January 2024 • Vol. 16 No. 12

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- Post-Excon 2023...26
- Filters...66

### **REPORT:**

• Tunnelling Equipment...62

### **INTERVIEW:**

 Ravi Chawla, Gulf Oil Lubricants...72



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Role of Al and ML in Construction Equipment

As we mark a significant milestone with the 16th-anniversary edition of Equipment India, we are thrilled to present a special commemorative issue that delves into the cutting-edge advancements shaping the future of the construction equipment industry.

### **Key highlights:**

- Exclusive Features on Al and ML Integration
- Expert Opinions and Perspectives
- Interviews of Industry Bigwigs
- Showcasing Innovative Technologies
- Global Industry Trends



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# GRADING THE FUTURE

As the demand for advanced road networks and improved connectivity continues to surge, the clamor for motor graders in the construction industry is reaching unprecedented heights.





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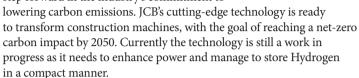
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### **BUMPER & ENERGETICYEAR**

As we stand at the cusp of a pivotal era in environmental consciousness, the construction industry is gearing up for a transformative shift towards sustainable practices. The promise of hydrogen as a clean and efficient fuel for construction equipment is at the forefront of this green revolution.

The recent unveiling of JCB India's hydrogen combustion technology at Excon, marks an important step forward in the industry's commitment to



Another equipment giant SANY made waves in March 2021 by introducing two hydrogen fuel cell-powered vehicles—a dump truck and a mixer truck. The primary advantage touted by SANY is the minimal environmental impact, with only heat and water vapor as emissions from hydrogen combustion. However, hydrogen drivers are utterly dependent on both a reliable supply of the gas itself and a high-pressure fueling station.

Engine manufacturer Cummins Inc is also making strides in advancing hydrogen and fuel cell technology. As industry players join forces to explore the potential of hydrogen as a clean energy source, the momentum for widespread adoption is gaining traction but we have miles to go.

In another important news, the government may consider introducing a production linked incentive (PLI)-like scheme for heavy earthmoving machinery and underground mining equipment. A high-level committee has recommended a five-year incentive scheme to boost domestic manufacturing of this equipment, which is largely being imported. The committee has also recommended that tenders for sourcing mining equipment by domestic coal and mineral mining companies come with a 'Make in India' clause.

India's construction equipment industry is slated to reach 1.25-1.30 lakh units by the end of FY24, clocking more than 20 per cent growth on a yearon-year basis but this base will affect the growth rate in fiscal year 2024-2025 which will see a dip also due to a slowdown in road construction.

In the automotive sector, steady vehicle sales and exports have propelled the Indian auto component industry to a turnover of Rs 2.98 lakh crore for the period April to September 2023, reflecting a growth of 12.6 percent over the first half of the previous year. With investments in higher value addition, technology upgrades, and localisation, auto component sales to OEMs in the domestic market have grown by 13.9 percent to Rs 2.54 lakh crore, as per the Automotive Component Manufacturers Association of India (ACMA) performance review for the first half of FY 2023-24.

The ACMA industry performance review underscores the continued consumption of increased value-added components and a market shift towards larger and more powerful vehicles, contributing to the heightened turnover of the auto-components sector.

As we bid farewell to the past bumper year, we extend our warm wishes for a Happy New Year to our readers!





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BREAKING NEW GROUND 26



Excon 2023 showcased the latest in construction technology, reflecting India's commitment to revolutionising the industry and establishing itself as a global leader in machinery innovation.

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As the hydrogen-powered revolution gains momentum, India stands at the forefront of a cleaner and more sustainable automotive future.

# HOW CRITICAL EQUIPMENT HELPED RESCUE TRAPPED WORKERS IN UTTARKASHI TUNNEL COLLAPSE

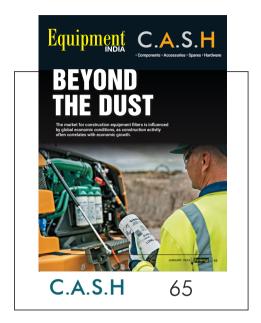
Manual tools, such as hammers and chisels, became the instruments of choice.

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\*QR code application required.



### **SPECIAL FOCUS: FILTERS**

### **BEYOND THE DUST**

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The market for construction equipment filters is influenced by global economic conditions, as construction activity often correlates with economic growth.

### **INTERVIEW**

# "THERE WILL BE A SHIFT TOWARDS ADVANCED SYNTHETIC AND SEMI-SYNTHETIC GRADES."

Ravi Chawla, MD & CEO, Gulf Oil Lubricants, speaks on the how is their company addressing sustainability concerns in its product offerings.

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ACCELERATING THE LIFELINE OF URBAN TRANSPORT

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### **KEY HIGHLIGHTS OF** THE CONFERENCE:

India boasts the third-largest metro network globally, with operational lines in 20 cities across 900 km.

> By 2047, it is targeting 5000 km of operational metro rail in 100 cities.

Explore strategies for sustainable metro expansion in cities with varying populations.

Discuss the role of metros in curbing emissions, reducing congestion, and enhancing urban mobility.

> Examine case studies of successful metro implementations and ridership growth.

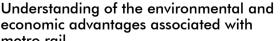
Explore technologies which promote safety and sustainability.

### **ANTICIPATED RESULTS:**

Networking prospects for stakeholders to engage in collaborative efforts for upcoming metro initiatives.



Development of practical strategies for expanding metro networks in burgeoning cities.





metro rail.

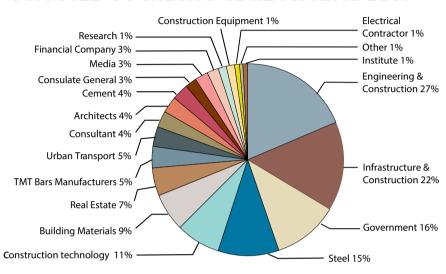
Insights into financing models to ensure the financial sustainability of metro projects.

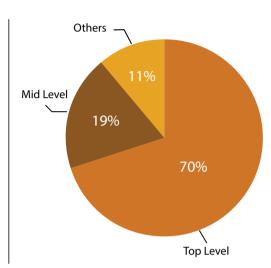




# METRO RAIL ORGANISATIONS THAT ATTENDED THE CONFERENCE

### **PROFILE OF METRO RAIL ATTENDEES:**





### **OUR ESTEEMED SPEAKERS**



Vinay Kumar Singh MD, NCRTC



**Jh UJM Rao, IRAS** MD, Andhra Pradesh Metro Rail Corporation Ltd.



Anjum Parvez MD, BMRCL



KVB Reddy MD & CEO, L&T Metro Rail (Hyderabad) Ltd.



Ashwini Bhide\* MD, Mumbai Metro Rail Corporation Ltd.



VK Srivastava\* MD, Kolkata Metro Rail Corporation Ltd.

\* Invited

### **PANEL DISCUSSIONS:**

Panel 1 - Technological Innovations in Metro Rail Infrastructure

Panel 2 - Smart Metro Cities: Integrating Metro Rail with Urban Development

Panel 3 - Improving Ridership for Metro Rail Network

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EXCON 2023 DAY 2 HIGHLIGHTS



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**CUMMINS TO SHOWCASE FUTURE EMISSION-READY** POWER SOLUTIONS PORTFOLIO AT EXCON



**SANY INDIA UNVEILS 15 ELECTRIC MACHINES AND** ADVANCED EQUIPMENTS AT **EXCON 2023** 

TATA MOTORS LAUNCHES LNG-POWERED TRUCKS AND **TIPPERS AT EXCON 2023** 



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### Nitin Gadkari reveals JCB's first hydrogen-powered machine

New Delhi bore witness to a momentous occasion in sustainable innovation when JCB, a prominent player in construction equipment, presented Asia's first hydrogen-powered construction machine with pride. The revelation, which was unveiled on the day, marks a significant advancement in eco-conscious progress within the construction industry.

The technology underpinning this pioneering machine is a game-changer, promising to deliver power, torque, and operational efficiency at par with traditional construction machinery.



However, it comes with a transformative twist-zero tailpipe emissions. This crucial breakthrough reflects JCB's dedication to revolutionising construction practices while advocating for environmental conservation. Hydrogen, an elemental fuel, carries substantial potential as an eco-friendly energy source. Its introduction into the construction sector serves as a beacon of hope in the battle against carbon emissions. This innovative technology, utilising hydrogen, holds the promise of a greener future, substantially reducing the ecological footprint associated

with road construction activities.

JCB's groundbreaking achievement aligns with another significant development anticipated earlier

# CASE Construction unveils unique innovations

**CASE Construction Equipment** showcased its commitment to environmental sustainability, safety, and meeting customer needs at Excon 2023. The company announced its readiness for BS (CEV) V compliance by presenting the marquee backhoe loader 770 NX Plus and soil compactor 1107 NX-PD. Notably, the loader backhoe range received comprehensive upgrades, ensuring compliance with ROPS & FOPS standards and incorporating 22 unique safety features. Expanding its product range, CASE introduced the skid steer loader SSL 175 and made its debut in two new categories with the unveiling of the skid steer loader SSL 175.

### CAT to develop hydrogen-hybrid solution for off-highway vehicles

this year.

Caterpillar announced the launch of a three-year programme to demonstrate an advanced hydrogen-hybrid power solution built on its new Cat?
C13D engine platform.

Starting in the first quarter of 2024, Caterpillar will develop a transient-capable system for off-highway applications. The project will demonstrate how state-of-the-art control systems and electric-hybrid components can help hydrogen-fueled engines meet or exceed the power density and transient performance of traditional diesel engines. Caterpillar will serve as the prime contractor on the project, providing engine research and

development as well as system integration. As the project progresses, other industry and academic collaborators will be brought into the program to provide additional specialist expertise. The initiative will be delivered at Caterpillar facilities in Chillicothe, Ill. and

San Antonio, Texas. With research commencing in 2024, the project is supported and partially funded by the U.S. Department of Energy's (DOE) Vehicle Technologies Office (VTO) through the Office of Energy Efficiency and Renewable Energy (EERE). It is included among 45 projects across 18 states and Washington, D.C., receiving funding to advance research.



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### Sany India unveils 15 electric machines at Excon

SANY India, a frontrunner in construction equipment manufacturing, took centre stage at Excon 2023, revealing a groundbreaking lineup of 44 machines, including 15 electric models. This marks a pivotal shift towards sustainable construction, demonstrating SANY's commitment to innovation, environmental responsibility, and industry transformation.

In a significant leap forward for the construction sector, SANY India introduced 15 cutting-edge electric machines at Excon, South Asia's largest



construction equipment exhibition. These revolutionary models cater to diverse applications, spanning earthwork, excavation, heavy lifting, mining, road construction, and port operations. The electric machines prioritise superior operating economics while upholding safety, productivity, and efficiency standards,

paving the way for a sustainable future in construction.

Deepak Garg, Managing Director, SANY and South Asia, emphasised the company's unwavering commitment to pioneering innovation in the construction industry. The launch of these electric machines represents a milestone in SANY's journey towards sustainability. By integrating advanced technologies like GPS, biofuel-compliant engines, and alternative fuel options, SANY ensures its equipment exceeds industry standards for efficiency and environmental performance.

### Volvo CE dominates Excon with largest electric machine showcase

Volvo CE India achieved a milestone in sustainability at Excon 2023, presenting the most extensive display of electric machines in the country. The showcase includes the pioneering EC500 Electric excavator, marking India's first grid-connected electric excavator in the 50-tonne class. Volvo CE also introduces the futuristic L120 Electric wheel loader for customer trials, offering no tailpipe emissions and a more comfortable work environment.

The EC80 Electric, showcased as a near-production prototype, complements Volvo CE's existing compact EC55 electric, catering to urban construction and forestry needs. With 6-8 hours of autonomy due to its larger battery, the EC80 Electric



delivers superior performance. Additionally, India-developed electric compactors, DD40 and PT220, emerged as technology concepts, demonstrating advanced instrumentation, zero-emission operation, and reliable charging.

Volvo CE goes beyond product offerings, introducing a paradigm shift with innovative electric solutions and holistic sustainability support.

### Scania unveils G500 super heavy tipper at Excon

Scania Commercial Vehicles takes a bold step in revolutionizing the mining and transport sector with the introduction of the G500 8x4 Super Heavy Tipper. Unveiled at Excon 2023 in Bengaluru, this truck not only sets new standards in power and efficiency but also emphasizes eco-friendly design and sustainability.

Engineered to meet the toughest global emission standards, the G500 Super features a low-emission, biodiesel/FAME-compatible engine delivering 500 horsepower. This epitome of fuel efficiency demonstrates Scania's commitment to addressing the industry's dual challenge of emission reduction and profitability.

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### Tata Motors launches LNG-powered trucks and tippers at Excon

Tata Motors made a groundbreaking move at Excon 2023 with the commercial launch of LNG-powered Tata Prima trucks and tippers. The Tata Prima 5528.S LNG and Tata Prima 3528.K LNG, India?s first LNG-powered tipper, are pioneering achievements in sustainable transportation. The launch aligns with Tata Motors' commitment to achieving net-zero GHG emissions by 2045, reinforcing the company's dedication to cleaner energy solutions.

In addition to the LNG-powered range, Tata Motors introduced



high-performance trucks like the Tata Prima 2830.TK VX and Tata Signa 3530.TK VX, tailored for diverse construction applications. Equipped with advanced features such as cruise control, automatic traction control, and a pneumatically suspended driver seat, these trucks set new benchmarks for performance, comfort, and safety standards in the industry. The launch signifies Tata Motors' focus on innovation and safety, ushering in a new era for the commercial vehicle sector. At the Excon 2023 pavilion, Rajesh Kaul, Vice President and Business Head -- Trucks, Tata Motors, emphasised the company's commitment to leading in innovation. The unveiling of the LNG-powered range and high-performance trucks reflects Tata Motors' understanding of evolving fleet owner needs in the construction and mining sectors.

# Schwing Stetter announces entry in CE sub segments

Schwing Stetter India, one of the country's leading concreting & construction equipment manufacturers, recently announced new product line-ups at Excon 2023; the launched vehicles to strengthen the Schwing Stetter ecosystem and help address the pain points of the CE-subsegments – mining, ports, material handling and road and highway infrastructure in India.

In addition, the company reported revenue of Rs 5,000+ crore in 2023 and credits its double-digit Year-over-Year (35 per cent in 2023) growth to its continued R&D investments, unwavering focus on long-term growth plans, portfolio expansion across key industries and markets, and the determination of employees to perform and grow.

### Mycrane and Equip9 join forces to drive innovation in crane rental

In a groundbreaking move, online crane rental platform Mycrane and AI-enabled start-up Equip9 signed a Memorandum of Understanding (MOU) at Excon. The collaboration aims to propel technical and commercial projects, with a strong focus on leveraging artificial intelligence (AI) for recommendation and selection models in the crane rental and heavy equipment sector.

Mycrane, known for developing the world's first online crane rental platform in 2021, revolutionised the industry by introducing a uniform quotation system, streamlining the process of hiring cranes. Equip9, based in Pune, India, has gained recognition with its comprehensive app catering to over 30,000



registered users, spanning industry professionals such as operators, mechanics, rental equipment and owners, resellers, virtual dealerships, suppliers, financiers, and e-learning entities. The collaboration between the firms will explore the application of AI to enhance recommendation and selection models, with a specific focus on identifying the most suitable lifting equipment and rental providers.





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### Komatsu connects people through technology

Komatsu India (KIPL) takes participation in one of the remarkable events in India on water festival organised by Dholakia Foundation held from November 15-25, 2023 at the beautiful landscapes of Het Ni Haveli, Lathi-Dudhala, Gujarat.

KIPL joins hand with Dholakia foundation for rejuvenation of water bodies in Gujarat to bring betterment of life for the peoples nearby and making greener planet for the future generation. A major funding from KIPL has been supported through Dholakia foundation as a CSR agenda.



Inspiring the development on Panch Ganga Tirth project, Srikrishna Subramanian, Director & Sr Vice President, Human Resources, GA & ICT, KIPL, along with his team members on November 24th 2023 handed over the Komatsu hydraulic excavator PC210LC-10M0 Super Long Front (SLF) machine to Dholakia to build a strong connection with the society through the river rejuvenation.

This PC210LC-10M0 SLF/LR machine is specially designed for better fuel efficiency with Komatsu Engine SAA6D107E-1 EU stage 3A equivalent and equipped with strengthened boom and arm, interchangeability with standard work equipment, designed for tough and extreme working environment which guarantees and excellent performance in its applications.

### Sany expands dealership in Chhattisgarh

Sany India, a leading manufacturer of construction equipment, has announced its association with Om Infracore as their authorised dealer for Chhattisgarh. Sany India has inaugurated the 3S (sales, service and spares) Head Office in Raipur to oversee its operations in Chhattisgarh.

The new office is poised to meet growing demand of Sany's construction equipment and heavy machinery in this region and establish a crucial link between customers and company.

The Raipur Office will cater to various territories like Raigarh, Bilaspur, Korba, Durg, Ambikapur and Jagdalpur, etc. and our existing 307 machines operating in this region. Sany Bharat and Om Infracore are confident that this 3S office will enrich



customer experience and capture market in this region with optimum operational efficiency.

The new office was inaugurated in presence of following Sany officials Shashank Pandey (Business Head for Excavators and Motor Graders), Vishwajeet Singh (Regional Manager for Excavators and Motor Graders) and also officials from Om Infracore, Prahlad Agrawal (Partner), Abhishek Chakraborty (Partner).

### Sany India celebrates new milestone

SANY India, a leading construction equipment manufacturer, proudly announces a significant milestone, surpassing the 30,000-machine mark in India. This achievement underscores SANY India's dedication to delivering high-quality, reliable, and innovative equipment to the Indian market.

For over two decades, SANY India has been a pioneer in the Indian construction machinery industry. The company has expanded its footprint to a robust network of 42 dealers and over 260 customer touchpoints in India and South Asia. SANY India has established a strong presence in various industry segments, including road construction, mining, infrastructure, and real estate.

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### Unicontrol intros automatic grade control for dozers

Denmark-based machine control manufacturer Unicontrol has introduced its new automatic grade control system for dozers. The affordable system integrates easily with existing fleets and simplifies grading operations by providing real-time 3D guidance and 6-way blade control.

The Automatic Grading Control can be toggled on or off with the click of a button on the integrated joystick. Operators then steer the dozer while the blade automatically adjusts for grading, precisely following terrain and design contours to achieve accuracy within one centimeter. Unicontrol says the 3D Real-Time Guidance provides operators with a detailed view of the dozer's blade position in relation to the terrain and the planned design.

## Hitachi Construction to open electric vehicle research facility in Japan

Hitachi Construction Machinery plans to open the Zero Emission EV-Lab, a collaborative research facility focused on achieving zero emissions at work sites, in Ichikawa, Japan, in May 2024. Hitachimanufactured battery-powered excavators (2-tonne, 5- tonne, 8- tonne, and 13- tonne models) and other related construction equipment will be available at the lab, in addition to partner-developed mobile energy storage systems.

Official lab partners include Isuzu Motors, Itochu Corporation and Kyushu Electric Power Co. In October, Hitachi signed an agreement with Kyushu to collaborate on mobile energy storage solutions for the Japanese market and with Itochu and Alfen B.V. for the sale and rental of



mobile energy storage systems for the European market.

The facility will feature demonstration areas to simulate sites where electrically powered construction machinery and equipment are in operation, along with a communication area where visitors can exchange opinions and ideas. Hitachi says the facility will enable customers and partners from around the world.

### Cientra, Invas join hands to build 5G IoT solutions

Cientra, an Indian multi-national product solutions company and Invas, a market leader in telecom testing have announced a strategic alliance to develop innovative wireless sensors and actuators for sectors including mining and agriculture. The collaboration aims to seamlessly integrate and optimise the functionalities of Cientra's 5G platform with Invas' cutting-edge Internet of



Things (IoT) devices. The principal aim of this initiative is to instigate a paradigm shift in the agricultural and mining industries of the country through the guarantee of optimal IoT device quality while upholding the security and integrity of the 5G network.

By capitalising on Cientra's edge as a 5G platform portfolio and Invas' IoT capabilities, the two organisations will engage in a collaborative effort to develop solutions and go-to-market offers that bolster the security and identity of 5G networks.

# 4Rivers to acquire 3 Honnen equipment locations

Deere dealer Honnen Equipment continues to divide and sell its locations, with 4Rivers Equipment as the latest buyer. 4Rivers will acquire three Honnen Equipment locations in Commerce City, Grand Junction and Durango, Colorado. The deal is set to close on December 11.

The move follows RDO Equipment's purchase of eight Honnen locations in Wyoming, Utah and Idaho.

Both 4Rivers and Honnen have a longstanding presence in Colorado, with 4Rivers tracing its history back to 1926 in Holly, Colo., while Honnen Equipment has been part of the Denver community and western Colorado since 1963.

The acquisition is expected to fuel greater innovation and resourcefulness, 4 Rivers says, enabling a more comprehensive response to the industry's evolving demands.

"This acquisition marks a significant milestone for our entire team as well as our new team members, allowing us to expand our offerings and better address the needs of our collective customers in Colorado," said John Shearer, CEO of 4Rivers Equipment.







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### Kubota announces executive leadership changes

Kubota has made several executive leadership changes, including the appointment of **Nobuyuki Ishii** as CEO of Kubota North America (KNA) and senior managing executive officer of Kubota Corporation (KBT) and Todd Stucke as president of

Kubota Tractor Corporation (KTC). Both appointments, effective January 1, 2024, succeed Shingo Hanada, who



will be promoted to director and senior managing executive officer of Kubota Corporation in Japan.

Ishii, a 40-year Kubota veteran, currently serves as general manager of farm and industrial machinery strategy and operations in Japan,

supervising the company's entire overseas operations. During his tenure, he has also served as president of

Kubota Europe and vice president of Kubota Engine America. Ishii will also take on the role of chairman of Kubota Tractor Corporation, supporting Stucke as the new president.

"Over the past few years, under Hanada's leadership, Kubota has successfully built our North America regional function," said Ishii. "The market contributes significantly to Kubota's overall business and remains an integral part of our vision."

### **Fecon acquires Stumper Industries**



Fecon LLC, a leading global manufacturer of heavy-duty site preparation attachments and forestry accessories, recently acquired Stumper Industries, a manufacturer of stump grinder attachments for mini and standard skid steers and compact track loaders, excavators and tractor applications. The acquisition expands the landscaping and land maintenance solutions Fecon offers in the forestry mulching and vegetation management industries. Stumper's attachments provide a cost-effective solution for tree service businesses, landscape

companies and farm operations to remove debris safely, quickly and efficiently from job sites with equipment they already own.

"We are excited to welcome Stumper into the Fecon family," said Jeff Stanley, vice president of product development at Fecon. "After listening to our customers, dealers and the market, we recognized a need for a stump grinder that fits key Fecon attributes such as performance and durability with visibility, simplicity and versatility."

The Stumper series features five quick-attach models compatible with compact to heavy-duty machinery. The attachments range from 22- to 36-inch cutting diameters with up to 12-inch cut depths per pass to tackle everything from small jobs to large, stubborn stumps and roots.

