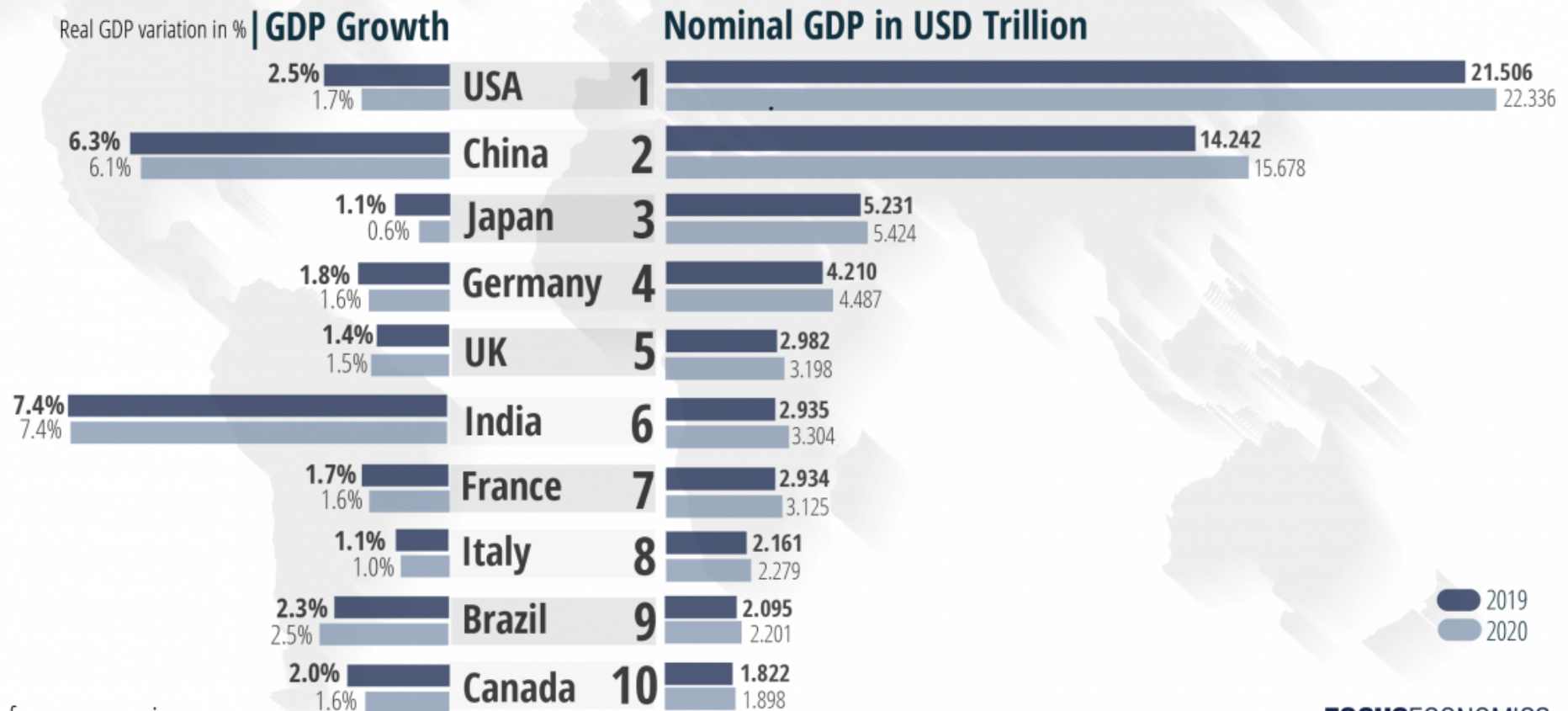
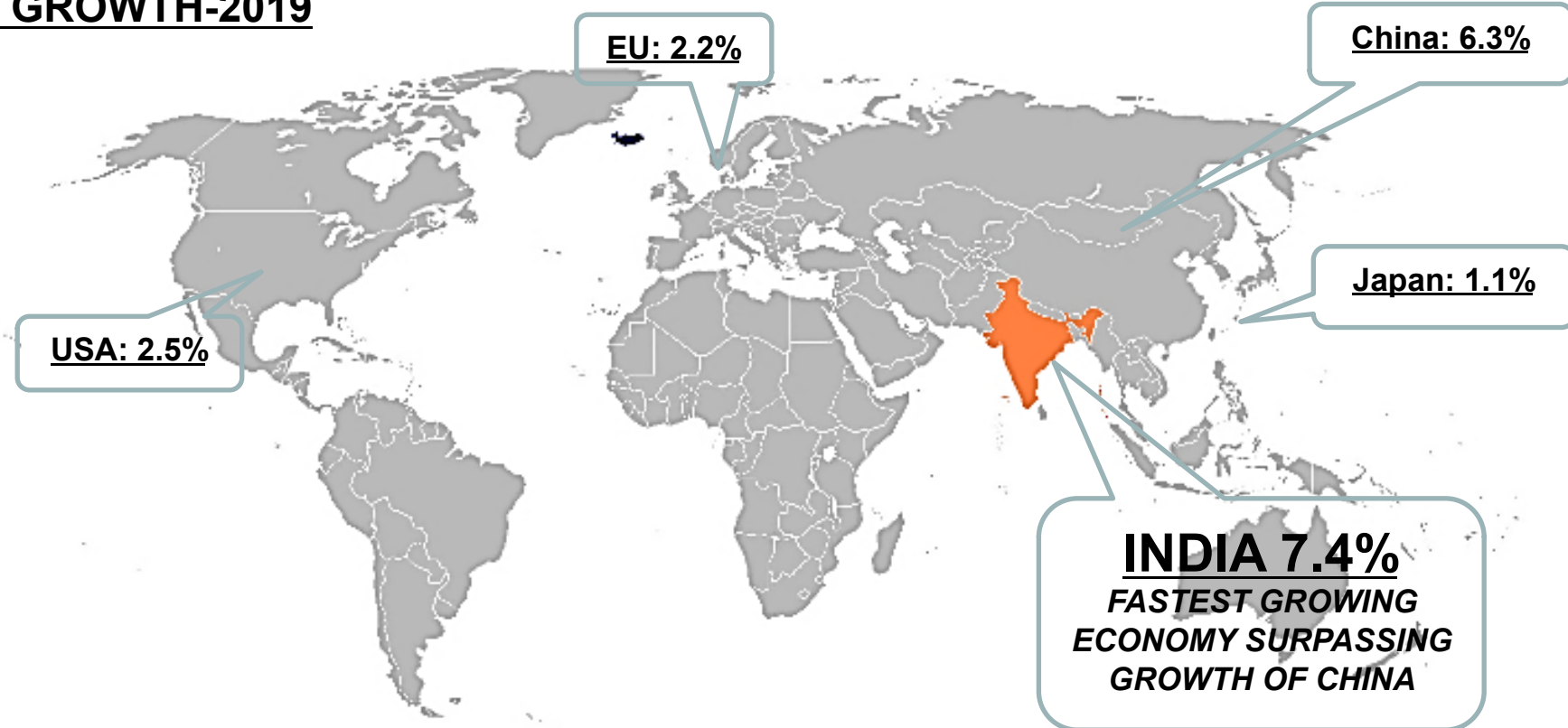


