

Increasing Demand for Light-weight Material and JSW's Contribution in India

January 18, 2024

Toshio Matsuo

Representative Director & President
The Japan Steel Works, Ltd.

Agenda

- Outline of The Japan Steel Works, Ltd. (JSW)
- Development of Indian Economy
- Light-weight Automotive parts
- The Japan Steel Works (JSW) in India

Outline of The Japan Steel Works, Ltd. (JSW)

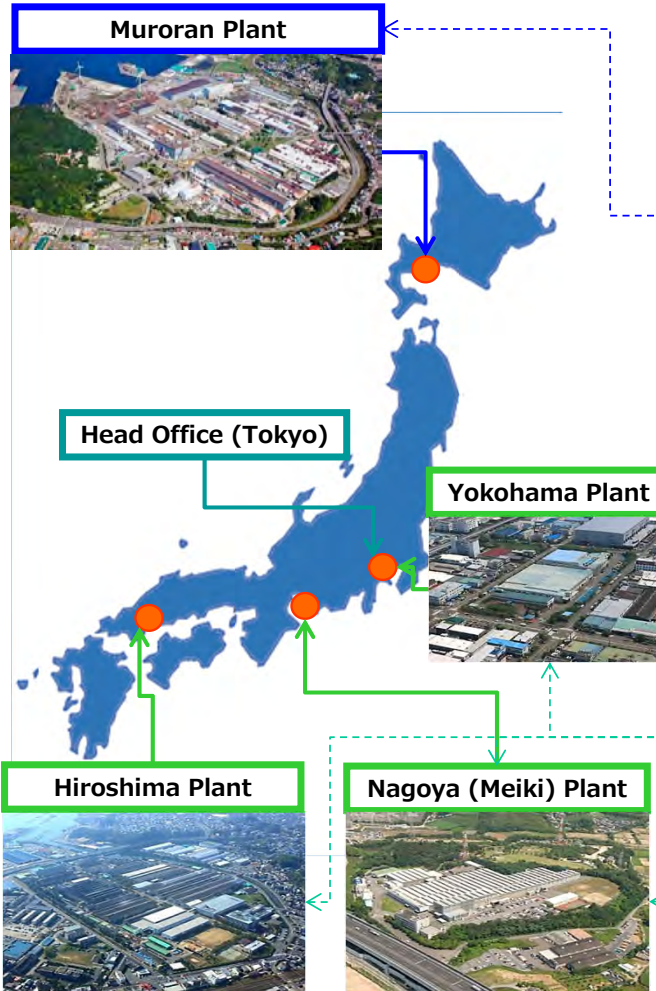
Founded	November 1, 1907
Head Office	Tokyo, Japan
Number of Employees	Approx. 5,000 (Consolidated)
Net Sales	USD 1,646 million (FY22, Consolidated, USD 1 = JPY 145)

Headquarter

Representative Director & President
Toshio MATSUO

Representative Director & Executive Vice President
Junichiro DEGUCHI

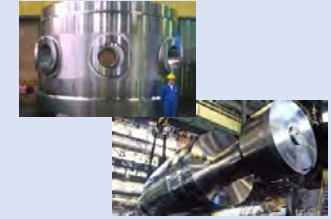
Director, Managing Executive Officer
Hiroki KIKUCHI (CFO), Shigeki INOUE (CTO)



Material and Engineering Business

Forgings & Castings

- RPV & SG Components for nuclear power plants
- Rotor shafts for steam turbines & generators
- Steel rolls for steel mills



Clad Steel Products]

- Clad Plates



Engineering Services

- Steel structure for plant and infrastructure
- Steel pressure vessels for hydrogen storage and hydrogen storage tanks using hydrogen absorbing alloys



Other Businesses

New Business

- Photonics
- Composite materials
- Metal materials



Industrial Machinery Products Business

Plastic production and processing machinery

- Pelletizers
- Twin-screw extruders
- Film and sheet manufacturing equipment
- After-sales services



Molding machines

- Plastic / Magnesium alloy injection molding machines
- Blow molding machines
- After-sales services



Other machinery

- Excimer laser annealing (ELA) systems
- Defense equipment
- Railway products
- Hot press devices
- Laminators
- Deposition systems
- After-sales services

