-4536	859	137	-1354
Exceptional/Abnormal Items (VRS/Suspended Operations)	56	315	-327	54	65
PBT After Exceptional Items	-759	-4851	1186	82	-1419
Тах	-277	-2018	370	39	-648
Profit After Tax	-482	-2833	816	43	-771

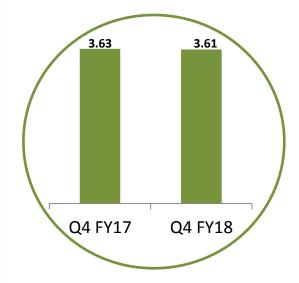
## PRODUCTION PERFORMANCE



All figures In Million Tonne

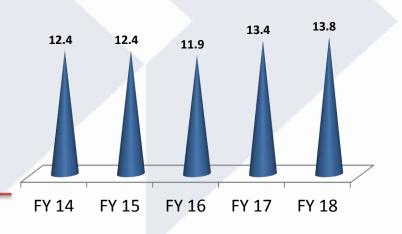
SALEABLE
STEEL
PRODUCTION
(incl. SSPs)

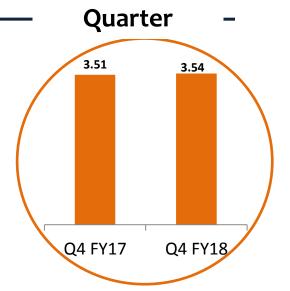






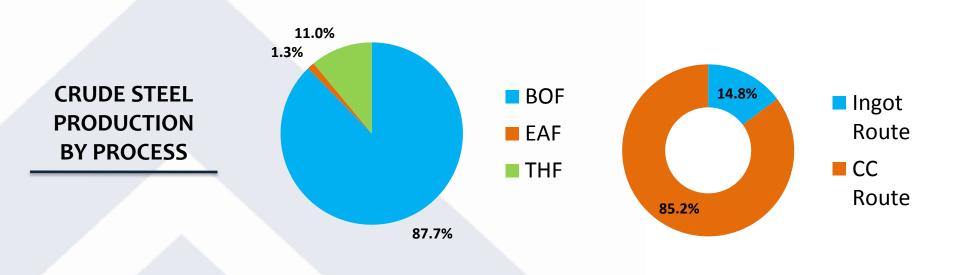
SALEABLE STEEL PRODUCION (5 ISPs)