# Volvo CE to divest ABG paver biz to Ammann

The agreement will benefit both companies by strengthening the product portfolio and distribution network of the Ammann Group, while allowing Volvo CE to continue to focus on developing sustainable solutions and future technologies and services, in line with the company's strategic direction.

The Ammann Group is a Swiss-based, family-owned, world-leading supplier of mixing plants, machines and services to the construction industry with core expertise in roadbuilding and transportation infrastructure, which they intend to develop further through the ABG Paver business expansion.



### Ferronordic acquires Volvo CE's largest US dealer

Ferronordic, a Volvo Construction Equipment dealer with 28 locations in Germany and Kazakhstan, is expanding into the U.S. market with its purchase of Rudd Equipment Company.

The \$95 million deal is

expected to close on November 30. In addition to the equipment business, Ferronordic will purchase two properties in Cincinnati and Louisville that Rudd currently rents for \$10 million. After this, Rudd will own 8 of the 13 locations used to operate the business. Headquartered in Louisville, Kentucky,



Rudd is one of the largest Volvo CE distributors in the U.S. Its 13 locations and 360 employees serve customers in all or parts of Kentucky, Ohio, Indiana, West Virginia, Pennsylvania, Missouri, Illinois, Tennessee and Maryland.

According to the announcement, Rudd had sales of \$308.3 million with an operating income of \$16.5 million and earnings before tax of \$16.4 million in 2022. In addition to Volvo CE, Rudd sells and services Hitachi, Sandvik and Link-Belt.





**The SUPER 2100-5i paver** is the latest generation paver from VÖGELE equipped for the future. The SUPER 2100-5i manages pave width up to 14 m. The requirement is for flexible, modular systems which, in addition to user-friendliness and cost efficiency, also take particular account of process automation and sustainability.



> www.voegele.info

# GRADING THE FUTURE

As the demand for advanced road networks and improved connectivity continues to surge, the clamor for motor graders in the construction industry is reaching unprecedented heights.





n the vast tapestry of India's evolving infrastructure, one machine has emerged as a silent hero, playing a pivotal role in shaping the nation's roads and highways – the motor grader. As the demand for advanced road networks and improved connectivity continues to surge, the clamor for motor graders in the construction industry is reaching unprecedented heights.

India, with its burgeoning population and ambitious development goals, has set its sights on an extensive and modernised infrastructure network. The government's flagship initiatives, such as the Bharatmala project and the Pradhan Mantri Gram Sadak Yojana,

have laid the foundation for a massive overhaul of the country's roadways. This surge in infrastructure development has sparked a parallel demand for heavy machinery, with motor graders emerging as a linchpin in the construction process.

Motor graders, also known as road graders, are specialised machines designed to create a flat and even surface during the grading process. Their primary function includes leveling and smoothing the terrain, ensuring the construction of high-quality roads. Equipped with a long blade that can be adjusted for various angles and depths, motor graders are indispensable in shaping roadbeds, removing debris, and preparing

the ground for subsequent construction phases.

One of the key reasons behind the surging demand for motor graders lies in their ability to provide precision and efficiency. Modern motor graders come equipped with advanced technology, including GPS-guided systems and telematics, enabling operators to achieve unparalleled accuracy in grading operations. This precision not only expedites construction timelines but also ensures the creation of roads that adhere to international standards of quality and safety.

### **Emerging trends**

Speaking on the current trends in



the motor grader market in India, **Surat Mehta, Head of SDLG Business** in India, says, "With sustained public investments in modern infrastructure planned over the next 25 years and an ever-growing number of mega projects under the PPP (public private partnership) model gaining traction, demand for motor graders in India is better than ever. The key sectors driving this demand are road constructions - from super expressways to state highways, rural and village roads - public housing, mining and defense engineering projects, Greenfield airports and smart city infrastructure development."

He added, "Now that the Government is focussed on ensuring

### **Challenges**

- **High initial costs**: Motor graders are capital-intensive equipment, and their high initial costs can be a barrier for smaller construction companies or businesses with limited budgets.
- Dependency on construction sector: The motor grader industry is closely tied to the overall health of the construction sector. Economic downturns or slowdowns in construction activities can directly impact the demand for motor graders.
- Rental market competition: The rental market for construction equipment is competitive. Many construction companies prefer renting equipment rather than purchasing, leading to challenges for manufacturers and sellers of motor graders.
- Technological advancements: The industry faces the challenge of keeping up with rapid technological advancements. Customers increasingly look for motor graders with advanced features such as GPS technology, automated controls, and telematics.
- Maintenance and operating costs: Maintenance costs for motor graders can be significant. Companies need to address concerns related to maintenance and repair costs to make their equipment more attractive to buyers.
- Environmental regulations: Stringent environmental regulations and emission standards can pose challenges for motor grader manufacturers. Adhering to these regulations may require additional investments in research and development.

- **Skill shortage**: Operating motor graders requires skilled operators. There is a shortage of skilled labor in some regions, and training programs may be necessary to ensure a qualified workforce.
- Infrastructure development delays: Political, regulatory, or funding-related delays in infrastructure projects can impact the demand for motor graders. The industry is dependent on a steady flow of construction projects.
- Global economic uncertainty: Global economic uncertainties and trade tensions can affect the export and import of motor graders. Fluctuations in currency exchange rates and trade policies can impact the international market.
- Alternate construction methods: Innovations in construction methods, such as modular construction and 3D printing, may pose challenges to traditional construction practices that involve extensive earthmoving and grading.
- Limited financing
  options: Limited financing options
  for potential buyers can hinder the
  sales of motor graders. Providing
  flexible and attractive financing
  solutions may be essential for
  manufacturers.

To address these challenges, companies in the motor grader industry need to focus on innovation, cost-effective manufacturing, environmental sustainability, and strategic partnerships. Additionally, staying informed about market trends and adapting to changes in customer preferences and regulatory requirements is crucial for long-term success.

rural connectivity in every nook and corner of India under the Pradhan Mantri Gram Sadak Yojana (PMGSY) scheme, we find increasing use of motor graders in construction and upgrade of strategically important rural roads and village roads."

"Emerging technology trends are

focussed on three key features – precision, energy efficiency and reliability – and SDLG motor graders score highly on all of these. Starting with environment-friendly CEV IV certified engine and electronically-controlled, fully-automatic transmission to cruise control system



and best-in-class hydraulics, SDLG motor graders are built to deliver speed, productivity and versatility in operations with optimum fuel consumption. The ROPS/FOPS compliant air-conditioned cabins of both G9138 and G9190 models render the machines safe and easy to operate with high accuracy. SDLG motor graders feature electronic engines and centralised controls facilitating total ease and convenience in operations. From keeping a close eye on operating hours and effective machine utilisation to continuously checking pressures, oil temperatures and other performance parameters, SDLG motor graders raise the bar of excellence when it comes to monitoring and control technologies," said Mehta.

Amarnath Ramachandran, Managing Director, ARX Mining & Construction Equipment, said, "We have a fleet of motor graders, including the 12 tonne, 17 tonne, 21 tonne, and a 32-tonne grader. The 32-tonne grader is designed for coal mining and heavy earthwork, while the 21 tonne can be used for road construction and mining. The 12 tonne is mainly for smaller roads. The Arx range of motor graders are built with state-of-the-art drivelines, an advanced hydraulic system, robust structures and ergonomically designed for convenience and control."

He added, "With the advent of emission norms, all our machines come fitted with ECU, transmission controllers, and brakes with controlling interfaces. We also utilise telematics to monitor machine health, with data sent to the OEM, dealer, and end customer. We work with Trimble and have a laser control system for precise grading, reducing the need for highly skilled operators."

Gmmco and Caterpillar launched the new generation motor Grader SEM 915 in 2021. Highly reliable and durable: Paired with outstanding powertrain performance, the proprietary SEM tandem axles reduce operating costs with longer maintenance intervals compared to the competition. Excellent performance and comfort: Best-in-class hydraulic system and specially-designed Caterpillar control valves and levers drastically reduce operator fatigue while maintaining smooth operation, even on prolonged heavy blading applications.

Mahindra's Construction
Equipment Division (MCE) announced
the expansion of its road construction
equipment range with the launch of the
brand-new Mahindra RoadMaster G75
Smart motor grader. The RoadMaster
G75 Smart offers road contractors,
liberation from compromised makeshift
solution, such as manual labor and farm
tractor-based graders. It is the ideal
machine for spreading and grading
applications for the rural, semi-rural
and district roads, land development,
internal housing and commercial roads.



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It enables small road contractors to participate in projects with grading needs for government flagship programs as Smart City, as well as PMGSY roads. The RoadMaster G75 Smart provides small contractors affordable uncompromised mechanization and an opportunity to deploy a registered motor grader in the smaller projects which was not possible hitherto with the conventional graders. Also, it will help improve the quality and longevity of work and quicker turnaround of projects.

The RoadMaster G75 Smart is powered by a 74 HP Mahindra CRDi engine which is coupled with a 3 m (10 ft) wide blade and iMAXX telematics solution. This equipment is optimised to deliver zero compromise grading at an equipment cost marginally higher to tractor grader but still fractional as compared to conventional motor graders making it 'Profit Ka Partner' of small road contractors.

It comes with a one-year warranty, eliminating the customer's anxiety

when it comes to expensive repairs. This is possible due to Mahindra's engineering and manufacturing capability, backed up by a grueling testing regime and sourcing of the best components and the simplicity of the machine design.

The increasing demand for motor graders is not only fueling economic growth but also creating job opportunities across the nation. As construction projects multiply, so does the need for skilled operators, mechanics, and maintenance personnel. This has led to the establishment of training programs and vocational courses aimed at preparing a workforce capable of harnessing the potential of these powerful machines.

### Challenges and Future Outlook

While the demand for motor graders in India is on an upward trajectory, the industry faces challenges such as high initial costs and the need for extensive training. However, as technology advances and awareness grow, it is expected that these challenges will be mitigated, further accelerating the adoption of motor graders in the construction sector.

Looking ahead, the future seems promising for the motor grader market in India. The government's commitment to infrastructure development, coupled with the growing awareness of the importance of quality roadways, positions motor graders as indispensable tools in the nation's journey towards becoming an economic powerhouse.

In conclusion, the increasing demand for motor graders in India reflects not only the nation's commitment to progress but also the recognition of the vital role played by these machines in shaping a connected and efficient future. As the hum of construction machinery grows louder, motor graders stand tall as the unsung heroes of India's infrastructure revolution.





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# **Breaking New Ground**

Excon 2023 showcased the latest in construction technology, reflecting India's commitment to revolutionising the industry and establishing itself as a global leader in machinery innovation.



n the heart of Bengaluru, the Bangalore International Exhibition Centre (BIEC) recently played host to one of South Asia's most significant events – Excon 2023. From December 12 to December 16, this bustling hub witnessed the convergence of over 1,200 exhibitors, both domestic and international, marking the 12<sup>th</sup> edition of the Confederation of Indian Industry (CII) organised extravaganza. The sprawling 30 lakh sq. ft display area was a testament to the grandeur of an event that has become synonymous with innovation, collaboration, and the future of India's construction industry.

Excon 2023 was not merely a local affair; it was a global rendezvous. The event attracted exhibitors from countries as diverse as Austria, China, Czech Republic, France, Germany, Italy, Romania, Russia, South Korea, Spain, Sri Lanka, Turkey, the United Arab Emirates, the United Kingdom, and the United States of America. This international participation underscored the global recognition of India's position as a hub for construction equipment manufacturing.

Nitin Gadkari, Minister of Road, Transport and Highways, Government of India, inaugurated the event. While delivering his inaugural speech, he expressed optimism about India's construction sector becoming the

world's largest within the next five years. "The construction sector in India currently ranks as the world's third largest. Yet, by fostering collaborative endeavours among stakeholders, and corporations, and through substantial government support, we have the potential to propel it to the top spot within the next five years."

He said that the construction sector will have a significant contribution to the Prime Minister's vision to make India a carbon neutral economy. To achieve this goal, the government is embarking on major infrastructure and industrial projects that implement sustainable fuels.

"Construction and mining operations consume 400 crore litres of diesel, which is quite detrimental to the environment and the economy. By embracing alternative fuels such as ethanol, methanol, and hydrogen, the construction and mining sectors can effectively reduce emissions. Precast concrete emerges as a commendable substitute for traditional concrete. We advocate for industry collaboration to bolster the capabilities of construction through the use of sustainable materials and alternative fuels," Gadkari added.

Chandrajit Banerjee, Director General, Confederation of Indian Industry, in the inaugural session said, "Currently, India's construction equipment industry is exporting to over

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140 countries. To enhance sustainability and efficiency, private players in the construction sector should focus on automation, the adoption of advanced technologies, global best practices, the use of alternative fuels, and innovations in utilising waste materials as raw materials for construction projects. This approach aims to reduce both the cost of construction and the rate of pollution."

Vivekanand Vanmeeganathan, President, Indian Construction Equipment Manufacturers Association (ICEMA), said, "We are grateful for the invaluable guidance provided by Nitin Gadkari in steering India's construction sector. With confidence, we anticipate that in the coming years, the industry will continue to draw upon his insights, striving to become not only the most sustainable but also the world's topmost innovator."

### The Technological Wave

As we stand on the cusp of 2023, the construction industry is undergoing a profound technological revolution. Generative Artificial Intelligence is reshaping the design process, creating highly efficient and innovative structures. Technology has become the bedrock for gradual expansion and enhanced efficiency in the sector. It's not just about building; it's about building smarter, more sustainably, and with a keen eye on inclusiveness.

The highlight of the event was the world's first hydrogen powered JCB in India. For a long time, India has been a strong advocate of green hydrogen and the introduction of the hydrogen JCB falls in line with the vision of the Indian government which views green hydrogen as the fuel for the future.

JCB backhoe loader features a hydrogen internal combustion engine, which has been developed as a result of JCB's Euro100 million project aiming to address carbon emissions in the construction sector.

Caterpillar India introduced a new series of excavators in this edition, emphasising improved fuel efficiency, lower maintenance costs, and enhanced durability. **Amit Bansal, Director Sales & Marketing-BCP Division, Caterpillar India,** stated, "The machines can operate from -32oC to 52oC, suitable for use from the Himalayas to Rajasthan."

Volvo CE India showcased a monumental step towards sustainability with the largest display of electric machines in the country. The EC500 Electric excavator, L120 Electric wheel loader, and other electric machines demonstrated Volvo CE's commitment to reducing carbon footprints. The Equipment-as-a-Service (EaaS) business model and new-age service solutions underline Volvo CE's dedication to customer success and maximum uptime.

SANY India unveiled a groundbreaking lineup of 15 new models, including revolutionary electric construction machines. Spearheading the industry's shift towards sustainability, these electric machines promise superior operating economics without compromising safety or



Nitin Gadkari, Minister of Road, Transport and Highways, Government of India, with Chandrajit Banerjee, Director General, Confederation of Indian Industry, and Vivekanand Vanmeeganathan, President, Indian Construction Equipment Manufacturers Association (ICEMA), inaugurating Excon in Bengaluru.

efficiency. The showcased products range from the futuristic Electric Wheel Loader SW956E to the powerful Crawler Crane SCS800A, setting a new standard for the construction landscape.

CASE Construction Equipment showcased its commitment to innovation and sustainability by unveiling BS (CEV) V-compliant offerings. The new products, including the loader backhoe 770 NX Plus and soil compactor 1107 NX-PD, feature advanced safety measures and emphasise sustainability.

Liebherr took centre stage by unveiling a remarkable display of five cutting-edge machines. From tower cranes to wheel loaders and crawler dozers, Liebherr's showcase exemplified its commitment to providing customised solutions for the evolving needs of the Indian construction industry. The emphasis on design, functionality, and versatility marked Liebherr's presence as a key player in the construction machinery sector.

Komatsu India (KIPL) and Larsen & Toubro Limited (L&T) showcased their technological prowess and service capabilities, introducing hybrid technology and bio-fuel compatibility in construction equipment. The exhibition highlighted a comprehensive suite of services, including smart construction solutions and advanced oil analysis programmes.

### **Government's Commitment**

The importance of the construction sector in India's economic progress cannot be overstated. The government has recognised this and earmarked a substantial allocation of



Rs 10 lakh crore (approximately \$130.57 billion) to fortify the sector. This financial injection is a clear signal of the government's commitment to infrastructure development.

As part of a technology sub-mission under PMAY-U, the government identified 54 innovative global technologies, marking the dawn of a new era in Indian construction technology. This initiative is anticipated to pave the way for a more inclusive roadmap for all stakeholders. The vision is clear - to harness the immense potential of technology within the construction landscape.

### **Beyond the Surface**

Excon 2023 wasn't merely about showcasing the latest construction machinery. It was a multi-faceted platform, addressing diverse aspects of the industry. Alternate fuels, Artificial Intelligence pavilion, Aatma Nirbhar Bharat, skills, women operating construction equipment, conferences on defense and paramilitary, green construction focusing on sustainability, Internet of Things, and automation in the construction engineering sector were among the many highlights.

The event was more than just a trade show; it was a dynamic catalyst propelling India towards continuous progress. As **Deepak Garg, Managing Director, Sany India,** aptly put it, "Excon 2023 is more than just an event; it serves as the driving force behind India's continuous progress, symbolising our robust infrastructure development and solidifying India's prominent global position in the construction equipment manufacturing sector."

The voices of industry leaders echoed the sentiment of a sector in the midst of transformation. Amarnath Ramachandran, Managing Director, ARX Mining & Construction Equipment, stated, "Excon is an excellent platform for us to display our machines and connect with contractors nationwide. In 2024, we expect significant



growth, exceeding market indicators."

Vijay Kumbhani, Director Business Development, Kaushik Engineering Works, shared the long-standing relationship his company has with Excon, stating, "We've been actively participating in Excon for the past two decades, starting from the very first edition. Excon has proven to be a valuable platform, providing us with good leads not only from all over India but particularly from South India."

Yasunori Fujii, Managing Director, Komatsu India, said, "Excon is a major event for us. This year, we're showcasing the PC01. The highlight is our first hybrid excavator, a certified premium equipment refurbished with a beautiful roof and standard warranty. We're particularly proud that it's entirely manufactured in India."

As the industry propels itself into the future, Excon remains a vital cog in the wheel, driving India's infrastructure development requirements. The commitment to innovation, sustainability, and inclusivity was palpable throughout the event. Excon 2023 was not just about building structures; it was about building tomorrow - a tomorrow where India stands tall as a global leader in construction equipment manufacturing.



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# "We're deeply committed to ESG initiatives."

### **Anand Sundaresan,** MD, Ammann India

### Please tell us about the products on display and any new launches?

A We have some exciting new launches. Firstly, we've introduced a 7-m track, completely indigenous, followed



by a 9-m track. Additionally, we've unveiled a battery-operated converter and a Soil Compactor, a rarity in India where most use traditional equipment for soil compaction. This plant here is a game-changer; it can recycle up to 60 per cent of materials, aligning with the growing emphasis on using recycled materials. We've already supplied one to GR Infra, and they've exceeded 100,000 tonnes of mass per day. Recycling is gaining traction, and we're ready to go up to 100 per cent recycling, given our expertise and technology.

### Are there plans for capacity expansion?

A Currently, the technology is from Germany, but we handle all fabrication in-house. We have ample capacity for growth, even though we aren't utilising all machines due to the impact of COVID. We're equipped with robotics and are cost-sensitive, awaiting government mandates to push for more sustainable practices.

### What steps is the company taking to reduce carbon emissions?

A We're deeply committed to ESG initiatives. Our parent company in Western Europe drives these efforts. We're investing in reducing carbon footprints in India, including plans for solar power installation. We're working on a roadmap to measure emission reduction, such as transitioning from BSIV to BSV. We're also exploring alternative fuels like hydrogen.

### Please elaborate on the company's training initiatives?

A Training is crucial, especially for complex equipment like asphalt plants. We have an academy providing theoretical and on-the-job training, typically spanning six months. However, challenges arise as customers are hesitant to send operators for training. We're urging the government

to make certified operator training mandatory to elevate the profession's status.

### • How do you foresee the impact of upcoming elections on the industry in 2024?

A Elections often lead to increased infrastructure contracts, offering a temporary boost to the industry. Post-election, there might be a slight decline, but overall, a positive trend is expected, especially with the release of new contracts.

### With a new leadership transition, how is the company ensuring a smooth handover?

A The transition has been seamless, with the new leader bringing in nearly three decades of experience. He joined three months ago, and we're working together to ensure a smooth transition.

### "We plan to add more products to our mining portfolio."

### Amarnath Ramachandran, MD, ARX Mining & CE

### Tell us about the company and its offerings.

A Arx Mining and Construction Equipment was incorporated in 2019. We have a fleet of motor graders, including



the 12 tonne, 17 tonne, 21 tonne, and a 32-tonne grader. The 32-tonne grader is designed for coal mining and heavy earthwork, while the 21 tonne can be used for road construction and mining. The 12 tonne is mainly for smaller roads. The Arx range of motor graders are built with state-of-the-art drivelines, an advanced hydraulic system, robust structures and ergonomically designed for convenience and control.

Additionally, we have a blasthole drill rig for coal mining with innovative features, such as a rod changer that can go up to 24 m. The Arx D3300 blasthole drill rig is an innovative design that combines the high traction speed of an excavator, the slewing function of a piling rig and a strong derrick that can be customised for different rod lengths.

Are these products all manufactured in



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#### India?

A Yes, all our products are entirely manufactured in India at our plant in Narasapura in Kolar district, Karnataka. We have a strong design team, and while most key components come from Western Europe, our machines are specialised and state-of-the-art.

### Could you elaborate on how automation, IoT, and telematics play a role in your machines?

A With the advent of emission norms, all our machines come fitted with ECU, transmission controllers, and brakes with controlling interfaces. We also utilise telematics to monitor machine health, with data sent to the OEM, dealer, and end customer. We work with Trimble and have a laser control system for precise grading, reducing the need for highly skilled operators.

### **Q**How do you address the challenge of high costs in a price-sensitive market?

A We don't focus on the initial cost but rather on the total cost of ownership. Our machines use high-quality components from Germany and Italy, contributing to a longer lifespan. We emphasise the value delivered to the customer, and once explained, they understand and appreciate the product.



### What about training initiatives for operators?

A We offer training at our factory for operators to understand the machines. Additionally, we have master operators who go to the site and assist new operators. We can also provide operators on a contract basis if needed.

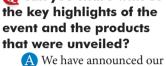
### $oldsymbol{\mathbb{Q}}$ What are your expectations from Excon, and what are your plans for the company in 2024?

A Excon is an excellent platform for us to display our machines and connect with contractors nationwide. In 2024, we expect significant growth, exceeding market indicators, as we focus on settling down our products, expanding our dealership networks, and adding more products to our mining portfolio. The election year does not significantly impact our plans.

### "We've announced our readiness for BS V compliance."

Shalabh Chaturvedi, MD. CASE Construction

(A) Can you share with us the key highlights of the event and the products



readiness for BS (CEV) V

compliance and showcased several exciting products. The marquee backhoe loader - 770 NX Plus and soil compactor 1107 NX-PD are among them, along with our debut in two new categories in India - skid steer loader - SSL 175 and compact machines through mini excavator - CX 35D. We also upgraded our entire loader backhoe portfolio to feature the industry's safest operator cabin with 22 new features.