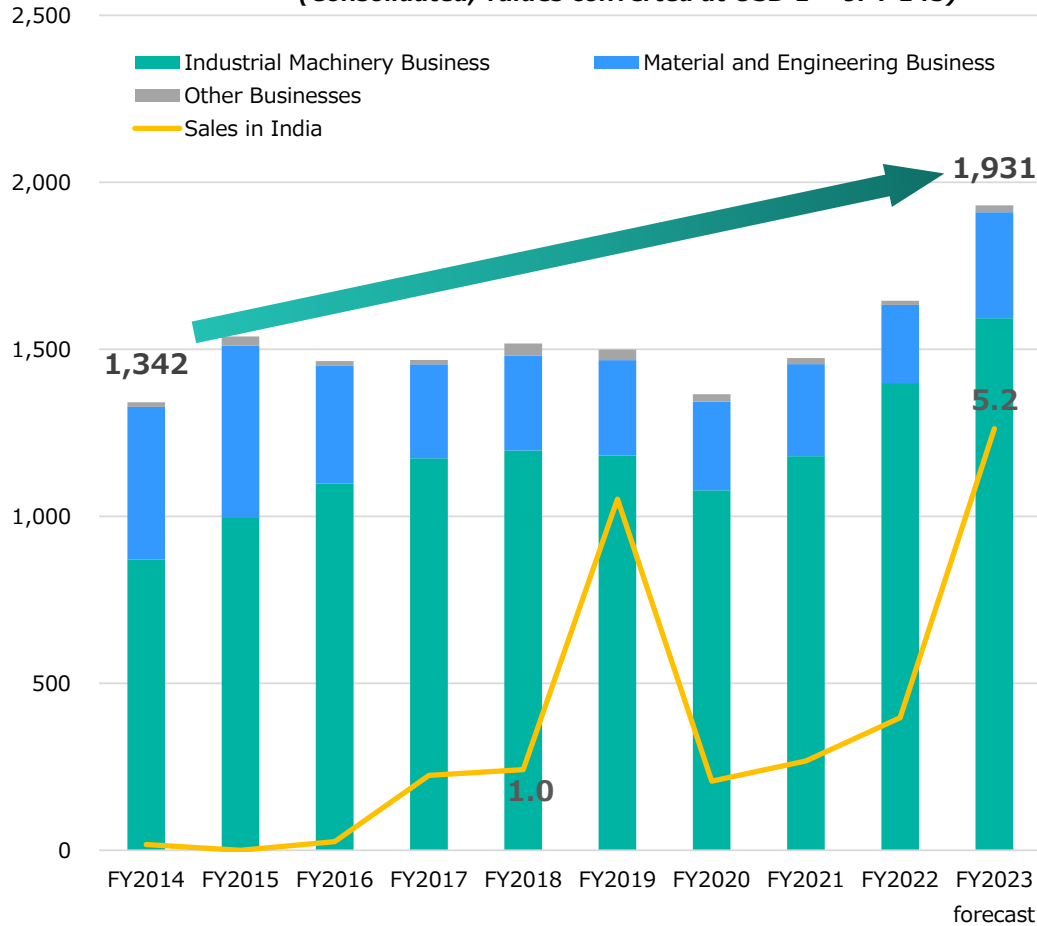


JSW THE JAPAN STEEL WORKS, LTD.
Material Revolution™, making the world sustainable and prosperous.