TOP 10 The World's Biggest Economies for 2019 and 2020



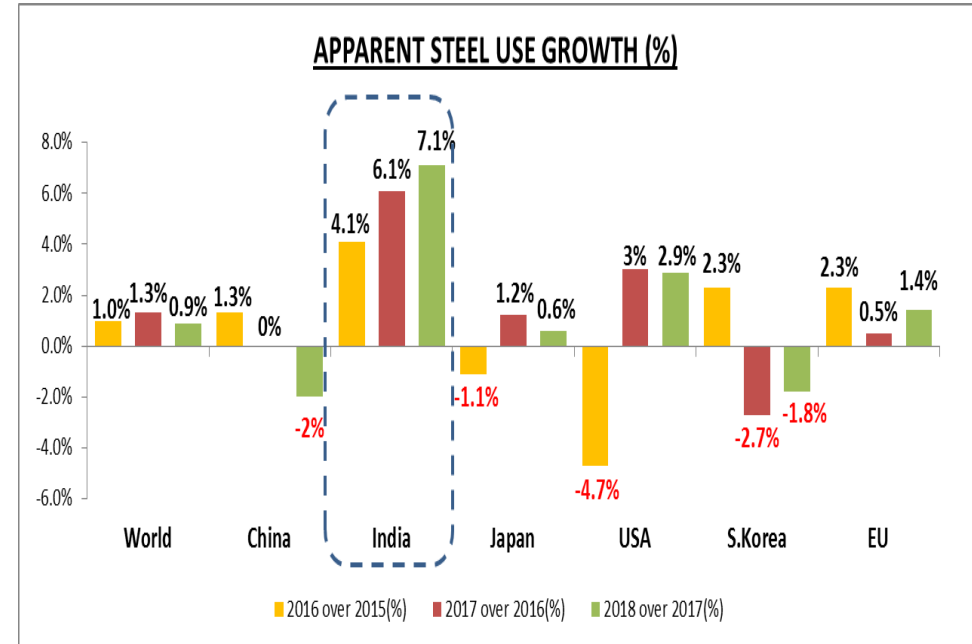
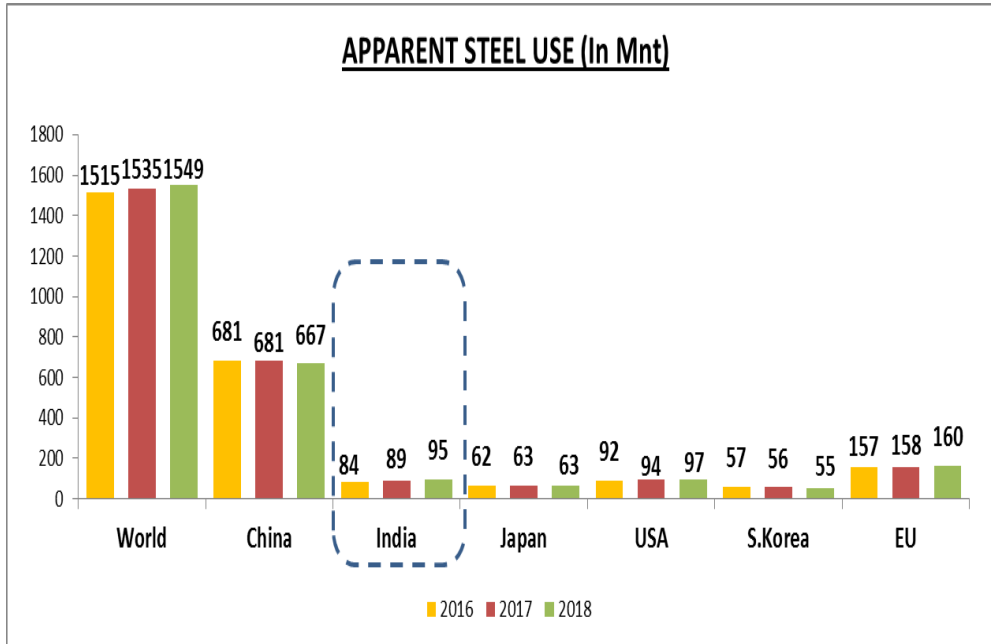
World Steel Scenario- India Only Bright Spot

GDP GROWTH-2019



IMF predicts that India's GDP would grow more than 7% till 2020

World Apparent Steel Use : India Only Bright Spot



- Sustained positive growth in India.
- Per capita consumption set to rise: 61 Kg in 2016 to 158 Kg by 2030-31.
- Thrust on “Make in India” to boost manufacturing share from 17% to 25% by 2025.



India, Inc.