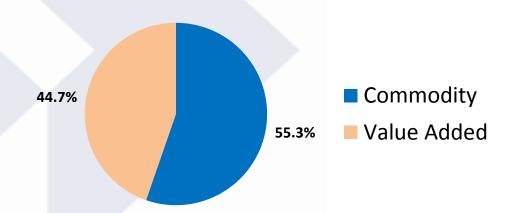


## **PRODUCTION PERFORMANCE: FY18**



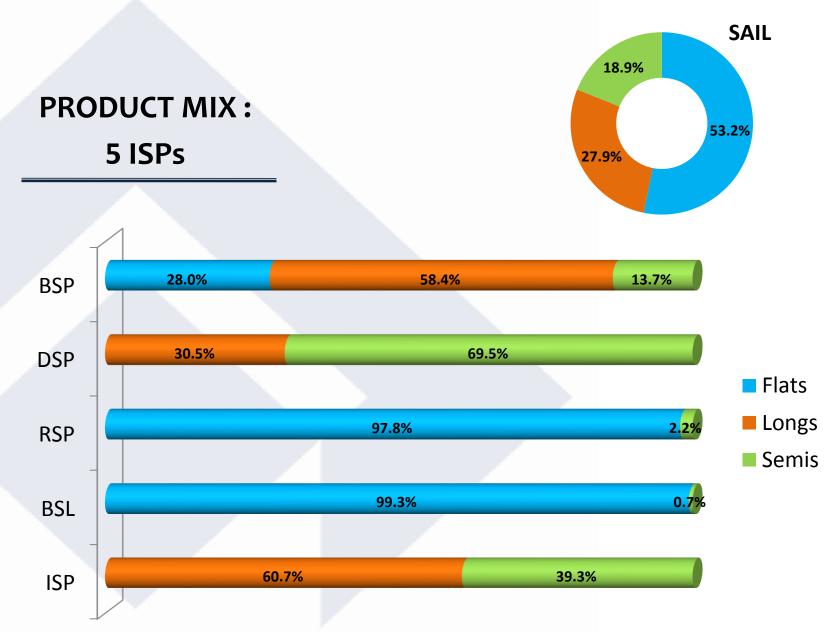






## **PRODUCTION PERFORMANCE: FY 2017-18**





## PRODUCTION PERFORMANCE

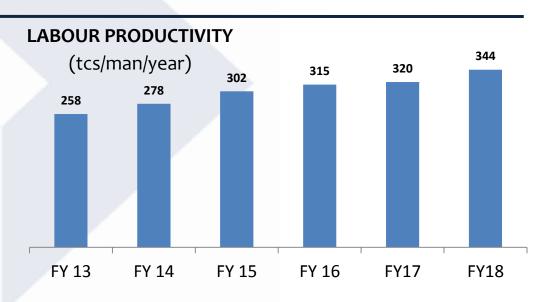


# MAJOR TECHNO-ECONOMIC PARAMETERS

Parameter	FY 17-18	FY 16-17
Coke Rate (kg/thm)	456	473
Fuel Rate (kg/thm)	555	559
Specific Energy Consumption (GCal/TCS)	6.49	6.60
BF Productivity (T/m3/day)	1.70	1.67

# MANPOWER & LABOUR PRODUCTIVITY

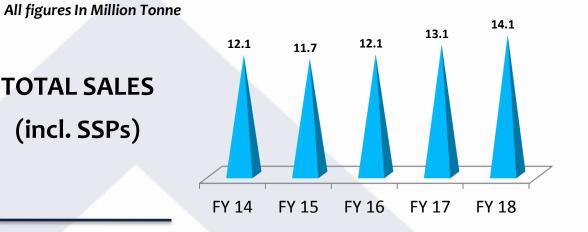
Total manpower as on 01.04.2018: **76,870** 

