



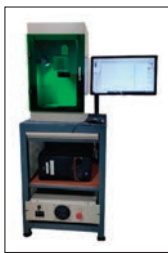
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- **PLI SCHEME: THE GAMECHANGER FOR AUTO INDUSTRY**
- **IMPACT OF UKRAINE WAR ON GERMAN INDUSTRIES**
- **TOP THREE TRENDS IN ROBOTICS**
- **IMPORTANCE OF SAFETY CONTROLLER IN SMALLER MACHINERY**

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India's merchandise exports crossed \$ 400 billion (approximately Rs 30.44 trillion) on March 21, 2022 (10 days ahead of the closure of FY2021-22), according to Piyush Goyal, Union Minister of Commerce and Industry. This is far higher than the previous record of \$ 330 billion achieved in 2018-19. Exports of engineering goods have gone up by nearly 50 per cent compared to FY2020-21. Higher exports of engineering goods, apparel and garments, etc indicate that value-added and high-end products are contributing more to India's export kitty; thus, shattering the misconception of India being a major exporter of primary commodities.

Things are gradually changing due to adoption of latest technologies by the industry, government's efforts to boost exports, favourable external conditions, etc. To strengthen domestic capabilities, the government has launched Production Linked Incentive (PLI) schemes for 13 key manufacturing sectors starting from FY 2021-22. As per CRISIL analysis, the PLI scheme will lead to a potential capital expenditure of Rs 2.5-3 trillion over the scheme period and will account for 13-15 per cent of average annual investment spending in key industrial sectors over the next 3-4 years. This could translate into an incremental revenue addition of Rs 30-35 trillion over the scheme period. The scheme has many firsts in terms of bringing integration across supply chains, reducing import dependencies, and propelling exports.

PLI is now poised for rapid on-the-ground execution, with almost 60 per cent of the capex approved already and major spending set to occur over fiscals 2023-2026. While capex in mobile, pharma and telecom has already kicked off, that in capital-intensive sectors such as automobile and solar photovoltaics - which form 70 per cent of the committed investment - will kick off from April 2022.

PLI scheme is expected to open export opportunities in traditional sectors (such as pharma, food processing and textiles) as well as emerging ones (such as mobile and electronics hardware). As per CRISIL estimates, the nine sectors have an export potential of Rs 11 trillion.

PLI scheme is structured to attract big investment for building large scale manufacturing facilities. Invariably, these facilities will entail adoption of state-of-the-art technologies involving advanced automation and Industry 4.0 solutions. According to a Nasscom-Capgemini report, investments in Industry 4.0 have grown by approximately 10 times in the last decade in India and are expected to grow to over \$ 200 billion by 2025. This will also help the manufacturing sector to become an intelligent industry and achieve the national growth target of \$1.1 trillion by FY26.

The 3i EXPO, to be held from May 20-21 in Mumbai, will discuss right investment strategies for modern manufacturing technologies as companies look to a more ROI driven, outcome-based deployment. We are happy to announce that 3i EXPO has been recognised by Union Ministry of MSME - a perfect stepping stone for enabling companies' Industry 4.0 journey. With this, MSME exhibitors will be eligible for 80% subsidy for buying space at IPF's 3i EXPO and a host of other benefits.

We would urge companies to take advantage of the subsidy scheme for exhibiting at 3i EXPO and showcase their solutions to make the manufacturing sector future ready



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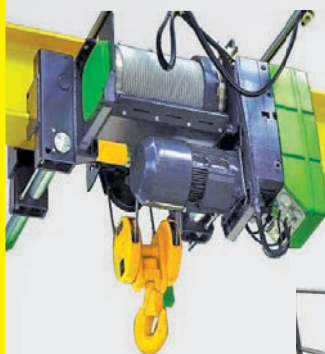
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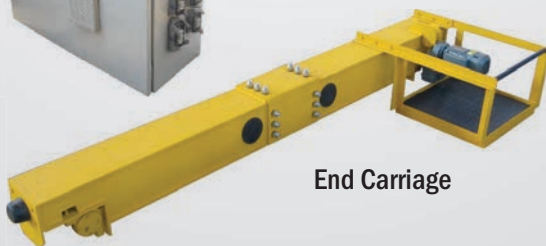
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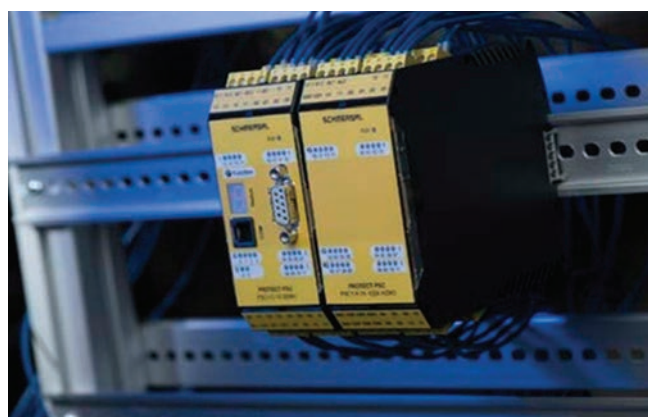
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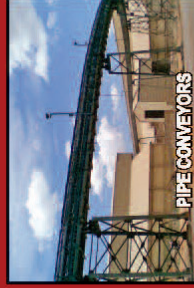
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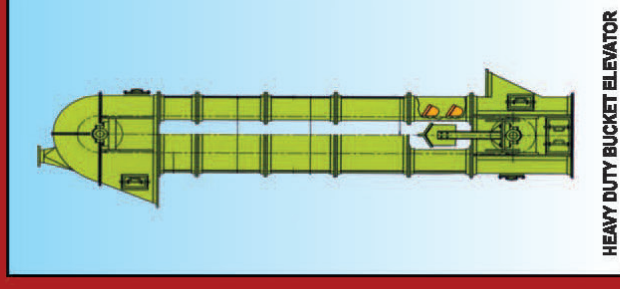
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E-Mail: marketing@itl.co.in; info@itl.co.in, Website: www.itl.co.in

CARBIDE PLUG GAUGE

Secon Technological Solutions Inc offers a wide range of carbide plug gauge.

Features:

- These carbide plug gauges are normally supplied with GO in Carbide & NOGO in stabilised steel. Both can be supplied in carbide as per requirement. MGPL gauges have excellent wall thickness to give desired results.
- Its range: 0.5 to 8 mm reversible type design; 8 to 40 mm taper shank design; 40 to 60 mm trilock design; 60 400 mm plate type plug gauge; extra length up to 100 mm can be supplied as per requirement.

About the company: Secon Technological Solutions Inc. is engaged as a manufacturer, trader, service provider, distributor of CNC machines tools, preventive maintenance and consultancy services.

Contact:

Secon Technological Solutions Inc, Bangalore
Telefax: 080-23575752
Email: secontech2000@gmail.com,
secontech@hotmail.com



GAS SAVER

S Vagadia Innovatives manufacturers and supplies excellent quality car gas savers.

Features:

- These car gas savers are developed using high quality raw material and adhere to quality norms.
- They have a wide demand and are provided in different specifications, including different sizes and as per the needs of customers.
- The product is precisely engineered; optimum quality; compact size; and delivered on schedule.

About the company: S Vagadia Innovatives is one of the leading manufacturers and suppliers of a superior range of gas saver equipment. The product range comprises gas stoves, gas conservators, gas lighters and many more.

Contact:

S Vagadia Innovatives, Rajkot
Tel: 02827-254148
Mobile: 09925125625
Email: info@svinnovatives.com Tel: 080-23185468
Mobile: 09075004435 Email: info@blumnovotestindia.in,
shyambv@blumnovotestindia.in



ABRASIVE SEGMENTS

PFERD offers a wide range of abrasive segments.

Features:

- These wedge-shaped abrasive segments work on sand moulds and cores in foundries.
- Using the abrasive segments, the intersections and separators on sand moulds and cores can be re-finished and removed.
- The wedge-shaped design allows effortless work in both very narrow areas and on large surfaces.
- Its applications include: deburring; surface work; work on edges (chamfering, rounding).

About the company: PFERD engages in development, production and support and distribution of tool solutions on jobs for surfaces and material cutting.

Contact:

PFERD, Bengaluru
Tel: 080-42187117 Mobile: 09880665415, 09741481117
Email: sales@swit.in



PUBLIC ADDRESS SYSTEM

SND Netsol Pvt Ltd offers a wide range of public address system.

Features:

- These public address systems - voice alarm systems play a vital role in guiding people to safety during emergencies. SND Netsol provides integrated public announcement systems and has unveiled its new Plena voice alarm system.
- This system makes a significant contribution to public safety.
- The new system meets all requirements of factories, offices, hotels, shopping malls, supermarkets, schools, and sports facilities.

About the company: SND Netsol Pvt Ltd has highly experienced people to provide on-time support and offer AMC services, with best services on time at low cost.

Contact:

SND Netsol Pvt Ltd, Chennai
Mobile: 09840258035, 09840664811
Email: netsol@sndnetsol.com, partha@sndnetsol.com



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CAPACITANCE FUEL LEVEL TRANSMITTER – CFT

Pune Techtrol Pvt Ltd offers a wide range of capacitance fuel level transmitter – CFT

Features:

- It is a reliable and cost effective, microcontroller based level transmitter designed for local and remote level monitoring of diesel in fuel tanks of vehicles, dg sets, day tanks or bulk storage tanks of diesel.
- It is compact, lightweight and easy to install through two mounting holes.
- The ABS enclosure is sealed for IP68 protection, integral with 4 core, PVC cable of 1 meter length.
- Easy to calibrate through RS485 Modbus RTU, Low power consumption.
- Modbus RTU RS-485 output can be connected to GPRS/IIoT system for diesel level and volume monitoring from anywhere, anytime.
- Suitable for max temp upto 60°C and pressure of 2 kg/cm2.

About the company: Pune Techtrol Pvt Ltd is a provider of optimal products and solutions in level measurement and process automation systems for liquids and solids.

Contact:

Pune Techtrol Pvt Ltd, Pune

Tel: 020-66342900 Email: ho@punetechtrol.com



BACKHOE LOADERS

Tata Hitachi Construction Machinery Company Private Limited offers a wide range of backhoe loaders, TH 86 Max series.



Features:

- Tata Hitachi's offering has been upgraded based on the changing Indian customer demands.
- Their range of advanced features and technology, coupled with a reputation for product strength, agility and reliability are instrumental in achieving maximum productivity.
- Tata Hitachi's TH 86 Max is built for tougher applications and productivity is its key deliverable.
- It is heavy-duty transmission and axles help in tough-to-do dozing and loading applications.
- Operators can select the ideal mode of operation between power mode and super power mode depending on the application.

About the company: Tata Hitachi Construction Machinery Company Private Limited, the leader in construction equipment in India, enhances the operational performance of its customers.

Contact:

Tata Hitachi Construction Machinery Company Private Limited, Bangalore

Tel: 080-66953301-05 Fax: 080-66953309

Email: info@tatahitachi.co.in

GATE VALVE - OS&Y & NRS TYPE (FM & UL)

Kirloskar Brothers Limited offers a wide range of Gate Valve - OS&Y & NRS Type- (FM & UL).

Features:

- KBL is India's first and only valve manufacturer to achieve the certificate of compliance from factory mutual for its fire service water control valves, which cover outside screw & yoke and non-rising stem gate valves (metal seated).
- Metal to metal seating for longer service life. Accurate interchangeability of components.
- Accurate parallelism between side flanges. Perfect machining and press fitting of body and wedge rings.
- It is excellent finish on spindle threads, resulting in low friction and smooth operation of valves; leak-tightness.
- Pressure (Kg/Cm²) Minimum: (OS & Y) Series 21F/ NRS Series 21 E – Body - 35.15; Seat - 17.57.

About the company: Kirloskar Brothers Limited (KBL) is a world class pump manufacturing company with expertise in engineering and manufacture of systems for fluid management.

Contact:

Kirloskar Brothers Limited (KBL), Pune

Tel: 020-27214444

Email: marketing@kbl.co.in, industry@kbl.co.in



VACCUM BATCH EXTRACTION SYSTEM

SSP Pvt Ltd offers a wide range of vacuum batch extraction system.



Features:

- These batch type extractors consist of a steam jacketed cylindrical pan with a top feed part for raw material loading.
- A hydraulically openable bottom to discharge the wet residue after extraction is also available.
- A vacuum condenser line from the top of the extractor recovers product aroma, organic solvents or essential oils.
- Its applications include: herbal/phytochemicals extraction for soluble matters; natural dyes extraction; hydrolyzed meat extraction; extraction of poly phenols and other active components from orthodox, CTC, Oolong tea, black tea and green tea in small batches.

About the company: SSP Pvt Ltd, a process engineering company, engages in manufacturing of extensive range equipment and innovative process solutions based on advanced technology and in line with the understanding of customer needs in the food, dairy, beverages and chemical industries.

Contact:

SSP Pvt Ltd, Faridabad

Tel: 0129-4183700 Fax: 0129-4183777

Email: info@ssp.co.in

FEATURED PRODUCT

REPAIRING OF TIME MAKES DIGITAL PORTABLE METAL HARDNESS TESTER

Heat Treatment Sales & Services, Ahmedabad offers complete repairing, servicing and calibration of all kinds of digital portable metal hardness testers. The company has factory trained engineers who can handle repairing, servicing and calibration of all portable metal hardness testers. The company offers the services of refurbished and reconditioned metal hardness tester with 6 months warranty, which includes parts and labour charges also. However, the dispatching/transportation cost and related expenses such as packing charges



are not included in the warranty. One can dispatch their fault hardness tester properly packed/crated and they will provide a free written estimate upon thorough examination of their portable hardness tester. The company also maintains a complete stock of spares and accessories like impact devices, impact bodies, standard test blocks, support rings, batteries, etc. According to them, when a complete service with spares is conveniently available why do users think of buying a new LEEB hardness tester? It is much more economical to get the existing hardness tester repaired, reconditioned, and refurbished or rebuilt at a fraction of the cost.

Contact:

Heat Treatment Sales & Services

Contact Person: Mr. Bharat Shah

L/119 GIDC Industrial Estate, Odhav
Ahmedabad 382 415

Tel: 079-22870144/Mobile: 08980718181

Email: info@enmatest.com

URL: www.enmatest.com, www.enmatest.co.in

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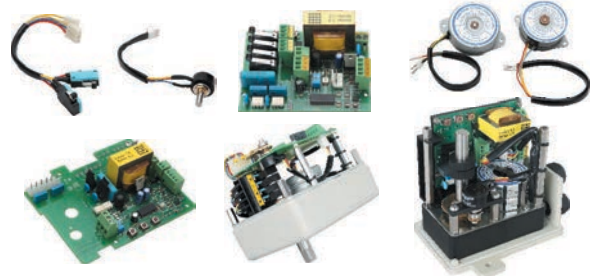
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Peregrine Technologies Pvt. Ltd.

Sales Office

Unit 138, Building 1, New Sonal Link Industrial Estate, Link Road, Malad (West), Mumbai - 400 064, Maharashtra, India.

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ERI'S SMART MODULAR I/O CARD

Electronics Relays (India) Pvt Ltd, offers a wide range of ERI's smart modular I/O card.

Features:

- It's time to unlock the product potential by just connecting their game changing I/O module with a host of features.
- Its applications include: process control equipment; process automation; home automation; material handling packaging machines.
- Its advantages include: on board microcontroller; supports communication protocol; available with DC&AC output modules rated for 5 amps; available with DC&AC input modules for the field signals; offered in 4/8/16 channels; on board replaceable SMPS (90 to 270 Vac); WIFI/Ethernet/bluetooth modules can be added.

About the company: Electronic Relays India, an ISO 9001:2008, established in the year of 1979, manufacturing solid state relays. ERI is the first company to design an innovative product with similar switchgear parts.

Contact:

Electronics Relays (India) Pvt Ltd, Bangalore:
Tel: 080-22354189, 22354190
Email: sale@eri.co.in, mktg@eri.co.in



LOGIC CONTROLLER MILLENIUM3

InnoVista Sensors India Pvt Ltd offers a wide range of logic controller millennium3.

Features:

- The millennium3 logic controller can be used to automate a device requiring between 10 and 50 I/O.
- Millennium 3's logic functions can be used in numerous applications including packaging, access control, vending, irrigation, lighting, pump management and HVAC control.
- It is available in "compact" & "expandable" version for enhanced performance, there are also "resin" & "bare board" version available for special application.
- This millennium controller inputs are compatible with most sensors in the market including temperature sensors, pressure sensors, level detector & flow sensors, onboard 4/6 digital inputs can be used as analog input, High speed input up to 4KHz.
- Programming by ladder language or function block/Groffect SFC, also offers the option of supervising & connecting your devices by linking the controller to fieldbuses (Modbus, Ethernet) or via STN or GSM modem.

About the company: InnoVista Sensors is a worldwide industrial specialist of sensors, controllers and actuators for automated systems.

Contact:

InnoVista Sensors India Pvt Ltd, Bangalore
Tel: 080-41516023 Email: india@crouzet.com, india@innovistasensors.com



MICROPROCESSOR BASED FACIA ANNUNCIATOR 20 WINDOW - JAV 014

JVS Electronics Pvt Ltd offers a wide range of micro-processor based facia annunciator 20 window - JAV 014

Features:

- J-Watch micro-processor based annunciator from JVS is of modular design.
- JAV 014 provides programmable trip/non trip and NO/NC selection for each window through DIP switches. Trip/Non trip selection can be performed through the DIP switches in the front panel of the unit. NO/NC selection can be performed by the DIP switches at the rear end of the unit.
- The windows are lit by red super bright LEDs. Yellow, amber, green or blue LED with colour filters can also be provided on specific request.
- Auxiliary DC supply failure to the annunciator can be displayed in a window designated as "DC fail annunciation" as an optional feature.
- Its application included: used for annunciation of different parameters and status in a system.

About the company: JVS Electronics Pvt Ltd is an exporter, manufacturer and supplier of audio indicating instruments, visual indicating instruments, electrical indicating instruments, etc.

Contact:

JVS Electronics Pvt Ltd, Bangalore
Mobile: 09448288863
Email: bangalore@jvselectronics.in

CABLE DRAG CHAINS

Elektromag offers a wide range of metallic/plastic cable drag chains.

Features:

- This Elektromag drag chains enable the conveyance of flexible cables/hoses, etc to movable units with maximum reliability.
- Its advantages of Elektromag cable drag chains is avoidance of mechanical strain on the cables/hoses.
- No tensile stress or compression, no frictional wear as there is no relative movement between the cables/hoses and the cable drag chain, no bending below an established radius, no crushing, buckling or forming of loops or torsion strain.

About the company: Established in the year 1958, Elektromag is engaged in manufacturing of metallic/plastic cable drag chains and supplying to various steel plant, machine tools, cement, foundries, etc.

Contact:

Elektromag Methods, Mumbai
Mobile: 09820192772
Email: cablereels@elektromag.com



DRUM BRAKE

Evergreen Exports offers a wide range of jeep parts – drum brake.

Features:

- These parts are highly efficient for automobiles that require parts delivering optimum performance at all times.
- The firm manufactures high quality jeep parts that are capable of performing under rigorous conditions.
- It offers a wide variety of repair or restoration jeep parts that include all the accessories and other parts like jeep body and frame, tyres, tools, engines, etc.
- The complete range of premium quality replacement parts for jeeps are manufactured from best raw materials and thus are able to restore the original condition of the vehicle; both new and second-hand replacement parts are available at affordable rates.



About the company: Founded in 1951, Evergreen Exports is a prominent manufacturer and supplier of a wide range of automotive components. This range includes automotive shafts, transmission shafts, drum brakes, propeller shaft components, starter drives, etc.

Contact:

Evergreen Exports, New Delhi

Tel: 011-23934482 Mobile: 09810047336

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KUSAM-MECO DIN RAIL MOUNTING POWER METER - MODEL KM-CPM-12D

Kusam Electrical Industries Ltd offers a wide range of Kusam-Meco din rail mounting power meter-model KM-CPM-12D.

Features:

- Kusam-Meco has added a new TRMS multifunction power meter transducer to its range of Power instruments. KM-CPM-12D is a DIN rail mounting power meter with high accuracy measurement for single phase & three phase system.
- The display is 128 x 64 dot matrix LCD display with white backlight. It is controlled by 4 operating keys. Input Voltages are 40 ~ 400V (line to Neutral). 60 ~ 600V (Line to Line). PT primary ratio 100 ~ 1200KV secondary ratio 50 ~ 500V. CT input 1A or 5A or 1/5A programmable.
- It can accept external current clamps which have secondary 1A or 5A or 333mV output. CT Primary programmable 1 to 9999 Amps.
- It measures all power parameters such as voltage (phase-neutral) (phase-phase) & Avg. voltage, current (each phase & avg.) active power (each phase & sum), reactive power (each phase & sum), apparent power (each phase & sum), power factor (each phase & Average), frequency, active energy (import & export), total energy, net energy, reactive energy, (import & export), total & net; THD% voltage 31st THD each phase, Average; THD/ Current 31st THD each phase, average.
- Voltage & current phase or diagram, demand, maximum demand of current & power with time stamp. Min / Max values with time stamp, Data logging with recording interval can be set. 50 of 88 parameters can be recorded simultaneously. It has RS485 port to transmit data in Modbus RTU mode.
- It has optional feature to record time of use data(4 seasons, 8 tariff settings per day, per year or upto 5years. For DG Sets it can also record operation hour, Run hour. It has a fast sampling rate of 128 point / cycle. It can be used for 1P2W, 1P3W, 3P3W (1/2/3 CT) 3P4W Balance/unbalanced load. 247 units can be connected to RS485 Modbus RTU. It has 2MB flash ROM.

About the company: Established in 1983, Kusam-Meco, an ISO 9001:2008 certified company, introduced and pioneered the use of digital multimeters and clamp meters in Indian industry. It also offers the industry's broadest line of digital test instruments for electrical, electronic and environmental testing and measurement applications.

Contact:

Kusam Electrical Industries Ltd, Mumbai
Tel: 022-27754546, 27750662, 27750292
Email: sales@kusam-meco.co.in



DIGITAL HUMIDITY/TEMPERATURE CONTROLLER

Countronics offers a wide range of digital humidity/temperature controller.

Features:

- This humidity/temperature controller model 7210 from Countronics gives a direct and accurate display of humidity and temperature based on the classical but accurate Dry/Wet temperature sensing technique.
- There are 4 control relay outputs for switching of Humidifier, De-humidifier, heater and cooler logics. Humidity measurement ranges from 0-99% where as temperature display is from 0-99.9°C.
- The sensors are sealed Platinum PT100 sensors in S.S. making them immune to atmospheric gases etc. This microcontroller based model does away with the need of any look-up table to calculate the relative humidity.
- A sturdy sensor body has an in-built water reservoir with facility to connect a water-drip to ensure the wick never dries up making it ideal for remote locations requiring high accuracy up to $\pm 2\% \pm 1$ Least Significant Digit for Humidity and $\pm 0.2^\circ\text{C} \pm 1$ Least Significant Digit for Temperature.
- With membrane type front panel switches and powder coated metallic housing, it is a rugged solution for industrial use. Assured after sales and backed by a Company in the instrumentation field for over 2 decades, the Model 7210 is ideal for industries maintaining controlled environments.

About the company: Countronics established in 1978, an ISO 9001:2000 certified company, is a manufacturer and supplier of humidity meter, controller, pH meter, controller, ORP meter, conductivity meter, etc.

Contact:

Countronics, New Delhi
Mobile: 09810536887, 09818350088
Email: countronindia@gmail.com



BRAKE MOTORS

Engineering Hindustan offers a range of brake motors.

Features:

- Offered is a wide range from fractional HP to 40 HP; TEFC motors; and factory fitted and aligned brake motors.
- The brake mounting provision is in-built; no modifications are carried out on the motors, thereby keeping the full warranty of the motors intact.

About the company: Engineering Hindustan was established in 1974 and is engaged in manufacturing and exporting electromagnetic clutches and brakes.

Contact:

Engineering Hindustan, Navi Mumbai
Mobile: 09821334017 Email: enghind@bom3.vsnl.net.in



GEARS, GEAR COMPONENTS & ASSEMBLIES

Eppinger Tooling Asia Pvt Ltd offers a wide range of gears, gear components and gear assemblies.

Features:

- State-of-the-art manufacturing and quality control facilities ensure top quality makes.
- The product range includes spiral bevel gear sets of 10 to 1 ratio and 457 mm in diameter, 2 to 1 ratio, and 406 mm in diameter and module up to 12.7, and 1 to 1 ratio with 323 mm diameter. The hobbled gear has a diameter of 500 mm x 8 m and the hardened and profile ground spur and helical gears have a diameter of 330 mm x 5 m.
- The products are well received in domestic for critical applications like machine tools, railways, textiles, automation, automotives, engineering, pumps, compressors, printing machines, among others, and exported to Europe, Korea, etc.

About the company: Eppinger Tooling Asia Pvt Ltd is a subsidiary of EGT Eppinger Getriebe Technologie GmbH, established in 1925 in Denkendorf, Germany.

Contact:

Eppinger Tooling Asia Pvt Ltd, Coimbatore
Tel: 04259-304032-34 Mobile: 08870013053
Email: marketing@eta-tools.com,
eppinger@dataone.in



BAG HOUSE DUST COLLECTORS

Masyc Projects offers bag house dust collectors.

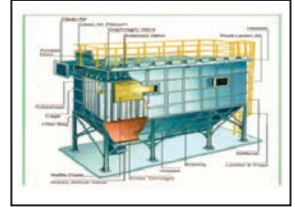
Features:

- The collectors are used for various applications in the process plants such as cement, coal, chemicals, thermal power plant, paper and pulp, mining and minerals, steel, sugar and food industries, etc.
- Masyc bag filters (dust collector) work on the principle of pulse jet technology. A powerful shockwave passes through the filter cartridge during cleaning, the dust is discharged from the filter surface and the downwards flowing air allows it to fall in to the container.
- The pulse from the valve is distributed into the cartridge via a unique laser cut zigzag slot along the length of the blow pipe. The effect of the cleaning is further enhanced by the venturi shaped outlet of the cartridge.

About the company: Masyc Projects Pvt Ltd an ISO 9001:2008 certified company, is active in bulk material handling systems and equipment segment.

Contact:

Masyc Projects Pvt Ltd, New Delhi
Tel: 011-28115745, 28113383
Email: masyc@masycproject.com



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**MICROPROCESSOR
BASED FACIA
ANNUNCIATOR 12
WINDOW JAV 014**

JVS Electronics Pvt Ltd offers a wide range of microprocessor based facia annunciator 12 window - JAV 014

Features:

- TJ-Watch micro-processor based annunciator from JVS is of modular design.
- JAV 014 provides programmable trip/non-trip and NO/NC selection for each window through DIP switches. Trip/Non trip selection can be performed through the DIP switches in the front panel of the unit. NO/NC selection can be performed by the DIP switches at the rear end of the unit.
- The windows are lit by red super bright LEDs. Yellow, amber, green or blue LED with colour filters can also be provided on specific request.
- Its features included: 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.

About the company: JVS Electronics Pvt Ltd is an exporter, manufacturer and supplier of audio indicating instruments, visual indicating instruments, electrical indicating instruments, etc.

Contact:

JVS Electronics Pvt Ltd, Bangalore
Mobile: 09448288863
Email: bangalore@jvselectronics.in

**VIBRATORY FURNACE
CHARGER**

Elektromag-Joest Vibration Pvt Ltd offers a wide range of vibratory furnace charger.

Features:

- This vibratory furnace chargers are a cost effective method of increasing productivity and quality of melt.
- With constant improvement in technology, furnaces require rapid and uniform charging to keep pace with the melting power of the system for which the Furnace chargers are the optimum solution.
- By using the furnace charger, controlled vibrations the metal is uniformly fed into the furnace whereby the melting cycle is reduced and the furnace life and the bridging forming situation is avoided.
- The entangled pieces of scrap metal form a layer above and if unrecognized by furnace operator, bridging can lead to super heating of bath and failure of furnace lining and run out.
- Due to controlled feed, the hot metal splashing is avoided and the charger can be operated from a framed plate by the operator without actually being near to the furnace.

