

Published on - 4th of every month

RNI Reg. No. 63133/95

Postal Reg. No. DL(S)-17/3094/2024-26

Posted on 8th/9th of every month at Lodi Road HPO, New Delhi-03, Licenced to post without pre-payment No. U(SE)-78/2024-26

ISSN 0973 - 0591 • VOL.30, ISSUE-11

New Building Materials[®] & Construction World **NBM&CW**

ماف

World's Most
Advanced
Sand Washing
Technology

cfloworld.com

MAY 2025 • Publishing Since 1995 • www.nbmcw.com • Total Pages 160 Including Cover • Rs 250/-

India's Oldest & Largest Circulating Infrastructure Construction Equipment & Machinery Magazine

ماف

Sunil Chaturvedi

The Man Behind Gainwell Group

“With the combined strength and technological synergy of our partners, Gainwell is well-positioned to accelerate India's self-sufficiency in manufacturing and export in line with the country's Atmanirbhar Bharat vision.”

TEREX Solutions That Work For You



Contents

May 2025

News

- | | | | |
|----|-----------------------------------|----|-----------------------------|
| 22 | Infrastructure Development | 30 | Metros & Rails |
| 24 | Roads & Highways | 32 | Ports & Airports |
| 26 | Tunnels & Bridges | 32 | Industry News |

Feature

- 44 **The New Pamban Rail Bridge**
India's First Vertical-lift Railway Sea Bridge



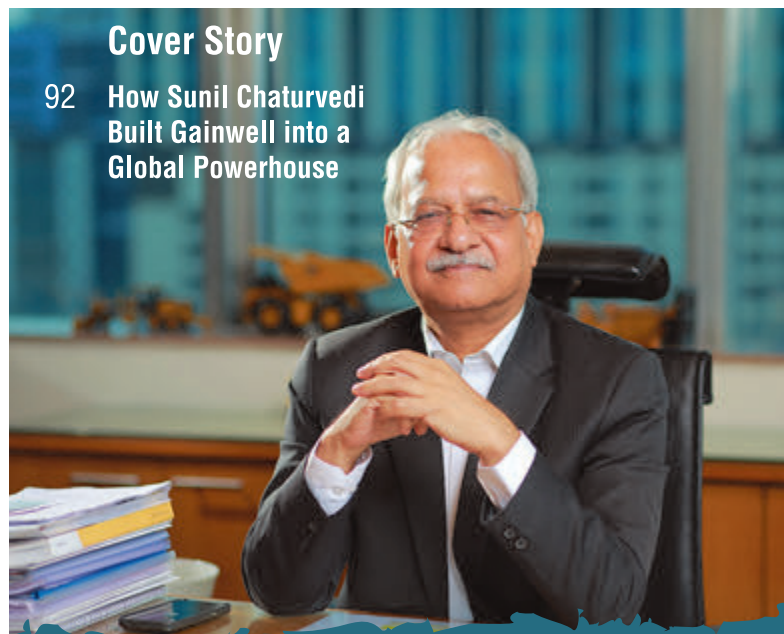
Underground Construction and Tunneling

- 54 Tunnels Unlocking Mobility and Economic Development in India: *R.K. Dhiman, TAI*
- 62 Vishnugad Pipalkoti HE Project: Construction of Desilting Chambers and Connecting Tunnels: *Dr. Rakesh Kumar Khali, G R Infraprojects*
- 84 Strategic role of Subterranean Systems in Nuclear Power Plants: *Sandeep Singh Nirmal, Jacobs*
- 90 Curetec Building Tunnel Segments Sustainably and with precision *André Dienst*

- 106 Underground Construction with Diaphragm/Slurry Walls
Dr. N. Subramanian
- 116 Managing Tunneling Induced Ground Movements
Lucky Nagarajan & W. Allen Marr, Geocomp
- 120 Tunneling Under Shallow Overburden
Dr. Tanumaya Mitra, ITD Cementation India
- 152 Why Concrete in Road Tunnels Decomposes Fast
Britt-Marie Wilén

Cover Story

- 92 **How Sunil Chaturvedi Built Gainwell into a Global Powerhouse**



Visionary at the Helm

How Sunil Chaturvedi and a small talented team forged Gainwell Group into a Global Powerhouse

Sunil Chaturvedi exemplifies the modern, first-generation entrepreneur – unconventional, adaptable, forward-thinking, and committed to continuous growth. His journey from a government administrator to an industrial leader demonstrates that professional success is not linear but can be shaped by curiosity, courage, and a willingness to embrace new challenges. By leveraging his extensive experience and adopting a forward-looking approach, Chaturvedi is not just building a business but contributing to India's broader economic transformation and technological advancement.

