

The Present and the Future of the Stainless Steel Market in India

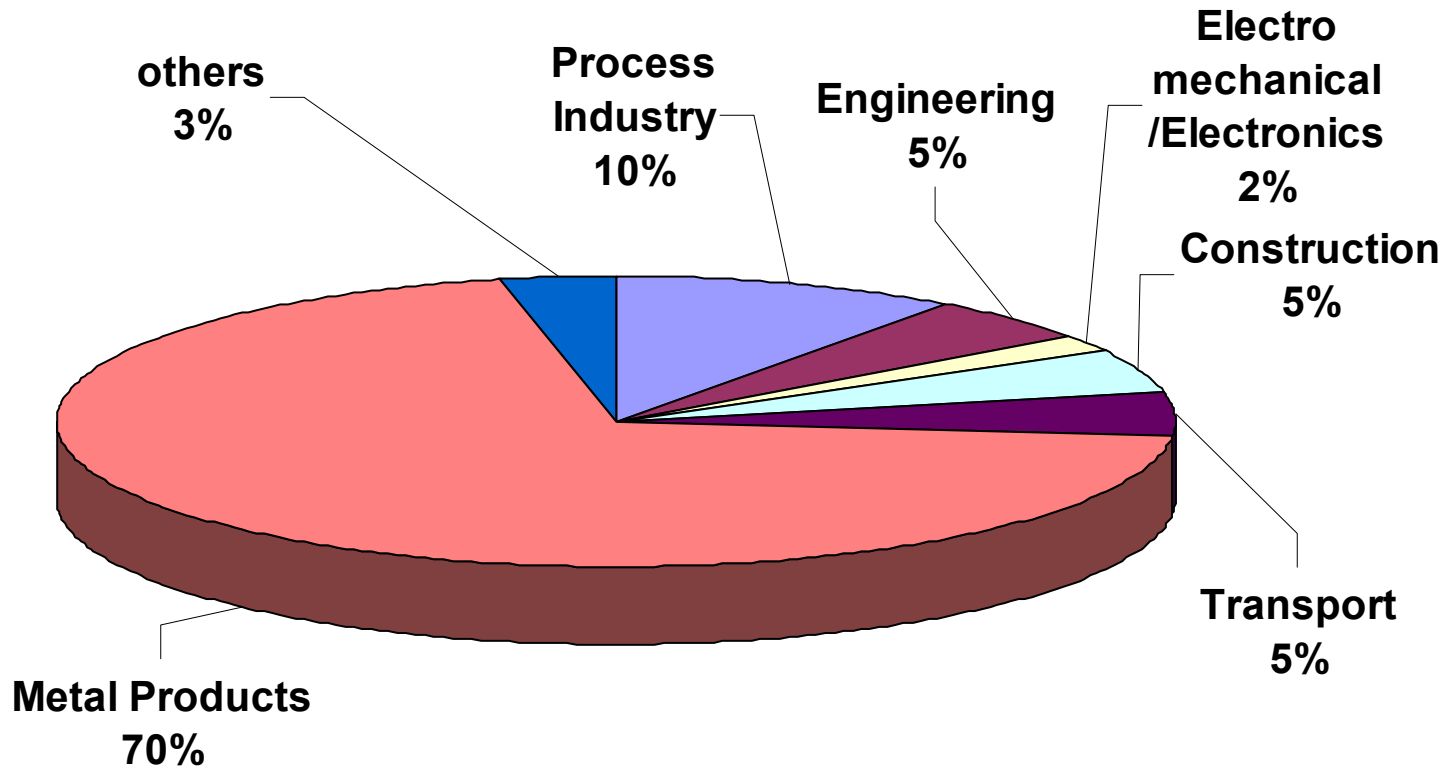
Ramesh R. Gopal
General Manager – Nickel Institute
Executive Director – I S S D A

This Picture Says it All !



India's end-use break-up

(2007-08)



- Metal products including kitchenware is the largest consumption segment in India at present accounting for 70% share of 1.7 mill tonnes
- Construction and transport sector is now picking up





