

# Global Stainless Steel Outlook



## 08<sup>th</sup> International Stainless Steel Conference

*06-08 November, 2005, New Delhi*

Organized By:



Presented By  
Mr. N.C. Mathur  
President - ISSDA  
Director – Jindal Stainless





# Stainless Steel - Crude

## Global Production

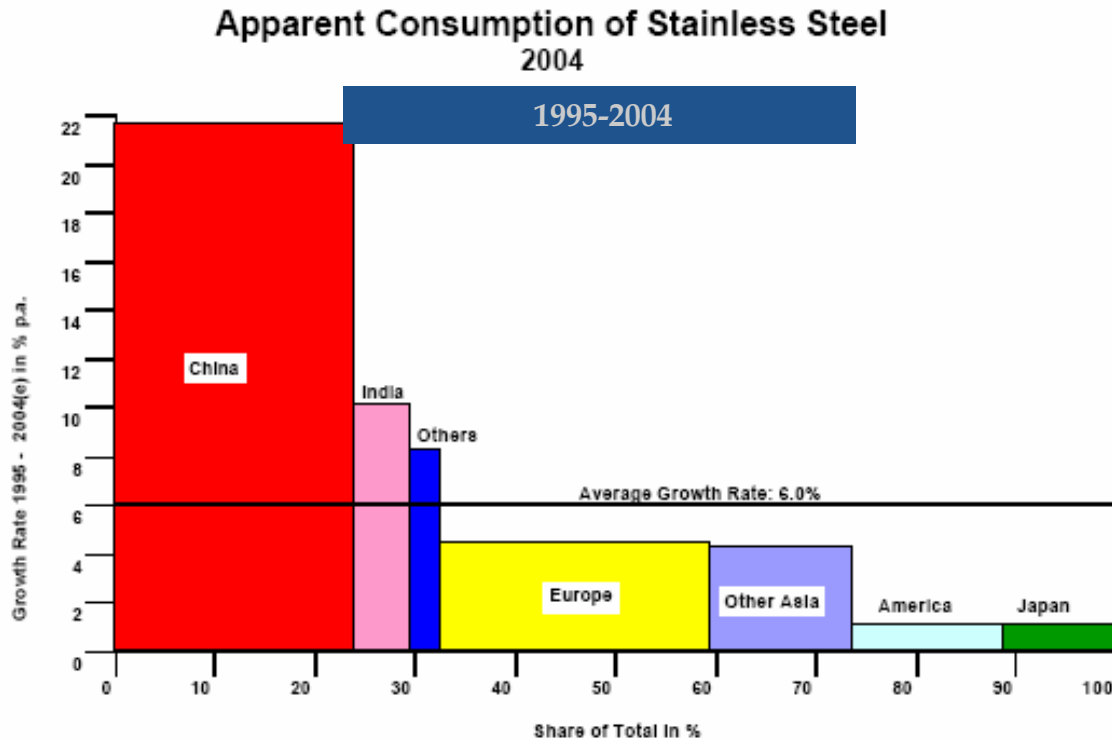
Region	2002	2003	%Growth	2004	% Growth
Western Europe / Africa	8,628	9,043	4.9	9,414	4.1
The Americas	2,750	2,830	3.7	2,929	3.5
Asia	9,049	10,645	17.6	11,896	11.8
Central & Eastern Europe	252	341	9.9	343	0.6
<b>Total World</b>	<b>20,679</b>	<b>22,861</b>	<b>10.4</b>	<b>24,583</b>	<b>7.5</b>

- India & China will contribute to maximum growth in Asia .
- Global production of Stainless Steel is likely to grow only by 2% in 2005 due to high raw material price and de-stocking.
- Estimated growth for 2006 + 6%.