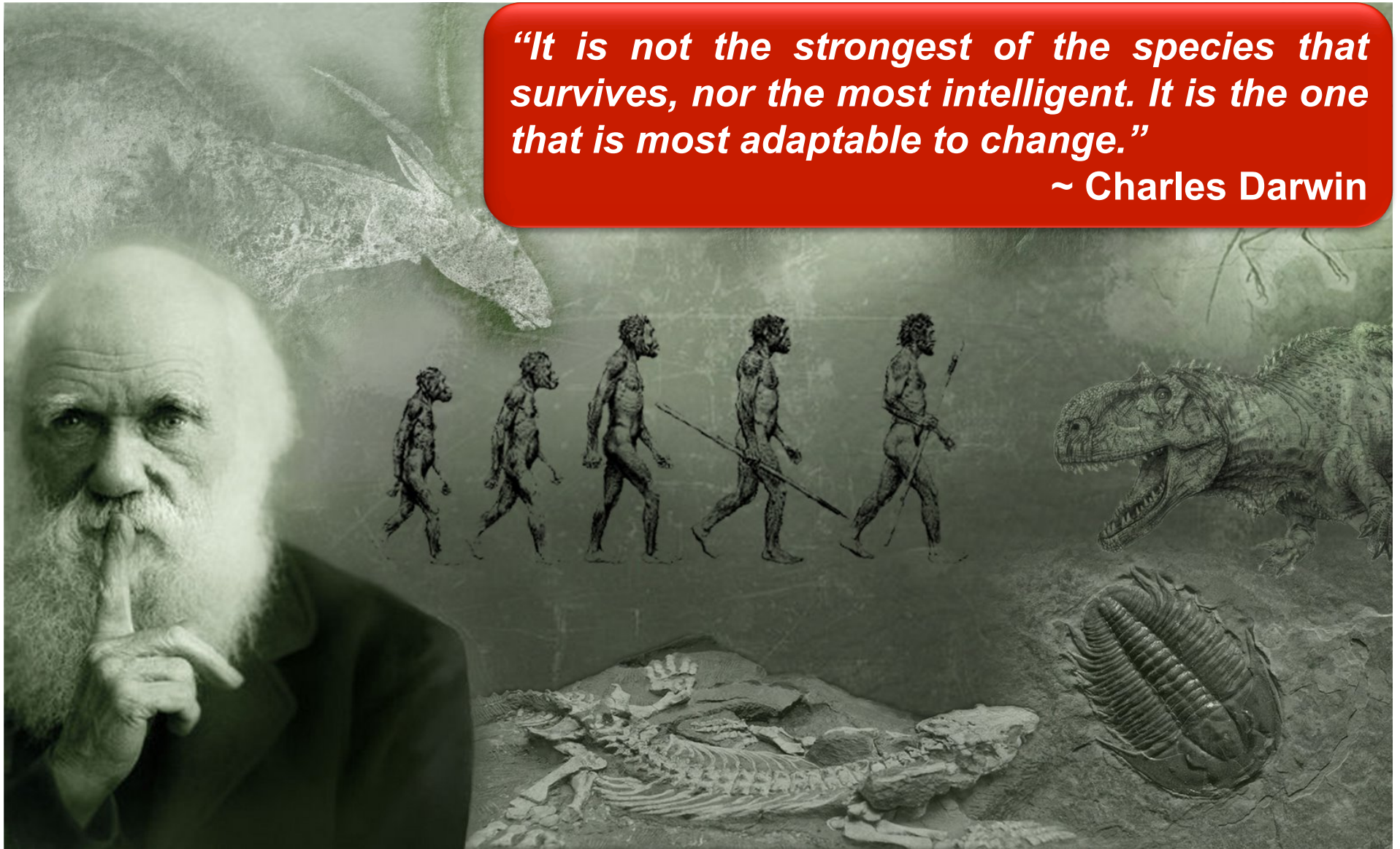
- *Rapidly turning into a Formal economy*
- *The world's Fastest growing Major Economy*
- *Not a Threat to the world as Domestic demand still increasing*



Evolution of India with improved demand

“It is not the strongest of the species that survives, nor the most intelligent. It is the one that is most adaptable to change.”

~ Charles Darwin



India's Steel Sector: Strong Outlook



- GOI supported local industry with Minimum Import Price
- Announcement on National Steel policy- 2017

- Increased consumption due to infrastructure development, affordable housing initiative and growth of the Automobile sector

