



EW

ELEVATOR WORLD

INDIA

Issue 5, Volume 19

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September - October 2026

ELEVATOR WORLD INDIA

KARENG/2008/24064



SAFETY STANDARDS

- ☒ COMPLIANCE
- ☒ INSPECTION
- ☒ MAINTENANCE
- ☒ RISK MANAGEMENT



REDEFINING VERTICAL LIVING

V. Jagadish Kumar, principal consultant & director, L'Avenir Consultancy Pvt. Ltd. kickstarts an analytical column highlighting lifts as the core lifestyle enablers in supertall residential structures.

DRIVING FUNCTIONAL SUCCESS

Uday Kulkarni, founder and CEO, UTOPIAS, begins a new article series while underlining that elevator and escalator selection necessitates a thorough understanding of the movement of people and goods.

FIRE TESTING SAFETY STANDARDS

Vispute Shrihari, GM, Regional Code Strategy & Compliance (APAC), Otis Elevator Co. (India) Ltd. & GM of the Lead Design Center, Bengaluru, explains why lift landing door norms must be up-to-date.

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Editor's Overview



Raising Standards Compliance to Elevate Passenger Confidence

by Vijay Pandya

In the vertical-transportation (VT) industry, safety is the one critical feature that simply cannot rely on individual interpretation. It is the silent assurance built into

every ride, and the one that users expect to work without exception. As buildings grow taller and systems work harder, safety cannot remain a line item that is merely ticked off as completed at the handover stage. It must be designed in, built in and consistently upheld through disciplined standards implementation.

Codes and standards are at certain times treated as formalities to be cleared when, in fact, they are the industry's most reliable guardrails. They exist not to slow projects down, but to prevent things from going wrong. When applied with rigor, they sharpen design, enforce consistency and sustain operational reliability as well. Applied loosely, they create a false sense of security, one where compliance is achieved at a surface level, but the inherent confidence is not generated. The difference is not technical, rather it is cultural.

The complexity grows more nuanced as VT applications diversify. A residential tower, a hospital and a transit hub may follow the same codes, but they do not operate under the same realities. Standards, therefore, must be applied intelligently. They should be strong enough to be uniform yet provide specifications that are relevant for different situations and applications.

At the end of the day, one has to keep in mind that safety is not just about meeting requirements; it is about anticipating how systems behave when demand, pressure and unpredictability come into play and taking those into account.

Responsibility, therefore, has no convenient handover point. Developers must treat safety as a long-term investment, not a short-term obligation. Consultants must translate Codes into clear, buildable intent. Manufacturers must embed compliance into design, not layer it on as an afterthought. And service providers must recognize that the real test of safety begins once the building is occupied, not when it is signed off.

The content of this edition of ELEVATOR WORLD India magazine, with insights from industry experts and stakeholders, explores how elevating VT safety through meaningful standards implementation can move the industry from declared compliance to demonstrated reliability. Because in vertical mobility, safety is not just about stating that everything works right, but also ensuring that precautions are taken to avoid nothing goes wrong. 🌐

Calendar

2026-2027

2026

OCT
3

IUEC Local 8 Charity Golf Tournament

Brooks, California | iuec8.org



20-21

MIPIIM Middle East

Riyadh, Saudi Arabia | mipim.com



20-22

LiftExpo Poland

Warsaw, Poland | liftexpo.pl/en



22-23

SIEME 2026

Seville, Spain | simposioelevacion.com



28-29

Chicago Build

Chicago, Illinois | chicagobuildexpo.com



28-30

LiftExpo Italia

Milan, Italy | liftexpoitaliacom/en/



NOV
10

Nordic Lift Expo

Stockholm, Sweden | nordiskahissmassan.com



11-13

International Lift Expo Korea

Goyang-si, Korea | liftexpokorea.com



DEC
3-5

ISEE The E&E Show

Delhi, India | isee-expo.com



10-11

International Elevator & Escalator Symposium

Amsterdam, The Netherlands | elevatorsymposium.org



2027

FEB
8-12

EESF AGM and Golf Outing

Tampa, Florida | eesf.org



MAR
2-3

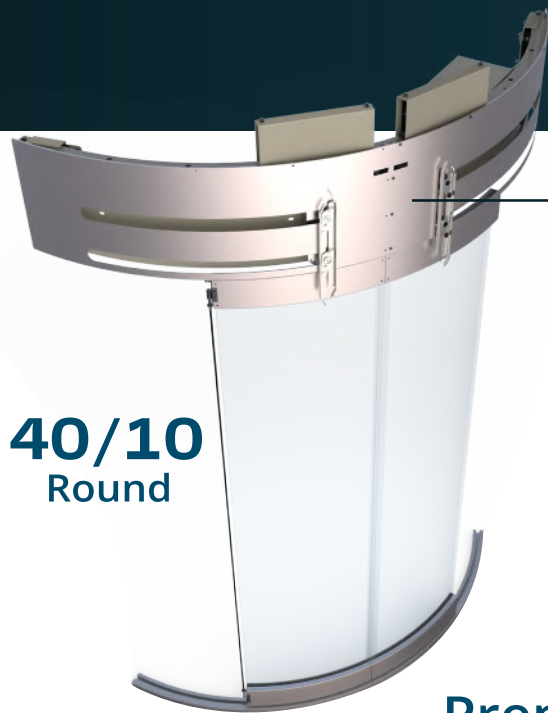
Heilbronn Elevator Days

Heilbronn, Germany | tae.de



2-3	New York Build New York, New York newyorkbuildexpo.com	
17-19	Elevator Escalator Expo 2027 Gujarat, India elevatorexpo.co.in	
23-25	The Elevator Show Dubai, U.A.E. elevatorshowdubai.com	
APR 11-14	NAEC Spring Education Conference Tampa, Florida naec.org	
15-16	ISO/TC 178 Plenary Meeting Helsinki, Finland iso.org	
15-16	VFA-Interlift General Assembly Düsseldorf, Germany vfa-interlift.de	
27-28	IUEC Global Safety Summit Las Vegas, Nevada iuec.org	
MAY 6-9	Asansör Istanbul Istanbul, Türkiye asansoristanbul.com	
18-19	Lift & Escalator Symposium Hong Kong Hong Kong, China liftsymposium.org	
JUN 8-11	CECA 53rd Annual Convention Quebec City, Canada ceca-acea.org	
SEP 12-15	NAEC 78th Fall Convention & Exposition St. Louis, Missouri naec.org	
OCT 12-15	interlift 2027 Nuremberg, Germany interlift.de	
NOV 17-19	Global Elevator Exhibition Milan, Italy geemilano.com/en	

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D2E International VT Consultants India Achieves ISO Certification

London-headquartered D2E International VT Consultants Ltd., announced in September its India team achieved ISO



9001:2015 certification for design and audits only 10 months after being incorporated. “For D2E, this represents more than a certification,” the company stated. “It reflects the processes, discipline and commitment to quality that our teams bring to every project.” D2E

extends special thanks to the following for “the important roles they played in achieving this milestone”: D2E Managing Director Mark Fairweather, D2E Associate Director and Head of Business Operations & Governance Amy Dacres-Dixon, D2E India Director Sumeet Majumdar, D2E India HR representative Vaidehi Iyengar, D2E India Field Manager Arunan Thekoot, D2E India consultant Vivek Chanpa and D2E Design Manager Rampal, PhD.

KONE Elevator India Expands Bengaluru Branch/South Office

KONE Elevator India has expanded its Bengaluru branch and South Regional office in Hebbal, Bengaluru, to support sales, installation, service and modernization operations across Karnataka and provide regional leadership for its business across South India, Construction Week reported in July. The office supports operations across Mysuru, Mandya, Kolar, Tumakuru, Chamarajanagar and other parts of Karnataka, and will function as an experience center showcasing KONE’s elevator solutions, digital technologies and People Flow® innovations. KONE Elevator India has partnered with a number of developers and enterprises across commercial, healthcare, technology park and mixed-use developments in Karnataka. The state in southwest India continues to be one of KONE’s strategic growth markets, driven by urbanization, technology ecosystems and investment in residential, commercial and infrastructure development.

KEMA Announces New Committee Members

During the Kerala Elevator Manufacturers Association (KEMA) General Body Meeting held on September 12 at Broad Bean Hotel, Vyttila, Cochin, the core body and office bearers were announced. Narayan Menon was re-elected as president; Sreekumar as the secretary and Shamsudeen as treasurer. The Executive Committee members are Rajeeesh, Aneesh, Lonappan, Biji Varghese and Madhu with Monsy George and Radhakrishnan as Advisors.



L.T. Elevator To Acquire Majority Stake in Korean Parking Technology Company

India’s L.T. Elevator Ltd. has signed a share purchase agreement to acquire a 66.45% stake in South Korea-based Dongyang PC Inc. (DYPC), as the elevator maker seeks to expand into automated parking and urban mobility solutions, Smallcap Spotlight reported in August. The agreement also provides for a share buyback by DYPC following the closing of the transaction. The Korean company will acquire and cancel the 500,000 shares currently held by a Saudi investor within 60 days of closing. If the buyback and cancellation are completed, DYPC is expected to become a wholly owned subsidiary of L.T. Elevator. L.T. Elevator said the acquisition will combine DYPC’s technology and intellectual property with L.T.’s manufacturing capabilities and cost advantage. The company expects the acquisition to create end-to-end capability spanning design, manufacturing, installation and monitoring of automated parking systems. L.T. Elevator said DYPC’s technology portfolio, global references and patent base could help it address growing demand for automated parking solutions in India and international markets.

LT Elevator Begins Construction on Manufacturing Facility

Kolkata-based LT Elevator, an elevator and automated parking systems manufacturer, has begun construction of an integrated manufacturing facility in West Bengal, Manufacturing reported in July. This facility is expected to increase the company’s manufacturing capacity by 2.5 times when completed in the fourth quarter of Fiscal Year 2027. The facility will bring manufacturing, sourcing and execution together to reduce lead times and improve cost efficiency while also strengthening LT Elevator’s ability to execute large institutional and government projects. It is expected the facility will be able to manufacture approximately 2,500 elevator units and 8,000 automated parking spaces annually.



2026 Convention end Exposition

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SCAN ME

Nidec India Spotlights “Make in India” Machines



Nidec India recently shone the spotlight on its barrel-type inner rotor elevator machines manufactured at The Orchard Hub in Hubli-Dharwad, Karnataka. These innovative machines, the company states, “are designed to deliver superior performance for modern machine-room (MR) and machine-room-less (MRL) applications, combining efficiency, reliability and passenger comfort.” Nidec India

said it remains committed to enabling smarter, safer and more sustainable vertical-transportation solutions like its barrel-type inner rotor elevator machines. They feature:

- ◆ Low-noise operation (≤ 55 dB)
- ◆ Minimal vibration for a smoother ride
- ◆ Optimized heat dissipation through advanced electromagnetic design and VIP (Vacuum Pressure Impregnation) insulation
- ◆ Compact, lightweight design built for long-term reliability
- ◆ Suitability for both MR and MRL elevator systems

Sicor India To Showcase Elevator Machines

On December 3-5, Sicor India will exhibit its range of elevator machines at the International Sourcing Exposition for Elevators & Escalators 2026. The company invites vertical-transportation (VT) industry members to visit booth #IE21 in Hall 1 to discover its full range of gearless and geared traction machines, designed to ensure reliability, operational continuity and seamless integration within modern elevator systems. Sicor India provides the following product lines:

- ◆ Rope-driven gearless traction machines with capacity of 4 to 26 passengers
- ◆ Belt-type gearless machines paired with complete accessory packages that provide an efficient solution for VT needs, especially for home lift and low-rise building applications
- ◆ Geared machines, a type of traction machines for rope lifts that Sicor has been producing since the company's inception

Johnson Lifts Provides Advanced Mobility Solutions to Sify Trillium Data Centre, Noida

A LinkedIn post, Johnson Lifts conveyed, “Another landmark added to our journey of engineering excellence. Johnson Lifts is proud to be a part of the SIFY Trillium Data Centre, Noida, delivering advanced mobility solutions that support one of

India's growing digital infrastructures. Four goods lifts, 5000 kg, 11 stops and four passenger lifts, 12 stops. Because every great infrastructure project deserves dependable vertical transportation.” Johnson Lifts has more than 60 years of elevating experience as a leading elevator and escalator company in India with 80-plus branches across India and 10 overseas operations.

Omega Elevators Installs Premium Passenger Auto Lifts at Fortune Select, Goa

A LinkedIn post by Omega Elevators titled “Another milestone. Another destination elevated!” stated that Omega Elevators is proud to have completed the installation of three premium passenger auto lifts (10 passenger – machine-room-less) at Fortune Select, Candolim, Goa. Designed with SS Hairline Finish cabins and doors, these elevators are built to deliver reliable, safe and seamless mobility for guests while complementing the hotel's premium hospitality experience. “Every successful installation reflects our commitment to engineering excellence, precision and dependable vertical mobility solutions across India.”

BSVT Conducts Orientation and Employment Initiative

In a LinkedIn post titled “Empowering Youth. Building Careers,” Bharath School of Vertical Transportation (BSVT) shared that it has successfully conducted an orientation and employment Initiative in Machilipatnam, Andhra Pradesh, focused on empowering youth through skill development and career opportunities in the growing vertical-transportation industry with noteworthy dignitaries present. “We sincerely thank all our esteemed dignitaries and guests for their valuable presence and support towards skill development and employment generation. A special thanks to Kollu Ravindra Garu, minister for Mines and Excise, Government of Andhra Pradesh, and the Kollu Ravindra Foundation for their support.”

Odyssey Elevators Inaugurates Experience Centre

Odyssey Elevators officially inaugurated its new Corporate Experience Centre in Lucknow, marking a significant milestone in the brand's expansion across North India, Big News Network reported on September 1. The new Experience Centre offers visitors live demonstrations of Odyssey Elevators' home elevator solutions, showcasing the brand's technology that requires no pit, no machine room and minimal civil work. Odyssey Elevators is known for its European-inspired engineering, customizable panoramic cabins, energy-efficient electric technology, whisper-quiet performance and strong nationwide service network. The new Experience Centre is designed to help homeowners, architects and developers explore a wide range of premium home elevator solutions tailored to modern residences. With this expansion, Odyssey Elevators aims to strengthen its presence across North Indian markets, offering end-to-end services including site assessment, customized design consultation, installation and maintenance support.

POWERING ELEVATORS IN FOUR CONTINENTS

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In collaboration with Permagsa, Spain

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Wittur India Conferred Safety & ESG Elite Category – Gold Award 2026 by TNSPPWA

Wittur India has been recognized with the Safety & ESG Elite



Category – Gold Award 2026 by the Tamil Nadu Safety Professionals Association (TNSPPWA). This year, a total of 103 factories/organizations participated in the awards, making this recognition a significant achievement and a reflection of Wittur India's

continued commitment toward Safety; Environmental, Social and Governance (ESG); employee engagement; and continuous improvement. In addition to the organizational awards, Wittur India team members received individual recognition for their contributions: Partha Sarathy from Production received the Safety Champion – Safety Culture Development award. He was recognized for his contributions to strengthening and developing a positive safety culture within the production division. Ramesh from Powder Coating received the Safety Champion – ESG Category award. He was recognized for his contributions to ESG initiatives and sustainability improvements in the powder coating area. Rajan from Stores



received the Safety Champion – Safety Kaizens award. He was recognized for his contribution to Safety Kaizen initiatives and continuous improvement in the stores function. The company's WIN Team was

recognized for its continued support and dedication to its safety and ESG journey. Wittur India stated:

"Special appreciation goes to every employee and team member who contributed through Kaizens, safety improvements, ESG initiatives, risk reduction activities, employee engagement, audits, training and continuous improvement projects.



These awards belong to the entire Wittur India team; they are encouraged to continue to strengthen the company's safety culture, ESG performance and continuous improvement

journey, and set even higher standards for the coming years."

Tectronics Launches Progressive Safety Block

Tectronics Techworld Pvt. Ltd. has achieved another important milestone by successfully developing its Progressive Safety Block, which is now ready for commercial sales and supply.



Developed through focused engineering, research and product testing, the Progressive Safety Block reflects Tectronics' commitment to enhancing elevator safety through reliable and precision-engineered solutions. The product has been designed with a strong focus on operational safety, consistent performance, durability and dependable functioning.

With the launch of the Progressive Safety Block, Tectronics is further expanding its elevator safety product portfolio and strengthening its ability to serve elevator manufacturers and industry partners with dependable, customer-focused solutions.

The company is now fully prepared to manufacture and supply the Progressive Safety Block to customers across India and internationally. Supported by Tectronics' manufacturing capabilities, quality-control processes, technical expertise and service network, the product will offer customers reliable quality and professional support.

This development marks another significant step in Tectronics' journey from being a leading manufacturer of gearless elevator machines to becoming a comprehensive elevator technology and safety-solutions provider. With continuous innovation and a commitment to strengthening Indian manufacturing, Tectronics is proud to introduce another reliable "Made in India" elevator safety solution to the industry.

CAN COMFORT *STEP* BE MEASURED?

STEP Turns Elevator Ride Experience into Data



Data Collection
by EOCD



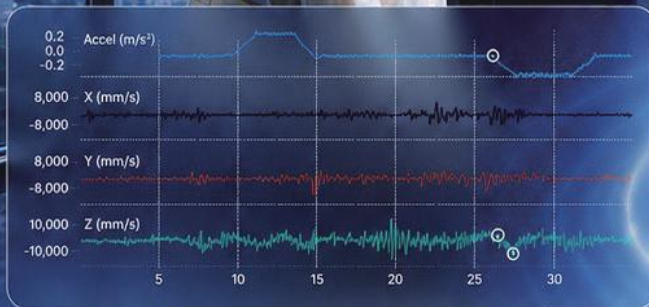
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Diagnostics



Optimization
Suggestions



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0.061 mg Resolution
24-bit ADC



Connected
Built-in Wi-Fi
802.11 b/g/n



Standard Compliant
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ISO2631-1



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Bharat Bijlee Appoints Khushru Vakharia as VP – MTM

Bharat Bijlee Ltd., among India's leading electrical engineering companies, has appointed Khushru Vakharia as vice president (VP) – Magnet Technology Machines (MTM)



Division, effective August 31, following the retirement of R Rajaraman, erstwhile division head. The MTM division, part of the company's Industrial Systems business, offers innovative solutions in permanent magnet technology, including the GreenStar® range of gearless elevator machines that serves customers in India and international markets. Vakharia brings

more than 35 years of rich industry experience across diverse functions and business domains. Over the course of his distinguished career at Bharat Bijlee, he has successfully led several key functions, including Manufacturing, Strategic Planning, Operational Procurement, Plant Engineering, Quality Assurance, Supply Chain Management and Central Marketing.

Among his notable achievements are the modernization of the Motors Division manufacturing facility and implementation of the Theory of Constraints framework to improve efficiency, driving profitability through strategic cost optimization initiatives, and significantly enhancing production performance. He has also played a pivotal role in building and mentoring high-performing teams across functions. His broad-based experience and deep understanding of the organization position him well to lead the MTM Division in its next phase of growth. With this appointment, Bharat Bijlee reinforces its commitment to nurturing internal leadership talent while continuing to strengthen its position as a trusted partner in the elevator components market.

Esquire Engineering Showcases Products in Hyderabad

Esquire Engineering Co. hosted a product showcase at the Minerva Grand Hotel in Secunderabad, Hyderabad, on August 21 from 7 to 10:30 p.m., attracting 80-90 attendees. The program highlighted the company's latest offerings, including car operating panels (COPs), landing operating panels (LOPs), pushbuttons, emergency alarms, firefighter switches and a newly launched automatic elevator door. Representatives from elevator-related companies in Telangana and Andhra Pradesh attended to view Esquire Engineering's COP, LOP and automatic-door products. The team was praised for the quality of its displays and the presentation.



Dhruv Patel, Director, who has just joined the business, addresses the gathering

Founded in 1996, Esquire Engineering has developed into one of India's recognized elevator-parts manufacturers. After starting without ancillary support, the company now uses its



technical expertise and market knowledge to address the elevator industry's specialized and changing needs. Its focus on excellence and R&D has helped drive steady growth and significant product advances. Today, Esquire Engineering serves major elevator companies across India and is known for quality products and service, innovation and a consistent ability to understand and meet customer requirements. Its product line includes pushbuttons; flush- and surface-mounted hall fixtures and COPs; TFT, LCD and dot-matrix displays; emergency alarms; fireman switches; hall lanterns; and automatic doors.



Seen here (center with tie) Jayeshbhai Patel, MD with Ritesh Patel, GM on his left, both flanked by the Esquire Engineering marketing and technical staff

Kone India Recognized as One of India's Best Workplaces™ in Construction & Engineering

KONE Elevator India Pvt. Ltd. has been recognized as one of India's Best Workplaces™ in Construction & Engineering by Great Place To Work® India. In a LinkedIn post, KONE shared, "Great workplaces aren't built overnight; they're built every day by people who innovate, collaborate and always put customers first. At KONE India, we're shaping the future of urban mobility through engineering excellence, digital innovation and sustainable solutions. But, none of that would be possible without a culture where people feel trusted, empowered and inspired to do their best work. This recognition celebrates every member of Team KONE who brings our values to life and helps us create a workplace where great ideas thrive. A heartfelt thank you to our colleagues, customers, partners and everyone who has been part of our journey. Cheers to always raising the bar."

MMRDA Shares Update on India's First Moving Walkway-Equipped Skywalk

The Mumbai Metropolitan Region Development Authority (MMRDA) shared that approximately 90% of the Mahalaxmi Multimodal Connectivity Project, which will feature India's first moving walkway-equipped skywalk, has been completed. The 283-m-long integrated pedestrian bridge will seamlessly connect the Sant Gadge Maharaj Chowk Monorail Station, Metro Line 3 and Mahalaxmi Suburban Railway Station, significantly improving passenger convenience and reducing transfer time by nearly 20 min. Designed to handle up to 4,500 passengers per hour, the skywalk includes six moving walkways spanning a combined length of 176 m, two passenger lifts for universal accessibility, and an 11-m-wide walkway.