# Global SS Outlook

## Geographic Consumption Growth



Annual growth rate  
in Asia -12.6% as  
against 6% global  
growth

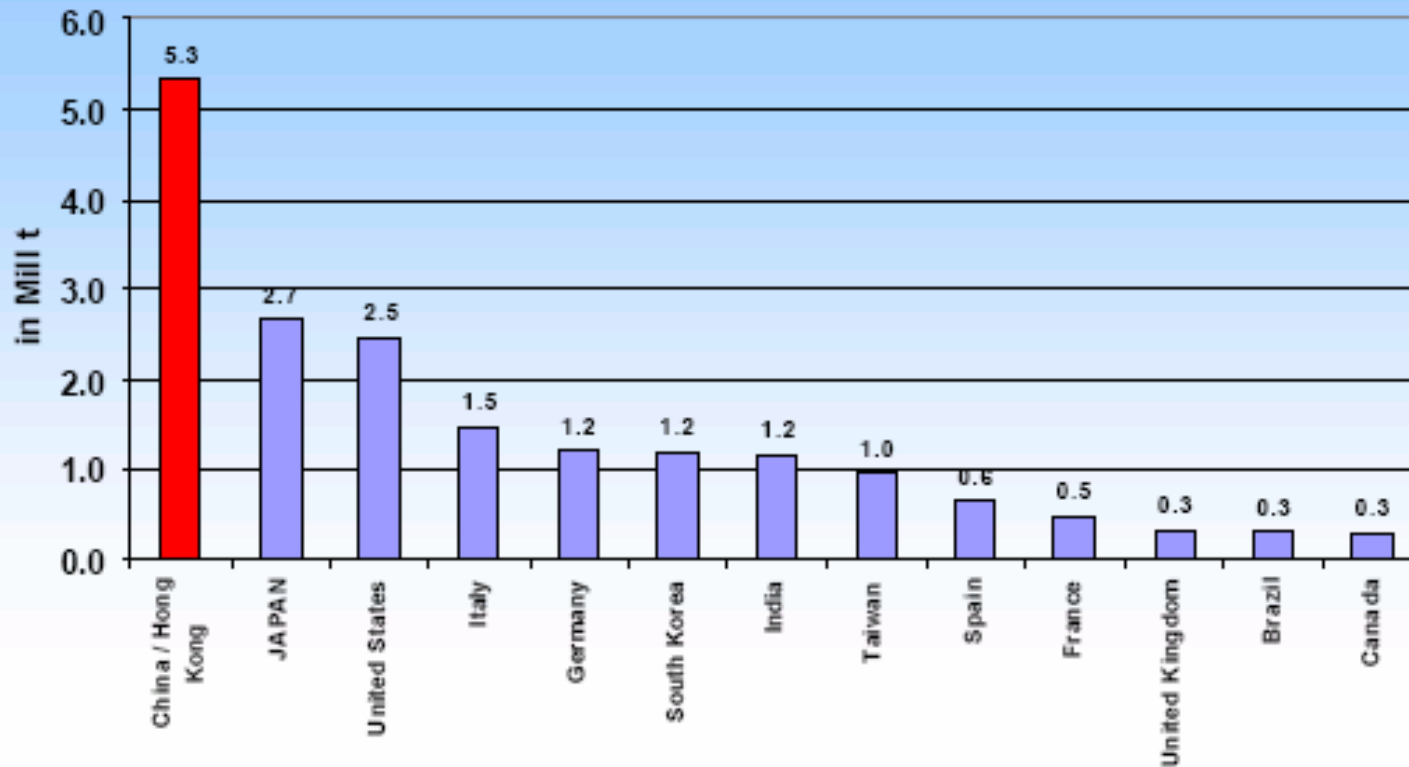
Asia incl. China, South Korea, India, Thailand, Taiwan has become the largest user segment with share of almost 43% last year which is expected to increase to 50% going forward

Above change in market dynamics to have substantial impact on raw material markets, pricing, material flow, product mix by grades and market development



# Apparent Consumption - 2004

## Apparent Consumption of Stainless Steel



China with its apparent consumption of 5.3mt has surpassed the aggregate demand of 5.2 mt from Japan & US

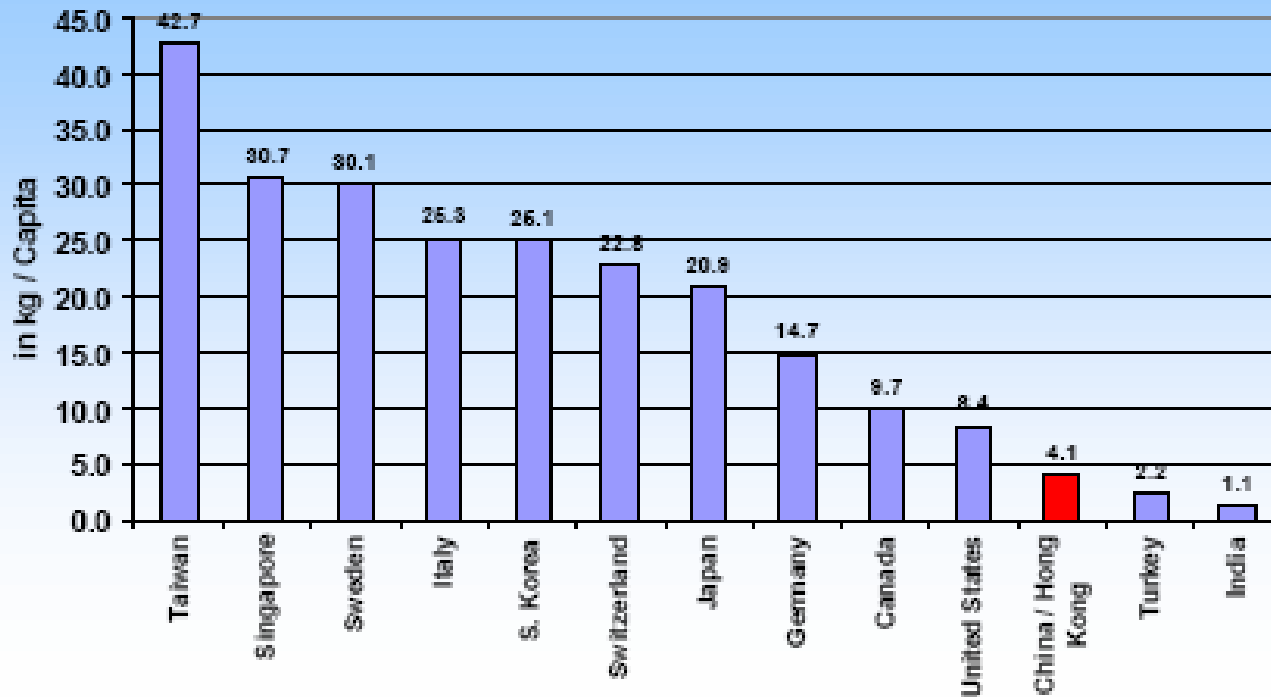
*Data source : Heinz H. Pariser, Alloy Metals & Steel Market Research*



# Global SS Outlook

## Per Capita Usage

Stainless Steel Consumption per Capita



Despite exponential growth of 25-30% over last 3-4 yrs, China still below other developed economies like US, EU & Japan