In a candid interaction with **S.A.Faridi, Sunil Chaturvedi, Chairman, Gainwell Group**, has articulated a comprehensive strategy that goes beyond traditional business models. His vision encompasses transforming the company into a technologically advanced equipment manufacturing enterprise, strategically bringing world-class global brands under a unified corporate umbrella and restoring brand reputation of newer acquisitions in the group like the 81 year old TIL Limited as a key player in India's infrastructure construction sector. Chaturvedi's leadership has been instrumental in reviving and strengthening critical international partnerships notably, Caterpillar, Hyster and Manitowoc and establishing strategic alliances with innovative companies like Snorkel, Lintec & Linnhoff and Etnyre International.



How did your journey from the government to the private sector, and eventually to entrepreneurship, unfold?

During 2002-2007, I was deeply involved in the automotive sector and worked on chiselling the first Auto Policy of India in 2002. It was clear in my mind that India's vision to establish a globally competitive auto industry would depend on India's ability to set up world class R&D and testing infrastructure. Soon thereafter, we were able to convince the government to invest in what came to be known as the National Automotive Testing and R&D Infrastructure Project (NATRiP). The Government of India gave me the rare opportunity of joining the project as its founding CEO. This ambitious initiative represented an investment exceeding ₹1,800 crore to establish advanced automotive testing and R&D facilities across India. These centres were to serve not merely as compliance testing facilities but also envisaged to evolve into innovation hubs, enabling the complete design and development of vehicles and components within India. In many countries like Germany, Spain, the UK and the US, such infrastructure had already catalysed high degree of innovation, facilitating the development of cutting-edge technologies. My task was to make it happen in India – more importantly in an environment where many initially believed government should not invest for the 'benefit' of an already booming auto industry, obviously missing the larger national possibilities.

Projects of NATRiP's magnitude in my life represented rare professional opportunities, and I considered myself fortunate to have contributed to establishing seven such

centres nationwide, including prestigious facilities like International Centre of Automotive Technologies (iCAT) in Manesar and Global Centre for Automotive Technologies (GCAT) in Chennai, as well as setting up one of the world's largest automotive proving grounds near Indore. We also spent a large sum on strengthening testing infrastructure at institutions like Automotive Research Association of India (ARAI) in Pune and Vehicle Research and Development Establishment (VRDE) in Ahmednagar.

My stint in the Ministry of Heavy Industries, especially my involvement in NATRiP from the stage of conception deepened my understanding of the intrinsic relationship between capital goods and industrial development. I saw Maruti Suzuki – the then joint venture of Government of India trigger large swathes of component manufacturing in India expanding a large industrial base. I recognized that sustainable industrial growth would have to be preceded by robust domestic manufacturing of capital goods.

By the conclusion of my tenure in August 2007 in this project and in the Ministry of Heavy Industries, I was significantly seized by my aspiration of working on expanding India's capital goods sector for transcending beyond conventional economic growth thresholds. Historical evidence across Europe and the US solidified my belief that no country could sustain long-term industrial growth without developing its own capital goods industry. The conviction, however, left me restless since the Government held capital goods manufacturing – the proverbial commanding height of Indian economy- was

“By bringing the world's finest brands like Hyster, Manitowoc, Snorkel, Lintec Linhoff and Etnyre under one umbrella, and restoring TIL's brand image as a key player in India's infra construction sector, we aim to make Gainwell a technologically advanced equipment manufacturing company.”

in most cases on the decline and reflected structural weaknesses to face competition in a reformed economic environment.

After completing 20 years of government service in 2007, at the age of 45, my dream overshadowed my comfort in a prestigious service like the Indian Administrative Service and propelled me to look at the world outside the Government. I was longing to play a larger role in contributing to India's capital goods industry. Drawing on my chartered accountancy background and the invaluable industry insights I had been able to acquire, I was determined it was the optimal juncture to transition from the government and pursue new professional challenges.

What were the challenges before you in making the shift?