The skid steer loader - SSL 175 is noteworthy as it is produced in a women-led production line at our plant in Pithampur, challenging gender stereotypes. This machine offers distinctive features and optimal pushing power. On the other hand, the mini excavator - CX 35D stands out with its 3.5-tonne digger, offering versatility and operational efficiency. Both machines contribute to our commitment to innovation and meeting diverse customer needs.

The upgraded loader backhoe portfolio features the new CEV Stage V compliant 770 NX Plus, providing high productivity and fuel efficiency. The safest operator cabin includes ROPS and FOPS compliance, along with SiteWatch Telematics as a standard offering. This ensures a secure and comfortable environment for operators, enhancing overall safety standards.

FLEETPRO™ is an integral part of the CNH Industrial family, strategically positioned to enhance our Parts and Service Portfolio. It addresses diverse requirements throughout the lifespan of our machines and various operations. Recognising the evolving demands of our customers and the industry, FLEETPRO™ aims to provide comprehensive aftermarket solutions, aligning with changing expectations for later-in-life parts requirements.

Could you share your thoughts on how CASE Construction Equipment is positioning itself to contribute to India's infrastructure development?

A We are well-positioned to partner in India's

infrastructure development with our technologically advanced equipment. Our products feature telematics and service offerings like FLEETPRO™, emphasising our commitment to supporting India's growing infrastructure needs. The new product launches and upgrades showcased at Excon 2023 further strengthen our ability to serve our customers for their diverse needs. Top of Form

# "Our products are future ready."

Amit Bansal, Director Sales & Marketing-BCP Division, Caterpillar India



### What new products has Caterpillar launched in the Excon edition?

A In this edition of Excon, we have introduced a new series of excavators, including the 320, GC 320, and 323 models. These machines deliver better fuel efficiency and lower maintenance costs. Their reinforced boom and stick improve durability, lifting capacity, stability, and productivity. The operator cabins optimize safety, comfort, and productivity in hot and cold climates. The machines can operate from -32oC to 52oC, suitable for use from the Himalayas to Rajasthan. All these machines are manufactured in India, catering to both the Indian market and global exports. Excavators are primarily made for India, while backhoe loaders like the 424 model are made for both Indian and international markets, reaching over 136 countries.

### Mow does Caterpillar incorporate sustainability into its processes?

A Sustainability at Caterpillar involves several aspects. We have been ahead of the curve in terms of fuel efficiency, launching a BS-V compliant backhoe loader two years ago. Our machines are designed for durability, allowing them to be rebuilt and reused over time, minimising waste.

Our Cat Reman® program provide our customers with lower-cost products, shorter downtime and quick, dependable service options. This progress makes it possible finding new ways to reduce, reuse, recycle, and reclaim materials which once would have gone into a landfill. We also have Rebuild programs to increase the lifespan of equipment by providing customers with product updates for a fraction of the cost of buying a new machine. Additionally, we are exploring alternate fuels and electric technology to further support sustainability initiatives.

### What key trends do you foresee in the construction industry that will drive improvements?

A The construction industry in India is expected to grow rapidly, driven by the government's vision to make it a \$5 trillion economy by 2045. This growth will lead to increased demand for infrastructure development, creating opportunities for the construction equipment sector. The industry has been growing at a rate of 15 per cent, and with the urbanisation trend, with over 40 per cent of Indians in cities by 2030, creating demand for 25 million affordable housing units.

Government schemes like the Smart City Mission will also enhance quality of life via tech-enabled urban planning. Digital technologies like cloud, AI, robots and IoT will boost productivity, efficiency and sustainability across buildings and infrastructure projects.

### Q Please elaborate on the initiatives Caterpillar has taken in terms of machine capabilities and training for customers?

A Caterpillar has around 1.4 million connected assets, transmitting operational data for better fleet management. Artificial intelligence is used to analyse this data, providing insights for proactive service events. Training is offered to customers and operators, with advanced training available at our centres. We have approximately 1,000 people involved in training to ensure better machine upkeep and maintenance.

Caterpillar also offers various solutions beyond products, including cat finance for easy equipment purchase, equipment protection plans, and customer value agreements (CVAs). CVAs allow customers to focus on their core business while leaving maintenance and repair to experts, ensuring a hassle-free owning experience.

### Is Caterpillar prepared for the future, and what sets its technology apart?

A Caterpillar considers itself future-ready, investing in cutting-edge technology to make customers more successful. Caterpillar technology solutions combined with the unmatched support and experience of the Cat dealer network help customers enhance their fleet efficiency and profitability. Solutions like Cat Product Link, Vision Link and the cloud-based Cat Productivity platform use connected data and analytics to optimise maintenance, operations, costs, and safety across equipment fleets. Automated systems like Cat Grade Assist and AccuGrade leverage sensors and automation to boost operator grading productivity and accuracy. Telematics, digital inspections, e-commerce apps and on-demand services also simplify owning and maintaining equipment. By leveraging datadriven insights and automation through this comprehensive technology suite, Caterpillar helps customers achieve better equipment and operational performance.

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### • How did Caterpillar perform in the previous year, and what are the expectations for 2024?

A In the previous year, the construction industry experienced significant growth due to government spending on infrastructure development. There may be a temporary dip in 2024, as is typical during election years, however, with the long-term prospects of a growing population and urbanization in India, the industry is expected continue growing.

# "Our focus is on reducing the use of heavy CE."

**PV Ramdev,** MD, Everest Engineering Equipment

Please tell us about your newly-launched passenger hoist? What are its unique features?

We are thrilled to unveil a groundbreaking product – a passenger hoist from GJJ. This innovative passenger hoist is unique in that it operates on a single mass section, making it the largest of its kind globally with a capacity of 3.2 tonne. Notably, it can adapt to different capacities, such as 3.2 tonne and 2.7 tonne, each with its own speed specifications. The hoist's length, initially at 4 m, can be reduced to 3.6 m or 3.2 m, offering versatility in accommodating 38 people or 32 people, respectively.

The hoist's most significant feature lies in its design flexibility. Users can adjust its length, speed, and capacity according to site requirements without the need for separate hoists. This innovation addresses various needs within the industrial sector, particularly in applications like steel and cement plants, providing a comprehensive solution for lifting diverse parts and aiding in the construction of permanent structures.

### Q Could you elaborate on the collaboration between GGJ and your company for the production of this hoist in India?

A We are delighted to announce a joint venture agreement with GGJ, the registered brand owner, to commence production in India. Despite the stringent European standards and design validations that extended the timeline, we are now poised to produce these hoists in India.

The production, set to begin in the year 2000, will yield a purely Indian product, with plans for exportation to various countries.

### What are the initial production volumes and future growth projections for the new hoist in India?

A Initially, we anticipate a volume of 120 units per year, with the production facility capable of scaling up to 1800 units annually. We foresee a gradual increase in production, reaching up to 1500-1800 units per year as demand grows.

### • How does your company ensure operational efficiency and sustainability in the showcased products?

A Our focus is on reducing the use of metal and heavy construction equipment. We aim to achieve this by offering customisable hoists that cater to specific industry segments, allowing users to avoid purchasing multiple units. By promoting the consumption of fewer natural resources and minimising waste, we contribute to operational efficiency and sustainability.

### • How does your company stay abreast of new market innovations, especially in research and development?

A We maintain an in-house research and development team in India that collaborates with GJJ. Our commitment to innovation is evident in our effort to retain the same mass sections in our products, ensuring compatibility with existing customer equipment. This approach presents design challenges but underscores our dedication to meeting customer needs without necessitating costly equipment replacements.

### "Our focus is on enhancing efficiency through tech."

**Deepak Shetty,** MD & CEO, JCB India

Q Can you share more details about JCB's recent announcement regarding its investment in superefficient hydrogen engines?

A We are excited to share



### COMBINATION TYPE PASSENGER CUM MATERIAL HOIST

	CAPACITY	DIFF. CAGE LENGTHS	SPEED WITH FULL LOAD
1	3.2 Tonnes	4.0m 3.6m 3.2m	46 M/Min 46 M/Min 46 M/Min
2	2.7 Tonnes	4.0m 3.6m 3.2m	63 M/Min 63 M/Min 63 M/Min

CAGE WIDTH - 1.5m • CAGE HEIGHT - 2.35m

### **TECHNICAL DETAILS:**

1	MAXIMUM HEIGHT	500m
2	MAST SIZE & MATERIAL	650x650x1508mm, ST52
3	MOTOR + GEAR BOX	3x15KW NORD GERMANY
4	PLC	SIEMENS GERMANY
5	VFD	2x90KW SIEMENS GERMANY
6	FLOOR SELECTOR	SIEMENS GERMANY
7	OVER LOAD DEVICE	DIGITAL
8	NUMBER OF PERSONS	38



B 1201/1202, Shelton Sapphire, Plot No. 18 & 19, Sector-15, CBD Belapur, Navi Mumbai 400614. India. Contact: +91 22 27570729 +91 22 20871145 www.everestengg.in email:sales@everestengg.in

ONE HOIST WITH MULTIPLE CAPACITY, LENGTH & SPEED COMBINATIONS









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that JCB has embarked on a groundbreaking initiative to produce super-efficient hydrogen engines, backed by a substantial investment of £100 million. This cutting-edge technology is designed to achieve a net-zero carbon emission target by 2050, aligning with global efforts to address climate change.

### Q Could you elaborate on the specific machines introduced at the Excon that highlight JCB's hydrogen technology?."

At Excon, JCB introduced several machines that demonstrate our commitment to decarbonising the construction sector. Notably, we showcased the JCB hydrogen-powered backhoe loader and the JCB 3DX hydrogen machine, both equipped with our innovative hydrogen combustion engine. These machines represent a significant step forward in incorporating sustainable technology into our product lineup.

### Note that the bound is a second of the bound of the broader of

A The introduction of hydrogen combustion technology is a pivotal move towards decarbonising the construction sector. By utilising hydrogen fuel cells, we aim to achieve a net-zero carbon emission status by 2050. This aligns with global efforts to combat climate change and underscores our commitment to sustainable practices within the construction industry.

## **Q** Can you elaborate on the company's commitment to ESG values and its impact on various aspects of the business?

A Our commitment to ESG values is integral to every facet of our business. We actively engage with our dealers who share our dedication to sustainable practices, particularly in establishing service centres. This responsibility is not confined to a specific segment; rather, we scrutinise every aspect of our operations through an ESG lens. Whether it's strategic planning or collaborating with suppliers collectively, we consistently strive to make a positive impact. An example of our environmental commitment is our collaboration with the Ministry of Railways, where we've been instrumental in transporting machines to various locations, domestically and potentially internationally.

### What technical challenges do you foresee in the conventional intelligent vision for the future of the industry, and what solutions are you contemplating?

I view these challenges as fantastic opportunities. Our focus is on enhancing machine efficiency through technology, particularly in electronics and AI. We are dedicated to making our machines more user-friendly,

especially for new operators. I don't perceive any restrictions; instead, I see a bright future where India can lead the world in technological advancements. Our technology is on par with global standards, and India has the potential to excel, particularly in the innovations we initiate here.

### What are your expectations and inspirations for the upcoming years, given the substantial government investments in infrastructure development?

A Looking ahead, I see tremendous opportunities in the coming years. The government's substantial investments in infrastructure development, such as roads and railroads, present a promising landscape for our industry. With India poised to become the second-largest construction equipment market globally, our focus aligns with the government's initiatives. We are confident that our industry will thrive, and we are well-prepared to contribute significantly.

### Could you shed light on the company's international presence and its unique approach to manufacturing?

A JCB stands out due to our consistent approach to manufacturing. All our factories adhere to the same processes, regardless of whether a machine is destined for an Indian customer or one in the USA. This uniformity in technology and processes is a testament to the quality of our machines. Notably, our machines produced in India are exported to over 30 countries worldwide, with 50 per cent of this year's exports going to North America. This emphasises the global recognition of the excellence in engineering and manufacturing that we uphold.

## Regarding your mention of hydrogen, could you provide more details on the technology involved and its significance?

A We utilise Isogen, an internal combustion engine powered by hydrogen fuel cells. This technology represents a groundbreaking solution to address environmental concerns. By replacing fossil fuels with hydrogen, we contribute to a zero-carbon footprint. We've been pioneers in this approach, with 330 public programmes following our lead. This technology is not just about the present but also about creating a sustainable future.

### Q Could you share insights into the company's efforts in developing and testing new products, especially those related to hydrogen technology?

A Our primary focus is on perfecting the backhoe loader, a crucial machine in India. We are committed to testing and refining its functionality, ensuring it aligns perfectly with India's requirements. Despite the inherent challenges, our engineering team is dedicated to overcoming

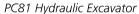




### **Comprehensive Solutions for**

### **Construction Industry**







PC136 Hydraulic Excavator



PC210 Hydraulic Excavator



PC350 Hydraulic Excavator



GD535 Motor Grader



L&T 1190 Soil Compactor



L&T 990 Tandem Compactor



L&T 9020 Wheel Loader



L&T 491 Mini Tandem Compactor

Komatsu and L&T Construction & Mining Machinery offer cuttingedge technologies and comprehensive sustainable solutions to meet the diverse needs of the Construction and Mining industry. Our versatile machines are designed to deliver unmatched performance and contribute to nation-building. They are used in various applications, including Urban Development, Road Construction, Tunnelling, Trenching, Rock Breaking, Irrigation, Land Reclamation and more. Our comprehensive product range includes Hydraulic Excavators, Crawler Dozers, Wheel Dozers, Dump Trucks, Wheel Loaders and Motor Graders from Komatsu, along with Vibratory Compactors, Wheel Loaders, and Road-Making Machinery from L&T.

Many of our machines are biodiesel-compatible and meet the required emission standards. Our nationwide network of dealerships and service centres ensures excellent sales and after-sales support for machines throughout India.

#### Larsen & Toubro Limited

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Tel: 080 4040 1700 E-Mail: CMB@larsentoubro.com

### **L&T Construction & Mining Machinery**

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L&T Construction & Mining Machinery



Models shown here may not conform to standard equipmen

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them. We believe the future holds great promise, especially as we continue to innovate and meet the evolving needs of the market.

### How does the company anticipate the market's readiness for new machines, particularly in rural areas and upcoming infrastructure projects?

A We recognise that the demand for machines is closely tied to infrastructure development, particularly in rural areas. With the government's significant investments in roads and other projects, we are poised to meet the market's needs swiftly. Our readiness to launch solutions aligns with the market's progression, ensuring that we stay one step ahead of the curve.

# "We anticipate continued growth in the coming FY."

### Vijay Kumbhani, Director Business Development, Kaushik Engineering Works

## Brief us about the company.

We specialise in the production of asphalt road construction machinery. Our main product line consists of asphalt batch mix plants, manufactured through technical collaboration with Session Turkey. Alongside batch mix plants, we also offer a comprehensive range of asphalt construction machinery, including drum mix plants, bitumen decanters, bitumen distributors, road sweepers, and more.

# Now long has your company been participating in Excon, and what benefits have you observed from this exhibition?

A We've been actively participating in Excon for the past two decades, starting from the very first edition. Excon has proven to be a valuable platform, providing us with good leads not only from all over India but particularly from South India.

Q Could you elaborate on your primary product, the batch mix plants, and what sets

#### them apart from the competition?

A Our batch mix plants, which are our flagship product, are built with European technology. They not only adhere to European standards but also offer significant fuel savings compared to competitors. We take pride in providing a high-quality product at very competitive prices.

### Now has the market for your products been affected by the pandemic, and what are your expectations for the current financial year and the upcoming one?

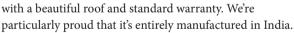
A In the aftermath of the pandemic, the market has witnessed a positive revival in the current financial year of 2023. We anticipate continued growth in the market in the coming financial year. Our focus remains on offering top-notch batch mix plants and other construction machinery to meet the evolving needs of our customers.

# "We are exploring opportunities for local investments."

### **Yasunori Fujii,** MD, Komatsu India

# What are your expectations for Excon, given its significance?

A Excon is a major event for us. This year, we're showcasing the HB205-1. The highlight is our first hybrid excavator, a certified premium equipment refurbished





## **Q** Can you elaborate on the salient features of the hybrid excavator?

A Our hybrid excavator contributes to CO<sub>2</sub> reduction and lower fuel consumption. Notably, it doesn't require a charging station; it can generate power by itself. This is a key differentiator from electric excavators, which are still in the prototype stage. We've been mass-producing our hybrid excavator for over 15 years.

# Now has the response been to this product, especially regarding environmental contributions?

A The response has been positive. We've donated

hybrid excavators to NGOs working on environmental conservation, particularly in river cleaning. The product has been well-appreciated, and we aim to increase its adoption in India gradually.

### Are there plans to launch a hydrogen variant of this product?

A Yes, we're actively working on a hydrogen engine as part of our roadmap for carbon neutrality by 2050. However, the high costs associated with hydrogen technology are a challenge that many manufacturers are facing.

## (a) Given India's price-sensitive market, how do you tackle the challenge of cost?

A We increase the local procurement ratio. By sourcing parts locally, we can offer reasonable prices. India has become a key part supplier globally, attracting brands from the USA and Europe to purchase quality parts.

### What other challenges do you face in the market, particularly with the hybrid variant?

A While the Indian Government provides financial support for EVs, we've requested similar support for our hybrid excavator buyers. Additionally, there's a need for a reliable nationwide supplier for biodiesel to enhance the usage of biodiesel in our products.



## **Q** What key trends do you observe shaping the construction equipment segment in India?

A Electrification is a key trend, with many manufacturers introducing electrical excavators and loaders. However, the price remains a crucial factor for end-users.

# **Q** Can you share your future plans and any potential investments or capacity expansion in India?

A Our Chennai plant is reaching full production capacity. We are exploring opportunities for local investments and considering capacity expansion plans to meet the growing demand in the Indian market.

# "We anticipate

10-15% YoY growth."

Arvind K Garg, Senior Vice President and Head, L&T Construction & Mining Machinery



## **Q** Can you share details about the recent product launch and its significance?

A We recently launched the PC 500 hydraulic excavator, a 550-tonne machine. This contemporary machine is cost-competitive, fuel-efficient, and equipped with advanced telematics and sustainable solutions. We believe it adds significant value to our product range, especially for customers involved in overburden removal in the coal industry.

### What are the three key trends influencing the construction equipment market currently?

A The three prominent trends are sustainability, inclusiveness, and technology. Sustainability involves adopting alternate fuels, eco-friendly practices, and safety measures. Inclusiveness focuses on increasing workforce diversity, particularly encouraging more women to join the industry. Lastly, technology plays a crucial role in providing long-term value to customers, emphasising lifecycle costs, total cost of operations, and digitalisation for efficient aftermarket services.

### Speaking of digitalisation, how does it feature in your machines, and could you elaborate on your skilling initiatives?

A Digitalisation is integral for ensuring timely availability of parts and services to customers. In terms of skilling initiatives, Larsen & Toubro has been actively involved with the Infrastructure Equipment Skill Council, training and certifying thousands of individuals. We are proud to be a leader in this effort, not only focusing on operators and mechanics but also partnering with companies like Tata Steel to train and deploy skilled female mechanics, contributing to the industry's workforce diversity.

### Speaking on the performance of your company in the current year, what can you share?

A We've experienced a growth of 10 to 12 per cent. Our focus is on value rather than market share, and in the

POST-EXCON

premium segment, we hold a substantial market share. Looking ahead, we anticipate a 10 to 15 per cent year-on-year growth in the industry over the next four to five years. With the government's emphasis on infrastructure development, we are optimistic about the sector's future.

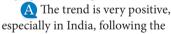
### Considering the upcoming election year, do you foresee any impact on the industry's growth?

A I don't believe elections will hamper growth. Recent state elections did not show any negative effects. This government prioritises development, and I anticipate increased spending on infrastructure during an election year, as seen in the last budget. In my view, it will be a positive year for the industry.

## "In the next three to five years, we plan to double our biz."

### **Sanjay Prasad,** Managing Director, Liebherr India

What are the current trends you are witnessing in the construction equipment segment?



capex layout by the union finance minister, amounting to almost Rs 10 lakh crore. We anticipate a slowdown in the next few months due to elections, but afterward, with the new government settling in by 2024, we expect a resurgence in construction activities.

### Are there any plans to launch electric versions?

A Yes, we are extremely conscious of ESG, focusing on greenhouse gas emissions and carbon neutrality. In some divisions, we already have electric vehicles, and there's talk of having no conventional fuel vehicles by 2030. We take electric solutions seriously, considering customer demand and government commitments to carbon neutrality.

We are also working on the hydrogen variant, though the specifics are still in the design or planning stage. Factors like hydrogen variants will be considered in the future.

### What percentage of spending goes into research and development?

A I don't have an exact percentage, but we do invest significantly in R&D. While most products are manufactured in India, some are exported, and our R&D setups are not in India. We have a diverse portfolio, and about 90 per cent of tower cranes are manufactured in Europe.

### • How is after-sales service handled?

A We manage after-sales service ourselves with 14 warehouses across the country. We provide spare parts, maintenance contracts, and full services to our customers. Our refrigerators are not related to this industry.

### What are your investment plans and capacity expansion?

A We are already present in India across different companies. Due to supply chain issues, we are considering diversification into other countries to de-risk our concentration in Europe. Significant plans for investments in India, especially with the supply chain challenges.

### **(a)** What challenges is the industry facing, and how do you plan to overcome them?

A The concentration in Europe and recent disruptions in the supply chain have been challenging. We're thinking of diversifying into other countries to mitigate these challenges.

### How is the company incorporating sustainability into its practices?

A We take ESG reporting seriously and have committed to net zero emissions by certain years. All our divisions are working toward this goal, and our first sustainability report as a group is expected in 2024. As a group, we're committed to making sure our practices align with sustainability goals. We're looking forward to the upcoming questions.

### What are your thoughts on the exhibition, and what are your expectations from Excon?

A Excon is a great platform for us. It's one of the exhibitions we genuinely participate in, considering the significant customer footfall. Despite missing the 2022 edition, we see it as a crucial investment for publicity and potential business.

### • How was the company's performance in 2023, and what are the plans for the next year?

A We've done reasonably well in 2023, and it's likely to be our highest level of business in India. In the next three to five years, we plan to double our business, bring in more product diversification, and invest significantly in India to increase our capacity.

# "Technology and innovation are at the core of our strategy."

**Piero Guizzetti**, CEO, MB Crusher India

What are your expectations and goals for participating in Excon 2023? Are there specific products, technologies, or developments that your



company will be showcasing during the exhibition?

A Participating in Excon 2023 is a strategic move for our company, aligning with our commitment to innovation, industry collaboration, and showcasing cutting-edge solutions. Our expectations are that of an industry event that will bring forth lots of pent up demand, along with preparations by participants for what we feel is an even more exciting next phase of infrastructure development promoted by the Government. Our primary goal is to elevate industry awareness about our latest products, technologies, and developments. Live demonstrations featuring our star products, the Crusher Bucket and Screening Bucket, will be the highlights of our showcase.

# What are the current key trends shaping the construction and infrastructure equipment sector in India? How has your company adapted to these trends?

A The construction and infrastructure equipment sector in India is witnessing dynamic trends. One key trend is the increasing demand for efficient, sustainable solutions. Not only are we constantly enhancing our value in terms of being a sustainable solutions provider, but we are fortunate that it has been a part of our DNA from the beginning. MB Crusher products are embedded in recycling and maximum utilisation of material.