FY16	FY31	% Growth
81.5 MnT	230 MnT	182%

- Increasing utilization of existing capacities

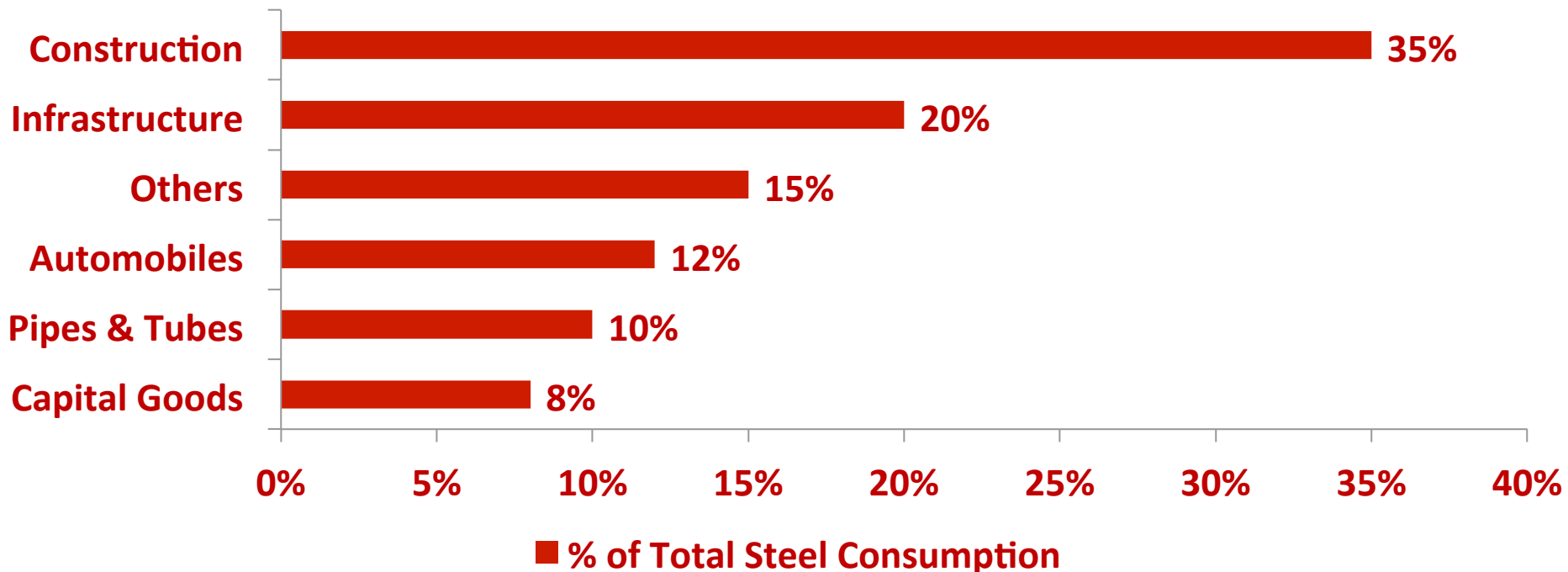
Period	Capacity	Production	Utilization
FY16	122 MnT	90 MnT	73%
FY31	300 MnT	255 MnT	85%

- Steel Demand CAGR @ 5.30%

- India's competitive advantage in the global steel market leading to rise in exports
- Implementation of BIS standard to maintain high quality

Overall Steel Consumption by Segment in India

Steel Consumption



Cars per '000 population	
USA	797
China	214
Worldwide	174
India	32

Auto Sector poised to grow from US\$ 74 Bn in 2015 to US\$ 260-300 Bn in 2026

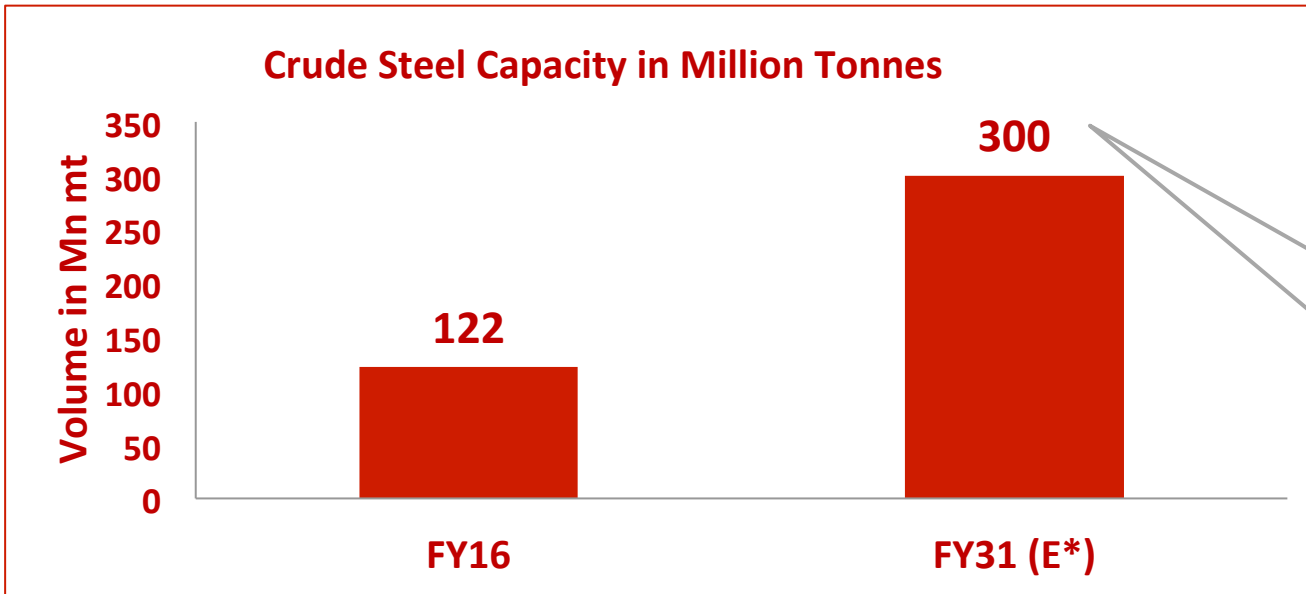
Anything which is low can only go UP!

Indian Flat Steel Products Market Size

Product	% share of products	Market Potential (Mn TPA)				
		FY 18	FY 19	FY 20	FY 21	FY 22
HR / HRPO Coil / Sheet	50	18.50	19.60	20.80	22.00	23.40
CRCA Coils / Sheets	24	8.88	9.60	10.40	11.20	12.10
Coated (GP / GC)	14	5.18	5.40	5.70	6.00	6.30
Plates	12	4.44	4.70	4.90	5.10	5.40
Total	100	37.00	39.30	41.80	44.30	47.20