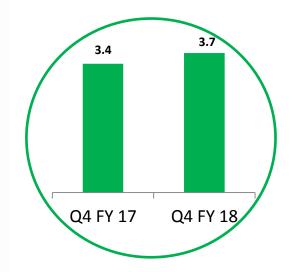


## **SALES PERFORMANCE**





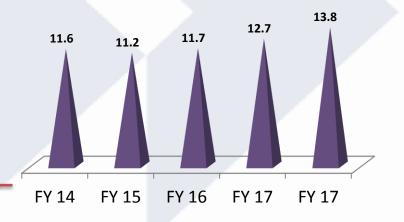


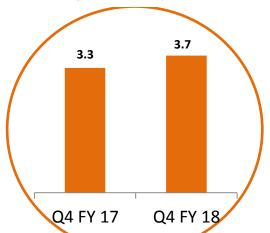


**Quarterly** 

#### **Annual**

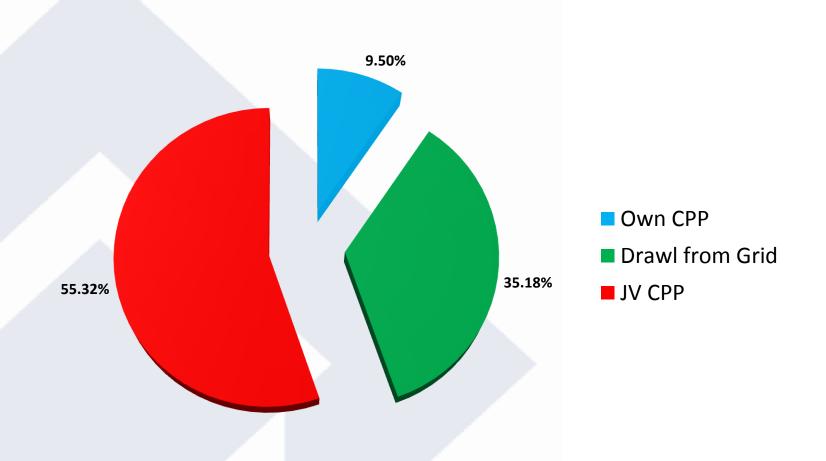
**SALES OF 5 ISPs** 





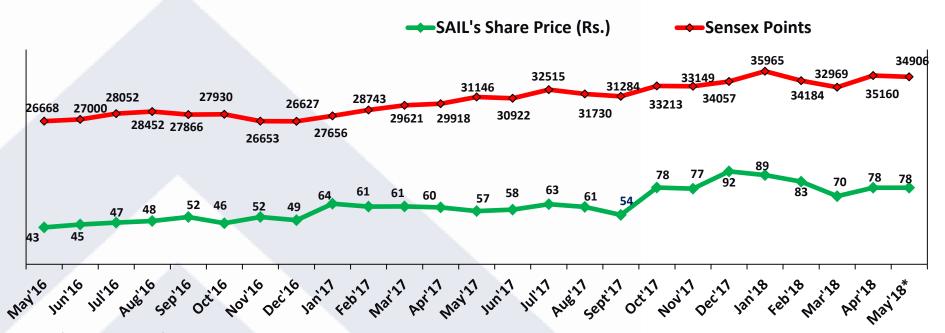
## **POWER CONSUMPTION – FY 2017-18**





#### **SAIL STOCK PRICE MOVEMENT**





Closing Share Price and Sensex as on the last day of the month

\* As on May 30, 2018

DIVIDEND PAYOUT

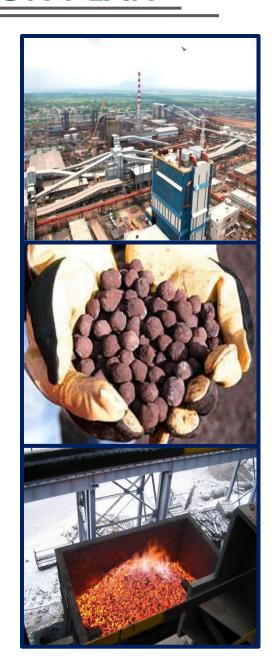
	Interim (%)	Final (%)	Total (%)	Dividend (Rs. crore)	Dividend Tax (Rs. crore)
FY 18	-	-	-	-	-
FY 17	-	-	-	-	-
FY16	-	-	-	-	-
FY15	17.5	2.5	20	826	165
FY14	20.2	-	20.2	834	142
FY13	16	4	20	826	134

## SAIL'S MODERNISATION & EXPANSION PLAN

Million Tonne	Actual Production 2017-18	Capacity After On-going Expansion
Crude Steel	15.021	21.4
Saleable Steel	14.071	20.2

#### **Technological Shift**

Technology	Before Expansion	After Expansion
BOF Steel Making	79%	100%
CC Route	71%	94%
Pelletisation Plant	No	Yes
Coke Dry Quenching	Partial	Yes
Top Pressure Recovery Turbine	No	Yes
Auxiliary Fuel Injection in BF	Partial Coverage	Full Coverage
Desulphurization of Hot Metal	Partly	100 %
Beam Blank Casting	No	Yes
Coupled Pickling & Tandem Mill	No	Yes
Beneficiation Plant	Partial	Full