About the company: Elektromag-Joest Vibration Pvt Ltd, is a leading manufacture of Vibrating equipments for foundry, steel, mining, quarrying, chemical, food, recycling, air separation and thermal processing.

Contact:

Elektromag-Joest Vibration Pvt Ltd, Mumbai
Tel: 022-66624444 Email: vibration@elektromag.com

**LATHE MACHINE**

Bharat Machinery & Spares offers a wide range of medium duty lathe machine.

Features:

- This machine is equipped with an operator friendly control panel and adjustable levers.
- It is a precision mechanical engineered machine applied while manufacturing various industrial mechanical parts and gears.
- The offered machine delivers accurate tooth and blade that offer aligned cutting of the parts during production.
- Its features include: durable finish; precisely engineered; superior performance/high operational fluency.

About the company: Bharat Machinery & Spares, established in the year 1988, is engaged in manufacturing, trading, wholesaling, distributing, sheet metal, wood working and machine tools.

Contact:

Bharat Machinery & Spares, Mumbai
Mobile: 09820980256
Email: sales@bharatmachinery.com

**COMPACT ANGLE
GRINDERS**

Fein Power Tools India Pvt Ltd offers a wide range of compact angle grinders.

Features:

- It is ergonomic 700 W compact angle grinder for light-duty sanding and cutting.
- Perfect ergonomics thanks to lateral slide switch and small grip dimension. Fatigue-free working thanks to low weight.
- Solid metal gearbox head can be turned in 90° steps for maximum robustness and service life and very good access to difficult-to-reach spots.
- It has enhanced safety through integrated restart protection.

About the company: Elektromag-Joest Vibration Pvt Ltd, is a leading manufacture of Vibrating equipments for foundry, steel, mining, quarrying, chemical, food, recycling, air separation and thermal processing.

Contact:

Elektromag-Joest Vibration Pvt Ltd, Mumbai
Tel: 022-66624444 Email: vibration@elektromag.com



AUTOMOBILE WORKSHOP SCANNER

Newtech Equipment offers wide range of automobile workshop scanners.

Features:

- This is very important equipment for every automobile workshop, engineering institutes, and automobile professionals.
- It is a compact and diagnostic scan tool for all Asian and European vehicles. .
- Some of the key product features include LCD-LED backlight 320x240 resolutions, 40 columnsx12 lines; keypad - soft touch keypad type, total 25 keys button; power consumption - 3.6 watts; operating voltage - 7-36 V DC input; operating temperature - 0-50; internal battery - max 2 hr; user-friendly function - connector location, auto searching mode; scan function - current data, flight record, actuator.

About the company: Newtech Equipment is a manufacturer, trader, importer and exporter of an assortment of wheel balancers, computerised wheel aligners and automatic tyre changers, established 2008.

Contact:

Newtech Equipment, Ahmedabad
Mobile: 09327123141, 09426068557
Email: newtechequipment@gmail.com



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Ranking of India's Leading 50 Textile Companies



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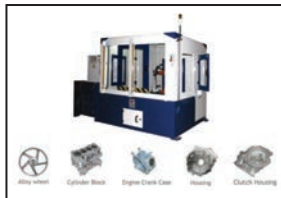
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ROBOTIC DEFLASHING OF ALUMINIUM CASTING - RMT SERIES

Grind Master Machines Pvt Ltd offers a wide range of robotic deflashing of aluminium casting - RMT Series.



Features:

- Grind Master Robotic deflashing machine is an advanced and most reliable machine for aluminium components. Robotic deflashing is a revolutionary technology developed by Grind Master Machines Pvt Ltd for aluminium foundry.
- This increases the productivity, quality and save time of casters with the healthier workplace.
- This RMT Series machine is the simplest stand alone of the modular machines for deflashing applications. With manual load/unload using pallet exchangers, RMT Series machines typically give cycle times from 20 to 60 sec for components typically 500 X 500 mm in size.
- Robot equipped with a flexible deburring tool completes the operation with consistency and repeatability through the lifetime.
- This makes it very very suitable for components such as backrest for scooters, oil sump, foot rest, motor housing, clutch housing, clutch cover, throttle body, alloy wheel rims and many other automotive components manufactured in large volumes.
- This RMT series machines are compact with low footprint and optimized energy costs, making it a "green" machine. Grind Master also offers gully automated cells using RMT series machines and handling robots. Such cells are typically deployed for very high volume manufacturing, giving throughputs of 4-5 parts/minute.
- Another option for die casters is to use aluminum-casting machine integrated cells – RCP series, to automate the entire casting-deflashing process with single piece flow with either GDC (gravity die cast) or PDC (pressure die cast) components. Such cells include operations for gate cutting, trimming and quenching.

About the company: Grind Master becomes reputed name in the field of metal finishing. An effort to offer a complete solution with world class grinding and polishing tools. Conversion facility for coated abrasives with collaborations with VSM, Germany. Opening of technology centre Grind Master Equipment & Machinery, USA at Lansing in Michigan State. To undertake application engineering & offer customised solutions for deburring & superfinishing development of advanced finishing technologies for hydraulic piston rods development of deburring & superfinishing solutions for EV parts.

Contact:

Grind Master Machines Pvt Ltd, Aurangabad

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HAND WASH

Crozier Hygiene Company manufactures a wide range of hand wash aqua.

Features:

- This hand wash provides extra care with up to 2-hour protection between washes.
- These products are known for long lasting protection of hands; cleans effectively removing dirt and germs; and a special blend of moisturisers takes care and keeps skin soft.
- This handwash is better at fighting germs compared to ordinary liquid soaps. It protects against everyday germs which may cause stomach and skin infections.
- Crozier liquid is a pH-balanced formula which helps your skin feel healthy and fresh.
- The product is recommended for daily use to prevent diseases caused by germs.



About the company: Crozier Hygiene Company, came into being in 2016 with a strong commitment towards attaining complete customer satisfaction. Based on the concept to create a dynamic organization, where hard-work, honesty, integrity & improvisation would be the guiding principles.

Contact:

Crozier Hygiene Company, Udaipur

Mobile: 09782200789, 09887157509, 7300244488

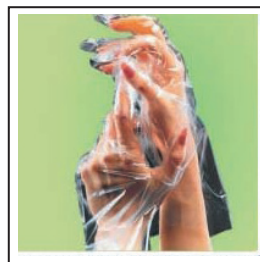
Email: id-crozierhygiene@gmail.com, info@crozier.co.in

PROMINENT DISPOSABLE GLOVES

Plasti Surge Industries Pvt Ltd is a manufacturer of a wide range of disposable gloves.

Features:

- It is reputed as one of the prominent disposable gloves manufacturers, suppliers and exporters from India.
- This plastic disposable glove that are used during medical examinations and procedures that help prevent contamination between caregivers and patients.
- Its features include: made from medical grade HDPE/LLDPE/EVA film; anti bacterial properties; anti static, non-irritant properties; fits either hand; available in variety of colours.
- This product range covers the entire spectrum of disposables finding extensive applications in the medical fields.



About the company: Plasti Surge Industries Pvt Ltd [PSI] established in 1987, the company has acclaimed its position amidst the reliable manufacturers, suppliers and exporters of medical disposables.

Contact:

Plasti Surge Industries Pvt Ltd, Amravati

Tel: 0721-2521295 Email: sales@psidispo.com

HAND SANITIZER

Kavit Polybind Private Limited offers a wide range of hand sanitizer traveling pack.

Features:

- This pack offered comes in quality constitution form and provides for effective killing of disease-causing germs up to 99.99%.
- Some of its features include post usage leaves hands feeling soft and smooth; superior anti-bacterial constitution that provides for highly effective results; features active ingredient of ethyl alcohol which makes it safe and effective antiseptic.
- Its features include: dermatologist tested for safe and non-toxic usage; also provides for superior moisturizing effect to hands; coming designed to effectively decontaminate hands; capacity to kill broad spectrum of pathogenic; microorganisms quickly and effectively; can be used directly without the need for water



About the company: Established in 1996, Kavit Polybind Pvt Ltd, is a reputed manufacturer, importer, exporter and trader of optimum quality detergent polymer, chemical supplies and hand cleanser with sanitizer.

Contact:

Kavit Polybind Private Limited, Ahmedabad

Mobile: 08046040742

Email: tapanshah69@gmail.com

DISINFECTANT CONCENTRATE

Alpha Products manufactures and supplies a wide range of Alpharex multipurpose disinfectant concentrate

Features:

- It is dual action, cleaning and disinfection deodorizer.
- Water soluble; bio-degradable and eco-friendly, aldehyde free.
- It has effective on all porous and non-porous surfaces; non-hazardous, non-staining, non-toxic, non-corrosive.
- The product is known for one step disinfectant cleaner; can be used to disinfect all objects, surfaces in the health care, food and dairy, malls, airports, washrooms, sinks, bathrooms, spraying in air removes odour, disinfects environment.



About the company: Originated in 2002, Alpha Products, an ISO 9001:2008 certified company, is a manufacturer and supplier a wide range of housekeeping, kitchen and laundry products. Their product range comprises of bathroom cleaners, hard surface cleaners, glass cleaners, furniture maintainer and polish room freshener liquids, carpet shampoo, liquid carpet detergent, stainless steel polish, toilet bowl cleaners etc.

Contact:

Alpha Products, Vasai (E)

Tel: 022-2644564 Mobile: 09921700210, 09821172335

Email: info@alphaproducts.net.in

HAND GLOVES

Balaji Enterprises is a manufacturer of a wide range of black knitted hand gloves.

Features:

- They are among the most prominent manufacturers and suppliers of an extensive range of black knitted hand gloves.
- These hand gloves are precisely designed using quality assured cotton-natural fibers and latest techniques.
- These hand gloves can be availed in different customized options so as to meet the needs of our customers.
- The product is known for precise design; fine finish; skin-friendly.
- It is used in applications like automobile industries; mining; fishing; packaging.

About the company: Balaji Enterprises is among leading manufacturers of an excellent range of hand protection, cotton waste rags, hand protection rubber gloves, respiratory protection and many other products. These products are manufactured by the experts in compliance with the international standards using premium quality raw material and advanced technology.

Contact:

Balaji Enterprises, Pune

Mobile: 08048710129 Email: sales@bajajenterprises.net



CLEANER AND DISINFECTANT

KCH India (P) limited engages to offer a wide range of GermguardTM- scented cleaner and disinfectant.

Features:

- This is one step cleaner disinfectant, deodorized and fungicide. It controls gram positive and gram-negative bacteria.
- Economical cleaning, can be diluted up to 1:64 parts with water effective against pathogenic fungus.
- Some benefits are such one step cleaning, disinfectant, deodorizer and fungicide; controls broad spectrum of both gram positive and gram-negative bacteria; has a fresh lemon fragrance unlike the conventional medicinal adours; an be used on any water safe surface; highly concentrated for economical cleaning, can be diluted with up to 64 parts with water.

About the company: KCH India Private limited is engaged in manufacturing and selling of speciality maintenance products for over a decade. Their extensive line of speciality products are used by a wide cross-section of the industry, hospitals and hotels.

Contact:

KCH India (P) Limited, Chennai

Tel: 044-28333631, 28331946

Mobile: 09884531737 Email: cpkch@vsnl.net



FLOOR CLEANER

Ratnesh Raj Chemicals engages as a manufacturer of a wide range of cleanex floor cleaner.

Features:

- Cleanex floor cleaner is a high-performance liquid detergent available in a concentrate.
- It is a highly effective degreaser and grime remover that is suitable for floors and general-purpose cleaning on most hard surfaces.
- Cleanex floor cleaner is specially designed for use in hospitals, nursing homes, hotels, schools, food processing plants, malls, multiplex and all institutions where house keeping is a prime importance.
- Clean and comfortable guest rooms and public areas are critical drivers of guest satisfaction.

About the company: Ratnesh Raj Chemicals, established in 1998, is a leading home care detergent company in all over India. They are engaged in manufacturing of house keeping & auto care products. They introduce their selves 'Real' which is brand name of our range of product. They are manufacture quality-based products having best result in low cost, which aiming to build long term relationship, with their customers by adding value to their business.

Contact:

Ratnesh Raj Chemicals, Surat

Mobile: 09227777848 Email: rrc@realcleaner.com



SANITIZER - ALCOHOL BASED

AV&T Solutions Private Limited offers a wide range of alcohol based sanitizer.

Features:

- This techno plus is 3 in 1 all purpose special detergent for stores, bathrooms and toilets and prevents the growth of bacteria and microbes with a special smell that lasts for a long time and prevents the formation of unwanted odours.
- Its application include: Dilute techno plus with water by 1:6 to use it as a detergent and sanitizer and by 100ml per 20 lt of water to use techno plus as a detergent only; apply directly on the surfaces you want to clean or sanitizer; use brush or sponge to remove the dirt's 4-rinse techno plus with water.

About the company: Incorporated in 2011, is a supplier of medical products for COVID-19 including test kits, face masks, infrared thermometers, disposable, automatic sensor faucets, fogger machine, automatic sanitizer dispenser, soap & liquid dispenser, hand dryer etc. Their range of products is widely appreciated amongst their customers owing to their high performance, hassle-free performance, longer service life, compact design, optimum efficiency and superb quality.

Contact:

AV&T Solutions Private Limited, Mumbai

Mobile: 08048763273 Email: info@avnt.co.in



Ukraine war to impact engineering production in Germany

The war in Ukraine will have a significant impact on mechanical and plant engineering. According to the latest VDMA flash survey, 85% of companies see the war as a serious or noticeable risk to their business. The VDMA is therefore lowering its production forecast for 2022 to plus 4% in real terms.

The war in Ukraine will have a significant impact on mechanical and plant engineering and will once again exacerbate the difficulties in supply chains that have not yet been overcome. According to the 13th VDMA flash survey among its member companies, conducted at the beginning of March, 85% of the almost 550 participants see the war as a serious or noticeable risk to their business. The focus here is particularly on the indirect effects: almost 80% of the machinery and plant manufacturers expect serious or noticeable consequences, for example, from a further increase in energy prices, the general uncertainty amongst customers or the devaluation of the rouble. When asked about the direct effects of the Russian aggression, 45% of the companies speak of serious or noticeable effects due to the sanctions, the postponement of projects or generally lower turnover in Russia or Ukraine.

Karl Haeusgen, President, VDMA, "For the mechanical engineering sector, doing business with Russia is not existential, but companies will have to pay a price for the Russian war of aggression, which cannot be justified by anything."

The priority for many companies now is to ensure the safety of their employees in Ukraine and also in Russia. At the same time, they must also prepare for further gaps in the supply chains. This runs through the entire production process up to delivery and commissioning. "More than ever, therefore, there is a need



for a quick peace agreement while preserving Ukraine's territorial integrity. This is all the more true as both countries play a very important role in supplying the world with foodstuffs such as grain and are dependent on deliveries from German and European mechanical and plant engineering," Haeusgen emphasised.

Production up 6.4% in 2021

According to revised figures from the Federal Statistical Office, production in the mechanical and plant engineering sector in Germany increased by 6.4% in real terms in 2021. This is almost in line with the VDMA economists' estimate. For the current year, however, the Ukraine war - in addition to other

risks such as inflation, new waves of pandemics or the China-USA dispute - poses risks to further economic development that cannot be assessed. Trade disruptions and the sharp rise in energy prices will at least slow down the economic recovery. Russia ranks only ninth in the export ranking of German mechanical engineering products (Ukraine: 31st, Belarus: 53rd). But all three countries together account for an export volume of 7.0 billion euros (2021). "In all likelihood, we will have to cut back significantly on this, to the point of a virtual standstill. Our survey also shows that the indirect consequences of the war in Ukraine, i.e. the mutual sanctions, the breakdown of business relations and the fundamental changes in

geopolitical and economic conditions, are even more serious," explained Haeusgen.

Weak fourth quarter of 2021 shows in the forecast

As a consequence, the VDMA economists are correcting the previous annual forecast for real production growth. "Instead of the originally expected growth of 7% in real terms, we now only anticipate a production increase of 4% for the current year," says the VDMA president. The decline is due on the one hand to the comparatively weak fourth quarter of 2021. As a result, the mechanical engineering sector started 2022 from a lower base, which slows down the growth rate. Added to this are the direct consequences of the war and the already noticeable uncertainty among machinery and plant manufacturers and their customers. Full order books should prove supportive. This forecast does not cover extreme scenarios such as the expansion of warlike actions to other countries, the consequences of which cannot be foreseen.

Relief for electronic parts not expected until the fourth quarter of 2022

Supply bottlenecks are mainly registered for electronic components (52% serious, 28% noticeable) and for metal products (10% serious, 44% noticeable). Supplies for their own production arrive at the factory significantly delayed: in the case of electronic components, 31% of the companies report an extended waiting time of at least six months, for another 30% of the companies it is three to six months late. For metal products, about one in three companies is waiting one to three months longer, another 21% are waiting at least three months. Subject to the consequences of the war, bottlenecks are not expected to ease for metal products in particular until the second half of the year. In the case of electronic components, two-thirds of the companies do not even expect the situation to improve until 2023. As a result, 82% of the companies now have production backlogs, for example unfinished end products that cannot be completed and delivered due to a lack of materials. "Half of the companies surveyed report a backlog of up to one month's production. This shows the great challenges facing medium-sized industry again this year," said Haeusgen, President, VDMA.

A good three quarters of the companies have learned from recent experiences and are critically reviewing their supply chains. Most of them want to ensure their supply security in the future through a broader supplier network, changed procurement principles or increased warehousing. A different geographical distribution of suppliers also plays a role in many companies. "The fact that 84% of the machine-builders surveyed nevertheless expect an increase in sales this year shows their resilience and ability to adapt to all crises again and again," Haeusgen sums up.

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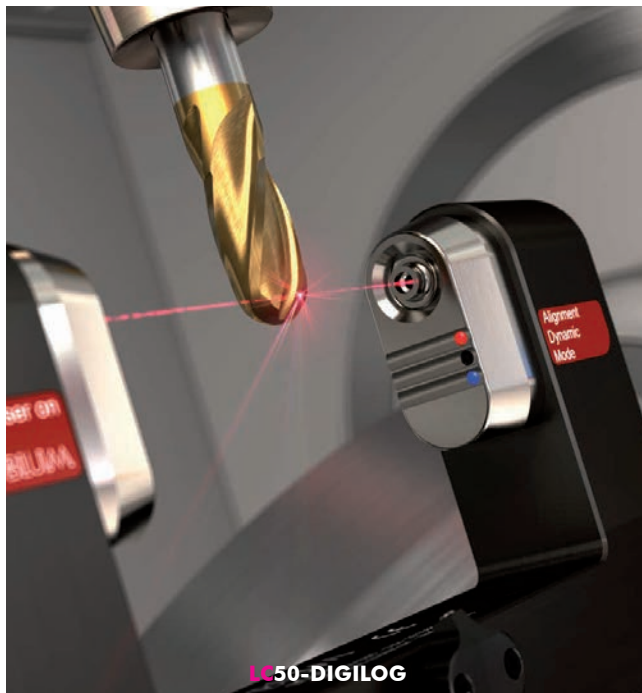
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German machine tool industry takes off in 2022 after the pandemic

Order intake rose by a total of 58% in 2021. The strong driver was abroad with an increase of 62%.

Since last year, German machine tools industry has been experiencing a strong upswing, which is broadly based in terms of markets and customer industries. A production increase of 14% is forecast for 2022. "The machine tool industry has a good chance of a successful 2022," said Franz-Xaver Bernhard, Chairman of the VDW (German Machine Tool Builders' Association).

Bernhard explained, "The optimism for 2022 is based on the excellent development of demand since the middle of last year." He added that it shows the large pent-up demand for investments worldwide, which is gladly met with machine tools made in Germany. Order intake rose by a total of 58% in 2021. The strong driver was abroad with an increase of 62%. Domestic orders also grew strongly by more than half.

Of the foreign markets, Europeans were ahead, according to preliminary VDW figures. They increased their orders by 90%, followed by America with an increase of 66% and Asia with an increase of 61%. China and the US remain the two largest markets and the most important customers, with high double-digit increases of 65% and 92%, respectively. In the list of the top 20, all countries saw their demand rise by at least double digits, some even by triple digits. Orders from Italy, Austria, the Czech Republic, Switzerland and India did particularly well. Italy and Austria benefited from government support.

According to forecasting partner Oxford Economics, global gross domestic product is expected to grow by 4.2% in 2022, industrial production by 4.4% and investment by 4.3%. In terms of investment



Franz-Xaver Bernhard, Chairman of the VDW (German Machine Tool Builders' Association)

growth, Europe, our largest customer, leads the triad. "We can benefit from this because the order books of many customers are well filled," Bernhard said. For Germany, some data looked even better. After weaker development in the previous year, German industry is now catching up. The two leading indicators, Ifo business climate and purchasing managers' index, are also pointing upward.

"Nevertheless, the 2022 forecast is still characterized by uncertainty," Bernhard admitted. Given the huge numbers infected with the Omikron variant, Oxford Economics fears that many people will go into self-isolation and not travel, thus inhibiting economic life. To be sure, experience shows that the economy quickly regains its footing when infection numbers fall. However, the weak start to the year is a mortgage for the overall result, he said. China's declared no-Covid strategy also makes it difficult to normalise supply chains, he added.

Recovery in 2021 faster than expected

After the deep slump in the machine tool industry caused by the 2020 pandemic, the sector bounced back with good orders last year. According to VDW estimates, it produced machines and services worth around €12.7 billion in 2021. This corresponded to growth of 4%.

Business was driven by exports, which grew by 8%, twice as fast as production. America led the foreign business with plus 13%, followed by Asia with plus 11 and Europe bringing up the rear with plus 5%. Among the ten largest markets, the Czech Republic, Italy, Mexico, China and the Netherlands posted double-digit growth. China bounced back after a sharp decline in 2020.

By contrast, domestic sales still fell by 5% due to the automotive industry's reluctance to invest. Consumption, which rose only slightly by 1%, was supported by imports, which increased by more than a tenth. Capacity utilization was 87.2% in January 2022 compared to 72.7% a year earlier. With 64,000 employees, employment in December was listed 6.1% below the previous year.

Challenges of supply bottlenecks and shortage of skilled workers

"Bottlenecks in the supply chains of electronic components and metal products were the dominant theme for the industry last year, and they continue," Bernhard reported. In the machine tool industry, they had reached nearly all manufacturers by the end of 2021, according to a survey.

In particular, the chip shortage is hitting companies twice. On the one hand, the ability to supply the

important customer automotive industry is limited. On the other hand, there is a lack of chips for controllers, one of the most important components in the machine tool, but also for gateways, edge computers or drives. This delays the delivery of ordered machines.

The reasons for the chip shortage started with declining orders at the beginning of the Corona pandemic. As a result, capacities were shut down and deliveries were diverted to the consumer goods industry. Production capacity for new chip generations takes time. Cargo space is also limited by airport and port closures in China as part of the country's strict zero covid and lockdown policy. "This can escalate again at any time," Bernhard warned. For some time, higher demand for some products to hedge has put additional pressure on suppliers.

For the machine tool industry, opportunities to influence and compensate are very limited in the short term. The changeover to a new chip generation takes time, because development efforts of several man-years can quickly arise. "For the time being, the only option is to be highly creative in material procurement and to accept higher prices that may not be able to be passed on," said the VDW chairman. In the medium term, he said, it will become increasingly important to establish stable supply chains and diversify the number of suppliers in order to reduce dependencies.

Proactively strengthening the image of dual vocational training

Almost all machine tool companies see the shortage of skilled workers as similarly serious as the supply bottlenecks. According to a survey, more than two-thirds of manufacturers intend to increase their core workforce in the current year. In contrast, the number of vacancies in the mechanical engineering sector in December 2021 was about twice as high as at the end of 2020. The number



of applicants for apprenticeships and the number of apprenticeship contracts concluded are also declining

The availability of skilled workers is an indispensable prerequisite for competitiveness in the highly specialized machine tool industry. "And qualified skilled workers require qualified training," Bernhard said. He called on companies and politicians alike to aggressively highlight the attractiveness of vocational training. It offers just as many opportunities as an academic career.

Energy turnaround offers potential for the machine tool industry

With the announced energy turnaround, the restructuring of the energy industry is also coming into focus. The VDW is currently commissioning the Munich-based consulting firm Strategy Engineers to investigate the potential for the machine tool industry. The study is in the final phase.

Most major industrialized countries have developed ambitious strategies to reduce CO2 emissions. The central adjusting screw here is the energy sector, as this is where 25% of emissions currently originate. Central building blocks are the expansion of low-emission energies, electricity grid expansion and the development of a hydrogen economy. "All in all, the conversion

to emission-free energy sources is a mammoth global task for which trillions of euros must be invested worldwide every year," said Bernhard.

Due to low unit volumes and long service lives, the energy economy has not been a focus for machine tool manufacturers. However, the higher investments are now leading to increasing quantities of mechanical components for wind turbines (e.g. gearboxes, tracking systems and large bearings), combustion engines with relevance for the energy turnaround (gas turbine), comprehensive mechanical peripheral components, for example in the area of heat pumps for heating houses (generators, compressors, etc.). (generators, compressors) and, in the future, components for hydrogen production (electrolysis) and application in mobile and stationary fuel cells (fuel cell system with stack and balance-of-plant with compressors, valves, pumps, etc.).

"How big the volume will be in each area depends on the pace of transformation," Bernhard concluded. So far, he said, there have been many declarations of intent. Now, he said, policymakers must create reliable framework conditions for the transformation so that companies can also reorient themselves if they see opportunities here.

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Humans and robots collaborate in electronics industry

By applying the collaborative concept, efficiency in electronics production can be significantly increased.

At SCHUNK, everything is moving at such a rapid pace when it comes to collaboration. Following an initial pilot application in its own gripper assembly, the innovative family-owned company is now showcasing on a demo system from its subsidiary SCHUNK Electronic Solutions, how depanelling machines can be made collaborative for the electronics industry and the benefits resulting from this.

Depanelling machine with robot arm

The automated system consists of the SAR 1700 depanelling machine and a UR5 six-axis robot arm from Universal Robots equipped with a SCHUNK Co-act EGP-C gripper. While employees used to have to manually load stand-alone machines such as the SAR 1700 with electrical assemblies, now they only have to manually refill the panel storage rack for the robot. The machine takes care of everything else. The robot reaches into the storage rack, takes a panel, places it in the machine, closes the door, and presses the start button. Once the depanelling machine has cut the circuit boards, the robot arm places the parts on a conveyor belt and the process starts over again. The storage rack can fit up to 32 panels. If necessary, the employees can take over and load the machine manually at any time.

"By applying the collaborative concept, efficiency in electronics production can be significantly increased," explained Henrik A Schunk. "Instead of just one or two machines, operators can now operate up to five depanelling machines simultaneously for example. That means that the solution pays for itself within a very



With the depanelling machine from SCHUNK Electronic Solutions, a robot arm takes over the loading and unloading processes. This means that a single employee can operate up to five machines simultaneously

short period of time." Since the SAR 1700 is specially designed for smaller companies and represents a comparatively low investment, electronics production can be expanded gradually with additional machines. Each has the option of being equipped either manually or automatically based on individual requirements.

DGUV-certified gripper fits all cobots

The SCHUNK EGP-C Co-act gripper used in the application is the world's first inherently safe industrial gripper that has been certified, and approved by the German Social Accident Insurance (DGUV) for collaborative operations. The 2-finger parallel gripper that is controlled via digital I/O, covers a wide range of applications – from small parts assembly in the electronics and consumer goods industry to assembly applications in the automotive sector.

It satisfies the requirements of ISO/TS 15066 and is designed in a

way that humans cannot be injured. It includes a protective cover as well as safe current limiting. In order to make the collaboration with the operator as smooth and as intuitive as possible, the 24 V gripper is fitted with LED lighting in traffic light colors. The user can use this to signal the status for each module. It is delivered as a completely pre-assembled unit that includes the right interface for the cobots from KUKA, FANUC or Universal Robots. Moreover, interfaces for other robot manufacturers are available upon request. The entire regulation and power electronics are fitted in the interior of the gripper, meaning they do not take up any space in the control cabinet. In order to further minimize commissioning efforts, SCHUNK is planning programming modules for all conventional cobots.