India has a Flat Product Market size of 40 Million Tonnes per annum

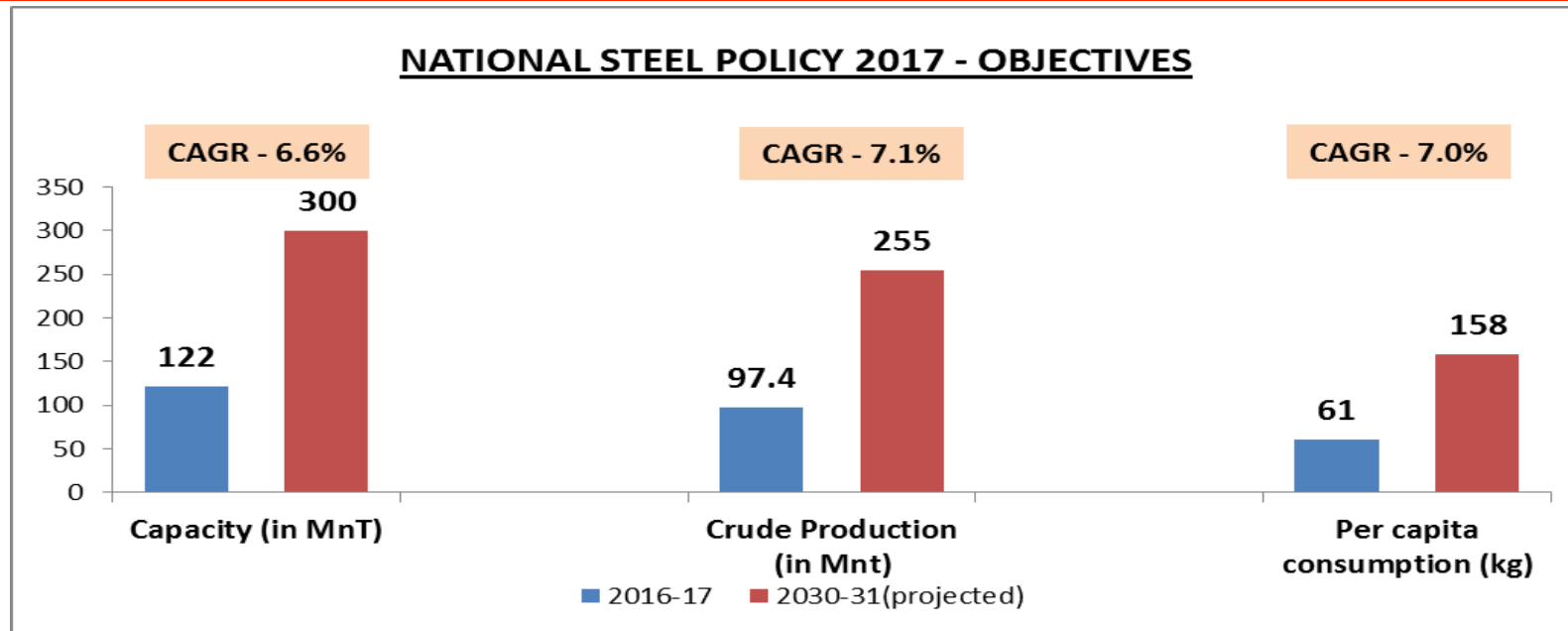
Overall Steel Production Capacity Growth



How ??

**Green field Focus
& Increasing
Secondary Steel
production**

India's Crude Steel Production Capacity is estimated to grow >200% by FY31 to touch 300 Million Metric Tonnes



Objective of NSP:

- Crude steel capacity enhancement from current 122MT to 300Mt by 2030-31.
- Steel production growth from 100.7MT in 2016-17 to 255MT by 2030-31.
- Per capita consumption growth of finished steel from current 61kg to 158kg by 2030-31.

Key segment focus will be:

- Infrastructure (Additional Demand : 75 MTPA)
- Real Estate (Additional Demand : 15 MTPA)
- Engg. & Fabrication (Additional Demand : 8 MTPA)
- Automotive (Additional Demand : 5 MTPA)

Roadmap to achieve 300 Million tons

- Implementation of Govt. initiatives.
- Government spending in infrastructure & Projects
- Explore New applications.
- Wider reach in rural sectors
- Skill development for use of steel in housing

Create Steel Demand

Addressing 4 Cs of Steel Industries

- Capacity
- Capabilities
- Competitiveness
- Challenges

- R&D spending in various areas
 - Innovations
 - Process Improvements
 - Yield Enhancement
 - Cost Reduction

R&D Investment

Adequate Talent Pool

Institutions to develop talent pool

- Dearth of Technical talent pool.
- Attractiveness of steel as a profession by the younger generation.

- Professional course in Institutions
- Technical universities
- Tie up with top Institutions in the world

Collaborative Approach with all stake holders for achieving desired objectives

Addressing 4 Cs in Steel Industry

Capacities

- Expediting committed capacities
- Resolution of Funding Issues
- Development of Steel Clusters in appropriate locations
- Allow Industry Consolidation

Capabilities

- Raw Material Security
- Differentiated Supply Chain
- Efficient Project Capital management
- Customer Centric Marketing & Sales



**Growth
Depends on
4 Cs**

Competitiveness

- Reduce Cost of Production
- Increase Efficiency and Productivity
- Supply Chain Management
- Reduce input consumption
- Project Generation
- Greater Investment in R&D

Challenges

- Structural shifts in China
- Flattening of Global Cost
- Raw Material Supply Volatility
- Volatility in steel prices
- Financial Stress & Growing NPAs
- Sustainability & Environmental

How can the challenges be addressed?

Flattening of Global Cost

- State Subsidies
- Higher Operating efficiency
- Managing volatility

Infrastructure & Logistics

- Streamlining land acquisition process
- Upgradation of Railways infrastructure to handle increased volume
- Capacity enhancement of port and its efficiency of operation

Raw Material Security

- Resource security at competitive price
- Managing Volatility
- Infrastructure to facilitate imports
- JV with Global Miners
- Vertical Integration.

Sustainability & Environmental Reforms

- Energy efficient
- Control Emissions
- Steel Makers to align Business Growth with sustainability Growth.

The revival in construction, automobiles and consumer durables' demand is anticipated to drive demand for steel products in immediate future.

Make in India

- Aim to build a leading Manufacturing infrastructure hub through investments & Innovations. *Aim to increase manufacturing share in GDP from 15% to 25% by 2025.*
 - Increase in manufacturing – more factories, more demand, better technology, innovations, increase job market.
 - Improved competitiveness – better export opportunities, better efficiencies.



