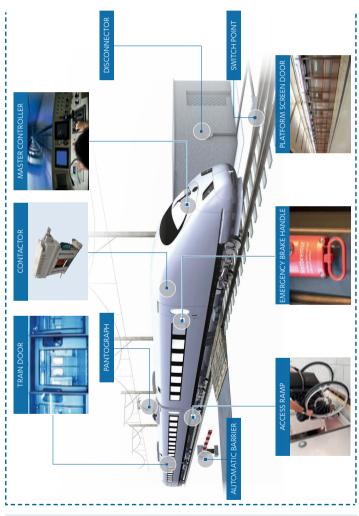




# CROUZET IN THE RAILWAY SECTOR

Actively involved industry for over components for of safety critical stock segments and some fixed built up a solid various rolling manufacturer in the railway nstallations. Crouzet has as a reliable reputation 50 years,



Reduce to the Object of the Object of the Object of the Object of Object object of Object object of Object

Limit Switches

SMITCHES

Large range up to 600 W (nominal power) and 6 Mm (pask roque)
 Integrated electronics
 Integrated electronics
 Wile referred yealtware: CO-mind soft + C-ANopen with expert & applicative programs
 CANopen available, other communication buses

**DCmind Brushless Motors** 

option on demand P54, up to IP65, IP67 & IP69 (please contact us) on demand Encoder 4096 position per turn, other encoder

DCmind Brush Motors

Output power up to 104 W IP65, up to IP67 & IP69 (please contact us) Exceptionally quiet: 35 dBA
Service life up to 24,000 hours at no-load
5000 hours at rated load
More than 80 % efficiency

Planetary
Max torque 120 Nm
Ratios 5 to 393 Worm
Max torque 10 Nm
Ratios 5 to 100
Parallel Shaft

IP40 to IP89 protection
 Changeover SPDT with separate NO/NC circuit
 Positive opening operation of NC contacts
 Wide fange of actuators and mounting accessories
 Long life up to 10 M cycles

Largest range of the market Ratings from 1 mA to 16 A / AC or DC 7 Tag terminals or lead/cable output

Microswitches

# Safety & Security

- Robust products compliant to railway standards & approved
- Harsh environment resistance & long operating life
- Custom adaptation center for tailor-made solutions





EN 45545 IEC 61373 EN 50124-1

# **CUSTOMER BENEFITS**

- to customers' specification



# Global solutions of detection, switching, motion & remote control from one supplier

partnerships with the key players – Alstom-Siemens, Bombardier, CRRC, Fuji, Hitachi, Kangni, Knorr-Bremse Group, Secheron, Vossloh, Wabtec Group... Extensive knowledge of railway applications through

Proven Expertise

Efficiency & Cost-Effectiveness

Worldwide presence with European & Asian production Reduced maintenance thanks to easy-integration, lownoise & low-vibration motors

# Member of French Railway Industry (FIF) & Railway Supply Institute (RSI)

Digital and analog inputs

Thatback respective range (+70°C)

Extended emperature range (+70°C)

O uputs via removable connectors

IP50 seal (connectors)

DB 9-ph programming port via standard RS 222 cable

NOITAMOTUA

Resin protected board 12 to 40 I/Os

Logic Controllers

Power supply from 12 to 240 V in one unit 10 7 or 2 teleby sources 8 A, or high Power 16 A output 145 A output 175 8 22.5 mm DN tell mount or 35 mm plug-in or free oppration of equipment
 correct operation of equipment

CONTROL

Timers

# Best practices shared

#### INNOVATIVE SOLUTIONS FOR

#### INCREASED SAFETY

Technology is an important element in improving rail safety. Our electromechanical solutions are designed by using the latest technology for applications where failure is not an option.

#### **DETECTION SWITCH**

#### ▶ PBX SECURE SWITCH

The PBX Secure Switch is a safety switch which guarantees the forced opening of NC contacts in the event of a short circuit and/or welding due to an overcurrent.