#### **MODERNISATION & EXPANSION PLAN**

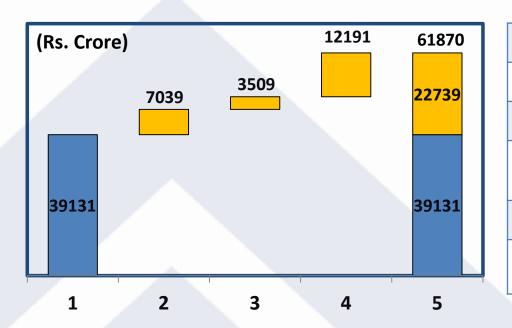
## **EXPECTED OUTCOME**

- Production through twin-hearth furnace (THF) route to be replaced by BOF-LD converter route.
- Production through Ingot teeming route to be replaced with continuous cast production route.
- ➤ Enhancement of Production volume by addition of 2 new 4060 m³ Blast Furnaces and one Blast Furnace of 4160 m³.
- > Increased Market Share.
- World class technology and products.
- > Improved Product Mix / proportion of value added products to increase.
- > Enhanced Pollution Control measures, with Environmental Conservation.

## PRODUCTS BEING ADDED:

- ➤ Auto grade CR Products, Galvanized Coils /Sheets.
- > Plates / Pipes to meet up to API 100 Grade specification.
- ➤ Universal Beams/Heavy Beams to support increasing Infrastructural requirements.
- ➤ Rails for Metro Railways and Dedicated Freight Corridors.
- ➤ Increased production of Rails and Wheels to meet the increasing requirements of Indian Railways.
- Quantum jump in Rounds and Structural production.
- Wider Plates in the size of 4300 mm.

## **ONGOING PROJECTS (CAPEX)**



- 1 Expansion of existing capacity
- **2** Value-addition / Product-mix improvement
- **3** Technological up gradation / Modernization
- Sustenance including de-bottlenecking, AMR & Environment
- 5 Total Estimated Cost

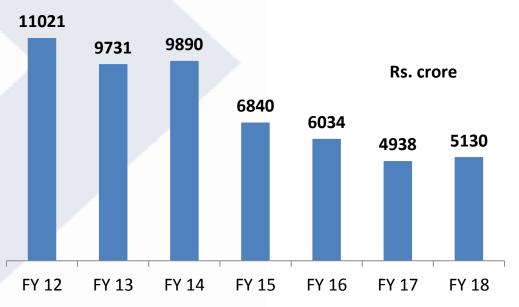
In addition, a Capex Plan of Rs. 10264 crore has been made for augmentation of Raw material facilities.