### • How is your company leveraging technology and innovation to enhance productivity and efficiency in construction processes?

A Technology and innovation are at the core of our strategy to enhance productivity and efficiency in construction processes. Our attachments, which can be installed on any carrier machine, exponentially expand the utility of said base units, transforming them for example into

real, productive, sustainable mobile crushers or screening units. This integration not only boosts efficiency but also allows companies to maximize the resources available at their job sites. We are committed to providing solutions that not only meet but anticipate the industry's evolving needs.

### What are the major challenges currently faced by companies in the construction and infrastructure equipment sector, and how is your company addressing them?

A The major challenges currently faced by companies in the construction and infrastructure equipment sector in India include high capital costs, lack of skilled labor, and regulatory compliance. MB Crusher India Private Limited is addressing these challenges by providing cost-effective solutions that are easy to operate and maintain. Our company addresses these challenges through a relentless commitment to innovation and adaptability. We focus on providing versatile solutions that address the multifaceted needs of our customers, helping them overcome challenges and succeed in their projects. One specific area of value that is strongly catered to by MB Crusher, is the ability to work independently in the remotest of locations.

### • How is your company incorporating sustainability practices into its operations and products?

A Sustainability is not just a buzzword for us; it's a commitment woven into our operations and products. In addressing the imperative of sustainability, our company has designed a range of groundbreaking attachments that facilitate the on-site processing of inert materials, whether newly sourced or derived from demolition activities and hence recycled. This innovative approach represents a paradigm shift in construction practices, as it allows companies to manage and recycle materials directly at the job site. By eliminating the need for off-site transportation and processing, our attachments play a pivotal role in significantly reducing waste generation and cut costs. This not only contributes to a more streamlined and eco-friendly construction process but also aligns with our commitment to fostering responsible and sustainable practices within the industry.

### Performance-wise, how has been the year 2023 for the company? What are your plans for 2024?

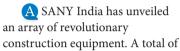
A I am glad to say that we have grown at a pace that has exceeded our expectations. We are bullish on 2024. We expect a very high flow of tender awards in Q1 of calendar year 2024 with national elections taking place shortly thereafter; which will have a positive downstream impact across categories within the construction equipment space for the remainder of the year.

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# "We are debuting 15 new models."

# **Deepak Garg,**Managing Director, SANY and South Asia

# Are there any new product launches during Excon?



44 machines were showcased, including the debut of 15 new models, featuring cutting-edge electric machines designed for diverse applications.

These electric machines represent a significant leap forward in transforming the construction industry. They deliver superior operating economics without compromising safety, productivity, or efficiency, paving the way for a more sustainable future in construction.

SANY has unwavering commitment to pioneering innovation in the construction industry. We provide importance of providing advanced, eco-friendly solutions that exceed customer expectations and drive positive change in the infrastructure landscape.

Some highlighted products include the electric wheel loader SW956E, electric reach stacker SRSC45E3, electric large excavator SY870E, hybrid truck crane STC600T 5-P, small excavator SY150C-9S PRO, medium excavator SY210C-9 SPARC, medium excavator SY365C-9LA, medium excavator SY350C-9HD SPARC, large excavator SY680C-10 HD, large excavator SY1350C-10 HD, crawler crane SCS1500A, crawler crane SCS600A, crawler crane SCS800A, and motor grader SMG200 AWD.

The electric wheel loader SW956E comes with standard 282 Kwh & 350 Kwh optional battery capacity, a wide range of buckets (2.7 to 5 Cum), and can be fully charged in one hour. It can work for four to five hours with a single charge.

The electric large excavator SY870E is equipped with a cable-actuated electric excavator, offering zero emissions, high torque, high durability, fast dynamic response, and higher work efficiency compared to diesel engines.

The hybrid truck crane STC600T 5-P is the first hybrid truck crane in India, offering both diesel and electric modes for crane operation. It is environmentally friendly, fuelsaving, and operates silently.

The motor grader SMG200 AWD is equipped with a 253hp fuel efficient, powerful and reliable engine for higher performance. It features a 14ft heavy-duty mouldboard offering high productivity with enhanced performance.

## Mow does SANY India contribute to environmental sustainability?

A SANY India ensures that all their equipment incorporates advanced technologies such as GPS, biofuel-compliant engines, and alternative fuel options, exceeding industry standards for efficiency and environmental performance.

SANY India is committed to providing sustainable construction equipment by actively working to increase localisation, aiming for a 75 per cent localisation rate in the next three to five years. Currently, over 30,000 SANY machines contribute to major and minor infrastructure projects across India.

Through local manufacturing, SANY India aims to reduce associated costs and optimise the supply chain, ultimately leading to affordable prices. The company has achieved a 40 per cent localisation rate and is actively working to increase this to 75 per cent in the next three to five years.

## **Q** How does SANY India integrate cutting-edge technology into its machines?

A By integrating cutting-edge technology into every machine, SANY India presents a compelling vision for the future of construction, promising to reshape the landscape of Indian infrastructure development and contribute to a more sustainable and efficient future.

# "Our approach involves a gradual process of localisation."

### VG Sakthikumar, Managing Director, Schwing Stetter India

Q Can you share with us the significance of your company's presence at this exhibition and the key highlights of your product lineup?



A It's indeed a proud moment for our team to be at this exhibition, showcasing our latest machinery. We've expanded our product range, entering new sectors such as road machinery, mining, and port handling. Our stabilizer, soil compactor, dump truck, handling crane, and container crane are some of the new additions. We're also targeting niche

markets based on customer feedback, and our strong R&D in India is recognised by the government.

### Please elaborate on your recent product developments, especially those intended for international markets like the USA and Europe?

A We've designed a telebelt specifically for the USA, and it's already gaining traction in India. We're focused on global options, manufacturing machines in India and exporting them to various markets. We've been actively contributing to the growth stories in countries like Thailand and Saudi Arabia.

### Can you share more details about the initiatives and recognition your company has received in this regard?

A We're proud to highlight that nearly 50 per cent of our missions are led by women employees, showcasing our commitment to gender equality. I recently received an award for committed leadership in women empowerment from a prominent organisation, reinforcing our dedication to fostering diversity and inclusivity in the industry.

### Moving beyond product offerings, please discuss your company's contributions to environmental sustainability and social responsibility?

A We've been actively involved in environmental initiatives, planting over 2.5 lakh trees in 2023. Additionally, we're engaged in a programme to educate one million school students on road safety, addressing the high number of road accidents in India. Our recycling plants for wet concrete and C&D waste demonstrate our commitment to sustainable construction practices.

### As your company expands into various sectors, how do you plan to maintain scalability and meet the increasing demands for your products?

A Our approach involves a gradual process of localisation and scaling up. By making products in India, we've seen significant growth in both domestic and international markets. As our volume increases, the spillover effect benefits our export business as well.

# **Q** Looking ahead to 2024, what are your expectations for the industry and your company's growth?

A Despite potential challenges like monsoon quarters and elections, we remain optimistic about the industry's growth. We've witnessed overwhelming support from customers at this exhibition, boosting our confidence in a positive outlook for 2024. While we expect a more moderate growth rate, our order intake and customer interactions

indicate a promising year ahead.

### Finally, could you share your thoughts on emerging technologies, such as electric vehicles, and your company's stance on adopting them?

A While we acknowledge the trend toward electric vehicles, we approach it cautiously. Our focus is on providing practical solutions for our customers. We've introduced electric shotcreting machines for specific applications, considering factors like altitude and temperature. However, we remain cautious about fully embracing technology until it proves both practical and cost-effective for our customers.

# "In 1 cu m concrete mixers, we have 50-60% market share."

### Prashanth Kumar,

Executive Director, Sicoma Mixers India

Could you elaborate on Sicoma's presence in different markets and how it caters to specific regions?



A Sicoma is an Italian-based company specialising in the manufacturing of concrete mixers, with plants in India and China. Sicoma has a subsidiary in India, serving the Indian subcontinent market, and a joint venture in China, catering to the South Asian and Chinese markets. Our parent company in Italy oversees operations in Europe, the US, Gulf region, and exports to countries like Russia and Kenya. We've been expanding our footprint, making significant achievements, including the transition to producing all mixers in India.

### What are the key trends shaping the construction industry, and how does Sicoma distinguish itself from competitors?

A Large infrastructure projects and the adoption of precast technology are key trends driving the construction industry. What sets Sicoma apart is that we manufacture our mixers in India, providing European-quality products at affordable prices. Unlike competitors who import from China, our short delivery periods and comprehensive after-sales support make us unique, especially since none of our competitors have manufacturing bases in India.

POST-EXCON

### Can you shed light on the critical role your concrete plant plays in the construction process and how you ensure continuous support for your mixers?

A The concrete plant is integral to construction, and any issues can halt the entire process. To address this, we have a well-established parts programme with inventory at manufacturing sites, our locations, and our customers' sites. We conduct regular training programmes for OEM engineers, ensuring timely service and parts availability, a point of pride for us.

### (A) How does automation and IoT contribute to Sicoma's operations, and what plans do you have for implementing these technologies?

A Automation and IoT play a significant role in optimising resources. We've introduced IoT in all our mixers, aiding in performance monitoring, issue identification, and cost savings. We plan to offer IoT as a subscription-based programme to end customers, providing a comprehensive view of plant operations, reducing downtime, and enhancing troubleshooting capabilities.

### What challenges has Sicoma faced in the industry, and how do you overcome them?

A Challenges are a part of the industry, from setting up the industry to maintaining consistent quality. Meeting ISO standards is a continuous challenge, but we've overcome them with dedication. We also face competition from various sources, but our market share, especially in the one cubic meter and above sector, is substantial.

### What is the current market share of Sicoma in the mixer industry?

A While I don't have specific figures, in the one cubic meter and above sector, we estimate our market share to be more than 50 to 60 per cent. The recent record of 60 mixers in a month showcases our strong performance. The outlook for the next quarter and year is promising, with potential growth depending on political factors.

### Are there plans for capacity expansion or investment in the near future?

A We've recently expanded our capacity to manufacture larger mixers. While we are well-prepared for the coming years, further expansion may be considered if market demand significantly increases.

#### What are your expectations from Excon?

A It's a great platform to connect with customers, discuss new developments, and gauge the industry's interest. The exhibition provides a valuable opportunity to interact with a diverse audience, and we've received positive responses.

## "The demand for concrete equipment is on the rise."

### K Sunil Kumar,

President, Infrastructure Equipments,

Sunbeam Generators

(A) Could you please tell us about your participation at Excon and what expectations you have?



A We are showcasing our

30 cubic meter (cu m) concrete batching plant, our pump range, and the transit mixer range. Sunbeam is actively involved in the full line of business across the country. Regarding batching plants, we aim to ensure efficient concrete production and offer a variety of options, such as the 30 cu m and 60 cu m plants with different configurations.

In terms of pumps, we are introducing a 70 cu m pump to address the growing need for higher capacity pumps. Additionally, we have a unique product, the mixer pump, targeted at small and medium-sized contractors. This product combines a reversible mixer with a concrete pump, providing a comprehensive solution.

### What sets your products apart from competitors?

A In the realm of transit mixers, we take pride in our design, which is acclaimed globally. Sunbeam is one of the indigenous manufacturers, aligning with the Indian government's vision. Our manufacturing facility in Pondicherry produces a range of products, from batching plants to mixers, contributing to the "Make in India" initiative. Our transit mixers, ranging from 4 to 9 cu m, are designed with sophistication, making them stand out in the market.

### Automation is a prominent trend in the industry. How are you incorporating IoT and telematics into your products?

A All our products incorporate components for IoT. While it is still in the nascent stage, we offer smart concrete pumps with IoT capabilities. Despite skepticism in the industry, we believe in providing options for our customers, and as technology progresses, these features will become more prominent. For instance, our transit mixers have evolved with time to meet the demands of technological advancements.

### What challenges do you face, particularly in terms of customer awareness, and how do you plan to overcome them?

A The service-oriented nature of our products makes uptime and customer satisfaction crucial. Our challenge lies in reaching customers in second and tier-III cities where mechanisation needs are growing. Urbanisation is creating opportunities, and our focus is on expanding our market by educating and servicing customers in these regions.

### • How do you view the concrete equipment segment in India, and what are your strategies for growth?

As urbanissation increases, the demand for concrete equipment is on the rise. We believe that as long as concrete is used, there will be a market for our products. Our approach involves creating awareness, especially in the growing small and medium contractor segment. With a widespread dealership network, we ensure that our products are well-supported and provide value to our customers, contributing to our ongoing growth.

# "We anticipate 10% growth in excavator volumes."

**BKR Prasad,** General Manager – Marketing, Tata Hitachi Construction Machinery

# **Q** Could you elaborate on the new product launches at Excon?

A The theme for this edition is "Chalo Desh Banaye", translating to a focus on performing a duty towards sustainable nation-building. During the inaugural session, Minister of Road and Transport, Nitin Gadkari emphasised on creating a sustainable ecosystem. We unveiled the first indigenously manufactured electric mini excavator, showcasing our commitment to sustainability and alternate fuels.

### What are the key features and challenges of the electric mini excavator?

A The challenge lies in making it perform as well as a conventional excavator. Currently, it can work for about three to four hours continuously with a single charge. The

commercial launch is still in the trial stage, and support from the government for charging infrastructure is crucial. Despite challenges, the future looks promising, and with collaboration, a commercial launch could happen sooner.

### • How is sustainability integrated into your new products and processes?

A Sustainability is not just for our customers but starts within our operations. About 80 per cent of our power needs are met by solar power in our factories. Waste disposal is managed efficiently, and we actively contribute to biodiversity. We're incorporating sustainability into our production solutions to make customer operations more eco-friendly.

### What key trends do you observe in the construction equipment industry?

A The growth of the mini excavator segment, driven by demands in agriculture, solid waste management, and government projects like Har Ghar Jal Yojana, is a significant trend. Mining is another growth driver, requiring both equipment and support solutions. Customised equipment is becoming a trend, with a focus on solutions like the awakened recycler for vehicle scrappage.

### Are there plans for capacity expansion given the acceleration in new product launches?

A Tata Hitachi has ample production capacity, but we are exploring expansion outside India to meet growing demand. We have a robust network of dealerships, machine care facilities, and spare parts distribution to support our customers.

#### (A) How was the performance this year, and



#### what are the plans for the upcoming year?

A We anticipate more than a 10 per cent growth in excavator volumes and close to a 15 per cent growth in turnover, driven by a change in the equipment mix. The next quarter is crucial, and we are optimistic about closing the year on a positive note.

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# "We anticipate a peak in market volume in 2023-24."

### **Dimitrov Krishnan,** Managing Director, Volvo CE India

# Tell us about the company's participation at Excep?

A Excon has always been a significant platform for us, and Volvo has been part of it since its inception in 2000. We consider



Excon as an opportunity to showcase new concepts and solutions. For Excon 2023, our focus is on making stakeholders understand the potential of electric machines and their role in sustainable development. We are showcasing various electric products, including large excavators for mining and battery electric machines like compactors, rollers, wheel loaders, and mini excavators.

# Q You mentioned electric machines; do you have plans to launch hydrogen-powered machines as well?

A While we are actively working on hydrogen technology, both in IC engine and fuel cell versions, it is still under development. We anticipate the technology will mature in the next three to four years. Currently, our emphasis is on showcasing battery electric machines and grid-connected machines as they are closer to market readiness.

### Beyond electric and battery technologies, how are you incorporating sustainability aspects in your machines?

A Sustainability, for us, extends beyond the machines themselves. We collaborate with suppliers to reduce their environmental impact. Our factory in Bengaluru operates fully on solar power, contributing to a 77 per cent carbonneutral status. We believe in a holistic approach, ensuring the entire value chain is geared towards eliminating carbon.

# Q Looking ahead to 2024, how do you foresee the market performance, especially with upcoming elections?

A We anticipate a strong market performance in 2023, with a peak in market volume in 2023-24. While elections may lead to a temporary slowdown of 10 to 15 per cent, we

expect the industry to bounce back post-election. Quarter four of next year could compensate for the pre-election drop, and overall, we remain optimistic about the market's potential.

### Q Are there any plans for investments or capacity expansion in the near future?

A We have recently invested in capacity to assemble our SDLG range of loaders in our factory, starting in January. Incremental investments will continue to increase capacity, and future investments are planned to support our growth.

# "We have designed our products based on IOT platforms."

### **Nirag Chokshi**, Managing Director, Tacklers Engineering

Tacklers Engineering (previously Techno Industries) has a four-decade legacy of manufacturing material handling equipment i.e., EOT cranes, hoists and components. The company's



range of products cater to sectors such as power, steel, ports, railways and heavy engineering, etc. The company is a strategic alliance of Columbus McKinnon, STAHL Crane Systems and Pfaff-Silberblau. **Nirag Chokshi, Managing Director, Tacklers Engineering**, tells us more...

**Excon 2023:** Techno Industries showcased different range of material handling equipment like electric overhead travelling (EOT) cranes, monorail hoists, gantry cranes, jib cranes, transfer cars, rubber tyre gantry crane (RTG) and special fixtures to handle pre-cast slab handling.

Leveraging technology: Nearly five decades of experience in the material handling segment, we integrate the latest technologies in to our products. At present we have designed our products on IOT platforms and safety devices. They can also be connected through cloud-based software where users can closely monitor product performance and take the necessary preventive action. Other than basic principles of lifting solutions we have always designed our products with customised lifting attached to handle particular objects in a safe manner.

Major challenges: The company is facing fierce competition from local or domestic suppliers, regarding pricing and payment terms. The reason is that local suppliers many-a-times compromise on quality since they do not

adopt sophisticated technologies, upgraded software and skilled manpower. Most manufacturers offer huge credit periods to customers, which not only disturbs working capital but adversely affects overall functioning of the sector. To overcome this, we have worked on our standard operating procedures (SOPs) and standard operating guidelines (SOGs) and offer standardised products with quality assurance to all our customers.

Sustainability: Any organisation rests on 3 Ms i.e., Men, Machine and Methods. Techno Industries has continuously worked in all three areas. Whenever skilled and trained manpower work as per pre-defined systems and processes the final machine or product is bound to be sustainable.

2023 and plans for 2024: The company's top-line has increased by 40 per cent along with the increase in our bottom-line as well due to lots of infrastructure projects. Going forward, in 2024, with government initiatives in line with 'Make in India' and Atmanirbhar platforms, many global companies are coming up with newer, bigger and better projects. So we believe that our company too will have a healthy balance sheet.

## "Sustainability is key to our design philosophy"."

### Saurabh Sangla, Managing Director, Adroit Industries

Adroit Industries India, with over six decades of expertise, stands as a pioneer in the propeller/cardan shaft industry, offering an extensive range of 4,500 meticulously crafted



components from forgings. Ranked for the world's secondlargest product range in driveshaft manufacturing, the company meticulously assembles precisely machined components, achieving balance at G-6.3 levels, thus ensuring vibration-free and long-lasting prop shafts. Saurabh Sangla, MD, Adroit Industries, shares his views.

Excon 2023: At Adroit, we take immense pride in offering the world's second-largest range of drive shafts crafted from forgings. For over six decades, our drive shafts have been integral components in construction equipment across 60+ countries. These drive shafts were meticulously engineered to handle higher torque requirements while maintaining minimal weight, optimising overall equipment efficiency. Importantly, sustainability remains a key consideration in our design philosophy.

Sustainability in products: Our dedication to sustainability goes beyond product design. Collaborating with vendors sharing our sustainable ethos, we streamline our supply chain, ensuring stringent standards. Our focus on lightweight designs reduces fuel consumption, aligning with our vision for a greener future. Excitedly, our forthcoming aluminium shaft line showcases innovation and sustainability - lightweight vet durable. These launches signify our commitment to a more sustainable automotive industry, prioritizing performance while championing eco-friendly solutions.

**Hydrogen-powered backhoe loader**: The introduction of Asia's inaugural hydrogen-powered backhoe loader by Nitin Gadkari, Minister, Roads and Highways, marks a pivotal step in adopting eco-friendly construction machinery. This innovative technology holds the potential to drastically reduce the industry's carbon footprint by producing zero emissions. It signifies a progressive shift towards cleaner energy solutions in heavy equipment, fostering a more sustainable construction sector and underlining the growing significance of hydrogen-based technologies in advancing sustainability in the automotive

Plans for 2024: In 2023, our company made significant strides by investing in modern infrastructure, bolstering our plant capacities and witnessing encouraging outcomes. As we venture into 2024, the outlook is exceedingly promising. We anticipate the unveiling of new products, notably in alloy steel and an exciting range in aluminium. Our strategic focus centres on expanding within the burgeoning Indian and North American markets, offering enhanced services and an extensive array of innovative products. Our aim is to solidify our presence by meeting evolving market demands and fostering a stronger foothold through diversified offerings and improved customer-centric services.

## **BKT: Innovating** excellence in specialty tyres

Ashok Chhajer, Senior GM - OE Sales, Domestic Market, BKT



JANUARY 2024

POST-EXCON

In the ever-evolving landscape of tyre manufacturing, BKT stands out as a beacon of innovation and adaptability. **Ashok Chhajer, Senior GM - OE Sales, Domestic Market**, sheds light on BKT's unique position in the industry, emphasising the company's commitment to providing tailored solutions for a vast array of requirements.

BKT's manufacturing prowess is highlighted by its specialisation in crafting specialty tyres, a range that spans from the smallest 1.7 kg tyres to the colossal 6.4 metric tonne giants, effectively covering the entire spectrum of tyre needs. This diversity is a testament to BKT's dedication to meeting the varied demands of the market, reflecting a commitment to inclusivity that sets the company apart. The extensive product range at BKT encompasses pneumatic tyres, solid tyres, radial tyres, and all-steel radial tyres. These tyres are engineered to excel in challenging environments, providing optimal performance, durability, and safety in the rugged terrains often encountered in mining operations.

However, BKT's commitment extends beyond manufacturing excellence. Sustainability and CSR are integral components of the company's ethos. Chhajer highlights BKT's initiatives, including their association with Akshaya Patra, showcasing a dedication to social causes and sustainable practices. This dual commitment ensures that BKT not only delivers high-quality products but also contributes positively to the community and the environment.

Excon: A strategic platform for BKT's showcase: Excon, Southeast Asia's largest construction event, holds a special place in BKT's strategic calendar. Chhajer articulates the significance of this platform, stating, "Excon itself is a USP for BKT". The anticipation for this event is palpable, with BKT eagerly awaiting the opportunity to participate grandly.

The showcase at Excon goes beyond a mere display of products; it is a representation of BKT's technological prowess. This Southeast Asia's largest construction event is not confined solely to construction but extends to material handling as well. Here, BKT unveils its highly specialised tyres and rubber tracks, illustrating the company's diverse capabilities. Noteworthy is the fact that BKT is the only manufacturer of rubber tracks in India.

The exhibition at Excon is not limited to a regional audience. Chhajer emphasises its international appeal, attracting visitors from around the globe.

Trendsetting in tyre manufacturing: BKT's commitment to innovation is evident in its role as a trendsetter in the tyre manufacturing industry. Chhajer highlights the latest trend introduced by BKT, the groundbreaking Earthmax 468. This all-steel radial tyre range is not just a stride in construction equipment; it sets a new benchmark for large earthmovers. The tyre's design and specifications exemplify BKT's foresight in understanding and meeting the evolving needs of the industry.