In-line quick-connect terminals



Two-pole DPDT assembly with linked



Wires output on bottom



Wires output on left and right

#### Why choose PBX Secure Switch?

- > High reliability
- > Long overtravel for easy installation
- > Numerous combinations possible thanks to large range of variants and accessories
- Large adaptation capabilities for specific applications (low & high current)
- > Extended mechanical & electrical life

#### GET MORE INFORMATION



#### **MOTION CONTROL**

#### DCmind BRUSH & BRUSHLESS MOTORS

Crouzet offers a comprehensive range of DC brush or brushless motors and gearbox combinations designed to meet the customer's specific needs, as well as an easy-to-use dedicated software for application set-up.







#### Why choose our DC motors?

- Complete all-in-one solution (motor + gearbox + electronics)
- › Adjustable closing force
- Integrated security function to enable passengers to quickly leave the train in emergency case
- > Small size for space-restricted applications
- > Reduced maintenance

GET MORE INFORMATION



#### ABOUT CROUZET

Crouzet is an independent company manufacturing mechatronic components for demanding applications in Aerospace & Transportation, Energy, Building and Machinery Industry.

Crouzet provides Switches and Sensors, Electromechanical Actuators, Electrical Protection Equipment, Cockpit Controls, Automation Controllers and Relays, and Instrumentation Services.

Since 1921, Crouzet has a heritage of close collaboration with customers in the development of products, from standard components to fully customized solutions.

Crouzet's customers and partners can rely on our teams worldwide to always meet and often exceed their expectations. Driven by innovation, our experts are focused on designing and delivering the right product for the right application.

Crouzet is your trusted partner of choice to face industrial challenges of today and tomorrow.

#### **WORLDWIDE PRESENCE**







#### **Hand-Deburring Tools - Classic Line**

For Hand-Deburring of Edges - Straight, Inner & curved Both sides of - slot, key-ways, ribs, ridge, sheets Scraper for corner & surface finishing work Hole front & back side



#### Multi-Component Handle based Deburring Tools

For best results, we offer Deburring Tools with unique Blade & Handle design concepts



Deburring Tool Head for Inside (ID) & Outside (OD) Diameter



Quick reversal of tool for deburring of ID & OD



#### **Multi-Cutting Edge Deburring Tools**

Break-through Design in the History of Deburring Optimum use of entire cutting edge length

#### **DEBURRING TOOLS WITH HANDLE**



#### DT<sub>-</sub>1

This is a Simple, Economical Tool. It has universal In this the blade can be replaced. blade C-10 attached to a hexagonal handle with pocket clip. The blade cannot be replaced.

Packing Model	Includes
DT-1 (2) (31014)	2 pcs of DT-1
DT-1 (10) Set (86109)	10 pcs of DT-1



#### DT-2

This includes Hexagonal handle with universal blade C-10.

Packing Model	Includes
DT-2 (31024)	1 pc of DT-2
DT-2 (5) Set (86059)	5 pcs of DT-2



#### DT-3 (NEW)

This new Handle has a unique Swing-Lock Mechanism. Made out of Polyacetal body for a long life.

<b>Packing Model</b>	Includes
DT-3 (New)	'D' Handle & 3 Blades
(33066)	C-10, C-20 & C-30

#### DT-3 (M)-SD



This is Polyacetal body handle & Matallic Blade Holder for longer life.

Ergonomically designed. Has thumb rest. Grips well in Hand. Blades can be stored from backside.

Packing Model	
DT-3(M)-SD(34034)	

Includes

'D-SD' Handle & 3 Blades C-10, C-20 & C-30





Here the Blades can be replaced & the holder can be telescoped to reach & deburr the burrs at depth.

Collet action ensures firm locking of plain surface holders.

Packing Model	Includes
DT-5-SD (34054)	'T-SD' Handle, DT(C) Holder & 5 Blades C-10, C-20, C-30, C-10(C) & C-15
DT-52-SD (34524)	'T-SD' Handle, DT(P) Holder & 2 Blades P1 & P2.





For simultaneous deburring of both edges of slot or key-wey. Four cutting edges -2 for std. depth of slot / key-wey & 2 for shallow depth. Includes Handle 'T-SD', telescopic holder KW, Blades KW-9 & KW-16

#### **SHEET / RIB DEBURRER SET SDT (34084)**



Excellent for deburring one or both edges of sheets / ribs. Width range 0 -12 mm. Cutting edge along the full circle on 2 sides.

