# INDIA STAINLESS STEEL EXPO

**03 04 05 August, 2023**

India Expo Center & Mart, Greater Noida

Comprehensive Exhibition, Conference and Awards Covering the Stainless Steel Value Chain.

Under the Aegis of

इस्पात मंत्रालय
MINISTRY OF STEEL
सत्यमेव जयते

Azadi Ka Amrit Mahotsav

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# Executive Summary

- Domestic Stainless-Steel demand is expected to touch 20MT by 2047. This will mean a sustained CAGR of 7.2% and par capital consumption growth from 2.5kg to a more global average of 8-9 kg
- The industry is currently working at approx. 60pc of its installed capacity of 6.8MT which does indicate for comfortable growth for a while but also indicates for a need for expansion in short to mid term
- Achieving the aspirational numbers would entail optimizing current capacities and capabilities and gradually developing newer ones to not only capture the emerging demand but also stay relevant
- Challenges like sustainability, increasing input costs, the need to create new markets, technological upgrades will continue to put pressure
- This necessitates the need for a platform where the industry can converge to share & learn from peers, identify new partnerships, attract investments, tap new customers and adopt technologies that can help increase efficiencies and enhance profitability

INDIA STAINLESS STEEL EXPO

# THREE SECTIONS FOR A COMPREHENSIVE ENGAGEMENT OF THE SS VALUE CHAIN

## PRIMARY METAL PRODUCTION

Melting & Casting, Forming, Heat Treatment, Descaling, Work Hardening, Finishing, Cutting & Machining related equipment, machinery, input materials, services…

## PRIMARY METAL & DERIVATIVES

Wires, Coils, Flats, Pipes, Utensils, Tubes, Alloys, Custom & Specialty Products…

## SECONDARY PROCESSING

Feeding Lines, Blanking Lines, Roll Formers, Plate Bending, Forming Machines, Conveyors, Pumping Systems, Vaccum Chambers, Milling, Grinding, Deburring, CNC Machines…

# Exhibitor Profile

## STAINLESS STEELS

- Stainless steels
- Ferritin steels
- Martensitic and hard enable steels
- Austenitic steels
- Duplex & Super Duplex stainless steels
- Heat resistant steels
- Martensitic creep resistant steels
- Special stainless steels
- Managing, TRIP steels
- Wieldable, stabilised stainless steels
- Stainless steels for castings
- Special alloys, super alloys
- Nickel super alloys
- Cobalt super alloys
- Titanium, titanium alloys
- Tantalum, zirconium and special alloys
- Powder metallurgy materials, ODS steels

## STAINLESS STEELS PRODUCTS OF FOUNDRIES, FORGING AND PRESSING SHOPS

- Stainless steel castings
- Precision casting
- Stainless steel forgings
- Die forgings
- Stainless steel moldings
- Stainless steel extrusions

## STAINLESS STEEL METALLURGICAL PRODUCTS

- Flat products
- Long products
- Products of specific form
- Cladded products, cladding
- Special stainless steel metallurgical products

## COMPUTERS, TESTING AND MEASURING INSTRUMENTS FOR STAINLESS STEELS

- Systems for production plant management, design and planning
- Equipment and systems for the measurement of technological quantities
- Equipment for mechanical tests
- Instruments and equipment for the examination of material microstructure
- Instruments and equipment for chemical analysis
- Instruments and equipment for non-destructive testing
- Computers, testing and measuring instruments for stainless steels

## MACHINES AND EQUIPMENT FOR STAINLESS STEEL TREATMENT AND PROCESSING

- Machines and equipment for welding, cutting & brazing
- Machines and equipment for metal cutting (cutting, turning, milling, boring)
- Forming machines and equipment
- Hand tools for stainless steel working
- Furnaces and accessories thereof for heat processing and treatment (hardening, annealing)
- Accessory and auxiliary materials for heat processing and treatment
- Machines and equipment for surface cleaning
- Degreasing and cleaning devices
- Abrasives for blasting machines
- Brushing machines and accessories thereof
- Pickling and passivation equipment
- Paints suitable for stainless steels
- Equipment and accessories for scrap processing and waste disposal
- Protection and safety means and aids
- Technical gases
- Machines and equipment for stainless steel treatment

## STAINLESS STEEL PRODUCTS

- Bearings, and parts thereof
- Gear wheels
- Springs and flexible elements
- Seals, bellows
- Conveyor technique belts, chains, screws
- Filters, sieves
- Hoses, fittings, quick couplings, flanges,
- pneumatic
- Travelling wheels, pulleys, head pulleys
- Joining, fixing elements, fasteners
- Large volume tanks, cisterns, silos, containers
- Vessels, barrels, cans, containers
- Ropes, cords, straps
- Bended wire products, chains
- Building elements and concrete reinforcements
- Cable protection troughs
- Construction elements for water treatment plants
- Sanitary engineering
- Drinking water pipes
- Equipment for waste depot and removal
- Product pipelines
- Medical instruments and products
- Laboratory instruments and equipment
- Stainless steel products, other