Another area where BKT has taken the lead is in the realm of rubber tracks. While others may follow, BKT is at the forefront of this trend, pioneering solutions that others aspire to emulate. This leadership in various sectors solidifies BKT's position as an industry trailblaze.

Embracing the electric revolution: Chhajer reveals that BKT is already producing a range of sizes for electric vehicle (EV) tractors in agriculture applications. This forward-thinking approach positions BKT as a go-to solution provider for EV tractors, showcasing a readiness to adapt to emerging industry trends.

Chhajer extends an invitation to those with EV tractor requirements, confidently stating, "If you have any requirements, come to us, and we'll give you the solution." This assurance underlines BKT's commitment to staying ahead of the curve and being a reliable partner in the rapidly changing landscape of electric vehicles in the agriculture sector.

In conclusion, BKT's journey in tyre manufacturing is characterised by innovation, inclusivity, and a forward-looking approach. From producing the smallest to the largest tyres, embracing sustainability and CSR, participating in exhibitions like Excon and being a global brand in addition to leading trends in tire manufacturing, BKT has established itself as a formidable force in the industry. As the world transitions towards electric vehicles, BKT is not merely adapting but actively shaping the narrative, solidifying its position as a pioneering force in the ever-evolving world of specialty tyres.

# "India is a critical market for Cummins."

Antonio Leitao, Vice President – Off Highway, Engine Business & Europe ABO Leader, Cummins Belgium



Please share more information about the product displayed at Excon and what are its features like?

A We are excited about our products, particularly the engine lineup. We have various options, including a new 10-litre engine designed and manufactured in India. This engine is a state-of-the-art model focusing on fuel economy,

efficiency, and overall cost of ownership. Additionally, we offer engines in 15 litres, 6.7 litres, and 4.5 litres, with a focus on meeting industry needs.

### What are the salient features of these engines?

A Our primary focus is on Total Cost of Ownership (TCO) for our customers. We strive to improve fuel efficiency, extend oil change intervals, and provide a robust distribution network across India. This ensures our customers are well-served and can rely on our engines for their diverse needs.

# Q Cummins serves a wide range of industries. What would be the total market share in construction space?

A Among the many strengths that help us to meet our goals is the balance we strike between the needs and interests of all our stakeholders, including customers, employees, shareholders, communities, partners and suppliers. Cummins has been one of the leading global power solutions manufacturers for more than 103 years. We have been present in India for over six decades, marked by the successful integration of our global and local technological expertise across a diverse range of off-highway applications. We remain committed and focused on delivering tailored, innovative solutions to cater to the local market and diverse customer needs. This dedication drives us to develop fit for market products - that are not just robust and reliable but also competitively positioned. Our product portfolio ranges from 4 litre to 15 litre engines to cover the wide variety of construction and agricultural equipment.

### • How does the company collaborate with OEMs to enhance productivity and the product of the engine?

A Our collaboration with OEMs is centered around the Total Cost of Ownership (TCO) concept. We aim to make integration seamless for manufacturers, ensuring our engines can be easily incorporated into their machines. This not only enhances productivity but also aligns with our commitment to providing efficient and innovative solutions to our customers.

### Mow important does R&D play in manufacturing engines?

A Research and Development (R&D) is critical for Cummins, with approximately 4 per cent of our turnover dedicated to it. We invest significantly in improving our internal combustion engines, ensuring they meet global standards and emissions requirements. Innovation is key for us, and we strive to develop engines that set industry benchmarks.

What challenges and opportunities do you foresee for components and accessories in the

#### construction equipment market?

A While we see challenges, such as the need for substantial investments in innovation and emissions control, we also view them as opportunities. Our diverse product portfolio, including the introduction of new engines like the 10-litre model, positions us well to cater to various segments within the construction equipment market. The key challenge lies in balancing growth with the required investments.

### (A) What are your plans for the next year?

A Looking ahead to 2024, we remain optimistic about growth opportunities in India, where we continue to invest significantly, leveraging our position in the market.

While not all products are currently manufactured in India, we are actively working towards expanding our local production. For instance, the 10-litre engine is in progress, and we are investing in manufacturing it in India. We aim to strengthen our position in the Indian market by producing a broader range of engines locally to better serve our customers.

### • How important is after-sales support, and what is Cummins' strategy in this regard?

A fter-sales support is of utmost importance for Cummins. With a history of over 60 years in India, we have a robust network of 18 dealers across the country, ensuring comprehensive support and service. Our strategy revolves around maintaining a strong presence, providing excellent after-sales support to our customers, and continuing to grow and invest in our presence in India.

### Any closing thoughts?

A I'd like to emphasise that India is a critical market for Cummins. We see the increasing investment in the country as a positive trend, and we aim to support our global customers who are investing in India. Our focus on innovation, customer support, and local manufacturing positions us for continued growth and success in the Indian market.

# "CPCBIV+ signifies a significant reduction in emissions."

**Anurag Pai**, Regional Marketing Manager, South Asia, Perkins Engines

Please highlight any specific product launches or developments Perkins is currently undertaking? POST-EXCON

A The most exciting development for us is the launch of the CPCBIV+ certified engines. This aligns with India's upcoming emission norms, and we are proud to introduce a brand-new product in response to this regulation. The 18.1-litre engine, unveiled on the inauguration day of Excon, reflects our commitment to sustainability and cleaner emissions.



The 2806FA-E18TAG1 platform provides excellent cold load acceptance and meets ISO 8528-5 class G2 performance. Steady state stability at constant speed and load achieves ISO8528-5 class G3 performance. This performance makes the 2806FA ideally suited to a wide range of electric power applications. From a stationary prime source of power to a mobile unit serving the rental sector, the 2806FA performs seamlessly, generating dependable power for everything from jobsites to critical installations including hospitals and data centres.

### What trends are you currently observing in the industry, and how does Perkins align with these trends?

A The CPCBIV+ is in line with the government's emphasis on lowering carbon footprints. As technology advances, we understand the need for cleaner energy and emissions. This new engine reduces emissions by almost 50 per cent, covering particulate matter, NOx, and more. We are continually upgrading our products to align with such trends.

The CPCBIV+ signifies a significant reduction in emissions, approximately 50 per cent. Achieving this requires structural and design changes, emphasising cleaner emissions through robust after-treatment processes in the exhaust pipeline.

### Can you share insights into Perkins' approach to technology and R&D, including annual investments?

A I can't disclose specific investment figures. Perkins, being a global company, allocates resources for R&D across various regions. Our focus is on adapting and developing products for different markets. The CPCBIV+ certified engines, for instance, will be manufactured in India, near Bengaluru, with production starting in April 2024.

### (A) How does Perkins address the challenges posed by evolving regulations and technologies in the industry?

A Perkins has a rich history of navigating emission norms, from CPCB-I to CPCBIV+. This requires extensive R&D efforts, and our global expertise allows us to bring advanced technology to India. We understand the challenges, and our continuous innovation reflects our commitment to meeting and exceeding regulatory standards.

### Can you shed light on Perkins' market share and its position in the industry?

A While I don't have the exact market share figures, I can confidently say that Perkins is growing. Our manufacturing facilities are busy fulfilling orders, and our products are making their mark in over 76 countries. The industry's positive response indicates our upward trajectory.

### (A) Could you elaborate on Perkins' broader involvement in the energy solutions sector, considering the shift towards electric power and alternative fuels?

A Perkins is more than an engine manufacturer; we are a complete energy solutions provider. Our tagline—Together, we power ahead—reflects our focus on sustainability. We are exploring various options, including batteries, hydrogen, and hydrotreated vegetable oil, to cater to diverse energy needs.

### (A) Looking ahead, how was 2023 for Perkins, and what are the plans for 2024?

A The year 2023 was a fantastic year for us, marked by significant growth in consumption and infrastructure. The CPCBIV+ launch played a pivotal role. Moving into 2024, we anticipate continued growth, with our manufacturing facilities already booked with orders for this year and the next. Our export business is thriving, reaching more than 76 countries.

## "We intend to be a major player in hydrogen fuel segment."

Jayanta Ray, General Manager (Industrial and OEM), GS Caltex India

Excon: We have been associated with Excon since its beginning. It gives us a platform to meet all our stakeholders in the industry, whether it is our

customers as well as all our OEM partners and different other stakeholders. So we have been associated and using this platform to leverage all our connections and it has been very



good for us. Also, given the growth in construction industry, which we are witnessing now, this year, starting January, there has been a lot of government outlay in the budget for construction, infra and mining segments and this being a core segment for us we are also witnessing quite robust growth. So we can clearly say that we have kept COVID behind and we are quite bullish and that is what we are expecting from Excon.

**Products**: We have been supporting the construction and mining industry. We have upgraded our propositions. Number one in engine oils, which are long drain engine oils called Kixx HDX Euro, which has 1000 hours oil drain interval (ODI). Also we have several range of hydraulic oils which are zincfree high viscosity index hydraulic oils (HVLP) types and also we have different types of greases launched for construction and infra industry whether it's in the rock breaker or in the mobility segment. Also another segment which we are focusing is on the EV transmission fluids and EV coolants. We have new upcoming OEMs. This is just coming up. It is not very commercially huge scale as of now. This EV transition began about three, four years ago but off late the transition is much more in the passenger car segment. In the off-highway segment it's still to catch up but what I understand is that a certain part of construction equipment will also run on electrification. So, we are keeping ourselves ready for that also. This will take time, maybe another five to 10 years.

Trends: The main trend is that all the action that we are doing has to be more sustainable in nature and eco-friendly, because India is going to reduce its carbon footprint to almost nil by 2070 and there is a lot of emphasis on developing eco-friendly solutions. So in line with that GS Caltex is investing quite a lot in its research and development not only for lubricants but also for resins, polymers and chemicals. So in terms of lubricants we are using more and more synthetic technology, which gives a higher ODI advantage and basically higher mileage and all thereby reducing carbon footprint. Also we are using some patented technology in greases, which is giving good results in mining industry, which has also helped us in getting sustainable solutions for our customers.

Research and development (R&D): The main R&D facility is located near Daejon in South Korea, which globally supports all the countries where GS Caltex is operating, Indi being one of them. We can see a significant research and development is going on towards sustainable solutions.

Hydrogen power: Ohe usage of internal combustion engines (ICE) engines is coming down and EV is catching up, but there is another research area which is called "Hydrogen Internal Combustion Engine" (H2ICE) where hydrogen becomes the fuel for ICE engines. So we are also doing research with hydrogen fuel few OEMs globally as well as in India and that is the future, maybe 10 years down the line. A lot of investment is going to be in the hydrogen fuel segment where we intend to be a major player.

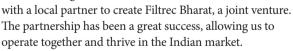
**2023 and 2024**: This is a much better year for us. We are witnessing 3x or 4x growth than the industry average and GS

Caltex is always focusing on R&D and innovation. The high performance base oils and cutting edge technology which we bring to the market are endorsed by many leading OEMs, which fuel our growth. Apart from this, there's a huge emphasis on making all the products sustainable and ecofriendly, which is the theme of our stall and that's what we are showing that we are ready for more sustainable solutions in our products.

# "About 5% of our yearly expenditure is dedicated to R&D globally."

- Andrea Pernici, General Sales Manager, Filtrec
- Manikandan M, Country Head -Sales, Filtrec Bharat Manufacturing
- You have vast
  experience of more than 20
  years in this company
  alone. Can you elaborate
  on the success and
  collaboration with your
  Indian partner?

Andrea Pernici (AP): We identified an opportunity in India two decades ago and collaborated



### Q Please shed light on why the Indian market is crucial for Filtrec Bharat, especially in terms of hydraulic filters.

A Manikandan M (MM): As India is expected to become the third largest economy in the world by FY28, the construction equipment industry is expected to have three times growth in the next six to eight years. Expected to be the third largest market in the world, it was essential to establish our own plant here in India. This move aligns with the increasing investments from European and US customers in





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India.

# (a) Given the changing dynamics in sourcing from China, how has India become advantageous for Filtrec Bharat, and what are the projections for the Indian market in the coming years?

A MM: India's political neutrality and the improving customer sentiment towards quality products and continuous innovation have made us thrilled and committed to Indian customers. For this fiscal year FY23-24, the Indian construction equipment industry is expected to reach 125,000 units, breaching the previous peak of 107,779 units in FY23-22 and expected to double every four years going forward.

# Now has Filtrec Bharat replicated its production processes in Italy and the US in India, and how has this approach been received by customers globally?

AP: We have integrated the production processes across our facilities globally, ensuring a high-quality product made in India and anywhere in the Filtrec factory. Our Indian factory is the integrated one-stop solution for OEM as we have an in-house R&D lab, in-house component manufacturing, standalone clean room facility for Filter manufacturing. We are getting a lot of global customer visits to our Indian factory, and most of them convey positive notes.

# (1) Can you elaborate on what makes Filtrec Bharat's filtration products unique, especially in collaborating with OEMs?

A MM: The QCD parameter is the biggest demand that OEMs have all the time. With the help of an integrated component factory, we can scale up the volume during seasonal times control the quality from the component to the finished goods under one roof, and offer better cost savings due to 90 per cent plus localisation efforts.

# Regarding R&D, what percentage of Filtrec Bharat's focus is on R&D, and how does it contribute to product innovation?

AP: Approximately 5 per cent of our yearly expenditure is dedicated to R&D globally. We focus on meeting customer requirements while also striving to bring outstanding products to the market through continuous innovation.

### Q How does Filtrec Bharat collaborate with OEMs to enhance machine productivity, especially in terms of filtration technology?

A MM: We collaborate with OEMs in all stages from design to delivery and service. From the OEM perspective, they spend a huge portion of the procurement budget on engine, hydraulic and electrical categories. To bring down the

total ownership cost of the machine, most OEMs are engaged in the activity of productivity improvement and bringing down the maintenance cost. We, as the filter manufacturer, are helping OEMs to extend the service interval and avoid the breakdown of high-value hydraulic systems. This collaborative approach enhances machine productivity.

# **Q** Looking ahead, what challenges and opportunities do you foresee in the construction equipment sales industry, especially with the increasing focus on environmental norms?

A AP: Meeting stringent environmental norms is a challenge, but we are actively working on environmentally friendly products and processes. We aim to stay ahead of these challenges and contribute to sustainable practices.

### With Filtrec Bharat serving various industries, what percentage of your focus is on the construction sector?

A MM: Currently, we make a major portion of our revenue and strategy in the construction equipment sector. Even this year Excon-2023, we have launched the complete set of hydraulic filters for excavators. Especially longer service intervals rock breaker filters and air breathers are highly applauded by OEMs.

### (Q) Can you elaborate on recent investments



#### and future plans for expansion?

AP: Filtrec Bharat is financially robust, recently investing in a new cleanroom facility in Tumkur. We have signed numerous contracts with OEMs, and with our strong financial standing, we aim to quadruple our revenue in the next three years.

### • How do you see the future of Filtrec Bharat in India?

A MM: Filtrec Bharat, with its R&D focus and commitment to quality, is well-positioned for growth. We believe in the potential of the Indian market and foresee significant success in the years to come.

**AP**: After over 20 years in India, I am optimistic about the country's future. Filtrec Bharat has played a part in India's success, and we look forward to growing with the country.

# "R&D is crucial for staying ahead of market trends."

### Gajanan V Gandhe, Country Lead and Vice President, Dana India Sandeep Khullar, Executive Director, Off Highway & Commercial Vehicle, Dana India



## **Q** Can you briefly describe the company?

A We are Dana Corporation, a global multinational with around \$10.2 billion in sales in 2022. We operate 38 manufacturing facilities worldwide, employing approximately 42,000 people. In India, we represent about 10 per cent of Dana's global operations,



with 18 facilities. These include manufacturing units for commercial vehicles, highway light vehicles, and supply power technology products such as thermal and electric components.

### • How important do you think the construction equipment segment is?

A It's very important. The off-highway and commercial vehicle segment, representing about 40 to 50 per cent of our total business, includes a significant portion dedicated to construction equipment. We see substantial growth opportunities in this sector.

# When you talk about commercial vehicles, specifically medium or heavy commercial vehicles, what features do they offer?

A In terms of medium and heavy commercial vehicles, we provide fully dressed-up axles, half axles, and various components like synchronizers for transmissions. Our focus is on durability and reliability, and we have a strong track record globally, supplying these products to customers for more than a decade.

• How does the company collaborate with OEMs, and at what stage do you typically get involved in the product development process? A We often collaborate at the design or conceptualisation stage, working closely with customers to understand their needs. Our global product portfolio is customised for the Indian market, and we have a dedicated design team and testing facilities in Germany. Collaboration starts early in the concept phase, ensuring a focus on differentiation, whether in terms of mileage, reliability, or load-bearing capability.

### What role does research and development play in your company's strategy, especially in anticipating market trends?

A R&D is crucial for staying ahead of market trends. We focus on understanding not only customer needs but also where the market is heading. This informs our product development cycle and helps us respond to market demands, whether it's in electrification or other technological advancements.

### • How important is participating in exhibitions like this, such as Excon, for your company?

A Participating in exhibitions like Excon is highly valuable. It brings together key stakeholders, including customers, suppliers, and competitors, providing a unique opportunity to showcase technology, understand market developments, and connect with potential customers and partners. It's a platform for networking, gaining insights into the latest technologies, and exploring future business opportunities.

### What challenges and opportunities do you foresee in the commercial vehicle components sector, especially considering the evolving market?

A One significant challenge is maintaining differentiation in a competitive market. Understanding whether customers value technological advancements or are more focused on cost is crucial. We must align our product offerings with market demands and navigate challenges like potential attacks from global and local competitors.

### Regarding after-sales service, how does your company support products, especially those manufactured in India?

A We ensure a robust after-sales service network, collaborating with our customers' service networks. For products manufactured in India, we provide spares and support through our dealers spread across the country. Additionally, for imported products like the Euro transmission axle, we have a dedicated service network to meet the specific needs of niche markets.

## **Q** In terms of geographical performance, which markets are significant for your company?

A Europe is our largest market, followed by North

POST-EXCON

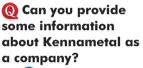
America, India, China, and other regions. While Brazil is significant, India and China play crucial roles in our operations.

### • How was the performance of the company in the past year, and what are the future plans?

A The past year was positive for us, focusing on growth and profitability. Looking ahead to 2024, we anticipate a period of stability and aim to continue our momentum. Future plans include strategic investments and capacity expansions, depending on market growth and stability.

# "Our focus is on improving productivity of customers."

MT Swamy, Regional Leader - APAC, Infra Business, Kennametal India



A Kennametal is an over

80-year-old company that offers material science expertise and strong manufacturing capabilities. It provides solutions for various industries, with a focus on improving productivity and reducing downtime for customers. Our tools, materials and wear-resistant solutions enable customers to run longer, cut faster and machine with greater precision.

## In which segments does Kennametal operate within the construction industry?

A Kennametal operates in the road rehabilitation, surface mining, underground mining, foundation drilling, and trenching applications within the construction industry. Kennametal believes that the market for urban infrastructure development in India will be robust for the next decade due to the government's focus on improving infrastructure such as roads, metro trains, ports, airports, and bridges.

## **Q** What solutions is Kennametal exhibiting at Excon for the construction segment?

At Excon, Kennametal is exhibiting solutions for road rehabilitation, concrete cutting solutions, and augers for surface mining. The company is also focusing on foundation

drilling and trenching applications.

Kennametal's primary focus is on improving productivity and reducing downtime for customers in the construction sector. Kennametal expresses its commitment to innovation and states that it will continue to bring in new solutions in the future

### **(Q)** Why is Excon an important event for Kennametal?

A Excon is significant for Kennametal as it is one of the largest shows for construction, and the company has a substantial presence in the construction segment. After COVID, the event holds particular importance.

# "We are proactively focusing on energy efficiency and digitalisation."

**Dhanraj Kalbhor,** Managing Director, NORD Drivesystems

What are the various products on offer for the construction equipment industry, and how do they cater to regular applications in various industries?

4.0 standards.

A We offer geared motors, which are designed for the construction equipment industry, crane industry and other several industries. Additionally, electronic products, such as variable frequency drives (VFDs), complement gearboxes. These VFDs, a part of it, the NORDAC Pro series, contribute to energy efficiency and digitalization, aligning with industry



A The NORDAC Pro series boasts robustness and considerable strength, which are standard features. Notably, its energy efficiency sets it apart, achieving higher power transmission efficiency. The product aligns with industry trends toward digitalisation, IoT integration, and sustainability, addressing carbon footprint concerns.





### Mow significant is the construction equipment industry for your company, and what challenges and opportunities do you foresee in this sector?

A The construction equipment industry holds great importance for our company, ranking among the top five sectors. While determining market share is complex, the industry's significance is undeniable. Challenges include localising components due to product variants, with a focus on overcoming this by setting targets for sales turnover and localisation by 2026.

### How does your company approach collaborations with OEMs to enhance product integration and performance solutions?

A We are proactively focusing on energy efficiency and digitalisation. We collaborate with OEMs to understand their requirements and introduce new products. For instance, DuoDrive which is a new product having higher energy efficiency (IE5) & it is designed for automation in smaller sizes airports, and warehouse automation cater to evolving customer needs.

### What role does R&D play in your company's operations?

A Currently, R&D is centrally managed in Germany, serving as the global headquarters. The company, founded in 1965, has been present in India since 2005, with a manufacturing plant established in 2008. The Indian subsidiary primarily focuses on gearbox production.

# **Q** Could you provide insights into your recent investment plans and capacity expansion, including the opening of a new plant in Pune?

A Recently, we inaugurated our third plant in Pune, reflecting positive market growth. The existing two plants, operational since 2008 and 2019, produce around 45,000 gearboxes and geared motors. The new plant aims to add an additional 10,000 to 15,000 units, contributing to future capacity expansion.

# © Considering the positive market response post-COVID, what are your company's performance expectations for 2024, especially in light of the upcoming elections?

A The market has responded positively post-COVID, with expectations to surpass the turnover achieved in 2020. Witnessing significant growth, the company aims to provide continuous support to customers for stable growth in India.

Currently, the company focuses on the Indian subcontinent, with subsidiaries in 38 countries globally. While not competing with the direct presence in these countries, the company remains optimistic about India's growing economy and expects a positive market response.

# "Sustainability is a key focus for us."

**Rajesh Kaul**, VP & Buisness Head Trucks, Tata Motors

Can you provide a brief overview of your company's focus and theme, particularly in the context of moving India forward?



A Our company is at the forefront of manufacturing trucks, tippers, and construction vehicles, catering to a wide range of applications. Our overarching theme is centered around contributing to the progress of India.

### • How does your company approach the construction equipment sector?

A Construction is a vital focus for us, evident in our brand "Construck," established over a decade ago. Our unique approach involves separating construction-related machines from the broader category of trucks. This allows us to highlight the importance of both cargo and construction. We emphasise engineering, endurance, and durability, crucial for the harsh conditions in construction and mining. Tata Motors is a leader in this segment, prioritising reliability and customer satisfaction across various applications.

### What are your expectations for the heavy commercial vehicle industry's future?

A We foresee a promising future for heavy commercial vehicles, especially with the transition to increased axle loads. Despite industry cyclicity, the sector is experiencing double-digit growth, driven by factors such as infrastructure development, e-commerce demands, and the need for vehicle replacements.