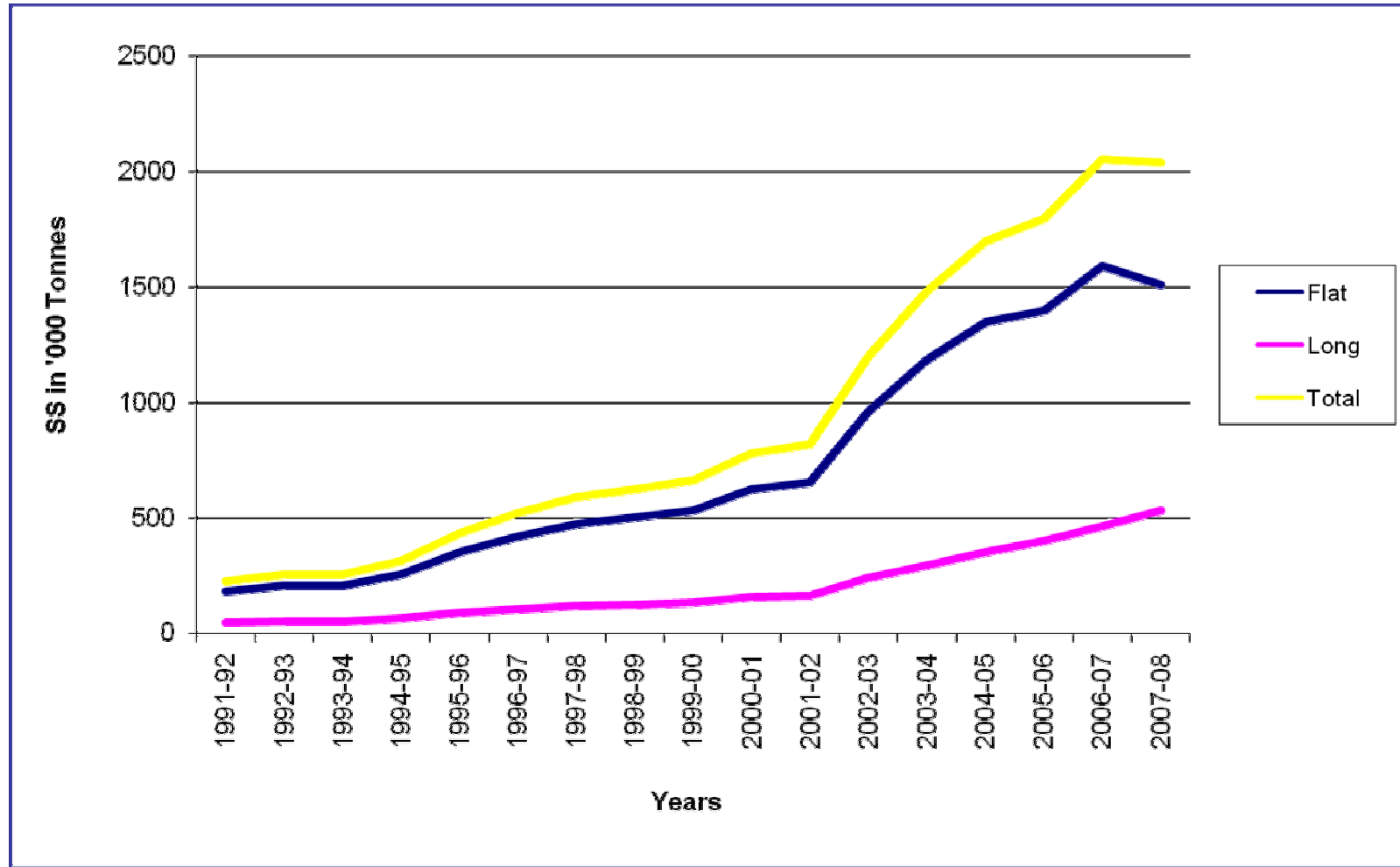


Indian Mill Production of SS

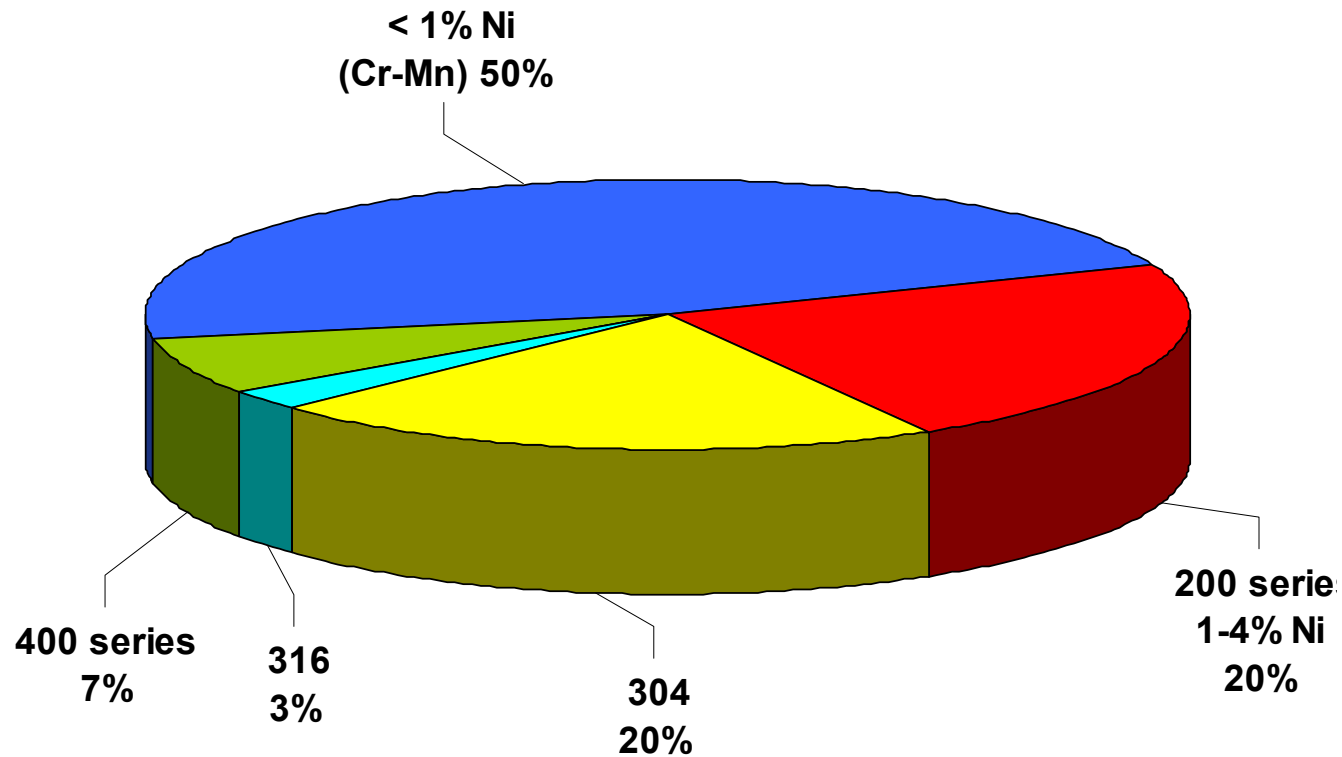
- ☐ **SS Mill production in India is estimated at 2 million tonnes (2007-08)**
- ☐ **SS Flat product production estimated at about 1.5 mill tonnes and SS long products at 0.5 mill tonnes**
- ☐ **Production has grown at about 14% p.a. over the last 15 yrs**
- ☐ **India has a 7% share of world production**

Indian Production Trends

(1990-91 to 2007-08)



Indian Mill Production by Grades (2007-08)



India is a large producer of 200 series SS with about 70% in the 200 series including Cr-Mn

Architecture, Building & Construction

- 1.Shopping Malls, a new craze
- 2.Organized Retail growing fast
- 3.A big housing Boom
- 4.Corporate make-over
- 5.Urban Renewal especially street furniture
- 6.Airports expansion and development
- 7.Railway Stations modernization
- 8.Rebar