## STAINLESS STEEL METALLURGICAL SEMI-PRODUCTS

- Ingots, continuous casts
- Blooms, billets, slabs

## RAW MATERIALS AND MATERIALS FOR THE PRODUCTION OF STAINLESS STEELS

- Blast furnace pig iron
- Scrap
- Alloying material, Ferro alloys

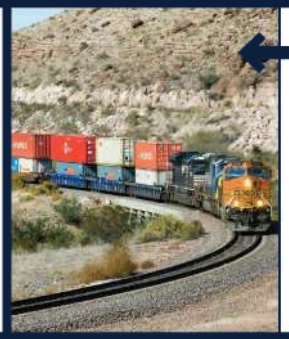
# Potential Visitors

## 01 ARCHITECTURE, BUILDING AND CONSTRUCTION

Architectural Hardware, Sanitary Ware, Bath Fittings

## 02 AUTOMOTIVE

Spare Parts, Body Parts



## 03 RAILWAY AND TRANSPORTATION

Wagon, Coaches, Toilets and Accessories, Water Tanks

## 04 INDUSTRIAL APPLICATIONS

Boilers, Pressure Tanks, Sterile Containers, Storage

## 05 FOOD AND CATERING

Commercial and Domestic Kitchen Accessories, Cutlery, and Cookware

## 06 CONSUMER APPLIANCES

Refrigerators, Washing Machines, Dishwashers, Chimneys, Ovens, Gas Stoves

## 07 OFFSHORE APPLICATIONS

Pipes to Transport Hydrocarbons, Petrochemicals, Seawater Desalination Plants

## 08 CHEMICAL INDUSTRY

Storage and Transportation Tanks, Inert, Containers

## 09 BRIDGES

Duplex Stainless Steels For Bridges, Engineering Structures, Cables

## 10 STORAGE TANKS

Water, Chemical, Beverage, Dairy, Edible Oils, Milk

## 11 MEDICAL INDUSTRY

Hospital Furniture, Surgical Equipment, Medical Equipment

## 12 POWER PLANTS

Heat Exchangers, Reactor Tanks, Pressure Tubes, Transformer Enclosures

## 13 SHIPBUILDING INDUSTRY

Cargo Tanks, Inland Navigation Tankers

## 14 PAPER AND PULP INDUSTRY

**5000+**

Senior Manufacturing, Procurement, R&D, Testing, Quality, Product Development Professionals From The Following User Groups

INDIA STAINLESS STEEL EXPO

# EVENT AT A GLANCE

01 CEO’s Roundtables to Deliberate on Strategic Industry Level issues

02 Customer Facing Discussions to Amplify Revenue Growth in Stainless Steel Sector

03 Excellence Awards to bring to the forefront stories of exemplary brilliance that is leading the sector into new growth trajectory

04 Hackathon to Encourage Innovation in Steel Applications

05 Facilitated B2B Meetings to Foster Cooperation

| DAY 1 | | | | DAY 2 | | | DAY 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| Timing | Hall 1 Exhibition | Hall 2 Conference | Hall 3 Boardroom for Parallel Events | Hall 1 Exhibition | Hall 2 Conference | Hall 3 Parallel Events | Hall 1 Exhibition | Hall 2 Conference | Hall 3 Parallel Events |
| 0800 - 0930 | Registration | | | | | | | | |
| 0930 - 1100 | Inaugural Function in Hall 2 followed by VVIP's escorted tour to exhibition<br><br>Launch of Stainless-Steel Industry Decarburization Vision | | | Exhibition all day | Round Table on SS in Infrastructure | Skill Development Workshop | Exhibition all day | Roundtable on Chemical & Petrochemical Industry | SS Leaders Panel on Sustainability in SS Sector |
| 1130 -1300 | Exhibition all day | Round Table on SS in Railways | Awards Jury Meet | | Round Table on Defence and Aerospace | | | Roundtable on Bus Building, Shipbuilding & Transport Infra | SS HR Leaders Panel on Talent Development |
| 1300 - 1400 | | Lunch | | | Lunch | | | Lunch | |
| 1400- 1530 | | Round Table on Oil & Gas | Skill Workshop | | Round Table on Pharma, Medical & Healthcare | Youth Design Hackathon | | Roundtable on SS & Green Hydrogen | SS Revenue Leaders Strategy Session on Developing Exports |
| 1530- 1700 | | Round Table on Ethanol | | | Round Table on Food Drink & Dairy | | | Roundtable on Paper Packaging & Pulp | Closing of Leaders Tracks |
| 1700- 1800 | | Round Table of SS in ABC Industry | | | Round Table on Automotive Industry | | | Closing of Conference | |
| 1800-2000 | Top Leaders Black Tie Cocktails & Networking with Hydrogen Industry Leaders (Top 25+25) | | | SS Excellence Awards and Reception Dinner | | | Closing of Exhibition | | |

# Customer Group Focused Roundtables

Discussions with Stakeholders to Increase **Stainless Steel** Consumption

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# Market Growth Discussions

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- Target Industries: Railway Manufacturing, Architectural Hardware, Elevators and Escalators, Water Storage & Pipelines, Food, Drink & Dairy, Pharmaceutical Manufacturing, Industrial Boilers, Chemical and Petrochemical, Aerospace & Defense, Agriculture and Fertilizer, Oil and Gas, Wood – Pulp & Paper Industry, Construction, Cutlery, Cookware and Utensils
- 2 Days - 6 Sessions Per Day
- 60 Minute Intensive sessions on each sector in a televised studio format with 250+ industry attendees from above listed sectors
- Each session to be covered into a TV episode by ET Now
- Each session to have a panel of 7-8 sector leaders including a primary SS producer, 3-4 sector users, 1 government representative, 1 consultant and one moderator preferably from the TV channel
- Each episode to be presented by one sponsor
- Each episode to be telecast twice post event and promoted with 600 seconds of advertising to amplify the reach
- The key takeaways from each session to be recorded and presented as a report by ISSDA to nodal agencies and stakeholders to take the growth agenda forward