IPF

For details, contact Satish Sadasivan of Schunk Intec India Private Limited on Tel: +91 80 4053 8999, email: info@in.schunk.com, or visit www.in.schunk.com

Igus presents new tribological plain bearings for medium load range



Iglidur M210 and M260: with the two high-performance plastics for the medium load range, users make bearing points on their vehicles for construction, agricultural or municipal purposes free of lubrication and maintenance

Igus has extended its range of iglidur tribological plain bearings for applications with special loads. The materials iglidur M210 and M260 are new to the range. They enable a quick changeover from thick-walled metal bearings to plastic bearings without any structural modifications. The advantage of a change is that the bearing points no longer require lubrication and are almost maintenance-free. They offer a significant time and cost advantage, especially in harsh environments in the daily operation of construction, agricultural and municipal machines.

The new polymer plain bearings iglidur M210 and M260 offer wall thicknesses of up to 5mm and inner diameters of 20, 25, 30, 40, 50 and 60mm. They are particularly suitable for applications with pivoting movements in the medium load range from 20N/mm², where a quick replacement of thick-walled metal bushings is required without structural modifications- for example in construction machines, agricultural machines and municipal vehicles that have to withstand harsh environmental conditions on a daily basis. The materials differ slightly but display their different strengths when in interaction with various shafts. For example, the M260 variant achieves excellent wear results in combination with shafts made of St37 steel.

The switch from metal to polymer bearings means significant cost and time savings, especially for machines and vehicles with many bearing points as lubrication is no longer required. The tribological plain bearings M210 and M260 are self-lubricating. Solid lubricants ensure a low friction and dry operation. This significantly reduces the cleaning effort. Because without lubricants, dirt and dust do not have a chance stick. Another advantage: As no lubricants are entering the environment this allows users to contribute to environmental protection. Additionally, the energy consumption of machines and systems is reduced because the plastic bearings are lighter than metal bearings.

To guarantee sufficient robustness of the iglidur M210 and M260 plain bearings, the material experts at igus

work with fibres and fillers. These components strengthen the materials so that they withstand high surface pressures of up to 40MPa and edge loads even under continuous loads - even at extreme temperatures between -100°C and +140°C. Tests in the in-house igus laboratory prove that the polymer bearings show limited visible wear in pivoting movements at medium loads, even after several thousand cycles. "For this purpose, the front loader test stand on the outdoor premises is used. In addition to the standard tests, application tests are vital in material development," said Stefan Loockmann-Rittich, Head of the Business Unit iglidur plain bearings at igus. "All test results then flow into the iglidur online experts, with which the service life of M210 and M260 can be precisely calculated under specific specifications."



NORD's drive technology offers optimised TCO



The new IE5+ motor generation from NORD offers a high power density and raises the LogiDrive concept to a new level with regard to energy efficiency and reduction of variants.

To cope with the rapidly growing parcel volume of the booming online trade and the increasing time and cost pressures, parcel distribution centres need highly efficient drive technology that ensures a high operational safety with minimum downtime, low total costs of ownership (TCO) and minimal maintenance effort. Being an important partner of the post and parcel industry, NORD DRIVESYSTEMS knows the industry's requirements and provides innovative drive solutions that are characterised by high efficiency, reliability and user-friendliness. With its comprehensive TCO approach, high level of application and development expertise, long-term experience and wide range of modular products, the globally active drive specialist implements the optimal solution for each application case.

Among others, the portfolio comprises the patented DuoDrive geared motor, energy-saving IE4 and IE5+ synchronous motors, modern drive electronics for decentralised use and control cabinet installation, as well

as efficient gear units. With its IE5+ motor generation – available in ventilated and smooth surface version – NORD has succeeded in significantly reducing losses compared to the current IE4 series. The permanent-magnet synchronous motor achieves its high efficiency that at times is significantly above efficiency class IE5, over a wide torque range – and is therefore optimally suitable for economical operation in the partial load range. The patented DuoDrive goes one step further. The compact geared motor integrates the IE5+ synchronous motor into a single-stage helical gear unit housing and thus sets new standards with regard to efficiency, installation space and version reduction.

Above all, the LogiDrive systems' standardised geared motor versions master the balancing act between energy-efficient operation and a minimum of drive versions. The result: an optimum compromise between investment, operating and maintenance costs. The decentralised drive units are highly efficient, and thanks to Plug & Play technology, they are extremely service-friendly and result in a considerable reduction of spare part stocks. The entire system has a modular design, so that all components of the drive technology can be individually serviced. This minimises maintenance and repair costs. All connections are made using simple plug connections while integrated maintenance switches and manual control switches ensure a high level of user-friendliness. NORD also supplies the cables. Potential sources of error are thus eliminated, and commissioning is facilitated.

Whether an existing system or a greenfield project: NORD supports its customers in the post and parcel field with comprehensive analysis and consulting, and demonstrates savings potential through a targeted design and consideration of the entire system. The customer gets a TCO-optimised system with highest efficiency and reliability.



German machinery exports reach pre-Covid level



Despite many disruptions in the supply chains, machinery and plant manufacturers from Germany were able to significantly increase their exports last year. Exports in the fourth quarter only

increased by a nominal 4,6 percent or 2,0 billion euros to 45,2 billion euros, as the Federal Statistical Office announced on the basis of preliminary figures. For the full year 2021, however, machinery exporters from Germany recorded a plus of 9,8 percent or 15,9 billion euros to 179,4 billion euros. For comparison: In 2020 as a whole, an export decline of 10,1 percent was recorded compared to 2019. This means that machinery exports are still about 1 percent below pre-crisis levels.

"Unprecedented pressure on supply chains ultimately ensured that machinery exports fell just short of their 2019 level, despite brisk orders from abroad. However, initial signs of easing in the supply chains and the continuing high level of incoming orders indicate that 2022 could become a record year," said Olaf Wortmann, economic expert, VDMA.

The USA is the most important export market for machine deliveries from Germany. Last year, the lead over China was even further extended. Exports to the United States increased by 13,9 percent to 20,7 billion euros. Exports to China increased by 6,3 percent to 19,3 billion euros. This means that 11,5 percent of all machinery deliveries from Germany went to the USA, while China's share decreased to 10,7 percent. "The industry in the People's Republic got off to a strong start in 2021, but lost some of its growth momentum in the course of the year. This is ultimately also reflected in machinery exports to China, which already declined in the fourth quarter. In addition, sales in the Chinese mechanical engineering sector only increased slightly recently. But all in all, last year's business in China can be considered a record year for many mechanical engineering companies," says Wortmann.

Machinery exports from Germany to the EU-27 increased by 10,8 percent last year. The export business with the three most important customers from the EU-27, France (plus 10 percent to 12,1 billion euros), Italy (plus 22,6 percent to 8,7 billion euros) and the Netherlands (plus 11,5 percent to 7,8 billion euros) also grew in double figures. The export business with the United Kingdom (UK) also developed particularly dynamically. Exports increased by 22,8 per cent to 7,8 billion euros. "The high growth in machinery exports to the UK is probably due not only to the rapid economic recovery but also to the special depreciation option introduced there. The so-called 'Super Deduction', which runs until March 2023, is intended to promote productivity-enhancing capital investments. Ultimately, the mechanical and plant engineering sector will also benefit from this," Wortmann explains. "British corporate investments in information and communication technology as well as machinery and equipment have already returned to pre-crisis levels."



Hilco Global buys ThyssenKrupp Steel's plant in Germany

Amsterdam-based Hilco Industrial Acquisitions, BV, an operating company of US-based Hilco Global, has acquired all assets at ThyssenKrupp Heavy Plate Rolling Mill facility located in Duisburg-Hüttenheim, Germany. The assets are now up for sale on Hilcobid.com.

Europe's second largest steel producer, ThyssenKrupp, shuttered the German facility in September 2021. During its operation, the heavy plate rolling mill facility produced approximately 850,000 metric tons of steel which was used for shipbuilding, offshore and heavy fabrication

construction production. In addition to the rolling mill, other items for sale consists of late model furnaces, hot- and cold-levelers, quenches, inline ultrasonic inspection, shotblasting/priming, and numerous flame and plasma cutting machines.

Robert Bouland, Managing Partner at Hilco Industrial Acquisitions, B.V., stated, "This sale represents an outstanding opportunity for buyers seeking to purchase high-quality, late model machinery used in a combined roughing and finishing mill." Bouland added, "We anticipate many interested buyers from Europe, Asia, and the Americas and will entertain offers in acquiring the entire facility or for individual assets."

Hilco Industrial Acquisitions, B.V. continues to expand their acquisition portfolio in the mill equipment space. Most recently, Compania Siderurgica Huachipato S.A. (CAP ACERO) from Chile has engaged the company to sell steel and rolling mill equipment no longer needed in CAP ACERO's continuing operations. Hilco Industrial Acquisition recently sold the 2 million ton per year Dongkuk Steel Heavy Plate Mill from Korea, as well as the 2015 Danieli Rebar Mill at Posco SS Vina in Vietnam.

Hilco Industrial Acquisitions is based in Amsterdam in the Netherlands and provides industrial asset acquisition and disposition services, specialising in machinery, equipment and inventory auctions and negotiated sales. It sells the broad range of industrial assets found in manufacturing, wholesale, and distribution companies. The company buys and sells assets through on-site, online and combination webcast auction sale events as well as negotiated (private treaty) sales.



Dryspin thread technology from igus improves efficiency



Every product has potential for improvement. This is evident in the classic trapezoidal thread, which igus has further developed. Thanks to a special geometric interaction of metal spindle and lubrication- and maintenance-free threaded nut, igus' dryspin technology promises a long service life, improved efficiency, low wear and less noise.

The new dryspin thread technology is not only durable and efficient, but also quieter than many conventional trapezoidal threads. The tooth flanks are rounded rather than angular. The contact surface between the threaded nut and the spindle is thus reduced. And that leads to less vibration.

Compared to classic trapezoidal threads, the thread flanks of the nut are enlarged at igus, as is the width of the thread of the spindle. A small intervention with consequences: Because due to the enlargement of the thread flanks, more high-performance plastic is used in the power transmission. More material that is optimized tribologically, i.e. in terms of friction and wear. This

asymmetry extends the service life by around 30 percent compared with symmetrical trapezoidal threads. In addition, the usable proportion of the energy supplied is increased.



Salzgitter AG establishes "Circular Economy" as a corporate goal



Salzgitter AG is planning to establish the Group as an independent market leader for circular economy solutions with innovative products and processes. Achieving this goal can only be successful together with strong partners and networks. To this end, closed-loop value flows and supply chains are to be established in cooperation with customers and suppliers. Salzgitter AG is committed to binding, science-based CO2 reduction goals and is joining the Science Based Targets Initiative (SBTi).

In a first step, the following goals shall be achieved by 2030:

- Reduction of Scope 1 and 2 CO2 emissions by more than 50% compared with 2018

- Power generated exclusively from renewable energies and, where expedient, also from our own production in order to make the still energy-intensive manufacturing of products as climate neutral as possible

- Expansion of the scrap recycling activities by over 50% to more than three million tons a year

A core element of the new strategy consists of significantly accelerated decarbonization within the context of SALCOS – Salzgitter Low CO2-Steelmaking. In charting this course, the Salzgitter Group is reinforcing its role as a front runner in low-CO2 steel production. As early as 2025, the first blast furnace is to be replaced by direct reduction plants and electric arc furnaces. More than one million tons of green steel produced via this route is planned for 2026. By 2033, which is 12 years earlier than originally scheduled, the integrated steelworks are to have been fully aligned to the new world.

Gunnar Groebler, CEO, Salzgitter AG, said, "This is one of the biggest changes in the 150-year history of the Salzgitter Group. CO2 savings of 8 million tons a year are achievable, which corresponds to around one percent of Germany's emissions. The key precondition is that policymakers now set the right economic and political framework conditions in place. This particularly applies to the topics of creating green leading markets, clarity in terms of funds to promote the transformation, and accelerating approval procedures."

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**RAMKRISHNA
FORGINGS
LIMITED**



RAMKRISHNA FORGINGS LIMITED (RKFL) is India's second biggest Forging Company, manufacturing products by Hot & Warm Forging route from weight range 2Kg to 200Kg and also into heavy fabrications. It is the most preferred source for major OEM's and Tier 1 supplying globally to Automotive, Mining, Earth Moving, Farm Equipment, Oil & Gas, Railways and General Engineering Industries.

RKFL Plants are certified ISO 9001:2015, IATF – 16949, ISO 14001:2015 & ISO 45001:2018, AS 9100D and Testing Lab is NABL accredited (ISO/IEC 17025:2005)

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Overseas Office at:

Detroit-USA, Toluca-Mexico
Istanbul-Turkey, Milan-Italy
Sao-Paulo-Brazil

Production Facility at:

Jamshedpur
Jharkhand, India

Distribution Centers:

Mexico (Toluca, Monterrey, Puebla)
USA (Hagerstown, Shelbyville)
Europe (Belgium) and across India

May the **FORCE** be with you

Process safety and security remain an absolute requirement in manufacturing, and that is why Premium AEROTEC has applied the new physics-based module, Force, from CGTech to increase efficiency while maintaining operational reliability.

Aerospace experts are anticipating a significant growth, with more than 30,000 new passenger and freight aircraft required by 2033. This is going to pose immense quantitative and qualitative challenges to the existing aerospace manufacturing plants. Augsburg-based Airbus subsidiary, Premium AEROTEC, is ensuring its participation in this fiercely competitive field with the support of CGTech's NC simulation software, VERICUT, and the application of the new Force module for ongoing operational reliability and machining efficiency.

Premium AEROTEC is one of the world leaders in the development and manufacture of structures and manufacturing systems for civil and military aircraft alike. With locations in Augsburg, Bremen, Hamburg, Nordenham, Varel and Braşov (Romania), Europe's leading aviation suppliers develop and manufacture the very latest in modern aircraft structures, from aluminium, titanium, and carbon fibre composites for the entire Airbus family.

The company is a key partner in the development and production of the A350 XWB, as well providing parts for the Boeing 787 'Dreamliner', the Eurofighter Typhoon, and the Airbus A400M heavy-lift military transport aircraft. Premium AEROTEC was established in January 2009, with the merger of the EADS plant in Augsburg with the facilities of Airbus Germany in Nordenham and Varel. Under the governance of the Airbus Group, the company's headquarters are in Augsburg. Here, around 4,000 people are employed with the focus on the manufacture and assembly of fuselage parts and heavy-duty structural components for military and civil programmes,



with the use of hybrid lightweight structures, carbon fibre technologies, infusion processes, and sandwich construction techniques.

To guarantee the surface qualities and workpiece tolerances required, high performance material machining techniques are employed in Premium AEROTEC's production area. These techniques must meet the defined quality required without scrap or elaborate repeat machining to rework components. They must also minimise the wear on the machines and cutting tools, reduce downtimes to a minimum, and be highly efficient even with complex components running in small batches; in other words, they must be fast, precise, reliable, and reproducible: without compromise.

Of course, this is an environment familiar to many in the aerospace sector, where machine tool safety and security are critical to meet ongoing delivery targets. To ensure this the company has used the industry standard NC simulation software, VERICUT, as an integral element of its manufacturing processes since

1991. The fundamental aim is to avoid machine tool collisions, either with the structural components of the machine, the raw material or component, and even the fixturing systems.

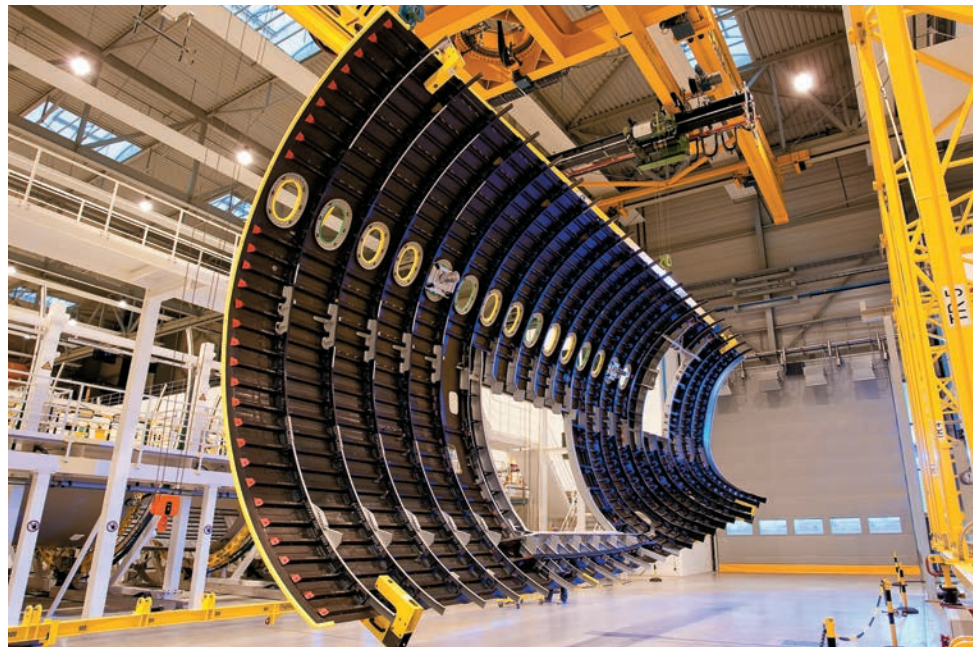
VERICUT was chosen to check the NC code that generates the milling paths on the machine tools, and in 26 years of use it has more than proved its worth. "Today, there are no more prove-outs required on the machine. No NC program goes onto the machine without having been tested first in VERICUT," explains Werner Flagner and Michael Hoffmann, under whose supervision more than 30 Premium AEROTEC personnel work with VERICUT.

The leading independent NC simulation and optimisation software, CGTech's VERICUT simulates the entire CNC manufacturing process, regardless of the machine, control system, and CAM systems involved, and tests the NC program for interferences and errors before anything runs on the real machines. More than 25 different machining centres used at Premium AEROTEC are simulated

using VERICUT.

AUTO-DIFF is a very important VERICUT module at the Augsburg plant. It provides an automated identification of the differences between a CAD model and a workpiece simulated by VERICUT. Within the module, anyone involved in the manufacturing process can detect points that have been incorrectly processed, or errors in the programming. "It is an ideal tool, that is particularly important when extremely expensive parts are involved, and which, when it comes to allowances and tolerances has proved to be indispensable," says Werner Flagner. "AUTO-DIFF helps cut programming time and speeds up the entire process," adds Michael Hoffmann.

Given the high material removal rates, of up to 98%, is it even possible to achieve a reduction in production times – including setting up, parts handling, measuring, and run-through? There are several approaches to improving machining efficiency. These include machining in a single setting, with the integration of different manufacturing procedures. Ideally, the complete machining process takes place in 'one-hit' reducing positioning errors or damage to the components during manual handling. Optimised workholding strategies and new machine tools with modern cutting tools also have the potential to increase cutting speeds, material removal volumes, and improve machining qualities, while also increasing service life. However, process safety and security



remain an absolute requirement in manufacturing, and that is why Premium AEROTEC has applied the new physics-based module, Force, from CGTech to increase efficiency while maintaining operational reliability.

Force is the culmination of a joint development between CGTech and UTC (United Technologies Corporation). A physical and scientific optimisation method Force is a software module within VERICUT that uses known physical parameters to determine the maximum reliable feed rate for a given cutting condition based on four factors: force on the cutter, spindle power, maximum chip thickness, and maximum allowable feed rate. It calculates ideal feed rates by analysing tool geometry and parameters, material properties of the stock and cutting tool, detailed cutting tool edge geometry, and VERICUT cut-by-cut contact conditions.

Managing Director, Tony Shrewsbury, explains: "It relates to helix and rake angle, as well as the general geometric form of the tool. What is decisive is the material type – carbide or hard metal or HSS – and the issue of when the tool breaks. As loading peaks are also displayed in Force, these can be managed and reduced to 'smooth'

the loading to make the cutting action less 'shocking' to both the tool, workpiece and the elements of the machine tool."

Another advantage is that Force does not need any user findings; it is optimised solely based on the values determined. Likewise, no elaborate software tests are required. He goes on: "The issue is not about milling strategies of existing programs. No tool path needs to be changed. Force simply divides, or splits, the path to introduce advances. Everything is governed by the feed advance, so the geometries are not altered."

Premium AEROTEC has really gained right from the start with the new Force solution. The savings achieved so far are around 22% reduction in machine cycle times with programs optimised by Force, with a substantial improvement in tool life as well. Tony Shrewsbury is confident there are still more potential benefits to be seen in the future: "Force is extremely well-suited to materials that are difficult to machine, and for complex multi-axis operations. We are encountering both these factors increasingly, not only in the aerospace sector but in all precision machining industries. For real world efficiency gains, Force is the most innovative software currently available."



“Industry can now expect a turnaround”

Playing an important role in import substitution, Super Forgings & Steels Ltd (SFSL) has specialised in production of high-value and higher grades tool & die steels creating a niche for itself. In this interview, **Piyush Modi, Director, Super Forgings & Steels Ltd**, offers insight into the market and shares the company’s future plans.

With more than five decades in the industry, Super Forgings & Steels certainly has created a niche. What is the company’s USP?

The company has always believed in trying to venture into products which are not easily available in India. We were one of the first companies in India to go into tools steels around 30 years back when these materials were mainly imported. Since Kolkata doesn’t have many industries, we had our customers base in other states where freight becomes a factor. So, we had to develop products which are import substitutes and not easily available and are of high value so that freight doesn’t matter much. We manufacture all types of tools steel and supply them in small quantities as the requirement of tool steel is in small lot sizes. Very few companies can claim to do that.

What are the types of forgings manufactured by SFSL?

We are into open die forgings generally making bars of rounds/flats and squares in long lengths or as per length requirement. Our main clients are BHEL, BEML, Tata Motors, Amtek Group, Fouress Engineering, Forbes Marshall, WPIL, Ordnance Factories, etc.

What is the size of the forgings industry in India?

Open die forging is a big market. The products are either raw materials or tools/dies for auto, machine building, power sector, pump manufacturers, closed die forging industry etc.

The last few years have been sluggish. Is the

Open die forging is a big market. The products are either raw materials or tools/dies for auto, machine building, power sector, pump manufacturers, closed die forging industry etc.



worst over for the industry, or it is still waiting for a turnaround?

I feel the worst for the industry is over and now we can expect a turnaround. Boom will take time but definitely things should start improving from the next financial year.

The forging industry in India is fragmented in a number of clusters and a large number of unorganised units. Is there scope for consolidation?

The bigger companies like Bharat Forge etc have representations in chambers of commerce etc. But there are so many small forging units throughout the country. I don’t think it is possible to consolidate.

Is the Indian industry in tune with the latest technology trends?

No, majority of forging companies are not in tune with the latest technology trends. Competition is a reality in any field of business.

How is the current scenario in forgings?

Competition is fierce as the market is bad. The demand is low so automatically competition is very high. This leads to low margins and delayed realisations also.

The government is exhorting to Make in India. What would you like to say, as someone who is already engaged in this task?

We have been into developing materials which were only imported from the last 30 years. Now this concept of Make in India is not new to us and we would like to put all our efforts to make it a success.

What are the future plans?

Once the market stabilises, we would like to invest in technology to make better products so that we could compete in the international market also.

ROTOmax 2.0: A lot of power with a light touch

SUHNER's ROTOmax 2.0 is a professional machine that was made for tough, prolonged work and has a long service life.

Anyone that needs to grind, roughen, mill, brush and polish a lot knows how time-consuming it can be to have to work with a range of different machines. They also know how tiring it is to use a heavy machine for a long period of time. SUHNER has been offering machines with flexible shafts for a long time now to remedy this issue.

The drive and tool are separated from each other. Therefore, a lot of power is available for delicate work that doesn't cause fatigue.

There's always room for improvement, even in our tried-and-tested options. As specialists for abrasive surfaces, we are proud to introduce our latest model: ROTOmax 2.0. As the name implies, ROTOmax is a machine with a big output and high tractive power. The foundation for this is a high-performance 2.0 kW motor, driven by connection to an alternating current network.

The ROTOmax 2.0 is a professional machine that was made for tough, prolonged work and has a long service life. The machine works surprisingly quietly. It is equipped with smooth starting, an active brake to prevent long rundown times and optional hand and foot controls.

An all-in-one solution

Manual units that can be changed at the speed of light convert the ROTOmax 2.0 into an angle grinder,



straight grinder, angle polisher, belt sander or tube polisher and make it suitable for grinding, cutting, roughing, rust removal, brushing, polishing and far more.

There are almost no limits to what it can do. Preferred applications for this tool include heavy work in foundries, boiler construction and steelworks, mechanical workshops, and in companies that process stainless steel.

Even in the case of its many design variants, ROTOmax meets a wide variety of

requirements. It is available with a base, as a space-saving suspended model or with a special trolley that offers mobility in the workshop.

SUHNER supplies a broad range of abrasives, adapted to the machines, and offers on-site user consultations as a free-of-charge service.

A full power package

Handpieces that can be changed in a flash make the ROTOmax 2.0 an efficient all-rounder that gets the best results at high power without putting the user under excessive stress.

The right speed for every application

Toggle through speeds in intervals of 100, going from 500 rpm to 13,000 rpm, using the electronic button. This means that the right speed for every type of abrasive is always available. The electronics ensure constant speeds in any application. This means perfect results in the form of evenly clean grinding patterns. **IPF**



Birla Precision Technologies: A legacy of excellence

Birla Precision Technologies (BPT) is known today as the leader in high-speed and high-performance machining because of its rock-solid foundation and astute business sense. Given BPT's firm focus on innovation, customer service and diversification, it is all set to scale greater heights.

Birla Precision Technologies' journey began with the vision of Shri Ashok Birla, who foresaw very early on, that technology would come to India mainly through foreign collaborations. Nation-building being the burning desire of the illustrious Birla clan back then, Shri Ashok Birla formed joint ventures with several overseas players, and in diverse fields. Among them were Birla Yamaha, a joint venture with Yamaha (Japan) for diesel engines and gensets; Birla 3M, a joint venture with 3M (USA) for glue and telecommunication tower equipment; South Pacific Viscose, a joint venture with Lenzing (Austria) for viscose staple fibres; Dagger Forst, a joint venture with Forst (Germany) for gear cutting tools; and Birla Kennametal, a joint venture with Kennametal (USA) for manufacture of machine tool accessories.

To further build on Shri Ashok Birla's legacy, his son Mr. Yash Birla too entered into a joint venture with Perucchini (Italy) later to produce auto parts. As for Vedant Birla, Yash Birla's son, the scion holds much promise as a successor, being the man at the helm at Birla Precision Technologies today—the company born out of the amalgamation of the Birlas' joint ventures with Kennametal (USA) and Perucchini (Italy). Vedant joined Birla Precision in 2014, as Business Head, armed with a Bachelor's degree in accounting and finance and an MSc in general management. Before joining the family business, however, Vedant had acquired experience in the fields of education, healthcare and steel pipes, having started to work at the age of 17. Apart from these, he also acquired work



Vedant Birla, CMD, Birla Precision Technologies experienced through summer internships at Hindustan Unilever Limited (HUL), IBD, Phillip Capital and Heron International (real estate), the last two being in the UK. While at HUL, his work involved visiting karyana (grocery) stores along with the manager to sell Knorr products.

These grassroots experiences, stood Vedant Birla in good stead, as they prepared him for the more responsible role he would go on to play later at Birla Precision, a publicly traded engineering company boasting several divisions and five plants across the country. Being in the shadow of his father Yash Birla at his meetings, he was guided in the areas of strategy and organisational planning. One of the

Considering that the auto industry is cyclical in nature, Birla Precision has decided to branch out into hardware. It has recently launched its 'Hathiyar' brand accordingly.

key learnings was to decentralise a few functions and spread more work over lesser executives, giving them more autonomy.

With Chairman and Managing Director Vedant Birla at the helm, the company has achieved several milestones and clocked steady growth in domestic and international markets.

Key divisions and products

Birla Precision Technologies Limited (BPTL) comprises 5 divisions.