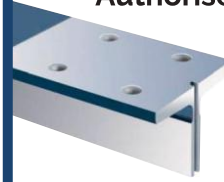
Hitachi Lift India Appoints Kaviyarasan Rajasekaran as Chro

Hitachi Lift India has announced the appointment of Kaviyarasan Rajasekaran as its Chief Human Resources Officer (CHRO), marking a significant addition to the company's executive leadership team as it continues to strengthen its people strategy and support long-term business growth. With more than 20 years of experience in human resources across the elevator, manufacturing, engineering, automobile and industrial sectors, Kaviyarasan brings extensive expertise in strategic HR business partnering, talent management, organizational development, compensation and benefits, employee relations, HR operations, performance management and statutory compliance. His appointment reflects Hitachi Lift India's continued focus on building a high-performance, people-centric organization capable of driving innovation, operational excellence and sustainable growth.

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Bangladesh Faces Lack of Regulatory Framework for Elevator Standards

Bangladesh's skyline is rising at an unprecedented pace, but while thousands of lifts are installed each year, no government agency is legally responsible for inspecting lifts throughout their operational life or verifying that they continue to comply with safety standards after installation. The Financial Express reported in July. Although the Bangladesh National Building Code (BNBC) prescribes technical requirements based largely on European EN 81 safety standards, enforcement remains fragmented, with responsibility divided among several agencies. Industry executives argue that the absence of an independent certification authority makes it difficult to verify product origin and compliance with safety standards before lifts enter service. An effective regulatory framework would require manufacturers and suppliers to provide documentary evidence of product certification and conformity with the BNBC before installations are approved. Industry participants say the problem is not the absence of technical standards but that of an institution responsible for enforcing them after installation. The result is a fragmented regulatory framework in which compliance depends largely on manufacturers, installers and building owners rather than independent inspection. Despite regulatory concerns, Bangladesh's domestic lift manufacturing industry has expanded rapidly. Industry estimates suggest around 70% of the lifts sold in the country are imported, while the rest are manufactured locally.

AI Implemented in South Korea To Curb Escalator Mishaps

The city of Busan, South Korea, is piloting a smart escalator safety platform at Centum City Station that uses AI to detect risky behavior in real time and warn riders, Seoul Economic Daily reported in August. Busan had planned to demonstrate the technology together with the Korea Elevator Safety Agency and Busan Transportation Corp. to assess how the system works in the field. Using AI video analysis, the system detects five risky behaviors: failing to hold onto the handrail, running/walking, leaning out, moving against the direction of travel and pushing strollers/carrying luggage. Exhibiting any of these behaviors triggers warning lights and voice announcements. The relatively high risk of escalator accidents has prompted Busan to shift toward prevention-focused safety efforts. Busan has 3,359 escalators, according to the National Elevator Information Center, and escalator accidents have averaged 22.5 per year nationwide – a rate that is more than double that of elevators relative to the number of units.

Hitachi Elevator China Expands Modernization Business to More Than 300 Cities Nationwide

Hitachi Elevator (China) Co., part of Japan's Hitachi Ltd., has expanded its elevator modernization business to more than 300 cities across China, with more than 18,000 such projects completed, South reported in August. Updating old residential elevators has been a key initiative of the Chinese government

since 2024, with more than US\$4.6 billion in government bonds allocated to support 197,000 elevator modernizations. At Hitachi China's Dashi factory in Guangzhou, AI has been integrated throughout the manufacturing process to enhance efficiency and product quality. Demand for high-quality, reliable residential elevators is expected to grow as the Chinese real-estate industry enters a phase of "better housing construction," according to Tan Xianguang, general manager of Quality Assurance at Hitachi Elevator China. The company, he said, is ready to "recreate a better living environment by introducing more high-quality products."

Hyundai Elevator Executives Buy KRW1 Billion in Treasury Shares

All executives at Hyundai Elevator, headquartered in Chungju, South Korea, are buying treasury shares to strengthen responsible management, outlets including Maeil Business reported in mid-July, at which time shares purchased by the approximately 30 executives totaled KRW1 billion (US\$668,395). The share purchases are also intended to restore market trust and protect shareholder interests. "The purchase of treasury shares by all executives...demonstrates, through action, our confidence in the company's mid- to long-term growth and corporate value," the company stated. To prepare for Smart City construction, Hyundai Elevator has rolled out a range of innovative technologies, including ENOBLOC, the world's first commercialized modular elevator installation system for high-rise buildings, delivery robot-elevator integration technology and H-PORT, a vertiport serving as key infrastructure for Urban Air Mobility, a government-backed "flying taxi" service being developed (ELEVATOR WORLD, August 2024).

Hyundai Elevator Obtains Green Technology Certifications for Inverter

Hyundai Elevator said on August 19 it obtained green technology certification and green technology product verification for the WB250, a regenerative power conversion device (inverter) applied to high-speed elevators, ChosunBiz reported. The green technology certification obtained by the WB250 certifies a product's eco-friendly technology, and the green technology product verification confirms that the certified technology has been applied to an actual product. The certification is valid through July 22, 2030. The WB250 applies technology that improves power conversion efficiency, boosting the energy efficiency of high-speed elevators that use large-capacity power. Regenerative inverters apply technology that recovers electricity generated during elevator operation and reuses it for building lighting and air-conditioning systems. Hyundai Elevator said the regenerative inverter can cut power consumption by up to 64% compared with a standard inverter.

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Hyundai Elevator Signs MoU To Help Address Stack Effect in High-Rise Elevators

Hyundai Elevator and GS Engineering & Construction have signed a “Joint Technology Development Memorandum of Understanding (MoU) for Securing Airtightness Performance of Ultra-High-Rise Elevators,” The Asia Business Daily was among outlets to report in August. The two companies will focus on developing technologies to address the stack effect — a phenomenon where differences in air density and pressure caused by the temperature difference between the inside and outside of a tall building cause indoor air to move like a chimney along vertical passages such as stairwells or elevator shafts — which can commonly occur in ultra-high-rise buildings. In winter, cold air enters at the lower floors while warm air escapes from the top, leading to issues with entrance and elevator doors, loss of heating and cooling, noise and increased risk of smoke spreading in the event of a fire. Through joint research, the companies plan to analyze the stack effect and pressure difference characteristics of ultra-high-rise buildings, establish performance evaluation standards and conduct mock-up demonstrations, as well as on-site applicability reviews. They expect these efforts will help reduce the spread of smoke through elevators during fires, which will improve evacuation safety and firefighting activity efficiency.



(l-r): Seonghan Cho, chief technology officer of GS Construction, and Taewon Lee, head of R&D at Hyundai Elevator; photo by GS Construction

South Korean Escalator Manufacturing Returns, Eyes U.S. Market

Ten years after cheaper Chinese imports pushed South Korean-made escalators out of the market and prompted the largest domestic manufacturer, Hyundai Elevator, to halt production in 2014, the industry is back with a new company that's showing results, Korea JoongYang Daily reported in August. K-Escalator, established in 2024 by Hyundai Elevator Service with several additional smaller players, has started manufacturing escalators in South Gyeongsang. The Korea Elevator Safety Agency recently granted K-Escalator's 21-m-high

escalator certification, giving the company the greenlight to manufacture units up to that height. K-Escalator made its first deliveries in 2025 and has posted revenue of KRW4.5 billion (US\$3.2 million). The company is now seeking certification required to export to North America — specifically, the U.S. Although Chinese manufacturers dominate the global market, “growing tensions between Washington and Beijing have made the U.S. market hard for them to penetrate.”



Employees assemble an escalator at K-Escalator's factory in Geochang County, South Gyeongsang; image courtesy of K-Escalator.

KONE Reports Order Growth, Margin Expansion With EMEA a Highlight

Finland-headquartered KONE reported strong growth in orders and continued margin expansion for the first half of the year, with President and CEO Philippe Delorme stating, “We delivered a strong second quarter, highlighted by order growth of more than 10%.” He said the re-acceleration of modernization, with double-digit growth across all regions, is particularly encouraging. The defining event of the quarter, Delorme observed, was KONE's planned acquisition of TK Elevator. The regulatory review process is ongoing, with filings submitted in all jurisdictions, he said. “We have also begun working together on integration planning, and the highly constructive collaboration has strengthened our conviction in the significant value creation potential of the transaction,” Delorme said. Notable in the July earnings report is that KONE enjoyed particularly robust new-installation business in the Asia-Pacific, Middle East and Africa (EMEA) “where activity is strong despite the geopolitical tensions.” This was supported by strong growth in India and Australia, in contrast with activity declining significantly in China. The market in North America grew clearly, while the Europe market grew slightly, driven largely by the residential segment. For the first half of 2026, KONE's total sales grew to EUR5.65 billion (US\$2.56 billion) with a net income of EUR454.7 million (US\$517.3 million). Going forward, KONE expects modernization to grow significantly in all regions, supported by aging equipment and a continued focus on sustainability.



Photo Courtesy..Mr Somesh Owner Amrut Nilay Bengaluru & Ascent Lifts & Escalators Pvt Ltd. Glass shaft & Cabin by Sookshma Glass Creations Bengaluru



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USDJ Puts KONE-TKE Deal Under Antitrust Microscope

The U.S. Department of Justice (USDJ) is putting KONE's plan to buy TK Elevator (TKE) in a deal worth US\$34.4 billion under the antitrust microscope, with a full review of the plan underway, outlets including Briefs Finance reported in August. Despite the USDJ's thorough antitrust review – which could take a year or more – Finland's KONE still expects to acquire Germany's TKE, with the transaction closing in the second quarter of 2027 at the earliest. The deal, announced by KONE in April, would create one giant company that combines the world's third- and fourth-largest elevator players – a company dwarfing both Otis and Schindler. The USDJ has asked both KONE and TKE for more information, and in August was investigating whether the merger would hurt competition in the U.S. elevator market. If it goes through, the deal would fulfill KONE's ambition to expand in the U.S. where TKE has a strong installation and service business. "That matters because KONE already gets about 35% of its revenue Asia, and a bigger U.S. footprint would balance things out," the source observed.

Korea's LH Now Requiring Air Conditioning in Elevators Among Other Improvements

The Korea Land & Housing Corp. (LH) will require air conditioning in all newly ordered elevators, part of a broader effort to improve the safety and convenience of elevators in public housing, Seoul Economic Daily was among outlets to report in August. LH is rolling out a comprehensive set of elevator improvements. The corporation is also introducing flood-detection and managed-operation features: When flooding occurs in an elevator shaft, the system will detect it and move the elevator to a safe floor while restricting its operation. LH also said it will adopt a design approach based on actual power-load requirements, cutting power loads and reducing electrical construction costs. It will also raise the speed standard for slow-moving units and will improve design elements such as interior ceilings and floor indicators. LH plans to replace 725 elevators across 47 rental complexes this year.

KONE To Outfit Luxury Mixed-Use Malaysia Tower With VT and More

A Memorandum of Understanding (MoU) has been signed by Stark Development and KONE for the Finnish vertical-transportation (VT) company to provide 10 elevators, four escalators and digital solutions for Stark Tower, a new 34-story luxury development taking shape in Penang, Malaysia, Buttendown reported in August. The MoU will combine the developer's vision with "KONE's professional technology to create a safer, smoother and future-oriented VT system." The VT system will feature the unique, panoramic Bubble Lift that allows residents and guests to enjoy views of the surrounding area. The KONE E-Link™ remote-monitoring platform and KONE 24/7 Connected Services promise to enhance equipment reliability and efficiency through digital monitoring and connectivity. Among project highlights is an escalator

connecting the 31st and 33rd floors that is expected to become the tallest escalator installation in Penang. Stark Tower's anticipated completion is in 2028.

Taoping Secures US\$5.2 Million in Smart Elevator Orders

Taoping Inc., a Tianjin, China-based provider of innovative cloud-based



Rendering of Stark Tower via Penang Property Talk

technologies, Smart City Internet of Things platforms and related products and services, announced in August its wholly owned subsidiary, Skyladder (Tianjin) Technology Development Co., Ltd., had secured approximately US\$5.2 million in new smart elevator project orders. The new orders represent

another important milestone in Taoping's "AI + elevator" growth strategy and further validate the company's expanding role in China's elevator modernization and intelligent infrastructure market. The projects cover a broad range of use cases, including urban renewal, affordable housing, commercial housing, vocational education parks, emerging industrial bases and science and education facilities. Taoping believes these new orders strengthen its near-term revenue visibility while also creating valuable reference cases that can support broader market expansion with larger customers, property managers, local platforms and public-sector-linked projects over time, the company said in a press release.

VISTOP Elevator International Business Launched

China's Lianyungang Vistop Technology Co., Ltd. announced in August the launch of its international business under the VISTOP Elevator brand. Founded in June 2026, the company is developing partnerships with elevator distributors, engineering companies and property developers serving international projects. VISTOP supplies passenger elevators, home lifts, stairlifts, hydraulic platforms and elevator spare parts. In addition to equipment supply, the company supports elevator modernization planning, installation coordination and international shipping. The company states that project requirements, technical specifications and applicable CE or EAC documentation are confirmed according to the selected product model and destination before an order is finalized. "VISTOP aims to build long-term partnerships by combining practical project support with responsible business values," the company said.

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T&T Central Vietnam and Nidec Elevator Sign Agreement

On August 22, T&T Central Vietnam Elevator Co. Ltd. and Nidec Elevator (Qingdao) Co., Ltd., a subsidiary of Nidec Group, held a signing ceremony for a strategic cooperation agreement in which Nidec Elevator Corp. will share product information, technical solutions, experience and expertise tailored to the needs of each project and T&T Central Vietnam Elevator will act as a local coordinator, connecting information and coordinating between Nidec and investors on suitable opportunities, Vietnam.VN reported. Both sides also plan to organize guidance programs, technical training, solution presentations, project visits and other professional activities. T&T Central Vietnam Elevator is the official distributor of Nidec Elevator products and participates in consulting, installation, warranty and maintenance services in the domestic market. With the message “Japanese Technology - Partnering with Vietnam in the Development of Modern Industry and Urban Areas,” the collaboration between Nidec Elevator and T&T Central Vietnam Elevator is expected to contribute to diversifying product supply, enhancing technical service capabilities and meeting infrastructure development needs in Nghe An and the Central region.



Leaders of T&T Central Vietnam Elevator Co. and Nidec Elevator Co. exchange certificates of commitment; photo by Trong Trung; courtesy of Vietnam.VN

Otis To Provide 251 VT Units For Landmark Tianjin 117 Tower

Otis announced in August it has been selected to provide 251 vertical-transportation (VT) units for Tianjin 117, China's new 600-m supertall landmark. When complete, it will be China's third-tallest building. The Tianjin 117 project is poised to set four high-rise mobility records:

1) 53 Otis SkyRise™ double-deck and super double-deck elevators, the most Otis double-deck elevators in a single building

2) Two Otis SkyRise elevators with maximum rises exceeding 597 m, the world's longest elevator hoistways in a building

3) Three Otis SyRise super double-deck elevators traveling at up to 10 m/s and reaching 463 m, making them Otis' fastest and highest super double-deck elevators of their kind

4) Two Otis SkyRise double-deck elevators traveling at speeds of up to 12 m/s – the fastest in Otis' portfolio

Otis solutions for Tianjin 117 also include digitally native Gen3™ elevators and Otis Link™ and Public escalators. Otis ReGen™ drive technology will provide energy efficiency, and the Panorama™ 3 elevator management system and Otis ONETM Internet of Things technology will enhance connectivity.

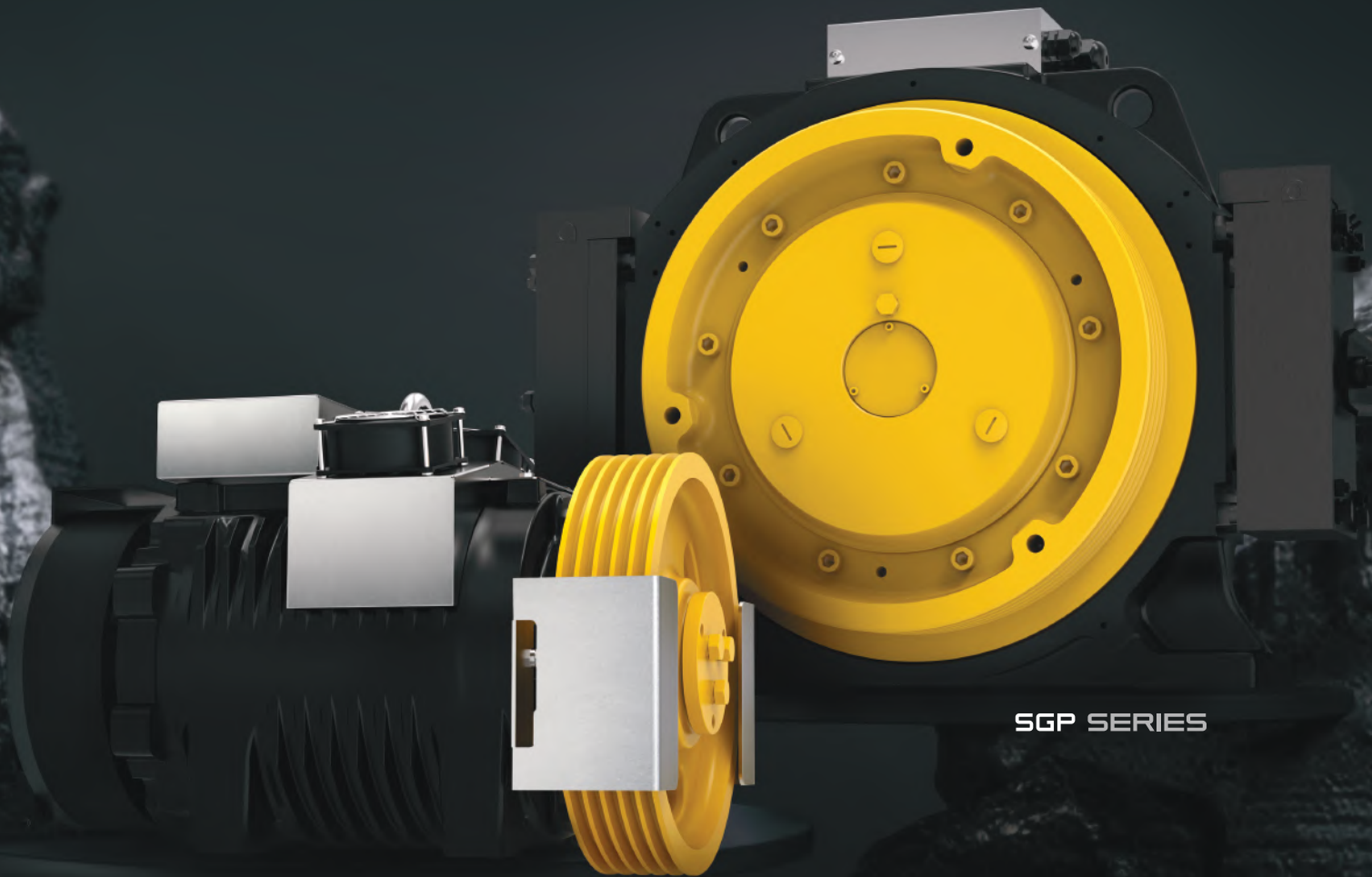


An Otis SkyMotion™ machine, which powers the Otis SkyRise elevator, is hoisted onto the Tianjin 117 Tower; image courtesy of Otis.

TKE Reports “Exceptional Results” for 3Q 2026

Düsseldorf, Germany-headquartered TK Elevator (TKE) in August reported what CEO Uday Yadav described as “exceptional results” for the third quarter (3Q) and first nine months of 2026, buoyed by strong modernization and service sales and a return to growth in new installation (NI) growth in some regions. Challenging new-construction sectors in China and South Korea were offset by NI growth led by EOX – TKE's eco-efficient and digitally native elevator platform – in North America and Europe. Yadav also highlighted the OEM's AI-enabled service delivery model in North America and the groundbreaking of the TKE ALAT elevator and escalator manufacturing facility in Saudi Arabia, demonstrating “global momentum across TKE.” In the Asia Pacific, TKE is pursuing opportunities in modernization and service and expanding its presence in high-growth markets such as India and the Middle East. Order intake was up 12% to EUR2.6 billion (US\$3.01 billion) and sales grew 4% to EUR2.4 billion (US\$2.78 billion), with service and modernization accounting for 66% of total 3Q sales.

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Why India Needs One Nation, One Lift Law

A gap that can no longer be ignored

by Tarunesh Mathur

Every morning millions of Indians step into an elevator without a second thought. It takes them down to the metro, up to their office, for lunch to the mall and home again in the evening to their family. It is, quite literally, the most-used piece of infrastructure most of us never think about – until it fails.

India regulated its horizontal transportation and forgot its vertical transportation.

Think about how you travel horizontally in India. Every vehicle on Indian roads is regulated by the Motor Vehicles Act. All aspects of road transport, including licensing, registration, insurance, traffic control and penalties, are regulated. Horizontal mobility in India is, for all practical purposes, one nation, one law.

Vertical mobility tells a different story. The elevator you ride in Mumbai is not governed by the same rules as the one you ride in Delhi or Bangalore. The moment you cross a state border, the rules governing an elevator's safety, licensing, inspection and maintenance change with it. In a nation of a billion-plus vertical journeys a year, it is a gap we can no longer afford to ignore.

Only some Indian states have a dedicated Lift Act at all; the rest operate in a regulatory vacuum, relying on voluntary technical standards that carry no legal teeth. We have, in effect, built a unified framework for how Indians move between cities, but not for how they move between floors.