Making the decision to leave the government service wasn't without challenges. Both, my wife Meena Chaturvedi, who continued her career as a civil servant, and I had initial apprehensions about what would it take to cope with the private sector environment. We felt that in the most unlikely scenario, my government pension combined with her salary as a civil servant should suffice for financial security needed for our traditional middle-class existence. Soon the apprehension got replaced by a sense of high degree of enthusiasm bordering on passion, and a resolute determination.

Co-incidentally, immediately on my voluntary retirement from the Government in Feb 2008, I got a platform in a global company - Bharat Forge.





My transition to Bharat Forge marked the second significant phase of my professional journey. The company offered me an invaluable opportunity to pursue my passion for developing capital goods for India. When I joined Bharat Forge as its Chief Operating Officer of Capital Goods Business, the Company was undergoing a strategic transformation from being a component supplier for automotive sector to emerging as a global source for high-quality capital goods in energy, defence and aerospace sectors under the visionary leadership of Mr. Baba Kalyani. He was keen on exploring diverse capital goods including supercritical and ultra-supercritical turbines and boilers for generating large volumes of thermal power, wind turbines to facilitate energy transition, larger locomotives for transporting India's bulk commodities and of course, artillery gun systems for replacing expensive imports, etc. It was amazing to work in Bharat Forge and learn my industry basics from an incredible

leader like Mr. Kalyani who has since remained an abiding inspiration for me. It was great to see a vision taking shape in the nearly six years that I worked in Bharat Forge.

In 2013, a compelling new opportunity emerged—the chance to embark on my entrepreneurial journey. The progression from government service to the private sector and subsequently to entrepreneurship felt like a natural evolution of my career trajectory. When Caterpillar approached me with an opportunity to own one of their two partnership platforms in India – called Tractors India Private Limited in Kolkata, I found myself unable to resist the prospect of taking this next transformative step in my professional life.

What inspired the move from working with Caterpillar to acquiring TIL and expanding Gainwell's manufacturing capabilities?

My decision to join Caterpillar business was motivated by the exceptional opportunity to expand my expertise in introducing

“Gainwell Group's dominant stake in TIL is set to have a profound positive impact on India's dependence on imported capital goods including in strategic sectors like defence and underground soft rock mining.”

high technology capital goods from one of the largest manufacturers of the world to accelerate building of a new, modern India with world-class infrastructure. I was keen to see and experience new product design and engineering and their application in Indian conditions. While Bharat Forge had already immersed me in advanced manufacturing processes, Caterpillar offered me exposure to a diverse range of industries.

Although my transition to Caterpillar business involved moving from manufacturing to a largely trading entity, I maintained my fundamental aspiration to eventually build an enterprise with robust manufacturing capabilities. This vision began materializing when I assumed the position of Managing Director at Tractors India Private Limited (TIPL), a wholly owned subsidiary of the Industrial giant of the East – TIL Limited on January 1, 2014—a company with a distinguished history as a Caterpillar dealer since 1944. This role introduced me to the comprehensive range of equipment and engineering solutions in construction, energy and transportation as well as mining sectors. I gained valuable insights into the technologies covering the extensive portfolio of construction and mining equipment for both surface and underground operations, substantially broadening my professional perspective.



Few months after I joined, India witnessed general elections and the elected government brought a sharp focus on infrastructure investment. TIPL witnessed an amazing spell of growth in 2014 and 2015 significantly advancing our plans for its management buyout with Caterpillar's support. On 24th June 2016, as a family, we began our entrepreneurial journey with Meena, my wife agreeing – with prolonged persuasion, to leave her successful private sector career and joining me as Joint Managing Director. She had also taken voluntary retirement from the Government in 2010 and together we were comfortably able to transition to the private sector.

By 2017, we initiated concrete steps to fulfil our manufacturing ambitions in the capital goods sector. We established Tulip Compression as a specialized subsidiary focused on manufacturing sophisticated natural gas compression systems, including advanced products for LNG (liquefied natural gas) and conventional natural gas applications. The Company has emerged as a large energy transition products and technology company since then. We recently achieved a significant milestone by delivering India's first hydrogen compressor, developed through a strategic technical collaboration. This accomplishment represents the cornerstone of our evolving journey into energy transition manufacturing technologies as Tulip has now multiplied its manufacturing to nearly 10 times to roll out 20 compressor packages a month and play a meaningful role in Indian natural gas market.