# STAINLESS STEEL INDUSTRY IN RAILWAYS AND TRANSPORTATION

## Overview

- Vision 2024 has been envisaged to achieve targets of 2024 MT freight loading by 2024 with the addition of more number of freight trains.
- 400 new generation Vande Bharat Trains to be manufactured during the next three years.
- Increase the share of Railways in freight traffic from 27% at present to 45% and to sustain it.
- Increase average speed of freight trains in India from 23 kmph at present to 50 kmph.
- Sustained involvement of the Private Sector in areas like operations and ownership of rolling stock, development of freight and passenger terminals, development/operations of track infrastructure etc.
- The important areas where developments in Indian Railways are needed that includes high speed trains, safety, track modernization, locomotives, signaling system and development of heavy haul system where axle loads and length of trains and usage of renewable energy for conservation of natural resources.
- Effective means for enhancing efficiency & safety in Indian Railways
- Make in India: Manufacturing for Indian Railways
- Identification of new Dedicated Freight Corridors (DFCs) and new High Speed Rail Corridors (HSR).

## Challenges

- Optimizing use of Stainless Steel which is eco-friendly, economic and sustainable with 100% recyclability
- Establishment of railways safety, economy and hygiene
- To cut down the high energy loss and maintenance cost in Railways
- Railway wagons are heavier with extreme need for corrosion allowance in their design
- Need of the steel which is easily fabricated and offer good mechanical properties

## Discussion

- To establish Stainless steel as optimum metal in Railways & Transportation
- Importance of Stainless steel hassle-free fabrication and mechanical properties
- Stainless steel durability and minimal maintenance makes it a good choice economically
- Not only the wagons were much lighter (not needing corrosion allowance in their design) but also the amount of maintenance required was surprisingly very low compared to steel wagons in the same service.
- Energy saving lightweight designs, a high level of recycled content and 100% recyclability at-the-end of life are the cornerstones of stainless steel's environmental profile.
- During the late nineties, the Indian Railways adopted the German LHB coach design in stainless steel, with the first coach being manufactured in India around the year 2000. These coaches have stood the test of time in terms of safety, economy, and hygiene. This prompted Railways to completely shift its production to 100% stainless steel coaches in all the three coach factories- ICF, RCF and MCF, in 2017.

## Speakers

02 Speakers from SS Producing Companies

01 Speaker from Ministry of Railways

01 Speaker from IRCON

01 Speaker from RITES

08 Speakers from the following companies

1. RCF Kapurthala
2. Chittaranjan Locomotive
3. Integral Chennai
4. Titagarh Wagons
5. MCF Rae Bareli
6. BHEL
7. Texmaco Rail
8. SAN Engineering
9. Bombardier
10. Alstom

# STAINLESS STEEL IN HEALTHCARE AND MEDICAL INDUSTRY

## Overview

- The medical devices industry in India consists of large multinationals as well as small and medium enterprises (SMEs) growing at an unprecedented scale
- Ministry of Health & Family Welfare is planning to further enhance its healthcare budget to 2.5% of GDP by 2025. The Indian Government has also developed a Sustainable Development Goals (SDG) targeted to be achieved by 2030.This is an attempt to ensure health, end poverty and ensure prosperity and peace for the people.
- Indian medical devices industry has the power to emerge as the global leader in manufacturing and innovation in next 25 years.
- Indian medical devices industry has the potential to grow at 28 per cent each year to reach $50 billion by 2030
- 100% FDI is allowed under the automatic route for both brownfield and greenfield setups.
- India's expected export of medical devices will reach ~ $10 bn by 2025.
- The Government of India has taken several steps to ensure the growth of a vibrant ecosystem of medical devices manufacturing in India over the past 5 years like Production Linked Incentive Schemes, Scheme for Promotion of Medical Devices Parks.
- The Indian Government has identified medical devices as a priority sector for the flagship 'Make in India' program and is committed to strengthening the manufacturing ecosystem.

## Challenges

- Inadequate infrastructure
- Need of high corrosion resistant, durable metal for medical devices

## Discussion

- Stainless Steel is regarded the world over as one of the most suitable materials for the manufacture of medical devices for all sorts of applications
- High corrosion resistance and low carbon content are key factors that make Stainless Steel 304 suitable for medical applications over and above other grades of Stainless steel.
- Stainless steel is also extremely workable, with the ability to be deep drawn into shape without the need for annealing, making 304 perfect for the manufacture of bowls, sinks, pans and a range of different medical vessels and hollow ware.
- The medical field is no exception to the need for durable products. Items such as sinks, wheelchairs, clamps, and orthopedic implants can all be made of stainless steel for optimal strength and weight-bearing.
- For surgical stainless steel, specific grades of Stainless steel - 316 and 316L are predominantly used. By alloying the elements Chromium, Nickel and Molybdenum Stainless steel offers the material scientist and surgeon some uniquely reliable qualities.
- Chromium - heightens the materials scratch resistance and corrosion resistance - perfect for cleaning and sterilization.
- Nickel - provides an extremely smooth and polishable surface - fine details required for machinging precision, high quality products etc. Also important for hygiene.
- Molybdenum - provides hardness after forming and is great for sharp cutting edges - scalpel

## Speakers

02 Speakers from SS Producing Companies

01 Speaker from Ministry of Health

01 Speaker from DCGI

01 Speaker from Big 4 like KPMG etc

06 Speakers from the following companies

1. Transasia Bio Medical
2. Johnson & Johnson
3. Medtronic
4. Novartis
5. Johari Digital
6. Abbot
7. Danaher
8. Baxter
9. GE
10. Siemens
11. Phillips
12. Hindustan Syringes