The first, Indian Tool Manufacturers (ITM), is a division of Birla Precision Limited, created in 1937. This company manufactures and supplies high speed steel cutting tools in various grades (M2, M35, M42, & T42) using the finest quality high speed steel and a catalogue product range of various types of Drills, an assortment of Milling Cutters, Reamers, Taps, Tool Bits and Files. Under the "Dagger Brand" which conform to stringent world standards. They have recently added a high-end product range "PANTHER" and "NINJA" series taps and drills to offer better solutions to their customers.

The company successfully launched the "TORPEDO" brand of PM Taps and Through Coolant Taps and Drills to meet the domestic demand. Intensive R&D on a continuous basis and an uncompromising culture, allow it to cater to the demand for innovative products. The products are currently exported to the European and American markets apart from being sold in India through an extensive distribution network to a gamut of government clients like HAL, BHEL, the Defence, the Railways, and others.

The second - the Tool Holding division - is the erstwhile Birla Kennametal established in 1986—started as a joint venture with Kennametal USA, a US \$4 billion conglomerate which manufactures machine tool accessories like rotating tool holders in AT3 class, collets, work holding devices, custom indexable and multi-spindle heads & other CNC tooling. Birla Kennametal exports to over 20 countries worldwide. This division caters to the international market – USA, Germany and APAC, and of late, to the Far East including China - supplying rotating tool holders in AT3 class. This division also sells in domestic market in a large way to all major customers.

The third division is the erstwhile Birla Perucchini, formed as a result of a joint venture with Perucchini (Italy) one of the biggest names in the European Hydraulic space — a foundry which makes auto components (and of late, hydraulic parts as well). It produces shell-moulded ferrous castings straddling the entire spectrum of nodular, spherulitic and grey cast iron. Big league names like Honeywell, Sundram Fasteners and Cummins trust and rely on the company for high quality products.

The Auto division makes Fuel Injection Systems, Hydraulic Components and Engine Components like Turbo Chargers, Housings etc. Their automotive division is geared up with all customers for Euro 6 norms which came into India in 2020. Taking the next leap BPT has a strong presence in the automotive sector and is planning to grow it further in the coming years. They aim to make significant investments in the auto components division over the next three years.

The Precision Components division is a 100% exports division, which manufactures engine components, shafts, etc. for various automotive clients abroad. It has recently entered the domestic market.

These 5 divisions are spread across four plants in India – one in

Nashik & three plants in Aurangabad. and a fifth one that is coming up at Chalisgaon, Maharashtra, to cater to some of its new products. All these plants have been set up either through foreign joint ventures, employing state-of-the-art equipment and systems, or with the help of the company's in-house R&D facility. They employ a total of around 1,000 workers. The company has 11 branch offices across India and a vast distribution network

Leadership through R&D and product innovation

The primary focus is to directly connect with new actual users and increase more business with channel partners. There are plans to extend services to potential customers thereby moving towards being a preferred supplier and partner. The focus is on SMEs and most of the sale in this segment happens through a strong dealer network. With over 500 dealers across India, the company has one of the largest dealer networks in the entire domestic industry. They have recently increased the number of branches and strengthened the sales team, to help get “more feet on the street.”

The company allocates around 2 percent of its revenue on R&D activities. Its in-house cell basically does Application Engineering, Project Engineering and Custom Solutions. It takes the design from their customers and provides them with a better CPC or better-quality tools by improving the tool design and materials. This initiative called Value Selling is aimed at making its customers more competitive. The company also regularly works on new designs and serves customers through its Application Engineering department, making custom

solutions tailor-made for individual customers.

Key technological trends driving the industry

On a quarterly basis, benchmarking exercises of the products are conducted by comparing their product with the best products in the market, and also with all their peers. Birla Precision's products are considered superior to those of its competitors by the market. Their unique and strong heat treatment process bestows their tools with top quality. Recently, a test study was conducted internally with their products and products of the top five manufacturers of the world. Their drills stood at No 2 in terms of the lowest CPC (cost per component), which is a measure of 'value add' for the customer in the engineering industry.

Birla Precision Technologies is at the threshold of Industry 4.0, which is the current trend of automation and data exchange in manufacturing technologies. Using IoT, cyber-physical systems communicate and cooperate with each other and with humans in real time, and via the Internet of Services, both internal and cross-organisational services are offered and used by participants of the value chain.

BPT closely monitors changing technology and feels that technology will drive the industry and hold the key in the long run. One trend that BPT is betting big on is Industry 4.0—automation and data exchange in manufacturing technologies. Concurrently, BPT is also planning to diversify its offering in the automotive segment by venturing into hydraulic components. This strategic move is to gear up for the rising popularity of electric vehicles.

The market is getting stabilised after GST implementation. The effects of major reforms are yet to take place which could prove to be an important factor for growth. Technology will drive the industry in future and will hold the key in future. Competition will definitely grow, but this will only benefit the customer and supplier in the larger context.

BPT is at the threshold of Industry 4.0, which is the current trend of automation and data exchange in manufacturing technologies.

Power will move to the customer. Further, the switchover to electric vehicles is imminent now. Eco-friendly vehicles, autonomous driving, using AI in automobiles etc, will be the key trends that will influence the industry.

New avenues of growth

There are plans to go to the next level of technology and expand from HSS tools only currently, into carbide tools.

Considering that the auto industry is cyclical in nature, Birla Precision has decided to branch out into hardware. It has recently launched its 'Hathyar' brand accordingly, which caters to various industries like carpentry, construction, marble cutting, masonry and the like. Birla feels that since infrastructure is likely to remain a boom industry in India, this was a strategic and good decision taken by the company and

has been working well for them. As for future plans, in the next five years, Birla Precision will branch out into three distinct lines for its cutting tools division. Also, they are in the midst of setting up subsidiaries in Germany and USA, both of which will have local teams and which are in the process of being recruited. The company thus looks to becoming very active globally from next year onwards.

The company envisages becoming a world class organisation and a global supplier with steady focus on customers and the offering in terms of value chain and quality of products. In the long run, it expects to be recognised as a world leader in total and innovative engineering solutions.

While the move towards electric vehicles is good, once they become mainstream, many of the components manufactured will be rendered obsolete. Apart from

considering other car components that the company can build, it is also looking at supplying to the defence sector. Further, the company is looking at growing its strongest division, tooling by investing in quality and consistency. They have expanded their capacity in tooling by 50%.

Looking ahead, as the automobile and manufacturing segments continue to gain momentum, Birla Precision Technologies' growth outlook looks positive. Given the company's firm focus on innovation, customer service and diversification, it is all set to scale greater heights. Their vision is to be among the top four players in the world in whatever space they are in. With the ambition and dynamism of Vedant Birla, the company could well achieve that goal.

IPF

(Communication provided by the management of the company)

NEWS SNIPPET

Die Mould India 2022 to start from April 27 in Mumbai

The 12th edition of Die Mould India (DMI) - organised by Tool & Gauge Manufacturers Association of India (TAGMA India) - is scheduled to take place from April 27-20, 2022 at Bombay Exhibition Centre, Mumbai. "With ongoing pandemic still posing challenge, Indian manufacturers are taking a variety of approaches to radically transform their businesses and find new ways to differentiate themselves. Companies are continually looking for technologies that can help them achieve accuracy and reduce cycle time. The 2022 edition of Die Mould India is going to highlight the latest development in the field of tooling as companies are gearing up to showcase smart manufacturing solutions, newer tool geometries, the latest CNC machines, additive manufacturing solutions, integrated automation solutions, among others. With over 300 exhibitors showcasing their technologies and solutions, we expect this edition to be a grand success," said D M Sheregar, President, TAGMA India.

Looking at the prevailing positive sentiment of the industry after the challenging two years, the show, which will be held after a gap of four years, is likely to get a

good response from various industry verticals. D Shanmugasundaram, Vice President, TAGMA India said, "The die mould India exhibition is the only dedicated event for tool and die makers which makes it unique and attract visitors from diverse industries. In this edition, we are inviting delegates from 50+ OEMs and the public sector, 10+ user industry associations to explore business opportunities for tool makers. On behalf of TAGMA India, I invite industry professionals to visit the show and witness some of the latest developments in the industry"

Exhibit range of the show includes dies & moulds, press tools, mould base & standard parts of dies & moulds, hot runner system, tool steel, heat treatment, texturizing, gauges, CAD/CAM system related to dies & moulds, die spotting, digitising, additive manufacturing/3D printing, rapid prototyping & modeling, machine tools for dies & moulds, CNC milling/machining centre, EDM, moulding machine/die casting machine, accessories for machine tools, die/moulding polishing machines, cutting tools, measuring machines, all materials, equipment, accessories & services covering die & mould industry.



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CASTING COMPONENTS

Micro Melt offers a wide range of auto parts casting components.

Features:

- The auto components manufactured at its unit are highly suitable for several industrial sectors, mainly automobiles.
- Experienced and skilled professionals are on board to do research on latest market trends, and they design casting components accordingly.
- These have remarkable mechanical properties and great tensile strength, with highly finished surface.
- They are available at good prices and have long shelf life.
- They are free from moisture and corrosion; load carrying capacity is up to the mark and appreciable.

About the company: Micro Melt Pvt Ltd manufactures and exports investment castings products, offering uncompromised quality at reasonable prices. It is a highly reputed exporter of investment castings with a large client base.

Contact:

Micro Melt Pvt Ltd, Veraval

Tel: 02827-252931

Mobile: 09825415355

Email: info@micromelt.com

**HIGH QUALITY DIE SETS**

Fibro India Precision Products offers a wide range of high quality die sets.

Features:

- These high quality die sets are manufactured from premium grade raw materials on high-end machines.
- A flawless range of die sets is offered to meet the diverse requirements of clients in various industries.
- These are available in customised dimensions, metal grades and other specifications.
- The products' features include accurate dimensions, corrosion resistance and tough construction.

About the company: Established in 2008, Fibro India Precision Products Pvt Ltd is a prominent name in manufacturing and supply of a wide array of rotary tables and die sets. The product range comprises of die sets, lifting and clamping devices and milling guides. The entire collection is manufactured using best grade components.

Contact:

Fibro India Precision Products Pvt Ltd, Pune

Tel: 02135-670900

Email: info@fibro-india.com

**TOOLING SOLUTIONS**

Delta Small Tools & Engineering offers a wide range of customised tooling solutions.

Features:

- The range includes chill vents, 2D/3D core pins, sleeves, sliders for die casting dies/moulds, precision punches, and die inserts for cold forging applications.
- The firm also supplies profile tools/dies for multi-station punching machines; can supply Oerlikon blade tools for gear cutting applications; and is engaged in manufacturing of press tools and inspection fixtures.
- It is now venturing into complete plastic injection mould manufacturing with latest facilities like CNC turning, VMC, EDM and wirecut, profile grinding, etc.

About the company: Delta Small Tools & Engineering Pvt Ltd is a manufacturer and exporter of precision CNC turned parts, precision profile ground gauges, etc. The company has developed a state-of-the-art manufacturing unit equipped with sophisticated machines, which enable simplifying business operations effectively. The unit has all requisite facilities to ensure best quality products.

Contact:

Delta Small Tools & Engineering Pvt Ltd, Pune

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Email: deltatools@hotmail.com

**INDUSTRIAL MOULDS**

Adith Plastic offers moulds for industrial electronic parts.

Features:

- These moulds for industrial electronic parts are of highest quality and manufactured in a wide range.
- They are designed and manufactured by professionals using best quality raw materials at a well-established manufacturing unit.
- These are ideal for making industrial electronic parts and similar products.
- They are available in different sizes and designs or as per specific requirements.
- The moulds feature flawless finish, precise design and excellent strength.

About the company: Adith Plastic, establishment in 2006, is a leader in manufacturing and supply of a comprehensive range of moulds for plastic hangers, household products, plastic products, coffee stirrers, nylon rim tapes, pressure die casting components, press tool components, etc.

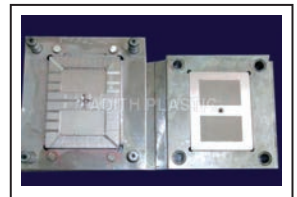
Contact:

Adith Plastic, Mumbai

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Mobile: 09821230980, 09664093729

Email: adithplastics@gmail.com



INJECTION MOULDS

Innovative Moulds & Dies offers a wide range of hot runner injection moulds.

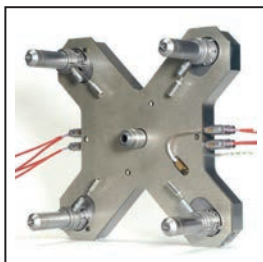
Features:

- The products' applications range from micro-sized nozzles to very large automotive parts and shipping containers.
- Hot runners are fairly complicated systems due to the requirement of heating and cooling within the system; the two main types of hot runner systems are externally heated and internally heated.
- The outside boundaries of the runners normally solidify, so the plastic material flows only in proximity to the internal heaters or 'torpedoes'.
- A hot runner is used to control the temperature in the hot runner.
- Its features include high tensile strength, durability and accurate dimensions.

About the company: Innovative Moulds & Dies provides a wide range of industrial moulds and dies for different applications.

Contact:

Innovative Moulds & Dies, Chennai
Tel: 044-42852146 Mobile: 09840914445
Email: info@innovamoulds.in



SAND CASTINGS

B K Tech Enterprise Inc offers sand castings.

Features:

- This product is available in a wide range to meet a wide variety of applications.
- It is extensively used for conventional moulding and metal casting processes.
- The range is manufactured in accordance with the industry norms; only quality tested raw materials used by a skilled team.
- Available in various specifications and in custom-built models.
- Special characteristics of sand castings are high integrity castings; complex shapes can be cast; long or short runs can be accommodated; almost any alloy can be cast; and high production rates.

About the company: B K Tech Enterprise Inc, established in 2010, is a reputed manufacturer and supplier of a wide gamut of machined components.

Contact:

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bktechenterprise@rediffmail.com



CASTINGS

Gravity Cast offers stainless steel castings.

Features:

- High grade raw materials are used like cast steel, SS 316, SS 304, SS 410, bronze (g.M), pH, and WCB.
- The products are available in different specifications as per the requirements of customers.
- They are provided in different surface finishing such as polishing or sand blasting, depending on the requirement.
- Heat treatment process is based on annealing and normalising; Checked for quality, efficient packaging for shipment and supplied at competitive rates.
- Its key features are: precision engineered; dimensional accuracy; resistance to corrosion; and outstanding surface treatment.

About the company: Gravity Cast Pvt Ltd, established in 2004, is engaged in manufacturing, import/export and trading of investment castings. The range encompasses a variety of products like architectural castings, industrial castings, non-ferrous metal castings, pump castings and valve castings, etc.

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Fax: 02827-252982 Email: info@gravitycastindia.com



PUMP CASTINGS

Supercast Industries offers a wide range of pump castings in aluminium.

Features:

- The aluminium pump castings are available in a superior quality range, with high strength, rust resistance, ruggedness and durability.
- They are checked for quality on various parameters as per industry norms.
- They are in high demand due to versatile applications and customisation facility.
- Features include reliable operation, least maintenance and simple to use.

About the company: Supercast Industries, established in 1999, is a leading manufacturer of a wide range of ferrous and non-ferrous castings and cast components, with top class inputs procured from reliable vendors. The company has modern infrastructure segregated into a number of units for organised functioning.

Contact:

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Email: response@supercastind.com



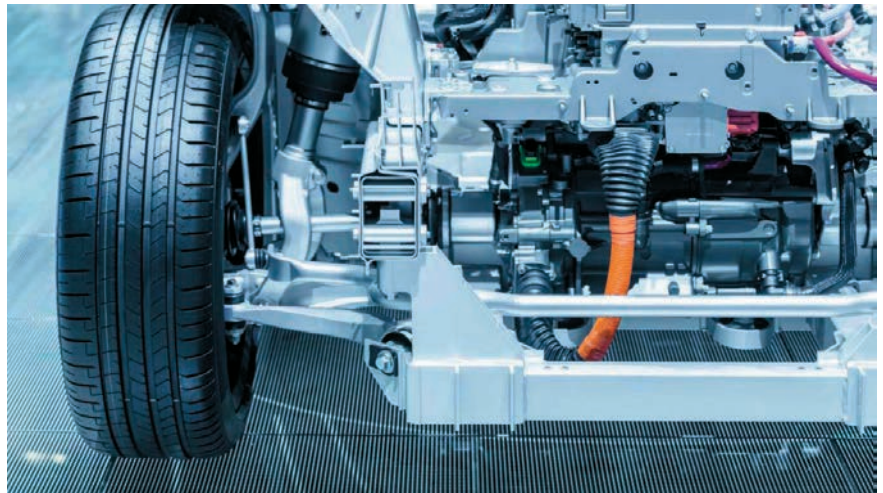
PLI scheme helps auto part makers ride the EV boom

A slew of policy measures - PLI schemes (for auto OEM & auto component), extension FAME 2, etc - in the recent past will create more opportunities in electric vehicle space. Auto component players seem to be all geared up for a new paradigm in the market, says Rakesh Rao.

Indian auto component sector is expected to witness investment of Rs 29,834 crore from the 75 approved applicants under the Production Linked Incentive (PLI) Scheme - called as Component Champion Incentive Scheme. Already, PLI scheme for OEM - "Champion OEM Incentive Scheme" - has received a committed investment of Rs 45,016 crore from 20 OEMs. Thus, PLI scheme for automobile and auto component industry in India has been successful in attracting proposed investment of Rs 74,850 crore against the target estimate of investment Rs 42,500 crore over a period of five years.

A total of 115 companies had filed their application under the PLI scheme for automobile and auto component industry in India which was notified on September 23, 2021. Out of which, five auto OEM companies had applied for both the parts of the scheme. The scheme was open for receiving applications till January 9, 2022. Incentives are applicable under the scheme for Determined Sales of Advanced Automotive Technology (AAT) products (vehicles and components) manufactured in India from April 1, 2022 onwards for a period of 5 consecutive years.

Dr Mahendra Nath Pandey, Union Heavy Industries Minister, said, "The overwhelming response shows that industry has reposed its faith in India's stellar progress as a world class manufacturing destination which resonates strongly with Prime Minister's clarion call of AatmaNirbharBharat - a self-reliant India. India will surely take a huge



leap towards cleaner, sustainable, advanced and more efficient Electric Vehicles (EV) based system."

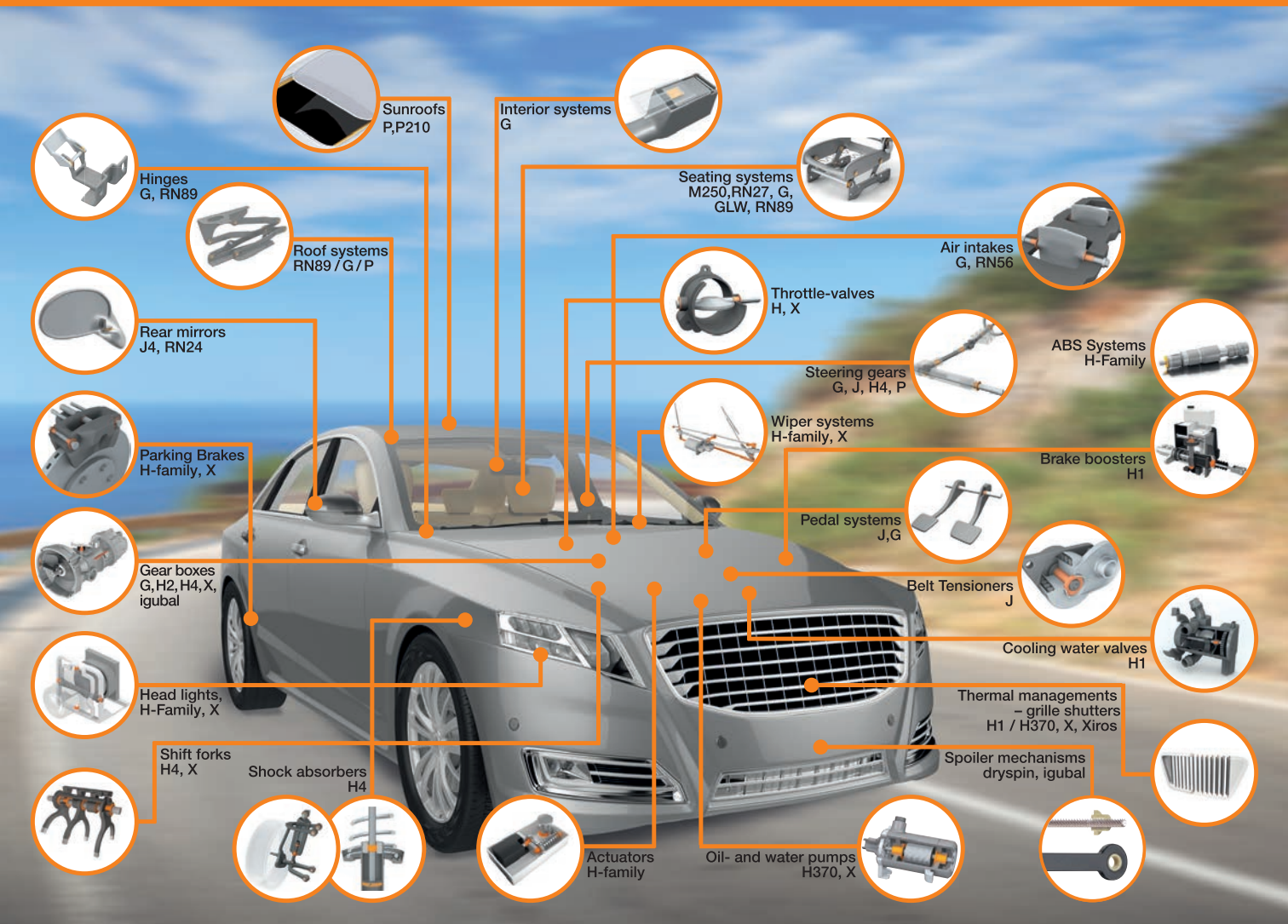
The Government approved the PLI scheme for automobile and auto component in India for enhancing the country's manufacturing capabilities for Advanced Automotive Products (AAT) with a budgetary outlay of Rs 25,938 crore. The prime objectives of PLI scheme include overcoming cost disabilities, creating economies of scale and building a robust supply chain in areas of AAT products. It will also generate employment. This scheme will facilitate the automobile industry to move up the value chain into higher value-added products.

The scheme has two components viz. Champion OEM incentive scheme and Component Champion incentive scheme. Total 95 applicants have been approved under this PLI scheme. MHI had earlier approved 20 applicants (along with their 12 subsidiaries) for Champion OEM

Incentive scheme. Subsequently, Ministry of Heavy Industries (MHI) has processed the applications received under Component Champion incentive scheme and 75 applicants (along with their 56 subsidiaries) have been approved under this category of the scheme. Two auto OEM companies have been approved for both the parts of the scheme.

The PLI Scheme for auto sector was open to existing automotive companies as well as new investors who are currently not in automobile or auto component manufacturing business. The Champion OEM Incentive scheme is a 'sales value linked' scheme, applicable on battery electric vehicles (BEV) and Hydrogen Fuel Cell Vehicles of all segments. The Component Champion Incentive scheme is a 'sales value linked' scheme, applicable on Advanced Automotive Technology components of vehicles, Completely Knocked Down (CKD)/

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According to **Sunjay J Kapur, President, Automotive Component Manufacturers Association of India (ACMA) & Chairman of Sona Comstar**, selection of companies for Component Champion Incentive scheme has indeed enthused the entire auto component industry and will be a catalyst in our transformational journey from a conventional industry to a mobility industry. "We are indeed very thankful to the government for its generous selection of companies that will benefit from the scheme. That apart, a slew of policy measures announced in the recent past including the extension of FAME-2 scheme, the PLI on ACC battery, the policy initiative on battery swapping and energy as service, among others, will create a new paradigm of technological excellence in the automotive supply chain in India to make it globally competitive," he said.

Vinnie Mehta, Director General, ACMA, added, "The PLI scheme will not just help the component manufacturers become globally competitive but will provide a much-needed momentum to the 'Make in India' initiative. The scheme will lead to additional employment opportunities in India and provide an impetus to the industry to invest in cutting edge technologies to stay relevant."

Some of the companies selected under Component Champion Incentive scheme include Maruti Suzuki India Ltd, Bosch Automotive Electronics India, Schaeffler India Limited, Bharat Forge, Sona BLW Precision Forgings, Tata Autocomp Systems, Toyota Kirloskar Auto Parts, Varroc Engineering, Wabco India, etc.

Harsha Kadam, MD & CEO, Schaeffler India, said, "PLI scheme approval will be a catalyst for our mission of advancing conventional mobility to sustainable mobility through development of intelligent

components, systems and services. The scheme will help in creation of economies of scale and robust supply chain in the areas of advanced automotive technology products while overcoming the cost challenges throughout the value chain thereby helping us to gain a competitive edge and drive export capacity."

Sanjeev Saxena, President (Automotive), Schaeffler India, added, "PLI scheme has received an overwhelming industry response with a 76% higher than anticipated target. We are confident that the scheme approval provided for Schaeffler India will create significant opportunities in the automotive market through our innovative products. The scheme has given us the impetus to localise our high precision products for future mobility needs and boost manufacturing activities locally, further strengthening the Best Cost Country status for India for manufacturing activities."

PLI scheme for ACC battery storage

Meanwhile, Ministry of Heavy Industries has made allotment for 50 GWh of battery capacity to 4 successful bidders for incentive under PLI scheme for Advanced Chemistry Cell (ACC) battery storage. Four successful bidders included Reliance New Energy Solar Limited; Ola Electric Mobility Private Limited; Hyundai Global Motors Company Limited and Rajesh Exports Limited. These companies will receive incentives under India's Rs 18,100 crore programme to boost local battery cell production. As per the terms of the PLI scheme, selected companies will have to set up manufacturing facility within a period of two years. The incentive will be disbursed thereafter over a period of five years on sale of batteries manufactured in India.

Commenting on the PLI scheme for ACC battery storage, Union Cabinet Minister for Heavy Industries, Dr Mahendra Nath Pandey, said, "The increase in

demand for EVs, due to a favorable regulatory framework, has mainly attracted investment in this sector. Today big companies are investing in electric vehicle manufacturing in India and are interested to join us. We should give them more encouragement and keep trying to make India a manufacturing hub. Growth in EV segment of auto industry will definitely help us to achieve India's commitment to Panchtantra given by PM Narendra Modi in COP 26 and will provide huge employment opportunities to Indian youth."

The Program envisages an investment which will boost domestic manufacturing & also facilitate battery storage demand creation for both electric vehicles and stationary storage along with development of a complete domestic supply chain & Foreign Direct Investment in the country. ACC PLI scheme is expected to accelerate EV adoption and hence translate into net savings of Rs 200,000 crore to Rs 250,000 crore on account of oil import bill during the period of this Programme and increase the share of renewable energy at the national grid level.

Cumulative impact

PLI Scheme for auto sector (Rs 25,938 crore), along with the already launched PLI scheme for ACC battery storage (Rs 18,100 crore) and Faster Adaption of Manufacturing of Electric Vehicles or FAME (Rs 10,000 crore) will enable India to leapfrog from traditional fossil fuel-based automobile transportation system to environmentally cleaner, sustainable, advanced and more efficient Electric Vehicles (EV) based system. The PLI scheme for automobile and auto component industry has been a huge success in terms of the applications received from local as well as globally companies. Apart from Indian business groups, approved applicants include groups from countries such as Japan, Germany, USA, UK, Republic of Korea, Ireland, France, Belgium, Netherlands and Italy.

Simple Energy develops BMS for electric scooter

This Battery Management System (BMS) enables the electric powertrain to achieve a staggering 95% efficiency — which is the highest in the industry.

India's electric vehicle and clean energy start-up Simple Energy has developed a proprietary Battery Management System (BMS) that has been designed specifically for high-performance electric vehicles and will debut on the flagship scooter called ONE. This BMS enables the electric powertrain to achieve a staggering 95% efficiency — which is the highest in the industry. Combined with a powerful 72 Nm motor and 4.8 kWh battery, Simple ONE can achieve 200+ km of range on a single charge in Eco mode.