Lamp post in a shopping mall



Movie Theatre in a Mall



Mumbai Railway Platform Roofing



Stainless steel Roofing at Khalsa Heritage Complex



Thurbe Railway Platform Roofing, Navi Mumbai



Focal Dome of the Parliament Library, Delhi





Focal dome; dome span dia 25 metres; 31 tonnes used



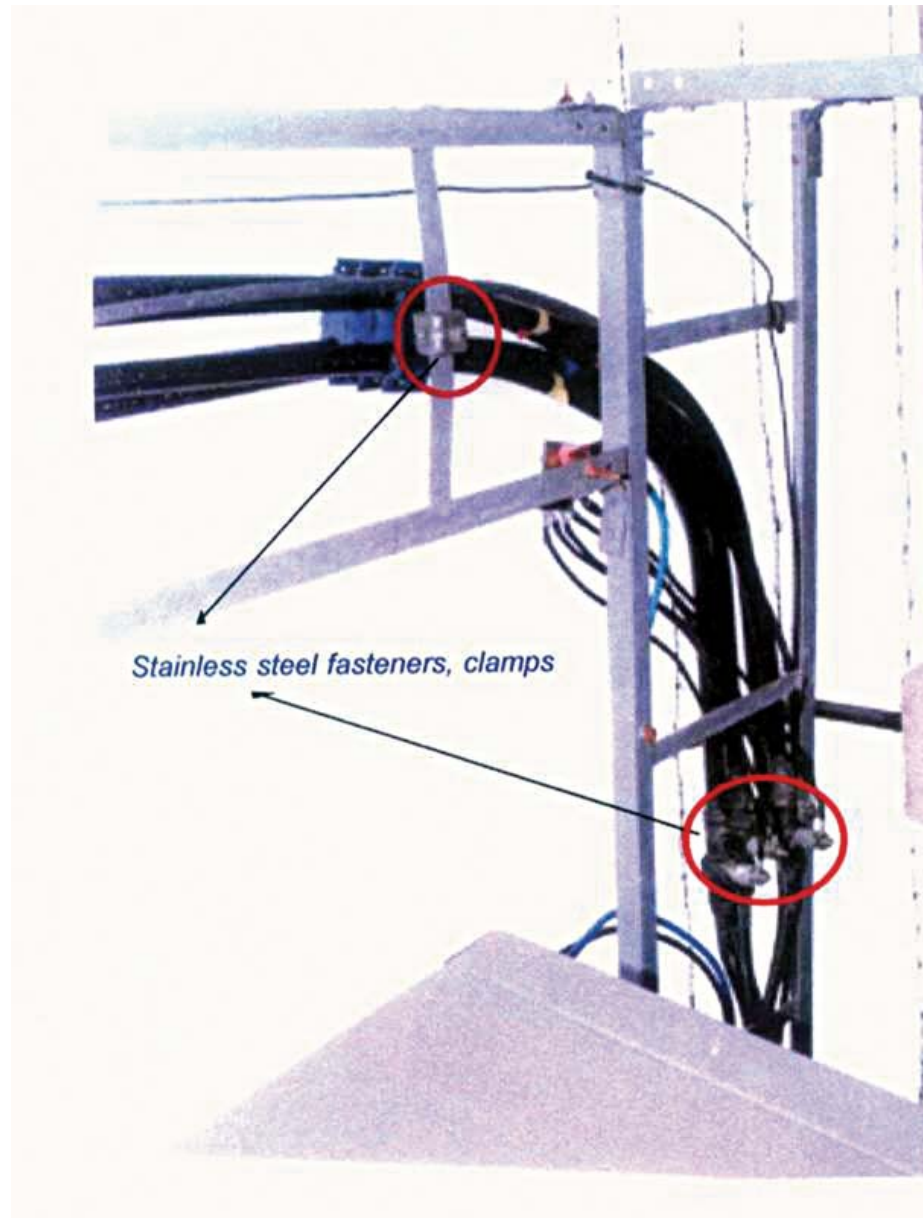
Focal dome (during construction)