### • How is your company addressing sustainability concerns in the commercial vehicle industry?

A Sustainability is a key focus for us, and we are actively addressing it through various initiatives. We have showcased our commitment to greener energy vehicles, including the launch of LNG (liquefied natural gas) vehicles. Our efforts extend to adhering to net-zero objectives and promoting a circular economy through vehicle scrappage centres. Additionally, we are exploring advancements in battery electric vehicles, emphasising that infrastructure development is crucial for their successful integration.

REPORT www.EquipmentIndia.com

# HYDROGEN-POWERED REVOLUTION!

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As the hydrogen-powered revolution gains momentum, India stands at the forefront of a cleaner and more sustainable automotive future.



n the fast-evolving landscape of alternative fuels, hydrogen is emerging as the frontrunner, poised to redefine India's automotive industry. As 2023 laid the foundation, 2024 is anticipated to witness a significant surge in efforts from both the government and the automotive sector to propel India into the hydrogen era. Electric vehicles (EVs), once hailed as the panacea for emissions and import dependence, are now sharing the spotlight with hydrogen-powered vehicles, which are gaining traction for their potential to address both environmental concerns and economic challenges.

The groundwork for this shift is evident in the National Green Hydrogen Mission launched by the Union Government, aiming to develop a hydrogen production capacity of 5 million metric tonnes per annum, attracting investments of around Rs 8 trillion. Tata Motors and Ashok Leyland showcased heavy-duty trucks with hydrogen internal combustion engine (H2ICE) technology at the Auto Expo, signaling a proactive industry response.

Omega Seiki Mobility is set to launch a hydrogen-fuel cell-powered three-wheeler, and Tata Motors, in collaboration with Indian Oil Corporation, unveiled India's first green hydrogen fuel cell electric bus. JCB, a construction equipment manufacturer, added to the momentum with the global debut of an H2ICE vehicle at Bengaluru.

BlueWeave Consulting projects substantial growth in India's hydrogen fuel cell vehicle market, estimating a compound annual growth rate of 27.66 per cent, reaching \$347.85 million by 2029. **Subhabrata Sengupta** from **Avalon Consulting** anticipates 10,000-12,000 hydrogen-powered vehicles, primarily medium and heavy commercial vehicles, on Indian roads by 2030.

However, challenges loom over the



hydrogen-powered dream. Fuel cell technology, though safe, faces cost hurdles and lower efficiency compared to EVs. Himanshu Singh from Prabhudas Lilladher notes that India still imports electrolytes used in fuel cell production. Efforts to produce synthetic hydrogen through carbon capture are underway, but scalability and pricing remain significant obstacles.

Despite these challenges, industry leaders remain optimistic about overcoming the obstacles. Ravi Chawla, MD and CEO of Gulf Oil, sees potential in setting up the hydrogen supply chain and addressing cost concerns through technical interventions. Government incentives, such as Production-Linked Incentives (PLI), are expected to boost domestic electrolyte production and reduce costs.

In a groundbreaking move, JCB plans to invest £100 million to produce super-efficient hydrogen engines, unveiling hydrogen combustion technology aimed at achieving net-zero carbon emissions by 2050. Tim Burnhope, Director of Special

Projects, highlights JCB's reengineering of engines to run on hydrogen, providing a zero-carbon and zero-CO2 solution.

Deepak Shetty, CEO and Managing Director of JCB India, links this innovation with Prime Minister Narendra Modi's 'National Green Hydrogen Mission.' With 150 engineers working on hydrogen combustion engines, JCB has already manufactured over 75 prototypes, showcasing India's commitment to spearheading hydrogen-powered construction equipment globally.

Meanwhile, major manufacturers like Komatsu and Liebherr India are actively exploring hydrogen as a key component of their carbon neutrality roadmaps. Yasunori Fujii, Managing Director, Komatsu, acknowledges the challenges, stating, "Yes, we're actively working on a hydrogen engine as part of our roadmap for carbon neutrality by 2050. However, the high costs associated with hydrogen technology are a challenge that many manufacturers are facing."

Liebherr India's Managing

Director, Sanjay Prasad, also affirms their commitment to hydrogen technology, saying, "We are also working on the hydrogen variant, though the specifics are still in the design or planning stage. Factors like hydrogen variants will be considered in the future." These statements underscore the industry-wide recognition of hydrogen's potential and the collective effort to overcome the challenges, paving the way for a sustainable automotive future in India.

As the hydrogen-powered revolution gains momentum, India stands at the forefront of a cleaner and more sustainable automotive future. The collaborative efforts of the government, industry, and innovative startups are paving the way for a hydrogen era that holds the promise of addressing emissions, reducing dependency on imports, and driving economic growth. The road ahead may be challenging, but with determined efforts and strategic initiatives, India is poised to make a significant mark on the global map of alternative fuel adoption.



TECHNOLOGY www.EquipmentIndia.com

# GUARDING BY LOCATION: DANGER AND COMPLIANCE

Despite its nearly global acceptance as a concept in industrial safety, the practice of guarding by location remains a particular problem for overhead conveyor applications.

he global leader in conveyor safety is disputing the idea that putting conveyor equipment out of reach or inconveniently placed away from workers -- known as "Guarding by Location" -- is a valid form of safety. After decades of safe equipment design and comprehensive conveyor safety training in the bulk handling industry, Martin Engineering experts have witnessed where "guarding by location" has led to a lapse in workplace safety, resulting in injuries and - in some cases -- fatalities.

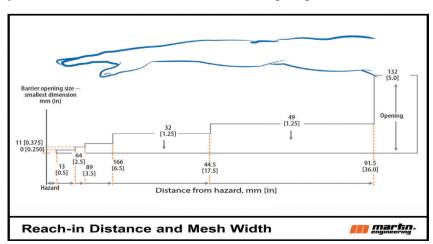
Most people readily accept that conveyors and other machinery require safety guards when positioned near workers or walkways. Guarding by location is the assumption that when hazards, such as moving conveyor belts, are positioned beyond the normal reach of a worker they don't require a guard. Yet they can still present a serious hazard.



Unguarded return rollers over walkways can fall and produce a serious hazard.

### Worker Risks from Guarding by Location

Some regulations define a general safe height for components based on the average height of workers. This



Reach-in hazards ("breaking the plane") can apply to both the mesh size and the height of the barrier.

means taller employees (1.82 m/6 ft. in height or more) can easily suffer an injury reaching up into a moving component that is 2.13 m/7 ft above the ground. Working above machinery that is considered guarded by location exposes workers to increased severity of injury if they slip or fall to a lower level. Most regulations do not account for the potential buildup of spillage underneath the conveyor or in walkways, which can easily change the distance between the working surface and a hazard. It's also fairly common practice to purposely collect a pile of material or fill a bin to gain access for service or inspection of an elevated component. Using tools and methods that extend a worker's reach while the belt is running is a hazardous activity that can contribute to serious -- and possibly fatal -- accidents.



Return roller guards ensure detached rollers don't pose a hazard to workers or harm the system.

#### **Hazards From Above**

By not requiring a physical barrier, guarding by location creates what is considered by some to be an exception to the general requirements for the guarding of hazards in the workplace. Several hazardous locations are beyond the normal reach of staff when working or walking under or around elevated conveyors. These hazards are commonly found in or around nip points between the belt and return rollers or drive components such as pulley shafts, couplings, drive belts, gears and chains. Additional hazards from falling components may be inadvertently ignored if considered guarded by location.

#### **Guarding Best Practices**

The logical solution to guarding by location is to simply install guards and baskets to protect workers from lateral and overhead hazards, while still offering safe and easy access. For maximum risk reduction, all nip points, shear points and moving or rotating components should be guarded, regardless of location or access.

However, there is also no global standard for guard mesh sizes and mounting distance from the hazard. Most standards use a gauge to measure



All moving or rotating components should be guarded, regardless of location.

the distance which varies by mesh size. When a bulk material handling guard is placed relatively close to a hazard it greatly reduces the ability to inspect components without removing the guard, thereby encouraging guard removal for routine inspections.

It would be far better (and safer) to standardise on a few mesh sizes and mounting distances allowing maintenance workers to build guards to a short list of materials, using standard mounting distances and eliminating the use of the gauges. Below is the recommendation included in Martin Engineering's book FOUNDATIONS for Conveyor Safety.

### Put an End to the Myth

Despite its nearly global acceptance as a concept in industrial safety, the practice of guarding by location remains a particular problem for overhead conveyor applications. It's time to accept that as far as conveyors are concerned, 'guarding by location' is a myth. As such, it's a concept that should be abandoned in order to make conveyors -- and those who work on and around the equipment -- safer.

#### **ABOUT THE AUTHORS:**

R Todd Swinderman, P.E. / CEO Emeritus / Martin Engineering. Swinderman served as President of the Conveyor Equipment Manufacturers' Association and is a member of the ASME B20 committee on conveyor safety. Swinderman retired from Martin Engineering to establish his own engineering firm, currently serving the company as an independent consultant.

Daniel Marshall, Process Engineer, Martin Engineering. Marshall has presented at more than fifteen conferences and is sought after for his expertise and advice. He was also one of the principal authors of Martin's FOUNDATIONS™ The Practical Resource for Cleaner, Safer, and More Productive Dust & Material Control, Fourth Edition, widely used as one of the main learning textbooks for conveyor operation and maintenance.

REPORT

# HOW CRITICAL EQUIPMENT HELPED RESCUE TRAPPED WORKERS IN UTTARKASHI TUNNEL COLLAPSE

Manual tools, such as hammers and chisels, became the instruments of choice.

n the auspicious day of Diwali, 12 November 2023, the idyllic landscapes of Uttarkashi district in Uttarakhand, witnessed an unforeseen tragedy—the collapse of a section of the Silkyara Bend-Barkot tunnel under construction. This incident left 41 workers trapped inside, setting the stage for a remarkable tale of resilience, determination, and the collaborative efforts of various teams involved in the harrowing 17-day rescue operation.

The monumental rescue mission, aptly named Operation Zindagi, was spearheaded by the state government to free the trapped workers. The operation faced an array of challenges from the outset, primarily due to the absence of escape shafts in the tunnel and its construction in a geological fault. The initial rescue attempts were hindered by the type of debris generated during the collapse, prompting the deployment of rat-hole miners who employed manual mining methods to create an access pipe to reach the trapped workers.

The complexities of the operation required a multi-agency approach, involving the National Disaster Response Force, the State Disaster Response Force, Uttarakhand Police, Indian Army Corps of Engineers, and Project Shivalik of the Border Roads Organisation. Geologists from the state government and educational institutions were dispatched to the site to investigate the root cause of the incident.

As the rescue efforts unfolded, a series of setbacks, including drilling



machine malfunctions and difficulties in navigating through debris, tested the mettle of the teams involved. The use of a US-made tunnel drilling machine proved challenging, eventually breaking and getting stuck inside the tunnel. Manual tools, such as hammers and chisels, became the instruments of choice to break through the debris and reach the trapped workers.

Despite the setbacks, alternate methods were intensively explored. Vertical drilling by Satluj Jal Vidyut Nigam and pipeline installations by Rail Vikas Nigam were initiated, adding strategic dimensions to the rescue operation. A road construction project by the Border Roads Organisation facilitated access to a hillock above the tunnel for potential vertical shaft drilling.

Vinod Kumar, ex-NHPC, who was also involved in 760-km long Konkan Railway project, connecting Mumbai to Bengaluru said, "Tunnel rescuing is different from rescuing someone from

building collapse.
During building
collapse,
everything is
visible, you just
need to remove the
rubble and rescue



the people. Whereas in tunnel rescue operation, it is very difficult as rock falls through the roof. In this scenario, about 99 per cent of people across the world, remove the muck and water. When you remove the muck, more and more muck keeps coming in."

So which equipment works best in this scenario? Says Kumar, "We don't





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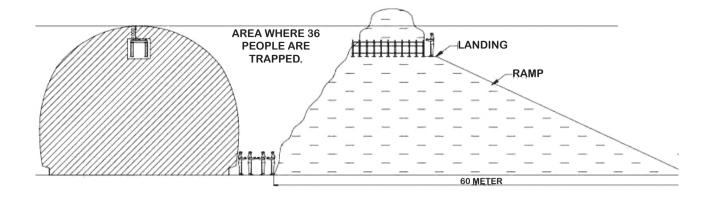








REPORT





Rat hole drift for Uttarkashi tunnel work shared by Vinod Kumar.

need large equipment. Small loaders like Bobcat or any 0.5 cum scoop tram, welding and gas cutting equipment, etc. are enough. Otherwise, a micro drilling equipment is the best with the 800 dia pipes."

"The rescue operation is viewed as a remarkable achievement considering the challenging circumstances and the length of time the workers were trapped. The success of the rescue mission is attributed to the combined efforts of various teams, including

rescue agencies, experts, and the Indian Army, who worked relentlessly to ensure the safety and liberation of the trapped



workers," said SP Rajan, Head - Plant & Machinery, Larsen & Toubro.

The collapse of the tunnel has raised questions about the preparedness and safety measures in place, suggesting that there were failures in preventing such a tragedy from occurring in the first place. Said SP Rajan, "The encounter with various obstacles, such as the sluggish performance of the auger machine and the entanglement of its blades, were seen as failures that delayed the rescue efforts."

A laser equipment from Punebased Suresh Indu Lasers was crucial. The company was charged with removing the drilling machine's 40-meter blade, which was blocking entrance to the rescue tunnel. The rescue teams had already begun cutting the blade with traditional equipment, but it took too long. The laser machine

was then decided to be used. "Our equipment arrived on site on November 26 and completed the job on the same day,"



"It was a collective operation... Being civilians we could not enter the tunnel. We gave the rescue personnel impromptu training on how to operate the equipment. The machine was lowered into the tunnel through a dummy pipe," Shah said.

One of the other equipment that was deployed during the rescue operation was Pro Engineers' flexiprobe P540c portable video inspection system. The powerful controller provides a comprehensive and intuitive user interface, simple menus and dedicated function buttons. It incorporates reporting templates to

comply with multiple standards to meet most needs. It has a built-in rechargeable battery that provide up to 7.5 hours usage.

The flexiprobe P540c system is managed by the most powerful and intuitive Controller ever designed by Pearpoint. A quick boot-up, an intuitive user interface and a high definition 10.1-inch TFT display, the P540c lets you concentrate on the job in hand. An MSCC-compliant report will be ready to share as soon as your survey is completed, using the condition codes of your chosen standard. The on-board WiFi connectivity allows to use communications device or dongle as a hotspot, letting one to share survey with the customer, manager or accounts department, creating productive time for you.

The success of the rescue mission is a testament to the collective efforts of various teams, including rescue agencies, experts, and the Indian Army, who worked tirelessly to ensure the safety and liberation of the trapped workers. The Silkvara Bend-Barkot tunnel incident serves as a poignant reminder of the importance of meticulous planning, geological awareness, and the relentless pursuit of innovative solutions in the face of adversity.



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# BEYOND THE DUST

The market for construction equipment filters is influenced by global economic conditions, as construction activity often correlates with economic growth.





# BEYOND THE DUST

The market for construction equipment filters is influenced by global economic conditions, as construction activity often correlates with economic growth.





n the relentless world of construction and mining, where heavy machinery battles extreme conditions, the unsung heroes ensuring optimal performance are filters. These essential components not only shield engines and hydraulic systems from contaminants but also play a pivotal role in meeting evolving emission regulations and advancing technology trends. In this feature article, we embark on a journey through the transformative landscape of filtration, exploring how cuttingedge innovations are shaping the efficiency and sustainability of construction and mining machinery.

In the heart of the construction and mining machinery lies the unsung hero - the filter. These unassuming components are the frontline defenders, preventing foreign particles and contaminants from infiltrating engines and hydraulic systems. Without their silent diligence, fluid power systems remain incomplete, leaving machinery vulnerable to damage and unexpected breakdowns. The emphasis on the quality of hydraulic filters is paramount, especially given the sensitivity of hydraulic components within the system.

Says Vishwas Gawade, Vice

President Advanced Technology, Mann and Hummel India, "The filter market is expected to witness exponential growth owing to the increasing purchasing power of consumers in the country, fuelled by growing vehicle, equipment and machinery sales and expanding vehicle fleet size. In addition, demand for filters is expected to be driven by rising concerns regarding environmental pollution. As per industry expert opinion, the market is projected to grow at a CAGR of more than 10 per cent by 2023. The government has also taken up numerous initiatives such as National Automotive Testing and R&D



Infrastructure Project (NATRiP), Focus Market Scheme (FMS), Automotive Mission Plan 2016-2026, and "Make in India" programme. These are anticipated to positively impact the country's filter market during the forecast period."

### Technological trends in filtration

As construction and mining equipment embrace state-of-the-art technology, the demand for advanced filtration solutions is at an all-time high. The present landscape requires filters with longer change intervals, heightened operating safety, increased separation efficiency, and compatibility with the latest hydraulic oil formulations. Enter highperformance filters, often featuring a double-layered design – a pre-filter capturing larger particles and a main layer trapping smaller one. This innovation significantly boosts dirt-holding capacity and elevates oil cleanliness throughout the machinery's service life.

A seismic shift is underway in the construction equipment market, driven by the need to meet stringent emission regulation norms. While on-road vehicles have already adopted BS VI regulations, off-highway vehicles and agricultural machinery face upcoming regulations in the next year. Advanced and matching filters are becoming imperative for compliance, ensuring clean and efficient equipment operation while meeting the challenges posed by evolving emission norms.

Globally, the surge in construction activities, coupled with increased infrastructure investments, is propelling the growth of the construction machinery filter market. Filters emerge as indispensable components, safeguarding system integrity, reducing maintenance costs, and enhancing the overall efficiency of construction machinery. The emphasis on superior infrastructure, particularly in booming economies like China, India, and Indonesia, fuels the

escalating demand for construction machinery filters.

Filtration technologies extend beyond conventional filters, introducing innovations such as smart filter monitoring systems. Mann and Hummel India's Senzit, for instance, employs sensors to monitor air filter status, providing valuable insights into machinery performance, hours of operation, and filter conditions. This revolutionary technology optimizes machine uptime, safeguards engines, and minimises unnecessary filter changes, contributing to increased filter capacity utilisation and extended machine service life.

With a growing emphasis on infrastructure investments worldwide, the demand for Structural Health Monitoring (SHM) systems is on the rise. These systems, coupled with premium construction machinery filters, contribute to the sustainability of structures by offering benefits like low maintenance costs and post-construction inspections. From bridges and dams to marine industries and aerospace, the reliability and longevity of equipment become dependent on top-notch filtration solutions.

Industry experts, including Vishwas Gawade of Mann and Hummel India, anticipate exponential growth in the filter market, driven by increasing consumer purchasing power, rising environmental concerns, and government initiatives like NATRiP, FMS, and Make in India.

Says Manikandan M, Country Head - Sales, Filtrec Bharat Manufacturing, "We collaborate with OEMs in all stages from design to delivery and service. From the OEM perspective, they spend a huge portion of the procurement budget on engine, hydraulic and electrical categories. To bring down the total ownership cost of the machine, most OEMs are engaged in the activity of productivity improvement and bringing down the maintenance cost. We, as the Filter manufacturer, are helping OEMs to extend the service interval and avoid the breakdown of high-value hydraulic systems. This collaborative approach enhances machine productivity."

IQORON VP range offers a flexible filtration concept, which shows its strengths, especially in extremely dusty environments. The two-stage air cleaners which make the most of installation space complements conventional round air cleaners and provide the necessary flexibility for numerous applications. The core element of the compact air cleaner series is the innovative filter element concept called VarioPleat. It provides a particularly high power density with filter systems, with an axial air flow. The ENTARON XD series sets new standards for two-stage air cleaners. This series combines the best characteristics of the successful and proven Europiclon and NLG air





cleaners with a number of innovative new ideas. This makes the ENTARON XD the new benchmark for two-stage tangential air cleaners.

### **Benefits of proper filter** maintenance

#### Extended equipment lifespan:

Regular maintenance and replacement of filters contribute to the extended lifespan of construction equipment. By preventing contaminants from reaching critical components, filters help reduce wear and tear, allowing machinery to operate efficiently for a more extended period.

Improved fuel efficiency: Clean air and fuel filters contribute to improved fuel efficiency by ensuring optimal combustion in the engine. This not only reduces fuel consumption but also minimises harmful emissions, aligning with environmental regulations and sustainability goals.

**Enhanced equipment** performance: Properly maintained filters contribute to enhanced equipment performance by preventing contaminants from compromising the functionality of key components such as engines and hydraulic systems. This results in smoother operation, increased productivity, and reduced downtime.

#### Reduced maintenance costs:

Regular filter maintenance can significantly reduce overall maintenance costs associated with construction equipment. By preventing contaminants from causing damage, operators and fleet managers can avoid costly repairs and downtime.

Operator comfort and safety: Cab air filters play a crucial role in ensuring operator comfort and safety by providing a clean and pollutant-free environment within the equipment's cab. This is particularly important for operators who spend long hours in their machines.

#### Challenges in filter selection

While filters are essential for construction equipment, selecting the



right filters and implementing proper maintenance practices present challenges for operators and fleet managers. Some common challenges include:

#### **Environmental conditions:**

Construction equipment often operates in harsh and dusty environments, which can accelerate the clogging of filters. Understanding the specific environmental conditions and selecting filters with appropriate filtration capacities is crucial.

Filter quality and compatibility: The quality of filters can vary, and using substandard filters may compromise equipment performance. It is essential to choose high-quality filters that are compatible with the equipment's specifications to ensure optimal filtration.

**Proactive maintenance practices:** Establishing proactive maintenance practices, including regular inspection and replacement of filters, is essential. Many equipment failures can be traced back to neglected filter maintenance, emphasising the importance of a comprehensive maintenance strategy.

**Operator training:** Operator awareness and training are crucial for the proper maintenance of filters. Operators should be educated on the significance of filter maintenance, the signs of filter failure, and the importance of adhering to maintenance schedules.

### **Conclusion**

As construction and mining machinery march into the future armed with advanced technology, the silent workhorses - filters - become the unsung champions. From meeting stringent emission regulations to enhancing overall machine efficiency, innovative filtration solutions are steering the industry toward a promising future. The growth of the construction machinery filter market intertwines with global infrastructure development, positioning it as a key player in sustaining economic growth and productivity. With experts foreseeing significant growth and technology steering advancements, the future of construction and mining machinery filtration emerges as a dynamic and promising landscape.

In the fast-paced and demanding world of construction, where equipment reliability is paramount, filters play a pivotal role in ensuring the efficiency and longevity of machinery. By effectively filtering out contaminants, construction equipment filters protect critical components, reduce maintenance costs, and contribute to a more sustainable and productive construction environment.

Fleet managers and operators must prioritize proper filter selection, regular maintenance, and proactive replacement to reap the full benefits of these often underestimated components. In doing so, they not only enhance the performance and lifespan of their construction equipment but also contribute to a safer, more comfortable working environment for operators and a more sustainable construction industry as a whole.







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# "THERE WILL BE A SHIFT TOWARDS

# ADVANCED SYNTHETIC AND SEMI-SYNTHETIC GRADES."

**Ravi Chawla,** MD & CEO, Gulf Oil Lubricants, speaks on the how is their company addressing sustainability concerns in its product offerings.