*“Can India be the next China????”*

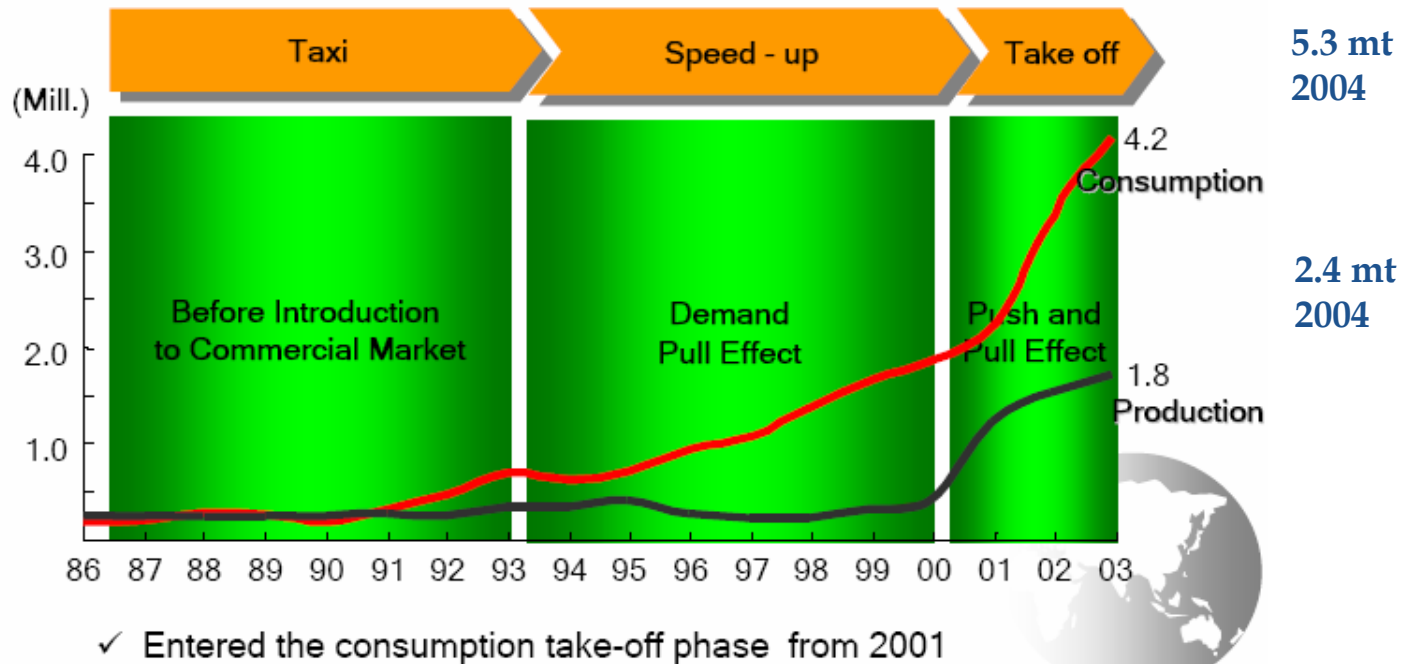


# The China Factor

## I. Overview



### □ Growth Phases of Stainless Steel Industry in China



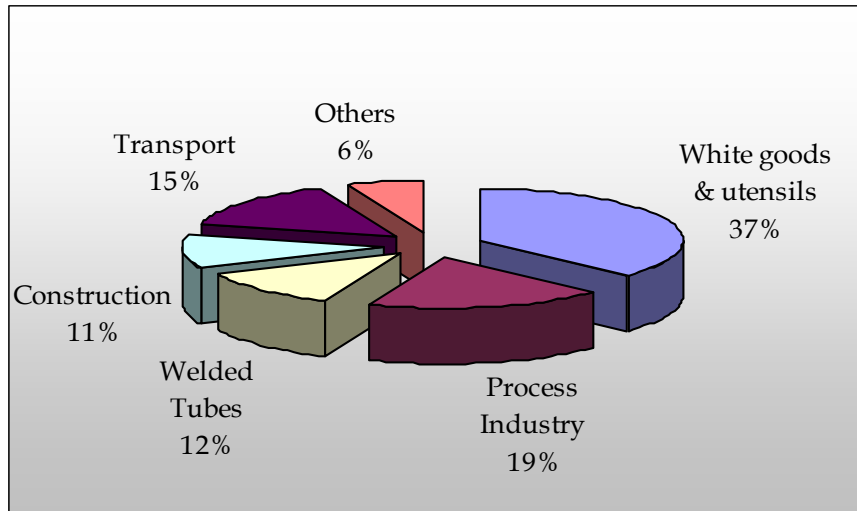
In order, to meet its apparent consumption of 5.3mt in 2004, China imported 2.9 mt of stainless steel