Excellent potential for increase in demand of steel products

Smart Cities

- Outlay of about USD 22.5 billion to create 100 smart cities and rejuvenate 500 existing cities.
 - Residential hubs, Urban mobility, renewable energy supplies, indirect trade and business development.



More steel demand from end users

The revival in construction, automobiles and consumer durables' demand is anticipated to drive demand for steel products in immediate future.

Railways

- Increase daily passenger carrying capacity from 21 million to 30 million.
- Projects worth USD 1000 billion through PPP by 2020.
- Modernization of 400 Railway stations through PPP mode.



Strong demand for steel through PPP and direct sale

Infrastructure - Roads & Highways

- USD 450 Bn. planned over next 5 years with 70% in power, roads & urban infra.
- Highway projects announced worth USD 93 Bn.
- USD 16 Bn. for coastal development.
- Redevelopment of existing infrastructure.
- Industrial Corridors.



Immense demand growth potential for steel in these sectors.

The revival in construction, automobiles and consumer durables' demand is anticipated to drive demand for steel products in immediate future.

Housing

- Housing for all, to construct 110Mn houses by 2022.



Immense steel direct and indirect demand

Renewable Energy

- Wind - 65GW, Solar – 100GW, Hydro - 5GW, Biomass – 10GW



Boost to steel demand in these sectors

- Initiatives like Financial Inclusion, Skill India, Ease of Doing Business etc. to further enhance the overall investment climate, generate more jobs in India and *aid in achieving increased steel demand in the country.*

Focus Sectors promising Steel Demand

- **Urbanization** – one of the key drivers for demand growth.
- **More than 100 million people** expected to move to cities.
- **Huge gap in floor space requirement** - India today has only 20% of floor space required to accommodate urban population by 2030.

Construction



- **Freight traffic** expected to grow at a CAGR of 18% to touch 2165 MMT by FY20.
- **Vision 2020 for Indian Railways** proposes to add
 - 25,000 km of new lines by 2020.
 - More than 30,000 km of double/multiple line routes.
 - More than 6,000 km quadrupled line routes.
 - 33,000 km of routes to be electrified.
- 300t for a double line/km, 24-30t for each wagon and additional demand for old bridges.

Railways



- **National Highways** expected to grow to 100,000 km by end of 2018.
- **63,591 km National Highways** aimed under various government programmes..
- **20,000 kms** proposed to be developed as 2-lane highways during 12th FYP (2012-2017).
- **Investment through PPP model** expected around USD 31 bn for national highways.

Roads



- **34 Million 2-Wheelers** and **10 Million Passenger vehicles** manufacturing by FY20.
- **Automotive sector domestic sales** projected to grow at a CAGR of 11.5–12.5% till FY26.
- **Production of automobiles** is projected to grow to as much as 62.5 million units in FY26.

Automobiles



India is now set to urbanize at an unprecedented pace and scale which has not happened anywhere in world except China (Year 2007- 2030)

5 times increase in GDP	Urban population to increase to 600 million, 40% of India's total population - twice the population of USA today	Net working age population to increase by 270 million
70% of India's GDP and net new employment to come from urban India	4.5 times increase in no. of urban million households	68 cities will have population of 1 million +, up from 42 today. Europe has 35 today.
700 – 900 million sqm of commercial / residential space needs to be built [a new chicago every year].	7,400 Km of Metros / Subways need to be built – 20 times the capacity added in last decade	2.5 Billion Sqm of roads will have to be paved, 20 times the capacity added in past decade.



Structures	Steel Products Required
High rises & sky scrapers	Steel H Beams, Rebars, Pipes, Galvanized and PPGI steel
Office buildings	Steel frames, H Beams, Pipes, Galvanized and PPGI steel
Water supply	Steel Pipes
Waste water, sanitation & sewage	Steel Pipes
Affordable housing	Steel H beams, Angles, Galvanized steel
Solar panels for residential and office buildings	Galvanised steel frames for solar panels

“Prime Minister Housing Scheme” - a big boost for use of steel intensive structures & also use of pre-fabricated structures.

Indian Infrastructure: Powering Ahead



Rohtang Tunnel

All weather roadway, reducing journey time between Jammu & Srinagar by 2 hours

World's Highest Road tunnel too!



Dhola-Sadyia Bridge

9.15 Km long, Built over the mighty Brahmaputra river, Brings Arunachal Pradesh closer by several hours

India's longest Bridge!



Chenab Bridge

Railway steel and concrete arch bridge over the Chenab river in J&K at a height of 359 m (1,178 feet)

World's Highest Rail Bridge too!

The Country with the most notable infrastructure development, Globally!

- Spending US\$ 30 Billion per annum on Infrastructure
- Domestic Air Traffic has grown 23% in the last year alone

Demand from India's ever-expanding Highways



- Over 100,000 km of National Highways in India
- New Road construction Target @41 Kms per day
- Major demand for Coated steel for usage in Bridges, Crash Barriers, and for General Engineering

Category	Length (km)
Expressways	2,000 km
Total National Highways	100,087 km
National Highways (Already 4/6 laned)	22,900 km
National Highways which are being 4 or 6 laned	25,000 km
State Highways	154,522 km
Major and other district roads	2,577,396 km
Rural & other roads	2,650,577 km
Total (approx.)	5,532,482 km