# STAINLESS STEEL IN PACKAGING, PAPER AND PULP INDUSTRY

## Overview

- India is the 15th largest paper producer in the world. India has emerged as the fastest growing market when it comes to consumption, posting 10.6% growth in per capita consumption of paper in 2021-2027.
- Indian Paper & Pulp Market was valued at US$ 11.48 Bn. in 2021, and is expected to reach US$ 31.41 Bn by 2029.
- The domestic market / consumption of paper is over 16 million tons per annum (TPA), with over 2 million TPA being imported. By 2025-26, under the baseline scenario, domestic consumption is projected to rise to 23.50 million TPA.
- The India Packaging Market was valued at $50.5 bn in 2019, and it is expected to reach $204.81 bn by 2025, registering a CAGR of 26.7% during the period of 2020-2025.
- 100% FDI is permitted under the automatic route in Paper & Packaging industries in India.
- Major export markets for Indian production of PE bags is US (~50% share of all exports), UK and all Western European countries
- Packaging is among the high growth industries in India and developing @ 25% per annum
- The India Paper and Paperboard Packaging Market was valued at USD 10.77 Bn in 2021 and is expected to reach USD 15.69 bn by 2027, registering a CAGR of 6.63% during the forecast period of 2022-2027.

## Challenges

- Major issues confronting India's pulp and paper industry are high cost of production caused by inadequate availability and high cost of raw material, power cost and concentration of mills in one particular area.
- High Temperature and corrosion prone production processes
- Energy loss during frequent maintenance and replacement of materials
- Higher maintenance cost with less life span of time

## Discussion Areas

- Many industries turn to stainless steel to help improve the service life of their equipment and processing systems. The pulp and paper industry is no exception.
- Stainless steel is a popular material for pulp and paper industry processes due to its exceptional corrosion resistance, excellent temperature tolerances, and long service life.
- Stainless steel works to provide all-around protection from general corrosion caused by extended chemical and moisture exposure while also providing excellent thermal characteristics for processes that require extended periods at high temperatures.
- Stainless steel can even help manage microbial corrosion risks associated with the frequent processing and contact with organic substances found in wood chips and pulp.
- Stainless steel can offer outstanding resistance levels at prices which make long-term use an easy savings over frequent maintenance and replacement of materials with lower costs.
- Austenitic stainless steels are most commonly used, but duplex stainless steel alloys are increasingly popular options due to their blend of performance and price.
- Benefits of Duplex Stainless Steel for Pulp and Paper Processing
- Corrosion Resistance: As mentioned above, duplex stainless steel has excellent corrosion resistance properties. It does not succumb easily to stress cracks, pitting, or abrasion.
- Design Flexibility: Stainless steel is somewhat easy to machine and weld. Hence, it is allowing for production of a variety of standard stainless steel beams, channels, and angles, as well as special shapes.
- Cost Savings: While using duplex stainless steel profiles may initially cost more than carbon steel, the cost savings over time for less corrosive materials may be an incentive to use stainless steel. Maintenance, inspection, and repair costs will be greatly reduced.

## Speakers

02 Speakers from SS Producing Companies

01 Paper Research Technologist

01 Speaker from Big 4 like KPMG etc

06 Speakers from the following paper producing companies

1. Tamilnadu Newsprint & Papers Ltd.
2. Ballarpur Industries Ltd. (Avantha)
3. Andhra Paper Ltd.
4. JK Paper Ltd.
5. Seshasayee Paper & Boards Ltd.
6. West Coast Paper Mills Ltd. (SKB)
7. Kushal Ltd.
8. Emami Paper Mills Ltd.
9. Kuantum Papers Ltd.
10. Satia Industries Ltd.

# STAINLESS STEEL IN AUTOMOTIVE INDUSTRY

## Overview

- The Indian automobile industry has historically been a good indicator of how well the economy is doing, as the automobile sector plays a key role in both macroeconomic expansion and technological advancement. In 2022, India became fourth largest country in the world by valuation of automotive industry.
- Indian automotive industry is targeting to increase export of vehicles by five times during 2016-26. In addition, several initiatives by the Government of India such as the Automotive Mission Plan 2026, scrappage policy and production-linked incentive scheme in the Indian market are expected to make India one of the global leaders in the two-wheeler and four-wheeler market by 2022.
- India enjoys a strong position in the global heavy vehicles market as it is the largest tractor producer, second-largest bus manufacturer, and third-largest heavy trucks manufacturer in the world. India's annual production of automobiles in FY22 was 22.93 million vehicles.
- India has a target to be the third-largest automotive industry worldwide by 2030.
- The India passenger car market was valued at US$ 32.70 billion in 2021, and it is expected to reach a value of US$ 54.84 billion by 2027, while registering a CAGR of over 9% between 2022-27.
- Indian automotive industry is targeting to increase export of vehicles by five times during 2016-26. In FY22, total automobile exports from India stood at 5,617,246.
- The electric vehicle (EV) market is estimated to reach Rs. 50,000 crore (US$ 7.09 billion) in India by 2025.
- The Government of India encourages foreign investment in the automobile sector and has allowed 100% FDI under the automatic route.
- A cumulative investment of Rs. 12.5 trillion (US$ 180 billion) in vehicle production and charging infrastructure would be required until 2030 to meet India's EV ambitions.
- Every car sold in India from 2030 will be electric, under new government plans.
- The rising logistics and passenger transportation industries are driving up demand for commercial vehicles.
- Auto executives believe that the auto industry will see more profitable growth in the next 10 years.