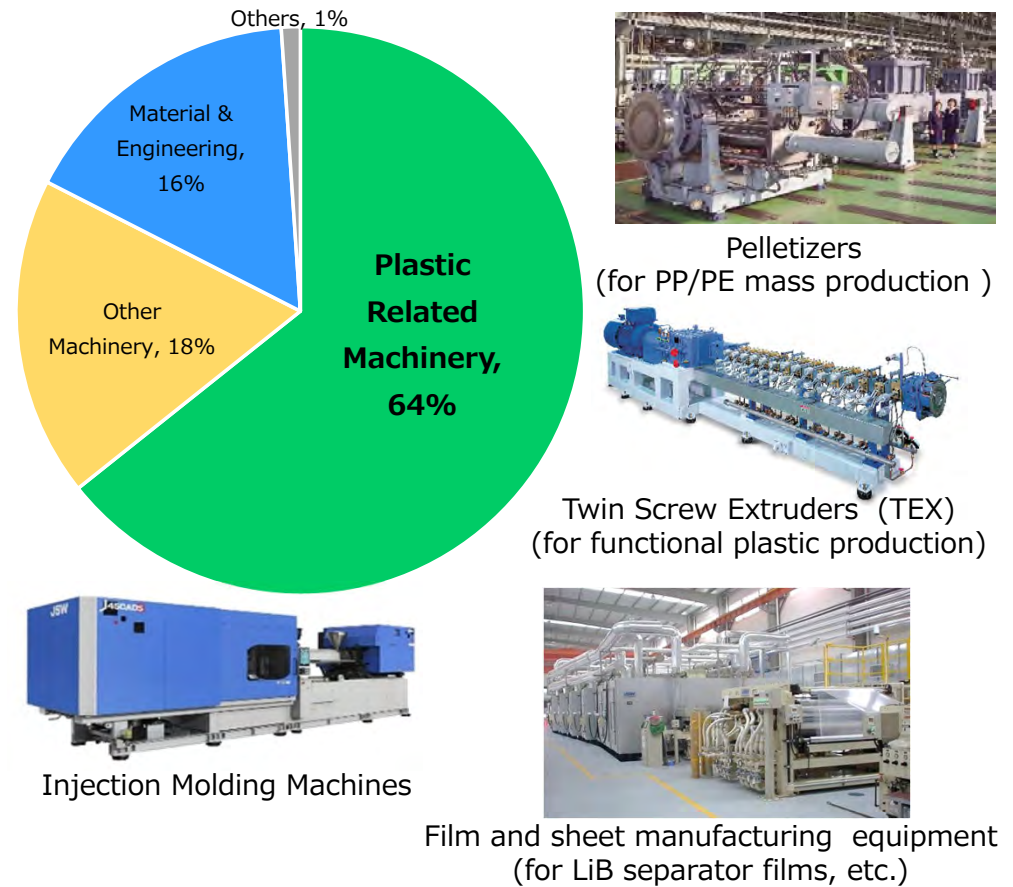
Outline of The Japan Steel Works, Ltd. (JSW): Trends in Net Sales

(Unit: Million USD)

(Consolidated, values converted at USD 1 = JPY 145)