*Data source : Heinz H. Pariser, Alloy Metals & Steel Market Research*

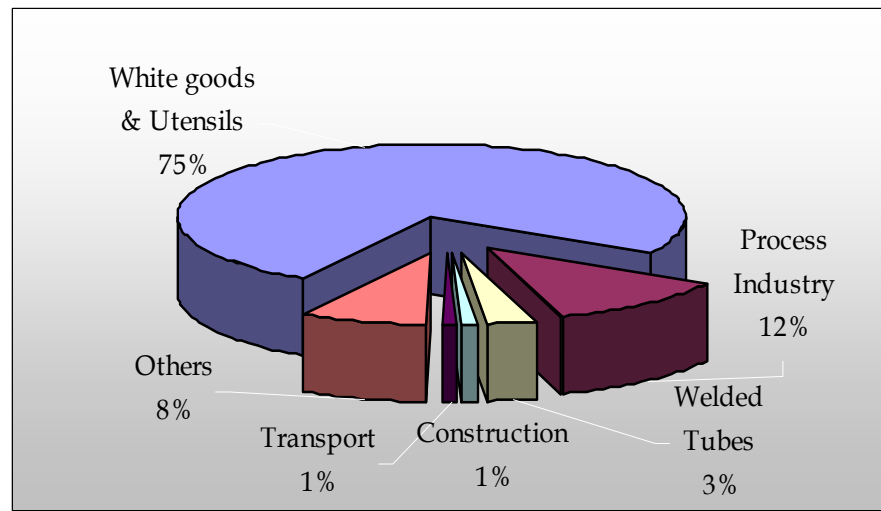


# Consumption Pattern

## Western trend



## Indian trend



India still to go long way in development of its basic infrastructure

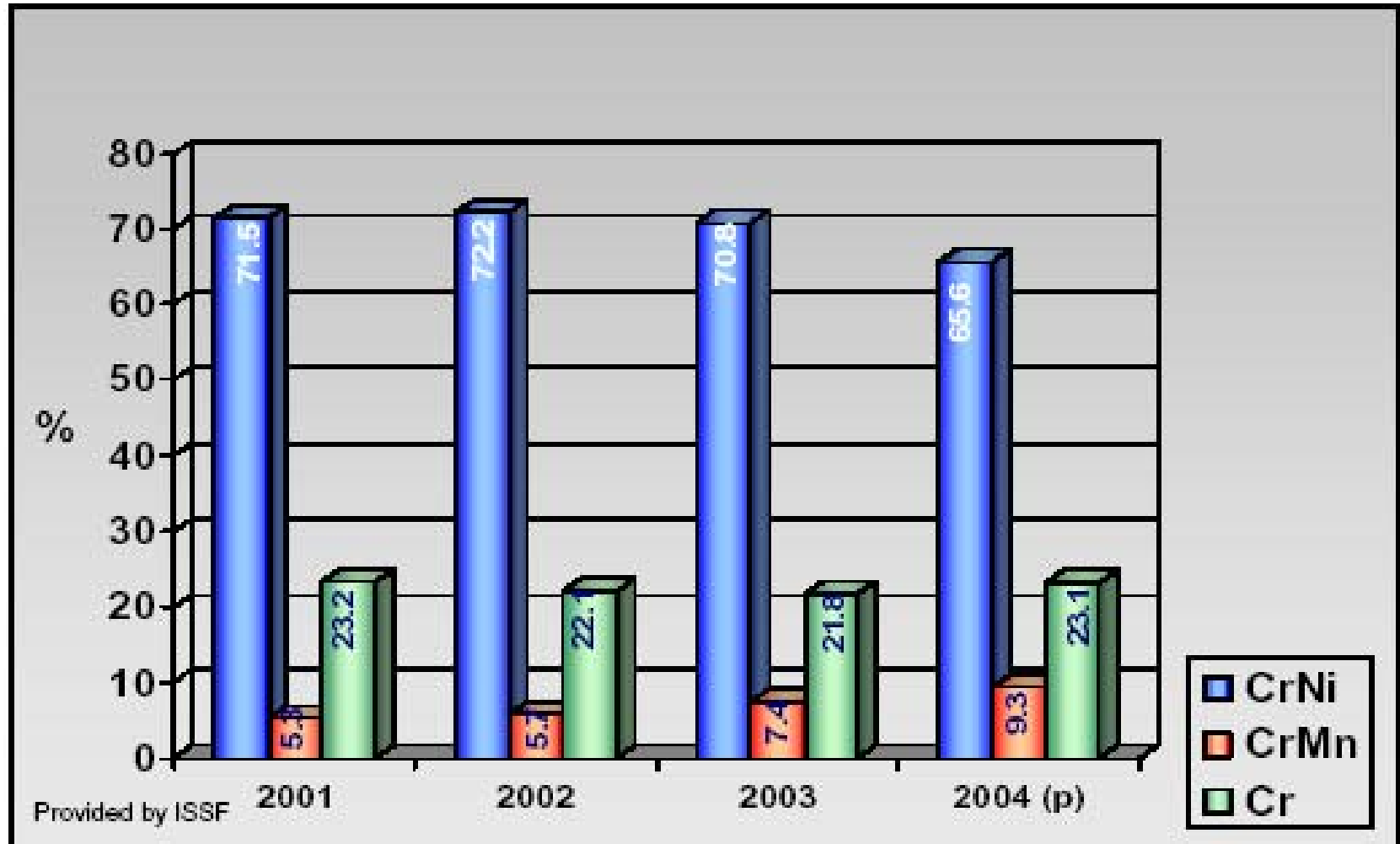
Only 1% of domestic stainless steel consumption goes into construction compared to 25% in China

Architecture, Building & Construction (ABC segment) and Automotives, Railways & Transport (ART) are expected to be drivers of demand growth in India.