## Challenges

- Heavy Automotive Integral components
- The automobile industry is dependent on various factors such as availability of skilled labour at low cost, robust R&D centres, and low-cost steel production.
- With the automotive industry requiring a combination of strength, efficiency, performance, and lightness, stainless steel is becoming more and more prominent
- To cut down the high energy loss and maintenance cost
- Extended application of Stainless steel in automotive industry like fasteners, springs, fuel tank, bumper, chasis etc.
- Reducing vehicle s weight and extended benefits in fuel efficiency and machinability

## Discussion

- 45 to 50% of automotive exhaust systems are made of stainless steel.
- Stainless steel in the automotive industry is used because of two things—the durability of the material, and the quality that it gives.
- In today's date uses of stainless steel in automotive are also extended to other automotive applications such as fasteners, springs, and tubing, as well as brackets, flanges, substructures, and panels.
- Mounting energy crisis, stringent emission law and strict safety rules have guided car manufacturers to improve strength/weight ratio of the vehicle, thereby promoting several applications of stainless steels in the car body. Moreover, use of stainless steels also improves aesthetics and minimizes life cycle cost.
- Stainless steels are also being used in other applications such as fuel tank, bumper, chassis for buses and trucks. With the development of new varieties of austenitic, ferritic and martensitic stainless steels, automotive industry is intensively exploring their potential.
- Probably, we all are aware of establishing uses of stainless steel in different industries as per their required proportions but at Automotives behind the scenes are quite different, as you read the fact – the ratio of stainless steel is quite higher than other applicants of stainless steel.
- Lightweight Integral Components
- Corrossion Resistant Auto parts

## Speakers

02 Speakers from SS Producing Companies

01 Speaker from Ministry of Industry

01 Speaker from SIAM & ACMA

01 Speaker from Big 4 like KPMG etc

06 Speakers from the following companies

1. Tata Motors
2. Maruti
3. Hyundai
4. Honda
5. Mahindra
6. Minda
7. JBM
8. Sona Koyo
9. TVS
10. Enfield

# STAINLESS STEEL IN FOOD, DRINK AND DAIRY INDUSTRY

## Overview

- India's food processing sector is one of the largest in the world and its output is expected to reach $535 Bn by 2025-26.
- The dairy market in India size reached INR 14,899.8 Billion in 2022. Looking forward, IMARC Group expects the market to reach INR 31,185.7 Billion by 2028, exhibiting a growth rate (CAGR) of 13.2% during 2023-2028.
- India is one of the fastest-growing economies in the world. By 2030, it is on course to witness a 4x growth in consumer spend.
- The growth of food processing sector will be led by the demand in retail and rise of health-conscious consumers, who opt for safe, branded food.
- New initiatives like a planned infrastructure spend of around INR 100 lakh crore (around $1 Trn) and INR 25 lakh crore to boost the rural economy have put the food processing sector on a high growth trajectory.
- By 2030, Indian annual household consumption is expected to triple, making India the fifth-largest consumer in the world.

## Challenges

- Food Storage must be clean and sterilized
- Resistance to high temperature
- Durable as well to resist corrosion which reduces cross contamination

## Discussion

- Today, more than 30% of all stainless steel produced goes into products related to the food and beverage sector.
- The discovery of stainless steel early in the 20th century was a milestone event for the food and drink processing industries. This wonderfully hygienic and durable alloy has become a favourite in domestic kitchens and for the very same reasons, it is the material of choice in industries as diverse as the processing of milk and dairy products, beer and wine making, confectionery, cooked meats and many, many more.
- Stainless steel food containers are the best way to go when preparing and storing food in your kitchen or food prep areas. While plastic containers are very durable, they are not as easily cleaned and sterilized as stainless steel.
- Food grade stainless steel products are made with Type 304 stainless steel
- It is durable enough to stand up to abuse as well as resist corrosion, which also reduces cross contamination.
- Its smooth surface is easy to keep clean and sterile between uses. Cleaning with bleach and other chemicals is safe with food grade stainless steel, so you can keep your food preparation areas and kitchen safe from bacteria.
- It can withstand both high and low temperatures, making it a good option for cookware, bakeware, food warmers, and food storage of every type and size.
- In the 1930s restaurants and food preparation lines started making use of stainless steel sinks, and stainless steel backsplashes and cooktops began popping up in the 50s and 60s. Finally, the 80s saw General Electric using stainless steel in all of their appliance construction.
- For most consumers, stainless steel is found in food preparation kitchens, as well as presentation and self-service machines. All of these use stainless steel because the chromium content gives it a higher tensile strength while the nickel content and smooth surfaces make it easy to clean and sanitize on a frequent basis
- In fact, stainless steel is rapidly replacing other metallic materials in food processing and catering equipment.

## Speakers

02 Speakers from SS Producing Companies

01 Speaker from Ministry of Food Processing

01 Speaker from FSSAI

01 Speaker from Big 4 like KPMG etc

06 Speakers from the following companies

1. Nestle
2. Parle
3. Unilever
4. P&G
5. RB
6. Godrej
7. Britannia
8. Marico
9. Mondelez
10. Tata Consumer
11. ITC
12. Mother Dairy
13. Amul

# STAINLESS STEEL INDUSTRY IN OIL AND GAS INDUSTRY

## Overview

- Oil & Gas Infrastructure Market size surpassed around USD 620 billion in 2021 and is projected to grow at over 6% CAGR from 2022 to 2030.
- India plans to almost double its oil refining capacity to 450 MT in the next 10 years to meet the rising domestic fuel demand as well as cater to export market.
- India has set a target to raise the share of natural gas in the energy mix to 15% by 2030 from about 6.7% now.
- India is the 3rd largest energy and oil consumer in the World
- India is the 4th largest importer of liquefied natural gas (LNG).
- India consumed 204.23 MMT petroleum products and 63.9 BCM natural gas in FY 2021-22, making a growth of 5.1% and 5% over the FY 2020-21.
- 100% FDI allowed through automated route in exploration & production activity, LNG regasification infrastructure, and refining in the private sector.
- India's oil and gas sector to see $300 billion investment by 2030
- The government aims to more than double the share of natural gas in its energy base to 15 per cent by 2030.