## TOTAL CAPEX (INCL. ON MODERNISATION & EXPANSION)

Capex Plan for FY18 was Rs.4700

**Crore** (including expenditure towards Capital Repairs and Spares needed to be capitalised under Ind AS).

Capex Plan for FY19 is Rs.4000 Crore

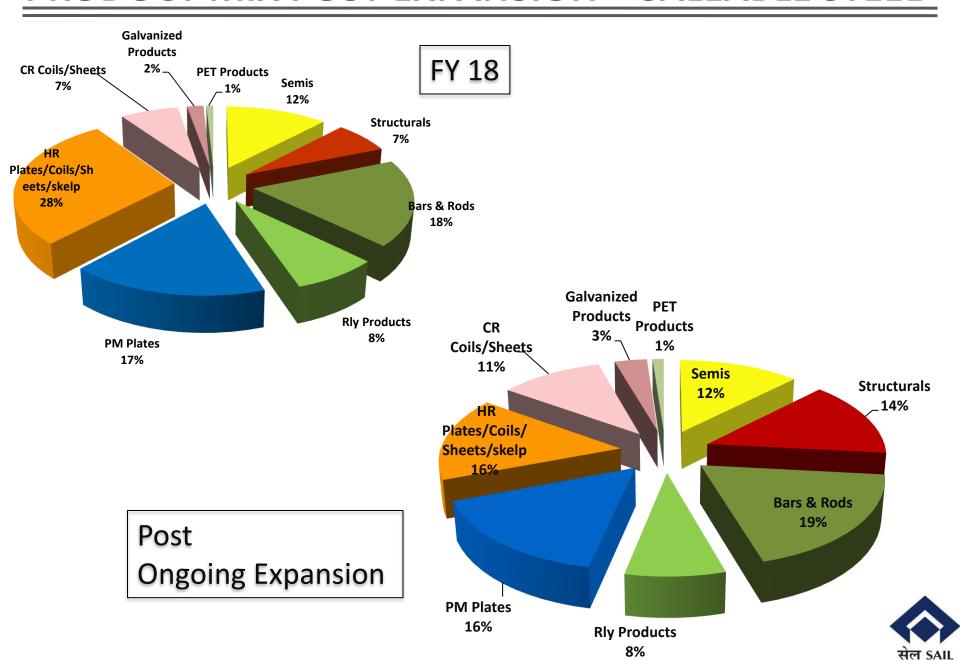


## **CAPACITY AFTER EXPANSION**

Plant	Hot Metal (MTPA)		Crude Steel (MTPA)		Saleable Steel (MTPA)	
riant	2017-18	After Expansion	2017-18	After Expansion	2017-18	After Expansion
BSP	4.28	7.5	4.07	7.0	3.69	6.6
DSP	2.28	2.5	2.04	2.2	1.95	2.1
RSP	3.32	4.5	3.22	4.2	2.94	4.0
BSL	4.05	5.8	3.69	4.6	3.50	4.2
ISP	2.06	2.9	1.80	2.5	1.69	2.4
VISL	0.00	0.3	0.00	0.2	0.01	0.2
ASP	-	/-	0.10	0.5	0.09	0.4
SSP	-	-	0.10	0.2	0.20	0.3
TOTAL	15.98	23.5	15.02	21.4	14.07	20.2



## **PRODUCT MIX POST EXPANSION – SALEABLE STEEL**



#### **MODERNISATION & EXPANSION PLAN - SALEM STEEL PLANT**

#### **Facilities added:**

- •Steel melting Shop Electric Arc Furnace (55 T); AOD Converter (60 T); Ladle Furnace (60 T); Single Strand Slab Caster.
- Roll Grinder for Hot Rolling Mill
- Cold Rolling Mill Complex

#### **Production (MTPA):**

ltem	2017-18 (Actual)	After Expansion
Crude Steel	0.10	0.18
Saleable Steel	0.20	0.34



#### **MODERNISATION & EXPANSION PLAN - IISCO STEEL PLANT**

#### **Facilities Completed:**

- Raw Material Handling System
- New Coke Oven Battery (0.88 Mtpa, 7 m tall)
- Coke Dry Cooling Plant
- Sinter Machines (3.88 Mtpa gross sinter production, 2x204 m<sup>2</sup>)
- Blast Furnace 4160 m3 volume (2.7Mtpa)
- 3 nos. of 150 T BOF Converters
- 2x6 Strand Billet Casters (1.67 Mtpa)
- 1x4 Strand Bloom-cum-Beam Blank Caster (0.83 Mtpa)
- Wire Rod Mill (0.55 Mtpa)
- Bar Mill (0.90 Mtpa)
- Universal Section Mill (0.85 Mtpa)



#### **MODERNISATION & EXPANSION PLAN - IISCO STEEL PLANT**

➤ New stream to produce 2.7 Mtpa of Hot Metal & 2.5 Mtpa of Crude Steel

#### **Production (MTPA):**

Item	2017 -18 (Actual)	After Expansion
Crude Steel	1.80	2.50
Saleable Steel	1.69	2.39

The expanded capacity of IISCO Steel Plant has been dedicated to the Nation by the Hon'ble Prime Minister on 10.05.2015.



## **Current Progress of Expansion at IISCO Steel Plant**















#### MODERNISATION & EXPANSION PLAN—BOKARO STEEL PLANT

#### **Facilities Completed:**

- Re-building of Coke Oven Battery #1 & #2.
- Up-gradation of Blast Furnace #2 and Stoves Up-gradation of #5
- Auxiliary Fuel Injection (CDI) in Blast Furnaces #2 & #3.
- Turbo-Blower-8.
- New CRM Complex (1.2 Mtpa) except HDGL
- Up-gradation of HSM with augmentation of Roughing Facility (4.5 MTPA).