An Aging Fleet Needs a Roadmap for Modernization

India's elevator industry is young by global standards, but a meaningful share of its installed base from the early 2000s housing boom has crossed the 20-year mark that mature markets treat as the natural threshold for modernization. Yet, no national guideline tells a building owner what to do once an elevator reaches that age, except in the state of Haryana. There need to be mandated upgrade triggers, phased timelines and minimum retrofit requirements for safety features like automatic rescue devices (ARDs) and door sensors. These guidelines are common across the world and even incentivized by the government (e.g., China).

Infrastructure Is Only as Safe as Its Maintenance Ecosystem

Around the world, periodic inspection by OEMs is treated as public safety obligation rather than a commercial choice. India deserves the same benchmark. A national framework that mandates structured maintenance by certified service providers would significantly improve passenger safety and system reliability.

Regulatory Fragmentation Is a Tax on Growth

A national lift law could improve productivity in this sector. Capital and manpower that are currently spent on navigating 28 different rulebooks could instead be spent on innovation, localization and growing exports.

Why a Uniform Law Matters

The case for one national law rests on three pillars: passenger safety, uniform adoption of new technology and genuine preparedness for the India ahead.

India doesn't need to solve this from scratch – the world has already shown the way. North America built its ASME A17.1/CSA B44 standards through a single model code that every state, province and municipality adopted locally. The EU converged national codes into EN 81, made legally binding across all 27 member states. China directly benchmarked and adapted existing American and European codes rather than building one from first principles and passed a dedicated national law. Each path arrived at the same destination: one national technical and legal framework for vertical mobility.

India's elevator and escalator market has crossed US\$15.3 billion and is growing faster than almost any comparable market globally. A One Nation, One Lift Law is not simply about regulating elevators. It is about creating safer buildings, smarter cities and a stronger foundation for India's next phase of urban growth. As India builds the skylines of tomorrow, every journey within them should be governed by the same standards of safety, quality and accountability. A nation aspiring to global leadership deserves nothing less than one unified vision for vertical mobility. 



Tarunesh Mathur is the president and CEO of Schindler India & South Asia. He brings more than 16 years of diverse experience across field operations, customer service, business transformation and strategic leadership. Before joining Schindler, he was with Tata Motors, where he built a strong foundation in execution and customer focus.

A Schindler leader for more than a decade, Mathur has held key national and regional roles from exports and sales to field operations, and most recently, led the Existing Installation (EI) business. His cross-functional journey gives him a deep, ground-up understanding of the organization and its people. Known for building high-performing teams and driving sustainable growth, he leads with clarity, urgency and a sharp focus on culture, service and long-term value creation.

Mathur holds a bachelor's degree in mechanical engineering and an MBA from the Indian Institute of Foreign Trade, Delhi. He now leads Schindler India's next phase of growth with a clear focus on people, performance and lasting impact.

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Lifts Landing Door Fire Resistance Test Standards & Requirements

IS17518-2: 2021/ISO3008-2: 2017 Fire-Resistance Tests (Part 2 - Lift Landing Doors Assemblies)

by Vispute Shrihari

Introduction

Safety in lifts is paramount in all buildings, especially those where fire risks are heightened. Therefore, it is essential to keep up-to-date fire testing standards for lift doors.

By implementing rigorous lift landing door fire testing Safety standards, we can ensure that lift doors are equipped to withstand intense heat and flames, reducing the risk of fire and smoke spreading between floors.

“The Chimney Effect” When a Fire Is in a Building

If the smoke and flames from a lower floor reach the elevator hoistway without adequate landing door fire resistance, the chimney effect will enable them to spread vertically through the hoistway and horizontally through the lateral openings on the floors above, resulting in fire and smoke spreading to unaffected areas, causing greater difficulty for personnel evacuation.

The phenomenon is illustrated below:

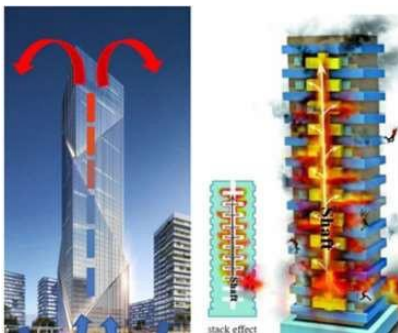


Image source: Google

There is a dedicated Indian Standard (IS) 17518-Part 2 for “Testing the Lift Landing Doors for Fire Resistance” published by the Bureau of Indian Standards (BIS), which is the National Standards Organization body of India. The safety of the passengers is elevated to the next level

through deployment of this standard.

The lift’s landing door fire resistance testing standard is published to:

- ◆ Protect lives and property from fire hazards
- ◆ Meet necessary safety codes and regulations
- ◆ Require testing to subject doors to realistic fire scenarios, simulating various intensities and durations
- ◆ Evaluate door fire resistance performance predominantly for the integrity and also insulation, radiation requirements as necessary.

- ◆ Provide certification from an authorized third-party, giving building owners and occupants peace of mind

Major Update by BIS to Enhance Lift and Passenger Safety

As far as Indian lift standards are concerned, these have been developed over a long period of time. The recently withdrawn IS in the series of IS 14665 part 1-5 were published in 2000-2001, replacing earlier standards such as IS 4666, IS 1860, IS 3534 and several other lift component standards.

Recently, one major update received by BIS was in publishing the new lift standards IS 17900 Part 1 (Safety Rules) and Part 2 (Design Rules, Calculations, Examinations and Type Testing of Lift Safety Components) as main standards based on the global international standard ISO 8100 Part 1 and Part 2, enhancing passenger safety to the global standards level. This standard introduces major changes to the existing standards that bring more safety to passengers, service engineers and the public in general in connection with the use of lifts and lift installations.

In order to suit the Indian market requirements and considering provisions of enhanced safety, changes have been made in the standard ISO 8100-1 while adapting to India. These standards supersede IS 14665 (Part 1), IS 14665 (Part 2/Sec 1), IS 14665 (Part 3/Sec 1), IS 14665 (Part 4/Sec 1 to 9), IS 14671 (Hydraulic Lifts) and IS 15785 (Machine-Room-Less Lifts)

The main aim of revising the existing IS on lifts as part of the Indian government’s initiative of harmonization of codes is to bring them up to par with the international standards. The adoption of the new proposed standards will result in several advantages such as enhanced safety for the lift passengers and lift service technicians; and the introduction of the latest, state-of-the-art and safer technologies.

Although IS are generally voluntary, their application becomes legally enforceable when prescribed through BIS conformity assessment requirements in the interest of consumer health and safety, state lift legislation or the National Building Construction Standards (NBCS) of India. Accordingly, stakeholders in the lift and escalator industry must identify and comply with all standards applicable to the relevant product, installation and jurisdiction.

Fire-Resistant Landing Doors for Lifts

The purpose of requiring a fire rating for landing doors is to protect the building – rather than the elevator system or lift

car – by preventing the fire from entering the lift shaft through the lift landing doors and then traveling up and down the lift shaft (which acts as a giant chimney) and entering other floors, thereby spreading the fire throughout the building. A fire-resistance rating requirement for lift landing doors is included in most international standards.

It is not anticipated that the elevator car will get involved; in fact, most standards, including the National Building Codes Standard (NBCS), require that, in the event of the detection of a fire, the car returns to the designated fire evacuation floor where firefighters and fire engine access is made available for the building. Therefore, there is no reason to fire rate the lift car door, as the car is normally removed from the fire scene. We reviewed overseas elevator requirements for fire-rated car doors and found that no such requirement is codified in overseas countries. Car door fire ratings appeared in local codes since NBC 2005 had mentioned it in the past. The Maharashtra Public Works Department has written to the NBC 2005 technical committee secretary the above to state that car door fire rating becomes a redundant requirement and should be removed. Similarly, the Indian Electrical & Electronics Manufacturer's Association (IEEMA) also highlighted this point and communicated it through the association letter. Accordingly, the BIS/CED46/P2 committee, owner of NBC Standards, has taken cognizance of this and removed the same from the NBC 2016 version onward, including the latest NBCS 2026.

International Standards Available for Door Fire-Resistance Tests

There are three international reference standards available:

- 1) BS 476: Part 20-1987: Fire Test on building materials and Structures – Part 20 - Method for determination of the fire resistance of elements of construction (general principles)
- 2) BS EN81-58-2018: Safety rules for the construction and installation of lifts. Examinations & Tests. Part 58: Landing doors fire resistance test

3) ISO 3008-2 -2017: Fire-resistance tests – Part 2 – Lift landing door assemblies.

With effect of new main lifts Standard IS 17900:2022 series published, the old IS 14665 requirements as mentioned below for lift landing fire door resistance is withdrawn and not applicable:

IS 14665 Part 2/Section 1, Amendment 1, Clause # 8.3.14.1 says: Lift landing doors shall have a minimum fire-resistance rating of 1 h for integrity as per IS 3809: 1979. (Some manufacturers have qualification certificates to IS 3614, which is for general fire doors and door sets)

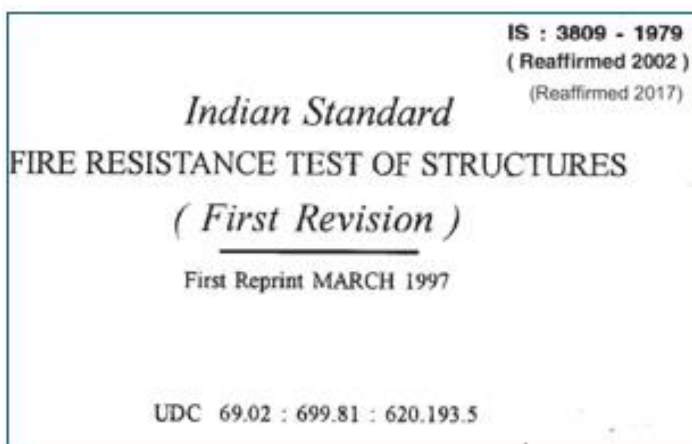
The new IS 17900: 2022 Part 1 requirements for landing doors is as below:

- ◆ Cl. 5.3.5.2 Behavior under fire conditions
 - ◇ Landing doors shall comply with the NBC of India, SP 7 requirements relevant to the fire protection for the building concerned and with reference to Cl. 5.12.5, IS 17518 (Part 2) shall be applied for the testing of such doors.
- ◆ Cl 5.12.5 Fire Protection Requirements of Lifts in High-Rise Buildings
 - ◇ Referring to sub clause 5.12.5.1.5 for landing doors, the lift landing doors shall be imperforate. Collapsible doors shall not be permitted. Lift landing doors provided in the lift enclosure shall have a minimum fire resistance of 1 h (E60).

Lift Landing Doors Fire-Resistance Tests New Standard

The new IS specific to lifts landing door fire resistance is IS 17518 (Part 2): 2021/ISO3008 – 2: 2017: Fire-resistance tests (Part 2 - Lift Landing Doors Assemblies).

The old general-purpose fire check doors, as per IS 3809: 1979, has been replaced with lift-specific landing door fire-resistance test standard IS 17518 Part 2, an identical adoption of ISO 3008-2:2017 published by BIS.



IS 3809 is not applicable and ref to IS 17518-2 is added in IS 17900-1 lifts standard

Caution in Conducting Lift Landing Door Fire Tests

The attention of all people concerned with managing and carrying out this fire-resistance test is drawn to the fact that fire testing may be hazardous and that there is a possibility that toxic and/or harmful smoke and gases may be present during the test. Mechanical and operational hazards may also arise during the construction of test elements or structures, their testing and disposal of test residues. An assessment of all potential hazards and risks to health shall be made by the laboratory and safety precautions shall be identified and provided. Written safety instructions shall be issued. Appropriate training shall be given to relevant personnel.

Laboratory personnel shall ensure that they always follow written safety instructions.

Scope

This standard also specifies the method of testing for determining the fire-resistance of lift landing door assemblies that can be exposed to a fire from the landing side. The procedure applies to all types of lift landing door assemblies that are used as a means of access to lifts in buildings and are intended to provide a fire barrier to the spread of fire via the lift well. The procedure allows for the measurement of integrity and, if required, the measurement of radiation and thermal insulation.

Typical measurements of the tests:

- ◆ Temperature Measurements
- ◆ Pressure Measurements
- ◆ Gas Flow Measurements CO₂ Concentration (Leakage rate: Total flow of hot gases passing through openings and gaps of the door assembly due to overpressure on the landing side)
- ◆ Heat Flux Measurement
- ◆ Deflection
- ◆ Gap Measurements: The clearance between moving components and fixed components of the door assembly (e.g. between door leaf/leaves and the frame) shall be measured prior to test. Single-panel swing doors, double-leaf telescopic doors, center-opening doors and multi-sliding doors are specified.

Performance Criteria as Per IS 17518-2 Integrity (E)

Integrity requirements shall be satisfied as long as none of the following occur: Sustained flaming on the unexposed face in excess of 10 s duration. This criterion shall be applied during the entire test period. After the first 14 min of the fire test, the leakage rate per meter width of the door opening exceeded 3 m³/(min-m).

Insulation (I)

When insulation requirements apply, the insulation criterion I is no longer satisfied when:

- ◆ the average temperature rise exceeds 140°C;
- ◆ the maximum temperature rise on the door leaf, over panel and side panel with a width ≥ 300 mm exceeds 180°C;
- ◆ the maximum temperature rise on vertical members and/or over panels have a width (vertical members) or height (over panels) of between 100 mm and 300 mm exceeds 360°C.

Radiation (W)

When radiation requirements apply, the radiation criterion is satisfied until the measured radiation exceeds the value of 15 kW/m².

Classification Periods

Table - 1 Classes

Performance	Classification Periods						
E	15	20	30	45	60	90	120
EI	15	20	30	45	60	90	120
EW	NA	20	30	NA	60	NA	NA

NOTE NA Identifies classification periods that are not available.

For the purpose of classification, the results in minutes, as specified in Clause 12 of the standard, shall be rounded down to the nearest classification period: 15 min, 20 min, 30 min, 45 min, 60 min, 90 min or 120 min.

Declaration of Performance Minimum Requirement E60

- ◆ E tt: tt being the classification period during which the criterion integrity is satisfied.
- ◆ EI tt: tt being the classification period during which the criteria for integrity and insulation are satisfied.
- ◆ EW tt: tt being the classification period during which the criteria for integrity and radiation are satisfied.

When criteria are combined, the time declared shall be that of the criterion having the shortest time. So, a lift landing door assembly with E=47min, W=25min and I=18min, shall be classified as E45 and/or EW20 and/or EI15.

Requirements in Test Report as Per IS 17518-2

In addition to the items required by ISO 834-1, the following shall also be included in the test report:

- ◆ a reference that the test was carried out in accordance with IS 17518-2:2021
- ◆ details of how the construction of the test specimen was verified
- ◆ the leakage rate though the door during the fire test
- ◆ the time and duration of occurrences of flaming along with its location

The purpose of requiring a fire rating for landing doors is to protect the building – rather than the elevator system or lift car – by preventing the fire from entering the lift shaft through the lift landing doors and then traveling up and down the lift shaft (which acts as a giant chimney) and entering other floors, thereby spreading the fire throughout the building.

- ◆ the temperature measurements on the unexposed face of the door as a function of time when measured
- ◆ the radiation emission, when measured, as a function of time
- ◆ the deflection of the door as a function of time
- ◆ the pressure in the furnace at the sill level of the door as a function of time

Marking Data Plate Information

As per IS 17518-2, Annex G (informative), there shall be a data plate with information indicated in annexure on the unexposed side (lift shaft side) of the door frame assembly (upright, header or sill support making up the door frame) which shall be permanently fitted (riveted or screwed) and permanently marked (stamped, engraved on the plate).

Test at Approved Laboratories Certified for IS 17518

Tests are to be performed at approved test laboratories by the National Accreditation Board for Testing & Calibration Laboratories (NABL) for IS 17518 or ISO 3008-2. Foreign Labs with accreditation bodies having Mutual Recognition Arrangements (MRA) with International Laboratory Accreditation Cooperation (ILAC), also can be used, but they must issue E60 certification to ISO 3008-2 or IS 17518-2. Some labs, like Eurofins Spectro, etc., in India are accredited to NABL.

The Test Lab Shall Be Verified for Validity of the Test Lab

Search for “Scope for accreditation” for the selected lab and confirm this lab is accredited to certify for lift landing door assemblies as per IS 17518 Part 2 or ISO 3008-2.

Conclusion

- ◆ IS 17900 Part 1 requiring that all the landing doors of all lifts in a building having height > 15 m shall have minimum E60 fire rating as per IS 17518-2 or ISO 3008-2.

- ◆ Old or existing certificates complying to IS 3809 or BS 476-20/22 or EN 81-58 should be converted to IS 17518-2 compliance certificates by December 2025.
- ◆ Although landing doors certified to the EN 81-58 standard would generally qualify for ISO 3008-2 or IS 17518-2, they need to be retested and certified for IS 17518-2.
- ◆ Identify test labs for certification on NABL website, confirm their scope and validity before performing fire-resistance test of the samples. Foreign labs with accreditation bodies having MRAs with ILAC also can be used, but they must issue E60 certification as minimum to ISO 3008-2 or IS 17518-2.
- ◆ Ensure that part under test with photograph, identification no., drawing, technical specifications, etc., along with other requirements specified in IS 17518-Part 2 are mentioned in the test report.

Disclaimer

The above article is written in good faith to educate and make people aware of the lift landing door fire-resistance tests requirements and their necessity. The information described here is of the nature of “bird’s eye view” and do not contain all the information/conditions in depth for which users are advised to refer to the original texts. Further, the views expressed are personal to the author. The author/publishers or the organizations where the authors may be employed shall not be held responsible for any action taken by anybody based on the information contained in the article. A similar article on this topic was also published by the author in the IEEMA Journal in past. 



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introduction of Otis’ flagship Gen2® elevator systems in India. His areas of expertise include elevator system and component design, program management, innovation leadership, robust design processes and product qualification.

Shrihari contributes to Codes & Standards, representing Otis India in BIS in three Technical Committees, including ETD25-Electrotechnical Division Technical Committee, CED46-Civil Engineering Division Committee responsible for NBCS, MED10-Mech. Engg. Division Tech committee responsible for Wire Ropes & Wire Rope Products, and seven Working Groups of BIS and three trade associations of India including Indian Electrical and Electronics Manufacturers’ Association, U.S.-India Strategic Partnership Forum and Pacific Asia Lift & Escalator Association (Management Committee member) responsible for lifts, escalators and moving walks and parking systems.

Safety: The Foundation of Every Vertical Journey

Standards implementation, emerging technologies and the road ahead

by M. J. Mohamed Iqbal, EW Correspondent

Every day, millions of people across India step into elevators without giving much thought to what makes the journey possible. In residential towers, hospitals, hotels, shopping malls, airports, metro stations, factories and commercial buildings, elevators have become indispensable to modern life. They connect floors, improve accessibility and enable cities to grow vertically. For the passenger, pressing a button and reaching the destination safely is simply expected. That confidence, however, is not accidental.

Behind every safe elevator journey lies a complex combination of sound engineering, recognized standards, quality manufacturing, professional installation, rigorous testing, periodic inspection and disciplined maintenance. Safety does not depend upon a single component or organization. It is created through thousands of decisions made throughout an elevator's life cycle.

India is undergoing an extraordinary transformation in urban development. Expanding cities, high-rise residential communities, commercial districts, metro networks, airports, hospitals and mixed-use developments are driving strong demand for vertical transportation (VT). As the installed base grows, ensuring dependable operation becomes an increasingly important responsibility shared by regulators, consultants, manufacturers, contractors, inspection authorities, maintenance providers, building owners and facility managers.

The challenge is also changing. Higher travel speeds, taller buildings, increasing passenger traffic, digital connectivity, cybersecurity considerations and aging installations are adding new dimensions to elevator safety. Addressing them requires more than compliance with prescribed requirements. It requires a culture in which risk prevention is embedded in every stage of planning, design, installation, operation and modernization.

India already possesses substantial engineering talent, manufacturing capability, digital expertise and professional experience. The opportunity now is to combine these strengths with strong standards implementation, workforce development, intelligent maintenance technologies and systematic knowledge sharing. Every elevator journey represents a promise: that the passenger, regardless of age or ability, will arrive safely. Fulfilling that promise remains the industry's highest responsibility.

India's Vertical Growth: Why Safety Matters More Than Ever

During the past two decades, India's built environment has changed dramatically. Economic development, infrastructure investment, urbanization and changing lifestyles have

transformed the role of elevators from a feature associated mainly with premium buildings into an essential component of everyday infrastructure.

Elevators are now found across residential developments, affordable housing, hospitals, educational institutions, transportation hubs, offices, shopping centers, industrial facilities and public buildings. Accessibility requirements and the growing expectation of inclusive mobility reinforce their importance.

Every new elevator also creates a long-term obligation. Unlike many elements of a building, an elevator is a dynamic transportation system operating repeatedly throughout the day and potentially remaining in service for decades. Safe operation, therefore, depends not only on the quality of the original equipment but also on inspection, maintenance, repair, modernization and responsible ownership throughout its working life.

India also has a large and increasingly mature installed base. Many elevators commissioned under earlier generations of technology continue to provide dependable service. However, as usage patterns, passenger expectations and technical standards evolve, modernization becomes progressively more important. Upgrading control systems, door equipment, safety devices, communication systems and monitoring capabilities can improve reliability and passenger protection while extending the useful life of otherwise sound installations.

India's diversity presents another engineering challenge. A high-speed elevator serving a premium commercial tower faces very different operating conditions from one in a district hospital, residential apartment, manufacturing plant or heritage structure. Climate, power quality, traffic intensity, environmental exposure and availability of maintenance resources can vary considerably.

Safety strategies must accommodate different operating conditions without compromising fundamental engineering principles.