# Global Stainless Steel Production

## Categories





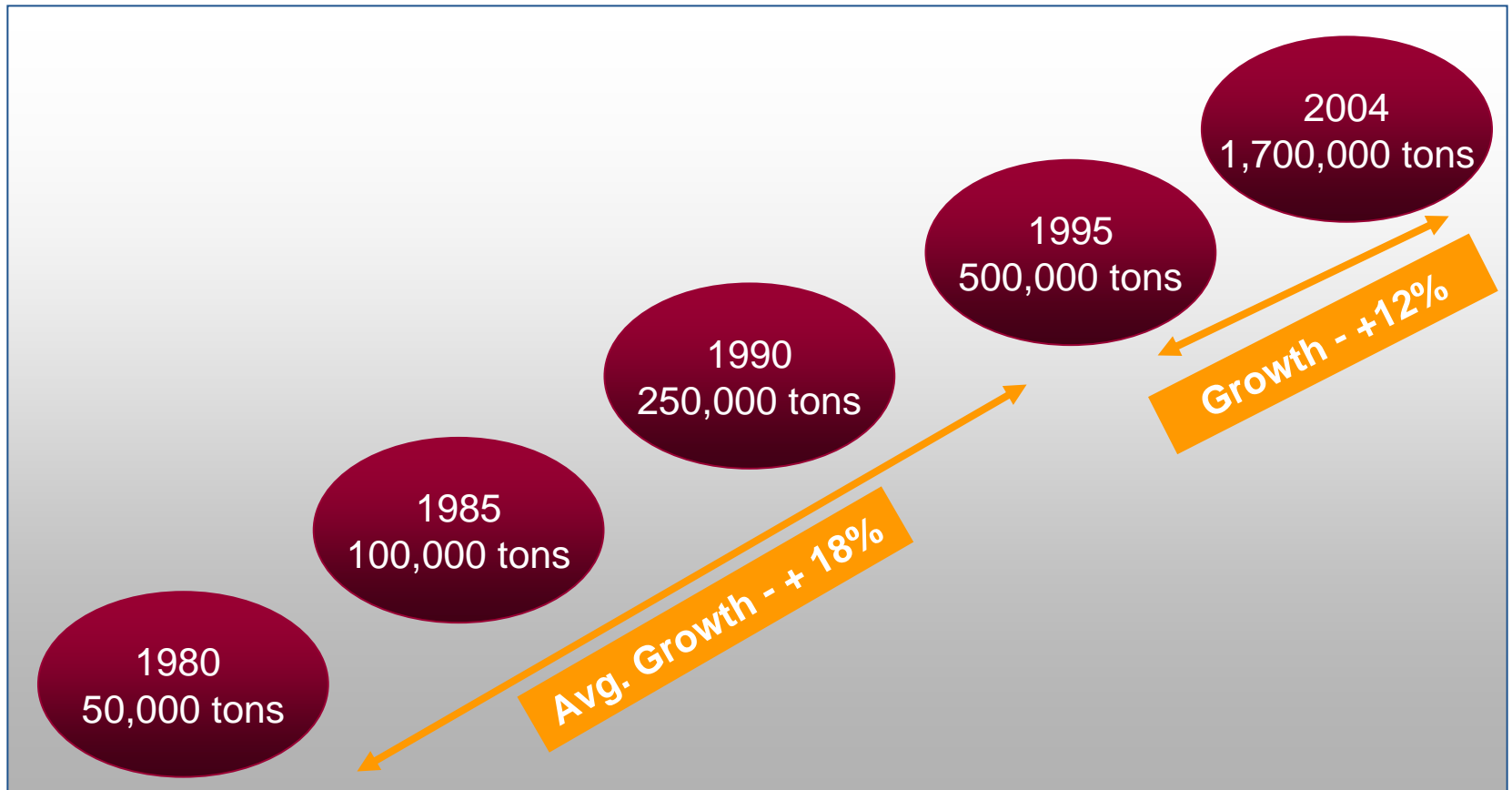


# **Indian Stainless Steel Industry**

## **An Overview**



# Stainless Steel Production in India





# Indian Stainless Steel Outlook

- India with apparent consumption of 1.2 mt placed 7<sup>th</sup> in terms of global stainless steel consumption
- Indian consumption growth over last decade at 12%
- Indian per capita consumption of stainless steel of 1.1 kg is far lower than china 4.1 kg & developed countries in range of 15-20 kg
- Jindal Stainless contributes 35% to domestic stainless steel production
- Potential for high growth -
  - higher expected growth in GDP & Industrial production
  - existing low per capita consumption
  - Availability of key natural resources like manganese and chrome ore
  - low manpower cost

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Indian stainless steel demand expected to grow by 12% annually



# **Evolution of Cr-Mn (200 Series) Stainless Steel in India**



# Indian Stainless Steel - 1990

- **Production - 250,000 ton**
- **95% of 300 Series (Grade 304)**
- **85% of end use was in Kitchenware**
- **High Nickel prices in 1989 – \$ 18,000 per ton**
- **Foreign Exchange Restrictions**
- **15 years of R & D efforts of Jindal Stainless to develop special Cr-Mn grades for the domestic & international market.**



# Indian Stainless Steel Industry

**Applications**

**Kitchenware**



# Stainless Steel *Kitchenware*

Indian usage is in Kitchenware at 74%



Storage



Washing

Cooking



Serving



# Indian Stainless Steel Industry

## Applications

**Architecture, Building & Construction**





# Stainless Steel ABC

## Parliament Library



**Focal Dome**  
31 tonnes used



**VIP dome**  
38 tonnes used



# Stainless Steel

## ABC

### Parliament Library



- Over 350 tonnes of stainless steel has been used.
- Majority of the applications strictly from the utilitarian point of view.
- Structural use of stainless steel emphasized.