By 2018, I approached Caterpillar to allow us to manufacture a few of the soft rock (including coal) mining machines – a business that Caterpillar had acquired in

TIL's order book of Rs 214 cr and 45.8% EBITDA growth in Q2FY25, demonstrates the company's transformation under Gainwell, and by 2030 we anticipate achieving a group-level turnover of Rs 20,000 crores”

2011 but closed it in 2016 due to decline of coal prospects globally. Caterpillar agreed to transfer technology for a unique 300-Ton machine called Highwall Miner which we began manufacturing in 2019 with an ace team of about a dozen of erstwhile Caterpillar engineers whom we had recruited across the world. This became a unique success in manufacturing.

In 2021, soon after Covid, I approached Caterpillar to allow access to technology of a few more machines which were largely underground mining equipment which regions like Asia, Africa and Australia needed desperately and Caterpillar had stopped manufacturing since 2016. This time, Caterpillar decided to comprehensively hand over to us global manufacturing and distribution of underground mining machines which were part of Room and Pillar portfolio acquired by Caterpillar in 2011. We set up a new organization called Gainwell Engineering with subsidiaries in Singapore,

West Virginia in the US and New South Wales in Australia with latter two having large manufacturing and rebuild facilities attached. We set up a 35-acre state of the art facility in Panagarh to manufacture equipment for underground mining sector. The plant got completed in record time and we are now exporting equipment to developed markets. Our manufacturing dream seems to be getting closer.

With mining and construction sector seeing unprecedented traction in recent years, the equipment demand has expanded in India. Underground mining is taking deeper roots and underground mining equipment demand also spiralled. We have also seen railways, material handling and defence equipment demand significantly going up. We wanted to integrate a large fabrication player in the market with our business to displace need for heavy fabrication being outsourced including to sources beyond India. It is at this juncture that our erstwhile parent TIL Limited approached us with a plea for acquisition. TIL had slipped into deep losses and negative net worth in last few years despite excellent products for infrastructure, material handling and defence sectors, global partnerships and an eight decade long manufacturing journey. It was timely for us to integrate TIL with our growth journey. We feel satisfied that TIL has joined us in January 2024 and is now on rapid road to recovery and growth. TIL is an excellent addition to our global growth aspirations with high-tech products.

What led you to enter the coal mining equipment business?

When I joined TIPL in 2014, Caterpillar's acquisition of Bucyrus business (underground soft rock equipment) was just getting integrated with global dealerships. As part of this we were asked to begin coal production in our territory in India's largest underground coal mine Jhanjhra. We were new to this side of the activity. However, as soon as I joined, we decided to hire some of the best underground talent from South Africa and located them to India in first few months of 2014 to help us begin underground operations. This quickly became a large business for us with deep expertise not commonly available in India. We depended on Caterpillar to give us high quality equipment to continue with newer projects.



However, Caterpillar decided to shut down their underground soft-rock mining equipment business in 2016 – barely five years after they had acquired it in 2011, largely due to market conditions. This jolted us significantly and prompted us to buy comparable machines from German and Polish suppliers.

We reached Caterpillar in 2018 to allow us to manufacture some of these machines as India, China, Africa, Australia, Russia and some other countries needed this equipment. Caterpillar partly agreed, and in 2018, we commenced manufacturing of highwall miner—an impressive 300-ton machine that extracts coal from hilly terrains and remaining craters in surface mining areas. Its remarkable 300-meter extendable arm can penetrate crater walls to retrieve coal from otherwise inaccessible crevices. The highwall mining technology is vital and extremely cost effective. It provides additional coal recovery at very low cost. Manufacturing Highwall Miner has been one of our most significant achievements in recent years.

As I mentioned earlier, in 2021 Caterpillar handed over the full range of underground room and pillar business to us opening up global market for us. This technology portfolio is now owned by our company Gainwell Engineering and registered in various countries as Gainwell Engineering's IP. With three large global manufacturing facilities in Panagarh (India), Beckley (WV, USA), and Gateshead (NSW, Australia) – we are supplying advanced technology mining gear to North and South America, Australia, India and other Asian economies.

Gainwell Engineering is now looking at adding many new products to its portfolio which include railways, defence and material handling equipment.

Please tell us about Gainwell Group's acquisition of TIL.

Our Group entity Indocrest Defence Solutions Private Limited has acquired a controlling stake in TIL (formerly Tractors India) in January 2024. This strategic acquisition strengthens Gainwell Group's position as a leader in the heavy equipment manufacturing sector.