Essar Steel India: Poised to Deliver



3 Among India's largest single location flat steel producer (10MTPA)



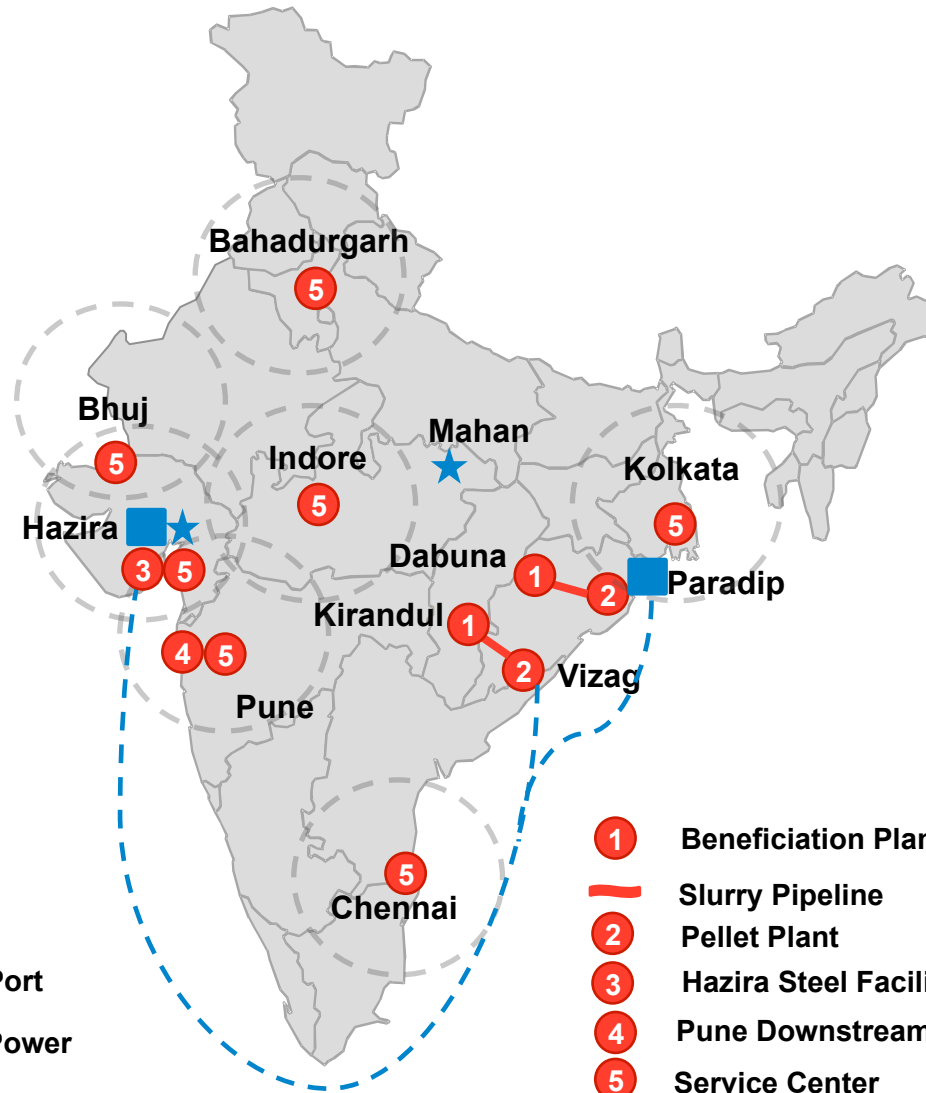
4 Complete Basket of Flat Steel Products



5 Service centers situated in steel intensive locations



Essar Port Limited
 Essar Power Limited
 Essar Shipping Limited



- 1 Beneficiation Plant
- 2 Slurry Pipeline
- 2 Pellet Plant
- 3 Hazira Steel Facility
- 4 Pune Downstream Facility
- 5 Service Center

Dedicated port infrastructure – ease of movement for raw material & finished goods



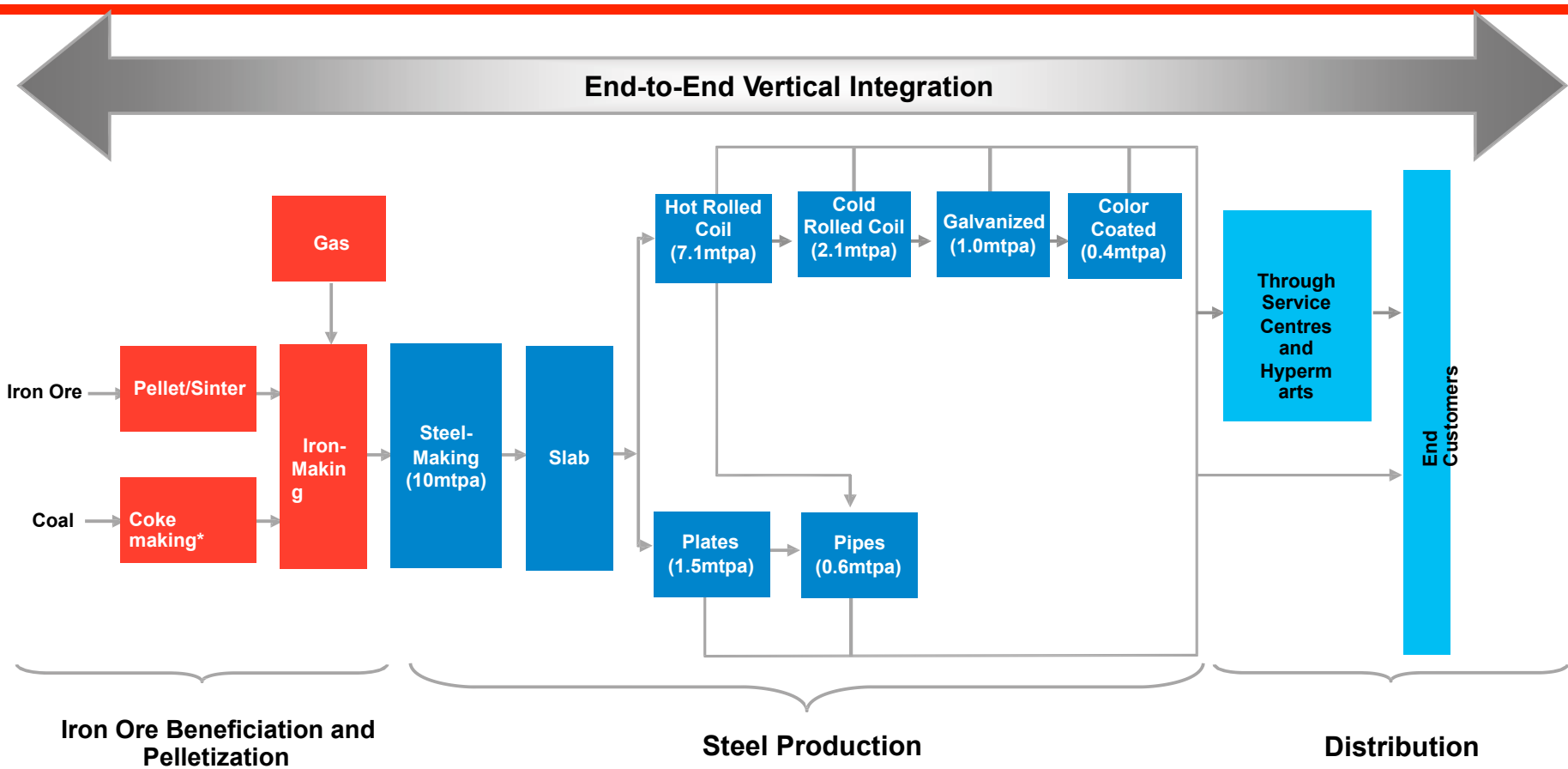
1 Access to high quality iron ore fines & proximity to vast quantities of low grade fines