Book shelves in the Library

Mobile phone towers – Subscriber base > 300 million





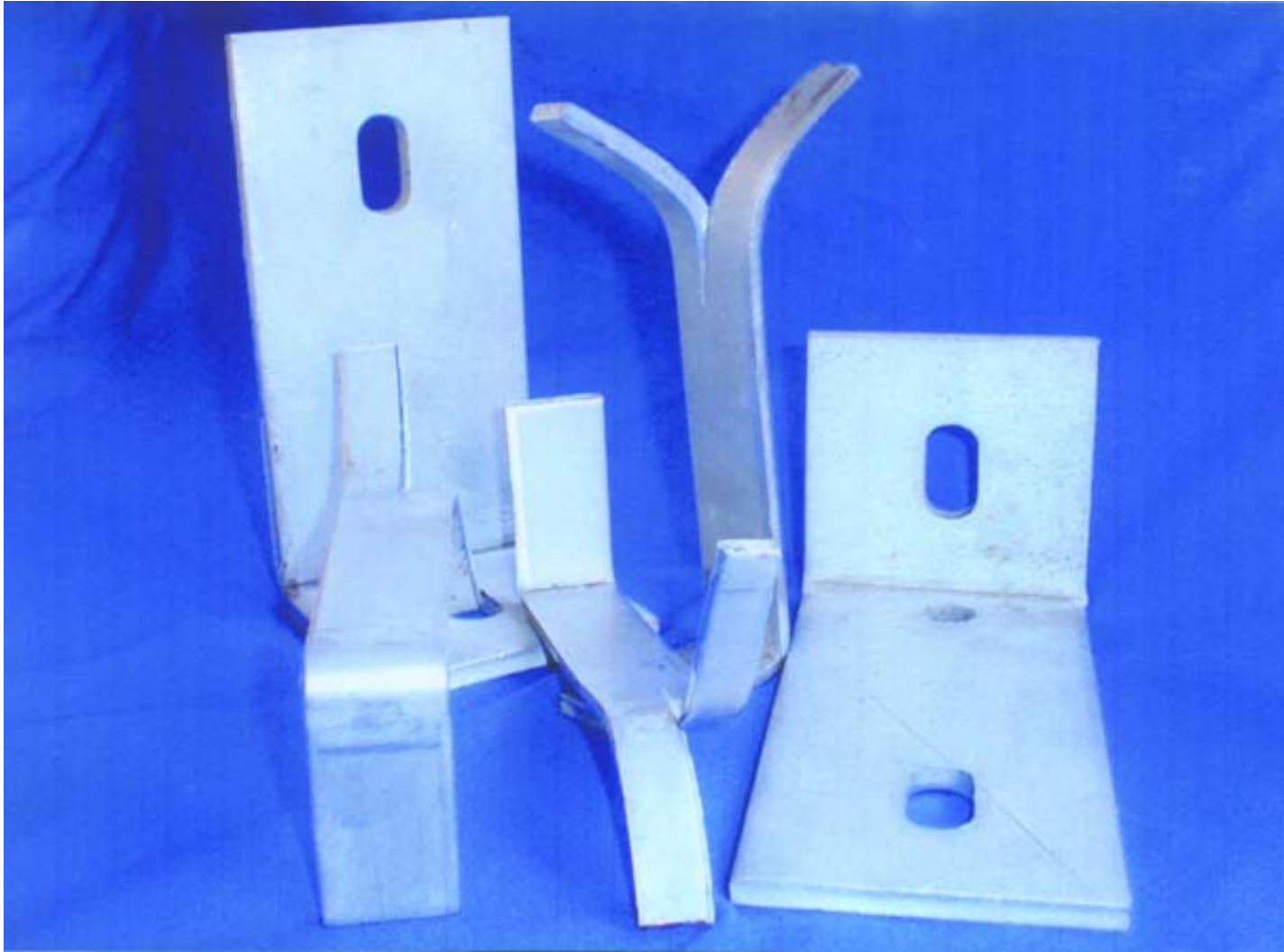
Door handles & Spider fittings



Anchor Bolts



Cramps & Clamps



Mumbai's Sea Link



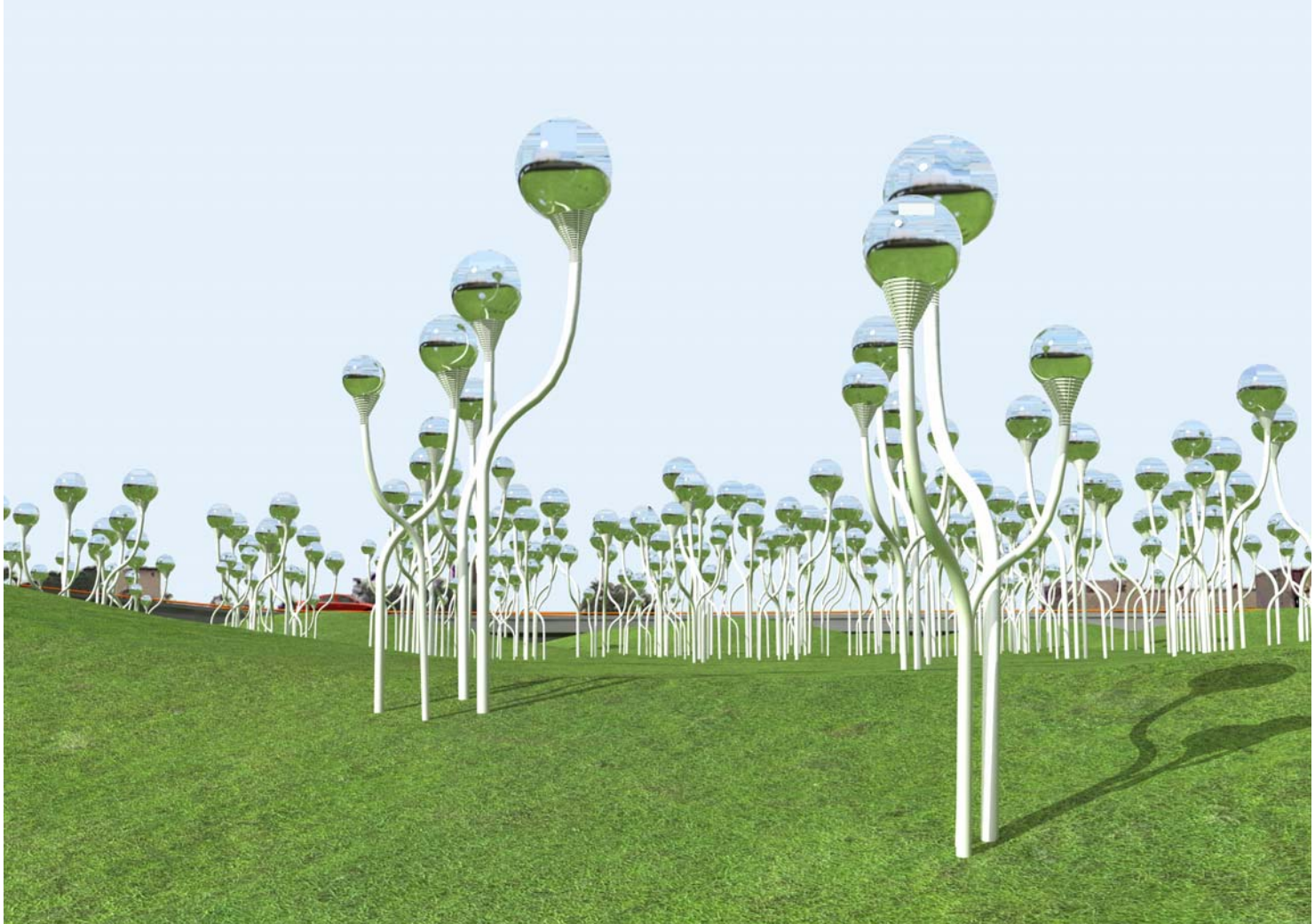
Water Spouts



Urban Renewal



Hundreds of Stainless Sprouts



Sculpture





Ramoji Film City, Hyderabad; 'RAMOJI' height 30 feet, 'M' 40 feet; 45 tonnes used

Park Bench



Pavement Railing



Bus Stops



Bus Shelter



FOB Escalator



Railway Rolling Stock

1. Main Line (long distance)
Coaches
2. Metro Coaches
3. Intra-city EMU (Electrical
Multiple Units) coaches
4. Wagons (iron ore, coal, cement,
fertilizers, food grains)

Rolling Stock

1. Main Line (long distance) Coaches

- Indian Railways (IR) make about 2,500 coaches out of corten steel pa.
- Corten to be phased out completely.
- Presently make about 300 stainless steel coaches pa. These are in grade 409M (Similar to 3Cr12). Need Painting.
- IR fed up with the painting routine.
- Now convinced that 301L/LN is best
- All future cars to be in this grade.

Painted 409M Coach



A peep into the future?



Rolling Stock

1. Main Line (long distance) Coaches

- IR to set up two new factories to produce 301L mainline coaches with a capacity of about 2,000 pa.
- New capacities ready by 2012
- Capacity to be increased to 3,500 later

Rolling Stock

2. Metro Coaches

- Delhi Metro has 240 (301LN) coaches in service. 11 tonnes of stainless per coach.
- Will have 860 by 2010

Delhi Metro Coach



Escalator installed at Delhi Metro Station



Rolling Stock

2. Metro Coaches

Metro Rail spreading to Metros and smaller cities.

- Mumbai
- Kolkata