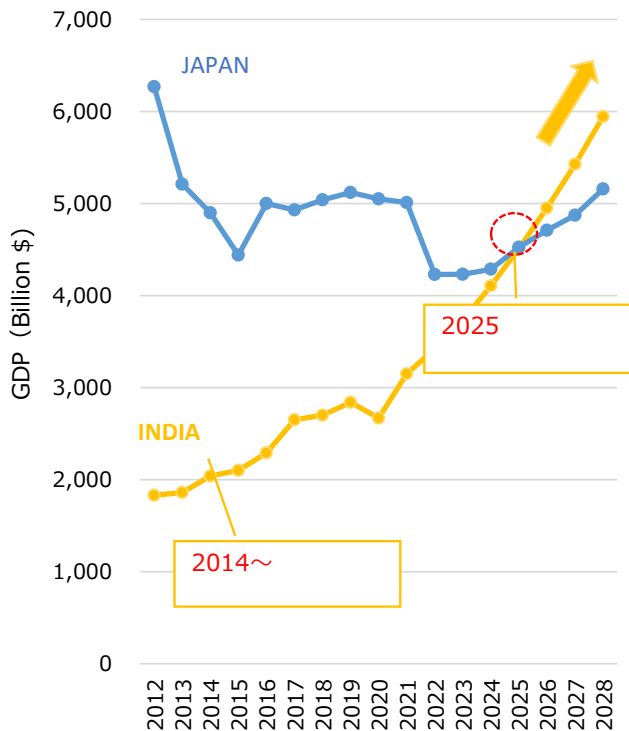
Net Sales in FY23 by Business Segments



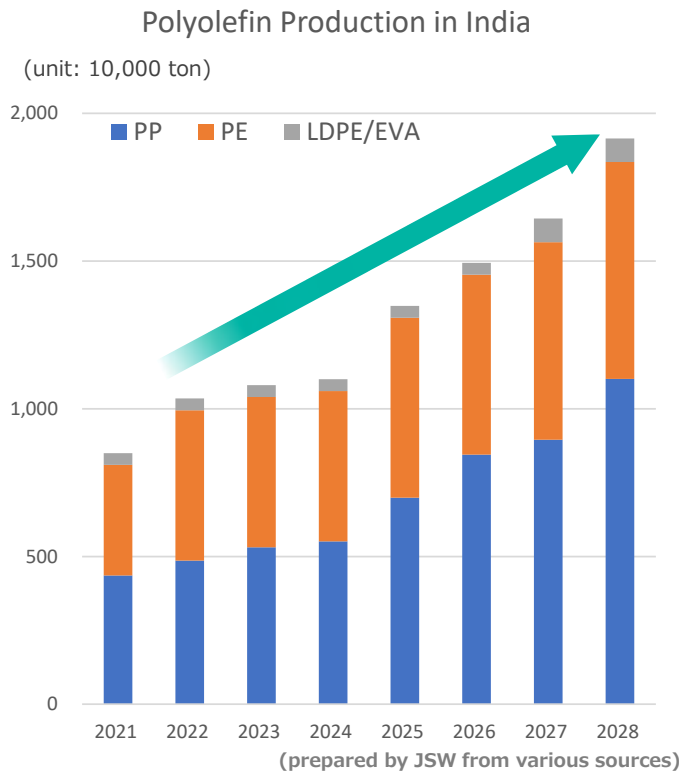
Development of Indian Economy

“Self-reliant India” strategy to enhance its infrastructure and manufacturing industry

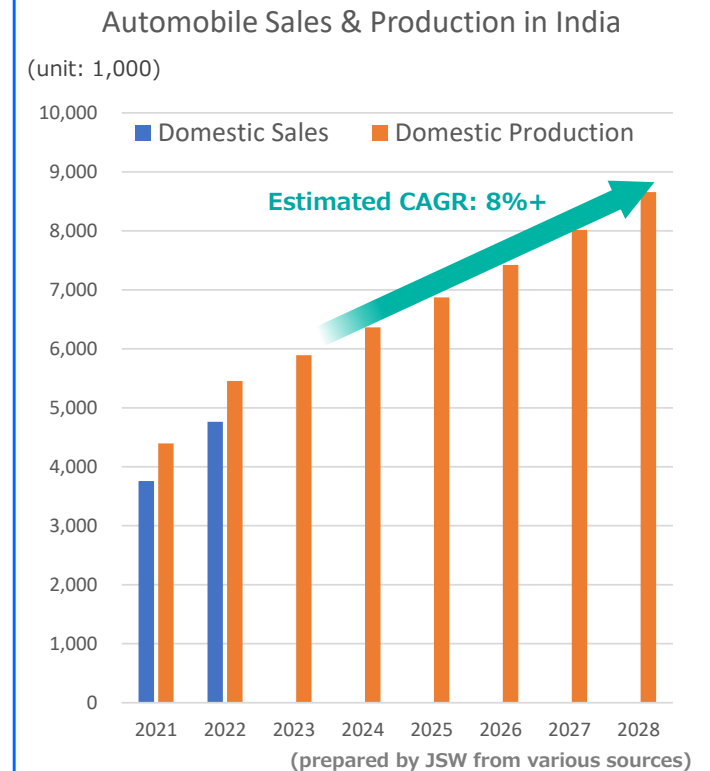
To be Global No. 3 in GDP



Plastic Production in India



Growing Automotive Industry

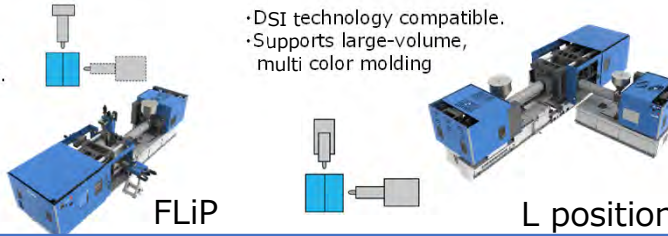


Light-weight Automotive parts ~ all size, various materials, multiple layers ~

Intake manifold



- DSI technology compatible.
- Mountable and removable.
- Compact design saves space.
- Compatible with various mounting positions (top and side of mold).