#### RDT-SD RIGID DEBURRING TOOL (34064)



Extra Heavy duty deburring tool. Strong, Sturdy & Rugged.

Type RDT-SD includes Handle 'R-SD' & Universal Blade R-10(S).



Unique Tool-has 4 nos 'V' shaped edges 2 nos for 1 to 12 mm width range & 2 nos for 0 to 4 mm width range. Includes handle 'T-SD', Telescopic holder VT & V-4 blade.

#### SHEET / RIB DEBURRER V2-SD (34104)



Double ended tool. Held & replaceable in collet type T-SD Handle. Deburrs both edges of sheet/ rib of upto 4 mm thickness from one side. Single edge deburring from another side of the tool.



#### **SCRAPER FOR SURFACE FINISHING / SCRAPING**

#### **SCRAPER SCR-3- (72034)**

Triangular 3 mm A/F Scraper. Fixed Blade type.

#### **SCRAPER SCR-3 (75) - SD (74754)**

Triangular 3 mm A/F (75mm) Scraper. Replaceable Blade type.



#### **SCRAPER SCR-8 (75084)**

Triangular 8mm A/F Scraper. Replaceable type.

#### **SCRAPER SCR-8-SD (74084)**

Triangular 8mm A/F Scraper with Swiss Design handle. Replaceable type.



#### **CERAMIC DEBURRING TOOLS**

#### **Features & Applications**

Deflashing & scraping of plastic components. Very long life of Ceramic Blade - Cutting edge all along. Blade can be ground to suit the application. Blade is replaceable in the handle.

#### **CERAMIC BLADE C-1 (77101)**

\_\_\_\_\_



Includes Handles T-SD & Ceramic Blade C-1

#### **COUNTERSINK TOOLS**







#### **2 FLUTE COUNTERSINKS**

For hole deburring & Chamferring. 3 sizes upto 30 mm for use by hand. 12 mm shank size for all tools.

Туре	For size upto
CS-12 (48120)	12 mm
CS-20 (48200)	20 mm
CS-30 (48300)	30 mm

Common handle for all 3 tools. Type CSH, CS-Revolving.



CS- REVOLVING HANDLE (48024)



**CSH HANDLE (46014)** 



For size upto
12 mm
20 mm
30 mm
40 mm

#### 3 FLUTE, LONG SHANK COUNTERSINKS

Upto size 40mm for use with m/cs. For hole/slot/corner deburring/chamferring.

#### **HEX BIT COUNTERSINKS - SINGLE FLUTE**



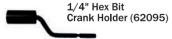
F 63 (48630)



F 104 (48104)



F 165 (48165)





	For hole size
F 63 (48630)	1 - 4 mm
F 104 (48104)	1.5 - 10 mm
F 165 (48165)	2 - 16 mm



#### PROMO-2 SET (84039)

Contains : D Handle & 10 Nos. Deburring Blades- 5 Nos. each of C-10 & C-20



#### SMART KIT (88909)

SMART KIT Includes:
1 Pc. Each of MT-1, MT
Scraper, ET-2, RDT-MK,
DT-MK, V-2-MK,
SCR-6(2)-MK, CT-MK,
F-MK, 10 pcs. Pack of
3.2 mm Blades
containing 2 pcs. each of
C-10, C-20, C-101 & 1 pc.
each of C-15, C-35, C-30
& C-10 (C) and 5 pcs.
Pack of 6 mm Blades
containing 2 pcs. of
R-10(S) & 3 pcs. of
R-15(S).



#### **MULTI CUT KIT (88080)**

Contains: 1 Pc. Each of Multi-Cutting Tools
MC-2, RDT-MC, DT-MC, Hollow Scraper 80,
10 pcs. Pack of 3.2 mm Blades containing
2 pcs. each of MC-10, MC-20, MC-101 &
1 pc. each of MC-15, MC-40, MC-10(C) &
MC-20 © and 5 pcs. Pack of 6 mm Blades
containing 3 pcs. of MR-10 & 2 pcs. of MR-15.



