- Chennai
- Bangalore
- Hyderabad
- Kochi
- Ahmedabad,
- Ludhiana etc.

Railway Rolling Stock

3. City EMU (Electrical Multiple Units) coaches

- Mumbai has a carbon steel EMU fleet of 3,000 cars. Kolkata and Delhi also have their own fleets.
- has a test order for 2 rakes of 9-cars each, from the Railway Board.
- To be made of 301L/LN
- BEML is eyeing the whole EMU market in India.

Internal Furnishing in a Coach





Railway Rolling Stock

4. Wagons

- This fiscal, IR has ordered for 9,000 new and 5,000 refurbished wagons in 409M (similar to 3Cr12, nominally 1% Ni).
- Each wagon uses 8-9 tonnes of stainless.
- All future wagons to be in stainless.
- Used for iron ore, minerals, coal, fertilizers, cement and food grains.

Unpainted 409M Wagon



Airports expansion and development

Total > 90 airports in the next 7-8 year

- Hyderabad and Bangalore now have world class airports.
- Delhi, Mumbai airports being refurbished and new terminals coming up.
- By 2012 Over 90 airports will have been upgraded

Emigration Counters



Escalator Chennai Airport



Hand Rails



Architecture, Building & Construction

2. Railway Stations modernization

- IR has more than 10,000 railway stations.
- It is the single largest railway system in the world under one owner (The Government of India).
- Starting with Main cities, about 500 railway stations will be taken up
- For refurbishing – escalators, seating, food courts, internet facilities etc.
- Using large quantities of stainless steel – 300 series,
- Like rolling stock, a single decision is all it takes for the entire system to convert to stainless.
- Stainless is expected to have strong presence. Will reinforce it.