#### **Production (MTPA):**

ltem	2017-18 (Actual)	After Expansion
Crude Steel	3.69	4.61
Saleable Steel	3.50	4.18

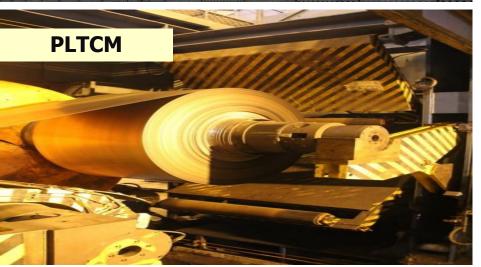


#### Current Progress of Expansion at Bokaro Steel Plant















#### MODERNISATION & EXPANSION PLAN—BHILAI STEEL PLANT

#### **Facilities Already Completed:**

- Ore Handling Plant part-A
- Second Sinter Machine in Sinter Plant-3 (3.7 MTPA)
- New Coke Oven Battery No. 11 (7 m tall, Capacity 0.881 mtpa)
- Oxygen Plant (BOO basis)
- Universal Rail Mill (1.2 MTPA) and Rail Welding Line
- Bar Line of Bar and Rod Mill (0.9 MTPA)
- Blast Furnace 4060 m3 (2.8 Mtpa)
- New Steel Melting Shop (SMS-3) with Converter-1 and New Billet Casters (2x6).

#### Facilities Likely to be Completed During FY 18-19:

- New Steel Melting Shop (SMS-3; 4.13 MTPA) with Convertors 2 & 3, New Billet-cum-Bloom Caster (1X6) and Secondary Refining Units.
- Wire Rod Line (Lateral Line) of Bar and Rod Mill

## Production (MTPA):

ltem	2017 -18 (Actual)	After Expansion
Crude Steel	4.07	7.0
Saleable Steel	3.69	6.56

## Current Progress of Expansion at Bhilai Steel Plant















#### MODERNISATION & EXPANSION PLAN—ROURKELA STEEL PLANT

#### **Facilities Completed:**

- New Coke Oven Battery -6 (7 m tall, 1 x 67 ovens)
- New Sinter Plant -3 (1 x 360m<sup>2</sup>)
- New Blast Furnace -5, useful volume 4060 m<sup>3</sup>
- New 3<sup>rd</sup> Single Strand Slab Caster (1.5 MTPA)
- New Oxygen Plant 2x700 tpd on BOO basis
- New 3<sup>rd</sup> BOF (150 T) Convertor
- New 4.3 meter Wide Plate Mill

#### Production (MTPA):

Item	2017-18 (Actual)	After Expansion
Crude Steel	3.22	4.20
Saleable Steel	2.94	3.99

The expanded capacity of Rourkela Steel Plant has been dedicated to the Nation by the Hon'ble Prime Minister on 01.04.2015.



#### Current Progress of Expansion at Rourkela Steel Plant













#### **MODERNISATION & EXPANSION PLAN- DURGAPUR STEEL PLANT**

#### **Facilities Completed:**

- Rebuilding of Coke Oven Battery no-2
- New Ladle Furnace (125T)
- Coke Sorting & Coal Handling Plant
- New Dolomite Plant (300tpd)
- Bloom-cum-Round Caster 1X4 (0.75 Mtpa)
- New Medium Structural Mill (1.0 Mtpa)

#### **Production (MTPA):**

ltem	2017-18 (Actual)	After Expansion
Crude Steel	2.04	2.20
Saleable Steel	1.95	2.12

## Current Progress of Expansion at Durgapur Steel Plant











## **RAW MATERIALS**

Yea	ar	Hot Metal (mtpa)	Iron Ore Consumption (mtpa)	Linkages of Iron Ore		
2017-	18	15.983	25.87	Existing Mines		
Post Expan	sion	23.46	39	The capacity of existing mines at Kiriburu, Meghahatuburu, Bolani & Gua are being ramped up to meet the requirement of Iron Ore for post ongoing phase of expansion  New Pellet Plants - 4 MTPA capacity at Gua, 1 MTPA at Dalli and 2 MTPA at RSP has been planned for utilization of accumulated Iron Ore Fines & Generated Fines  In addition to the above, new mechanised Iron Ore Mines are being developed at Rowghat, Chiria and Taldih		