Speaking on this announcement, Suhas Rajkumar, Founder and CEO, Simple Energy, said "Engineering and incremental innovation are the pillars of everything we do at Simple Energy. Developing a BMS from scratch was one of the best decisions we made, enabling us to have an unparalleled degree of vertical integration on the ONE — allowing us to eke out more range and performance than any other EV in the market. This move will also make developing future products by Simple easier."

The one-of-a-kind battery management system is incredibly compact for a 10 kW solution, leaving more headroom for other vehicle applications and more space for other components such as a larger battery. Even with that size, it is extremely accurate and can detect changes as minuscule as 0.6 mV, which in turn provides precise state of charge (remaining battery and range) estimations.

As a technology leader, Simple Energy paid close attention to creating a system that maximizes battery health and longevity. A patented intelligent charging protocol was developed to allow for fast charging without degrading the battery pack. There are additional



algorithms in place to optimal and safe charging and discharging, sustained peak performance without heating, overall better thermal management, advanced regenerative braking for improved riding dynamics and range, and smart cell balancing and derating.

The entire system is designed to support the ISO 26262 safety system. These steps will give users added peace of mind around common EV concerns around charging and battery replacement.

Other benefits of Simple's BMS include systematic telemetry capturing to understand how users ride and charge their vehicles. This data can then be used to further improve efficiency via OTA updates. Furthermore, the modular solution can also be scaled up or down as per the application, for new form factors. This is also the first time interchanging of battery modules has been achieved without a master module, further reducing costs and errors.

Simple ONE deliveries begin in June, with the scooter being priced at Rs 1,09,999 (ex-showroom) for the standard variant with a real-world range of 203 km (up to 236 km in

ideal conditions), and Rs 1,44,999 (ex-showroom) for the long-range configuration with over 300 km of range via an additional battery pack. It can be pre-booked at Rs 1,947 on simpleenergy.in.

With more products in the pipeline and the core focus on R&D, Simple Energy eyes to be at the forefront of the ongoing global transition to green mobility. Its flagship product, Simple ONE, will be produced at a state-of-the-art manufacturing facility in Hosur, Tamil Nadu. Alongside this, it has also commissioned a second plant in Dharmapuri, Tamil Nadu, which will spread across 600 acres and have a capacity of 12.5 million units annually — making Simple Energy the largest electric two-wheeler manufacturer in the world.

Founded in 2019, Simple Energy is amongst India's top three premium, smart electric vehicle companies. The Bangalore-based electric vehicle (EV) and clean energy start-up aims to redefine electric mobility in the country by making e-mobility solutions more accessible, accessible, secure, and comfortable to the end-customer.

Continental India reaches a production milestone of 5 mn EBS units

The company targets to raise Electronic Brake Systems (EBS) production capacity by 25 percent in next three years

Technology company Continental's Gurgaon plant achieved a remarkable milestone by producing five million Electronic Brake Systems (EBS). The achievement is especially significant because the milestone was reached in just five years, ensuring the production schedule was unimpacted despite the COVID-19 pandemic. The EBS portfolio comprises Electronic Stability Control (ESC) for passenger cars and Anti-lock Brake Systems (ABS) for passenger cars and 2-Wheelers.

Krishan Kohli, Head – Segments, Vehicle Dynamics and Hydraulic Brake System, Continental Automotive India said, "This is an excellent milestone as it complements our wide focus for safe mobility and our commitment to Vision Zero - Zero Fatalities, Zero Injuries, and Zero Crashes. Demand for our safety solutions has been growing in both local and global markets, and right now we are in a strong position to meet our customer needs and market demand. Localization has been another important aspect of Continental India strategy as we achieved the five million mark since we have been consistently increasing our manufacturing and R&D footprint in India aligned with our customer preferences and needs."

In keeping with Continental's unrelenting commitment to safety, the localization of EBS units began in Gurgaon in 2016, while the manufacturing of electronic control units (ECU) for EBS was set up in January 2018 at the Bangalore plant. Apart from catering to leading OEMs in the local market, the EBS are also exported to other Asian regions.



"What is most vital is that our Electronic Brake systems have directly contributed to about five million vehicles being safer today. Our target is to raise the annual EBS production capacity by 25 percent in the next three years," Krishan added.

Anudeep Garg, Head of the Gurgaon plant, Continental Automotive India said, "It is wonderful that we have been able to achieve this number despite the ongoing pandemic. Of course, there were challenges we had to face but credit to the entire team for having persisted despite adversity to help achieve this milestone. This has also largely been possible because of Industry 4.0 practices, which are helping the entire manufacturing value chain immensely. We have optimized our efficiency, quality, productivity, and reduced operational expense."

Localization

Continental is rapidly expanding localization efforts in India. With its "in the market, for the market" approach, the entire value chain from R&D to design and production according to customers' requirements are expedited. This way Continental is enabling easy access to safety

products by adapting globally proven technologies to suit the local market. The wide-scale production ensures cost advantage, especially in a value-driven market like India.

As a part of its efforts to ensure global production standards and quality, Continental has set up a state-of-the-art manufacturing facility with a focus on Industry 4.0 practices such as automation, digitization, and augmented reality for remote access in troubleshooting situations in Gurgaon.

Anti-Lock Brake Systems (ABS)

A pioneer in technology, Continental ABS was first presented at the IAA in 1969. Continental has a variety of products catering to different segments of vehicles. For instance, the MK 100 ABS Entry has been designed for vehicle segments A, B, and C in the growing markets. The packaging is compact and extremely light, at less than 1200 grams. Furthermore, throughout the MK 100 product family, the hydraulic and electrical interfaces are compatible with each other, which makes the MK 100 easily applicable for platform concepts of car manufacturers wanting to benefit from a truly scalable product range.

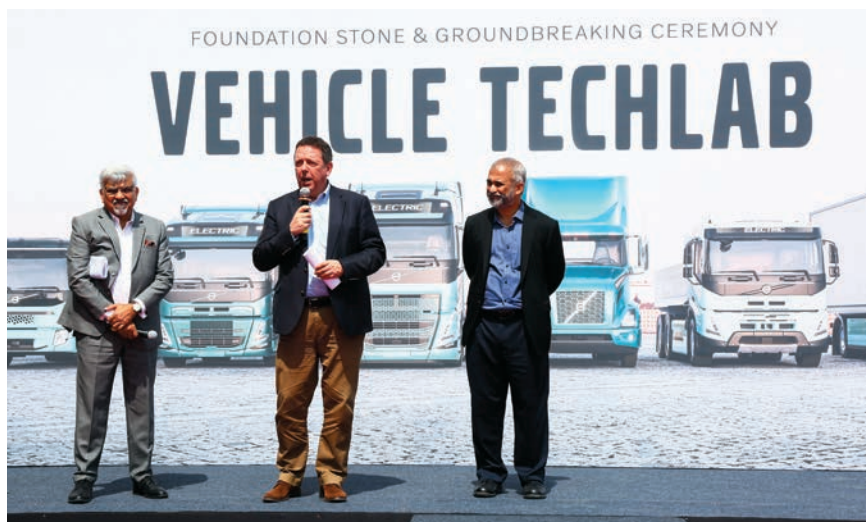
Volvo Group expands R&D operations in India

Volvo Group Trucks Technology in India employs more than 1600 engineers, and this number will significantly increase in the coming years.

Jan Gurander, Deputy CEO, Volvo Group, recently laid the foundation for the "Vehicle TechLab" for Volvo Group's Research and Development operations in India. Concurrently, Jan Gurander also marked a key milestone – where Volvo Group's R&D operations in India now becomes the largest development site outside Sweden. Earlier, in July 2021, Volvo Group launched CampX – Volvo Group's Global Innovation Arena – the first site outside Sweden.

"Volvo Group has one of the most ambitious SBTi targets in the industry, targeting the 1.5-degree pathway, where we will achieve net-zero value chain greenhouse gas (GHG) emissions by 2040. Already, by 2030 we would cut the CO2 emissions of our vehicles by 40% when we target 50% of our trucks sold to be electric. To achieve this path, we are in the midst of a global organisation-wide business transformation to adopt emerging technologies, as well as new business models, across Automation, Electromobility & Connectivity. By 2030, 50% of our revenues will come from services & solutions. India is going to play a key role in this transformation journey as Volvo Group's largest R&D site outside Sweden, along with our other global support functions, is located here," commented Jan Gurander, Deputy CEO, Volvo Group.

"At Volvo Group in India, we are proud to be playing a key role in shaping the future of the global world of transportation. This is one of the most exciting times to be an engineer. Our aim is to provide one of the most rewarding & satisfying work environment for our engineers – a culture that offers learning, capability building, high feasibility to turn ideas into actions, a global



L-R: Kamal Bali, Jan Gurander and CR Vishwanath

network, good work-life balance, flexible workplaces and that which is marked by trust, transparency and collaboration – while being immersed in advanced technology that goes in making world leading trucks." commented Kamal Bali, President & MD, Volvo Group, India.

Volvo Group Trucks Technology in India employs more than 1600 engineers, and this number will significantly increase in the coming years. The current set up includes a host of facilities such as vehicle garages, electrical & electronics lab, AR/VR Lab, and access to proving grounds.

The increased focus on product and project responsibility within Volvo Group's R&D operations in India, has led to a demand for a framework that will support the enhancement of product knowledge and prototype validation capability within India. Today, this capability is being enhanced with the set-up of the Vehicle TechLab – which is a first in the industry in India. This lab can house complete trucks, chassis and aggregates. It has various supporting

equipment for engineers to test, innovate, validate and experiment their ongoing work - through a set up equipped with driving simulators, test benches, 3D scanners among various other tools and systems.

"This Vehicle TechLab is designed as a collaborative virtual workspace – creating a simulated workshop environment - using technologies like virtual reality, human body motion tracking & realistic digital rendering of vehicles that allows Volvo Engineers across the globe to connect & collaborate virtually. This facility will significantly reduce the development times, improve problem solving and offer better insights & speed in building innovative solutions," commented CR Vishwanath, Vice President, Volvo Group Trucks Technology, India.

Projects being worked upon cover a range of areas: General vehicle technology, electric, autonomous as well as connectivity solutions. Engineers will have access to complete products which could well include battery electric or fuel cell electric trucks too among other options.

Warburg Pincus acquires majority stake in Imperial Auto



Stone Plant Investments B.V., an affiliate of Warburg Pincus (a leading global private equity firm), has acquired a majority stake in Imperial Auto Industries Limited and its affiliated companies. EY acted as the sole financial advisor to Imperial.

Imperial, founded in 1969, is India's largest manufacturer of fluid transmission products (FTP) for automobile and off-highway sectors. The Group, which generates revenues of approximately Rs 2,200 crores, offers a diversified product portfolio that includes rubber hoses, metal/nylon tubes and hose assemblies, as well as a rapidly growing portfolio of battery cooling products used in electric vehicles. The Group has over 20 manufacturing facilities across India, Germany, and the US through which it serves industry leading OEMs in both domestic and overseas markets. The Group has a product library of over 25,000 SKUs used across a wide range of FTP applications and seeks to be a one stop provider for all its customers.

As the industry leader in India, the Group is well positioned to capitalize on domestic demand revival. Further, Imperial is making significant strides in capturing the large export opportunity presented by recent disruptions of US and global supply chains, due to its global cost leadership position and execution track record. Imperial is also playing to the EV trend and developing battery cooling products by leveraging its core capabilities in fluid transmission. The Group will continue to be led by the current CEO and promoter, Mr Tarun Lamba, who will drive the business going forward in partnership with Warburg Pincus.

Tarun Lamba, Managing Director and CEO, Imperial, said "This is a very interesting time in the auto industry, and we are excited to partner with Warburg Pincus to help us strengthen our position as a leading global FTP components supplier out of India. This investment will help us fund our future growth plans which include capacity expansion, creation of best-in-class facilities for domestic and export clients and acceleration of EV related product development. Our association with Warburg Pincus should enable us to further attract high quality talent to Imperial and bring new capabilities to the market."

Viraj Sawhney, Managing Director, Warburg Pincus India, said "Imperial has a highly customer centric approach which has helped it become the undisputed market leader in the FTP segment in India. We are impressed by the Group's long track record of growth, a very diversified and high-quality global customer base and industry leading return metrics. We look forward to supporting Tarun and the team and leveraging the Imperial platform to build a leading diversified Indian auto components player serving both automotive and off-highway markets including electric vehicles."

Imperial Auto Industries Limited is India's largest integrated manufacturer and assembler of fluid transmission products. The organisation was established as a small-scale enterprise in 1969 in Faridabad, Haryana, India and has now expanded to over 20 facilities across India, Germany and the US. The company serves all the major OEMs in India across passenger vehicles, two wheelers, commercial vehicles, construction equipment and agricultural equipment and has a growing portfolio of marquee export customers.



Sona Comstar launches Motor T family of motors & controllers

Sona BLW Precision Forgings Ltd (Sona Comstar) has introduced its next generation of motors and controllers, Motor T with optimised controller family. Based on the information available in public domain as on the date, Sona Comstar's 'Motor T with optimised controller', with next generation technology, has the highest efficiency (96%), power and torque density in 48V category in the world. The base variant of Motor T family is designed to achieve the best combined performance in both power (more than 1.1 kW/kg) and torque density (more than 7.5 Nm/kg) along with 96% efficiency in a single motor.

Other variants in the Motor T family include Motor T (HS) that has a whopping 14kW peak power under 10kg with 96% efficiency meant for high speed two wheelers, and Motor T-72 with a massive 12.5kW peak power and more than 8kW continuous power with a weight under 10kg in 72V with 96% efficiency, meant for high speed and long-range two wheelers.

Sona Comstar also takes great pride in introducing the rare earth-free Motor T-REF with 5kW peak. Motor T-REF uses ferrite magnets and eliminates the use of Neodymium magnets.

Sona Comstar, a leading automotive technology company providing mission critical systems and components, continues to innovate and develop cutting edge products for the mobility sector. With the launch of Motor T family, the Company will continue to play a leading role in driving faster adoption of electric two-wheelers in the country.

On the launch of the Motor T family, Vivek Vikram Singh, MD & Group CEO, said, "We are excited to lead the charge into the next phase of electric two-wheeler

adoption in India with the introduction of Motor T family. These motors along with optimised controllers have been developed in-house by our R&D teams. The introduction of rare-earth free Motor T-REF is an important step towards a sustainable EV manufacturing, while offering highest value for money for Indian two-wheeler segment. We remain committed to make a company that India can be proud of for its engineering skills and solving complex and customized engineering problems for our customers and in enabling the future of mobility."

Motor T family being new products from Sona Comstar, the company is not in a position to quantify the market and revenue from this product at this juncture.

Founded in 1995, it is headquartered in Gurugram, India and has emerged as a global supplier with nine manufacturing and assembly facilities across India, USA, Mexico, and China. Sona Comstar is primarily engaged in designing, manufacturing, and supplying highly engineered, mission critical automotive systems and components to automotive OEMs. Sona Comstar is a leading supplier to the fast-growing global Electric Vehicle (EV) market. The company has strong R&D, engineering and technological capabilities in precision forging, mechanical and electrical systems, as well as base and application software development. It is diversified across geographies, products, vehicle segments and customers.



Iris Waves secures JBM Auto plants



Anand Srivastava, Security & Surveillance Business Head, Iris Waves

The Delhi based security & surveillance system integrator, Iris Waves has recently secured JBM Auto's (erstwhile Jai Bharat Maruti) Gurugram, Bawal and Manesar plants with installations of WBox CCTV Security Surveillance Solution from USA. JBM is a \$ 2.2 billion global conglomerate spanning across 25 locations through 10 countries. They are amongst the world's leading manufacturers in auto components, electric vehicles and buses, beside they are also in renewable energy, environmental management solutions and AI products.

Iris Waves has successfully installed WBox - an American top brand in CCTV at JBM's Bawal Plant. The installation spans over 22 NVR based cameras allowing 24/7 surveillance of their production conveyor belt at their plant with unlimited cloud backup & recovery.

Anand Srivastava, Security & Surveillance Business Head, Iris Waves, said, "We have installed WBox solution which is known

for their reliability and ruggedness. These products shall

keep vigil on production lines, keep safe their investment over many years and help them deliver on time."

Iris has also installed 20 cameras set up at JBM's Haridwar and another 20 at their Manesar plant. All these cameras shall be running over NVRs, having indefinite web cloud backup. "Iris Waves shall run and maintain JBM's infrastructure for the next one year," Anand added.

Iris is quick and responsive to their customer's needs as an SITC (Supply, Installation, Testing & Commissioning) provider for much renowned electronic security brands like Honeywell, Edwards, Daksh, Agni, etc. Iris continues to serve large real estate majors like M3M, ATS, BPTP, Omaxe etc. despite the lockdowns.

It has set an example during the pandemic by delivering Tech Mahindra and many others, where the company supplied 4,000 Lenovo tabs, transporting them to their centers Pan India to enable staffer for their sales force mobilization, despite the odds of Covid 19.

"Iris believes in helping eradicate business pain by using cutting edge technologies and crafting an end-to-end solution," said Himanshu Chawla, CEO and Technology Evangelist at Iris Waves.



Freudenberg supplies fuel cell filters for India's first zero-emission bus



Freudenberg client Sentient Labs recently introduced the first zero-emission bus designed and built in India. The company re-lies on micronAir filters to keep the fuel cells running despite tough weather conditions and exposure to pollutants such as ammonia. Thanks to the hydrogen technology, the model bus can run for up to 600 km before needing to refuel.

Hydrogen fuel cells have become a viable alternative to conventional combustion engines for vehicles that have to cover long distances before needing to be refuelled or recharged. That is why the Research and Development Engineering Lab Sentient Labs developed innovative hydrogen fuel cells in a new commercial bus model intended to cover long distances across India. To ensure the complex technology's longevity, the company relies on high-tech fuel cell filters from Freudenberg Filtration Technologies.

"Sentient Labs reached out to us during the early stages of their project," explained Ashok Pandey, Director

Automotive, Pharma, Consumer Filter, at Freudenberg in India. "Working closely together, we were able to supply them with the perfect match: a filter that protects the cells, especially from ammonia, but other pollutants such as small dust particles and hazardous gases as well." Each bus will be equipped with closed 'FC F-513-N' fuel cell filters. They ensure that the buses keep running and reduce maintenance efforts. After presenting the first model to the public in December 2021, Sentient Labs is currently looking for clients to bring the bus to roads all over India on a large scale. They additionally plan to utilize the technology for Marine applications.

Life on the road can be tough for a hydrogen fuel cell. To start the chemical reaction, a compressor takes in air from the outside. However, the air is often polluted, containing a mix of sulfur, hydrocarbons, and nitrogen oxides. These pollutants can affect the cell to varying degrees. Some might decrease performance temporarily. Others, such as fine dust, damage the cell permanently, rendering it less effective or decreasing its lifetime. "In the course of the project with Sentient Labs, we took a close look at what kind of outside conditions the vehicles will likely operate in. Especially in rural regions, outside air tends to contain high levels of ammonia in addition to other substances. The micronAir fuel cell filter that is now in use is specifically designed to protect cells from ammonia – making the bus the perfect choice for countryside routes," said Pandey.



STMicroelectronics launches automotive Door-Zone and Rear-Window Controller



STMicroelectronics (ST) is increasing the integration of automotive body electronics with the L99DZ200G door-zone system IC, which enables a single-chip front-drives-rear setup managing a front-door window, mirror, and lighting as well as the rear-window lift. The rich set of features delivers an equally rich set of benefits including lower system quiescent current, greater reliability, faster assembly, reduced bill of materials, and shorter development time.

The L99DZ200G contains two H-bridge gate drivers, a gate driver for an external MOSFET to control mirror heating, a control block and high-side driver for electrochromic mirror dimming, and five LED high-side drivers.

Three of the high-side drivers can operate in constant-current mode to power lighting modules that have high input capacitance. The other two high-side drivers are suitable for controlling ordinary LEDs.

With its two H-bridge drivers, the L99DZ200G can control two spindle motors simultaneously and handle an additional cinch motor to close a powered tailgate or trunk. Both drivers allow operation in generator mode, which activates both low-side MOSFETs simultaneously to protect the device if an overvoltage is detected in the supply rail.

The L99DZ200G also provides power management, with two 5V low-dropout regulators for the host microcontroller and peripherals. Connections for control and communication include a LIN 2.2a (SAE J2602, SAE J2962-1) transceiver, High-Speed CAN (HS-CAN, ISO 11898-2:2003 /-5:2007, SAE J2284, SAE J2962-2) transceiver, and SPI 4.0 interface.



Castrol launches BS-VI ready MAGNATEC engine oils

Castrol, India's leading lubricant brand, has launched its latest range of Castrol MAGNATEC, featuring India's widest offering of BS-VI ready engine oils for cars and SUVs. The new range also features India's first 0W-16 engine oil for retail aftermarkets, and the all-new Castrol MAGNATEC SUV, that provides SUVs with proven protection from heavy-load wear.

Post India's migration to the latest BS-VI emission norms, more cars and SUVs are fitted with after-treatment devices such as Diesel/Gasoline Particulate Filters (DPF/GPF) that are sensitive to Sulphated ash, Phosphorus and Sulphur (SAPS) content. The new Castrol MAGNATEC has reduced SAPS content and is BS-VI ready as per industry specifications of ACEA C2/C3. It also meets API requirements to control the problem of low-speed pre-ignition (LSPI) in gasoline direct injection (GDI) and Turbocharged GDI engines.

The all-new range of Castrol MAGNATEC will be available in four variants, 0W-16, 0W-20, 5W-30 and 5W-40 and will help meet automotive OEMs recommendations for thinner grade lubricants such as 0W or 5W. Each of the variants are based on Castrol's unique DUALOCK technology that reduces engine wear by 50% (as tested versus Sequence IVA API SN and CEC OM646LA ACEA wear limits).

Jaya Jamrani, Vice President, Marketing, Castrol India, said, "Castrol has always strived to deliver best-in-class products that provide unmatched performance and protection to vehicles. The transition to BS-VI emission norms required refreshed offerings of lubricants with lower SAPS and thinner grades. With our all-new MAGNATEC range, Castrol has led the industry move towards BS-VI compatible lubricants. The new, fully synthetic Castrol MAGNATEC range is designed for BS-VI engines, but is also backward compatible with many older applications."

AIR FILTER - TATA SPECIO

Clair Filter Systems offers a wide range of air filters, Tata Specio.

Features:

- These air filters are developed with high precision, adhering to industry norms and using excellent quality material and best technology.
- The filters are checked on numerous quality parameters by vendor's experts in order to ensure flawlessness.
- They are in high demand for optimum performance and minimum maintenance.
- Its features include: dimensional accuracy; precise design; sturdy construction.



About the company: Clair Filter Systems is a sole proprietary firm established in 2004, which is engaged in the manufacture and supply of a wide range of oil filters, automobile air filters, and fuel filters.

Contact:

Clair Filter Systems, Pune

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Mobile: 09881620899, 07745090899

Email: clairfilter@gmail.com

VEHICLE CAR LIFT

Trinity Sales & Services offers a wide range of vehicle car lifts – four post lift.

Features:

- These vehicle lifts are developed using optimum grade raw material and components that are procured from the trustworthy vendors.
- The range is checked by proficient quality personnel, who ensure adherence with industry norms.
- The wheel alignment 4 post lifts (rated capacity: 4 ton) offered are widely used to lift small and medium size vehicles with weight below 4.0 tonnes in garage and workshop.
- With the help of safety latches, these lifts offer mechanical safety protection; they also have adjustable distance between runways, which helps in accommodating different wheel tracks.
- Other features include: driven by hydraulic cylinder in stable lifting and lowering; connected by four steel cables; forced synchronized movement of the lift in order to prevent the sloping of the vehicles; equipped with rolling jack, turntable and sides lip, suitable for wheel alignment.



About the company: Trinity Sales & Services is a manufacturer, importer and exporter a comprehensive range of diagnostic car scanners, wheel alignment machines, vehicle lifts and other automobile garage equipment.

Contact:

Trinity Sales & Services, Mumbai

Tel: 022-28969187 Mobile: 09833268605

Email: tss_trinity@yahoo.com, info@tssequip.com

COMMERCIAL VEHICLES

Sarveshwari Technologies offers a wide range of wheel alignment machines (WA 50) for cars and light commercial vehicles.

Features:

- This machine has smart key LCD display and real-time toe-in camber display; level indicator; battery percentage display; battery status indicator; low battery warning light.
- Its standard features include: Adjustment indicator on sensor head; calibration value backup in sensor heads; long service life; professional high accuracy 6 metre wheel base, 8 toe sensors, fast and stable data transfer; 24 inch clamps; super large data bank; automatic detect low chassis interchangeable sensor heads two wheel mode (front).
- It has 8 beam CCD infrared optical sensors with high precision; sensors made in adjustment indicator on sensor head; calibration values have backup in sensor heads.



About the company: Sarveshwari Technologies Ltd (SARV) is dedicated to provide complete comprehensive solutions for tyre maintenance by not only offering equipment with latest technology from world-renowned OEMs but by also having good stock of spare parts and trained personnel to cater to the needs of customers.

Contact:

Sarveshwari Technologies Ltd, Delhi

Tel: 011-27023750, 27021499

Fax: 011-27011629 Email: info@garageequipments.com

HYDRAULIC CAR PARKING LIFT

New National Hydraulics offers a wide range of single post hydraulic car parking lifts.

Features:

- A superior quality range of single post hydraulic car parking lifts is offered, used for the vertical transportation of vehicles.
- This parking lift is popular in the market for its excellent performance.
- It is available in customized options as per the specifications to customers.
- Its features include: rigid design; long service life; hassle-free functioning.

About the company: New National Hydraulics is engaged in manufacturing, trading and exporting a quality range of material handling equipment and construction equipment.

Contact:

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Fax: 0120-4215072.

Email: nationalhydraulics@gmail.com

info@nationalhydraulics.co.in



DIAGNOSTIC SCANNER

Sunrise Instruments offers a wide range of car diagnostic scanners.

Features:

- These scanners have auto diagnostics decoding, diagnostics, components and ports location; online graphic display of centralised connectors and connections and wiring diagrams (connected to PC).
- Technology information and online display of components to be tested for interface with PC (Windows program).
- Automatic multiplexing central port pin connection.
- Multi-meter/oscilloscope interactive function, double trace, sample wave (with optional module).

About the company: Sunrise Instruments Pvt Ltd is an ISO 9001:2008 certified company manufacturing and exporting a wide range of electronic instruments and systems, digital tyre inflators, GPS tracking systems, solar systems, residential and domestic solar water heaters, industrial and commercial solar water heaters, etc.

Contact:

Sunrise Instruments Pvt Ltd, Pune
Tel: 020-65236686. Mobile: 09890066773
Email: info@futuressi.com

**BUS PARTS**

Ace Engineering & Chemicals offers a wide range of FRP bus parts.

Features:

- These FRP components and accessories are widely used in the automobile and other industries.
- The range includes are FRP automotive components, FRP military components, patterns and molds, FRP medical components, FRP components for solar energy, etc.
- These products include: front show; inner window; rear show; bumpers; engine covers; hat rack panels.
- This superior range of FRP bus parts is manufactured using best grade raw materials and advanced technology.
- The range is provided in various sizes and designs, which can be customized as per requirements.

About the company: ACE Engineering & Chemicals Pvt Ltd, established in 1998, is a manufacturer, distributor, exporter and supplier of a superior range of engineering moulding products/components.

Contact:

Ace Engineering & Chemicals Pvt Ltd, Indore
Mobile: 09826061669 Fax: 0731-2857481
Email: director@aceengineerings.com

**DRIVING SIMULATOR**

Ampro Testing Machines offers a wide range of car driving simulators.

Features:

- These are top class car driving simulators, manufactured using advanced technology and finest materials and following industry standards.
- This driving simulator is in great demand for its low maintenance and timely delivery at affordable rates.
- Its features include: requires less maintenance; easy to operate; high efficiency.
- Integrated driving simulator for driving schools; patented driving game simulator is useful for the driving learner to master basic driving skills quickly.
- Its software displays highly realistic scenes formed by computers in real time and the image of vehicles, pedestrians, roads, buildings, traffic signs changes with different training levels.
- Speech synthesis technology can simulate different sounds such as mechanics, horns, wind, snow, and rain and various voices around the surroundings.