# Stainless Steel

## ABC

**Apollo Tyres Corporate Office,  
Gurgaon**



**Internal glass staircase with  
front wall cladding, in stainless  
steel**





# Stainless Steel

## ABC

**Industrial Economist  
Building, Chennai**





# Stainless Steel ABC



**Tulsi Bhawan, R&D Center,  
Jindal Stainless, Hisar**

**Entrance Gate  
Jindal Stainless, Hisar**





# Stainless Steel *ABC*

**Koperkhairane Railway Station  
Platform Roof, New Bombay.**





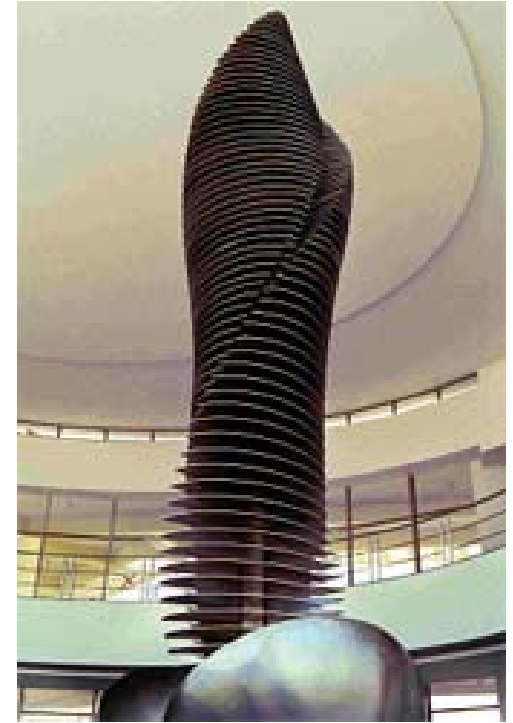
# Stainless Steel ABC



**BFL Software Office,  
Bangalore**



**CAD Designed CNC Laser cut  
Sculpture hanging in ING-Vysya  
Bank, Bangalore.**



**TIMKEN Engineering  
and Research India  
Ltd., Electronic City,  
Bangalore.**



# Stainless Steel ABC



**Escalators & Handrails**

## Delhi Metro Station



**Dividers**



**Bench**



**Information Board**



**Dustbin**





# Stainless Steel ABC



**ONGC - Fuel Retail Outlet, Mangalore**



# Stainless Steel *ABC*



**The Atrium**



**Escalators in a  
shopping mall**



***Entertainment Plaza***

Source :Morphogenesis Architecture Studio



# Stainless Steel ABC



**EDM Plaza , Ghaziabad,  
Developed by Jindal Stainless- Architectural Divn, Delhi.**



# Stainless Steel

## ABC



Shop Interiors



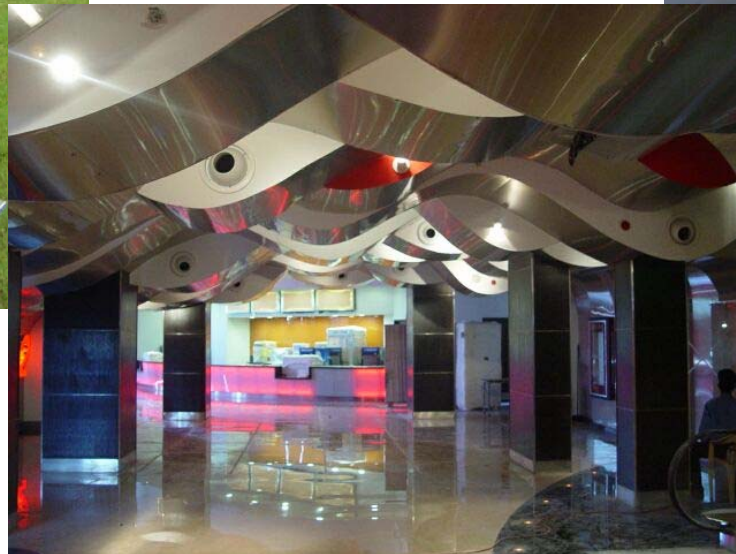
# Stainless Steel

## ABC - New Products & Services



**New Design Letterbox  
for Indian Post**

**PVR Cinema Multiplex  
Mumbai**



**Signage for Unitech  
Amusement Park in  
Rohini & Noida.**



# Stainless Steel ABC Sector in India

Segment	Rs. Million (Investment)	Estimated SS Consumption in tonne
Retail outlets	160,000	12000 – 18000
Food outlets	600	350 – 400
Petrol retail	3,000	1200 – 1800
IT Parks	50,000	8000 – 12000
Commercial Complexes	25,000	4000 – 6000
Metro Stations-Phase II Delhi	1,000	1000 – 1500
Non Metro Airport Modernization	20,000	1600 – 2400
Delhi – Mumbai Privatization	120,000	12000 – 18000
New Airports – Hyderabad/Bangalore	50,000	5000 – 10000
Total	480,000	45,000 – 65,000

➔ *Investment in Architecture, Building & Construction related to above areas is estimated to be 48000 Crores (USD 10 billion).*

➔ *S S demand in ABC Sector to increase by 25% for next 5 years from present low level.*