BREAKTHROUGH
DESIGN IN THE HISTORY
OF DEBURRING







## 41 Years Old Furnace Manufacturing Company with Quality Latest Designs & Using State of Art Technology and Best Available Inputs

MANUFACTURING RANGE IN ELECTRIC, GAS & FUEL FIRED DESIGNS

- Chamber Type Furnaces
- Forced Air-Circulation Furnaces
- Pit Pot Type Annealing Furnaces for Wires & Strips
- Bogie Hearth Furnaces
- Forging/Normalising/Hardening/Tempering Furnaces
- · Gas Carburising/Nitriding Furnaces
- Bell Type Furnaces for Bright Annealing & Heat Treatment
- Conveyorised Furnaces for Hardening and Tempering Plants
- Rotary & Moving Hearth Kilns
- Batch/Continuous Annealing Furnaces
- Furnaces with Hydrogen Atmosphere
- Furnaces for Gas Generators and Ammonia Crackers
- · Aging, Homogenising Furnaces for Aluminium Plants
- Special Purpose Furnaces for Chemical Plants
- Continuous Furnace for Sintering & Brazing



80 Ton Bell Type Bright Annealing Furnace





Various Types of Impellers



**Manufacturing and Dispatch Facility** 



Machining Facility upto 3.6 meter dia



60 Ton Capacity Duel Fuel Fired Sheet Annealing Furnace



**Batch Type Muffle Furnace with Protective Atmosphere** 



**Indirect Fired Continuous Conveyorised Ovens** 



Gas Fired Rectangular Bell Furnaces



**Quenching Furnace For Manganese Steels** 



Refiner Furnace



**Continuus Quenching Tempering & Cooling Line** 





Inner Cover / Retort of 4800 mm ID x 7000 mm Height



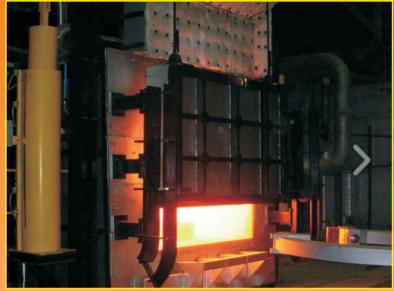
**Conveyorised Heating Furnace** 

#### **ENERGY SAVING DEVICES**

Wellmake offers Energy Saving Devices for all type of Fuel or Gas Fired Furnaces wherein Combustion air to be preheated upto 350°C depending upon type of furnace by outgoing flue gases thus giving fuel saving of upto 5 – 6% depending upon type of furnace. The Recuperators fabricated from ERW or Seamless Tubes in grade AISI 304, 316 and 310.

We offer special purpose Sink Roll and Stabilizer Roll Arms, Bush Housings for Rolls Snouts etc. fabricated from AISI 316 L Grade Plates as per customer requirement and specifications.

We also offer Special Purpose, Tailor made
Furnaces and Heating Equipments as per
Customer's specific requirements of Temperature,
Process and Handling Arrangements other than
our standard range of Products.



20 Ton/batch capacity Oil Fired Chamber Furnace for Forging with ± 3 degree C Temperature Control.



Continuous Hardening Quenching & Tempering Line for CO<sub>2</sub> Cylinders with Oil Fired Furnaces.



SS 316 L Grade Fabricated Sink Roll and Stabilizer Roll Arms and Bush Housings for Rolls of Galvanising Line.



Please contact with your specific requirements at;