The next phase of India's VT development should consequently be measured not simply by how many elevators are installed, but by how effectively every installation is designed, commissioned, maintained and modernized throughout its service life.

As cities rise, the standards supporting them must rise, as well.

Safety Is Not an Accident: Building a Culture of Prevention

“Every elevator that operates safely is the result of thousands of correct engineering decisions made long before the passenger presses the call button.”

Passengers rarely think about the systems protecting them. They expect the doors to open correctly, the car to travel smoothly and the journey to end safely at the intended floor. Behind this apparent simplicity lies more than a century of engineering development and professional experience. Elevator safety is sometimes associated primarily with visible or familiar devices such as brakes, governors, door detectors or safety gears. These systems are essential, but they represent only part of the protection provided.

Effective safety begins with planning and design, continues through manufacturing, installation, testing and commissioning, and depends thereafter on competent maintenance, inspection and timely modernization. Safety is, therefore, not a product that can be purchased as an optional feature. Nor can it be guaranteed by a single inspection. It is a continuing process of identifying hazards, controlling risk, monitoring performance and improving the system throughout its working life. The VT industry consequently operates as an interconnected chain of responsibility.

Consultants and designers translate user needs, codes and engineering principles into appropriate solutions. Manufacturers produce equipment to established performance and quality requirements. Component suppliers contribute critical systems whose reliability affects the whole installation. Installation teams ensure that equipment is correctly assembled, aligned, wired and commissioned. Inspectors independently assess compliance. Maintenance professionals preserve system integrity through inspection, adjustment, testing and replacement of worn parts. Building owners and facility managers provide the resources and oversight necessary to keep equipment in safe operating condition.

A weakness at any stage can affect the performance of the entire system. Poor design cannot always be corrected by good maintenance. High-quality equipment can be compromised by inadequate installation. Excellent installation cannot protect passengers indefinitely if essential maintenance is deferred.

Conversely, when each participant performs their role competently, elevator travel becomes highly dependable.

The strongest safety cultures are also proactive rather than reactive. They encourage the identification of hazards before incidents occur, transparent reporting of abnormal conditions, continuous professional training and systematic learning from operational experience. A near miss, repeated minor fault or unusual operating condition should, therefore, not be dismissed merely because no accident occurred. Properly analyzed, it can provide information capable of preventing a more serious event later.

India is undergoing an extraordinary transformation in urban development. Expanding cities, high-rise residential communities, commercial districts, metro networks, airports, hospitals and mixed-use developments are driving strong demand for vertical transportation (VT).

For India's rapidly expanding elevator industry, this culture of prevention is especially important. Regulatory compliance provides the essential foundation, but sustained excellence requires organizations to go further by developing technical competence, accountability and a willingness to learn continuously. Safety must become not simply an obligation, but an organizational value.

The Elevator Safety Ecosystem

Codes & Standards



Consultants & Designers



Manufacturers



Component Suppliers



Installation Teams



Testing & Commissioning



Inspection Authorities



Maintenance Providers



Building Owners & Facility Managers



Passengers & Users



Operational Feedback & Modernization

↻ Back to Standards, Design and Industry Practice

FIGURE 1
THE ELEVATOR SAFETY ECOSYSTEM

Safety is a continuous cycle of shared responsibilities. Every link is essential.



Elevator safety is a continuous and interconnected process in which every participant contributes to the protection of the passenger.

Engineering Safety: From Standards to Reality

“Engineering excellence is measured not only by how an elevator performs under ideal conditions, but by how safely it responds when conditions are no longer ideal.”

An elevator begins long before equipment reaches the construction site. During planning and design, engineers study building characteristics, passenger demand, travel height, rated load, speed, traffic patterns, environmental conditions, accessibility requirements and expected usage. Decisions made at this stage establish much of the foundation upon which future safety and reliability depend.

Modern safety engineering follows a fundamental principle: hazards should be eliminated where practicable, risks reduced through design and remaining risks controlled through independent layers of protection.

Consequently, the engineering of an elevator extends far beyond the selection of a machine or determination of rated speed.

Suspension systems, braking equipment, controllers, doors, safety gears, overspeed governors, buffers, electrical protection

devices and communication systems must function not merely as individual components but as an integrated system.

Redundancy, fail-safe behavior and appropriate monitoring are central considerations.

Consider the doors. To a passenger they simply open and close, yet this apparently routine action involves precise control of speed and force together with devices designed to detect passengers or obstructions. In heavily used buildings, doors may perform an enormous number of operating cycles during the life of an installation. The same principle applies to braking and overspeed protection. These systems must remain capable of responding correctly when abnormal conditions occur rather than only during normal operation.

Structural elements are equally important. Guide rails, machine supports, landing entrances, suspension components, car frames and counterweight assemblies must withstand repeated loading and operating stresses throughout years of service.

Modern elevator engineering also embraces the fail-safe principle. Wherever practicable, the failure or interruption of a safety-related circuit should move the equipment toward safe

conditions rather than permit continued unsafe operation. This philosophy represents one of engineering's most important contributions to public safety: anticipating how systems may fail and designing protection before those failures occur.

Standards codify much of this accumulated knowledge. They create a common technical language through which manufacturers, consultants, contractors and inspectors can work toward consistent objectives. As technologies and building requirements evolve, standards also evolve, incorporating operational experience and emerging engineering practices.

For India, where elevators operate across an exceptional range of buildings and environmental conditions, consistent implementation of sound engineering principles is fundamental.

Compliance should, therefore, not be approached merely as paperwork required before commissioning. It represents the practical translation of accumulated engineering experience into passenger protection.

Layers of Elevator Safety

PASSENGER SAFETY



User Awareness & Emergency Information

Maintenance & Independent Inspection

Electronic Monitoring & Safety Circuits

Mechanical Safety Devices

Engineering Design

Codes, Standards & Risk Principles

Modern elevator safety depends upon multiple complementary layers of protection. No single device carries the entire responsibility.

Standards and Regulations: Strengthening India's Safety Framework

"Safety standards are written in ink, but their principles have been shaped by decades of engineering experience."

The safety performance achieved by modern elevators is the result of continuing technological improvement combined with the systematic development of technical requirements.

India's framework incorporates standards developed by the Bureau of Indian Standards (BIS), provisions of the National Building Code of India and applicable State Lift Acts and Rules.

The BIS framework includes the IS 17900 series, Lifts for the Transport of Persons and Goods, while the National Building Code of India 2016 addresses lifts, escalators and moving walks under Part 8, Building Services, Section 5.[1]

Regulatory administration, licensing and inspection are also governed by the applicable Lift Acts, Rules and inspection arrangements of individual States and Union Territories.[2]

This structure reflects India's federal and administrative diversity, but it also makes consistency of implementation an important industry objective. As the national installed base expands and elevator technologies become increasingly sophisticated, continued harmonization of technical practice can provide significant benefits to manufacturers, consultants, service organizations, owners and passengers.

Indian industry is simultaneously connected to global engineering developments. International manufacturers operate substantial businesses in the country, Indian manufacturers increasingly participate in sophisticated projects, and components, engineering knowledge and digital technologies circulate across global markets.

This exchange encourages convergence toward good engineering practice while allowing solutions to be adapted to India's own operating conditions. Standards should not be regarded as barriers to innovation. Properly constructed, they provide the framework within which innovation can be deployed confidently.

AI, remote diagnostics, predictive maintenance, connected control systems and advanced sensors deliver their greatest value when incorporated within clearly defined principles covering functional safety, reliability, testing, cybersecurity and accountability. Compliance, however, should be considered the starting point rather than the final ambition.

Leading organizations naturally seek to go beyond minimum requirements by investing in workforce competence, quality processes, preventive programs, data analysis and stronger risk-management systems. That distinction can be expressed simply:

Compliance keeps an installation within the prescribed framework. Safety excellence builds lasting passenger

Regulatory compliance provides the essential foundation, but sustained excellence requires organizations to go further by developing technical competence, accountability and a willingness to learn continuously. Safety must become not simply an obligation, but an organizational value.

Technical Insight – Compliance and Safety Excellence

Compliance	Safety Excellence
Meets statutory requirements	Pursues continuing improvement
Periodic inspection	Condition monitoring and systematic analysis
Scheduled servicing	Preventive and predictive strategies
Corrective response to faults	Early identification of emerging risk
Regulatory requirement	Organizational value

confidence. Standards must also evolve as buildings and technologies change. High-rise development, digital communication, cybersecurity, accessibility, emergency operation, energy performance and resilience introduce requirements that earlier generations of equipment did not face to the same degree.

Yet even the best standard cannot operate by itself. Competent professionals must interpret it. Manufacturers must incorporate it into equipment. Installation teams must apply it. Inspectors must verify it. Maintenance providers must preserve the intended performance, and owners must support the work required. Standards establish the framework. People determine how effectively that framework protects the passenger.

Technology: Transforming Present-Day Elevator Safety

“Technology cannot replace engineering judgement, but intelligently applied technology can give engineers better information and enable earlier intervention.”

Elevator safety has always progressed alongside technology.

Mechanical protection systems were followed by increasingly sophisticated electrical safety circuits, microprocessor controls, variable-frequency drives and digital diagnostic systems. Today, connectivity is adding another layer.

Modern controllers can monitor numerous operating parameters, including speed, door performance, motor characteristics, braking functions and safety-circuit status. Diagnostic information can help technicians identify abnormal behavior before it develops into a major service interruption. Internet of Things (IoT) technologies extend this capability beyond the machine room or control cabinet.

Connected systems can transmit selected operating information to service platforms, allowing equipment performance to be assessed remotely. Door cycles, fault histories, operating frequency, vibration, temperature and other parameters can contribute to a more complete picture of equipment condition. Predictive maintenance takes this process further. Traditional maintenance commonly combines

Effective safety begins with planning and design, continues through manufacturing, installation, testing and commissioning, and depends thereafter on competent maintenance, inspection and timely modernization.

scheduled service with corrective action when faults occur. Data analytics can supplement this approach by identifying trends that may reveal deterioration before a component fails.

A slight increase in door operating time, changes in motor current, recurring intermittent faults or abnormal vibration may appear insignificant when considered separately. Analyzed over time, however, the same information may indicate a developing maintenance requirement. The advantage is not simply convenience. Early intervention permits repairs or replacements to be planned rather than undertaken after a failure has already disrupted operation.

Door protection is another area where technology continues to develop. Multi-beam detectors, improved sensing, electronic monitoring and more sophisticated control logic can enhance passenger protection while maintaining efficient traffic flow.

Remote diagnostics can also improve service response. When fault information is available before a technician reaches the building, diagnosis may begin earlier and the probability of arriving with appropriate tools or components can improve.

Digital maintenance records provide another benefit: traceability.

A properly structured history of faults, corrective actions, replacement components, inspections and recurring observations gives maintenance organizations and building owners valuable information about the long-term condition of the installation.

Emergency operations are also becoming more integrated. Automatic rescue functions, emergency communication, backup power arrangements and interfaces with fire and building management systems can support coordinated responses when abnormal conditions occur.

Connectivity, however, creates new responsibilities. An elevator connected to external networks is no longer only a mechanical and electrical asset; it also becomes part of a digital environment. Cybersecurity, controlled remote access, data integrity, software configuration and system updates, therefore, need appropriate attention.

The objective should not be technology for its own sake.

The purpose of digitalization is to provide engineers, technicians, inspectors and owners with better information so that risk can be understood and action taken at the appropriate time.

Evolution of Elevator Safety

Mechanical Safety Era

Safety Gear • Overspeed Governor • Buffers



Electrical Safety Era

Interlocks • Safety Circuits • Electrical Protection



Electronic Control Era

Microprocessors • VVVF Drives • Advanced Diagnostics



Connected Safety Era

IoT • Remote Monitoring • Cloud-Based Analytics



Intelligent Safety Era

AI-Assisted Diagnostics • Predictive Maintenance • Digital Twins • Advanced Analytics

Elevator safety has evolved from individual mechanical protection devices toward increasingly integrated, data-informed risk management.

Maintenance and Modernization: Sustaining Safety Throughout the Life Cycle

“An elevator is commissioned once, but confidence in its safety must be renewed throughout its service life.”

Commissioning is not the end of an elevator project. It is the beginning of its operational life. Elevators are dynamic machines. Doors may open and close hundreds or thousands of times, motors repeatedly accelerate and decelerate, suspension elements carry changing loads, and electronic systems continuously process commands. Wear is, therefore, inevitable.

The purpose of maintenance is not to pretend that deterioration will never occur, but to identify and manage it before safety or reliability is affected. Maintenance should consequently be understood as an engineering discipline rather than simply the repair of equipment following breakdown. Inspection, testing, adjustment, lubrication, measurement, fault analysis and timely component replacement all contribute to

A high-speed elevator serving a premium commercial tower faces very different operating conditions from one in a district hospital, residential apartment, manufacturing plant or heritage structure. Climate, power quality, traffic intensity, environmental exposure and availability of maintenance resources can vary considerably.

preserving the performance originally intended by the designer and manufacturer.

Preventive maintenance remains fundamental. Digital systems can then supplement it through condition-based approaches in which maintenance decisions are informed by the actual behavior of equipment.

This combination can provide several benefits. Developing defects may be detected earlier. Recurring fault patterns can be investigated before they become serious. Components approaching the end of their practical service life may be replaced during planned visits rather than after an unexpected shutdown.

Technology, however, does not diminish the importance of the technician.

A skilled maintenance professional interprets information rather than merely records it. Changes in sound, vibration, leveling, door movement, ride characteristics or equipment condition may reveal issues that require attention even when no formal fault has been registered. Human observation remains an essential complement to digital diagnostics.

Building owners and facility managers have an equally important role. Deferred repairs, inadequate service arrangements or purchasing decisions based exclusively on lowest cost may create apparent short-term savings while increasing long-term exposure to breakdowns and deterioration. Maintenance quality should be evaluated through competence, scope, documentation, response capability and technical integrity – not price alone.

Modernization: More Than Replacement

As equipment ages, the question eventually changes from “How should this elevator be maintained?” to “Which systems should now be modernized?”

Guide rails, car frames and certain structural elements may remain serviceable for long periods. Control systems, door operators, communication equipment, drives and safety-related electronics, however, may become technologically obsolete much sooner.

Modernization provides the opportunity to improve selected systems while retaining appropriate existing assets. Its benefits may include enhanced safety, better leveling accuracy, improved reliability, greater accessibility, energy savings, better emergency communication and modern diagnostic capabilities. Modernization is, therefore, not merely an aesthetic refurbishment or replacement of obsolete parts. Properly planned, it is an exercise in life-cycle risk management.

For India, this subject will become increasingly significant as more of the installed base enters its second and subsequent decades of service. The most useful question is not simply:

“How old is the elevator?” It is: “What is its present condition, and does its safety performance meet the requirements expected today?” Age alone does not determine

safety. Condition, maintenance history, operating environment and appropriate modernization provide a much more meaningful assessment.

The Elevator Life Cycle

Design



Manufacture



Installation



Testing & Commissioning



Operation



Preventive Maintenance



Condition Monitoring



Predictive Intervention



Modernization



Extended Safe Service Life

The true cost of deferred maintenance is rarely limited to the repair bill. It is also reflected in downtime, accelerated deterioration and increased exposure to operational risk.

The Human Factor: Competency, Training and Professional Responsibility

“Technology can identify abnormalities; human competence transforms information into appropriate action.”

Even the most advanced elevator depends upon people. Engineering drawings do not install themselves. Safety devices do not adjust themselves. Diagnostic reports do not interpret themselves.

Throughout an elevator’s life cycle, professional competence remains one of the industry’s most important protective resources.

This becomes particularly significant in a market of India’s scale and diversity. Growth creates demand not only for equipment but also for engineers, supervisors, installers, service technicians and inspectors capable of applying technical requirements consistently across thousands of sites. Installation quality has a direct influence on long-term performance. Guide-rail alignment, suspension installation, wiring, door adjustment, controller configuration and commissioning all require accuracy and technical discipline.

Behind every safe elevator journey lies a complex combination of sound engineering, recognized standards, quality manufacturing, professional installation, rigorous testing, periodic inspection and disciplined maintenance.

Sophisticated equipment cannot compensate indefinitely for poor workmanship.

The same principle applies to maintenance. A technician’s responsibilities extend beyond lubrication or component replacement. Every visit is also an opportunity to assess equipment condition. An unfamiliar sound, intermittent fault, unusual vibration or change in door operation can provide an early indication of deterioration. Recognizing such signs requires knowledge and experience. Training must be continuous.

Today’s technicians encounter machine-room-less equipment, sophisticated drives, electronic safety systems, connected controllers, remote-monitoring platforms and, increasingly, data-driven diagnostics. Tomorrow’s workforce will encounter still more advanced technologies. Competence cannot remain static when the equipment itself is evolving.

Independent inspection provides another important layer of confidence. Effective inspection verifies conformity while also encouraging accountability across the life cycle of an installation. Equally important is organizational culture. A strong safety culture encourages technicians and engineers to report hazards, recurring defects and near misses. Such reporting should be regarded as evidence of vigilance rather than failure. The objective is to learn.

Industries with mature safety practices understand that apparently small events may contain valuable information. When the lesson is captured and shared appropriately, one observation can prevent incidents across many other installations.

Educational institutions, technical training centers, professional associations and manufacturers all have roles in developing the next generation of elevator professionals. Investment in people is, therefore, not separate from investment in safety. It is one of its most important components.

Elevators become safer not only through stronger materials and smarter electronics, but because competent people apply those technologies responsibly. Every safe passenger journey reflects an often-unseen network of professional skills, diligence and integrity.

The Future of Elevator Safety: Smart, Connected and Sustainable

“The elevators of tomorrow will not merely respond to commands; increasingly, they will recognize patterns,

anticipate maintenance needs and help engineers manage risk earlier.”

The next stage of elevator development will be shaped by the convergence of AI, advanced sensors, cloud computing, digital twins, connected buildings and new forms of remote technical support. Some of these technologies are already emerging. Others will mature progressively. Their significance lies not simply in automation but in the ability to transform equipment data into useful engineering intelligence.

Digital Twins

A digital twin can provide a virtual representation of an elevator or its key operating characteristics using data from the physical installation.

As this technology develops, engineers may be able to compare actual performance with expected behavior, evaluate degradation patterns and test maintenance strategies before intervening on the physical equipment.

The concept changes maintenance from observing only what has already happened toward modeling what may happen next.

AI and Advanced Analytics

AI-assisted systems can analyze large quantities of operating information that would be impractical for an individual technician to review manually.

Their greatest value may be in recognizing combinations of small changes that collectively indicate emerging deterioration.

The engineer remains responsible for interpreting the operational significance and deciding on appropriate action.

Advanced Sensing

Future installations are likely to employ progressively richer sensing of vibration, temperature, door performance, braking characteristics, ride quality, drive condition and energy usage.

Collectively, these sensors can function almost as a nervous system for the elevator — continuously providing information about its condition.

Remote Expertise and Augmented Support

Remote expert assistance, high-definition video, augmented-reality tools and wearable devices can give technicians access to specialized technical knowledge while working on-site.

Such tools are particularly valuable in geographically dispersed markets where specialized expertise may not always be immediately available locally.

The strongest safety cultures are also proactive rather than reactive. They encourage the identification of hazards before incidents occur, transparent reporting of abnormal conditions, continuous professional training and systematic learning from operational experience.

Upgrading control systems, door equipment, safety devices, communication systems and monitoring capabilities can improve reliability and passenger protection while extending the useful life of otherwise sound installations.

Cybersecurity

As connectivity grows, cybersecurity will become inseparable from system integrity. Secure communication, controlled remote access, software governance, authentication and protection against unauthorized intervention will become increasingly relevant to the safe management of connected elevators. Future safety will, therefore, involve both mechanical and digital resilience.

Sustainability and Safety

Energy-efficient drives, regenerative systems, intelligent traffic management and life-cycle optimization can reduce environmental impact while also contributing to more controlled and observable equipment operation. Sustainability and safety need not be competing objectives. Thoughtful engineering can advance both simultaneously. For India, the opportunity is particularly significant.

The country's strengths in software, digital infrastructure, engineering and manufacturing provide a powerful foundation upon which intelligent VT solutions can develop. India need not simply follow the transition toward connected elevators. It has the technical capacity to help shape it. Nevertheless, every innovation must remain subordinate to one fundamental question:

“Does it make passengers safer?” Technology is a means. Human safety is the purpose.