# Indian Stainless Steel Industry

## Applications

### Street Furniture



# Stainless Steel *Street Furniture*



**A New Age Bus Shelter in Delhi  
Designed & Developed by Jindal Stainless- Architectural Division**



# Walkeshwar, Mumbai

## Case Study



Site before Installation





# Stainless Steel *Street Furniture*



**Main Entrance Gate  
Ashok Udyan, Jodhpur**



# Stainless Steel *Street Furniture*



**Stainless Steel Dustbins**





# Stainless Steel *Street Furniture*



**'Silver Trees' at the Prestige Poseidon, Bangalore**



**'Pinwheel Tree' at Garden of Five Senses, New Delhi**



# Stainless Steel *Street Furniture*



**12 snail-shaped stainless steel water spouts**

**Signature Towers, Gurgaon**



# Indian Stainless Steel Industry

## Applications

**Automotive, Railways & Transportation**



# Stainless Steel ART



**All Stainless Steel coaches**

## **Delhi Metro Rail Corporation**

**Delhi Metro-type mass transit systems is being considered for Ahmedabad, Bangalore, Chennai, Hyderabad, Mumbai etc.**





# Stainless Steel ART



**Delhi-Mumbai Rajdhani Express**



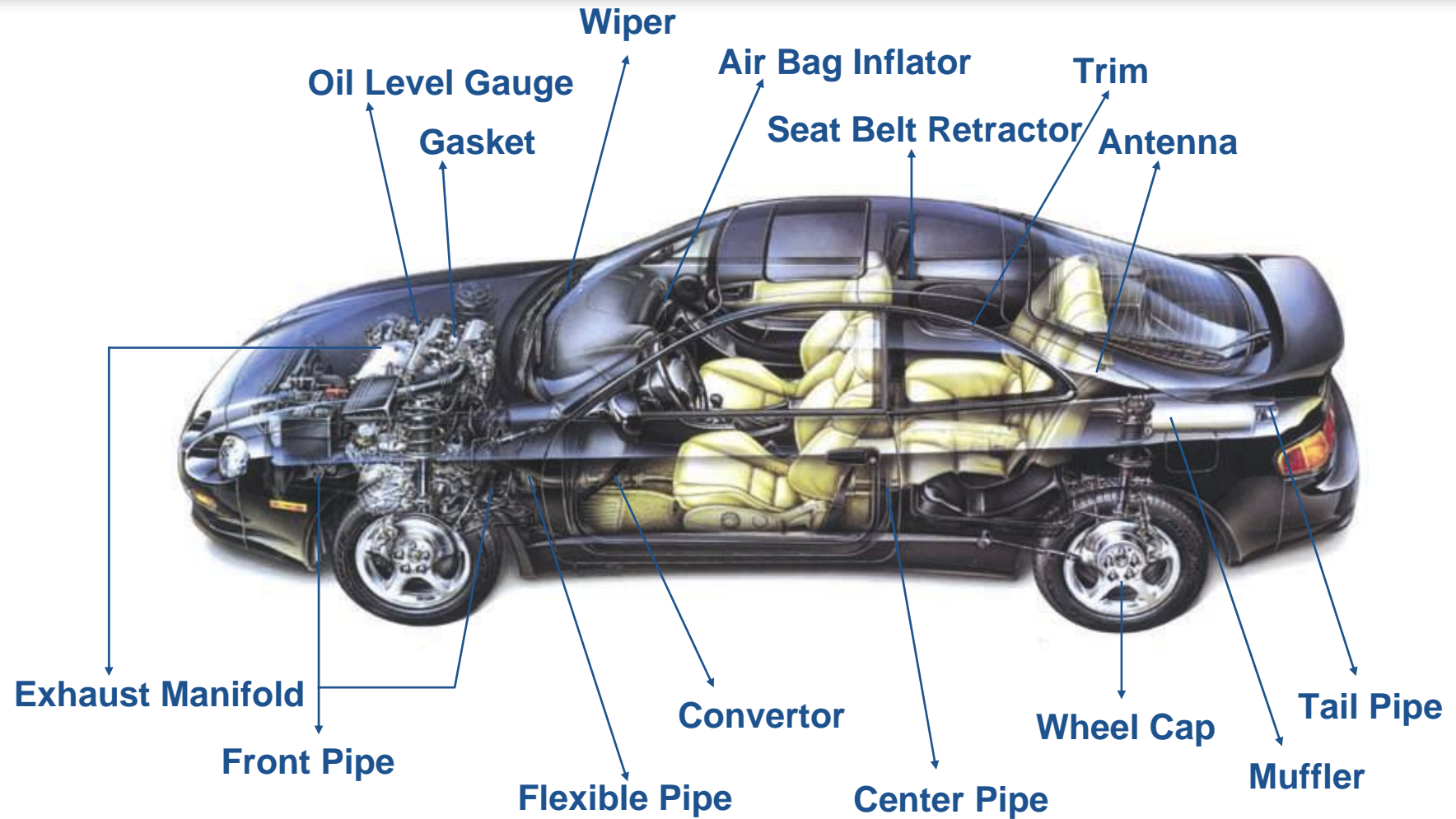
**Delhi-Lucknow Shatabdi Express**

**Stainless Steel coach fabricated with LBH  
Design(Germany) at the Rail Coach Factory (RCF)**





# Stainless Steel ART



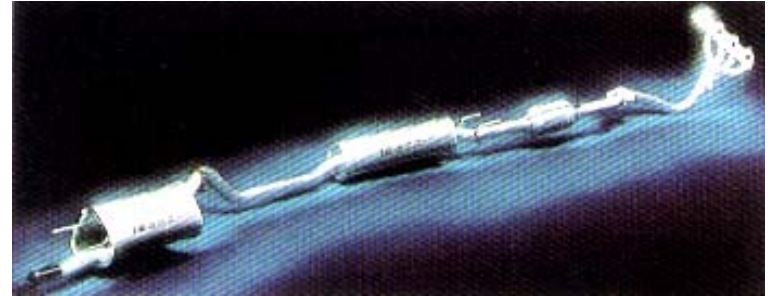


# Stainless Steel *ART*



**SS Auto LPG Tanks**

**Exhaust System**





# Growth Potential for Stainless Steel in India

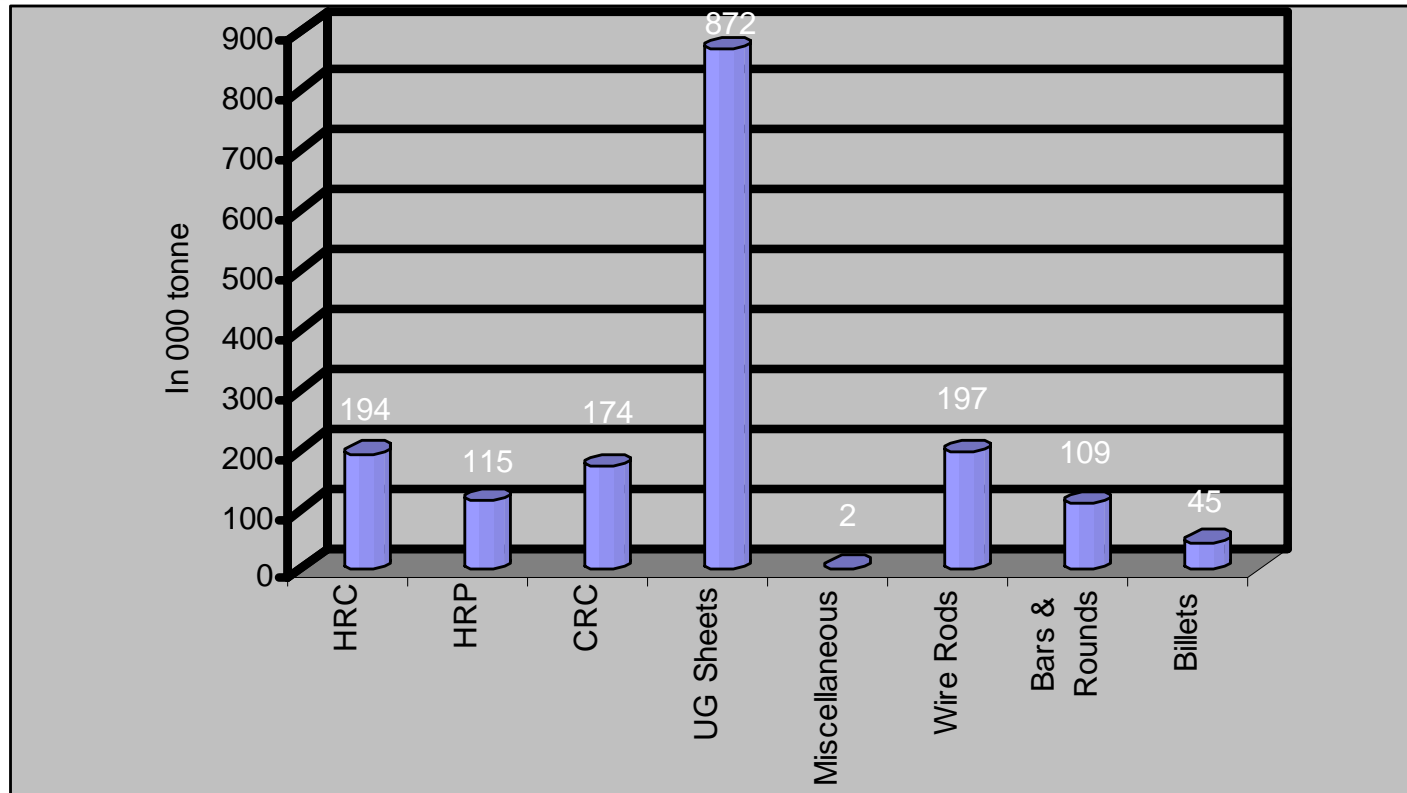
- **Automotive, Railways & Transport**
  - Airport, Hotels & Hospitals
  - Metro Railways
  - Indian Railways