#### Wellmake Engineering Company Pvt. Ltd.

38 Km, Sector-16, Kasar Road, Opp. Somani Labour Gate, Bahadurgarh 124 507. Haryana.

Mobile: 098108-96055 / 098100-53690

E-mail: wellmake2007@gmail.com | Web: www.wellmake.in



#### JVS ELECTRONICS PVT. LTD.

# JVS Online Store WWW.jvselectronics.in For Hassle free Ordering and Quick deliveries



#### **Products:**

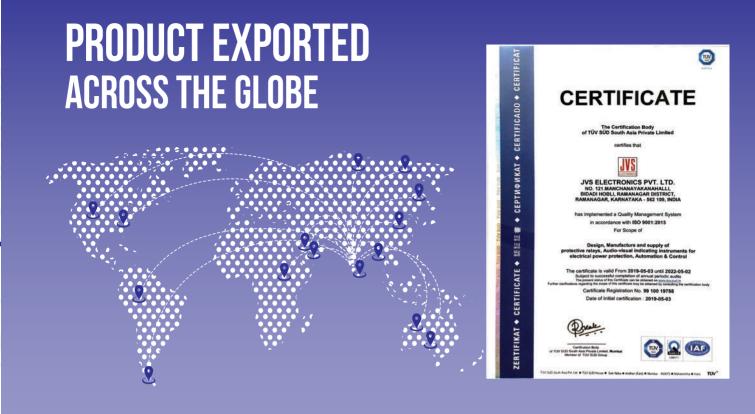
- Relays Numerical and electromechanical
- Annunciator
- Hooters & Sounders
- Indicating lamps & Push Buttons
- Test Terminal blocks & plugs

■ PROVEN **PRODUCTS** ■ INCOPORATING LATEST TECHNOLOGY

#### ROBUST BUILD

- 50+ channel partners for ensuring quick availability
- Approved as reputed vendor by various organizationspresence in the industry for over three decades





#### **ABOUT US**

Reliable, Safe & Proven products that are Engineered to perfection is what JVS Electronics offers. Having been in the Electrical Protection Industry for over two decades, JVS has developed and manufactured products that have realized customer delight over the years.

With a strong and loyal customer base to boast about, JVS has designed and manufactured products that have been adding great value to businesses.

Started in the year 1991 in a small way, when acceptability of Small scale manufacturers to make high end products like relays was a challenge across the globe, JVS established itself by proving its excellence and commitment to inventing and producing products of great quality. JVS has since come a long way and is one of the leading relay manufacturers, supplying products in India and abroad. A highly energetic team of professionals, with a strong sense of customer focus has been working to take JVS to greater heights. The management of JVS is backed by highly skilled and intelligent employees, that makes any new challenge a cake walk.

Conceptualizing new designs, developing new products, making products more customer friendly and adding value to customer's businesses is the daily mantra at JVS. Owning many design and product patents, JVS has scaled heights thanks to virtues of patience and perseverance.

A keen look at JVS will exhibit the culture of passion in doing new things, learning, Openness, confidence and humility. Any corporate or individual getting associated with JVS, not only completes a transaction but builds a relationship for a life time. JVS feels it utmost important to nurture the customer's need of reliable, user friendly, problem free products.

We make sure that each product we manufacture is of the highest quality and we go about achieving the same at competitive prices. With the best delivery times in the Industry, JVS Electronics is the safest choice today. We strive to improve Ourselves in every aspect and hence for the valued customers who are already aware of JVS Quality, delivery and Service, there is more that you can expect. Team JVS assays to make each association, every transaction or even a conversation a memorable one.

#### LED INDICATING LAMPS



- Excellent illumination with Super bright SMD LEDs
- Long life
- Universal Voltage AC/DC (12, 24, 48, 63.5, 110V, 220, 250 Seperately also available)
- Low power consumption
- Available in all standard colours & voltages
- Supplied with unique legend holder
- Suitable for 22.5mm dia.
- Low voltage Glow Protection(Optional)

#### **SOUNDERS**



- Supply Voltage 12vDC, 19 to 65 DC and 80 to 265VAC/ DC
- Output Range 108 to 120db Output
- 60 User selectable tones
- IP66 & IP67 compliance
- Body for high impact resistance for flame
- Stainess steel mounting bracket
- Mechanical dimension 325 mm
   (L)x 274 mm (φ)

#### **PUSH BUTTONS**



- Excellent quality
- Made out of Engineering plastics
- Independent NO & NC Actuators
- State of the art technology
- Meets IS 13947 &IEC 947-5-1 requirements
- Available in all standard colors
- Suitable for 22.5mm dia.