2 Raw material security with largest pellet capacity in India



Integrated Facilities – Capturing The Value Chain



- Captive pellet production at Vizag and Orissa pellet project
- Captive iron ore mine in Odisha (recently won in auction)

- Full range of flat rolled products, including value-added products such as CRC,
- galvanized and coated coils and sheets, HRPO, plate and pipe

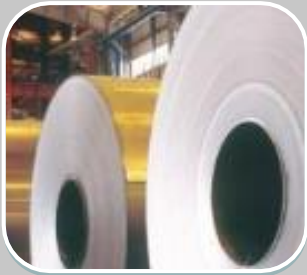
- Distinct distribution model featuring service centers and distribution centers (Hypermarkets & eHypermart)

Operations span full value chain from raw materials to product distribution

* Coke oven - Project Stage

Flat Steel Production

Cold Rolled



2 MTPA

Thickness-
0.4 -3.2mm

Width
200-1525mm

Hot Rolled



7.1 MTPA

Thickness-
0.8-20mm

Width
800-2000mm

HDGI

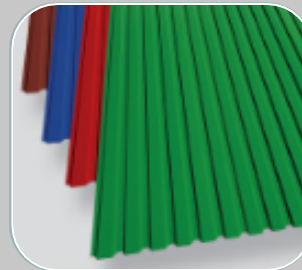


1 MTPA

Thickness
0.18-3mm

Width-
200-1340mm

Color Coated



0.4 MTPA

Thickness
0.25-1.2 mm

Width
300-1310mm

Plates



1.5 MTPA

Thickness
5-150mm

Width
1100-4950mm

Pipes

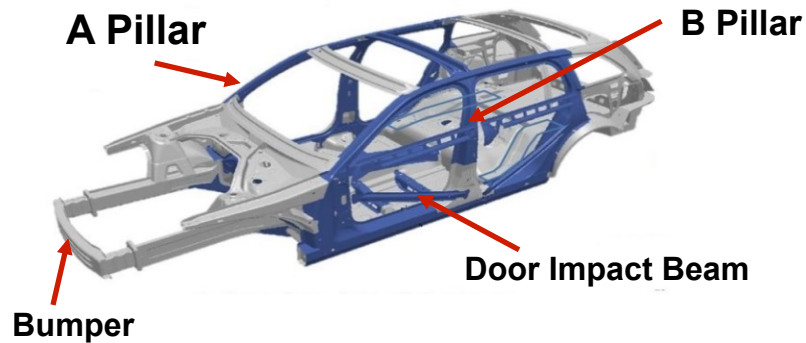


0.6 MTPA

Diameter
406-1524/
2510mm
Thickness-
6-65/25.4 mm

Product Positioning – Essar’s Branding Initiative

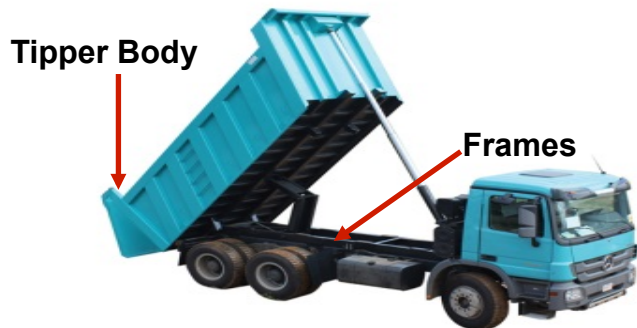
BOROSTAR[®] HIGH STRENGTH STEEL FOR HOT FORMING



ARMA PRO[®] SUPER TOUGH ARMOR STEEL PLATE



TUFMAX[®] HOT ROLLED HIGH STRENGTH STEEL



ROCKSTAR[®] HEAVY DUTY ULTRA TOUGH STEEL



Special Products – Defence Sectors

Only Domestic steel mill to be an approved source of special steel for Indian Defence



Futuristic Steel for Main Battle Tanks DMR1700

Armoured Vehicle - ARMAPRO 500

Steel for ATAGs



Steel Plates for Main Battle Tanks



Approvals & Accreditations from Defence Establishments

Special Products – Defence Sectors



High Strength & Tough steel plates for AGNI missile launch pads



Steel for Construction of Submarine Hull



High strength and tough DMR249A steel plates for warship building approved by DMRL & DNA



High strength & Corrosion Resistant steel plates for advanced offshore patrol vessels

Why Essar Steel is the first choice for Import?

- **Dedicated port infrastructure – ease of movement for raw material & finished goods**
- **Raw material security with largest pellet capacity in India**
- **Wide product mix**
- **Presence across all key segments**
- **Express Deliveries – Geographical Advantage**
- **Customer centric approach**

THANK YOU !

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