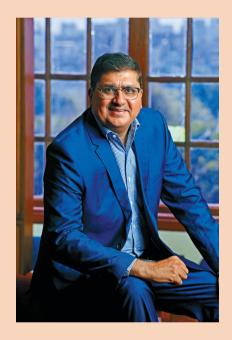
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# Can you provide an overview of Gulf Oil's positioning in the current landscape, especially in the construction industry?

Gulf Oil has strategically positioned itself in the construction industry by adopting a segmented business model, catering to both B2B and B2C lubricants. Over a decade ago, Gulf Oil recognised the significance of the infrastructure segment in India's economy. The company formed a dedicated team to serve customers in this sector, offering specialised lubricants for various equipment and projects. This unique approach has set Gulf Oil apart in the industry, with a substantial focus on key accounts such as L&T, Shapoorji Pallonji, and more. Currently, this segment contributes to approximately 6 to 7 per cent of Gulf Oil's volumes, experiencing doubledigit growth annually.

# What challenges and opportunities does Gulf Oil foresee in the current market scenario?

Gulf Oil acknowledges challenges related to project timelines, funding, and the need for skilled manpower in the construction industry. Ensuring timely completion of projects, addressing funding cycles, and managing skilled personnel for equipment maintenance are crucial challenges. On the flip side, the industry's continuous growth presents opportunities. Gulf Oil emphasises the



importance of having the right skill set to manage equipment efficiently and the need for quick turnaround times on projects.

# Can you share Gulf Oil's experience and involvement in the Excon exhibition in Bengaluru?

Gulf Oil has actively participated in Excon exhibitions. I have been involved in steering committees for various editions. The company has successfully built its customer and OEM base through these events. Gulf Oil highlights its commitment to sustainability, globalisation, technology, and inclusiveness, aligning

with the themes emphasised in Excon. The company showcased products such as Gulf Harmony Biosynthetic 46, a biodegradable hydraulic oil, and UV fluids, demonstrating its dedication to environmental sensitivity and sustainable solutions.

### What recent advances or features has Gulf Oil introduced in its products for the construction equipment sector?

Gulf Oil has a history of pioneering lubricants with a focus on longevity and quality. Recently, the company introduced products like Gulf Harmony Biosynthetic, a synthetic oil with advanced grades, and a biodegradable hydraulic oil called Harmony. Additionally, Gulf Oil launched Gulf Harmony Premium 46, a zinc-free hydraulic oil designed for extreme weather conditions in India. The company also introduced high-performance wire rope grease, emphasising its commitment to optimal lubrication and product durability.

# How does Gulf Oil collaborate with OEMs and other industry partners to enhance its products and services?

Gulf Oil values partnership for growth as a fundamental principle. Over the years, the company has established partnerships with over 40 OEMs in the automotive, industrial,



and construction equipment sectors. These partnerships go beyond product collaboration, extending to various segments such as factory, aftermarket, and operator levels. Gulf Oil's approach involves working closely with OEMs on product technology, testing, and providing comprehensive services, including education for dealers and operators. The company also emphasises the importance of being at the forefront of technology, working with additive companies and base oils in its state-of-the-art R&D facility in Chennai.

# How is Gulf Oil addressing sustainability concerns, both internally and in its product offerings?

Gulf Oil is actively addressing sustainability concerns by developing products that promote environmental consciousness. The company's long-lasting oils contribute to sustainability, and it has introduced biodegradable lubricants. Gulf Oil is also adapting its lubricants to meet the needs of alternative fuels like CNG, LPG, and hydrogen. In the EV space, the company is manufacturing charging solutions and investing in related technologies. Internally, Gulf Oil is exploring solar-powered electricity for its plants and incorporating recycled plastic usage. The company's AdBlue product helps reduce NOx emissions, demonstrating its commitment to sustainability.

### What market trends does Gulf Oil anticipate, and how is the company preparing to adapt to these trends?

Gulf Oil anticipates continued growth in the lubricants industry, with a focus on industrial and infrastructure lubricants. Despite the rise of electric vehicles, the lubricants industry is expected to grow by 2 to 3 per cent in volume and 6 to 7 per cent in value over the next decade. Gulf Oil emphasises the trend of improving lubricant quality, with a shift towards



more advanced synthetic and semisynthetic grades. The company is positioning itself to cater to the demand for better viscosity and premium lubricants in the Indian market. Gulf Oil sees industrial and infrastructure lubricants as the key growth segments, driven by the expansion of world-class equipment in India.

# How does Gulf Oil view the PLI scheme and its potential impact on the growth of the auto and auto components industry?

Gulf Oil views the PLI scheme positively, expecting it to have a significant impact on the growth of the auto and auto components industry. The scheme promotes regional supply concepts, making India a hub for OEMs supplying to global markets. Gulf Oil sees this as a boost to the localization efforts in the industry. The stability of the political and social environment, along with the availability of labour and advancing technology, positions

India favourably. Gulf Oil believes that the PLI scheme, coupled with India's stable environment, will contribute to the continuous growth of the industry.

### As we approach the end of the year, what are Gulf Oil's plans for 2024 in terms of investments, capacity extension, and overall market strategy?

Gulf Oil has a robust plan for 2024, with a focus on rewarding shareholders and improving market share across segments. The company aims to achieve two to three times the industry's growth rate, emphasising both B2B and B2C markets. Gulf Oil plans to invest around Rs 25 crore in capex for its lubricant business. With strong brand recognition and partnerships, the company aims to grow consistently, improve margins, and achieve double-digit growth in various segments. Gulf Oil is confident in its capacity, with utilisation at 90 to 95 per cent, and anticipates a positive outlook for 2024 with a strategic focus on growth and market expansion.



## REVOLUTIONISING

## INDUSTRIAL SUSTAINABILITY

Modern industries are integrating the practice of drawing periodic oil samples to meticulously track the condition of lubricants and machine health.





n the recent landscape of infrastructure development and industrialisation there has an increase in mechanised operations of both construction and mining industry. Rapid mechanisation has led to huge carbon emissions which is of concern the people living on the planet.

Being competitive and sustainable has become need of the day, leading machine manufacturers to develop equipment's that would be more efficient, reliable, emitting less carbon. This has led to research and development in the industry of construction and mining equipment. Focus being on fuels that leave a smaller carbon foot print. Simultaneously lubricants manufacturers have also been relentlessly working to develop more efficient lubricants that can minimise the drag forces and be energy efficient.

 $\mathrm{CO_2}$  emission is only one part of the problem, reliability of these

machines is also of paramount importance that impacts the operational cost of these machines.

Oil in the machine is like blood in the human body, just like the blood being indicator of human health, oil analysis can prove a lot of useful information about the machines condition and its reliability. Apart from this, oil analysis also provides a wide spectrum of data that can be used to predict when the asset will fail and seize to operate.



Traditional approach of changing lubricating oil based on fixed schedules is undergoing a paradigm as the focus shifts towards sustainability. The adoption of periodic oil analysis and condition-based oil changes not only extends the life of valuable lubricants but also acts as a proactive shield against equipment failures. This write-up explores the significance of oil analysis in the industrial realm, emphasising its transformative impact on sustainability, proactive maintenance, and operational efficiency.

#### Oil analysis programme

At the core of this transformative approach lies the oil analysis programme, a dynamic tool that monitors both the condition of the oil and the health of the machinery. With approximately half of equipment damage attributed to oil-related issues, and around 80 per cent of equipment defects detectable through lubrication oil analysis, the significance of this practice becomes evident. The oil analysis programme addresses challenges posed by oil contamination and degradation in industrial lubrication and further highlights emerging trend, such as oil regeneration programs, that breathe new life into oils, aligning with sustainability goals.

#### **Proactive maintenance**

Modern industries are integrating the practice of drawing periodic oil samples to meticulously track the condition of lubricants and machine health. This proactive approach serves as an early warning shield against catastrophic equipment failures, ensuring operational continuity and offering substantial financial savings.

Proactive maintenance stands in stark contrast to the traditional reactive maintenance approach, where equipment is serviced or repaired only after a breakdown occurs. In the realm of industrial machinery, particularly those reliant on lubricating oils along with other condition monitoring aids, a proactive maintenance strategy is gaining prominence. This involves actively monitoring the condition of machinery and its lubricants to identify potential issues before they escalate into costly and disruptive failures.

The proactive maintenance approach leverages oil analysis as a powerful tool to gain insights into the health of both the lubricating oil and the machinery it serves. Rather than adhering to rigid schedules for oil changes, industries are adopting a more dynamic strategy based on the true condition of the lubricant. Periodic oil sampling, when coupled with comprehensive testing, allows for the early detection of issues such as contamination, wear, and degradation, providing a preemptive advantage in maintenance planning.

Operational continuity is a critical goal for any industrial facility. Downtime due to unexpected equipment failures can have severe consequences, including production delays, financial losses, and a negative impact on overall efficiency. The integration of proactive maintenance, facilitated by the meticulous tracking of lubricant condition through oil analysis, serves as a robust mechanism to ensure operational continuity.

One of the most compelling aspects of proactive maintenance, enabled by oil analysis, is the substantial financial savings it offers. Traditional maintenance practices often lead to unnecessary oil changes based on fixed schedules, resulting in the disposal of lubricants that may still have valuable operational life. Moreover, unexpected equipment failures can incur exorbitant costs related to repairs, replacements, and lost production.

### On-premise oil testing laboratories

Recognising that the time frame of analysis report is critical for maintenance, there is a growing need for near-site oil test laboratories.

Traditionally, oil testing laboratories

have been situated far from industrial plants, providing test reports after 10 to 15 days. This results in analysis delays, increasing the carbon footprint associated with transporting samples to distant laboratories.

One of the primary advantages of on-site oil testing laboratories is their proximity to the industrial plant. The traditional model of sending oil samples to distant laboratories inherently involves transportation time, which can be a critical factor in the context of maintenance. Recognising that mechanical damage can start setting in within 48 hours, the need for rapid and timely analysis becomes apparent. On-site laboratories address this need by providing real-time or near-real-time results, allowing for swift decision-making and prompt implementation of maintenance measures.

Establishing on-site oil testing facilities offers a practical solution to the challenges associated with transporting oil samples over long distances. The traditional model involves packaging and shipping samples to external laboratories, incurring costs not only in terms of shipping fees but also in the resources required for secure packaging. By conducting testing on-site, these transportation costs are significantly reduced or eliminated, contributing to overall cost savings for the industrial facility.

The sustainability aspect of on-site oil testing laboratories is particularly noteworthy. The transportation of oil samples over long distances contributes to the carbon footprint associated with industrial operations. This includes the emissions from vehicles used for transportation, as well as the energy consumed in packaging and logistics processes. By minimising the need for transportation through on-site testing, industries can significantly reduce their environmental impact, aligning with broader sustainability goals.

Having an on-site oil testing laboratory provides industrial facilities





with enhanced control over the entire testing process. From sample collection to analysis and reporting, the facility can maintain confidentiality and control over sensitive data. This is particularly important in industries where proprietary formulations or processes are involved. On-site facilities offer a secure environment for handling and analysing samples, reducing the risks associated with external laboratories.

On-site oil testing laboratories seamlessly integrate with the broader proactive maintenance strategy adopted by modern industries. The immediate availability of test results allows maintenance teams to make informed decisions promptly, minimising downtime and preventing potential equipment failures. This integration contributes to the overall efficiency and effectiveness of the maintenance practices within the industrial facility.

### Quality of Testing Laboratories

The reliability and utility of oil analysis hinges on the caliber of the testing laboratory conducting the assessments. Several pivotal factors collectively contribute to the overall quality of a testing facility, influencing the accuracy and significance of the results obtained.

Accreditation from esteemed organisations such as NABL (National Accreditation Board for Testing and Calibration Laboratories) or adherence to ISO/IEC 17025 standards signifies that the laboratory maintains a high level of competence and impartiality, following internationally recognised protocols in its operations.

The adoption of cutting-edge testing methods and state-of-the-art equipment is essential for a reputable laboratory. Technological advancements in oil analysis allow for more nuanced measurements and a deeper understanding of the composition of the oil. Utilising advanced testing methods ensures that the laboratory can detect subtle variations in the oil, providing comprehensive insights into its condition.

Third-party laboratories often are in business of selling reports and not offer holistic technical solution, what is needed by the industry is a prognostic approach, a prescription of equipment health is what is needed by the maintenance team with clear recommendations on the action to be provided. This is needs in depth understanding of lubrication, tribology and machine. This has led major OEMs such as Komatsu to establish oil analysis laboratories called KOWA Centre, this trend has also been adapted by mining companies who value machine availability and reliability such as Vedanta's Hindustan Zinc, to name few.

#### **Conclusion**

By embracing oil analysis and condition monitoring on site, industries contribute not only to environmental sustainability through extended oil life but also experience cost savings, proactive maintenance, and optimised equipment performance. This transformative approach ensures that machinery keeps running smoothly, aligning with the broader goal of sustainable industrial practices. The write-up concludes by summarising the key points and highlighting the long-term benefits of integrating oil analysis into industrial maintenance strategies.

# REVOLUTIONISING THE INDIAN CEMENT INDUSTRY

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**Indian Cement Review** hosted the **ICR Conference and Awards 2023** and the **14**<sup>th</sup> **Indian Cement EXPO** with top notch companies, industry experts and thought leaders. Kanishka Ramchandani presents a special report.



L-R: Dr Vibha Dhawan, Director General, TERI, and Ali Emir Adiguzel, Founder and Director, World Cement Association, and Pratap Padode, Founder, FIRST Construction Council (FCC).

n a landmark event at the prestigious
Manekshaw Centre, New Delhi, the
14th Cement Expo and 9th Indian
Cement Review Conference 2023
unfolded a two-day symphony of
innovation and collaboration.
Inaugurated by Dr Vibha Dhawan,
Director General, TERI; Ali Emir
Adiguzel, Founder and Director,
World Cement Association; and Pratap
Padode, Founder, FIRST Construction
Council (FCC), the conference aimed
to propel the Indian cement industry
into a sustainable future marked by
technological advancements.

The 9<sup>th</sup> Indian Cement Review Conference 2023 served as a hub of ideas and discussions on technological

innovations essential for the industry's sustainability journey, focusing on the theme 'Driving Sustainability Through Technology.' In his welcome address, Padode said, "All the big players of the Indian cement industry are focussing on increasing their capacity, with an estimated projection of 200 million tonnes of fresh capacity to be added in the coming years. Emphasis is also laid on being the lowest-cost cement producer in India. In fiscal 2023, 30-32 MT (inclusive of grinding and integrated units) capacity addition is reportedly expected. Given that the higher input costs have moderated we could see capacity addition picking up pace in fiscal 2024 at over 30-32 MT leading up

to the addition of 150 MT by fiscal 2027. Considering this speed of expansion, the tug of competition and a buoyant demand from infrastructure and housing segments, the Indian cement sector is poised to take a giant leap."

The Conference entailed panel discussions and presentations, followed by the 7th ICR Awards. The thought-provoking sessions were complemented by the 14th India Cement EXPO that brought latest innovations in cement manufacturing and technological advancements on the same platform. Over 80 exhibitors presented their cutting-edge technology and innovations at the EXPO that was visited by more than 2000 visitors.



L-R: Falguni Padode, Co-founder, ASAPP Info Global; Dr Jayprakash Rao, Group President (International), Dineshchandra R. Agrawal Infracon; Pratap Padode, Founder and President FIRST Construction Council; Lt General Raghu Srinivasan, Director General, Border Roads Organisation; and Sumit Banerjee, Chairman, Editorial Board, Indian Cement Review and KK Taparia, Advisor, Vadraj Cement.

#### **Key Highlights**

The grand inauguration witnessed luminaries like Dr Vibha Dhawan and Ali Emir Adiguzel, who expressed their confidence in the Indian cement industry's commitment to 'Driving Sustainability Through Technology.'

The event garnered support from esteemed entities like the Ministry of Road Transport and Highways, Government e Marketplace (GeM), and the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Government of India (GoI).

Dr Dhawan addressed the issue of climate change: "Nearly two-third of infrastructure development in India is still pending. Cement and steel are materials that are required in bulk to support this kind of development. This gives an insight into a higher demand, leading to the need of higher production, which is an opportunity for cement manufacturers to grow their business and develop the nation."

She added, "The unfortunate part of climate change is that it was established that a 1.5oC increase in temperature is acceptable as per norms, but that is slowly shifting to 2.5 degree Celsius. Temperature above 52 degree Celsius will not support human life. It will also impact biodiversity and climate change

will bring along with itself a plethora of diseases known and unknown. The impact will not be uniform across the globe. Countries like ours will be impacted more as we are already affected by climate change."

In his speech, Adiguzel said, "The power of Indian cement industry goes beyond its sheer size. It is a catalyst for economic growth driving employment, investment and innovation, creating job opportunities directly or indirectly. The question is - are global net zero policies colliding with economic growth in India? Navigating the interplay between net zero policies, economic policies and emission targets in the cement industry is a global conversation."

Jaxay Shah, Chairperson of the Quality Council of India, emphasised the dynamic nature of the cement industry at the event through a video message. He acknowledged the significance of the Cement Expo, highlighting its role as a testament to the industry's adaptability. Shah stressed the importance of integrating ideas, best practices, and technology to shape the future of cement and construction.

Dr LP Singh, Director General, National Council for Cement and Building Material (NCB), emphasised the holistic definition of sustainability in cement and concrete, with the

organisation working on every aspect to ensure future development while protecting the environment. Kaustubh Phadke, India Head, Global Cement and Concrete Association, lauded the Indian cement sector as the most energy-efficient globally, reducing over 40 per cent of CO<sub>2</sub> intensity at the national level. The industry aims to deliver net zero concrete by 2050, aligning with global sustainability goals. Ulhas Parlikar presented a technical paper on 'Circular **Economy Practices in Cement** Production,' emphasising the significance of embracing circular economy principles for a sustainable cement industry.

#### **PANEL DISCUSSIONS**

#### Sustainable Challenges and **Opportunities**

The panel discussion explored collaboration, innovation, and knowledge-sharing as essential drivers for a more sustainable future. Industry experts discussed challenges and opportunities, emphasising the need for collective efforts.

Panellists: Manoj Rustagi, EVP & CSO, ISW Cement: Kaustubh Phadke, India Head, Global Cement & Concrete Association (moderator), Sameer Bharadwaj - Head Manufacturing Excellence, JK Cement; Soundararaj Naveenthakrishna



Sanjiv Garg, Secretary General, The Chartered Institute of Logistics & Transport and Managing Director, Pipavav Rail Corporation.

The conference also included presentations by Flender, Gebr. Pfeiffer,

- General Manager, IKN Engineering; and **Aashish Maheshwari**, Associate Business Director, Evonik India.



Loesche India, ATS Conveyors, TAIHEIYO Engineering Corporation, KHD HUMBOLDT and ISGEC.

### Alternative Materials and Technologies

This panel delved into exploring alternative materials and technologies for sustainable cement manufacturing. The discussion highlighted the importance of innovation in materials and processes to enhance sustainability.

Panellists: Dr SB Hegde, Prof Jain University & Visiting Professor Pennsylvania State University, USA, (moderator); Ashwani Pahuja, Chairman & Managing Director, NextCem Consulting; KN Rao, My Home Industries; Dr Bibekanand Mohapatra, Advisor & Consultant, Ultratech; and Rajesh Khanna, Director Sales & Marketing, Loesche India.

#### Revolutionising Cement Manufacturing: Technology and Automation

This panel revolved around the many tools of automation deployed by cement companies to make the manufacturing process more efficient and sustainable.

Panellists: Himanshu Ghawri,
Partner, PwC, (moderator);
Durgamadhab Mohanty, Senior VP
- IT, Birla Corporation Ltd; Vimal
Kumar Jain, Technical Director,
Heidelberg Cement; Hemantkumar
Aiyer, VP and Head R&D, Nuvoco
Vistas Corp Ltd; Bernd Henrich, Area



Manager, Gebr Pfeiffer; Shiv Shubhang Mathur, Sr General Manager and Head (Sales and Marketing) Industrial Chain Division (Tube Investments of India); and Manish Chordia, Regional Sales Manager - Cement, South Asia & Africa, ABB India Ltd.

#### Future Trends and Innovations in Cement Industry: A Sustainability Outlook

This panel was devoted to crystalball gazing of innovations in the pipeline, and the areas of cement manufacturing that need sustainable solutions.

Panellists: Sumit Banerjee, Chairman Editorial Board, Indian Cement Review (moderator); Pankaj Kejriwal, Executive Director, Star Cement; Shailendra Kumar Gupta, Chief Operating Officer & Cluster Head-North Zone, Ultratech; Nilesh Narwekar, CEO, JSW Cement;

#### **ICR** Awards

The 7<sup>th</sup> Indian Cement Review Awards commenced with a lamp lighting ceremony with the guest of honour **Lt General Raghu Srinivasan,** Director General, Border Roads Organisation; Pratap Padode, Founder and President FIRST Construction Council; and Sumit Banerjee, Chairman Editorial Board, Indian Cement Review.

Padode delivered the welcome address to the eminent dignitaries and guests. This was followed by a presentation by **Tanveer Padode**, Chief Information Officer, ASAPP Global, on the new developments within the company. Thereafter, the chief guest unveiled the Indian Cement Review Annual issue. **Falguni Padode**, Co-founder, ASAPP Global joined in for the unveiling. Members of the awards jury were felicitated and the Awards function got underway.

Recognising her contribution to the cement industry, **Vinita Singhania**,



Award Category	Winner
Lifetime Achievement Award	Vinita Singhania, Vice Chairman & MD, JK Lakshmi Cement
Fastest Growing Cement Company (Large Category)	UltraTech Cement
Second Fastest Growing Cement Company (Large Category)	JK Cement
Fastest Growing Cement Company (Medium Category)	JSW Cement
Second Fastest Growing Cement Company (Medium Category)	JK Lakshmi Cement
Second Fastest Growing Cement Company (Medium Category)	Star Cement Ltd
Fastest Growing Cement Company (Small Category)	Udaipur Cement Works
Second Fastest Growing Cement Company (Small Category)	Shree Digvijay Cement Company Ltd
Excellence in Sustainability (Cement Supply Chain)	GreenLine Mobility Solutions Ltd
Excellence in Sustainability (Cement Supply Chain)	Global Technical Services
Product of the Year	ATS Conveyors India Pvt Ltd

Vice Chairman and Managing Director at JK Lakshmi Cement Ltd, and Chairman of Udaipur Cement Works Ltd, was presented with the prestigious Lifetime Achievement Award. In her acceptance speech, she said, "I remember when I had entered the industry in the late '80s, with a basic understanding of management, a lot of eyebrows were raised as it was thought to be a male dominated industry. but over the period of time, I picked up the required knowledge to operate the business. Being a woman meant handling business and family simultaneously. For the first few years, it was challenging for me but my great team helped me a lot to achieve excellence."

She further added, "We should invest our time, effort and capital to educate and empower the women for their upliftment, growth and independence.

I look forward to the continued growth of the cement industry."