  - Auto Sector
- **Architecture, Building & Construction**
  - Fast Food Chains
  - Entertainment Plazas
  - Shopping Malls
- **Kitchenware**



# Indian Stainless Steel Market Research - 2005



# Current Production of Mill Products by Forms



Melting production of 1.87 Million tonne in 2004-05. India's share of world production has accordingly increased from 2% in 1991-92 to around 7% in 2004-05.



# Current Apparent Consumption by SS Product Forms 2004-05

*In 000 tonne*

Form	Production	Imports	Exports	Consumption
<b>Flats</b>				
HRC/CRC/HRP	485	68	324.2	228.8
UG Sheets	872	-	100	772
<b>Total Flats</b>	<b>1,357</b>	<b>68</b>	<b>424.2</b>	<b>1,000.8</b>
<b>Longs</b>				
Total	351	23	221	153
<b>G Total</b>	<b>1,708</b>	<b>91</b>	<b>645</b>	<b>1,153.8</b>



# Projected Consumption of SS by Forms

*In 000 tonne*

Year	Flat	Long	Total
2004-05	1,000.8	153.0	1,153.8
2009-10	1,685	373	2,058
2015-16	3,185	900	4,085
Growth	11.5%	17.5%	12.3%



# Projected Consumption by Products Forms 2005-16 in India

*In 000 tonne*

Product Forms	Growth %	2005-06	2009-10	2015-16
HRP	14.7	47.4	84.6	189.5
CRC	19.5	185.6	394	1023
UG Flats	7.5	830	1108	1710
W. Tubes	20	42	95	253
Bars	16.7	57.7	113.6	270
Bright Bars	20	37.4	89	225
W. Rods	18	72.5	145	343
Seamless tubes	14.5	15.2	26.6	60
Misc	15.4	2.3	4.2	9.6
<b>Total</b>	<b>12.2</b>	<b>1,290</b>	<b>2,059</b>	<b>4,083</b>





## Conclusion

# For Stainless Steel Growth Future Action is in Asia

*Trend will continue led by China & India with 40% of  
World's population*

# Global Stainless Steel Outlook



Thank You

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