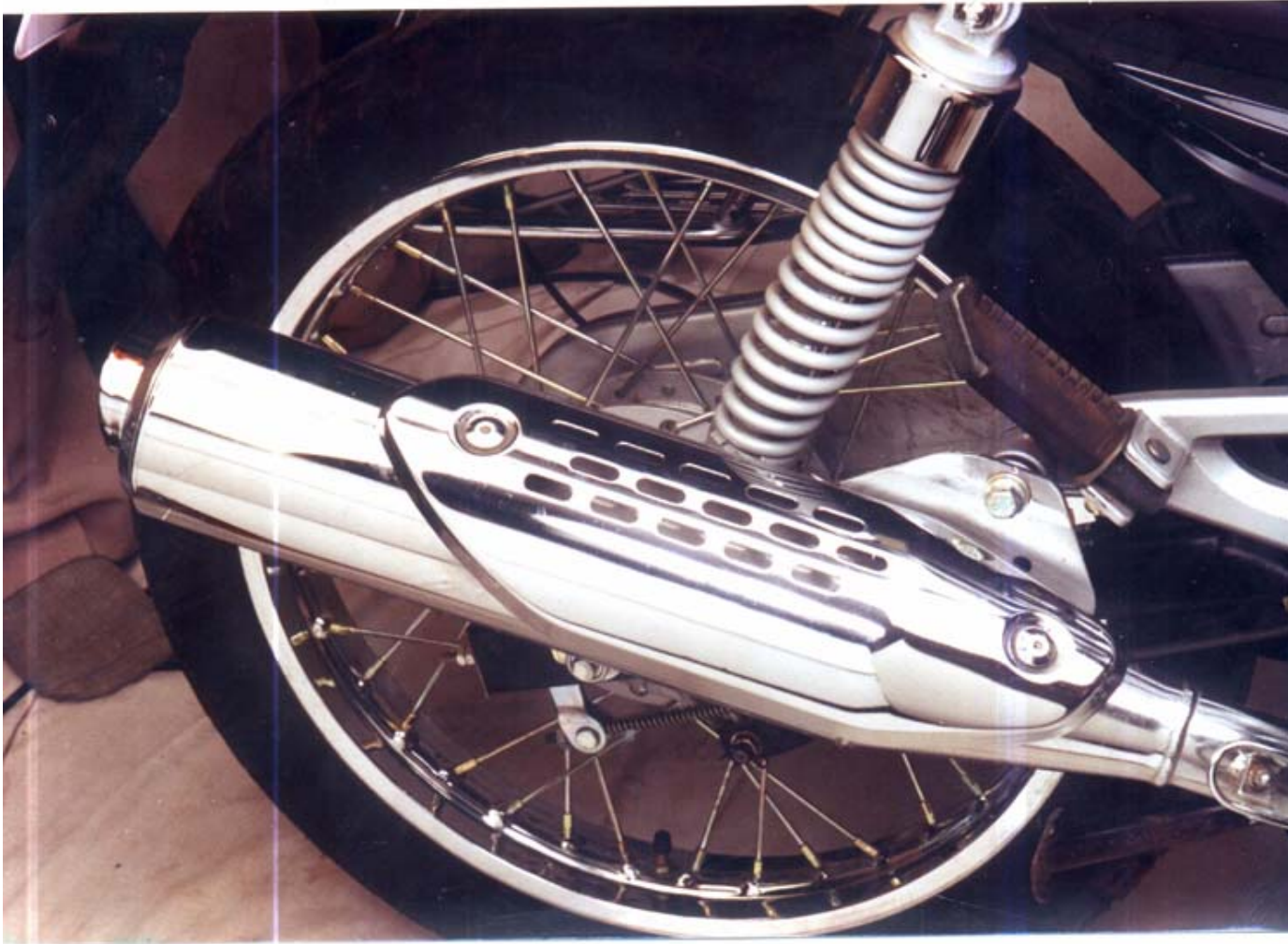
Seats at Bangalore Railway Station



Automotive Applications

- ❑ India Annually manufactures**
- ❑ >7 million two-wheelers**
- ❑ >1.3 million passenger cars**
- ❑ India is emerging as a hub for manufacture of small passenger cars**
- ❑ Automotive exhausts is a big market for stainless steel.**

Motor Cycle Exhaust



Car Exhaust



Transportation Sector

- IR has announced that within a few years it would be using 200,000 tonnes of stainless per annum (5,000 tonnes last year and 70,000t this year).
- If we consider the metro rail systems, the auto exhaust market, the share of transport sector for stainless usage could be easily 12% + in the next few years.

Indian SS Consumption

- ☐ **Current domestic consumption of SS in India is estimated at about 1.7 million tpa.**
- ☐ **Almost 85% of the consumption is for flat SS products**
- ☐ **Current overall SS exports is 0.5 million tonnes**

Future growth drivers of SS -India

- ❑ Overall higher GDP growth of 8.5% in 2007-08 and projected sustained high GDP growth of 8 to 8.5% during the five-year period with a minor blip in the next 12 months.**
- ❑ Very high growth in Process industry equipment manufacture.**
- ❑ India emerging as leading Automobile hub in the world especially for two wheelers and small cars (exhausts).**