About the company: Ampro Testing Machines is a major manufacturer, supplier, trader and exporter of automobile and car diagnostic equipment.

Contact:

Ampro Testing Machines, New Delhi
Tel: 011-25775600 Mobile: 09811890900
Email: info@amproindia.com

**PREMIUM QUALITY AUTOMOTIVE GEARS**

Kundan Lal And Sons manufactures premium quality automotive gears.

Features:

- These sprockets are available in a comprehensive array for the automotive industry.
- Manufactured in custom specifications, the sprockets are used in the transmission of rotary motion between two shafts and also for imparting linear motion to a track.
- Provided with grooves that allow dirt to escape from the tooth, these automotive sprockets have a special design that enables them to be changed quickly.
- Profile - ASA, BS, DIN, JIS, IS standard; pitch - 1/4", 3/8", 1/2", 5/8", 3/4"; diameter - 2" to 15"; strands - simplex, duplex and triplex; teeth - 10 and above.
- Its features include superior performance; maximum shock absorption; lightweight and compact; corrosion resistance; low vibration and noise levels; technically advanced design; high material strength; minimum torque load.

About the company: Kundan Lal And Sons, founded in 1965, manufactures and exports a quality range of automotive sprockets, automobile gears and spline shafts.

Contact:

Kundan Lal And Sons, Ludhiana
Tel: 0161-2531085 Mobile: 09814305115, 07814105115
Email: klsons@satyam.net.in



BAJAJ BRAKE SHOES

Hilex Industry (India) offers a wide range of brake shoes for Bajaj.

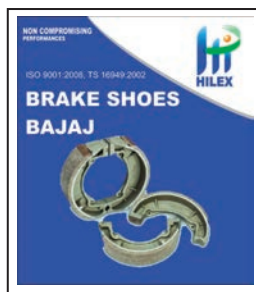
Features:

- The brake shoes are manufactured by skilled professionals using high quality material and following top engineering principles.
- These brake shoes are in demand for their high strength.
- Customers can easily avail these brake shoes on numerous specifications.
- Its features include: excellent workability; reliable operations; durability.

About the company: Hilex industry India Pvt Ltd is a major manufacturer of friction products in the two-wheeler and four-wheeler segments such as brake assemblies, brake shoes, brake linings, clutch plates, rubber couplings, control cables, air filters and aluminium casting products to original equipment manufacturers (OEMs) in India.

Contact:

Hilex Industry (India) Pvt Ltd, Gurgaon
Tel: 0124-4554896 Mobile: 09911665588
Email: capankaigupta11@gmail.com



PREMIUM AUTOMOTIVE U BOLTS

Auto Pin India offers premium quality automotive U bolts.

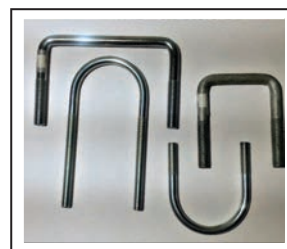
Features:

- These bolts come in precision designed and constructed finish and find application in the fastening of leaf springs.
- The high-performance U-bolts are available in different construction, metal options like stainless steel, carbon steel, alloy steel, aluminium, and others.
- Its features include: the option of different surface treatment like plain, phosphorization, zinc and other; available standard options of DIN, ANSI, JIS, ASTM.

About the company: Auto Pins India Ltd was established in 1953 to manufacture leaf springs for heavy commercial vehicles with Sirocco as the brand name. The company's major markets include Western and Southern India, Australia, Turkey, the Middle East, African and European countries.

Contact:

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Top three trends shaping the future of robotics

The trends outlined for 2022 are the latest chapter in the ongoing transformation of robotic automation which is seeing a rapid acceleration and adoption of robots across industry, says the ABB study.

With demand for robots growing as companies in multiple sectors look for new ways to enhance their productivity and competitiveness post-pandemic, ABB has compiled a set of growth predictions, looking at key trends driving demand for robots in the coming year.

"The pandemic accelerated far-reaching global mega trends – from labor shortages and supply chain uncertainty, to the individualized consumer and growing pressure to operate sustainably and resiliently – leading new businesses to look to robotic automation. As technology opens new opportunities for meeting customer demands, new trends will continue to emerge that will further drive demand in areas where robots have traditionally not been used," said **Marc Segura**, ABB's newly appointed Robotics Division President.

Based on customer conversations, market research and a global survey of 250 companies across multiple industries, ABB has identified three key trends that will shape the demand for robots in 2022.

Trend 1: EV revolution is bringing wholesale changes for auto manufacturing

With many countries restricting and phasing out the production of combustion engine vehicles over the next decade, the race towards electric cars has accelerated. Manufacturers and their supply chains must tackle the complexity of diversifying into EVs alongside combustion-engine vehicles, to meet varying regulatory frameworks governing EV adoption across the globe. The speed and added flexibility needed will see new and established manufacturers move



away from traditional linear manufacturing, towards modular, flexible production.

Segura said: "EV is not about a change only in the powertrain, but a larger transformation to a digitized car. This transition will also see the growing uptake of robots in combination with other technologies, including Autonomous Mobile Robots (AMR's). This will enable manufacturers to optimize the delivery of components across facilities and enable integrated scalable, modular production cells – methods traditionally associated with e-commerce and consumer goods, but now required in automotive to ensure the necessary flexibility to meet varying levels of demand."

Developing new channels through omnichannel retailing and adapting their production lines and distribution processes to enable personalisation of both products and delivery.

Another major shift will see battery manufacturing brought closer to vehicle assembly, to meet sustainability and regional requirements, which in most cases requires all-new facilities.

Trend 2: The E-commerce boom will accelerate

Consumer behavior and expectations are driving companies to find new ways to satisfy demand, developing new channels through omnichannel retailing and adapting their production lines and distribution processes to enable personalisation of both products and delivery. Fulfilling these requirements has seen thousands of robots installed worldwide where they were not used just five years ago, and this rapid rate of automation will continue in 2022 driven by a combination of consumer trends and a growing shortage of labor.

"This trend will see the growth of lighter, smaller robotic applications, enabling the expansion of

automation into new areas of warehousing and distribution operations. As Artificial Intelligence in robotics matures and learning robots become mainstream, expect to see these technologies deployed alongside AMR technologies, orchestrated and managed by intelligent software to provide enhanced flexibility, speed and efficiency,” Segura continued.

Trend 3: More robots will appear in more places and workers will need new skills

Smaller, more affordable, and easy-to-use robots, such as ABB’s YuMi, GoFa and SWIFTI cobots, are helping to remove many of the barriers previously preventing companies from investing in robots. This is seeing an acceleration of robots in general industry and small and medium-sized enterprises as companies seek new ways to automate different tasks.

Segura continued: “As we look beyond 2022, we see an ever-greater emphasis on connectivity and data acquisition as key enablers of future manufacturing. Data collected from intelligently automated processes will be analyzed by producers to make more informed decisions. At the same time, more advanced and responsive simulation and programming software tools, such as those in ABB’s RobotStudio, will cover the entire life cycle of robotic applications – from commissioning to onstream productivity – using AR and VR tools to simplify automation for customers.”

The enhanced ability of robots to work directly alongside humans, share tasks and learn through AI is also making it easier for companies to adopt intelligent automation in new environments, such as construction, healthcare laboratories and restaurants and retail.

In a future with a high prevalence of robots in workplaces, engineers and staff will need to be retrained and more robotic training will be demanded in schools, colleges and universities, for the skills to program, operate and maintain robots for an automated future.



A decade of change

The trends outlined for 2022 are the latest chapter in the ongoing transformation of robotic automation which is seeing a rapid acceleration and adoption of robots across industry.

“While automation has always been about productivity and quality – scaling up, doing more – the shifts we’re witnessing today (the greatest in a generation) mean that flexibility and simplicity are key to success,” said Marc Segura.

He added, “Today, flexibility is essential – it is a strategic need, essential across the entire value chain: from manufacturing and logistics through to the point of consumption. Robotic automation is a vital enabler of this flexibility. ABB’s goal is to help our customers achieve this flexibility and add value to their businesses by driving innovation to

create new possibilities with robotics, mobile robotics and machine automation, supported by the digital services and training they need to get the most from their investment.”

ABB is the leading global technology company that energises the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels.

ABB Robotics & Discrete Automation is a pioneer in robotics, machine automation and digital services, providing innovative solutions for a diverse range of industries, from automotive to textiles to electronics to logistics. As one of the world’s leading robotics and machine automation suppliers, it has shipped more than 500,000 robot solutions. ABB Robotics & Discrete Automation helps its customers of all sizes to increase productivity, flexibility and simplicity and to improve output quality. It supports their transition towards the connected and collaborative factory of the future.

As AI in robotics matures and learning robots become mainstream, expect to see these technologies deployed alongside AMR technologies managed by intelligent software to provide enhanced flexibility, speed and efficiency.

“PIRE aims to reach Rs 2,000 cr orders in the next two years”

Godrej Electricals & Electronics' Power Infrastructure & Renewable Energy (PIRE) business offers solutions for power transmission and distribution (T&D) and renewable energy projects. In this interview with Rakesh Rao, **Raghavendra Mirji**, Senior Vice President & Head – PIRE, Godrej Electricals & Electronics, Godrej & Boyce, highlights on the challenges & opportunities in the T&D sector and how the division is geared up to tap the market potential.

Could you please brief us about Godrej Electricals and Electronics business and its products & services?

Godrej Electricals & Electronics is recognised as one of the leading technology solution providers in India. This division caters to the needs of Indian and global customers in the area of power infrastructure, Mechanical Electrical Plumbing (MEP) & energy management. Our services and solutions include electrical, electronics, MEP, compressed air technology, busbar systems, instrumentation, and telecommunication and automation technology. Our vigilant focus on safety for buildings, engineering, and innovation has differentiated us as a thought leader in the industry.

Our MEP EPC, design and consulting services help integrate energy and water-saving measures. Whereas our specialised Power Infrastructure & Renewable Energy (PIRE) business offers integrated solutions for power transmission and distribution projects and has set benchmarks in capacity, complexity, and speed of execution. We also specialise in the erection of industrial rooftop solar power systems to enable companies to leverage clean and renewable energy for their operations.

How is Godrej supporting the growth of the power T&D industry?

At Godrej & Boyce, we successfully diversified into the power



transmission and distribution (T&D) sector more than a decade ago and well placed to cater to the growth in the sector. We offer diversified services in power infrastructure space that includes executing large scale projects in transmission, distribution & power substations on turnkey basis. We have also entered renewable energy space & offer end to end solutions in both roof top & ground mounted solar projects. We work with almost all the major power utility companies, both central & state govt and operate pan India including tough territories like Northeast states. We are more focused in EHV transmission & MW scale solar projects & have developed the capabilities to deliver complex and large transmission

and substation projects

We have developed in-house design & engineering capabilities up to 765 kV, including the structural designs of civil. We have offered engineering solutions to many complex projects that has helped in not only saving cost, but also in reduction in executable time. As an EPC company, we have developed robust project management process to deliver projects on time and leveraged IT tools to exercise better control & get clear visibility.

How was the performance of Godrej Electricals and Electronics in 2021? Which products & projects are driving the demand?

Recently, PIRE has secured orders worth Rs 600 crores comprising of 400kV new AIS substations, 220kV new GIS substations, 220kV transmission lines and 220kV underground cables in the domestic T&D market. In 2021, the business had secured a project worth over Rs 100 crores for the construction of a greenfield 400kV Gas Insulated Switchgear (GIS) substation in Vikhroli along with a 400kV bay extension in Kharghar. With this order, we were able to expand our portfolio to include large private utility players in the EHV substation projects, thus enhancing our role as an EPC player for both government and private players.

The PIRE business by Godrej & Boyce has also recently commissioned several substation projects up to 400kV across India

including tough terrain of the northeast. Going forward, we plan to expand our capacity by building 765kV substations within two years. We are also aiming for portfolio expansion of up to 1000 crores by next year.

Given the importance of developing green energy, the PIRE business by Godrej & Boyce has forayed into EPC of solar projects by offering end-to-end solutions. We are also commissioning the large size 85 GW of Ground mounted Solar plants in Maharashtra.

What kind of export opportunities are you looking at?

We are aiming to expand our portfolio by focusing on overseas business in countries like Nepal, Bangladesh and SAARC countries in the T&D segment. We will be focusing mainly on EHV Sub-station projects, both GIS & AIS. There are good opportunities in Africa as well & we will expand our business to Africa as well. We have developed capability over the years in the EHV segment & we are confident of executing any largescale projects overseas.

What are the key challenges in executing large scale T&D projects? What is the impact of rising raw material prices on the industry?

The project execution in power infrastructure space is quite challenging. Besides high standards of safety protocols that needs to be complied, we also need to work in a tough terrain, extreme climate conditions & challenging territories. The key challenges in executing large scale T&D projects are:

- Non availability of required skilled workforce & competent Sub-contractors. This has been a major challenge. The required skill set is limited to few states & it is difficult to get required manpower for PAN India projects.
- Delays in getting land allotment for the Sub-stations, timely Drawing approvals & work front availability. Such issues are very

much prominent.

- Right of Way (ROW) clearance, permissions for Highway /Railway / River crossings. In T&D projects, one of the challenges is to get the required clearances from the authorities mentioned and the landowners. This is very much unproductive & lot of time is wasted in getting the required permission.
- Delay in Certification of the job done payment process & timely disbursement of payment. In T&D project, the process of job certification & payment is a very complex process & involves multi-level authorities for approvals. Such delay in releasing the payment timely will put huge pressure on the cashflow & the working capital cycle becomes lengthy.

Apart from the above few key challenges, the recent unprecedented rally in commodity prices have put serious dent on the financials. Most of the projects do not have the contractual arrangement of price variation & the projects are taken on a firm price. Since the project tenure is normally between 15 to 25 months, the sharp rise in the raw material prices like steel, Aluminum & copper has impacted the project financials adversely. It is a difficult time for all the EPC players to deal with such crisis & unless the customer considers the price variation method, it is very difficult for the EPC players to survive.

The government has announced a PLI scheme for the solar industry. How will it encourage domestic manufacturing?

The PLI scheme will definitely boost the domestic manufacturing. At present, India has around 16 GW of solar PV module manufacturing capacity & large portion of demand is met through imports. With PLI scheme amounting to around Rs 4500 crore will attract investments & will enhance the domestic manufacturing capacity. This is very much needed & will benefit the solar projects.

In recent months, the

Government has made many announcements to push for green energy (including the Green Corridor Phase-2 project). How are these critical for the growth of your business?

The announcement of the Union Cabinet's approval of Rs 12,000-crore Green Corridor Phase-2 project, which will facilitate the integration and evacuation of renewable energy from seven states is of great significance in achieving the ambitious target of 500 GW of Renewable energy by 2030.

The recent announcement by the Union Cabinet would facilitate the Public-Private Partnership (PPP) model wherein 33% of Rs 12,000 crore can be financed by the centre and the rest can be taken by private or state players thereby changing the landscape of the power infrastructure support in the country.

This will give impetus to our Power Infrastructure and Renewable Energy (PIRE) business unit that has already commissioned several successful EHV substation and transmission line projects up to 400kV across all territories in India and further aims to consolidate its position in the T&D segment. Godrej & Boyce has always been committed to providing critical infrastructure to power the nation in its progress. With this new cabinet's approval, we hope to align our goal of greener India and create more opportunities to resolve the problem of reliable power in the country.

What are your short- & long-term growth plans?

We are aiming for portfolio expansion of up to Rs 1,000 crores by next year of which, Rs 500 crore would be allocated to railways, Rs 300 crore in ground-mounted solar and about Rs 200 crores in overseas business opportunities. As an established player in power T&D and solar segment in India, the business unit is targeting to reach Rs 2,000 crore orders in the T&D, renewable and railway segment in the next two years.

“India is key a contributor to ZF’s global success”

ZF Commercial Vehicle Control Systems India Limited (formerly known as WABCO India Ltd) became part of the ZF Group in May 2020 following ZF’s successful acquisition of WABCO. It is a key regional business within ZF’s Commercial Vehicle Solutions (CVS) division which was launched on January 1, 2022. CVS aims to help shape the future of commercial transportation systems by being the preferred global technology partner to the commercial vehicle industry. **P Kaniappan**, an industry veteran, is leading the CVS business in the country as Head of CVS India. In this interview with Rakesh Rao, Kaniappan elaborates on emerging trends in the commercial vehicle market and ZF’s plans to provide solutions for the industry’s next generation mobility.

In your new role, what are your priorities at present?

ZF is one of the leading global tier 1 suppliers to the automotive industry with sales of Euro 38.3 billion in 2021. ZF aims to be the leader in the next generation mobility solutions like autonomous, connected and electrical vehicles with a strong focus on sustainability. We have globally proven technologies in these segments.

Before my new role as the Head of CVS India, I headed the WABCO business in the country from 2009 to 2020. During this period, we were able to position WABCO as technology leader and innovation partner with OEM and established a strong manufacturing and engineering foot print in India.

With the takeover of WABCO by ZF, we believe another journey of excellence has started for the company in India. Two companies are technology leaders in their space and the combined entity offers an opportunity of greater engagement with OEMs because of the complementary technologies of ZF and WABCO.

In commercial vehicle space, OEMs need India specific solutions at a price point which is acceptable to the market. We bring global



technologies and blend it with Indian team capabilities to offer highly differentiated solutions to the OEMs. We essentially contribute to the success of our customers.

We also have a strong local engineering capability, which is a part of the group’s global engineering network that offers solutions to worldwide requirements. We would like to leverage this capability further to make India a key contributor to ZF’s global success.

We already export 40% of our

production from India. This again offers a big opportunity to drive growth.

ZF acquired WABCO globally in May 2020. What kind of synergies has it created?

Two companies offer complementary technologies. For example, by combining WABCO’s control system to ZF transmission line, we can offer AMT (automated manual transmission), which is now widely in demand.

Similarly, ZF has excellent air suspension product and WABCO offers electronic control to make air suspension smart and intelligent. Today, we are in a position to offer smart suspension, which is a differentiated solution, to

the customers. ZF is a leader in the electric vehicle technology. We are already in discussion with OEMs for making electric buses, a segment which is quick to adopt electrification in the CV sector. ZF is also supporting makers of light CVs - used for last mile delivery - in their journey towards electrification. In these areas, we will be using India’s capabilities and tweak these products to suit Indian requirements and increase localisation as the volume rises.

We have ZF technology centres

in Hyderabad and Chennai which offers solutions to not just Indian but also global customers. In autonomous, ZF has ADAS (Advanced Driver Assistance Systems) solution, which we will bring to India.

We are now in position to offer solutions to address auto OEMs' needs for three mega trends - i.e. autonomous, connected and electrification.

How has been the market growth in the recent months?

Business has been good. After a subdued demand in Oct-Dec 2021 quarter, demand for commercial vehicles seems to be picking up in the Jan-Mar period - the last quarter of the financial year, which has traditionally been high sales quarter for OEMs. We need to see whether this demand is sustained in the coming months, as there are some events (like Russia-Ukraine war, rising fuel prices, etc) which may cast dark clouds on the market.

How is the electrification trend in the Indian commercial vehicle market? How is ZF CVS India tapping this trend?

Electrification has started in the CV segment. While there was temporary slowdown in the bus production due to COVID, it is now picking up. We are connected with few OEMs for making electric buses.

For EVs, we offer many products. Our electronic braking systems support energy savings (i.e. reduce energy consumption) due to in-built intelligence in them. Besides, we offer electrically driven air compressors (e-compressors) and we plan to release future generation of e-compressors as well.

To save energy, we need to have products that assist in efficient braking. For this, we offer disc brakes for front axles in buses. This is very important for electric vehicles, as they need to conserve electric power. Our tyre pressure monitoring systems and many other products help EVs to save energy.

By 2030, a large part of buses will be electric. Besides bus, light

commercial vehicle segment is witnessing lot of progress towards electrification.

How has been the exports performance?

We export mainly products related to braking systems such as compressors for our global plants. Besides, we design and develop actuators for global markets. For global customers, we also supply electronic control unit for air suspension that is used in high-end cars. We position our self as producer of high-quality products for global market at a competitive price.

How geared up are you to tap the connected vehicle segment?

Today, we are collaborating with one of the OEMs who want to make 100% connected vehicle. We are emerging as a strong enabler for OEMs for their connectivity solutions. In the aftermarket, we are providing connectivity solutions to fleets. We already have 50,000 vehicles connected to our platforms in the aftermarket. We see a huge opportunity to grow in this segment by providing right solutions to more customers.

Are you planning to increase localization in the near future?

Almost 85% of our products are made locally. We are trying to accelerate the pace of localisation in view of the challenges in the global logistics sector, which is disrupting supply chain.

Prices of commodities are rising. At the same time, chip shortage is causing problem for the auto industry. How are these events affecting the auto component industry in India?

Commodity prices have steeply increased after the first wave of COVID. Not only it increased, but also availability became a problem. Though prices have moderated recently, there is no respite from inflation.

For semiconductors, we have a global taskforce to mitigate the shortage challenge.

India has announced the PLI scheme for the auto industry. Will it help global companies operating in India?

At present, we do not have scale to manufacture products for electrification, connected vehicles and other advanced technologies in India. If you have to import and supply these products, we cannot be competitive. PLI scheme is a good initiative of the government as it incentivises companies to invest in manufacturing of these products locally. PLI schemes have been offered to not just auto OEMs and auto components but also to other sectors which support directly or indirectly to the growth of the auto industry. For example, PLI scheme for electronic production will also help automotive industry as many electronic components go into a vehicle.

We are investing in a new plant in Oragadam (Chennai) to augment capacities. We are happy to be one among 75 auto component manufacturers who have been approved by the government for incentives under the PLI scheme for automobile and auto components.

What are your short- and long-term growth plans for India?

Commercial vehicle market picked in 2018 with about 450,000 vehicles. While it was 280,000 vehicles last year, we expect market to grow to 320,000 vehicles this year. It is still a long way to go to reach the 2018 numbers. Economy is now picking up which will further accelerate CV demand from sectors like freight, construction, transportation, etc; thus, propelling the commercial vehicle market. We anticipate good growth for the CV industry for at least the next three years. The scrappage policy, if implemented correctly, will further give a boost to the demand for commercial vehicles.

We will try to grow the business by bringing in more technologies that will meet the emerging requirements of the industry. We see a good opportunity for aftermarket and are exploring many possibilities to drive exports as well. We have a positive outlook for India in the coming decade.

Safety controller on smaller machinery: Integrated or separate?

Safety controllers are becoming increasingly popular as an alternative to relay modules, even on smaller machinery. The designer can opt for one of two concepts: some designers favour integration of safety into the automation PLC, but a separate (small) safety controller offers clear benefits.

'Safety integrated' or 'safety separated': should machine safety be integrated into the PLC or implemented separately using separate hardware and software? This is the question that every machinery designer needs to ask today.

Replacing relay modules

The question is especially important in the case of smaller machinery with a manageable number of safety functions and switchgear devices. There is a noticeable trend favouring replacing multiple safety relay modules with one small safety controller or with a PLC with integrated safety functions.

There is good reasoning behind this trend. In the first instance, machinery is becoming increasingly complex. It features additional and differentiated safety functions, in some cases offering interaction with the operator. Examples include setup with touch mode or troubleshooting. This does, however, presuppose that these options can be mapped and monitored in the safety-focused control system. Additionally, the requirements on the safety of machinery are becoming increasingly stringent, partly due to growing awareness of hazards and partly due to increasing differentiation of general and machinery-specific standards.

Productivity and availability

Equally important is the fact that differentiated, needs-based implementation of safety requirements can also enhance user operability and machinery productivity. With a safety-focused



Developed for applications with a manageable number of safety switchgear devices – the parametrisable compact safety controller Protect Select.

control system, machinery builders can create the prerequisite for bringing only part of a machine to a halt in the event of irregularities. Additionally, safety functions can be linked together, which can also lead to increased productivity and avoidance of unscheduled downtime. The enhanced diagnosis options when compared to safety relay modules enable more rapid localisation of fault causes in the event of malfunctions.

With traditional relay modules,

In theory at least, integrated solutions promise robust coordination of functions and simple infrastructure with reduced hardware effort.

the effort required for wiring, documentation and validation of the module solution becomes disproportionately large when the safety functions reach a certain complexity. With safety control systems, the wiring effort is reduced. The configuration is also simpler and enables better adaptation to the individual application as it can be realised in wide-ranging areas through parametrisation and programming.

Integrated or separate?

To return to the original question: should the machinery builder accomplish these benefits with an integrated or separated solution for the safety of machinery?

At first glance, there is more than one argument in favour of integration – the fact, for example, that modern PLCs cover safety of machinery tasks and that users can save on costs as well as space in the control cabinet. Plus, it's for good reason that integration has become a popular concept in automation and digitisation.

In theory at least, integrated solutions promise robust coordination of functions and simple infrastructure with reduced hardware effort.

In practice, there are clear benefits of a separated solution. One of the positives of standalone safety infrastructure is the fact that a safety concept can be accomplished independently of the automation solution and, therefore, independently of the manufacturer of the functional control system that may be specified by the machinery builder. Consequently, even when

customer-specific automation PLCs are used, a standardised safety concept can be accomplished on an always identical component and hardware basis.

Another benefit is that you do not need to be a PLC specialist to program the safety functions – the range of language is manageable when compared to automation control systems.

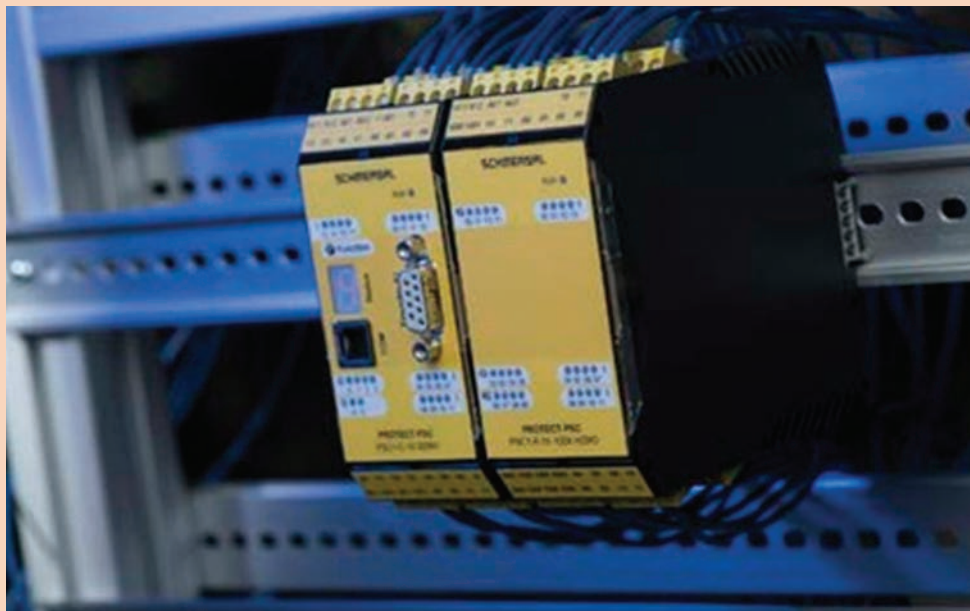
Integration option

Opting for separate safety does not mean that integration is impossible. Quite the opposite in fact. Bus protocols enable integration into higher-level control systems, something which might be required when production systems comprising multiple subsystems from different providers need to be integrated. In that case, the safety solutions of the individual system must be connected in order to implement a higher-level emergency-stop function, for example.

If the higher-level safety concept is based on a safety integrated solution, machinery and subsystems that operate in standalone mode can often only be operated in a rudimentary manner. On the other hand, a compact safety controller like the Protect PSC1 from Schmersal offers a simple and flexible option by means of integrated safety protocols (Profisafe and FSoE) to operate such machinery encapsulated and, if required, to integrate them into fail-safe fieldbus architectures without having to make changes to the safety application.