### MULTITONE HOOTERS



- Choice of different tones
- Selectable supply voltage
- Compact size

#### EARTH LEAKAGE RELAYS



- Display of leakage current
- Wide range of settings
- Low burden
- Communication through USB & RS485(MODBUS)

#### ANNUNCIATORS 4 to 24 WINDOWS



- Sequence selection according to ISA standards
- Trip and Non-Trip selection
- Built in push button for test, silence, accept and reset functions
- DC fail indication (optional)
- Repeat alarm contact (optional)



#### TEST TERMINAL BLOCKS/ RELAY TEST BLOCKS/ RELAY TEST PLUGS

- Housing made out of non-inflammable & non-higroscopic
- Phenolic compound.
- Phosphor Bronze link holder
- High grade electrically conductive brass parts
- Very low contact resistance
- Meets specification B/S/3703 part-I

### MULTI FUNCTION RELAYS



- Over Current and Earth Fault Relays
- Trip Circuit Supervision Relays
- Transformer Diffrential Relays
- Over Voltage and Under Voltage Relays
- Battery Earth Fault Relays
- Neutral Earthing Resistor Monitoring Relays
- Over Fluxing Relays
- Check Synchronising Relays
- Feeder Protection Relays

#### **OUR OTHER PROGRAMMES**

PEAK> Programme for Education and Augumentation of knowledge is a specially designed programme conducted for students and Teachers interested to get into the depths of understanding power system protection.

JVS Electronics runs programmes for college students and teachers to understand the practical aspects of Power System Protection.



#### **EXPERIENCE CENTRE > JVS ELCTRONICS PVT. LTD.**

JVS has an exclusive, one of its kind experience centre that has interesting information regarding the evolution of switchgear products, an entrepreneur's jouney and many installations that is worth a visit.



#### **GENERAL ENQUIRIES:**

+919480826272

bangalore@ivselectronics.in

#### **CHANNEL PARTNER ENOUIRIES:**

+919480692726

bangalore@jvselectronics.in, op@jvselectronics.in

#### **VISIT TO EXPERIENCE CENTRE & PEAK PROGRAMMES:**

+919480826266

peak@ivselectronics.in

#### **SALES & SERVICE:**

+919480692723

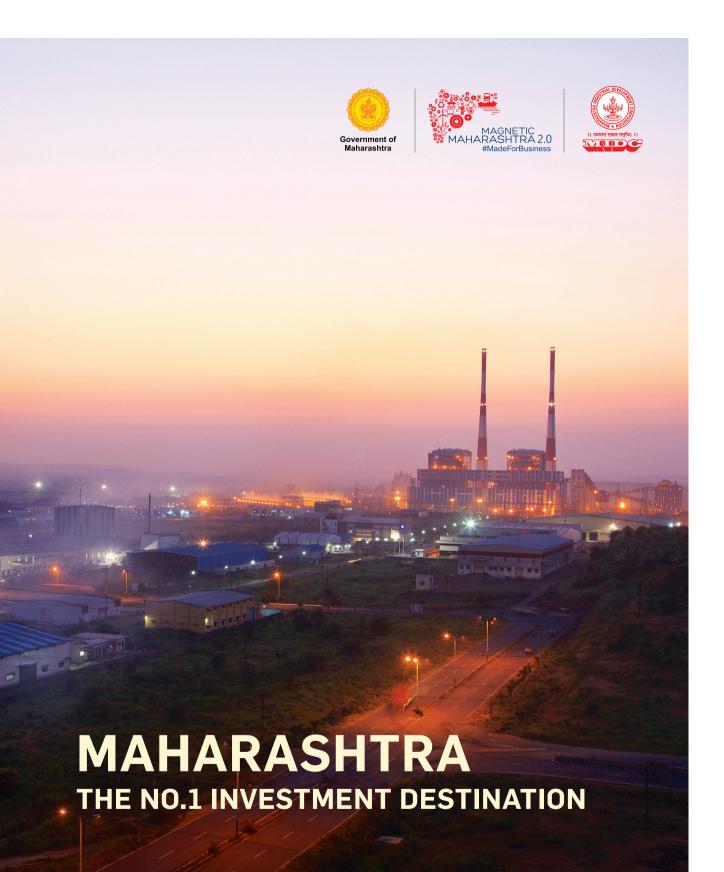
servicing@jvselectronics.in

#### JVS ELECTRONICS PVT. LTD.

#121, Manchanayakanahalli, Bangalore Mysore Highway, Bidadi, Bangalore - 562109, Karnataka, India