## Challenges

- Need for robust metal choice for heavy duty offshore applications
- Long life with resistance to extreme pressure and high temperatures
- Reducing weight of Structure
- Facing severe acidic environments

## Discussion

- Stainless steel guarantees to be a robust material choice for heavy-duty offshore applications. The metal is inherently resistant to corrosion, even in marine and coastal environments, and offers a high strength-to-weight ratio for infrastructural applications.
- Stainless steel also ensures a long design life along with impressive resistance to extreme pressure and high temperatures. It is noteworthy that by using stainless steel, the life expectancy of offshore structures can be increased by nearly five times as compared to its competitors.
- Stainless steels , including duplexes and super duplexes are of enormous benefit to the offshore oil and gas industry. They offer reduced weight, increased strength and corrosion resistance, and favourable lifecycle costs, compared to other materials.
- Stainless steel is further qualified for use in offshore applications by the burgeoning emphasis on minimal lifecycle cost (LCC) in architecture and construction. This concept underlines the strong demand for the development of new infrastructure that is highly durable and does not require extensive maintenance or repair.
- Weight reduction is also a major driver while installing offshore structures. Reduced weight implies that the structure costs less to build while allowing for more drill pipes and production equipment to be carried for oil and gas production and exploration.
- Stainless steel augments strength at high temperatures and also defends the structures against severe acidic environments.
- Excellent combination of mechanical properties and resistance to stress corrosion cracking, Stainless steel duplex grades make a good choice for offshore applications.
- Use of Stainless Steel for Offshore Pipework Systems', shows how using a super duplex stainless steel deluge system in offshore projects helps reduce the weight and size of the setup
- We observe that stainless steel is a better alternative to carbon steel, it is crucial to understand that choosing the best stainless steel grades for specific requirements is necessary for a cost-efficient and long-life offshore setup.

## Speakers

02 Speakers from SS Producing Companies

01 Speaker from Ministry of Petroleum

01 Speaker from Petroleum Research Institute

01 Speaker from Big 4 like KPMG etc

06 Speakers from the following companies

1. Oil India
2. Indian Oil
3. ONGC
4. HPCL
5. BPCL
6. GAIL
7. Reliance Petroleum
8. Cairn India
9. Tata Petrodyne
10. Essar Oil

# STAINLESS STEEL INDUSTRY IN ARCHITECTURE, BUILDING & CONSTRUCTION

## Overview

- NITI Aayog expects the Indian real estate and architectural sector to reach a market size of $1 trillion by 2030 and account for 13 percent of India's GDP by 2030
- The real estate industry is already the third-largest sector to bring about economic growth.
- Schemes such as the revolutionary Smart City Mission (target 100 cities) are expected to improve the quality of life through modernized/technology-driven urban planning. Under NIP, India has an investment budget of $1.4 Tn on infrastructure.
- As the sustainable building industry grows, green buildings are figuring effectively to drive the construction industry.
- McKinsey GIobal Institute projections show India's urban population soaring from 340 million in 2008 to 590 million in 2030.
- McKinsey GIobal projects that to meet urban demand, the economy will have to build between 700 million and 900 million square meters of residential and commercial space a year.
- The construction output in the country is expected to reach INR 60,508.9 billion by 2026.
- India's Urban Population in 2030 - And this urban expansion will happen at a speed quite unlike anything India has seen before.
- It took India for nearly 40 years (between 1971 and 2008) for the urban population to rise by nearly 230 million. It will take only half the time to add the next 250 million.
- McKinsey GIobal estimates that India needs to invest $1.2 trillion just in capital expenditure in its cities over the next 20 years, equivalent to $134 per capita per year, almost eight times the level of spending today.

## Challenge

- Eco-friendly construction, environmentally conscious construction, or green construction is one of the challenges that Architect 2030 is aiming to address.
- In order to use wood, obviously trees must be cut down. To make the process sustainable, developers or their wood suppliers should be planting or funding the process of planting as many trees used in the process or even more, since trees are a major source of carbon dioxide absorption, or a natural and efficient carbon capture machine.
- More renewable energy is to be used this will upgrade building's efficiency.
- Need for durable, better strength with no maintenance

## Discussion

- The development of stainless steel represented a revolution in construction and architecture since it has many advantages when compared to other similar materials, like increased durability, strength, and less need for maintenance. Civil engineering is constantly improving by implementing new techniques, and stainless steel is essential for many projects because of its excellent features.
- The main advantage is that this material provides architects to experiment more with unique designs and make it possible for construction workers to create what they designed.
- This material is very reliable and offers improved stability and strength of the structure.
- The great feature is that this stainless steel is lightweight when compared to other sorts of pipes which brings a better process of installation and maintenance. Also, chances for some malfunction are much lower. That is especially important for water pipes. Even with the higher price, there is no better alternative with such security and durability.
- The most common use of stainless steel can be seen in bridges and various water structures. This powerful and flexible material is resistant to water and corrosion which makes him perfect for the construction of bridges that could last for centuries without any issues.
- Stainless steel is used in all aspects of architecture, building and construction. While it has been used in this industry since the 1920's and is not a new material, stainless steel's use and range of applications has been growing.
- Significant technological advances in materials processing have led to the development of duplex stainless steels with excellent mechanical properties; important progress has also been made in the improvement of surface finishes for architectural applications
- New opportunities for stainless steel arising from the shift towards sustainable development are reviewed, including its use in nuclear containment structures, thin-walled cladding and composite floor systems.
- Stainless steel is corrosion-resistant and long-lasting, making thinner and more durable structures possible. It presents architects with many possibilities of shape, colour and form, whilst at the same time being tough, hygienic, adaptable and recyclable.