The Intelligent Elevator of the Future

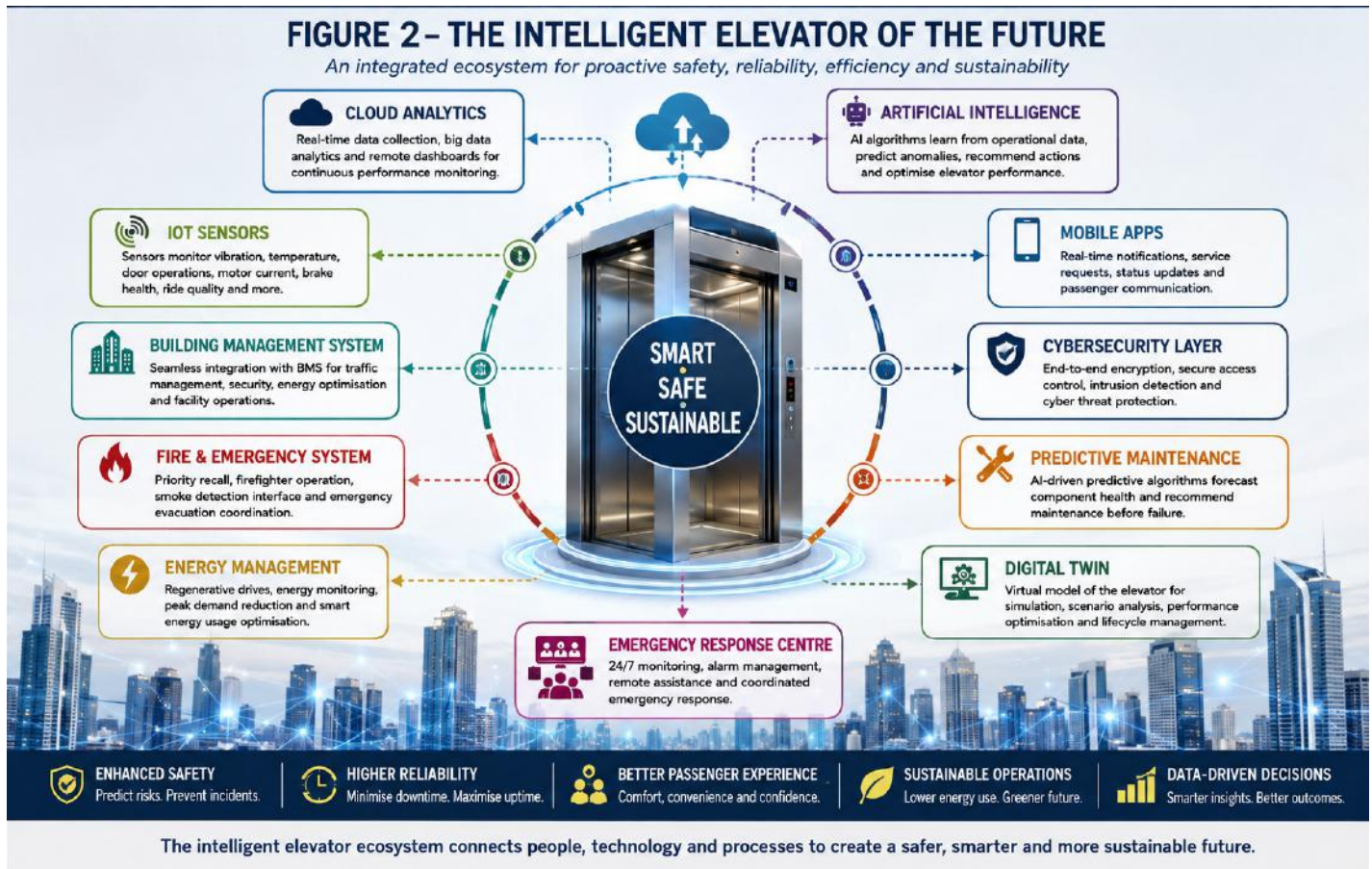
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SMART • SAFE • SUSTAINABLE

Connected to:

- ◆ Cloud Analytics
- ◆ AI
- ◆ IoT Sensors
- ◆ Building Management Systems
- ◆ Fire & Emergency Systems
- ◆ Energy Management
- ◆ Mobile Interfaces
- ◆ Cybersecurity
- ◆ Predictive Maintenance
- ◆ Digital Twins
- ◆ Emergency Response Centers

Benefits



Future elevator safety will increasingly depend upon an integrated network of physical systems, digital intelligence and professional engineering oversight.

Enhanced Safety | Higher Reliability | Better Passenger Experience | Sustainable Operation | Data-Informed Decisions

A Vision for India: Building a Global Benchmark for Safe VT

“The future belongs not only to the tallest buildings, but to the safest journeys within them.”

India stands at an important stage in the evolution of its built environment. Skylines are changing, transport infrastructure is expanding and vertical mobility is becoming essential to daily life across an ever-wider range of buildings. With that development comes responsibility. An elevator installed today may continue transporting passengers for several decades.

During that period, thousands of people will enter its car without ever seeing the engineering, inspections, service activities and professional decisions that protect them. The long-term success of India’s VT industry should be reflected not only in market growth, but also in passenger confidence, technician competence, inspection quality, maintenance discipline and effective modernization.

Technology will support this objective. AI-assisted diagnostics can strengthen predictive maintenance. Digital

twins may improve life-cycle planning. Sensors can provide earlier warning of deterioration. Remote diagnostics can reduce response time. More efficient equipment can improve sustainability. But technology cannot replace the principles upon which safe engineering has always depended: competence, integrity, accountability and willingness to learn.

India’s opportunity goes beyond adopting international good practices. With its engineering talent, expanding manufacturing base, digital capability and enormous infrastructure market, India can increasingly contribute to the development of global best practices. Such leadership requires collaboration.

Standards bodies, regulators, manufacturers, consultants, contractors, inspectors, maintenance organizations, educational institutions, building owners and technology companies each hold different responsibilities, but the objective is the same. Passengers should experience the industry as one system of protection.

Elevators carry children to classrooms, patients to hospital wards and operating theaters, employees to workplaces, residents to their homes and emergency personnel to locations where every second may matter. Every journey is an act of trust. Honoring that trust is among the highest responsibilities of the

Elevators are now found across residential developments, affordable housing, hospitals, educational institutions, transportation hubs, offices, shopping centers, industrial facilities and public buildings. Accessibility requirements and the growing expectation of inclusive mobility reinforce their importance.

VT profession. Because the greatest achievement of an elevator is ultimately not its speed, height, capacity or intelligence. It is that every passenger reaches the destination safely.

The Five Levels of Safety Maturity

A useful way to visualize progress is through a five-level safety maturity model. Organizations need not regard these levels as criticism; rather, the model illustrates how safety systems can evolve over time.

Level 1 – Reactive Safety

“We respond after failures.”

- ◆ Primary emphasis on restoring operation
- ◆ Lessons often emerge following incidents.
- ◆ Limited systematic risk anticipation

Level 2 – Compliance Safety

“We meet established requirements.”

- ◆ Applicable standards followed
- ◆ Required inspections completed
- ◆ Statutory responsibilities addressed

Level 3 – Preventive Safety

“We work to prevent failures.”

- ◆ Structured preventive maintenance
- ◆ Risk assessments
- ◆ Regular technical audits
- ◆ Competency development
- ◆ Systematic replacement planning

Level 4 – Predictive Safety

“We recognize deterioration before failure.”

- ◆ Condition monitoring
- ◆ IoT-enabled data collection
- ◆ Remote diagnostics
- ◆ Analytics and AI-assisted assessment
- ◆ Digital twin applications

Level 5 – Safety Leadership

“We learn continuously and help the whole industry improve.”

- ◆ Lessons shared responsibly
- ◆ Near misses studied
- ◆ Cross-industry cooperation encouraged
- ◆ Standards continuously strengthened
- ◆ Training continually improved
- ◆ Public confidence treated as an industry asset

India’s VT industry should aspire not simply to increase the number of elevators installed each year, but progressively to advance from compliance and prevention toward prediction and, ultimately, safety leadership.

From Company Knowledge to Industry Knowledge

One further step can distinguish a mature safety culture from an exceptional one: the ability to convert individual organizational experience into collective industry knowledge.

Elevator companies naturally accumulate valuable information through maintenance, troubleshooting, inspections, modernization projects and investigation of unusual events. Much of this information understandably remains within individual organizations.

Yet certain safety lessons have value beyond commercial boundaries. A technical observation made by one maintenance engineer in one building may contain a lesson capable of protecting passengers at thousands of other installations.

The challenge is to share such knowledge without compromising confidentiality, commercial interests or reputations.

Serious incidents and fatalities should, wherever legally and ethically possible, contribute to anonymized industry learning. Suppressing the engineering lessons associated with an event may protect a reputation temporarily, but sharing those lessons responsibly may prevent another family from experiencing the same tragedy. This creates an opportunity for an industry-led knowledge-sharing approach.

A National Elevator Safety Knowledge Network

India could eventually pioneer a voluntary National Elevator Safety Knowledge Network (NESKN) – not necessarily as another regulatory authority, but as a collaborative industry platform devoted to learning. Its purpose would be straightforward: No blame. No commercial comparison. No public identification of companies. Only engineering lessons.

Participating organizations could contribute appropriately anonymized information concerning:

- ◆ Incidents

- ◆ Near misses
- ◆ Unusual technical failures
- ◆ Repeated fault patterns
- ◆ Root-cause findings
- ◆ Modernization lessons
- ◆ Maintenance alerts
- ◆ Emerging technical risks
- ◆ Corrective engineering practices

From this collective experience could emerge:

- ◆ Periodic technical safety bulletins
- ◆ Anonymous case studies
- ◆ Technician alerts
- ◆ Root-cause analyses
- ◆ Modernization guidance
- ◆ Safety webinars
- ◆ Training material
- ◆ Annual industry safety reviews

The philosophy is already familiar in other safety-critical sectors. Aviation, process industries and other high-reliability fields have demonstrated the value of systematically learning from operational events and near misses. The purpose would not be to suggest that India's elevator industry lacks safety structures. Quite the opposite. Such an initiative would demonstrate the confidence of a mature industry prepared to convert its collective experience into collective protection.

India's scale could make the resulting knowledge particularly valuable. An industry serving a vast and diverse installed base naturally encounters a wide spectrum of equipment, operating environments and technical conditions. When responsibly anonymized and analyzed, that experience could become a significant body of engineering knowledge. One lesson shared at the appropriate time may prevent the same problem from being repeated elsewhere. And one serious incident prevented would justify the effort.

"Safety knowledge should never remain unnecessarily confined within company walls. Engineering advances when lessons are shared responsibly, and every lesson learned has the potential to protect passengers and professionals far beyond the installation where it originated."

Such a network could ultimately become more than an Indian initiative. It could become an Indian contribution to global elevator safety. That is where leadership begins.

Conclusion

India's VT story is entering an exciting phase. More elevators will be installed. Buildings will become taller. Equipment will become increasingly connected. Maintenance will become more predictive. Digital tools will provide engineers with information that earlier generations could scarcely have

imagined. Yet the fundamental responsibility of the industry will remain unchanged.

Every passenger who enters an elevator places trust in people they may never meet – the designer who selected the system, the engineer who calculated it, the worker who installed it, the inspector who examined it, the technician who maintains it and the owner who ensures that necessary work is carried out. Safety is the collective fulfillment of that trust. India already has the engineering capability, manufacturing strength, professional expertise and digital resources required not only to support one of the world's major VT markets, but increasingly to demonstrate leadership in how that market manages safety.

The road ahead extends beyond compliance. It leads toward prevention. From prevention toward prediction. And from prediction toward leadership. The goal should be an industry in which technology and human competence reinforce one another; where lessons are shared rather than lost; where modernization is viewed as an investment in life-cycle safety; and where every stakeholder understands that protecting the passenger is a common professional purpose. As India's cities continue to rise, let the country's commitment to elevator safety rise with them.

"Safety is not a destination reached at the end of a project. It is a promise renewed every day through engineering excellence, professional integrity and an unwavering commitment to human life."

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M.J. Mohamed Iqbal is a senior VT expert with more than 40 years of international experience in the elevator and escalator industry across the Middle East and Asia. He has held senior executive positions with leading multinational VT companies, overseeing major business operations, project execution, modernization and maintenance. His degrees and designations include Bachelor of Engineering, MBA, Chartered Engineer, Fellow of the Institution of Engineers and Senior Member of the

Institute of Electrical and Electronics Engineers. Throughout his career, Iqbal has contributed to numerous landmark developments, including Dubai International Airport Terminal 1, Emirates Towers, Burj Al Arab and other iconic projects across the Gulf Cooperation Council region. He has also mentored and developed hundreds of engineers and technicians who now occupy senior technical and management positions including CEOs and entrepreneurs within the industry. Iqbal is an active contributor to the global VT profession through technical papers, conference presentations and industry publications.

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Building a Culture of Safety

Going beyond compliance

by Dr. Paresh Kariya

Millions of people step into elevators every day, without giving a second thought to the engineering that makes each journey safe, expecting the doors to open smoothly, the ride to be comfortable and the elevator to stop accurately at their destination. This confidence has been built over decades of engineering innovation, quality manufacturing, disciplined installation, systematic maintenance, regular inspections, audits and continuous improvement.

Despite remarkable technological advances, incidents such as passenger entrapments, unexpected shutdowns, door malfunctions and maintenance-related accidents continue to occur. Investigations rarely point to the absence of standards. More often, they reveal inconsistent implementation, inadequate maintenance, insufficient training or poor life-cycle management. This highlights an important reality for the vertical-transportation (VT) industry.

Every Safe Journey Begins Long Before the Elevator Moves

Elevators do not become safer because standards exist. They become safer because standards are implemented consistently by responsible people throughout the equipment's life cycle. India continues to be urbanized. High rise buildings, hospitals, airports, metro stations, hotels, educational campuses and industrial facilities are becoming increasingly dependent on safe and reliable VT. This makes implementation of safety standards a strategic business priority rather than simply a regulatory requirement.

Compliance Is the Beginning, Not the Destination

A compliant elevator may satisfy regulatory requirements on the day it is commissioned. However, its true safety depends on how effectively it is operated, maintained, inspected, modernized and managed over the next 10 to 15 years. This is where organizations begin to differentiate themselves.

A compliance driven organization asks: "Have we met the required standard?"

A safety driven organization asks: "How can we continuously reduce risk and improve reliability?"

That simple shift in thinking transforms standards from a checklist into a management systems and philosophy. Compliance demonstrates conformity at a point in time. A culture of safety ensures that conformity is maintained every day throughout the equipment's operational life.

The Safety Implementation Framework – Seven Essential Practices That Transform Standards into Safer VT

Safety is not created through a single inspection or statutory approval. It is achieved through a series of disciplined practices followed consistently throughout the elevator life cycle.

Essential Practice	What It Means	Business & Safety Benefit
Leadership Commitment	Safety becomes a strategic priority supported by policies, investment and accountability.	Strong safety culture and informed decision making.
Design Excellence	Risks are addressed during planning through proper traffic analysis, accessibility, emergency planning and engineering coordination.	Safer installations with lower life-cycle costs.
Quality Installation	Equipment is installed, aligned, calibrated and documented according to approved procedures.	Reliable operation and fewer defects.
Inspection & Testing	Every safety device and emergency function is verified before passenger use.	Higher confidence, compliance and operational readiness.
Preventive Maintenance	Equipment is inspected regularly to identify issues before they develop into failures.	Improved uptime, longer equipment life and enhanced passenger safety.
Competency Development	Engineers and technicians continuously update their knowledge and practical skills.	Better workmanship and reduced human error.

Continuous Improvement	Performance data, audits and modernization opportunities are used to strengthen safety over time.	Future ready systems and sustainable reliability.
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None of these practices work in isolation. Together, they create a structured approach that transforms compliance into long-term operational excellence.

Standards in Action

Passengers rarely see the engineering systems protecting them, yet they benefit from them every time they use an elevator.

Life-Cycle Stage	Standards in Action	Outcome for Users
Planning	Traffic analysis and capacity planning	Reduced waiting time and improved passenger flow
Design	Safety engineering and accessibility	Lower operational risk
Installation	Precision alignment and quality checks	Smooth ride quality and reliable performance
Commissioning	Functional and emergency testing	Safe operation from day one
Maintenance	Preventive inspections and periodic testing	Fewer unexpected breakdowns
Modernization	Risk assessment and technology upgrades	Improved safety and extended service life

The table reinforces an important message. Safety standards influence every stage of an elevator's journey, not just its installation.

When standards and regulations are ignored, safety becomes unpredictable. Most elevator failures are not caused by the absence of technology. They occur because good engineering practices are not consistently followed. Even the most advanced elevator cannot deliver reliable performance if installation quality is poor, maintenance is irregular or technicians are not adequately trained. Some of the most common implementation gaps observed across projects include:

Common Challenge	Impact on Safety and Reliability	Recommended Practice
Procurement based only on lowest price	Higher life-cycle cost and reduced reliability	Evaluate suppliers on quality-safety, service capability and life-cycle value
Poor coordination during shaft construction	Installation delays and recurring operational issues	Integrate VT planning early with architects and civil contractors

Inadequate installation quality checks	Premature wear, vibration and door faults	Conduct stage wise inspections and documented quality verification
Reactive maintenance	Frequent breakdowns and unexpected shutdowns	Adopt preventive and predictive maintenance practices
Limited technician competency	Increased maintenance errors and safety risks	Invest in continuous technical training and certification
Delayed modernization	Increased failures in ageing equipment	Plan modernization based on condition and risk assessment

A common thread links these challenges. They are management issues rather than technology issues. Standards provide the solution, but only when they are applied consistently throughout the life cycle.

Online Secondary Research Insights

Recent developments across India and internationally show that the industry is moving beyond compliance towards life cycle safety, digital monitoring and continuous improvement. Recent secondary research highlights several important trends.

The Bureau of Indian Standards has introduced the IS 17900 series, replacing much of the earlier IS 14665 framework. The revised standards align more closely with international safety principles and cover design, installation, inspection, maintenance, modernization and replacement of lifts. The latest standards encourage risk assessment of existing elevators, helping building owners improve safety through phased modernization rather than waiting for complete replacement. This represents an important shift in industry thinking. Elevator safety is increasingly being viewed not as a one-time installation requirement, but as a continuous life-cycle responsibility.

A compliant elevator may satisfy regulatory requirements on the day it is commissioned. However, its true safety depends on how effectively it is operated, maintained, inspected, modernized and managed over the next 10 to 15 years. This is where organizations begin to differentiate themselves.

Elevators do not become safer because standards exist. They become safer because standards are implemented consistently by responsible people throughout the equipment's life cycle.

Research indicates India has a large installed base of elevators operating across residential, commercial, institutional and infrastructure facilities. As these assets age, building owners are increasingly confronted with questions around: passenger safety, equipment reliability, availability of spare parts, energy consumption, obsolescence of control systems and compliance with evolving standards. Modernization of aging elevators is emerging as a significant priority as thousands of installations across residential, commercial and institutional buildings approach the later stages of their service life.

Secondary research also highlights that advanced elevator technology alone cannot guarantee safety and reliability. The effectiveness of the system depends heavily on the competence of the people responsible for installation, inspection, maintenance, troubleshooting and modernization. The industry is therefore placing increasing importance on: Technician competency and certification, continuous technical training, standardized maintenance procedures, quality documentation, inspection discipline, digital service records and stronger accountability across the maintenance life cycle. This suggests that the future VT workforce will require a combination of mechanical, electrical, electronic, digital and diagnostic capabilities.

Safety performance is increasingly linked with inspection discipline and regulatory enforcement. International markets demonstrate that stronger inspection regimes, structured maintenance systems, technician certification and effective regulatory enforcement can contribute significantly to elevator safety and passenger confidence. For India, this highlights an important challenge. As the elevator population expands rapidly, the industry will need not only more equipment, but also stronger ecosystem capabilities covering inspection, safety audits, maintenance, documentation, technician competency and regulatory oversight.

Digital technology is changing the traditional maintenance model. International developments show a clear movement from reactive maintenance toward predictive and condition-based maintenance. Internet of Things-enabled elevators can continuously generate information on equipment performance, operating patterns, faults and abnormal conditions. This allows service organizations to move from: "The elevator has failed. Send a technician." to: "The system has detected an abnormal

condition. Take preventive action before failure occurs." This transition has significant implications for uptime, emergency callouts, technician productivity, spare-parts planning and passenger safe experience.

Global markets are shifting from equipment ownership to life-cycle value. International experience indicates that building owners and facility managers are increasingly evaluating elevators through a Total Cost of Ownership (TCO) lens rather than simply comparing initial purchase prices. The evaluation is gradually expanding from: Purchase Price → Installation Cost → Maintenance Cost → Energy Cost → Downtime → Modernization → Replacement → Residual Asset Value.

The larger message emerging from secondary research is clear: India's VT industry is gradually moving from an "install and maintain" business model toward a "monitor, predict, modernize and manage" life-cycle model.

Conclusion: An elevator is commissioned in a day, but its safety is built for decades of use. Standards provide the roadmap, while people, processes and continuous improvement bring them to life. By moving beyond compliance and embracing a culture of safety, the VT industry can deliver what matters most: confidence in every journey.

Safety is a journey, not a milestone. 🌐

Most elevator failures are not caused by the absence of technology. They occur because good engineering practices are not consistently followed. Even the most advanced elevator cannot deliver reliable performance if installation quality is poor, maintenance is irregular or technicians are not adequately trained.



Dr. Paresh M. Kariya is director at PAPL and AIQ India. With a PhD, an MBA and a degree in mechanical engineering, he has nearly three decades of diverse experience in the VT industry with Otis, beginning his career as a service engineer working closely with equipment and later progressing to management positions in India, Thailand and the Asia-Pacific region. Kariya had the pleasure of working on the Statue of Unity — the world's tallest statue — in India. Passionate about developing programs that bridge the gap between elevator companies and customer requirements, he has helped put together modules on VT service quality and management.

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IS 17900: Shaping the Next Generation of Elevator Safety

Integrating safety into every layer of the elevator system will be essential.

by Subramania Bharathiyar

India's vertical-transportation (VT) sector is entering an important phase of safety-led engineering. The adoption of the IS 17900 series marks a significant shift toward a structured, performance-based approach to elevator safety. For elevator manufacturers and integrators, compliance requires coordinated safety across controllers, drives, brakes, doors, sensors and mechanical systems.

For Inovance – Monarch BST, this evolution aligns with its approach to elevator automation. Its elevator portfolio combines intelligent control, reliable drive technology and application-specific packages to support OEMs in developing safe, efficient and standards-aligned VT systems.

IS 17900 – A Complete Safety Framework

The IS 17900 family should be viewed as a connected safety ecosystem covering the complete elevator life cycle – from design and installation to operation, inspection, maintenance and modernization.