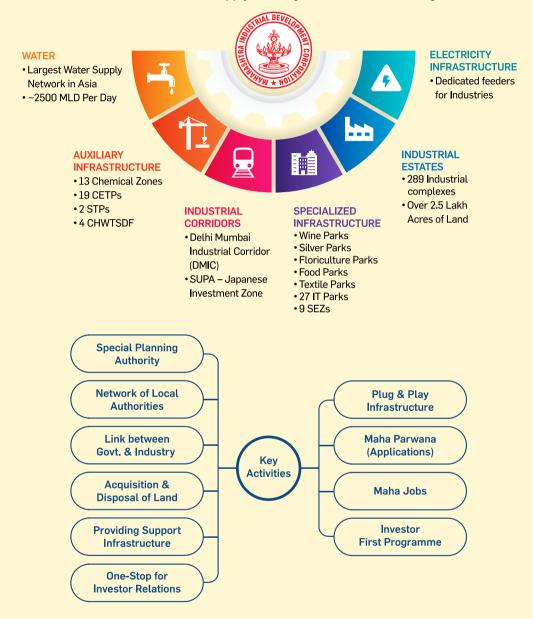






#### **MIDC: Nodal Agency for all Investors**

Maharashtra Industrial Development Corporation (MIDC) is the nodal Investment Promotion agency under the Government of Maharashtra. It provides businesses with infrastructure such as land, roads, water supply, drainage facilities and streetlights etc.



#### **MIDC's Key Upcoming Land Acquisitions** & Key Projects



Mumbai-Thane-Raigad- | 15,000 Acres Engineering | Food Processing | Auto & Components | Chemicals | Pharmaceutical

Pune-Chakan-Talegaon-Satara | 8,000 Acres Data Centre | Gems & Jewelry | Engineering | Food Processing | Auto & Components | ESDM | Logistics

> Nashik-Malegaon-Ahmednagar | 5,000 Acres Food Processing | Medical Equipment | ESDM | Engineering

Aurangabad (AURIC, DMIC)-Jalna | 10,000 Acres

Nagpur - Amravati | 4,000 Acres

#### - Flagship Projects -



Hi Tech ESDM Parks Ranjangaon & Talegaon



Pharmaceutical & Bulk Drugs Salav and Shahpur-Dherand



Mega Food Park & Hubs AURIC | Dindori | Sinnar | Khalapur



Mega Textiles Park Amravati | Navapur



Defense & Aerospace



Startups & Data Center Mumbai | Navi Mumbai | Taloja



Medical Devices, Equipment and R&D AURIC | Pune | Sindhudurg



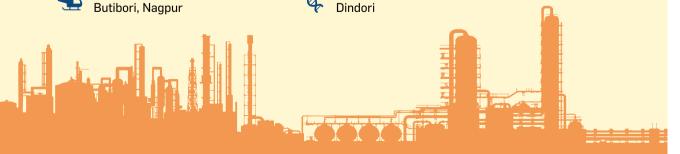
Integrated & Multi modal Logistics Chakan | Khalapur | Bhiwandi



Gems & Jewellery Park Taloja with GJEPC



Biotechnology Park



### Maharashtra: The Industrial & Socio-Economic Powerhouse

#### Largest GDP in India

Maharashtra's GDP size is \$402 billion; accounting for 14% of India's GDP.



#### Lead Ma to

#### Leader in Manufacturing

Maharashtra contributes to 15% of the Industrial output in India.



Maharashtra has one of the highest Per Capita Income in India at \$2,900 in 2019-20





#### Mature Infrastructure

5 International & 13 domestic airports, 2 major & 53 minor ports, and largest power capacity.

#### Largest share in FDI

Attracted USD 19 Bn FDI from Oct 2020 to Sept 2021; accounting for 31.5% of India's share.



#### ....

#### **Leader in Exports**

Maharashtra has the highest value of exports; accounting for **20**% of India's exports

#### **Growing Digitization**

Largest base of Internet Subscribers in India at 97 million. 133 million telecom subscribers.





#### **Best Quality Workforce**

Maharashtra has the highest employable talent in India at 68%.and largest power capacity.

#### Best Colleges in India

One of the leading states with **991** Engineering and Management Colleges and **958** ITIs