Founded in 1944, TIL brings a distinguished legacy of innovation, exceptional engineering expertise, extensive manufacturing experience, and powerful brand recognition to our portfolio. Despite facing significant challenges over the past decade—particularly during the COVID-19 pandemic—TIL's superior engineering capabilities and innovative product range have remained unrivalled in the industry.

What synergies does TIL bring to Gainwell's market growth?

Both brands will capitalize on each other's strengths, expanding their respective product ranges. TIL's facilities align well with Gainwell Group's broader manufacturing vision, and the capabilities of TIL can accelerate the execution of Gainwell's manufacturing projects. For TIL, this partnership presents an opportunity to optimize facility utilization and improve efficiencies.

Gainwell will benefit from TIL's positive impact on reducing India's reliance on imported capital goods, particularly in strategic sectors such as defense and underground soft rock mining. Gainwell's operations, which span fabrication, engineering, component design, manufacturing, and component re-purposing, complement TIL's strengths.

We have already begun tapping into TIL's engineering and manufacturing capabilities,

especially the world-class Kharagpur facility established in 2012. This facility produces cutting-edge products, including strategic cranes, torpedo launchers, multi-utility lifting equipment and some specialized defence equipment that is vital to India's strategic needs. For example, TIL cranes are critical for handling India's full range of missiles, including surface-to-surface, surface-to-air, and air-to-air missiles, and TIL has stayed nearly the sole supplier for these essential applications.

There is also a strong synergy between the technical and operational skill sets of the employees at other Gainwell Group companies and TIL. We believe there is significant potential to harness this knowledge base for innovative growth strategies and collaborative, cross-functional operations.

How will TIL's integration enhance the product portfolio of Gainwell and lead to higher revenues?

I see tremendous potential in TIL's products and the opportunities for growth ahead. With India's logistics revolution underway, driven by road construction and the development of new ports, there is an increasing demand for equipment like reach stackers. Every new port will require numerous reach stackers, and currently, we are the only company manufacturing these in India. With growing containerization of India's cargo, we see a significant jump in demand for port cranes and reach stackers.

TIL is also aiming to expand its range of cranes with latest products with latest generation technologies, including higher-capacity cranes with load capacities of up to 500 tons or more. Global leaders and our core partners Hyster and Manitowoc-Grove



“We aim to reclaim 75% market share for reach stackers in India; finalize exports with Hyster, revitalize our defense supplies, reclaim 100% market share for cranes in mining, expand our range of cranes with Grove and Manitowoc, introduce forklifts with Hyster, bring Etnyre’s road maintenance machinery, and introduce Lintec Linnhoff high-tech asphalt and concrete manufacturing solutions.”

are eager to introduce new products in India with us and are also keenly looking forward to sourcing them from TIL for meeting part of their global demand.

India has already begun exporting crucial defence gear, and TIL will play a key role in growing this export momentum. Starting next year, we aim to achieve a substantial export turnover, and by 2026-27, exports from TIL are expected to contribute nearly a third of our annual revenue.

With the central government’s focus on economic revitalization, the sectors that TIL and Gainwell serve are well-positioned for steady growth. We believe that, with the right support, we can combine forces and grow exponentially.

We are confident that TIL will soon reclaim its rightful position as a key player in India’s heavy equipment manufacturing and export space. TIL remains committed to strengthening India’s self-sufficiency through “Make-in-India” and “Atmanirbhar Bharat” initiatives, in line with the government’s vision of promoting domestic manufacturing. This will generate increased value for customers both within and outside of India, ensuring continued growth and enhanced margins for TIL’s shareholders.

TIL’s first three quarters of the 2024-25 financial year mark a major scale-up in its operations. TIL seems well-poised to finish

the year as one of the best years in its eight decades of history. However, its growth journey has just begun. We expect TIL to continue growing steadily in years ahead with newer products, expanded market reach overseas and greenfield and brownfield initiatives.

Could you give us more details about how you wish to expand TIL’s business?

As I mentioned before, our proud partnerships with global giants like Hyster and Manitowoc are undergoing major transformation with range of new products and technologies being considered for introduction in India. In the next few years, TIL hopes to introduce multiple latest-generation products every year from these portfolios. India’s material handling requirement is growing, and we are bracing to meet India’s requirement with Indian products. Both Hyster and Manitowoc as partners have been keen to leverage our strengths in India for supporting their global outreach and we hope to capitalise on that in the next two quarters. TIL also hopes to introduce some of its own products to bridge the gaps in its offerings. For instance, we hope to bring back the safest pick and carry cranes, which TIL had designed more than a decade ago. We also wish to restart production of some of the critical defence equipment which were prototyped and approved in previous years, but TIL couldn’t start serial production due to its own constraints.