- ◆ IS 17900 Part 1 – Safety Rules: Establishes fundamental safety requirements for passenger and goods lifts, covering hazards during normal and foreseeable abnormal conditions.
- ◆ Part 2 – Design, Calculations, Examinations & Tests: Provides the engineering basis for demonstrating the safety of lift components and systems.
- ◆ Part 3 – Planning & Selection: Supports appropriate lift selection based on building requirements, passenger demand and application conditions.
- ◆ Part 4 – Control Devices, Buttons, Signals, Indicators & Fittings: Addresses passenger interfaces and fittings required for safe and accessible operation.
- ◆ Part 5 – Inspection: Provides a framework for safety-oriented inspection of elevator installations.
- ◆ Part 6 – Maintenance: Addresses maintenance requirements for preserving elevator safety throughout its operational life.
- ◆ Part 7 – Special Applications: Covers specific applications, including accessibility and special operating conditions.
- ◆ Part 10 – Replacement of Existing Lifts: Provides a structured approach for replacing existing passenger and goods passenger lifts.
- ◆ Part 11 – Safety of Existing Lifts: Focuses on risk assessment and risk reduction for existing installations.

Together, these provisions reinforce a fundamental principle: Safety must be designed into the elevator and maintained throughout its life cycle.

Integrating VT With Building Safety

The National Building Code (NBC) complements elevator standards by integrating lifts into the wider framework of building planning, fire and life safety, electrical installations, accessibility and building services. This is particularly important for high-rise buildings and facilities where elevators form an essential part of daily movement and emergency planning. Accessibility, emergency operation and evacuation requirements demonstrate that elevator safety is closely connected with overall building safety.

Protecting Passengers

Passenger safety depends on multiple systems working together. Key measures include unintended car movement protection, overspeed protection, safe braking, accurate leveling, door protection, emergency communication and lighting and safe rescue arrangements.

IS 17900 also emphasizes enhanced entrance protection through full-height infrared detection covering the prescribed 25 mm to 1800 mm zone and controls that limit door-closing kinetic energy. Inovance's NICE elevator controllers, automatic doors and electrical accessories support coordinated operation between control, door and safety functions. The ME320LN, MD500L and WISE310 elevator drives provide precise motor control for smooth acceleration, deceleration and leveling.

Prevent accidents → Detect abnormal conditions → Bring the system to a safe state → Enable safe rescue.

Safety for Service Engineers

Maintenance and service engineers work in areas where electrical energy, moving machinery and stored mechanical energy can present significant risks. IS 17900 therefore places strong emphasis on creating safe working conditions during inspection, maintenance and servicing. Key safety measures include isolation of electrical power, lockout/tagout, prevention of unexpected car movement, safe pit and shaft access, adequate refuge spaces, safe working clearances and protection on the car top. Proper control of the elevator during inspection mode is also essential to ensure that movement occurs only under controlled conditions.

For pit and car-top operations, safety systems should work together with the controller, drive, braking system and



E-package solution in compliance with EN 81 and IS 17900

mechanical safety devices to prevent unintended movement while personnel are working. Clear access, adequate lighting and properly designed safety spaces further reduce maintenance-related risks.

The principle is straightforward: Isolate energy → Prevent unexpected movement → Provide safe working space → Verify before intervention

Safety must therefore be engineered into the elevator system, rather than relying solely on the skill, experience or caution of the technician.

Protecting the Elevator as an Asset

Standards implementation also improves equipment reliability. Proper design, protection, monitoring, maintenance and testing can help reduce brake failures, motor and drive damage, rope deterioration, door-system failures, electrical faults, controller failures, water-related damage, vibration and thermal stress. Inovance's elevator drives and controllers contribute to reliable motion control and coordinated elevator operation, helping OEMs build systems focused on both safety and long-term performance.

Addressing Existing Elevators

A significant aspect of IS 17900 is its focus on existing installations. Many elevators were designed according to earlier requirements and may therefore have different safety levels from modern systems.

IS 17900 Part 11 provides a structured approach to identifying hazards and prioritizing corrective actions according to risk. Modernization can involve upgrading controllers, drives, doors, safety devices and other critical systems while considering the existing elevator architecture.

Enabling the Next Generation of VT

Inovance – Monarch BST offers a range of elevator solutions for the evolving Indian market. The NICE1000+ NXT GEN IS17900 Controller e-package and NICE3000+ IS17900 Controller e-package support OEMs in implementing modern, standards-oriented elevator control architectures. The portfolio also includes the Aurora Home Lifts Package, TOMORROW PRO PANEL and NICE9000V Package, along with elevator drives, automatic doors, car operating panels, landing operating panels and electrical accessories.

By bringing together intelligent control, precise motion technology and application-specific elevator solutions, Inovance – Monarch BST supports OEMs and integrators in developing safer, smarter and more reliable VT systems.

Building a Safer VT Future

IS 17900 represents more than regulatory compliance. It establishes a life-cycle approach to elevator safety – from design and installation to operation, maintenance and modernization. As Indian VT engineering continues to evolve, integrating safety into every layer of the elevator system will be essential. With its controller, drive and complete elevator solution portfolio, Inovance – Monarch BST is supporting this transition toward a safer and more dependable future for VT in India. 🌍



Subramania Bharathiyar is Director - Elevator, Inovance Technology Pvt. Ltd.

IS 17900: When the Standard Rises, So Does Technology

Ensuring safer, smarter and reliable elevator performance with IS 17900 ARCUBE

by Jayender Rawat

An elevator is more than a box that moves between floors. Every journey carries something far more important: trust.

Passengers expect the doors to open and close safely, the car to move smoothly, stop accurately and respond intelligently when something goes wrong. Behind that seemingly effortless experience is a sophisticated world of electronics, control logic, safety systems and engineering.

And now, with IS 17900, India's elevator industry is entering a new chapter.

The standard is raising expectations around elevator safety – and with it, the responsibility of technology manufacturers to build systems where safety is not an added feature, but an integral part of the engineering philosophy.

This is where Arkel India sees the future.

From Compliance to Confidence

For the industry, IS 17900 should mean more than meeting a regulatory requirement. It represents an opportunity to rethink how elevator systems are designed, integrated and protected. Arkel's ARCUBE brings this philosophy into a compact, integrated lift control platform. The system combines the variable-voltage variable-frequency (VVVF) drive, control board, rescue functionality and other electrical components within a single monoblock unit, creating a more integrated approach to elevator control. But the real story is not simply what is inside the cabinet. It is what that technology makes possible.

Safety, Engineered Into the System

Modern elevator safety demands intelligence that can respond when conditions change. The IS 17900 ARCUBE controller architecture incorporates a range of safety-oriented functions, including hardware-based safety logic, unintended car movement (UCM) protection, safety provisions for re-leveling and early door opening, electromagnetic compatibility (EMC)-focused reliability, intelligent automatic rescue and support for fire and emergency communication. It also addresses shaft-level maintenance protection and residual-current protection for relevant lighting circuits.

For the passenger, these may sound like technical terms. In reality, they represent something much simpler: Protection when it matters.

Because the best safety technology is often the technology passengers never have to think about.

The Power of Simplicity

True engineering excellence is not necessarily about adding complexity. It is about removing it. ARCUBE is designed as a compact, lightweight and ready-to-install solution, with reduced cabling requirements and flexibility to work with synchronous and asynchronous machines, as well as open- and closed-loop configurations. Its design also incorporates contactorless safe torque off (STO), rollback prevention and direct-landing functionality.

For elevator manufacturers and system integrators, this means a more streamlined approach to installation and system integration.

For building owners, it means technology designed with long-term reliability in mind.

And for passengers, it means something they value most: A smooth, dependable ride.



Designed for India's Vertical Future

India is changing rapidly. Cities are growing upward. Buildings are becoming smarter. Expectations for safety, efficiency and reliability are rising. The technology powering this growth must evolve at the same pace.

Arkel India is strengthening its commitment to the Indian market through its advanced manufacturing facility at Manjusar, Vadodara, established to support local manufacturing of lift electronic systems. Our facility is part of our broader localization and "Make in India" approach, while our ARCUBE solution has been positioned as IS- compliant for the new IS 17900 requirements.

This combination of engineering expertise, local manufacturing and a strong focus on compliance puts Arkel in a distinctive position as India's vertical-transportation industry moves forward.

The Intelligence Behind Every Journey

Passengers may never see the controller. They may never know what happens inside it when the elevator starts, accelerates, levels, detects a safety condition or initiates a rescue sequence. And perhaps that is exactly how great technology should work.

Features of ARCUBE Machine Room-Less (MRL)/ARCUBE SLIM MRL

Number of Stops	For Non IS 17900 Panel = 16 Stops & For IS 17900 Panel =24 Stops
Drive Type	Traction (VVVF gearless machine; MRL)
Cabling	Serial or parallel connection options with LOP's and COP's Arcode compatible serial communication units
Car Positioning	Magnetic switches or motor encoder
Door Bridging	Available
Models	4 kW (10A) / 5.5 kW (14A) / 7.5 kW (17A) & 11 kW (26A)
Control Type	Down collective, Full collective
Group Control	Duplex
Elevator Speed	1.75 m/s
Motor Drive Type	Contactless drive with STO function
Menu Languages	Turkish, English, Russian, French, Spanish, Polish, German, Italian,
Loop Type	Close loop
Compliance to Standards	IS 17900
Rollback Prevention	Rollback prevention at start through pre-torque and anti-rollback functions

Why Choose IS 17900 Lift Controllers?

Feature	Older Controllers	IS17900 Controller
Safety Architecture	Software-based, limited detection	- Hardware-driven certified safety
Re-levelling and early door opening	None	- Via a safety circuit
UCM Protection	None	- Via a safety circuit (stopping via machine brake or overspeed)
Door Contact Monitoring	Basic or none	- Safety chain detection + failure/bypass prevention
Door Bypass	Unsafe (no protection against misuse or	- Safe via a dedicated device
Manual Brake Releasing & Brake Testing	Manual risky operations	- Dual-button guided safe rescue and single brake test
EMC Compliance	Noisy, unstable	- EN 12015/12016 certified performance
Emergency Rescue (ARD)	Weak or external	- Low battery warning Integrated visual + audio rescue support
Pit inspection operation	None	- Pit inspection in addition to car top
Residual current devices (RCD)	None	- RCDs for car top, pit, and shaft lighting
Fire & Intercom Support	Limited / optional	

Quietly. Precisely. Reliably.

IS 17900 is raising the benchmark for elevator safety in India. Arkel is responding by putting intelligence where it matters most – at the heart of the elevator. The future of vertical mobility demands more than compliance. It demands intelligent engineering. With ARCUBE, Arkel puts that intelligence at the heart of every journey.

"The brain is often powered by Arkel."



With 18 years of experience in the elevator industry, Jayender Rawat, manager - Sales North, Arkel Electronic India Private Limited, is a passionate sales & marketing leader, mentor and motivator with a deep understanding of market dynamics, customer needs and competitive landscapes. Known for his strategic thinking and practical approach to sales and marketing, he believes in turning market insights into business opportunities and building relationships that create lasting success. At ARKEL Electronic India, he combines industry expertise, technology and customer-focused thinking to drive meaningful business growth.



Bridging the Gap Between Safety Requirements and Actual Implementation

Progress can be made through effective implementation of standards and a strong culture of safety.

by Rajnikant Lad

Safety of passengers is the highest priority in the vertical-transportation (VT) industry. This is reflected in the continuous revision and improvement of Indian Standards (IS), Codes and regulatory requirements applicable to elevators and escalators. Despite the availability of comprehensive safety standards, guidelines and technological advancements, elevator-related accidents and fatalities continue to occur. This raises an important question: Why do accidents still happen when adequate safety provisions already exist?

A closer analysis of elevator accidents reveals that equipment failure is not the primary cause of fatalities most of the time. But, in many cases, lack of awareness, negligence, unsafe practices, poor maintenance or non-compliance with standards contribute significantly to the accidents. Bridging this gap between safety requirements and actual implementation is essential for improving passenger safety.

Importance of User Awareness

Elevator safety does not depend solely on technology. Passenger awareness and proper response during emergencies play a crucial role in preventing injuries and fatalities.

Established rescue procedures and safety instructions clearly define the actions passengers should take during situations such as:

- ◆ Entrapment inside an elevator
- ◆ Power failures
- ◆ Off-level stops
- ◆ Skipping of landing floors
- ◆ Emergency rescue operations

When passengers panic and attempt self-rescue, the risk of serious accidents increases significantly. Regular awareness campaigns, safety notices and periodic training can help users respond correctly during emergencies and reduce accident-related fatalities.

Common Accident Patterns and Lessons Learned

A review of reported elevator accidents highlights certain recurring patterns that indicate weaknesses in implementation, maintenance and compliance.



1. Continued Use of Collapsible Door Elevators

Collapsible gate elevators have been associated with numerous fatal accidents. Recognizing the safety risks, such doors were effectively phased out and prohibited in new installations many years ago.

However, many old elevators with collapsible doors remain in operation. These installations continue to pose significant risks due to:

- ◆ Passenger exposure to moving parts
- ◆ Possibility of contact with the hoistway
- ◆ Inadequate door interlocking arrangements
- ◆ Reduced protection compared to modern automatic doors

A systematic modernization program to replace such elevators should be prioritized.



2. Top/Bottom Clearance – Cabin Striking the Machine Room Slab

There have been reported incidents where elevator cabins have traveled beyond their intended limits and struck the machine room floor slab or overhead structure.

Such incidents may occur due to:

- ◆ Insufficient overhead clearance
- ◆ Improper maintenance of limit switches
- ◆ Incorrect installation practices
- ◆ Inadequate clearance between counterweight frames and buffers
- ◆ Failure to comply with prescribed dimensional requirements

Strict adherence to standards during design, installation, inspection and maintenance is essential to prevent such occurrences.



3. Passenger Entrapment During Power Failures

Power failures frequently result in passengers becoming trapped inside elevators. While entrapment itself may not be dangerous, panic often leads passengers to attempt exiting the elevator without assistance, resulting in accidents.

To address this issue, many regulations require the installation of Automatic Rescue Devices (ARDs), which move the elevator to the nearest floor during a power outage and open the doors safely.

However, challenges remain:

- ◆ ARDs are absent in some installations.
- ◆ Batteries are not maintained properly.
- ◆ Periodic testing is not conducted.
- ◆ Maintenance personnel may overlook battery replacement schedules.

Ensuring that ARDs remain operational throughout the elevator's service life is critical.

4. Risks Associated With Overloading

Overloading continues to be a common safety concern despite mandatory overload warning systems and audio-visual indicators.

Beyond passenger inconvenience, overloading can create serious operational risks, including:

- ◆ Increased stress on suspension components
- ◆ Excessive wear of braking systems
- ◆ Reduced traction between ropes and traction sheaves
- ◆ Uncontrolled downward movement if brake holding capacity is inadequate
- ◆ Rope slippage due to insufficient traction

Any tendency for uncontrolled cabin movement must be treated as a critical safety issue and investigated immediately.

The Challenge for Enforcement

Regulatory authorities, inspection agencies, building owners and maintenance providers all play important roles in ensuring elevator safety. However, enforcing safety requirements across thousands of installations remains a significant challenge.

The effectiveness of safety regulations depends not only on their existence but also on:

- ◆ Proper implementation
- ◆ Periodic inspections
- ◆ Timely modernization
- ◆ Preventive maintenance
- ◆ User education
- ◆ Strict compliance with standards

The elevator industry today possesses robust safety standards, advanced technologies and well-defined operational guidelines. Yet accidents continue to occur primarily due to gaps in implementation, maintenance, modernization and user awareness.

Improving VT safety requires a collective commitment from manufacturers, maintenance companies, building owners, regulatory authorities and passengers. By ensuring strict compliance with applicable standards, maintaining safety systems in working condition, modernizing outdated installations and promoting user awareness, the industry can significantly reduce accidents and fatalities.

Only through effective implementation of standards and a strong culture of safety can we truly achieve the goal of “elevating VT safety through effective standard implementation.” 



Rajnikant Lad is an electrical engineer, associated with the elevator industry since 1983. He has nearly 22 years' experience in elevator installation and maintenance and has been taking up elevator safety audits from the last 20 years. He is a member of the CII Task Force on Elevators & Escalators and Building Technologies. Lad has been associated with the National Safety Council, Society of Reliability and Safety India and was the former chairman building transportation safety, Fire and Security Association of India.

Enforcing Standards To Raise the Safety Bar for India's VT Industry

This everyday journey for millions can be safer and more reliable.

by Dr Malini Saba

images by Gagandeep Kaur



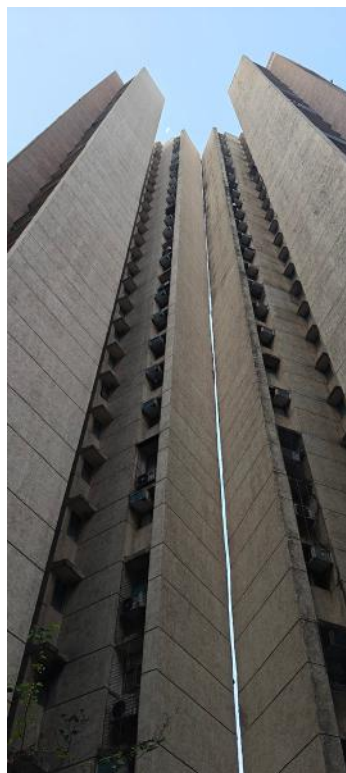
Most people enter an elevator without giving its safety a second thought. We press a button, the doors close and expect the lift to take us safely to our destination. We rarely consider the engineering behind the doors, the components working in tandem or the inspections and maintenance that keep the system running. In fact, when an elevator works exactly as it should, it is almost invisible. That quiet confidence is precisely what safety standards are meant to

protect.

With the implementation of the new Bureau of Indian Standards (BIS) requirements, India's vertical-transportation (VT) industry is entering an important phase in which safety is being placed on a more clearly defined and consistent footing. While the standards themselves are technical, their ultimate purpose is decidedly human: to make the everyday journey of millions of passengers safer and more reliable.

Making Safety the Baseline

Safety has never been optional in VT. What is changing is the emphasis on creating a more consistent benchmark for how that safety is achieved.



The implementation of the new BIS requirements, particularly IS 17900, brings greater structure to safety expectations surrounding lifts, covering areas such as design, calculations, examinations and testing. For passengers, however, the significance is much easier to understand. An elevator may differ in its design, capacity, speed, technology or appearance, but the fundamental expectation should remain the same, which is that it must be safe to use.

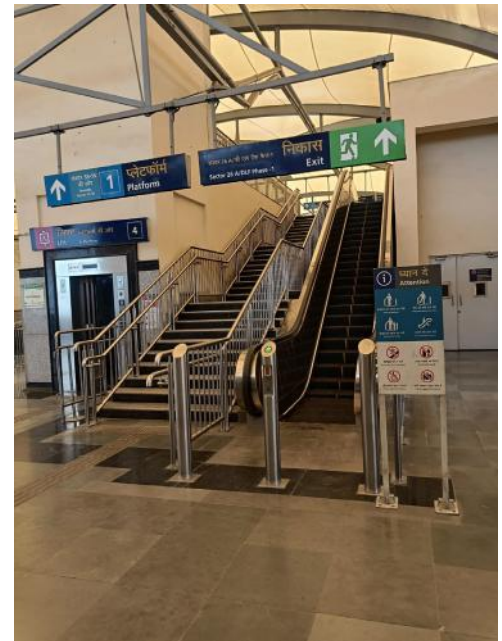
Passengers should not have to wonder whether the safety of their journey depends on the building they happen to be in.

From Compliance to Everyday Practice

A standard only becomes meaningful when it moves beyond the document and into practice. Implementation therefore has implications across the VT life cycle all from compliant products and installation to inspection, maintenance and replacement.

This makes standards implementation more than a compliance exercise. It can encourage the industry to adopt a more systematic approach to safety in which responsibility does not rest with a single stakeholder but is shared across the entire life cycle of an elevator.

For passengers, this is perhaps the most important distinction. Safety should not depend on one moment of inspection or one decision made during installation. It needs to be sustained throughout the life of the equipment. An elevator does not stop needing attention simply because its warranty has expired.





The Existing Installed Base

The conversation around new standards can easily become focused on new installations. Yet India's VT landscape also comprises a large and diverse installed base of elevators operating in buildings of varying ages and conditions.

This makes modernization and maintenance an important part of the safety equation. While new elevators can be designed around contemporary safety expectations, older installations present a different challenge. Their continued safe operation depends on appropriate inspection, maintenance, component replacement and, where necessary, upgrades.

This is where the implementation of stronger standards can encourage a broader shift in industry thinking.

The objective should not simply be to make new elevators safer. It should be to progressively raise the safety standard across the entire installed base. For passengers, that means the elevator they use every morning deserves the same attention to safety as the one installed in the newest tower in the neighborhood.

Changing the Conversation Around Cost

One of the more significant effects of stronger safety standards could be a change in how customers evaluate VT systems.

When the equipment in question transports people every day, the lowest upfront price cannot be the only measure of value. Standards can help shift the conversation from "How much does the elevator cost?" to "What are we investing in over its operational life?" That is a healthier conversation.

A system that saves money at the point of purchase but creates greater maintenance challenges or compromises



long-term reliability may not represent genuine value. Conversely, investment in appropriate equipment, qualified installation and responsible maintenance can contribute to a safer and more dependable VT system over time. The cheapest elevator, after all, is not necessarily the one that costs the least.

The Passenger Should Not Need To Know

There is an interesting paradox at the heart of elevator safety, which is the better it works, the less visible it becomes. Passengers are unlikely to step out of a lift discussing the precision of its safety mechanisms. They are far more likely to notice when the

doors do not behave as expected, when the ride is uncomfortable or when the elevator is unavailable.

The goal of good safety engineering is therefore not to make passengers more conscious of the machinery. It is to make them confident enough not to think about it.

Elevator interiors and interfaces may change from building to building, but the basic expectation does not. The passenger should be able to step into an unfamiliar elevator with the same fundamental confidence as one they use every day. That is what a meaningful safety baseline can provide.