Compact and complete

Manufacturers of smaller machines in particular are increasingly having to confront more stringent safety requirements. In addition, the expectations of end customers in terms of diagnosis options and ease of maintenance are also on the increase in this segment. This requirements profile can be mapped easily and cost-effectively with a small safety controller. Depending on the application, standard automation can also be realised with the small controller, and integration can be



The Protect PSC1 safety controller enables the realisation of 'safety separated' solutions. It also enables integration into higher-level infrastructure.

achieved 'in the opposite direction'.

The Schmersal Group offers two options to help achieve a safety separated concept on smaller machinery. The Protect Select small safety controller has been specially developed for this very application. The user does not have to program the controller but can choose from pre-configured programs and only has to enter the corresponding parameters. These applications cover a wide range of possible use cases. Additionally, the user can also activate special features such as free allocation of feedback circuits (EDM), start-up tests, cyclical testing and auto-start with every program. Additional functions and operating modes (setup mode, process monitoring) can also be accomplished.

Modular compact safety controller

If a higher level of customisation and adaptability is required, the Protect PSC1 safety PLC could be an option. Thanks to its modular design, it is easy to adapt to user require-

ments, irrespective of whether the signals from emergency-stop control devices, electromechanical safety switchgear, tactile protective devices, safety sensors or optical protective devices need to be evaluated. A number of modules are available for fail-safe drive monitoring, which reliably monitor parameters including position, speed and increment.

Additionally, the controller can also be supplemented with a universal communication interface, where the user simply selects and sets various bus protocols such as Profinet, Ethercat, Ethernet/IP, Profibus or CANopen using software. The interface also allows safety remote I/O communication and the simultaneous connection of up to four systems via safety cross communication via Ethernet. An OPC UA server can also be integrated. In summary, a safety separated safety concept can offer significant benefits in terms of standardisation, operating convenience and flexibility.



Depending on the application, standard automation can also be realised with the small controller, and integration can be achieved 'in the opposite direction'.

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Difference between composite & steel toecap in safety footwear

There are two things one must know when shopping for either steel toe boots or composite toe boots: impact rating and compression rating.

Both steel toe boots and composite boots are designed to protect the feet. In order to make the best decision between purchasing steel toe boots and composite boots, we must first understand the difference between them.

Steel toe boots, as their name suggests, contain a piece of steel in the toe area of the boot for immense protection.

Naturally, steel toe boots meet the ANSI safety requirements. They are designated to protect the feet of electricians, construction workers, and other workers who function in a

Composite toe boots are typically more suitable for people who have to pass through metal detectors, such as nuclear workers, security personnel, and airport workers.

hazardous environment.

Unfortunately, some of these workers must regularly pass through security which may entail metal detectors. The metal within the steel toe boots can set off the metal detectors causing some annoyance and possibly wasting some time (if you have to be individually checked for instance). Therefore, if a worker does not have to pass through detectors, steel toe boots are an ideal choice.

Composite toe boots are lighter than steel toe boots and do not contain any form of metals in them. Instead, they contain a composite material in the toe portion of the boots. Composite materials include, but are not limited to, Kevlar, plastic, and carbon fiber. Composite toe boots also meet the ANSI safety requirements for shoes intended to provide the feet with added protection in comparison to boots without a safety toe. However, composite toe boots are typically more suitable for people who have to pass through metal detectors, such as nuclear workers, security personnel, and airport workers. This is because composite boots do not set off metal detectors like steel toe boots because they are non-metallic.

There are two things you must know when shopping for either steel toe boots or composite toe boots:

Steel toe boots are designated to protect the feet of electricians, construction workers, and other workers who function in a hazardous environment.

impact rating and compression rating.

The impact rating is a number that informs you of the amount of pounds of impact the shoes will protect against. For example, an I/75 impact rated pair of boots can withstand an impact of 75 pounds. The test done to determine the impact rating is done by dropping a weight from a certain height at a specified speed onto the boots. If the boots can withstand the 75 pound weight, they are labeled as I/75. The minimum impact rating for safety toe boots is I/50.

The compression rating is the number of loads the shoes can withstand before cracking or breaking. For example, a C/75 will guard against compressive loads of up to 2,500 pounds. A C/50 pair of boots can protect against compressive loads of up to 1,750 pounds.

In conclusion, when it comes to choosing between steel toe and composite toe boots, the major determining factor will be your job. Will you have to regularly walk through metal detectors? What dangers will you face on the job? How heavy is the equipment around you that could fall on your feet? What level of protection do you feel most comfortable with? Answering these questions can help you make the right decision.

IPF

Russia-Ukraine war: 3 disruptions within motors & drives

Aluminium, copper, and neon are just three areas where this war will impact the production of motors & drives, says Blake Griffin.

The war that Russia has waged on Ukraine has rocked global commodity markets. While oil & gas supply disruption and the resulting increase in price continue to dominate headlines, there are a number of other key materials exported by Russia and Ukraine which have been equally disrupted. The disruption of many of these materials will have both direct and indirect impacts on costs associated with producing a motor or drive.

After the extremely turbulent price levels experienced around the world in 2021, further supply disruption off the back of conflict was the last thing the global economy needed. Unpacking the impact this will have on the most crucial areas of the motor & drive supply chain can help suppliers prepare their businesses for what is to come and manage the expectations of their customers as the situation continues to unfold.

Aluminium and copper wire supply to be disrupted

The impact on the supply of key materials is two-fold. First, the

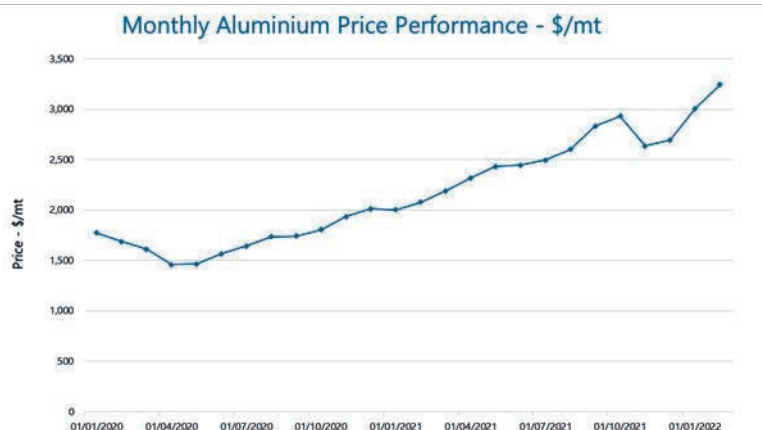


economic sanctions placed on Russia will impact its ability to sell various products to its historically largest customers. Second, the physical devastation experienced in Ukraine will impact its ability to produce and ship its key exports. As it pertains the production of motor and drives, the most direct impact stems from the disruption of aluminium and copper supply chains.

Russia is responsible for approximately 6% of the global aluminium supply according to CNBC. After significant COVID-19 related supply disruptions which resulted in a steady rise in price over 2021, it appeared that supply and demand were beginning to normalize in the last months of the year. In late 2021, the world bank had forecast a price increase of ~5% during 2022 for aluminium. Now that a war has broken out, Interact Analysis expects that price forecast to be on the conservative side. As shown below, the impact is already being felt with aluminium prices climbing to record highs in February this year.

We expect this price to climb even further as transportation costs continue to rise amidst the disruption of the oil supply.

The story for copper is not much different. While Russia is not as significant of a player in the raw copper market as it is in the aluminium trade, the country still produces nearly 0.5% of the world's supply. While the price has not yet



reached record highs, it likely will in May.

Perhaps more relevant is Russia's role in the copper wire market. Nearly 7% of the world's supply of copper wire, the same used in induction motors, comes from Russia. This will have an immediate and significant impact on the cost and availability of copper wire used in induction motors.

If you were to look at the bill of materials for an induction motor (including wages), copper and aluminium make up approximately 16% of the cost. The supply disruption these two commodities have seen due to war will be felt throughout 2022 in the form of a higher bill of materials. The motor market had already experienced significant price increases during 2021 as a result of increasing raw material costs. It would appear that price increases are likely to continue into 2022.

Neon? Like in the beer signs?

Yes, neon like in the beer signs. When one thinks of commodities impacting the drives market, Neon is not the first thing that comes to mind. However, the noble gas will likely play a significant role in the production of drives during 2022, albeit indirectly.

The semiconductor shortage has been a major concern for motor drive suppliers. Throughout 2021, the shortage of this key motor drive component caused delays in the



production process resulting in extended lead times across the motor drive market. Neon gas, while not directly used in the manufacturing of motor drives, is used heavily in the production of semiconductor chips. The gas is used in the etching of silicon using high-powered lasers during the lithography step of the semiconductor production process.

According to an article by Reuters, two companies based out of Ukraine account for about half of the world's neon supply. Both companies, Ingas and Cryoin, have shuttered operations amidst the Russian invasion. Resultingly, semiconductor suppliers, which are already facing a demand/supply imbalance, are now likely going to face additional production challenges stemming from a significant neon shortage.

Semiconductor suppliers (before the war) had pointed to Q4 2022 into Q1 of 2023 as the timeline for

when the shortage of semiconductors would begin to resolve. Fortunately, many of these same suppliers have since reported stocking up neon supply ahead of the war. However, if the conflict does not resolve in a timely manner, these stockpiles could run out. Should this occur, the semiconductor supply could once again fall into disarray and drive suppliers would face sourcing problems similar to the ones at start of the semiconductor shortage in early 2021.

Final thoughts

As this war unfolds, we will continue to cover its impact on the markets we cover. Aluminium, copper, and neon are just three areas where this war will impact the production of motors & drives. There are undoubtedly impacts we have not touched on here including increased freight costs on the back of higher diesel prices, steel supply disruption, and the impact on end markets such as mining and oil & gas which are extremely large sectors within Russia and Ukraine. The impacts of this war are far reaching and we have only just begun to bear the consequences of Putin's ill-intended actions.

IPF

About the Author

Blake Griffin is the Senior Analyst at Interact Analysis. He is an expert in automation systems, industrial digitalization, and off highway-electrification. Since joining Interact Analysis in 2017, he has written in-depth reports on the markets for low voltage AC motor drives, predictive maintenance, and mobile hydraulics. He can be reached on Email: blake.griffin@interactanalysis.com



Microchip introduces Flashtec NVMe 4016 SSD controller

The new 16-Channel PCIe Gen 5 Enterprise NVMe SSD controller enables unparalleled performance and a rich 'cloud-ready' feature set including industry-leading security features

As data processing requirements continue to evolve, cloud-scale infrastructure requires solutions that maximise bandwidth, minimise latency, and are optimised for efficient resource utilization. Microchip Technology Inc has launched the NVMe 4016 SSD controller - the newest member of the Flashtec controller family. As the industry's highest-performing PCIe Gen 5 NVMe SSD controller, the Flashtec NVMe 4016 addresses the market demand for high-reliability, high-performance solid-state drives (SSDs) delivering greater than 14 GB per second throughput and over 3 million IOPS. With advanced Credit Management technology, this next-generation controller offers the stringent Quality of Service (QoS) required by today's cloud-focused data center applications.

"Microchip is proud to announce the next generation of our Flashtec NVMe controller product line. Its market-leading performance, coupled with our proven and flexible architecture, means the NVMe 4016 can provide our cloud and OEM customers with a cutting-edge platform for their PCIe Gen 5 NVMe SSD solutions," said Pete Hazen, Vice President of Microchip's Data Center Solutions Business Unit.

With 16 high-speed programmable NAND Flash channels capable of up to 2400 MT/s, this fourth generation Flashtec controller can utilize full PCIe Gen 5 x 4 speed bandwidth. The NVMe 4016 allows current customers to leverage their existing firmware investment in previous generations and gives new clients the confidence and flexibility to adopt this proven platform for their toughest cloud and



enterprise applications.

"Microchip's controller solutions are a strong match for our wide array of TLC and QLC SSDs and future NAND technologies. They offer a compelling combination of features, scalability and security for next-generation cloud and enterprise architectures," said Greg Matson, Vice President of Strategic Planning and Marketing, Data Center Group, Solidigm.

"How we rapidly promote cutting-edge technology to our clients is crucial for us," said Zhong Ji, Deputy General Manager, Storage R&D, Inspur. "Maximising the benefits of reusing known generational architectures reduces development risk and effort. Having a fully mature reference solution such as the Flashtec controller PCIe Gen 5 design will definitely accelerate the efficiency and quality with which we provide leading technology to the market."

As an NVMe 2.0 compliant controller, the NVMe 4016 not only

supports all the latest storage and performance compute applications, including Zoned Name Spaces (ZNS) and cloud Open Compute Platform (OCP), its flexible architecture also enables customers to future proof for continually evolving NVMe specifications.

"Meeting the challenging demands of hyperscale data center environments for scalable efficiency in terms of manageability, power, performance and thermals has been the focus of industry standards such as the OCP data center NVMe SSD Specification and EDSFF E1.S as a form factor," said Ross Stenfort, Hardware System Engineer, Storage at Meta. "The Flashtec NVMe 4016 controller supports these requirements to enable SSD makers to meet hyperscale needs."

Dr Taile Zhang, Chief Executive Officer of Memblaze, said, "The Flashtec NVMe 4016 Gen 5 SSD controller provides the needed performance and architecture for next-generation NAND. Memblaze

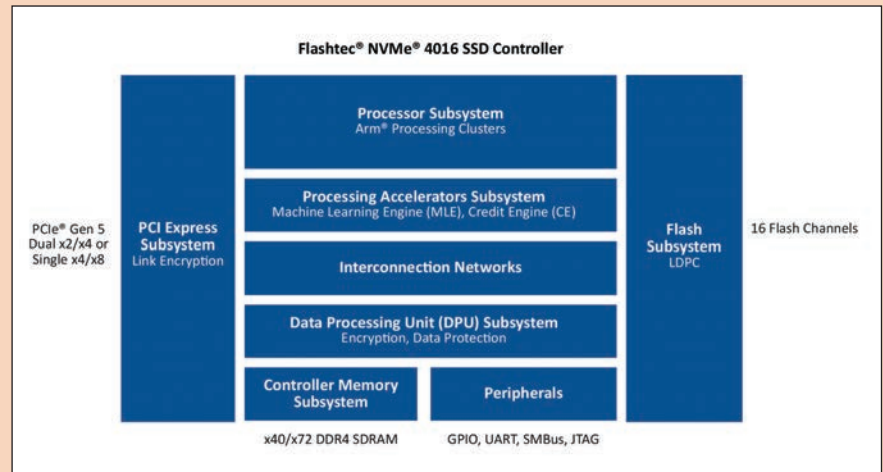
and Microchip have developed a great partnership to advance data center efficiency and bring the flexibility needed to address the cloud storage requirements of today and tomorrow."

The NVMe 4016 is also the first PCIe Gen 5 controller to introduce PCIe link encryption support as one of the many feature enhancements in this new generation of Flashtec controllers. With dual signature authentication and Trusted Platform support, the NVMe 4016 controller meets all critical storage and enterprise application security needs. The NVMe 4016's advanced virtualization capabilities enable the large-scale deployment of Virtual Machines (VMs) as well as Physical Functions (PF) per port for the most efficient utilization of the PCIe resources in ever-growing data center and cloud computing infrastructures.

"Intel's upcoming Next Gen Intel Xeon Scalable processors, code named Sapphire Rapids, will implement PCI Express 5.0 running at up to 32.0 GT/s to deliver the low-latency and high-bandwidth I/O solutions our customers need to deploy," said Dr Debendra Das Sharma, Senior Fellow and Chief Architect, I/O Technologies and Standards, Intel. "We are pleased to see Microchip's PCIe 5.0 Flashtec drive controller investment strengthen the ecosystem and drive broader deployment of PCIe 5.0 solutions."

Raghu Nambiar, Corporate Vice President, Data Center Ecosystems and Solutions, AMD, said, "Supporting ecosystem growth with the industry's latest standards is key for enabling modern data centers. Our next-generation technologies are well positioned to take advantage of new standards like PCIe Gen 5, enabling next-generation applications in the data center. We are pleased to collaborate with key industry leaders such as Microchip to enable the performance and scalability our customers need for their demanding workloads."

The advanced ECC features armed with stronger bit error



correction capabilities continue to pave the way for utilisation of denser NAND Flash technologies like Qual-Level-Cell (QLC) Flash into the mainstream and storage space. The Flashtec controller's innovation continues with the addition of a new, programmable Machine Learning (ML) engine in the NVMe 4016 controller, capable of a variety of pattern recognition and classification functions that are employed in Artificial Intelligence (AI) and ML applications. The NVMe 4016 controller's new ML technology presents endless opportunities for SSD builders and suppliers to manage SSDs for maximum performance and cost benefits.

"We are pleased to work with enablers like Microchip that continue to advance the PCIe SSD ecosystem. We congratulate Microchip on their newest addition, which features a flexible architecture to enable compatibility with the latest-generation Flash, including TLC, QLC and potentially future PLC, and new machine learning technology," said Scott Beekman, Vice President of Memory Products for KIOXIA America, Inc.

Jim Lim, Vice President of NAND Technology SK hynix America, stated, "Supporting a wide variety of form factors allows growth and new development in the SSD ecosystem. Flashtec's PCIe Gen 5 provides endless opportunities for our partners to optimize the management of NAND Flash while enjoying maximum performance."

Flashtec controller flexibility supports a wide variety of form factors, including EDSFF. Supported by a comprehensive development platform, debugging tools and dedicated, best-in-class, applications team, the Flashtec NVMe 4016 controller serves all the requirements for the latest SSD solution needs: high capacity, high performance, security, power optimisation, and computational-storage ready.

Development tools

Microchip's Flashtec NVMe 4016 SSD controller offers several options for software and hardware support. A complete software development kit includes Microchip's reference firmware with optional hardened firmware modules, simulation tools, debug tools including Microchip's Chiplink diagnostic tools, evaluation boards and reference designs, global support and a full suite of collateral.

Headquartered in Chandler (Arizona, USA), Microchip Technology Inc is a leading provider of smart connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 120,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets.

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UNITED GRINDING to present C.O.R.E. at GrindingHub 2022

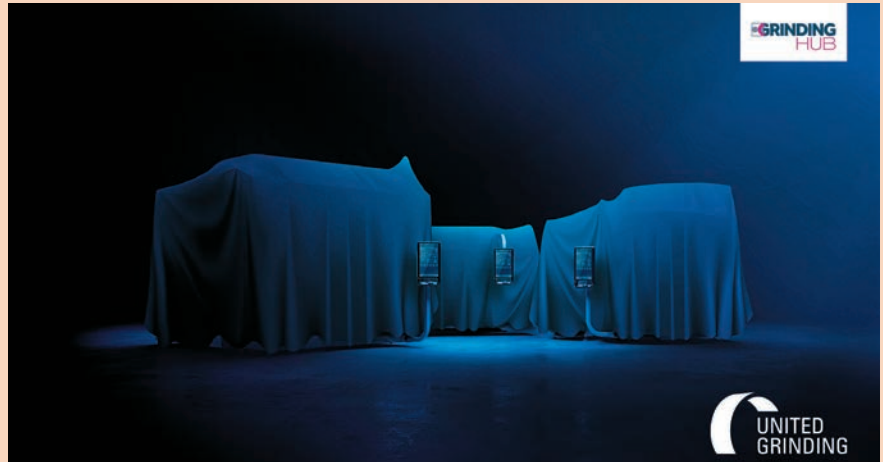
The Group will be presenting its revolutionary innovation C.O.R.E. for the first time at a German trade show from May 17–20, 2022, in Stuttgart. The unveiling presentation, scheduled on the first day of the GrindingHub 2022 trade show, will also include other innovations.

The UNITED GRINDING Group, one of the leading manufacturers of precision machines for grinding, eroding, lasering, measuring, and combination machining, is presenting its revolutionary innovation C.O.R.E. (Customer-Oriented REvolution) at GrindingHub 2022 in Stuttgart. Visitors can look forward to this and other innovations from the group, to be presented to all guests at the Group's booth at an unveiling presentation on the first day of the trade show, May 17, 2022.

The Customer Oriented REvolution Continues

With the initial presentation of C.O.R.E. at EMO 2021 in Milan, UNITED GRINDING Group launched a revolution in machine tool development. The modern hardware and software architecture at the heart of C.O.R.E. offers a visionary new machine interaction concept, and was recently honored with the "Special Mention" award for outstanding user and customer experience at the UX Design Awards 2022. Yet C.O.R.E. represents much more than just revolutionary operation. It also opens up new possibilities for networking, controlling, and monitoring the production process, and thus for process optimization. It also lays the foundations for the operation of modern IoT applications and the digital future.

C.O.R.E. is only one of several remarkable technologies that can be experienced up close at GrindingHub 2022. The Group will also be presenting new products from its various brands, including MÄGERLE, BLOHM, JUNG, STUDER, SCHAUDT, MIKROSA, WALTER, EWAG, and



IRPD. Among them is the WALTER HELITRONIC G 200, the latest addition to the tool grinding machine range, featuring innovative machine concepts on a mounting area of less than 2.3 m². Other brands, including STUDER from the cylindrical grinding machines technology group, will also be presenting world firsts. To keep things exciting, the company will not divulge any details about these new products in advance before the unveiling presentation on the first day of the trade show.

GrindingHub: Kick-off of a new leading grinding technology trade show

UNITED GRINDING Group has selected the inaugural GrindingHub as the ideal stage for unveiling several of its innovations. The new trade show will also be the only German trade show at which the Group will be exhibiting this year. **Stephan Nell, CEO of the UNITED GRINDING Group**, has high expectations for GrindingHub: "We welcome the merger of three strong and experienced partners in the world of trade shows: the VDW (Verein

Deutscher Werkzeugmaschinenfabriken), Messe Stuttgart, and Swissmem (Verband der Schweizer Maschinen-, Elektro- und Metallindustrie). Given the strong international orientation of the trade show, we are convinced that it has the potential to become the new leading trade show for grinding technology."

UNITED GRINDING Group is one of the world's leading manufacturers of precision machines for grinding, eroding, laser, measuring and combination machining. With around 2500 employees at more than 20 production, service and sales sites, the Group is organised in a customer-oriented and efficient way. With its brands MÄGERLE, BLOHM, JUNG, STUDER, SCHAUDT, MIKROSA, WALTER, and EWAG as well as competence centers in America and Asia UNITED GRINDING offers an ample range of application expertise, an extensive product portfolio and an array of services for surface and profile grinding, cylindrical grinding and tool machining. In addition, a competence center for additive manufacturing is operated under the IRPD brand. **IPF**



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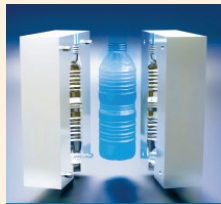
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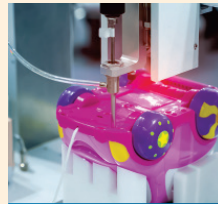
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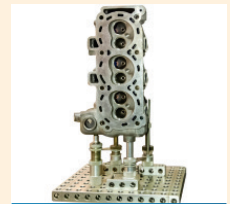
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C.O.R.E. receives Special Mention at UX Design Awards

A revolutionary product innovation from the UNITED GRINDING Group called C.O.R.E. - Customer Oriented Revolution - impressed the expert jury at the UX Design Awards.

The UNITED GRINDING Group is one of the world's leading manufacturers of precision machines for grinding, eroding, laser, measuring, and combination machining. Its new C.O.R.E. technology sets new milestones in the operation of machine tools. This was confirmed by the jury of the UX Design Awards 2022, which honoured the innovative machine interaction concept for its outstanding user and customer experience.

Awarded "Special Mention"

The UX Design Awards is the global competition for outstanding user experiences, awarded by the International Design Center Berlin (IDZ). In the "Product" category, C.O.R.E. earned a "Special Mention," used by the jury to highlight noteworthy individual qualities of nominated projects. In his assessment, jury member Tapani Jokinen emphasized the appealing design as well as the simple and intuitive operation: "The functionality of C.O.R.E. perfectly matches its physical form, and the product is a clear UX improvement for future generations of machine operators. The multi-touch interface is easy to learn and can be used similarly to a touchscreen or tablet. The design is timeless, the physical buttons are reduced to a minimum, and all aspects of operation are focused on the dashboard screen."

Tapani Jokinen is a Design Consultant, Strategic & Ecodesign contractor at Fraunhofer IZM and owner of TJ-Design, a creative consultancy that fuses strategic innovation and design with sustainability and ethical business behavior to drive a positive impact at a global level.



Added value in user experience

The award is a strong confirmation of the course chosen by Christoph Pluss, CTO of the UNITED GRINDING Group, and his team. During the development of C.O.R.E., one clear goal was creating an intuitive and future-oriented operating concept. "It was important to us that the new operating approach appeals to all generations of users. We have therefore orientated ourselves toward the operating concepts that are now widely used in consumer electronics today and which practically everyone is familiar with from everyday life. That's why we opted for a 24-inch multi-touch screen on the new C.O.R.E. panel that can be operated via "touch" and "swipe" like a smartphone. We have largely dispensed with buttons. The interface resembles the app overview on a smartphone, with self-explanatory icons that can be individually adapted."

The focus during development was not only on design and ease of use, but also on new technical

features that make it easier for users to work on the machines. "These include, for example, the built-in front camera, which allows video calls with our Customer Care team directly on the panel, and the chat function," says Pluss. "But also easy RFID chip-based access to stored role profiles. Or the option of using UNITED GRINDING Digital Solutions products, such as Remote Service, Service Monitor or Production Monitor, directly on the panel."

With enthusiasm into the future

C.O.R.E. is only at the beginning when it comes to the technical possibilities that result from the fundamentally redeveloped hardware and software architecture. "The award shows us that we are on the right track—and we will pursue it with consistency and tenacity," promises Pluss. "Because a product can only demonstrate its technical superiority and generate added value for the customer if the user experience is good."

ELECRAMA 2023 to start from Feb 18 at Greater Noida

ELECRAMA 2023 - organised by IEEMA - aims to secure \$6 billion worth of business queries. It will be heavily based in showcasing innovation and future technologies in many areas including storage, green hydrogen, fuel cells, AI, and IoT.

ELECRAMA - the leading trade fair of the Indian electrical and allied electronics industry organised by Indian Electrical and Electronics Manufacturers' Association (IEEMA) - is slated to commence from February 18-22, 2023, at India Expo Mart, Greater Noida. IEEMA and its members will work together with the Government of India to achieve a 100-year partnership of electrifying, digitalizing, and greening India. The theme of ELECRAMA 2023 is "ReImagine Energy - For Sustainable Future" and will be heavily based in showcasing innovation and future technologies in many areas including Storage, Green Hydrogen, Fuel Cells, AI, and IoT. This edition will also focus on sustainability through Energy Conservation, Carbon Net Zero, and Smart Consumption.

R K Singh, Minister of Power & New and Renewable Energy, and Alok Kumar, Secretary Power, officially announced the dates and launching the website for ELECRAMA 2023. Vipul Ray, President, IEEMA; Rohit Pathak, Vice President, IEEMA; Hamza Arsiwala, Vice President, IEEMA; Charu Mathur, DG IEEMA along with Jitendra K Agarwal, Chairman, ELECRAMA 2023 and IEEMA graced the event with their presence and active participation.

R K Singh, Minister of Power & New and Renewable Energy, said, "I congratulate IEEMA on the announcement and launch of ELECRAMA 2023 – the 15th edition of world class exhibition of electrical, industrial electronics and allied industry. Our industry in the past 5 years, we have bought great transformational changes. We are committed to a climate friendly and



Union Minister of Power & New and Renewable Energy R K Singh announced the dates of ELECRAMA 2023 in the presence of other dignitaries

we are aggressively going ahead with our Hon'ble Prime Minister's belief in ensuring a healthier planet. I am pleased that the focus of ELECRAMA 2023 is on energy transition and future technology which is in line with the Government of India's Vision for India@2047. We are aspiring to become a 5 trillion-dollar economy and we are one of the fastest growing economies in the World. Electricity is the most significant contributor in the energy requirement of the country. The rise in energy consumption is mainly attributed to rapid economic growth."