## Speakers

- 02 Speakers from SS Producing Companies
- 01 Speaker from Ministry of Urban Development
- 01 Top Architect
- 01 Top Structural Engineer
- 06 Speakers from the following companies
- Jaguar
- Kohler
- Haffle
- Hettich
- Dorma
- DLF
- L&T
- Hiranandani
- Godrej
- Tata Reality
- Gammon
- HCC
- Shapoorji Pallonji

# STAINLESS STEEL IN CHEMICAL AND PETROCHEMICAL INDUSTRY

## Overview

- The Indian chemical industry holds tremendous growth potential, market size expected to reach 383 billion by 2030
- The Indian chemical industry has seen significant growth over the last decade owing to strong participation from the industry as well as initiatives from the government.
- India holds a strong position in exports and imports of chemicals at a global level and ranks 14th in exports and 8th in imports at global level (excluding pharmaceuticals).
- The opportunities are knocking on the door as the US is likely to slap investment and export sanctions against more Chinese chemical companies. This will result in a shift for chemical majors to explore reliable alternatives such as India.
- Closure of plants in the EU and China due to increasing environmental concerns have favoured Indian manufacturers to invest further in specialty chemicals. From April 2021 to February 2022, exports of organic & inorganic chemicals increased 33.75% YoY to reach US$ 26.48 billion.
- In the chemical sector, industrial licensing and 100% FDI, under the automatic route, are allowed with exception to few hazardous chemicals.
- The Indian Government supports the Industry through research & development and initiatives such as reducing basic customs duty on several imported products and promoting the 'Make in India' campaign.

## Challenges

- Chemical plants are a very harsh environment for metals and equipment due to the heavy corrosion factor.
- Cost of manufacturing is high
- Use of Non adaptable cheap kind of metal does not resist highly toxic chemicals and corrosion

## Discussion

- One popular category of production that often doesn't get as much attention as others when it comes to stainless steel is the chemical, processing, and oil & gas industries.
- The truth is that because of the hazardous materials that are commonplace in these industries, ordinary metals, including carbon steel, are unable to withstand the constant exposure that they would face. Without a cheap, sustainable alternative that has the durability to resist highly toxic chemicals and corrosive liquids the costs of manufacturing would be exorbitantly high. Fortunately, stainless steel alloys provide the perfect solution.
- Chemical plants are a very harsh environment for metals and equipment due to the heavy corrosion factor. Stainless steel is the best choice to withstand the corrosion elements.
- A stainless steel filter and seamless pipe combination is a mainstay of modern fluid systems.
- Stainless steel pipes are used in the process of rectification tower process equipment design, stainless steel pipes are mainly used for material transportation between the main production equipment; secondly, they also serve as the main heat exchange pipeline in the heat exchange equipment.
- When it comes to 304 stainless steel pipe, one has to talk about 304 stainless steel. In fact, it is a relatively common type of stainless steel. It can withstand a high temperature of about 800 degrees and has good processing performance and toughness, so it can be used for manufacturing.
- Whether you need to modify process equipment, tanks, or structural elements, you can adapt stainless steel in ways that many other products cannot. For instance, it is relatively easy to re-work stainless steel welded pipe on-site, and retain leak-tests of a millibar per second or lower. In virtually any other fluid system, this would be either impossible to achieve or potentially difficult to do on-site.
- Stainless Steel Resists Everyday

## Speakers

02 Speakers from SS Producing Companies

01 Speaker from Ministry of Chemicals & Fertilsers

01 Speaker from ICT Mumbai

01 Speaker from Big 4 like KPMG etc

06 Speakers from the following companies

1. Tata Chemicals
2. Pidilite Industries
3. Reliance
4. Gujrat Flourochemicals
5. Deepak Nitrite
6. Gujrat Heavy Chemicals
7. Gujrat Alkalies
8. BASF India
9. Bayer
10. Asian Paints
11. India Glycols
12. United Phosphorus

# STAINLESS STEEL INDUSTRY IN SHIPBUILDING

## Overview

- Maritime India Vision 2030 would involve an investment of over Rs 3 lakh crore, which would unlock annual revenue potential for major ports worth over Rs 20,000 crore," according to the Ministry of Ports, Shipping and Waterways' document.
- The policy focuses on 'Make in India, Make for the world' and thereby becoming a leading ship building country by 2030 through 15 times increase in the gross tonnage of ships built in India.
- Mission is to the setting up of three mega ports with a capacity of over 300 million tonnes of cargo, mainly in Gujarat, Maharashtra and Odisha and developing a West Bengal cluster with a major investment of Rs 80,000 crore (USD 11.05 Bn).
- The government plans to increase the transshipment volumes of Indian cargo at Indian ports from 25 per cent in 2020 to more than 75 per cent by 2030 by operationalisation of Vizhinjam port and development of Transshipment zone in Kanyakumari and Champbell Bay.
- It said shift from road/rail to coastal shipping could generate cost savings of Rs. 9000-10000 crore.
- Prioritising development of 23 national waterways is planned under it with maximum potential in Phase 1 besides increasing the cargo movement from 73 million tonne per annum (MTPA) to over 200 MTPA.
- India is also heavily dependent on the sea for its energy requirements. Over 85% of India’s crude oil and over 50% of gas is seaborne and most of its indigenous efforts are focussed on offshore exploration. Refined petroleum goods, which constitute the largest percentage of India’s exports, also transit over the sea.
- More than 90% of India’s trade by volume and over 75% by value travels over the sea and is serviced by a network of 13 major ports and over 200 non-major ports.
- Promoting ‘waste to wealth’ through sustainable practices in ship recycling and and dredging.