Our successful global partnerships include one with Snorkel Europe Ltd, with whom TIL has recently signed an agreement for sales



and services across Northern and Eastern India, the Andaman and Nicobar Islands, Nepal, and Bhutan. Through Snorkel’s articulating boom lifts, we are entering India’s premium aerial work platform segment. This partnership will enable TIL to introduce a new category of products and broaden its offerings to customers across various sectors. Leveraging our eight decades of expertise and extensive pan-India network, we expect this strategic expansion to contribute more than ₹250 crore to our topline by FY 2028.

One key area where TIL has room for improvement is in the effective servicing of its equipment, an area where Gainwell’s business model excels. We place a strong emphasis on service excellence and Gainwell is now ranked among the top four or five Caterpillar dealers globally for service delivery. We are confident that Gainwell’s aftermarket support practices will help TIL transform its customer support approach and scale up its aftermarket business to a level of at least 40% of its annual turnover. In respect of Gainwell-Cat dealership, this has become more than 50%.

You referred to technology driven aftermarket support provided by Gainwell. Could you elaborate?

One of the earliest realizations for me as I entered this business in 2014 was that selling an expensive piece of equipment is a smaller challenge than keeping customers happy with speedy and reliable aftermarket support. We have not only trained our 800 strong service engineering team in India but also invested very large sums in digital infrastructure at the backend, providing customers multiple digital alternatives to engage with us 24X7 and to ensure that we connect almost the entire fleet of 35,000 machines to constantly monitor their performance and ensure predictive maintenance experience to customers. Our 24X7 call centre and technical support centre, use of generative AI as well as Machine Learning technologies by our service engineers on the custom-built apps ensure that we provide customer solution instantly. Millions of machine components are available which customers can order online anytime of the day or night and have them delivered to chosen locations with full view of consignment in transition. Use of SAP as ERP and Salesforce as CRM solutions have given us deeper understanding of the customer

needs and helped us create a data-lake on which analytics are run for deeper insights.

We are aware that as our customer businesses transition to younger generations, technology driven aftermarket support would be the norm and we wish to be well-prepared and indeed ahead of the curve for the future.

What gives Gainwell Group a competitive edge in the construction and mining industries?

The construction and mining industries today face a common challenge: customers often purchase equipment from multiple OEMs, resulting in a fragmented service experience. This inconsistency in service delivery can be frustrating for customers. At Gainwell, we address this issue by offering turnkey solutions. Many customers with mixed fleets, including Caterpillar and other machines, have entrusted us as a group with managing their entire fleet. We embrace these opportunities, ensuring a seamless and standardized service experience for all their equipment.

Our focus on service excellence, customer-centricity, and comprehensive solutions provides Gainwell with a competitive edge, positioning us as a trusted partner in the construction and mining industries.

Your Machines whether from Caterpillar portfolio or other OEMs like Hyster and Manitowoc – are generally more expensive. How do you justify higher prices before a price sensitive Indian customer?

Indian customers are not just price sensitive; they are value sensitive. Caterpillar, as a premium brand, does not compete solely on cost but offers a distinct value proposition that's not comparable. Similarly, Hyster, Manitowoc and other machines built by Gainwell group entities do not sell the cheapest in the market. They carry a certain premium due to superior technology and engineering infusion, higher productivity and reliability, as well as much longer useful life that customer can expect in our machines. These machines are future ready with advanced technologies and supported by a strong team of committed service engineers who are dedicated to providing end-to-end

service 24X7. This unique combination of reliability, quality and service sets us apart.

For instance, our products are effortlessly operating in extreme conditions, such as at an elevation of 15,000 feet or more and in -20°C to -25°C temperatures. Besides, even in those conditions and arduous locations, service support is available on tap. Some of the tank engines from the Caterpillar fleet as well as some of our excavators, dozers and graders work in such extreme cold and extreme heat environments. Ensuring machine performance with a satisfactory level of service delivery is unmatched and underscores our commitment to excellence.

We are happy that government customers also recognize the benefits of our Total Cost of Ownership (TCO) approach. Over five to seven years, the TCO of our solutions whether they are from Caterpillar or Hyster or Manitowoc - when combined with our service - proves to be significantly lower than that of our competitors. This is why many government agencies and private customers consistently choose our products with TCO as a consideration.