Vipul Ray, President, IEEMA, cited, "The energy transition currently underway is propelling electricity as a dominant form of energy so much so that very shortly energy will be synonymous with electricity. There is a huge business potential riding on the increasing relevance of EVs, Charging Infra, RE and Green Hydrogen, and Energy Storage. The transition of the transportation sector from the fossil fuel-driven sector to the clean energy-driven sector would be a key to the energy goals of the country. The upcoming 15th edition

of ELECRAMA 2023 will mainly focus on such opportunities and position India as the fulcrum of futuristic technologies and solutions required for achieving sustainable growth."

Jitendra K Agarwal, Chairman, ELECRAMA, stated, "For the industry's growth and success, certain areas present unlimited business opportunities in the future including start-ups and new businesses where massive capital investments are being made i.e. Railways, Metro, Airport, Defense, Smart Cities, Buildings, and the EV ecosystem; small, medium, and micro-businesses should be able to participate in the global supply chain as well; to reinforce the core of transmission and distribution, electrical products and equipment must be reliable, high-quality, and safe; this speaks volumes of the scale of the event that it is. Needless to say, this vision will necessitate right skilling through talent up-gradation, which will be ELECRAMA's primary priority. With the beginning of global energy transitions, we envision a bright future for our industry, as electricity will be the preeminent type of energy."

PLI scheme to account for 13-15% capex in key sectors

Since its introduction in March 2020, PLI has been announced for 15 sectors, involving government incentives to the tune Rs 1.93 lakh crore, says CRISIL report.

The implementation of the Production Linked Incentive (PLI) scheme will lead to a potential capital expenditure (capex) of Rs 2.5-3 lakh crore over the scheme period and will account for 13-15% of average annual investment spending in key industrial sectors over the next 3-4 years, a CRISIL analysis shows.

Since its introduction in March 2020, PLI has been announced for 15 sectors, involving government incentives to the tune Rs 1.93 lakh crore. Of this, 50-60% is to be spent on sectors with domestic manufacturing and export focus, and the rest on import localisation.

CRISIL's analysis indicates this could translate into an incremental revenue addition of Rs 30-35 lakh crore over the scheme period. The scheme will have many firsts in terms of bringing integration across supply chains, reducing import dependencies, and propelling exports.

PLI is now poised for rapid on-the-ground execution, with almost 60% of the capex approved already and major spending set to occur over fiscals 2023-2026. The approved capex is in 10 sectors. While capex in mobile, pharma and telecom has already kicked off, that in capital-intensive sectors such as automobile and solar photovoltaics — which form 70% of the committed investment — will kick off from April 2022.

The scheme has received interest from over 900 players across sectors, of which approximately 350 have got approval so far. Of the approvals, 20% have been received by global multinationals and the rest by domestic players. Also, 50% of the bidders are large in terms of revenue, while the rest are medium and small players.



Hetal Gandhi, Director, CRISIL Research, said, "PLI will spur green investments in India, with approximately 55% of the scheme expected to be green, in sectors such as auto for electric vehicles/ fuel cell electric vehicles, solar photovoltaics, and automotive cell company (ACC) batteries. The incentive-to-capex ratio varies among sectors — at >3 times, it is particularly attractive for mobile phones, electronic components, telecom equipment, and IT hardware, which have high dependence on imports across value chains and relatively lower domestic base."

The rate of incentives offered under the PLI scheme are measured as a percentage of incremental sales over the 5-7-year scheme period and vary from 4-6% for mobiles and white goods and 5-20% for pharma active pharma ingredients/ key starting material to 8-18% for autos and auto-components.

CRISIL's estimates show mobiles will enjoy higher incentive-to-capex of 3.5 times and a larger share of revenue, but entail lower capex, as even assembly is incentivised. At the other end, the capex-heavy sectors mentioned above and segments such as ACC batteries and specialty steel will require higher commitment to set up the ecosystem. If successful, however, these investments will ensure

development of the entire ecosystem even long after PLI fades.

Aside from supply-chain integration, PLI will aid exports, too. Of the 15 sectors, nine show an export potential, ranging from 20-80% of the incremental revenue generated. This, in turn, can create an annual export potential of Rs 2 lakh crore, or 6% of the total exports of calendar 2021. Sectors that could benefit from exports include mobiles, pharma, food processing, IT hardware, white goods and specialty steel.

Sehul Bhatt, Associate Director, CRISIL Research, said, "The nine sectors have an export potential of Rs 11 lakh crore. The scheme will open export opportunities in traditional sectors such as pharma, food processing and textiles. Emerging ones such as mobile and electronics hardware also stand to gain."

All the same, industry stakeholders will remain watchful of timely payment of incentives, medium-to-long term policy push from the government, the extent of value addition emphasised in these sectors, and the ability of players to achieve these numbers for technology and capital-intensive sectors, such as battery and solar-module manufacturing, amid evolving global supply chain dynamics.

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GeM portal touches annual procurement of Rs 1 lakh cr in 2021-22



Government e Marketplace (GeM) - a one-stop portal to facilitate online procurement of common use goods & services required by various Government bodies - has attained an annual procurement of Rs 1 lakh crore within FY 2021-22 - up by 160% compared to last FY.

Prashant Kumar Singh, CEO, GeM said, "Since inception, the cumulative Gross Merchandise Value (GMV) reached Rs 1 Lakh crore over 4 and half years. On March 23, 2022, the GMV of GeM in the current Financial Year surpassed Rs 1 lakh crore in less than a year. This represents a 160% growth compared to last FY."

GeM portal has transformed public procurement in India by driving its three pillars viz. inclusion, usability and transparency and efficiency and cost saving. The number of orders has also surpassed 31.5 lakh in the current financial year with a growth at the rate of 22%. In a short span of 5 years, GeM has become one of the biggest government e-procurement platforms in the world.

Referring to the share of Central Public Sector Enterprises (CPSEs), Singh said that approximately Rs 43,000 crore worth procurement was done by CPSEs (about 43% of total GMV) on GeM, showing an approximate growth of 508% as compared to last FY. He also asserted that states continued to be an important stakeholder with approximately 30% contribution to total GMV.

Highlighting the role played by GeM in ushering in inclusion in government procurement, Singh said that GeM has taken a host of steps to onboard products of Self-Help Groups (SHGs), tribal communities, craftsmen, weavers, and MSMEs. About 57% of the total business on GeM has come through the MSME units and over 6% has been contributed by female entrepreneurs. It may be noted that the number of women sellers and entrepreneurs on GeM has grown 6 times in a year.

It may be noted that procurement from MSEs is at 57% of the total GMV currently with a growth of 143% compared to last FY. There is a 15% increase in buyer onboarding compared to last FY and there is a 187% increase in seller onboarding compared to last FY. There is also a 44% increase in the number of services compared to last FY with a 25% contribution in the total GMV (Rs 25,000 crore).



Enerpac offers telescopic cylinders for 600 mm lift in one single movement



Enerpac RT-Series telescopic cylinders for 600 mm lift in one single movement

Enerpac has launched the RT-Series range of telescopic cylinders for applications requiring a long stroke in confined spaces. With a lifting capacity from 14 to 31 ton with maximum stroke lengths of 270 to 600 mm, the multi stage hydraulic cylinders can lift loads up to 600 mm in one single movement.

With a 700 bar max operating pressure, the RT-Series consists of 2 and 3 stage cylinders. Safety is paramount in the design of all Enerpac products. The standard

tilting saddle allows side load up to 3% of maximum capacity at full stroke. For easy handling and positioning, all RT-series cylinders come with lifting eyes, as standard.

The RT-Series are also suitable for harsh and extreme conditions. Manufactured of high strength alloy steel with a nitro-carburized surface treatment, it provides both wear and corrosion resistance.

"With the introduction of the RT-Series telescopic cylinders, we are enabling engineers to benefit from proven Enerpac cylinder technology when tackling projects where either space is limited or they are looking for a higher lift," said Maarten Franken, Director of Marketing and Engineering, Enerpac.

Enerpac is a global market leader in high pressure hydraulic tools, controlled force products, portable machining, on-site services and solutions for precise positioning of heavy loads.

For details, visit www.enerpac.com.



Parson Adhesives offers two-part PU structural adhesive PARBOND



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As leading manufacturer of variety of advanced adhesive products comprising of anaerobic adhesives, cyanoacrylate adhesives, UV curable adhesives, silicone sealants, epoxy & polyurethane adhesives, methacrylate & acrylic adhesive technologies, Parson Adhesives emerges as solution provider for bonding of a wide varieties of substrate – easily with high durability & strength.

In today's modern times, many components & structures are made with combination of polymers & metal alloys. In service, such structures/components undergo impacts, shocks, jerks, vibrations and variations in pressure & temperature. So, adhesives used for such need to have more resilient & flexible in order to absorb such abuses when components & structures are in service.

PARBOND 919 and PARBOND 905 polyurethane (PU) adhesives are specifically designed & developed for such applications, in consideration to growing demand at market place. PARBOND PU adhesives are 2-component, 1:1 mix-ratio, room temperature cure, fast-setting adhesives and impart excellent adhesion to wide variety of substrates such as aluminium, stainless steel, carbon steel, ABS, PVC, plastic reinforced composites, wood, glass, concrete, thermoplastics, thermosetting plastics etc, without any use of primer.

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These tough-yet-flexible and chemical & water resistant PARBOND PU adhesives are available in various grades with varying functional cure-time, suiting to industry requirements and specific needs. With increasing usage in industries, Parson's PARBOND polyurethane adhesives are gaining popularity in wide arena of applications such as automobiles, wind mills, railways, aerospace, marine, solar power structures, buildings & general industries.

Parson Adhesives India Pvt Ltd is a business unit of Parson Adhesives Inc, USA, that has presence in 54 countries all over the world. Today, Parson Adhesives is one of the most preferred choice of customers.

For details, contact Parson Adhesives India Pvt Ltd (A business unit of Parson Adhesives Inc, USA), Vadodara, on Tel: +91 265 297 2191, Mob: +91 94285 11765, 94083 54185, email: sales@parsonadhesives.in, or visit www.parsonadhesives.in



New igus CFX clamps reliably secure pneumatic hoses

Classic clamps provide strain relief for pneumatic hoses in energy chains. But if they are over tightened, the hoses can be crushed. This can lead to a loss of performance.



Clamp hoses without crushing: with the new clamps from igus, pneumatic hoses are reliably held in place. At the same time, their cross section remains fully intact

The answer from igus: a new CFX series clamp with high holding force, which at the same time makes over-tightening impossible.

Too tight and it breaks off - an age-old saying that applies not only to screws. The same applies to clamps. These clamps relieve the strain on cables and pneumatic hoses in the energy chains of machines and systems during movement and hold them in position. However, if technicians over tighten the clamps, the clamps press into the jacket surfaces and crush them, causing permanent cross-sectional changes. This can lead to uneven compressed air flows in pneumatic hoses and consequently to malfunctions. To avoid this, igus has expanded the CFX series with a new clamp model that does not compress the cables.

At the heart of the new CFX clamps are the so-called pneumatic double tubs, blue inserts that enclose the hoses from top and bottom. When the technician turns the screw of the clamp, the clamp jaw does not press directly on the surface of the hose, but on the upper insert of the stacker saddle. As soon as it hits the lower insert, the optimum holding force is automatically achieved. The hose sits securely in position. Time-consuming checks of the tightening torque are no longer necessary. It is also mechanically impossible to accidentally apply too much pressure and damage the hose.

To provide protection for as many pneumatic hoses as possible, igus manufactures the blue stacker saddles in several sizes. The inserts, which the company previously produced for the design study using a 3D printer, are now available as cost-effective injection-moulded versions for cable diameters of 4, 6, 8, 10 and 12 millimetres. Additionally, to save space, it is even possible to position two hoses next to each other in a stacker saddle for cables with diameters of 4 and 6 millimetres. Therefore, up to ten hoses can be accommodated in one clamp.



SCHUNK offers teachable magnet sensor with IO-Link

SCHUNK, the competence leader for gripping systems and clamping technology, is expanding the analysis



The SCHUNK MMS 22-IO-Link magnetic switch is directly integrated in the gripper's C-slot. It can detect different component sizes and offers additional diagnostic functions thanks to IO-Link.

Thanks to the IO-Link, other data can be generated in addition to position monitoring, for example querying the cycle number, the temperature, the analysis quality or sensor identification. Continuous communication between the MMS 22-IO link and the control system is also guaranteed. For this purpose, the sensor, which is fully compliant with the IO-Link Class A standard, is connected directly to the IO-Link master.

Instead of mechanical switching point adjustment, the sensor can be taught quickly and conveniently via the IO-Link interface. Alternatively, SCHUNK wired connectors or non-contact magnetic teaching tools can be used. The

options of its SCHUNK PGN-plus-P pneumatic universal grippers as well as its SCHUNK MPG-plus pneumatic small parts grippers with the SCHUNK MMS 22-IO-Link magnetic switch. The sensor can be placed directly in the C-slot of the gripping modules with no interfering contours. It allows the gripper's entire range of stroke to be detected so that parts of different sizes can be precisely detected.

corresponding switching condition is indicated on an LED display. This allows users to save up to 90% on set-up times, as compared to conventional magnetic switches.

Since the required electronics are completely integrated and not installed in the cable, the sensor's slim contour is retained and the cable can be used with standard plug connectors (M8/M12). Unlike analogue magnetic switches, neither shielded cables nor other EMC protection measures are necessary, which greatly simplifies the commissioning process thanks to IO-Link.



Yokogawa receives order for water facility management system in Ethiopia

Yokogawa Electric Corporation's subsidiary Yokogawa Middle East & Africa has received an order for an integrated water facility monitoring and management system from the Addis Ababa Water and Sewerage Authority (AAWSA), which is responsible for the water supply and wastewater treatment systems that serve the Ethiopian capital city of Addis Ababa. The company will help to ensure reliable access to water by optimising the operation of the city's water supply facilities.

One of the largest and fastest growing cities in Africa, Addis Ababa is experiencing water shortages due to the inability of the water supply system to keep up with demand. As such, a variety of water initiatives have been under consideration at the state level to benefit society

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and foster economic growth.

In this project, Yokogawa will upgrade several existing systems and supply new systems for monitoring reservoirs, pumping stations, water treatment plants, transmission and distribution pipes, and related facilities. It will also deliver a new supervisory control and data acquisition (SCADA) system for the integrated monitoring of all water supply facilities. The project is scheduled to be completed in the first half of 2025, and will include installation, training programs, and the provision of several years of after-sales support services. Yokogawa's cutting-edge technology will enable the real-time visualization of the status of the water supply system in Addis Ababa and will help to ensure the proper management and operation of facilities so that water can be supplied effectively over a wide area.

Kunimasa Shigeno, President and CEO of Yokogawa Middle East & Africa, said, "Water supply systems play an essential role in industry or society, and it is important to make effective use of limited water resources. In close cooperation with AAWSA, we will fully utilise Yokogawa's technology and know-how to ensure a stable supply of water for the people of Ethiopia."



Ozone Secutech offers live experience of latest range of digital locks and safes



Ozone Secutech, a leading brand in the digital safes and locks segment and the flagship company of the Ozone Group, has taken a strategic initiative towards creating awareness about various security solutions available for consumers across domestic and commercial establishments. This initiative aims to sensitise people to move from the hassle of carrying a bunch of keys to the new-age digital locks. These products comprise multiple access mode that gives unmatched security with utmost ease.

The initiative will spread over six months and reach out to the masses. Ozone will offer various fun activities and awards to engage the consumers. The vehicle will be traveling to North covering NCR, Uttar Pradesh, Punjab, Rajasthan, and Haryana; South covering Karnataka, Hyderabad, Telangana, Tamil Nadu, and Kerala; and West covering Mumbai, Pune, and Nashik. The flag-off took place at 4 points by Sheraton, New Delhi, with

massive participation by dealers and distributors from the city.

Talking about the campaign, Abhishek Aggarwal, President - Strategic Operations, Ozone Group, said, "We are delighted with the overwhelming response and can already feel the impact of this unique activity. The idea was to amplify the familiarity of using digital products in daily lives, and through our thoughtfully crafted range, we know it's not far behind. For our customers to have a hands-on experience and live the convenience of implementing digital products is all that we look forward to. Through the MUV, this can happen at a good pace and with live demonstrations bringing our creation alive to as many people as it can."



Enerpac launches high tonnage cylinders for heavy lift in harsh environments



Enerpac high tonnage cylinders for lifts up to 1000 tonne

With increasing demand for heavier lifts in harsher environments, Enerpac has risen to the challenge with a new range of high tonnage cylinders. The cylinders offer outstanding durability, longer service life, and greater side-load resistance for increased heavy lift capability. Enerpac confirms its leading position by offering the broadest product portfolio in the

market. The range consists of single-acting, double-acting, lock nut and low-profile hydraulic cylinders from 50 to 1000 tonne.

The high tonnage cylinders include advanced bearing and sealing technology to extend the boundaries for eccentric loads, and reduced cylinder maintenance intervals. The effects of corrosion and scoring are no longer a concern because of a nitrocarburization surface treatment.

Safety has long been a major feature of Enerpac cylinder designs. Mechanical securing of the load, side load absorption, an overflow port and safety valve, are industry-leading safety features of the new Enerpac cylinders. In addition, safe and easy handling is ensured by certified lifting eyes, collar thread and base mounting holes.

While improving safety features, the Summit Edition also defines a new durability standard. With longer service life, reduced maintenance, and superior side-load capabilities, users can confidently take on the most demanding heavy lift applications.

For details, visit www.enerpac.com



Uniline launches Channel First initiative for expansion



Uniline Energy - one of the country's leading UPS manufacturers and a power solution enterprise having over 250 service locations & country wide presence, has launched Channel First initiative, a huge partners expansion and upgradation program for the FY 2022-23. The company has set a target to garner over 800 channel partners across - power & panel manufacturers, IT & communications system integrators, Government's GeM, civil, electrical, medical, healthcare, security and defense sectors.

Ravi Tiwari, Head - Channel Sales, said, "With our existing team of 350 partners across India, we plan to extend our reach and aim to have over 800 channel partners with our business road map." Uniline Energy has lined up its latest innovative UPS & power solution range around the "Made in India - Made for India - Engineered to Global Standards" initiative that aims to deliver world class products for all applications. Uniline has delivered various prestigious projects worth Rs 300 crores through previous fiscals ranging from - ERNET, E-court, CCTNS & mission critical installations for defense & aerospace sectors.

With a target of Rs 200 crores in the coming fiscal, Uniline Energy is poised to aggressively enroll dedicated partners and impart trainings on its latest innovations, present & upcoming product range, application areas and sale abilities. The company plans to go an extra mile in training, upskilling partners for competitive bidding & sales so that they are able to provide the same solutions & confidence to the clients as the company has in the last three decades.

"Uniline Energy has developed a ready ecosystem for its partners to ensure they stand advantageous on their future initiatives. We shall help them cultivate with Uniline's customization edge to result in successfully securing orders," said Rajneesh Kumar, Manager - Channel Sales.

The company also has expanded its presence on the Government e-Marketplace (GeM) platform quite rapidly, with a target to onboard 1,000 GeM partners by year end. It recently delivered the prestigious e-Courts project worth over Rs 1,000 crore that empowered all courts across India to become completely online & connected.



Best Power launches Nrgx 5000 UPS with Li-ion battery



Best Power Equipments (BPE) has launched model Nrgx 5000 UPS with Li-ion battery (ESS) for both home & small businesses. The power solutions giant has come up with a robust UPS that covers all aspects of home, office & small businesses power needs. Nrgx 5000 UPS is ideal for homes, retail shops and small business. The product - called ESS (Energy Storage Solution) - will cater to the requirements of Tier 1,2,3 cities and towns across India.

Amitansu Satpathy, Managing Director, Best Power Equipments, commented, "We aim to address the varied needs of our customers by making best in class products. Our new addition will be a great option for small businesses or home. With a product that revolves around seamless electrical management of your entire household, we are strategically moving towards building products catering to different categories. The products are available Pan-India through their distributors IRIS Computers and Ingram."



British Safety Council introduces Five Star Environmental Sustainability Audit

British Safety Council has introduced its Five Star Environmental Audit services for businesses in India. The audit offers an in-depth examination of an organisation's entire environmental management system and associated arrangements. By examining policies, processes, and practices and recommending improvements, the audit will help companies improve their environmental sustainability performance.

Hemant Sethi, Country Head, British Safety Council, India, said, "The Five Star Environmental Sustainability audit is a specialised service. It goes beyond the requirements of traditional environmental management systems such as ISO 14001. Organisations who undertake this audit demonstrate their commitment to environmental and sustainability best practice to their customers, supply chains and other stakeholders. The audit can also help organisations be more resource-efficient and cost effective."



Cable & Wire Fair Postponed to May 2022

The 4th edition of Cable & Wire Fair has been rescheduled to May 18-20, 2022 due to the current situation surrounding COVID-19. Cable & Wire Fair 2022 was originally planned for March 1-3. With the postponement of the Fair, the probability of a larger audience both nationally and internationally increases, which benefits everyone. The industry is desperately



waiting for a networking platform and CWF is all set to give the industry the much-needed impetus promising a larger show.

Meanwhile, the wire and cable market is expected to be driven by various factors such as the 'Saubhagya' scheme introduced for rural electrification, the growth in renewable energy due to climate change commitments at COP26 and the rollout of 5G and 6G technology.

Apart from expansion and revamping of transmission and distribution infrastructure under Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY), the government is also planning to invest significantly in railways, roadways, highways and metro projects. It has announced its plans to operationalise 100 airports, under UDAN scheme and kick off bullet train projects in 2022-23. The Union Budget 2022-23 announced a 35.4 percent increase in CAPEX to INR 7.5 lakh crores

for FY23 which will be a huge boost for the economy.

Under 'Make in India' initiative, many mobile and electrical appliance companies are looking to make India a hub for manufacturing and innovation. The electric vehicle industry is picking pace which calls for new manufacturing facilities, and improved charging infrastructure. Real estate players are gearing up for developing projects with the dipping home loan rates. All these interesting developments are expected to give the much-required boost to the wire and cable market where Industry 4.0 would play the role of catalyst.

Cable & Wire Fair 2022 is all geared up to provide the environment to make real business happen by providing the right platform. Like the previous edition, the 2022 fair will include Innovation Pavilion, Technical Conference and CEO Conclave.

Tulip 3P Media Pvt Ltd is one of the leading media companies established in 2006, based in New Delhi. It is a widely acknowledged media group for industry-oriented publications for different B2B verticals aimed at furnishing latest news, opinions, market outlooks and trends. The media activities of the company branch out extensively to market research and industrial events such as exhibitions, conferences and seminars to foster lasting coordination within the industry. Tulip's overarching and long experience tipped with its incisive industry networking gives it a lasting edge for being one of the most genuine branding destinations for the industries it covers through its periodicals & events.

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Gandhi Automations offers versatile high speed doors

High Speed Doors for external entrance are equipped with spring steel wind lock in curtain pocket that ensures silent door travel, higher wind loads and curtain stability.

Gandhi Automations Pvt Ltd - India's leading entrance automation and loading bay equipment company - offers High Speed Doors, which are sturdy, dependable and are the ideal solution for medium and large entrances. The doors are manufactured with European collaboration and technology with innovative and creative engineering.

Fast moving functional and reliable doors are needed in industrial and commercial contexts. Gandhi designed and manufactured High Speed Doors are versatile and solid ensuring long-lasting reliability. The modular structure of the curtains, assembled and joined by anodised aluminium extrusions, provides for a wide range of polyester sections available in a variety of colours. Wide, full-width window panels ensure a safer traffic and allow more light in. Their fast and easy replacement, in case of accidental tearing, saves money and time. The alternating metal tubular structure there inserted ensures high wind-resistance.

Prime High Speed Doors are the ideal solution for internal and external entrances and effectively operate in any situation, even when strong winds are blowing and in rooms with high volume traffic. Sturdy and dependable, Prime is the intelligent door for medium and large entrances.

High Speed Doors for external entrance are equipped with spring steel wind lock in curtain pocket that ensures silent door travel, higher wind loads and curtain stability.

High Speed Door: Prime Reset

It is an unique High Speed Self-Repairing Door with the latest technology that prevents downtime



of the door system. In case, the curtain is impacted accidentally it will cause the curtain to move out of the guides without damage. The movement of the door is designed in such a way it can be recovered with a simple opening and closing operation. Gandhi Automations manufactures doors of the highest quality that meet the issue for greater flexibility desired by clients. High Speed Self-Repairing Door in PVC is the most suitable solution in the field industries, it lowers the time of transition from one facility to another, avoiding any human error which can cause damage to the High Speed Door and all this can be achieved due to the innovative ANTI CRASH SYSTEM. Gandhi Automations provides a world class product with great security.

Below are the features of self-repairing high speed doors offered

by Gandhi Automations:

- Flexible and Self-Repairing Door
- Functional, safe, quick and resistant
- Innovative anti-crash system
- Can be equipped with PVC vision windows
- Self-Lubricating maintenance free guide
- Smooth and silent opening and closing
- Protects traction unit, enables rapid wiring and safety photocell
- Flexible curtain in self-extinguishing material
- Self-resetting without intervention
- Quickly back to operation
- Control panel designed for an intensive continuous service



For details, contact Gandhi Automations Pvt Ltd, Mumbai, on Tel: +91 22 6672 0200, 6672 0300, Email: sales@geapl.co.in, or visit www.geapl.co.in

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EXCON, 2022	May 17-21, 2022 BIEC - Bangalore International Exhibition Center, Bangalore	Confederation of Indian Industry, New Delhi Tel: 011-45771000 Email: info@cii.in
INTEC 2022	June 06-10, 2022 Codissia Trade Fair Complex Coimbatore Codissia, Coimbatore	Codissia Tel: 0422- 2221582 Email: info@codissia.com
TOOLTECH, 2022	June 16-21, 2022, BIEC - Bangalore Inter- national Exhibition Center, Bangalore	Indian Machine Tool Manufacturers Ass. Bangalore Tel: 080-66246600 Email: imtma@imtma.in
IMTOS 2022	June 06-10, 2022 Codissia Trade Fair Complex Coimbatore Codissia, Coimbatore	Codissia Tel: 0422- 2221582 Email: info@codissia.com
ELEKTROTEC	August 12-15, 2022, Codissia Trade Fair Complex, Coimbatore	Codissia, Coimbatore Tel: 0422-2221582 Email: info@codissia.com
TECHINDIA, 2022	August 25-27, 2022, Pragati Maidan Exhibition Center, New Delhi	International Trade and Exhibitions India Pvt Ltd, New Delhi Email: info@itei.in
UMEX - (USED MACHINERY EXPO)	August 25-27, 2022 Pragati Maidan Exhibition Center, New Delhi	ITEI International Trade and Exhibitions India Pvt Ltd, Mumbai Tel: 022-28398000 Email: info@itei.in
INDIA ESSEN WELDING & CUTTING 2022	November 23-25, 2022, Bombay Exhibition Center - BEC Mumbai, India	Messe Dusseldorf India Pvt Ltd, Mumbai Tel: 022-48550062/48550057/ 48550056/48550000 Email: info@md-india.com
INTERNATIONAL		
MATERIALS HANDLING - IN- TERNATIONAL TRADE FAIR FOR STORAGE, TRANSPORTATION AND LOGISTICS SYSTEMS	September 19-21, 2022 Dubai World Trade Center DWTC, UAE	Email: materialshandling@uae.messefrankfurt.com Web: www.materialshandlingme.com
ASIAN DOWNSTREAM, SINGAPORE	October 27-28, 2022, Sands Expo & Convention Centre, Singapore	Clarion Events Pte Ltd, Singapore Tel: +65 6590 3970 Email: asinfo@clarionevents.asia
THE BIG 5 DUBAI - TRADE FAIR FOR CONSTRUCTION AND CON- TRACTING	December 05-08, 2022 Dubai World Trade Center DWTC, UAE	Email: marcelasoukupova@dmgeventsme.com Web: www.thebig5.ae

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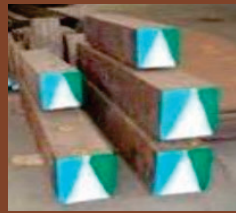
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Rolled Rounds



Forged Slab



Die Block



H-13 Forged Flats



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CONTACT PERSON:

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