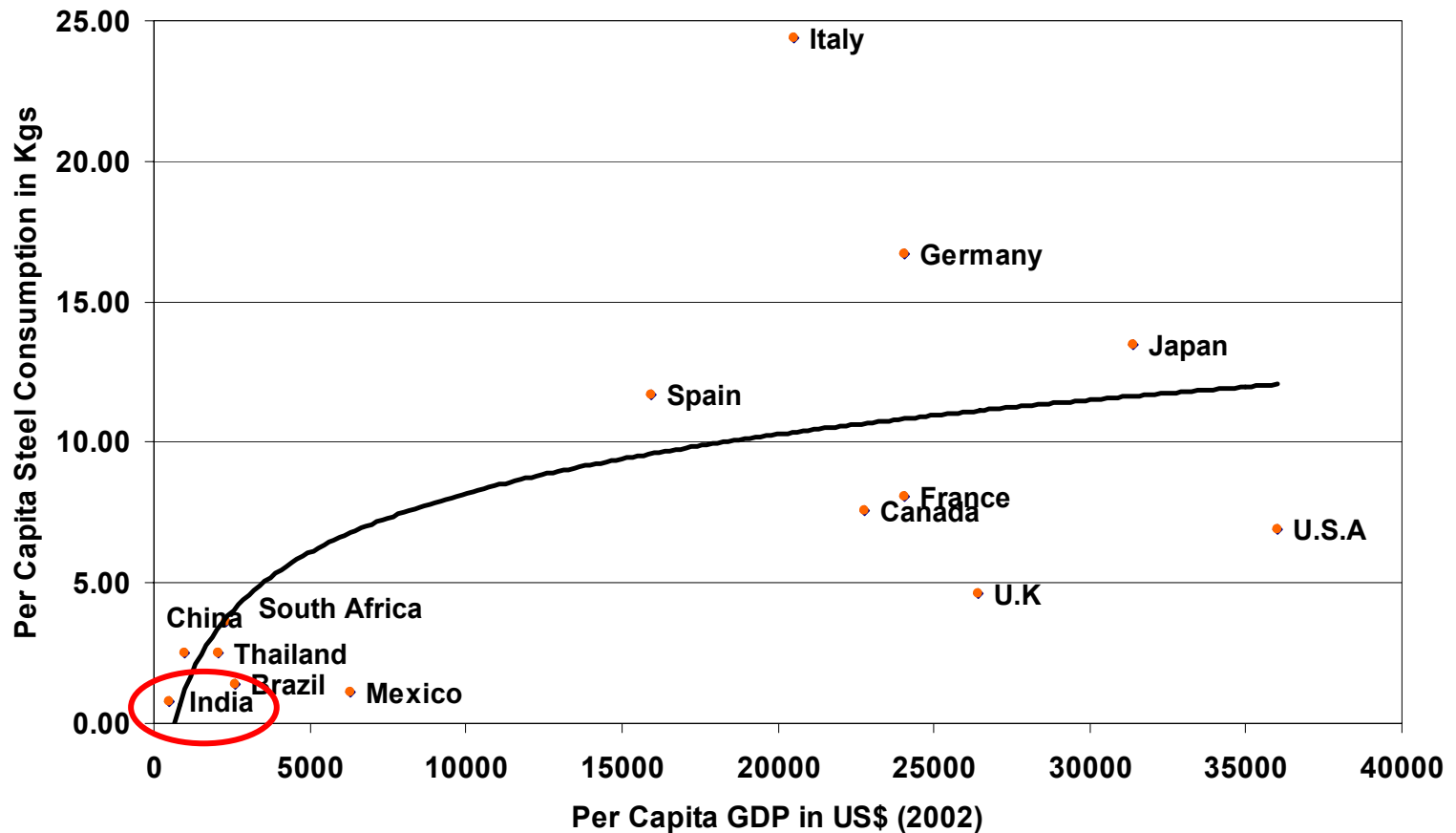
Future growth drivers of SS –India (Contd..)

- Potential for big volume exports of process equipment in the future, having shown a 29% CAGR over the last 4 years**
- Very high domestic and Foreign Direct Investments being pumped in the real estate sector over the last couple of years and the process to continue in the future too, notwithstanding current setback.**

Future growth drivers of SS –India (Contd..)

- ❑ Emergence of new volume areas like Railway wagons for ferritic grades**
- ❑ Government plans to completely shift over to Stainless Steel for manufacture of all Railway coaches in the country.**
- ❑ Street furniture in a large number of cities going stainless. A huge market.**

Per capita GDP VS Per capita SS consumption (World)



The per capita consumption of Stainless Steel in India at 1.2 kg has the potential to increase exponentially with growth in per capita income in the future

Projected Indian SS Consumption

(Next ten years)

- ❑ Overall consumption growth is projected at 12% pa in the next decade.
- ❑ Indian consumption likely to cross **four million tonnes** in the next ten years.

**Assistance from the
Nickel Institute and
the Indian Stainless Steel
Development Association**

www.nickelinstitute.org

www.stainlessindia.org

Thank you for your patience !