## **RAW MATERIALS – Iron Ore**

Mine	Existing Capacity* (mtpa)	Capacity* after ongoing expansion (mtpa)	Remarks	
Kiriburu	5.50	5.50	Expansion at Kiriburu has already been completed whereas	
Meghathaburu	5.00	6.50	Meghathaburu is being ramped up to meet the requirement of the ongoing expansion plan.	
Bolani	7.50	10.00	At Bolani, processing plant has been upgraded to 7.5 mtpa	
Gua	4.00	10.00	and is under stabilization. At Gua, Stage II FC is awaited from	
Rajhara, Dalli	8.70	7.00**	MoEF required for expansion.  **Depleted resources and quality constraints	
New Pellet Plants	New	7.00	New Pellet Plants shall use the existing reserve of fines incl. dumps & slimes at captive mines	
Barsua, Kalta, Taldih	6.00	6.50	<ul> <li>Environment clearance obtained &amp; FC obtained on 23<sup>rd</sup> Oc 2017 for ML-162 lease. Iron ore production to the tune of 1mtpa started at Taldih in Nov, 2016.</li> <li>Consequent to the order by the Hon'ble Supreme Couldated 11.05.2018 and grant of subsequent clearances by the Government of Odisha, production at Barsua mine resume on 20.05.2018.</li> </ul>	
Rowghat	New	12.00	All statutory clearances have been received. MDO has been engaged and LOA issued to MDO on 1st August 2017. MSA signed on 25.09.2017 for a period of 30 years.	
Chiria	0.75	5.80	Stage-II FC awaited from MoEF.	

<sup>\*</sup> Finished Product capacity

<sup>■</sup> The entire requirement of the increased capacity shall be met through captive mines

## **RAW MATERIALS – Coal**

Year	Hot Metal (mtpa)	Coking Coal Requirement (mtpa)	Linkages of Coking Coal
2017-18	15.983	15.392	<ul> <li>Import Component – 86%</li> <li>Over 70% of imported coal is sourced from Australia.</li> <li>Indigenous: 13%</li> <li>Domestic coal is largely sourced from Coal India Ltd.</li> <li>SAIL has existing captive clean coking coal production of nearly 0.7 mtpa, During 2017-18, production was 0.66 mt.</li> </ul>
Post Expansion	23.46	19.5	<ul> <li>Long term / Quarterly contracts cover 95% of Import requirements</li> <li>MDO has been engaged for development of Tasra captive coal mine to produce 4 mtpa of ROM (1.8 mtpa washed coal)</li> <li>New linkages / acquisitions are being explored.</li> <li>Request has been made to Ministry of Coal for allocation of new potential coking coal blocks in line with recommendations of NITI Aayog.</li> </ul>

#### **MAJOR JOINT VENTURES**



#### **FOCUS AREA**

#### **ALLIANCE PARTNER**

#### **REMARKS**

**STEEL** 





A Special Purpose Vehicle, namely, 'Chhattisgarh Mega Steel Limited' has been formed for setting-up an Ultra Mega Steel Plant (UMSP) in Bastar area of Chhattisgarh.

DOWNSTREAM
STEEL PROCESSING
UNITS





- SAIL Bansal Service Center Limited A JV with Bansal Metal Works Ltd. for a Flat Product service centre at Bokaro.
- SAIL SCL Kerala Limited A JV with Govt. of Kerala for producing TMT Bars at Kozhikode.
- Prime Gold SAIL JVC Limited A JV with M/s Prime Gold for producing TMT Bars at Gwalior.
- VSL SAIL JVC Limited A JV with M/s Velagapudi Steel
   Ltd. for producing TMT Bars at Ujjain.