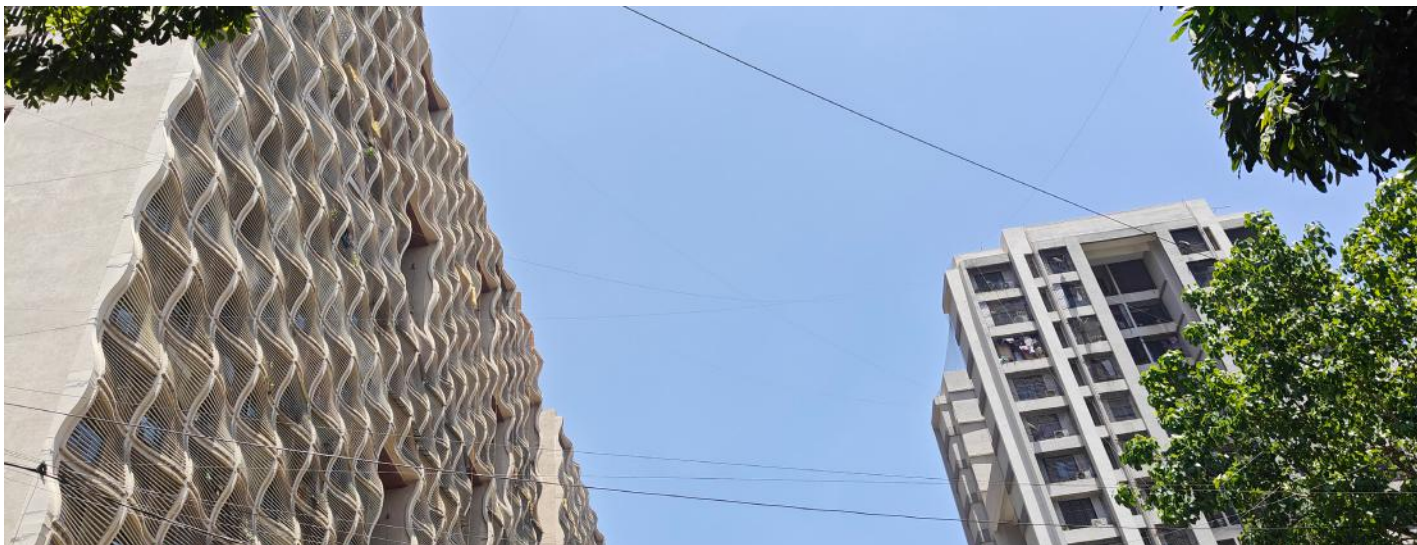
Technology Needs a Strong Foundation

The VT industry is becoming increasingly sophisticated. Connected systems, sensors, intelligent controls and data-driven maintenance are creating new opportunities to improve reliability and identify potential issues earlier.

These developments can strengthen safety when applied appropriately. But technology should complement standards, not substitute for them. A highly connected lift still requires sound engineering, proper installation, inspection and maintenance. Technology can flag an issue; established safety practices determine what happens next.

The smartest system, therefore, is not necessarily the one with the most technology. It is the one where technology, engineering, standards and human expertise work together





effectively. Even the smartest elevator still needs someone to maintain it.

Building a Culture of Safety

Perhaps the most valuable long-term outcome of standards implementation will be cultural. When safety requirements become clearer and more consistently applied, they can influence decisions across the industry from product development and procurement to installation and servicing.

As awareness grows, building owners and developers may increasingly look beyond initial cost to compliance, maintenance, reliability and life-cycle performance. That creates an environment in which quality and safety become

stronger purchasing considerations. When the market rewards those priorities, the industry has greater incentive to raise its standards. The passenger ultimately benefits from that cycle.

The Road Ahead

India's cities are becoming increasingly vertical. Residential towers are rising higher, commercial developments are becoming denser and mixed-use buildings are becoming more complex. As this transformation continues, elevators will play an increasingly important role in everyday mobility.

That makes the implementation of

stronger safety standards particularly timely. The true test, however, will not be how impressive the standards look on paper. It will be how consistently their principles are translated into real-world practice across design, installation, testing, maintenance and retrofits.

For the end user, success will be much easier to measure. It will be the assurance of stepping into an elevator without hesitation. The doors close. The car moves. The lift stops precisely where it should. The doors open. Nothing dramatic happens. And in elevator safety, that may be the best possible outcome.

Because the ultimate purpose of standards is not to make passengers think more about safety. It is to make safety so fundamental that passengers do not have to think about it at all. 



Dr. Malini Saba is a self-made businesswoman, philanthropist, psychologist, author, environmentalist, human and social rights activist, and a global advocate for women and girls. But her work goes far beyond titles. For over 32 years, she's built a career driven by purpose, not just profit, working across countries and industries.

Dr Saba has a business background in international, multicultural environments and experience with highly engineered systems, requiring a deep understanding of critical business drivers in multiple markets. She has worked across agriculture and trade, pharmaceuticals, fintech, real estate, hospitality, entertainment, and gold mining.

A lifelong researcher, Dr Saba continues to explore areas where leadership-led intervention can drive meaningful change. She's not afraid to take risks but does so with empathy and insight — qualities not often seen together in high-stakes business.

Dr Saba founded the Saba Family Foundation to help one billion people live healthier, more empowered lives — a mission she's been quietly working toward for years. Through the foundation, she has supported millions across South and Southeast Asia, Africa, South America, and the U.S., helping people access healthcare, education, nutrition, and financial stability.

Her work has led to collaborations with institutions like the Bill Clinton Foundation, Stanford Medical Centre, CRY, Concern Worldwide, the Women Refugee Commission, and the Delhi Sikh Gurudwara Management Committee, to name a few.

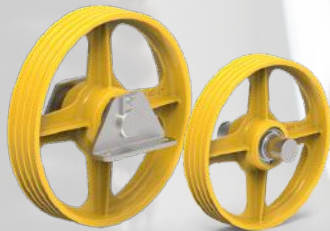
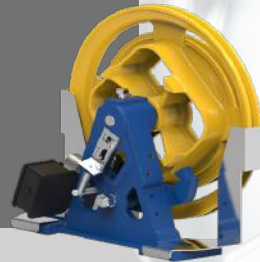


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An Interview With Schmersal India

Yogesh Kalpande (YK) Sales Manager- Elevator segment, Schmersal India, shares perspectives with your author (SSP) on the company's progress and milestones.

by Sheetal S. Patil

SSP: Schmersal recently completed 13 years of manufacturing operations in India. What have been the key highlights and achievements of this journey?



YK: Over the past 13 years, Schmersal India's manufacturing journey has been defined by a strong commitment to safety, localization, quality and innovation. Since establishing our manufacturing operations in Pune, we have steadily expanded our product portfolio and engineering capabilities while maintaining the high standards associated with German engineering.

For the elevator and escalator industry, one of our key achievements has been the successful localization of critical safety components, enabling Indian OEMs and system integrators to access globally compliant products with shorter lead times and stronger local support. We have continuously invested in manufacturing excellence, engineering expertise and customer-focused solutions that address the evolving needs of India's fast-growing vertical transportation (VT) sector.

Another important milestone has been the expansion of our role from a manufacturing base to a technology and innovation hub through our newly inaugurated Global Competence Center (GCC) in Pune. Today, Schmersal India contributes not only through manufacturing but also through product development, engineering, digital solutions and safety expertise that support customers both in India and globally.

As India's urban infrastructure continues to grow, we remain committed to supporting the elevator industry with reliable, innovative and safety-focused solutions that help ensure safe and efficient mobility for millions of passengers every day.

SSP: Schmersal India recently launched six new "Make in India" products. What is their significance for the VT industry?

YK: The launch of six new "Make in India" products is a significant step in strengthening India's capability to develop and manufacture world-class safety solutions locally. For the VT industry, products such as the Magnetic Switch and Overspeed Governor Limit Switch have particular relevance as they directly support critical elevator safety functions.

The elevator market is experiencing rapid growth driven by urbanization, high-rise construction and modernization projects. Alongside this growth comes an increasing focus on passenger safety, reliability and regulatory compliance. Our locally manufactured solutions are designed to address these requirements while offering OEMs and maintenance companies improved availability, faster deliveries and technical support closer to the customer.

These products help elevator manufacturers enhance system reliability, improve safety performance and meet increasingly demanding industry standards. At the same time, local manufacturing significantly reduces dependence on imports and strengthens supply chain resilience.

For customers, this means access to globally benchmarked safety technology developed and manufactured in India, enabling them to deliver safer and more efficient elevator systems.

SSP: How do these new solutions align with Schmersal's vision of turning workplaces into safer places?

YK: At Schmersal, safety is not just a product feature; it is our core purpose. Every solution we develop is aimed at reducing risk, improving operational safety and protecting both people and equipment.

In the VT sector, passenger safety and maintenance personnel safety are critical priorities. The newly launched products contribute to safer elevator operation through reliable position monitoring, overspeed protection and enhanced safety functionality. These technologies help prevent unsafe operating conditions while supporting compliance with national and international safety standards.

Beyond individual components, our approach focuses on creating complete safety ecosystems that combine hardware, engineering expertise and digital capabilities. This enables elevator manufacturers and operators to integrate safety throughout the life cycle of the installation, from design and commissioning to maintenance and modernization.

These innovations directly support our vision of making buildings, workplaces and public spaces safer through advanced safety technologies that people can trust.





SSP: The recently inaugurated facility in Pune includes a Product Experience Center showcasing the Schmersal Group's comprehensive safety solutions and demonstrating machine safety compliance expertise provided by tec.nicum. What has been the feedback received so far and how do you see it facilitating awareness within the target audience?

YK: The response to our Product Experience Center has been very positive, particularly from OEMs, consultants, elevator manufacturers, system integrators and safety professionals. Visitors appreciate the opportunity to experience our safety solutions in a live demonstration environment and gain a deeper understanding of how these technologies function in real-world applications.

For the elevator industry, the center serves as a valuable platform where customers can explore safety switching devices, monitoring technologies, safety engineering concepts and compliance solutions relevant to elevator applications. It also provides an opportunity to discuss emerging safety requirements, modernization challenges and best practices directly with our experts.

Through tec.nicum's safety consulting expertise, visitors can gain insights into functional safety, risk assessment and regulatory compliance. As awareness of safety standards continues to increase within the elevator industry, we believe this center will play an important role in educating stakeholders and promoting a stronger safety culture across the sector.

Ultimately, the center bridges the gap between safety theory and practical implementation, helping customers make informed decisions that improve both safety and operational performance.

SSP: How do you see the new facility playing a critical role in fostering talent development and supporting cross-functional collaboration going forward?

YK: The new GCC is more than a larger facility; it is a strategic investment in people, innovation and future technologies. It has been designed to bring together engineering, software development, embedded systems, digital technologies and product management teams under one roof, creating an environment that encourages collaboration and knowledge sharing.

For the elevator industry, the growing adoption of smart elevators, connected systems, predictive maintenance and digital safety technologies requires new skills and

multidisciplinary expertise. The new facility provides an ideal platform for developing these competencies while enabling close collaboration between product development, application engineering and customer-facing teams.

It also offers employees exposure to global projects, international best practices and emerging technologies, helping build the next generation of safety and automation professionals. This will accelerate innovation and support the development of solutions tailored to future elevator market requirements.

As the industry continues to evolve, we believe the new facility will strengthen Schmersal India's position as a center of excellence for safety technology, engineering innovation and customer-focused collaboration, supporting safer and smarter VT systems worldwide. 🌐

About the Schmersal Group

The Schmersal Group was founded in 1945 in Wuppertal, Germany, and is represented by eight manufacturing sites on four continents with its own companies and sales partners in more than 60 nations. The Schmersal Group employs approximately 2,000 people worldwide.

Schmersal India started its operation as a 100% subsidiary of Schmersal Group in 2007 and set up a manufacturing plant in 2013 at MIDC Ranjangaon, as well as a 100% export unit to manufacture certain products for the global market. The company has approximately 200 employees and more than 30 channel partners across India.

The Schmersal Global Competence Center is a 100% subsidiary of Schmersal Group. The process of setting it up as a legal entity was initiated in February 2021, and it became operational on January 1, 2022, at Pune, Maharashtra, with nearly 60 employees. It is a specialized engineering and IT hub for the Schmersal Group globally. It serves as a global resource pool for custom application development, Microsoft technologies, SAP, IT infrastructure, embedded development and IoT, distinct from Schmersal's manufacturing. The new GCC will play a key role in contributing to Schmersal's long-term strategy, planning and growth with additional skills, resources and infrastructure, and it will leverage India's strong talent ecosystem to support global operations.



Sheetal S. Patil is associate editor, ELEVATOR WORLD India. She has a decade's experience in overseeing weekend sections, special features, news columns, magazines and theme pages for leading English language daily newspapers, as well as several business-to-business publications. A holder of a diploma course in journalism, Patil previously worked in administrative positions with various real-estate, hospitality and media enterprises.

Interview Discusses New Metro/Railway Project

Narayan Subramani Reddy (NSR), national sales – head, Techno Industries Pvt. Ltd. (Subsidiary of Lloyds Engineering Works Ltd.), shares insights with your author (SP) about providing VT for metro and railway projects.

by Shilpa Pandya

SP: How did it feel when the Pune Metro and Mumbai Railway Vikas Corp. (MRVCL) tender results were announced and Techno Industries was selected to provide vertical transportation (VT) for both?



NSR: The award of the Pune Metro and MRVCL projects was a proud and defining moment for the entire Techno Industries team. These projects validate our technical capabilities, manufacturing strength, execution excellence and commitment to delivering world-class VT solutions.

Winning these prestigious contracts reinforces the confidence that leading infrastructure organizations place in Techno Industries. It is not only a business achievement but also a recognition of our vision to contribute to India's rapidly expanding metro and railway infrastructure. The announcement was received with great enthusiasm across our organization, as it marks another significant milestone in our growth journey.

SP: What are the specific details and scope of work for each project?

NSR: The scope of work for both projects encompasses the design, engineering, manufacturing, supply, installation, testing, commissioning and long-term maintenance support of elevators and escalators across multiple stations.

For Pune Metro, the objective is to provide safe, reliable, energy-efficient and high-capacity VT systems that enhance passenger movement and accessibility across the metro network.

For MRVCL, the project focuses on delivering robust transportation solutions capable of handling high passenger traffic while meeting stringent railway safety, reliability and operational standards.

In both projects, Techno Industries will be responsible for ensuring compliance with all applicable standards, quality requirements and project timelines while delivering a seamless passenger experience.

SP: What capacity elevators and escalators and how many units will Techno Industries be installing on each project?

NSR: The projects involve deploying heavy-duty public transportation elevators and escalators specifically designed for metro and railway applications. These systems are engineered

Participation in landmark metro and railway projects enhances our brand credibility and demonstrates that our products meet the rigorous requirements of large-scale public transportation networks. It also reinforces our commitment to the Government of India's infrastructure development and "Make in India" initiatives.

to handle continuous operation, high passenger volumes and demanding environmental conditions.

The elevators will feature capacities ranging from passenger-accessibility units to larger high-capacity public transport elevators, while the escalators are designed for intensive-duty operation suitable for mass transit environments.

Techno's growing infrastructure portfolio includes the Pune Metro project, comprising 16 elevators and 26 escalators across four stations, and the MRVCL project, comprising 90 elevators and 58 escalators across Western and Central Railway locations.

The company has also secured several major recent railway orders, including 40 elevators for Assam Railway, 44 for Guntakal Railway Division, 43 for Howrah Railway Division, 39 for Vijayawada Railway, 37 for Alipurduar Railway and 28 for Nagpur Railway - together representing 231 elevator units.

The selected equipment incorporates advanced safety features, energy-efficient technologies and smart monitoring systems to ensure reliable operation throughout the asset life cycle.

SP: What is the significance of Techno Industries winning the tender?

NSR: The significance extends beyond the contract value. Metro and railway projects are among the most demanding infrastructure assignments due to their stringent technical specifications, safety requirements and performance expectations.

Winning these tenders demonstrates Techno Industries' ability to compete successfully against established domestic and international players. It reflects the trust placed in our engineering expertise, manufacturing capabilities, quality systems and project execution framework.

These projects also represent a major responsibility, as millions of passengers will rely on our elevators and escalators every year. We view this trust as a commitment to deliver

Winning these tenders demonstrates Techno Industries' ability to compete successfully against established domestic and international players. It reflects the trust placed in our engineering expertise, manufacturing capabilities, quality systems and project execution framework.

products that meet the highest standards of safety, reliability and passenger comfort.

SP: How will winning this tender reflect on the brand positioning and perception of Techno Industries and its elevator and escalator product range?

NSR: The successful award of these projects significantly strengthens Techno Industries' position as a leading Indian manufacturer and solution provider for elevators and escalators in the infrastructure sector.

Participation in landmark metro and railway projects enhances our brand credibility and demonstrates that our products meet the rigorous requirements of large-scale public transportation networks. It also reinforces our commitment to the Government of India's infrastructure development and "Make in India" initiatives.

These achievements will further establish Techno Industries as a trusted partner for metro rail corporations, railway authorities, airports, smart cities, commercial developments and other large infrastructure projects. We believe these projects will serve as important references that accelerate our growth in the transportation and public infrastructure segment across India and international markets. 🌐

About Narayan Subramani Reddy

Narayan Subramani Reddy, national sales - head, Techno Industries Pvt. Ltd. (Subsidiary of Lloyds Engineering Works Ltd.), brings more than 30 years of experience in the elevator and escalator industry. With extensive industry knowledge and a strong understanding of customer and infrastructure requirements, he is focused on expanding Techno Industries' presence across India's rapidly developing Railway, Metro and Infrastructure sectors. Looking ahead, Reddy has set a clear objective: to establish Techno Industries among the top five elevator companies in India within the next five years, supported by engineering excellence, manufacturing strength customer trust and strong execution.



Shilpa Pandya is a senior journalist who has handled business- and lifestyle-related coverage. With more than 25 years' experience, she has written for a wide array of publications. Experienced in global coverage, she also excels in regional reporting. Based in Mumbai for the past few decades, she has been a silent team player across different organizations and is happy to be part of the EWI content team, as well

About Techno Industries Pvt. Ltd

Techno Industries Pvt. Ltd., part of Lloyds Engineering Works Ltd., is an Indian engineering company with more than three decades of engineering experience and a strong presence across vertical mobility and industrial engineering solutions. Its portfolio encompasses elevators, escalators, pumps and motors, serving diverse applications across the infrastructure, government, railways, healthcare, education, commercial and industrial sectors. With in-house manufacturing, application-led engineering, advanced manufacturing technologies and a skilled workforce, Techno focuses on delivering solutions engineered for demanding operating environments. The company has delivered 35,000-plus elevators, 800,000-plus motors and 11.5 million-plus pumps, supported by a pan-India presence and global reach.

A significant recent milestone is Techno's achievement as the first Indian elevator company to successfully complete RDSO Type Testing for both elevators and escalators, including 13- and 20-passenger elevator models, strengthening its credentials in railway and public infrastructure.

Backed by the Lloyds Group and its extensive manufacturing ecosystem, Techno benefits from access to more than 3,42,000 m2 of manufacturing facilities strategically located across four states. This integrated ecosystem strengthens its manufacturing capabilities, supply-chain access, engineering expertise and ability to deliver solutions at scale across diverse markets. With the backing of Lloyds Group, Techno is focused on expanding its manufacturing and market reach, advancing technology and R&D and building the next generation of engineering capabilities.



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MRAM Expo 2026 Invites Elevator and Escalator Professionals to Explore Next-Generation Maintenance and Reliability Solutions

Maintenance, reliability, engineering and service professionals from the VT industry can explore technologies, expertise and practical solutions for improving equipment reliability, asset performance and operational continuity.

by Anitha Raghunath & Raghu G



MRAM Expo 2026, a dedicated platform for Maintenance, Reliability and Asset Management, will bring together technology providers, industry experts and professionals from across the industrial ecosystem on October 7-9 at Bombay Exhibition Centre (BEC), Mumbai.

The event is particularly relevant to professionals responsible for the maintenance, reliability, engineering and service operations of elevators and escalators. As vertical-transportation (VT) systems become increasingly sophisticated, maintaining equipment availability, reliability and performance requires maintenance teams to move beyond reactive interventions toward condition-based, predictive and data-driven approaches.

For elevator and escalator professionals, this means looking beyond individual components and adopting a more comprehensive approach to equipment health and asset performance.

Why MRAM Matters to the VT Industry

Elevators and escalators comprise a range of critical mechanical, electrical, electronic and control systems. Traction machines, gearboxes, motors, bearings, brakes, drives, control systems and other critical assets must operate reliably to ensure safe and efficient VT.

Unexpected equipment failures can result in service disruption, emergency maintenance, increased maintenance costs and reduced equipment availability. Consequently, the ability to identify early warning signs and understand equipment condition is becoming increasingly important for maintenance and engineering teams.

MRAM Expo 2026 provides an opportunity for VT professionals to explore technologies and methodologies that can support this transition toward proactive and predictive maintenance.

Explore Relevant Solutions

Visitors can discover technologies and services covering areas such as:

- ◆ Predictive and prescriptive maintenance
- ◆ Vibration and condition monitoring
- ◆ AI/ML-based diagnostics and analytics
- ◆ Thermal and electrical inspection
- ◆ Remote equipment monitoring
- ◆ IIoT-enabled asset monitoring
- ◆ Digital twin technology
- ◆ Computerized Maintenance Management System and Enterprise Asset Management platforms
- ◆ Asset Performance Management
- ◆ Reliability engineering
- ◆ Root Cause Analysis
- ◆ Reliability-Centered Maintenance (RCM)
- ◆ Total Productive Maintenance (TPM)
- ◆ ISO 55000-based asset management practices

These technologies can help maintenance teams better understand equipment condition, identify potential issues at an early stage and make more informed maintenance decisions.