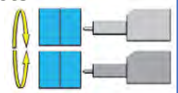


- DSI technology compatible.
- Supports large-volume, multi color molding

Multicolor instrument panel cover

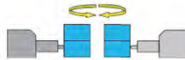


- Integral molding of composite products e.g. multi-color, multi-layer, in-mold assembly, etc.
- Space saving machine with 2-platen clamping mechanism.



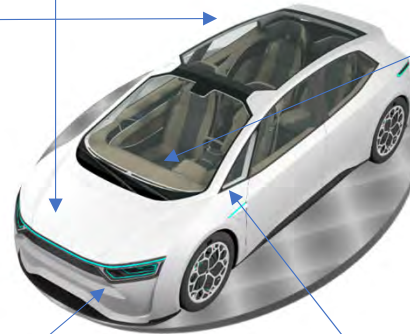
HR Series

Tail lamp cover

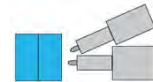


- Integral molding of composite products e.g. multi-color, multi-layer, in-mold assembly, etc.
- 2 or 3 colors supported
- 35% share in the global market for tail lamp cover molding machines.

VR Series



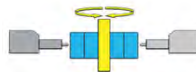
Door mirror unit



- Various molding modes and molding processes
- Supports JSW's proprietary DSI molding technology
- Wide platen as standard equipment

J-ADS-2M Series

Head light cover



- Largest open daylight in the same size range.
- Suitable for large, deep, molded products.
- High-precision mold opening/closing by intermediate plate vertical support mechanism.

MR Series

Light-weight Automotive parts ~ all size, various materials, multiple layers ~

Head up display parts




- For Magnesium Injection Molding
- The electric servo motor driven clamping system reduce energy consumption by 20%.