## Challenges

- Harsh Environmental conditions like sunlight & water
- Need for metal that is corrosion resistant, durable, maintenance free
- High yield strength to promote cargo weight savings
- Chemical tankers represent the largest tonnage applications, as the primary need is for a material that is strong, easily fabricated, extremely durable and capable of being thoroughly cleaned when a change of cargo is involved. Thus cargo contamination hazards can be reduced.
- High Maintenance and life cycle costs

## Discussion

- Stainless steel is ideal and reliable material for shipbuilding due to its strength and durability.
- Stainless steel is perfect for the harsh environmental conditions that steel is subjected to like the harsh sunlight and saltwater.
- Duplex stainless steels are frequently chosen for tanker linings, not only for their superior corrosion-resistance but also for their high yield strength, a vital consideration for structures such as bulkheads where the consequences of mechanical failure can be catastrophic.
- Stainless steel has a combination of high residual value (as a result of the alloy content) and great durability, lending itself to extensive reuse, with practical, economic and environmental benefits.
- Stainless steel’s greatest advantage over other building materials is its corrosion resistance: correctly specified stainless steel does not need corrosion protection and requires only minimal maintenance, resulting in low life cycle costs and lower environmental impact. This makes stainless steel extremely durable, easy to maintain and recyclable.
- Unlike galvanized or painted steel, stainless steels have a self-repairing surface layer, so no protection is required throughout their life cycle.
- If a safe, ecological and economical installation system is required, there is no better choice than the application of stainless steel.
- A high yield strength can also provide weight savings due to thinner sections which, in turn, helps to optimise cargo loads.

## Speakers

- 02 Speakers from SS Producing Companies
- 01 Speaker from Ministry of Food Processing
- 01 Speaker from FSSAI
- 01 Speaker from Big 4 like KPMG etc
- 06 Speakers from the following companies
- Goa Shipyard
- Kochi Shipyard
- L&T
- Hindustan Shipyard
- Mazgaon Shipyard
- HDEPL
- Homa Engineering
- Reliance Naval

INDIA STAINLESS STEEL EXPO

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- **Roundtable 2:** to brainstorm on opening new domestic & international markets
- **Roundtable 3:** to discuss collaborative approach on R&D and innovative applications
- **Roundtable 4**: to discuss issues like Sustainability, Circular Initiatives, Global Standards & Compliances
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INDIA STAINLESS STEEL EXPO

# Excellence Awards

Showcasing Stories of Grit, Determination and Excellence That Have Raised The Bar in The Industry

# Stainless Steel Excellence Awards 2023

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- Case study based, industry lead awards which identify, acknowledge and recognize excellence at an individual and organizational level by professionals connected to the Stainless-Steel Sector in India.
- Winners picked via a stringent 3 stage screening process including primary screening, vetting by a neutral auditor and final selection by a Jury
- Award categories to cover innovations in Manufacturing process, innovations in applications, commitment to R&D, Sustainability, Exports, Job Creation etc.
- Exclusive awards to take the recognition of excellence to a new level
- 50+ awards in 10 categories across 20 industry verticals – the most comprehensive awards
- Being held in New Delhi to provide a much-needed opportunity to connect with the industry peers in North India & decision makers in the government
- The awards will be organized in association with ET Now and will be telecast twice post event.
- Being the first award after battling the COVID induced exigencies this edition will see many an innovative case study that will help raise industry benchmarks.

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# Stainless Steel Excellence Awards 2023

- ✓ Best Stainless-Steel CEO
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- ✓ Best Stainless-Steel Production Unit of the Year
- ✓ Best Stainless-Steel Talent Development Initiative of the Year
- ✓ Best Stainless-Steel Dealer of the Year
- ✓ Best Stainless-Steel “Make in India” Initiative of the Year
- ✓ Best Stainless-Steel Initiative Supporting MSME’s
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# About Organizer

- Indian Stainless Steel Development Association (ISSDA) is a not for profit organization, registered under section 8 of Companies act, 2013, committed to the growth and development of stainless steel industry in India.
- Founded in 1989 by leading stainless steel producers, it was formed with the explicit objective of diversifying the applications of stainless steel in India and increasing usage volumes in the country. At the point of formation of ISSDA, the main visible application of Stainless Steel was essentially household kitchenware, which has now diversified significantly.
- ISSDA currently has a membership base of over 150 companies engaged in the production and processing of stainless steel.
- The technical strength of ISSDA is derived from its close association with the NICKEL INSTITUTE (NI, ww.nickelinstitute.org), the International Stainless Steel Forum and close collaboration with more than 20 national stainless steel development associations (SSDAs) around the world.

- A specialized B2B media company organizing exhibitions & conferences across sectors and geographies
- Founder has 27 years experience in the industry having worked as a Director for CII, Vice President for Times of India, Middle East & India CEO for IQPC, India Managing Director for Reed Exhibitions the largest global player…
- A professional team of 20 members with proven experience in the trade
- We also produce televised B2B content in association with leading channels like CNBC, ET Now…

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