TIL cranes similarly exemplify durability and quality. For example, I recently met a customer who purchased a TIL crane in 1982. They have been operating this equipment effortlessly for over 43 years, and despite TIL's temporary absence in the market in recent years, they were able to source parts and continue operations. This speaks volumes about the reliability and longevity of TIL products.

Lintec and Linnhoff products of Asphalt and Concrete batching also offer premium technology. Their asphalt and concrete manufacturing solutions provide superior throughput, productivity, and service. While they may come at a premium price, they deliver the best TCO, making them ideal for India's ambitious infrastructure goals. As infrastructure development accelerates, low-tech or smaller machines will not suffice to meet the increasing demands.

Our partnership with Etnyre International of the USA exemplifies how we are addressing another critical area of challenge – cost effective, safe and reliable highway maintenance. Way back in the year 2017, a joint study by Transport Corporation of India

(TCI) and IIM-Kolkata estimated the annual loss due to poor road maintenance in India at \$21.3 billion which included excess fuel consumption. With Etnyre, we are introducing state of the art road maintenance machinery capable of sealing cracks and filling potholes at speeds of 20 km/h, revolutionizing road upkeep in India. A new plant has been set up in Pune to manufacture this equipment and we should see some of these equipment debuting in India in the year 2026. This will help large investors and pension funds managing road assets in India effectively and efficiently manage their road assets and save huge losses to our national exchequer.

How does Gainwell use predictive maintenance and connected technology to enhance service delivery and prevent equipment downtime?

Predictive maintenance plays a crucial role in ensuring optimal equipment performance. Besides using mammoth global data and unique software suites mounted on the data to decipher equipment behaviour, we also operate multiple Scheduled Oil Sampling (SOS) labs, where we analyse a few drops of oil extracted from an engine periodically. By examining the oil's chemical composition, we can identify which parts of the machine are wearing out more quickly. This valuable insight allows us to predict potential issues well in advance.

Our connected machines generate real-time data, which, when combined with SOS lab results, helps us accurately pinpoint problems before they occur. Alerts from the machines, along with detailed analysis, enable us to identify issues early. For example, if a machine is likely to develop a problem in three days, we proactively notify the customer and resolve the issue before it impacts operations.

Most Caterpillar machines, for instance, are now connected, allowing us to monitor their performance 24/7 through a centralized control room. Whether operating in Arunachal, Nepal, Bhutan, or elsewhere, we conduct predictive maintenance to ensure peak performance. Similarly, we plan to integrate connectivity into TIL products, enhancing their technological capabilities to meet global standards.



Meena Chaturvedi,
Group Vice-
Chairperson, Gainwell,
gives insights into the
company's sustainability
goals, initiatives being
taken for skilling the
workforce, and plans for
expansion and growth.

Many Mining and Construction customers are orienting themselves to meet sustainability goals. How is Gainwell progressing on this?

We are imbibing Environment, Social and Governance (ESG) considerations in all aspects of our business operations. A significant step for us was to house our Northern Regional Headquarters in Greater Noida in a green building, certified by the US Green Building Council as one of the greenest buildings world-wide.

We are rebuilding our machines, giving them new life after every 5-6 years, in our state-of-the-art workshops, thus displacing the need to acquire new machines and the resultant additional carbon footprint. We have set up three major rebuild centres in India and two overseas, which are helping our customers reduce their carbon footprint. We plan to rebuild about 500 machines per year in India and about 100 large mining machines at our two overseas facilities from 2026 onwards.

Most of our machines are already ready for 20% bio-diesel mix. With Caterpillar, Hyster and Manitowoc, we are working on electrified products as the infrastructure becomes available in India for absorbing large scale electric drive products. We have already introduced bio-fuel generators,

natural gas engines, and are getting ready to introduce microgrids in far flung areas of the country.

We are making good progress in introducing low carbon steel for our machines. We are engineering our machines to make them smart and are digitizing them such that they can undergo data-driven predictive maintenance. We plan to generate almost 20 MW equivalent of solar energy in the next 4-5 years to make our manufacturing and mining operations greener.

Our drive to scale up gender diversity in our workforce is bearing fruit and we have multiplied our diversity percentage by 400% in the last five years alone. Gainwell Group has adopted four goals: Purpose, People, Planet, Profit – in this sequence.