JLM Series

Reflector




- BMC (Bulk Molding Compound) compatible IMM

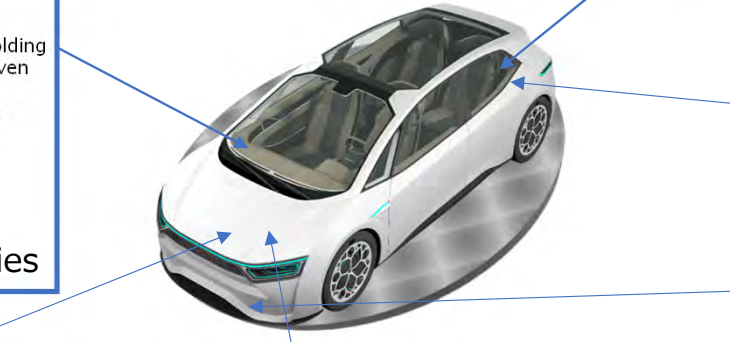
BMC Series

Rear Quarter Glass




- For Glass insert molding

M300C-V





Intake hose steering rack boots




- RJ compatible IMM
- For Rubber IMM

RJ Series



Pulley

- For thermosetting IMM

TS Series

Bumper

- For bumper etc. IMM

J-F Series

All Electric for Lower Energy Consumption & CO2 Emission

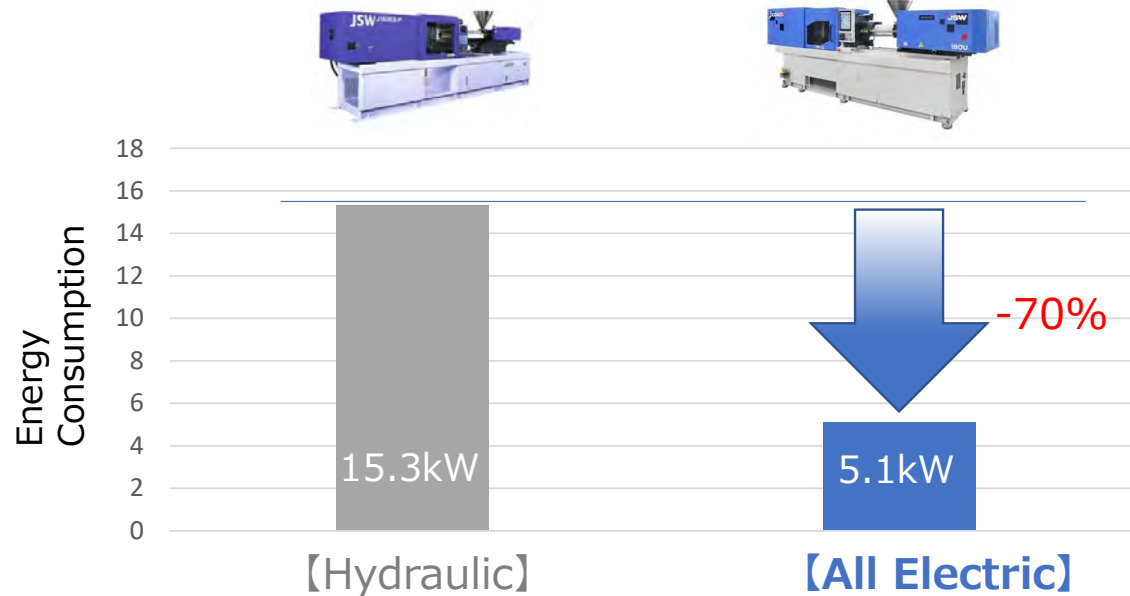
Hydraulic V.S. All Electric @100 Ton machine

Compared to past JSW hydraulic machines, JSW All Electric machines have...

Energy Consumption Approx. **-70%**

CO2 Emission Approx. **-42** ton/year

※Estimated condition 24h per day/365 days

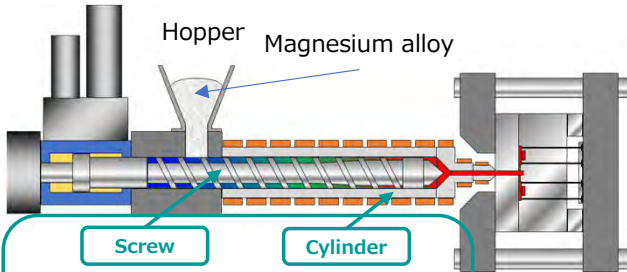


	【Hydraulic】 J-E III	【All Electric】 J-ADS
Energy Consumption (kW)	15.3	5.1
CO ₂ Emission (t/year)	62.1	20.7

※Values are based on calculation. Not Guaranteed.

Light-Weight Material: Magnesium Alloy for Automobile

Design and manufacturing technologies of injection molding machines

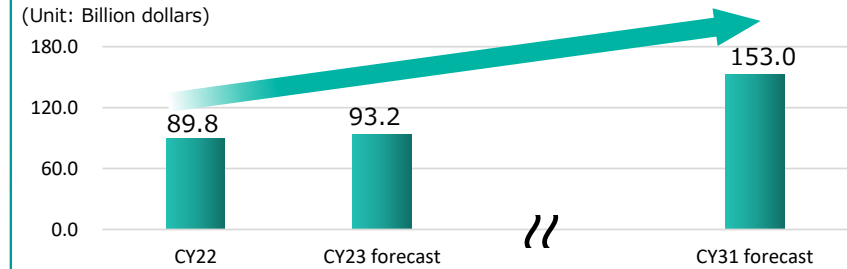


Materials development and manufacturing technologies
 (JSW developed materials that can be used regularly at temperatures in excess of 600° C)



JLM3000-MGIIeL ultra large size magnesium injection molding machine

Forecast of global market size for in-vehicle displays



Note 1. Based on sales from business operators
 Note 2. Figures given for 2023 and 2031 are forecasted values
 Note 3. The market size does not account for LCD-TFT, AMOLED, and Mini/Micro LED for automotive CID, Cluster, RSE, HUD, and Mirror applications. CID and Cluster include those for Digital Cockpit (Pillar to Pillar Display/Multi Display). The market size does not account for other on-the-market goods, only genuine products.
 (Source: "Global Automotive Display Market: Key Research Findings 2023" released by Yano Research Institute Ltd. on September 20, 2023)

【Molded products (examples)】

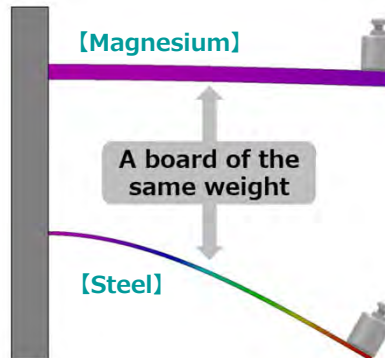
- IT-related equipment
 - PCs, tablets
 - Smartphones
- In-vehicle equipment
 - Display meter panels
 - ECU cases
 - Head-up displays
 - Consoles
- Others
 - Cameras, etc.