The guest of honour Lt General Raghu Srinivasan, Director General, Border Roads Organisation, said, "We are working in some of the most difficult parts of the world, in terms of climate and terrain. As Director General of Border Roads Organisation, we have projects in every border state, covering deserts, high mountains, rainforests, and construction work in these places is done as per seasons. In the North, you cannot work in the winters, and neither in the North-East during monsoon. This is one of the challenges for which we need to have an interface with the industry, and ask the industry to develop something that works for us in these typical working conditions. We use approximately 3 lakh mt of cement per year. We are doing innovative work

in many fields, and now I have realised that cement is one of the industries we should engage with." UltraTech Cement, JK Cement, JSW Cement, Star Cement, etc. were among the winners of ICR Fastest Growing Cement Company awards in various categories. The complete list of the 7th Indian Cement Review Award winners is as follows:

#### Conclusion

The 14th Cement Expo and the Indian Cement Review Conference and Awards set the stage for a transformative journey, steering the Indian cement industry from challenges to opportunities through technological advancements. As the industry focuses on sustainability, innovation, and global collaboration, the event stands as a testament to the sector's commitment to driving positive change and achieving net-zero targets.





# Atlas Copco unveils world's first battery-driven portable screw compressor



Unveiling its all-new battery driven portable screw air compressor, Atlas Copco's 'B-Air' marks a defining moment in the global industrial marketplace's transformation towards a low carbon future.

In the latest sign of its progressive shift to more sustainable products, Atlas Copco has expanded its portable electric product portfolio to include an all-new battery driven portable screw air compressor. The B-Air 185-12 is the first of its kind within the global industrial marketplace and represents a major milestone in Atlas Copco's roadmap towards a sustainable future. By introducing the first battery portable screw compressor, we want to play our part in enabling a sustainable transformation and help build a better tomorrow - for society and the planet alike.

The B-Air 185-12 features 5-12 bar of pressure, a stable flow rate of 5.4-3.7 m3/min and 55-kWh battery storage capacity. With power delivered from its onboard power pack, in operation a fully charged unit is independent of the need for fuel or a local power source.

## Tata Motors' comprehensive range of aggregates at Excon

Tata Motors offers the widest commercial vehicle portfolio and has gone beyond mere BS6 Phase 2 compliance. The company has upgraded its vehicles bumper-to-bumper with more features, efficient powertrains and richer value-adds. Beyond buying the best-in-class Tata vehicles, fleet owners enjoy better fuel efficiency, lower operating costs, high vehicle uptime, real-time vehicle tracking and analytics for running their fleet efficiently.

Tata Motors commercial vehicles are complemented by a range of value-added services for comprehensive vehicle lifecycle management, through its Sampoorna Seva 2.0 initiative. With Fleet Edge – Tata Motors' next-gen digital



solution for optimal fleet management, which enables operators to further increase the uptime of its vehicles and reduce the total cost of ownership, and 24x7 support from India's widest service network, Tata Motors continues to establish new benchmarks in holistic transportation solutions.

Highlights of Tata Motors aggregates at Excon 2023

Tata Motors Gensets: equipped with technologically advanced CPCB IV+ compliant engine.

## Vicki Reeves joins Perkins as channel development director

Effective January 1, 2024, Vicki Reeves will become the new global marketing and channel development director for the Perkins brand, responsible for defining and delivering the global marketing plan.

Vicki, who recently served as product support director, will also lead the global Perkins Distributor Excellence programme and deliver the marketing and rental strategies.

"With her deep expertise in marketing, the NPI process and distributor excellence, Vicki is an excellent fit for this position," said Jaz Gill, vice president and general manager of global sales, marketing, service and parts.



"Throughout her career, Vicki has exhibited the ability to create an engaged team and lasting customer relationships while delivering on her commitments – all of which are vital characteristics for our marketing and channel development director, so I'm delighted to have her join my team."





HOW CEOs **KEEP UPDATED!** 





#### **BKT** unveils advanced mobility solutions



'Bharat Ka Tire' – BKT, a vertical of Balkrishna Industries (BKT), the Indian multinational company, and a global player in the off-highway tyre market, unveiled advanced all-steel radial tyres at the Excon.

Elaborating on the 'Bharat Ka Tire' campaign Rajiv Poddar, Joint Managing Director, Balkrishna Industries said, "For us at BKT, 'Bharat Ka Tire', is not just in campaign name but in essence - a commitment that defines our brand as truly built-in Bharat and dedicated to the monumental task of building our nation – Bharat." Poddar further adds, "Participating at the Excon is always a huge moment for us, as we proudly display our advanced mobility solutions that can further infuse the construction, industrial, mining, and earthmoving sectors of Bharat."

Commenting on the Excon participation, Ashok Chhajer, Sr. General Manager, OE Sales, Balkrishna Industries, said, "As expected, we witnessed huge footfalls from every walk of life of this industry at the expo, resulting in insightful interactions that led to mutually gainful business propositions."

The Off-highway tyre major showcased some of its finest tyres for construction, industrial, and earthmoving equipment.

# ZF positions itself for growth in construction industry

The ZF Group is expressing confidence in the transformative trajectory of India's construction industry, aligning with the growing demand for intelligent system solutions and sustainable technologies. At Excon, the global leader in driveline technology is showcasing its expertise, reinforcing its commitment to India's domestic industry growth. The exhibition serves as a platform for ZF Group to highlight its global technologies and emphasise its strategic investments in a new plant, affirming its dedication to the region.

ZF Group stands ready to address the evolving needs of the Indian market.

# Abilities secures patent for revolutionary piston technology

Abilities India Pistons & Rings (Abilities India), a leading name in the manufacturing of pistons, piston rings, gravity casting, pressure die casting, and coatings, proudly announces the grant of a patent for its groundbreaking coating technology applied to pistons and cylinders. This innovative coating is set to transform the landscape of engine components as it reduces friction, wear, emissions and fuel consumption by 2 to 3 per cent. The company foresees a substantial growth of 15 to 20 per cent in revenue.

## Perkins introduces CPCBIV+ certified 2806FA at Excon

Perkins announces the launch of the CPCBIV+ certified 2806FA platform, addressing the evolving requirements of the Indian electric power generation industry. With a robust design and over 90 years of expertise, Perkins introduces two key power nodes within this platform. The 2806FA-E18TAG1 provides up to 477 kW of mechanical power at 50 Hz, while the 2806FA-E18TAG2 delivers up to 595 kW of mechanical power at 50 Hz. Notably, this engine is crafted specifically for India and will be manufactured at Perkins' facility in

Hosur.

The 2806FA platform excels in cold load acceptance, meeting ISO 8528-5 class G2 performance, and ensures steady-state stability at constant speed and load, achieving ISO8528-5 class G3 performance. This versatility positions the 2806FA as an ideal solution for a wide range of electric power applications, from stationary prime power sources to mobile units serving the rental sector. Its seamless performance makes it suitable for diverse settings, including critical installations like hospitals.



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# LEEBOY, PORTABLE ELECTRIC TO ELECTRIFY ASPHALT PAVING

ortable Electric is working on paving the way for portable and mobile power stations in a collaboration with LeeBoy for the asphalt paving industry. "We are excited to collaborate with LeeBoy in electrifying the paving industry," said Keith Marett, CEO of Portable Electric. "This collaboration marks the beginning of an exciting journey to redefine how paving is done, focusing on efficiency, innovation, and the ability to meet future demands of the industry."

At ConExpo, LeeBoy unveiled its first commercial-class electric asphalt paver, the prototype 8520C E-Paver. Based on the company's best-selling 11-ton heavy-commercial 8520C, the paver's 125-horsepower Kubota diesel engine was replaced with a General Motors electric drive system.

The company collaborated with GM on the prototype, along with Powertrain Control Solutions, which provided engineering support. Remaining components, such as the hydraulics, the control panels, and the screed, are the same as the comparable diesel model.

Through the partnership, LeeBoy is using Portable Electric's Volstack 30k E-charger to provide an emissionsfree onsite charging solution for the 8520C E-Paver or other electrified equipment.



Earlier this year, Portable Electric announced a similar partnership with Volvo Construction Equipment and its line of electric wheel loaders, excavators, and asphalt compactors.

As part of that partnership, Volvo CE's 245 North American dealer locations are offering customers the opportunity to bundle the Voltstack 30k Level 2 e-Charger with the purchase of Volvo electric equipment.

"The Voltstack ecosystem will play a crucial role in ensuring the success of our electric equipment and maximizing uptime on our construction projects," says Chris Broome, senior product manager at LeeBoy. "Today, with the Voltstack Level 2 e-Charger, we have the ability to recharge the paver for 15 minutes at Level 2 and get an extra 19 tonnes of asphalt."

He added that future solutions with Level 3 charging, those same 15 minutes would yield an additional 57 metric tons of asphalt. "That extra production will be game-changing."

The Voltstack 30k charger is capable of boost charging, setting up temporary charging stations, or providing recharging services whenever needed, the company says. The silent, emissions-free power system is equipped with a 30-kW power output and an 80-kWh battery capacity.





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# KIOTI'S NEW HX SERIES UTILITY TRACTORS



ioti says its new HX9010C and HX1151C utility tractors are its most powerful yet, delivering 90 and 115 horsepower, respectively.

Both HX Series models are equipped with Kioti's four-cylinder diesel engine. A power boost feature gives 9 per cent more PTO horsepower and torque for heavy applications or travel, raising the rated PTO to 76.7 horsepower on the HX9010C and 91.5 horsepower on the HX1151C. The 10,230-pound machines have a lift capacity of 8,000 pounds 24-inch aft of hitch.

The HX tractors include a heavy-

duty front axle with standard planetary drives and a limited-slip differential. Kioti says this axle design provides durability and increased traction over open-differential designs, regardless of operating conditions.

With the electronic hitch, operators can tune the hitch to the application without leaving the seat. Operators can easily adjust speed, hitch operating range, draft settings and engagement position for the Auto PTO feature.

The spacious climate-controlled cabin offers both comfort and visibility. Kioti gave the cab a deluxe air suspension seat with fore and aft

adjustment, swivel and a heated lower cushion. The standard instructor seat allows for on-the-job training without impacting comfort, visibility or machine operation.

The steering wheel tilts and telescopes. Controls are ergonomic and placed close to the operator for increased efficiency. Other features include a contemporary hood and headlights design and an optional grill guard for added protection. Service points are easily accessible for routine maintenance. The HX models are available now at authorised Kioti dealers in the US and Canada.





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# VERMEER SC1052 REMOVES 6-FOOT STUMPS



largest stump cutter in its line, the SC1052, capable of removing stumps up to 6 feet in size without repositioning. The machine is powered by a 115-horsepower Origin 4.3-liter gas engine with an 18-gallon fuel tank. It to cut up to 31 inches high and 25 inches below the surface, and has

a straight-line cutting width of 72 inches.

"The Vermeer SC1052 stump cutter is the next generation of large stump cutters," said Josh Vrieze, senior product manager for Vermeer Environmental Equipment. "Diesel emission regulations impacted the production of 100+ horsepower stump cutters, including our popular Vermeer SC1152 stump cutter unit. To fill this void in the market, our team designed a new economic gas engine model that will meet the performance levels tree care professionals expect. The SC1052 complements many of our customers' gas engine fleets, as they have started

operating more gas-powered chippers and trucks in recent years."

The exclusive Vermeer Cutting System uses a mounting and retention structure to secure the teeth to the cutter wheel rather than a bolt. This helps keep teeth from shifting in the pocket and absorbs the shearing force while operating, the company says.

In addition, two-sided carbide V-profile cutter teeth improve cutting performance of the machine. The teeth can be flipped to the other side of the cutter wheel for an extended wear life. At just 35 inches wide without its dual wheels, the SC1052 can fit through a standard 36-inch residential gate.



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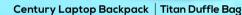
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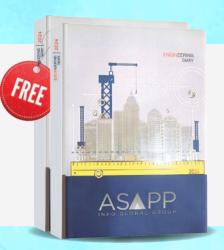
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# "OUR AIM IS TO DEVELOP ROCK BREAKERS THAT ARE DURABLE."

anav Vishal Singh,
Director, Manjay Green
Solutions, speaks on
how the company is
incorporating sustainability into its
products, and key strengths that
set Hydeq apart from the industry.

## How is your company incorporating sustainability into its products?

Energy efficiency: The company's aim is to design Hydeq brand rock breaker to maximise energy efficiency. This involves utilising advance hydraulic system and testing various components to reduce energy consumption during operation.

Longevity and durability:
Our aim is to develop rock breakers
that are durable and have a long
lifespan. By ensuring high-quality
construction and using robust
materials, they reduce the need
for frequent replacement and
minimise waste generation.

Training and awareness: We emphasise on training and education on the sustainable use and maintenance of rock breakers. This helps customer optimise the equipment, reduce unnecessary wear and tear.

## What are the key strengths that set Hydeq India apart in the industry?

Hydeq rock-breaker range covers most carrier requirements: excavators and backhoe loaders. It can be used in any application -- construction work, demolition, quarry operations, trenching, re-handling, tunnelling, and special works. Hydeq rock breakers are simple and robust devices. The new concept reduces components



complexity, allowing an unmatched life span as well as an easy and cheap maintenance.

Some of the key strengths include:

Expertise and experience:
Hydeq India possesses a team of
highly experienced professionals
who have extensive knowledge and
expertise in their respective fields.
They have a strong understanding
of the industry and its unique
requirements, allowing them to

#### Technology innovation:

provide tailored solutions to clients.

The company is known for its focus on technological innovation. Hydeq India constantly invests in research and development to incorporate the latest advancements in their products and services. This enables them to offer cutting-edge solutions that carter to the evolving needs of industry.

Customer-centric approach:
Hydeq India places a strong
emphasis on understanding and
meeting the specific requirements
of their customers. We actively
engage with clients to identify their
needs and deliver customised
solutions accordingly. This customer
centric approach helps in building
long-term relationships and

ensuring customer satisfaction.

Overall, Hydeq India's expertise, technological innovation, quality assurance, customer centric approach, global reach, comprehensive product range, and commitment to sustainability contribute to their distinct strengths in the industry.

#### How closely does Hydeq India align its new product development with industry advancements?

Hydeq India closely aligns its new product development with industry advancements. The company recognises the importance of staying up-to-date with the latest technologies, trends, and requirements in the industry. Here's how Hydeq India ensures alignment.

Agile approach: Hydeq India follows an agile approach to new product development. They maintain a close communication with customers, seeking their input and feedback throughout the development process. This iterative approach allows them to address changing client's requirements and align their products with industry advancements in real-time.

#### Future-oriented vision:

Hydeq India maintains a futureoriented vision for its product development. They anticipate future industry trends and emerging technologies to proactively developed products that cater to evolving clients need. By staying ahead of the curve, they demonstrate their commitment to aligning their product offerings with industry advancements.

(Communication from the management of the company)

#### **COMPACTOR**



#### 1 | Greater Chennai Corporation

**Details:** Tenders are invited for contract for repair work of the vehicle HMV compactor.

**Submission date:** January 9, 2024 **Location:** Chennai, Tamil Nadu **Tender value** (₹): 333,270,210

Contact: Superintending Engineer, (Mech) Mechanical Engineering Department Ripon

Building, Periyar EVR Salai, Chennai-600003, Tamil Nadu

#### **CONVEYOR**



#### 2 | Chhattisgarh State Power Generation Company Ltd

**Details:** Tenders are invited for supply of carrying roller for 1,400 mm conveyor belt

installed in Chp, 2x500 Mw, ABVTPS, CSPGCL. **Submission date:** January 12, 2024

**Location:** Champa, Chhattisgarh | **Tender Value** (₹): 1315121

Contact: Block No. 8, CS Power Companies Campus, Daganiya, Raipur-492013,

Chhattisgarh. Mob: 090740 16950

#### 3 | Karnataka Power Corporation Ltd

**Details:**Tenders are invited for belt vulcanising and repairs of conveyor belts of various grades and sizes at coal handling plant unit 1, 2 and 3 for a period of one year.

Submission date: January 6, 2024 | Location: Bellary, Karnataka

Contact: Executive Engineer (CHP) Mechanical-1, BTPS, KPCL, Kudathini-583152,

Bellary District, Karnataka. Mob: 09448290756

#### 4 | National Aluminium Company Ltd

**Details:** Tenders are invited for the supply of conveyor belt (Q3). **Submission date:** January 6, 2024 | **Location:** Damanjodi, Odisha

**Contact:** NALCO Bhawan, P/1, Nayapalli, Bhubaneswar-751013, Odisha. **Tel**: 0674-2301988-99 | **Email:** company\_secretary@nalcoindia.co.in

#### 5 | Neyveli Lignite Corporation Ltd

Details: Tenders are invited for the supply of steel cord conveyor belt 2000 mm wide St

3150 (q3). Quantity: 30200

**Submission date:** January 10, 2024 **Location:** Neyveli, Tamil Nadu

Contact: General Manager, Materials Management, PRO Building, Cuddalore,

Neyveli-607801, Tamil Nadu. | Email: emp.bcc@nlcindia.in

#### **CRANE**



#### 6 | Hindustan Petroleum Corporation Ltd

 $\textbf{Details:} \ \textbf{Tenders are invited for procurement of } 140/150 \ \textbf{MT capacity rough terrain}$ 

crane (Q3).

Submission date: January 15, 2024

Location: Visakhapatnam, Andhra Pradesh

Contact: PO Box No. 15, Visakh Refinery, Malkapuram, Visakhapatnam-530011,

Andhra Pradesh

www.EquipmentIndia.com TENDERS

#### 7 | Indian Army

**Details:** Tenders are invited for overhaul of crane AD 160 MK-II (Q3).

Submission date: January 25, 2024

Location: Udhampur, Jammu and Kashmir

Contact: Northern Command Department of Military Affairs, Ministry of Defence,

Jammu, Jammu and Kashmir

#### 8 | South Western Railway

Details: Tenders are invited for supply, installation, testing and commissioning of EOT

crane of 10 t capacity.

**Submission date:** January 15, 2024 | **Location:** Bengaluru, Karnataka **Contact:** Sr. Divisional Material Manager, Bengaluru, Karnataka

#### 9 | Department of Atomic Energy

**Details:** Tenders are invited for the supply of EOT crane 109, EOT crane 111, EOT crane

113, EOT crane 113 33, EOT crane 113 40

**Submission date:** January 16, 2024 **Location:** Mumbai, Maharashtra

Contact: Regional Director (A. K. Jha), NRB BLDG., Near HBNI, Anushaktinagar,

Mumbai-400094, Maharashtra

#### 10 | National Mineral Development Corporation Ltd

**Details:** Tenders are invited for the supply, erection, commissioning of one 30-tonne

truck mounted hydraulic crane for Bacheli, Chhat (Q3).

**Submission date:** January 9, 2024 **Location:** Hyderabad, Telangana

Contact: CGM (Materials), Khanij Bhavan, Masab Tank, Hyderabad-500028, Telangana.

Tel: 040-23538713-21, Fax: 040-23538711

#### 11 | Eastern Railway

Details: Tenders are invited for procurement, supply, installation and commissioning of

EOT crane, capacity of 20 tonne with 60 m Angletype Dsl and remote control.

**Submission date:** January 10, 2024 **Location:** Kolkata, West Bengal

Contact: Principal Chief Materials Manager, Kolkata, West Bengal

#### 12 | West Bengal State Electricity Distribution Company

**Details:** Tenders are invited for procurement including supply installation and demonstration of pick and carry hydraulic mobile crane as per specifications provided in special conditions of contract chapter 4 of this tender document with all mandatory spares.

**Submission date:** January 15, 2024 **Location:** Lodhomahat, West Bengal

Tender value (Rs): 2,200,000

Contact: Project Manager, Rammam Hydel Project ST-II, Lodhomahat-734201,

West Bengal

#### Sany India

Sustainable machinery paves the way for eco-friendly construction, reducing carbon footprint and promoting sustainable building practices. With this in mind we at Sany India have launched our family of sustainable solutions, including electrical and hybrid machines, amidst much excitement by Mr. Umakant Samantaray, Head of Port Machinery, Mr Sanjay Saxena, COO, Sales, Marketing & Customer Support and Mr Deepak Garg, MD, India & South Asia.



n Scania Commercial Vehicles India

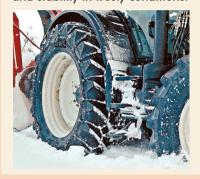
Grateful to host the distinguished leader of India's mining sector, V Prabhakar Reddy, the visionary owner of **VPR Mining Infrastructure Pvt Ltd** at Scania's stall, Excon 2023.





#### **BKT Tires**

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#### **KYB Conmat**

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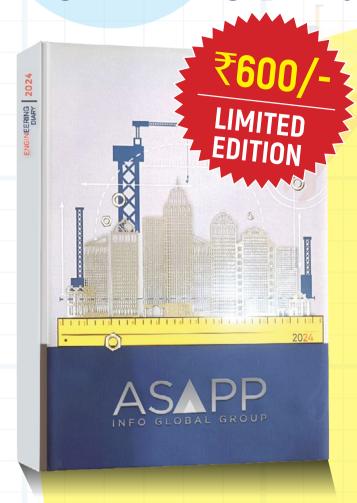


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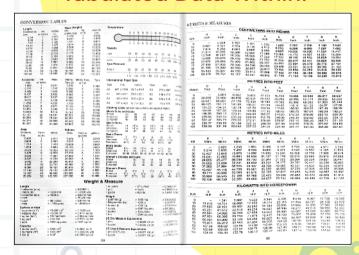
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- · Non Ferrous Metals
- Composition of Metals & Alloys
- Wire & Sheet Gauge
- Weight of Steel, Cast Iron, Materials
   & Mild Steel
- Dead Weight of Materials
- Live Loads on Floors & Roofs
- Rolled Steel Beams- Dimensions & Properties
- Equal & Unequal Dimensions & Properties
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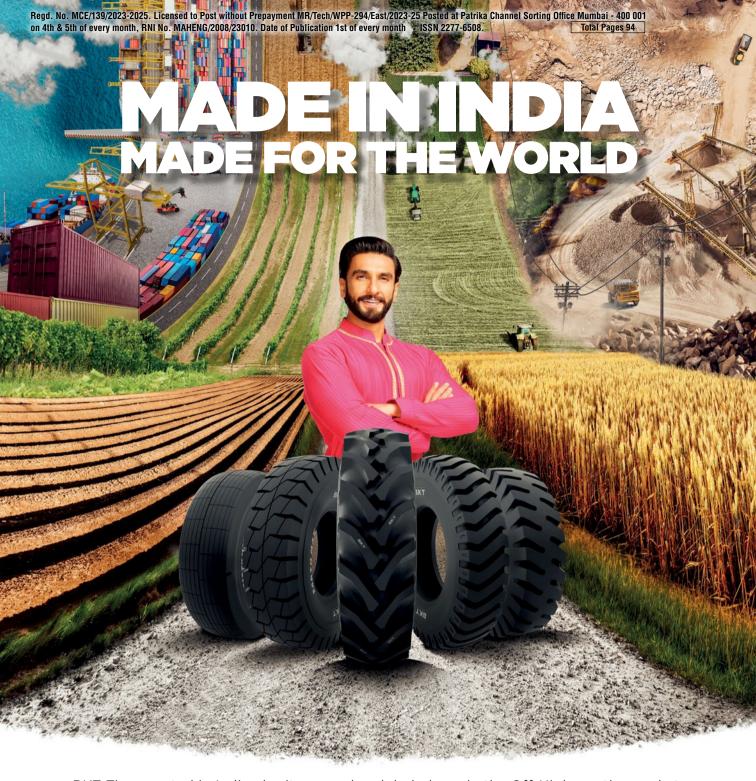
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