You are spearheading the skilling initiative within the Group. What are the challenges and how does the company align with the national objective of "Skill India"?

Skilling the workforce involves two key aspects: upskilling our existing workforce and training new talent. At Gainwell Group, we have made significant investments in enhancing the skills and overall development of our employees. This is essential not only for improving productivity but also for fostering personal growth. A company cannot thrive unless its people do.

To achieve this, we have introduced technology-driven innovation courses. Every employee, as part of their Key Responsibility Areas (KRAs), is required to choose and successfully complete a training course—either in-house or through digital platforms. This is a mandatory part of their appraisal process, reflecting the seriousness with which we approach skill development within the organization.

Skilling India is critical, particularly given our young population and the unemployment challenges the nation faces. To make a meaningful contribution, we utilize our CSR funds to train operators and technicians from economically disadvantaged backgrounds.

In partnership with NGOs, we identify young individuals from Below Poverty Line (BPL) families who have completed at least their 12th grade or ITI. These trainees are brought to our facilities for six to eight weeks of training, with all expenses—travel, lodging, boarding, and training—fully covered. The curriculum, co-created by Caterpillar and Gainwell, is tailored to industry needs. Upon successfully passing a rigorous exam at the end of the training, participants receive a certification, jointly issued by Caterpillar and Gainwell, which is highly regarded in the industry and opens doors to better employment opportunities.



“At Gainwell, responsible growth means rebuilding machines, advancing low-carbon tech, and empowering people—98% of our trainees now have meaningful jobs, many from underserved communities.”

This initiative also addresses a critical gap raised by our customers, who often struggle to find skilled operators capable of handling our premium, sophisticated machines. We go further by placing these trained individuals with our customers, fulfilling two needs: meeting our customers' demand for skilled operators and creating employment opportunities for the trainees. I am pleased to say that we've achieved an impressive 98% placement rate for these individuals.

We also prioritize gender diversity, ensuring that at least two girls are included in every group of 10 trainees. One inspiring example is a girl from a BPL family in Jhalawar, who has become one of our top trainers, illustrating the transformative impact of this initiative.

We have found that many operators face challenges with machine maintenance during breakdowns. To address this, we offer advanced technician courses to further enhance their skills. These courses are conducted not only at our major facilities in Greater Noida and Asansol but also at various locations where our machines operate. For instance, we recently held a course in Guwahati and are planning one in the valley. So far, we've trained nearly 300 individuals, many of

whom have secured employment, with some even finding opportunities in Dubai.

Looking ahead, we are set to launch the Gainwell Academy of Learning in 2025. This academy will cater to a wide range of training needs in our mining, manufacturing, servicing, and defense verticals, each of which require specialized skill sets.

How do you see Gainwell's overall business in, let's say, 5-7 years or a decade ahead?

We began our journey as a Caterpillar dealer in 2014, building on a legacy of many decades since 1944. We have added multiple manufacturing companies within the Group as well as many global partnerships. We have decided to become an engineering organization to provide holistic solutions for our customers. We are also constantly working at enhancing our brand value, optimizing costs, improving our supply chain, driving superior engineering, and ushering in technologies, to emerge as an optimum engineering solutions provider.

As per our solution-based approach, we engage closely with customers to understand their specific project needs. We actively involve them in the process,

offering end-to-end solutions that are tailored to meet their requirements. We have partnered with several global OEMs for enabling us to deliver a comprehensive suite of equipment and services.

All our group entities are fully geared to partake of the opportunity for expansion and growth. Geo-politics is driving India's pole position, and India's growing attractiveness is getting noticed by the global industry. India is maturing in terms of skills, capital, infrastructure, tax system, and overall ease of doing business. Of course, there is much more to achieve in each of these areas, but, as a nation, we are moving in the right direction.

As a group we expect to grow in sync with a rapidly growing economy. We expect to grow our market share in India across verticals, provide cutting edge service support to more than 12,000 Indian customers with a digitally sound service backup that has been rewarded and applauded by Caterpillar and other OEMs.

Globally, we aim to widen our footprint beyond nine countries that we are currently present in. We believe our products manufactured to global standards in mining, material handling, railways and defence sectors will provide extremely compelling options to global customers. We also hope to bring our aftermarket support expertise to our global customers.

Our back of the envelope assessment indicates that if we continue growing at the current pace, we should have a group revenue scaling up to \$ 2.5 billion by 2032.