**FNFRGY** 





- JV with NTPC for operating and managing CPPs of Bhilai, Durgapur and Rourkela.
- JV with DVC for operating & managing CPP of Bokaro.

## **MAJOR JOINT VENTURES**



FOCUS AREA	ALLIANCE PARTNER	REMARKS	
TECHNOLOGY	KOBELCO KOBE STEEL GROUP	SAIL Kobe Iron India Pvt. Ltd. – A Joint Venture Company has been formulated for setting up a 0.5 mtpa capacity Plant for producing iron nuggets based on ITmk3 technology.	
RAW MATERIALS	TATA STEEL	International Coal Ventures Pvt. Ltd., a SPV of 5 leading PSUs incorporated (SAIL, RINL, CIL, NTPC & NMDC) for acquisition / operation of coal assets in overseas territories.  M/s S&T Mining Company Pvt. Ltd. formed with Tata Steel for developing coking coal mines in India.  M/s SAIL & MOIL Ferro Alloys (Pvt.) Ltd. formed with MOIL for production of Ferro-alloys at Bhilai.	
CEMENT	JAYPEE	<ul> <li>Bhilai Jaypee Cement LtdSlag based cement plant of 2.2 million tonne per annum capacity with grinding unit at Bhilai &amp; clinkering unit at Satna.</li> </ul>	

## **MAJOR JOINT VENTURES**



## FOCUS AREA ALLIANCE PARTNER

#### **OBJECTIVE**

WAGON MANUFACTURE



SAIL RITES Bengal Wagon Industry Pvt. Ltd. – A
 Joint Venture Company has been formed with M/s
 RITES for setting up Wagon Manufacturing Factory
 at Kulti, West Bengal.

**E-PORTAL** 



 JV with Tata Steel to promote e-commerce activities in steel and related areas

## **Abbreviations used**



•	BF	Blast Furnace	•	FOB	Freight On Board
•	SMS	Steel Melting Shop	•	JPC	<b>Joint Plant Committee</b>
•	BOF	Basic Oxygen Furnace	•	Kg/thm	Kilo Gram Per Tonne of
•	THF	Twin Hearth Furnace			Hot Metal
•	EAF	Electric Arc Furnace	•	Tpd	Tonnes Per Day
•	BSP	Bhilai Steel Plant	•	MT	Million Tonne
•	DSP	<b>Durgapur Steel Plant</b>	•	Mtpa	Million Tonne Per Annum
•	RSP	Rourkela Steel Plant	•	EBITDA	Earnings Before Interest,
•	BSL	<b>Bokaro Steel Limited</b>			Taxes, Depreciation &
•	SSP	Salem Steel Plant			Amortization.
•	VISL	Visvesvaraya Iron & Steel		PAT	Profit After Tax
		Plant	•	PBT	Profit Before Tax
•	ASP	Alloy Steels Plant	•	RINL	Rashtriya Ispat Nigam
. /	CPLY	Corresponding Period			Limited
	C. L.	Last Year	•	CS	Crude Steel
•	G.Cal/tcs	Giga Calories per tonne of	•	CDI	<b>Coal Dust Injection</b>
	•	Crude Steel	•	CC	<b>Continuous Casting</b>
•	ISP	Integrated Steel Plant	•	ВОО	<b>Build-Own-Operate</b>
•	HDGL	Hot Dip Galvanizing Line	•	Gol	<b>Government of India</b>
•	CR	Cold Rolled	•	MOEF	<b>Ministry of Environment</b>
•	HR	Hot Rolled			& Forests

## **Disclaimer**



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Further, statements describing the Company's projections, estimates, expectations are "forward looking statements" within the meaning of applicable securities laws and regulations. Actual results may differ materially from those expressed depending on the circumstances / situations.

Major factors that could affect the Company's operations include, among others, economic conditions affecting demand / supply and prices in the domestic and global markets in which the Company operates, changes in Government regulations, tax laws and other statutes, etc.