Magnesium Alloy Parts for HUD Module

-- Features of Magnesium Alloy --

■ Rigidity: higher than steel



■ Weight: lighter than steel

Weight comparison with same dimensions (Long tray sample)

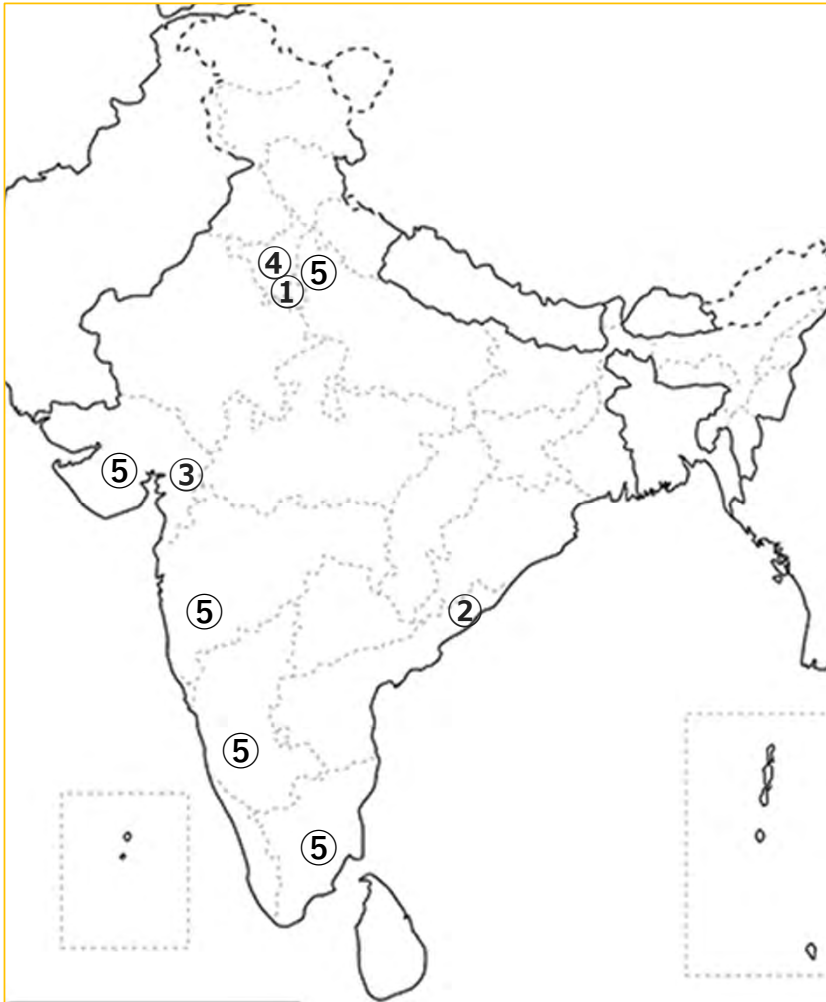


Weight: 4kg



Weight: 1.2kg

The Japan Steel Works (JSW) in India



[JSW's sales & after-sales services offices in India]

- ① **Japan Steel Works India Private Limited**
Gurgaon
- ② **UTT India Private Limited**
SrilakshmiNilayam, chandrampalayam, madhurawada, Vishakhapatnam
- ③ **Skill Engine Projects**
Vadodara
- ④ **Extruder Service Center**
Kharkhoda, Sonepat
- ⑤ **Injection Molding Service Agency**
Delhi, Ahmedabad, Pune, Bengaluru, Chennai

**Enhancing our sales & after-sales services network,
JSW will keep contributing to Indian economy.**

Thank you very much for your kind attention!!