Learn From Industry Experts

Technology is only one part of the maintenance transformation. Effective asset management also requires the right strategies, methodologies and knowledge.

MRAM Expo 2026 will feature an industry conference, technical sessions, expert presentations and interactive workshops addressing subjects such as asset management strategy, operational excellence, predictive and prescriptive maintenance, AI, digital twins, reliability engineering, asset integrity, safety and life-cycle value.



For elevator and escalator professionals, these sessions provide an opportunity to understand how broader reliability and asset-management practices can be applied to real-world maintenance challenges.

See Technologies in Action

One of the key advantages of attending an industry exhibition is the opportunity to see technologies and solutions first-hand.

Visitors can interact with solution providers, understand how different technologies work and explore their potential applications in equipment health monitoring, diagnostics, inspection, maintenance planning and asset performance improvement.

For maintenance teams, this can help bridge the gap between technology awareness and practical application.

Connect With the Right People

MRAM Expo 2026 will bring together solution providers, OEMs, component manufacturers, reliability specialists, maintenance service providers, consultants, technology companies and industry experts.

For elevator and escalator professionals, this provides an opportunity to discuss specific maintenance challenges, understand available technologies and identify solutions relevant to their operational requirements.

From Reactive Maintenance to Predictive Asset Management

Maintenance practices across industries are undergoing a significant transformation. Traditionally, maintenance programs have relied heavily on scheduled inspections and reactive interventions. Increasingly, organizations are using equipment data, condition monitoring and analytics to understand asset health and identify potential failures before they occur.

This shift is particularly relevant to VT, where equipment reliability and availability are directly connected to operational continuity and passenger service.

Technologies such as vibration monitoring, thermal inspection, electrical testing, remote monitoring, AI-based diagnostics and predictive analytics can provide maintenance teams with additional information to support better decision-making.



The objective is not simply to collect more data, but to convert equipment information into actionable insights that can help maintenance teams determine what requires attention, when intervention may be necessary and how maintenance resources can be deployed more effectively.

Connecting Asset Health With Business Performance

Modern maintenance is increasingly being viewed as a strategic business function rather than simply an operational necessity.

Improving asset reliability can contribute to reduced unplanned downtime, better utilization of equipment, improved maintenance planning, longer asset life and more informed investment decisions.

This broader perspective is at the center of the Maintenance, Reliability and Asset Management approach.

MRAM Expo 2026 will bring together technologies and expertise spanning the industrial asset life cycle – from inspection and condition monitoring to maintenance, reliability engineering, asset management, digitalization and industrial safety.

While the event covers multiple industrial sectors including manufacturing, energy, infrastructure, transportation, process industries and other asset-intensive industries, many of the underlying maintenance challenges are common across sectors.

The principles of understanding asset condition, identifying risks early, improving maintenance strategies and extending asset life are equally relevant to elevator and escalator systems.

Beyond the Exhibition Floor

MRAM Expo 2026 will also provide opportunities for professionals to learn through its conference and technical workshops.

The conference will focus on “Asset Management: The Strategic Lever for Delivering Life-Cycle Value & Operational

Excellence,” addressing areas including leadership and strategy, AI and digital twins, predictive and prescriptive maintenance, reliability-centered maintenance, risk-based inspection, asset integrity, safety and life-cycle value.

Technical workshops will provide more focused opportunities for professionals to engage with specific maintenance and reliability methodologies and applications.

For professionals from the VT sector, participation can provide exposure to ideas and practices that can complement existing maintenance programs and support the transition toward more proactive asset management.

An Opportunity for the VT Community

As the elevator and escalator industry continues to evolve, maintenance and engineering teams are increasingly required to balance reliability, safety, service availability, maintenance costs and asset life-cycle considerations.

The ability to detect equipment health issues earlier, make data-driven maintenance decisions and adopt appropriate reliability methodologies will play an important role in addressing these challenges.

MRAM Expo 2026 provides a platform for professionals to explore these developments, interact with solution providers, learn from industry specialists and understand how emerging technologies can be applied to real-world maintenance and reliability requirements.

For elevator and escalator maintenance, engineering, reliability and service professionals looking to strengthen equipment performance, reduce unplanned downtime and explore new approaches to asset management, MRAM Expo 2026 offers an opportunity to connect with technologies, expertise and industry knowledge under one roof.

Elevator and escalator maintenance, engineering, reliability and service professionals are invited to visit MRAM Expo 2026 and explore the technologies and practices shaping the future of maintenance and asset performance.

Register to visit: live.virgo-comm.com/mram-visitor-2026?EWI



Anitha Raghunath and Raghu G are directors of Virgo Communications and Exhibitions, the pioneers who introduced the VT industry-focused expo and magazine concept in India. Consistently serving the elevator sector

since 2007, Virgo is credited with launching dedicated trade fairs, technical forums, publications, virtual events, webinars and other initiatives in India, as well as in additional emerging international markets like Bangladesh, Sri Lanka and South Africa.



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CII Task Force on Elevator & Escalators and Building Technologies Sector

Your author provides perspectives on the group's first meeting.

by Rajnikant Lad

It was my pleasure to attend the first meeting of the Confederation of Indian Industries (CII) Task Force on Elevator & Escalators and Building Technologies Sector on August 14 at India Habitat Centre New Delhi.

The purpose of the task force meeting was to prepare a roadmap for advancing policy reforms, regulatory harmonization, innovation, safety, sustainability, manufacturing competitiveness and ease of doing business across the sector.

The purpose of the task force meeting was to prepare a roadmap for advancing policy reforms, regulatory harmonization, innovation, safety, sustainability, manufacturing competitiveness and ease of doing business across the sector.



Director Startup India addressing the task force

Amit Gossain, managing director, KONE Elevator – India & South Asia, chaired the meeting in the capacity of the Task Force's chairman. Partha Basu, principal – Infrastructure, CII, elaborated on the roadmap prepared by CII on the subject.

All the stakeholders including representatives for elevator industry, elevator consultants, electrical equipment manufacturers, Delhi Metro representatives, fire safety experts, construction industry representatives, building management service providers and representatives from National Institution



Round table discussions



CII Task Force on Elevator & Escalators and Building Technologies Sector

for Transforming India Aayog, Department for Promotion of Industry and Internal Trade, Ministry of Housing and Urban Affairs, the Central Electricity Authority and the director of Startup India participated in the discussions.

All the issues were discussed at length among the members/stakeholders, and a roadmap for the industry was prepared.

The task force proposed a Model Act and outlined seven core actionable reforms:

- ◆ Model National Lift and Escalator Act – A unified legislative blueprint for states
- ◆ National single-window portal and Unique Asset Identification Number – Lifetime digital asset tracking with 21 days demand clearances
- ◆ Central technical backstopping - Uniform Bureau of Labor Statistics and National Building Code supremacy
- ◆ Risk-based inspection framework – Differential audit cycles for high-risk versus standard units
- ◆ Smart Telemetry and Internet of Things integration – Real time diagnostics and predictive maintenance standards
- ◆ National Skilling and Technology Certification – Building standardized work force competencies

- ◆ Domestic manufacturing alignment – Boosting local component R&D and supply chain under Make in India

The task force team is currently synthesizing the multi-stakeholder consensus into a formal memorandum, which will be submitted to central ministries and state governments to accelerate legislative adoption.

Regulatory harmonization across States through a proposed Model Lift & Escalator Act:

- ◆ Single-window digital approvals and time-bound processes to reduce compliance burden
- ◆ Uniform safety and technical standards with clearer accountability across stakeholders
- ◆ Digital inspections, maintenance records and predictive technologies to strengthen safety
- ◆ Modernization of aging lift installations and promotion of accessibility and energy efficiency
- ◆ Manufacturing, localization, R&D and skilling to strengthen India's vertical mobility ecosystem

The central objective is simple: create a predictable regulatory framework that improves both ease of doing business and safety, while enabling innovation and growth in the sector. 🌐

All the issues were discussed at length among the members/stakeholders, and a roadmap for the industry was prepared. The task force proposed a Model Act and outlined seven core actionable reforms.



Rajnikant Lad is an electrical engineer, associated with the elevator industry since 1983. He has nearly 22 years' experience in elevator installation and maintenance and has been taking up elevator safety audits from the last 20 years. He is a member of the CII Task Force on Elevators & Escalators and Building Technologies. Lad has been associated with the National Safety Council, Society of Reliability and Safety India and was the former chairman building transportation safety, Fire and Security Association of India.

From Green Buildings to Net Zero

CII-IGBC's GBC 2026 is set to shape India's sustainable future.

by Prerna Mistry

India is entering a critical phase of its development journey with rapid urbanization, infrastructure expansion and growing demand for buildings and cities that are more resource-efficient and resilient. The scale and speed of this growth make the transition to green and net-zero built environments an increasingly urgent priority.

Against this backdrop, the Confederation of Indian Industry (CII)-Indian Green Building Council (IGBC) will host the 24th edition of its annual Green Building Congress (GBC) on November 26-28 at Jio World Convention Centre, Mumbai. As the world's premier event on green and net-zero built environments, themed "Forging a Sustainable Future – Do Good, Feel Good. Building Greener Worlds Together," GBC will bring together government, industry finance, academia and the global green building community to explore how India can accelerate green-building adoption and scale solutions for a low-carbon, climate-resilient future.

India's green building ecosystem has grown significantly over the past 25 years. IGBC now has 20,000-plus registered projects covering the world's second-largest green building footprint of 16.33 billion ft². To date, the GBC has welcomed more than 2 lakh participants, reflecting the growing scale of the movement and the role of GBC.

Transforming India's Green Building Landscape

For 25 years, CII-IGBC has advanced India's green building movement – from building awareness and capacity to enabling adoption, implementation and innovation. Through its rating systems, training programs, conferences, workshops and stakeholder engagement, IGBC has helped mainstream priorities including energy efficiency, water conservation, waste management, renewable energy, responsible materials, circularity, carbon reduction and climate resilience across the built environment.

With the focus now moving from individual green buildings toward net-zero buildings, resilient infrastructure and sustainable cities, the next phase will require stronger collaboration across policy, finance, technology, industry and academia.

C Shekar Reddy, national chairman, CII-IGBC, emphasized:

"India is at a defining moment in its development journey. We are building new cities and infrastructure that will shape the country for decades to come. The question before us is not whether we should build, but how responsibly we can build. Sustainability must move from being a specialized conversation among experts to becoming a fundamental part of every development decision."

"For 25 years, CII-IGBC has worked to build this consciousness across governments, businesses, professionals and citizens. GBC brings this collective responsibility together, providing a platform for stakeholders to share knowledge, collaborate and turn intent to action. I invite every stakeholder to join us at GBC 2026 and be part of India's journey towards healthier, more resilient and sustainable places for generations to come."

AR Unnikrishnan, national vice chairman, CII-IGBC, explained:

"The next phase of India's green building journey must be about moving from commitment to scale – from individual projects to transformation across cities and infrastructure. This requires stronger collaboration between industry, government, finance, technology and academia, alongside wider adoption of high-performance and net-zero solutions."

"GBC 2026 will bring together the ideas, innovations and partnerships needed to accelerate this transition and connect global knowledge with solutions that are relevant, scalable and impactful for India."

Accelerating the Transition

As India advances its climate and emissions goals, the built environment will play a critical role in the country's decarbonization journey. IGBC's Mission on Net Zero, launched in 2021, focuses on Net-Zero Energy, Water, Waste and Carbon, with more than 350 organizations in the building sector committed to achieving net-zero status for their new and existing buildings.

GBC 2026 will focus on translating this ambition into implementation and scale, exploring the role of policy, finance, technology and industry collaboration in accelerating green adoption, improving energy and carbon performance, strengthening climate resilience and scaling net-zero solutions across buildings and cities. 



Prerna Mistry is a writer and editor with more than a decade of experience at notable English and Korean media platforms. Backed by a master's in English literature, she brings a global perspective and editorial depth to covering the VT, real estate and infrastructure industries.

VT in Supertall Luxury Residential Towers in India

Redefining comfort, privacy and vertical living: excellence in human-centric vertical mobility

by V. Jagadish Kumar



Abstract

The evolution of luxury high-rise residential towers in India has fundamentally reshaped the expectations from vertical-transportation (VT) design. As developers pursue increasingly premium living experiences, lifts are no longer mere utility components but core lifestyle enablers that define comfort, privacy, security and service efficiency. Contemporary VT planning integrates intricate user profiling – residents, visitors, house helps, service personnel and even pets – to ensure seamless movement patterns within dense vertical communities.

Design strategies now emphasize differentiated circulation with dedicated passenger, service and fire-rated evacuation lifts that minimize cross-flow and protect resident privacy. Smart destination-control systems improve handling capacity during peak periods, while personalizing journeys through touchless access, app-based call registration and zoned access restrictions. The rise of pet-friendly luxury homes introduces additional considerations such as quieter cabins, anti-microbial interiors and selective pet-movement routing to avoid resident–pet conflicts during peak hours.

Furthermore, the role of house helps – a unique aspect of Indian residential dynamics – requires sensitive VT planning. Separate service cores, back-of-house lift access and controlled lobby sequencing enable efficient daily operations without compromising the upscale experience expected by homeowners. Visitor traffic is managed through integrated lobby management systems and distributed lift banks that

reduce waiting times while maintaining high security standards.

Across Indian cities like Mumbai, Gurgaon, Bengaluru, Hyderabad and Chennai, VT design now contributes significantly to the overall luxury perception of a tower. The integration of AI-driven traffic prediction, energy-efficient regenerative drives and high-speed lifts ensures both sustainability and performance. Ultimately, the shaping of VT in India's luxury high-rise segment reflects a shift toward human-centric mobility – one that anticipates every user journey, celebrates convenience and ensures that vertical living remains effortless, elegant and future-ready.

1. Introduction: The Rise of Supertall Luxury Living in India

India's urban skyline has undergone a dramatic transformation over the last two decades. Once dominated by low-rise and mid-rise housing, metropolitan cities are now witnessing the rapid emergence of supertall luxury residential towers, redefining both urban density and aspirational living. These developments are not merely taller buildings; they are vertical ecosystems that integrate luxury, exclusivity, sustainability and cutting-edge technology.

At the heart of this vertical evolution lies VT systems that no longer serve as simple conveyance mechanisms but as critical enablers of comfort, privacy, safety and prestige. In luxury residential towers rising 200–300 m and beyond, lift systems become the backbone of daily living, influencing resident experience as much as architecture or interior design.





This paper explores how lifts in supertall luxury residential towers in India have evolved, beginning with a geographic overview of luxury high-rise development, followed by emerging trends, design philosophies and the future of vertical living.

2. Geography of Supertall Luxury Residential Towers in India

India's supertall luxury residential tower market is entering a decisive growth phase, driven by rapid urbanization, land scarcity and the sharp rise in high-net-worth demand. The segment is increasingly dominated by vertical living solutions where luxury is expressed through height, exclusivity and integrated amenities rather than horizontal sprawl. Cities like Mumbai continue to lead this transformation, accounting for nearly 60% of the country's tall buildings, with multiple 250–300-plus-m residential towers redefining urban density economics. Lokhandwala, Minerva and Palais Royale exemplify this shift toward ultra-luxury vertical communities, combining scale with premium positioning.

Geographically, while Mumbai remains the epicenter, the growth curve is clearly widening across India's urban hierarchy. The Delhi National Capital Region – particularly Gurugram – has emerged as a major luxury hotspot, even overtaking Mumbai in high-end sales growth recently, signaling a shift toward north Indian markets. Simultaneously, southern cities like Bengaluru and Hyderabad are embracing vertical luxury, driven by IT-led wealth creation and globalized buyer aspirations. These cities are witnessing a transition from mid-rise premium housing to 40–60-plus floor towers, supported by infrastructure expansion and relaxed floor space index norms. Importantly, the luxury housing boom is no longer confined to metros but is spreading into emerging urban centers, reflecting a maturing and geographically diversified market.

Going forward, this trend is set to dramatically reshape Indian skylines over the next decade. Supertall residential towers will increasingly cluster along transit corridors, waterfronts, and CBD peripheries, creating dense “vertical luxury districts” rather than isolated towers. Skylines will evolve from low-rise, fragmented forms to globally comparable high-rise silhouettes, particularly in Mumbai, Gurugram and Bengaluru. At the same time, rising land values and sustained

India's supertall luxury residential tower market is entering a decisive growth phase, driven by rapid urbanization, land scarcity and the sharp rise in high-net-worth demand.

demand for premium housing – now forming a dominant share of new launches – will push developers toward even taller, more technologically advanced buildings. The result will be a visible shift in India's urban identity: from horizontal expansion to iconic, skyline-defining vertical living that signals both economic growth and aspirational urbanism.

3. Growth Trends in Luxury Residential Towers and VT Demand

This vertical expansion is directly translating into intensified demand for advanced VT systems. Luxury towers today are no longer just tall – they are high-density, high-speed environments with expectations of minimal waiting times, privacy and seamless movement. As buildings grow taller and more complex, VT design is shifting toward destination control





systems, high-speed lifts, sky lobbies and zoning strategies to manage traffic efficiently. Ultra-luxury formats such as sky villas and branded residences further drive demand for low-density lift planning (fewer apartments per lift), private lifts and service segregation, increasing the number of lifts per tower. Additionally, the integration of smart technologies and sustainability goals is pushing adoption of energy-efficient systems, regenerative drives and AI-based traffic management.

Looking ahead, as India continues its transition toward supertall residential clusters and mixed-use vertical developments, VT will become a critical differentiator rather than just an infrastructure component. With luxury housing prices rising sharply (in some cases up to 30–40% year over year in key cities) and demand expected to remain strong, developers will increasingly invest in premium VT solutions to match buyer expectations for comfort, speed and exclusivity. This positions the VT industry as a central enabler of India's evolving skyline – where engineering performance, user experience and sustainability converge to support the next generation of luxury living.

4. Evolution of Luxury High-Rise Residential VT Design in India

The evolution of VT design in supertall luxury residential buildings reflects a clear shift from purely functional systems to highly integrated, experience-driven infrastructure. In earlier high-rise residential towers, lifts were treated as isolated service components, primarily focused on basic movement and acceptable waiting times. However, with the rise of supertall living, VT strategy is now embedded at the concept stage of building design, influencing core layouts, floor zoning and even architectural form. Systems such as shuttle lifts, sky lobbies and zoned lift banks have become standard to optimize space and efficiency, while innovations like double-decker and twin lifts have significantly increased handling capacity without expanding core size.

A second major evolution is the technological transformation driven by height, speed and user expectations

At the heart of this vertical evolution lies VT systems that no longer serve as simple conveyance mechanisms but as critical enablers of comfort, privacy, safety and prestige.

in luxury living. Supertall residential towers now routinely deploy high-speed lifts in the range of 6–10 m/s, where engineering challenges shift from simple transportation to managing vibration, pressure changes and ride comfort. This has led to advancements such as carbon-fiber hoisting belts enabling greater travel heights, AI-enabled destination control systems that optimize passenger flow and predictive diagnostics that enhance safety and reliability. Energy regeneration, smart dispatching and digital monitoring have also become integral, reflecting a move toward intelligent, self-optimizing VT ecosystems rather than mechanical systems.

Finally, in luxury residential towers, VT design has evolved into an extension of architecture and lifestyle branding. Lifts are no longer hidden cores but curated spatial experiences featuring panoramic glass cabins, bespoke material finishes and seamless integration with interior design language. This aligns with a broader trend where lifts contribute to the identity of premium developments, enhancing views, light and exclusivity. Additionally, post-pandemic preferences have accelerated touchless controls and personalized access systems,



reinforcing privacy and wellness. Together, these shifts highlight how VT in supertall luxury residences has transitioned from “movement infrastructure” to a critical differentiator shaping both building performance and resident experience.

5. Differentiated Circulation Strategies in Luxury Towers

In supertall luxury residential buildings in India, VT circulation is no longer a simple “lift count” exercise but a highly optimized strategy balancing space efficiency, travel time, privacy and user experience. Since lifts can consume a significant portion of the core, circulation planning directly influences sellable area and building economics. Unlike commercial towers, residential traffic is more dispersed and less peak-driven, allowing slightly higher acceptable waiting times (typically 45–90 s), but luxury developments demand superior comfort, minimal crowding and near-seamless movement.

A fundamental strategy is zoning and segmentation of the building into vertical neighborhoods. This is typically achieved through low-, mid- and high-rise lift banks or through sky lobby



concepts where residents transfer from high-speed shuttle lifts to local lifts serving smaller floor clusters. This approach reduces the number of stops per lift and improves handling capacity without excessively increasing shaft count. In very tall towers, this effectively creates “stacked buildings,” each with its own local circulation system fed by express lifts, optimizing both efficiency and core size. In Indian luxury projects – especially in Mumbai and emerging Bengaluru high rises – this also enables exclusivity by limiting the number of apartments served per lift bank.

Advanced circulation options increasingly include double-deck lifts, destination control systems and hybrid shuttle-local configurations. Double-deck lifts can halve the number of shafts by serving alternate floors, while destination dispatch groups passengers intelligently to reduce stops and waiting times. High-end residential towers may also incorporate private lifts, zoned service lifts and separate circulation for staff and goods, addressing privacy and operational efficiency. Emerging technologies such as twin lifts in a single shaft and AI-based traffic control further enhance performance, making VT design a key differentiator in India’s super luxury residential segment.

6. Smart Destination Control and Personalized Vertical Journeys

The incorporation of smart and AI-driven technologies is rapidly redefining VT circulation in supertall luxury residential buildings across India. Advanced destination control systems, powered by machine learning algorithms, are now capable of predicting traffic patterns based on time of day, resident behavior and even seasonal occupancy trends. These systems optimize lift grouping, reduce wait times and enhance handling capacity – critical in towers exceeding 50–70 stories.

The integration of AI-driven traffic prediction, energy-efficient regenerative drives and high-speed lifts ensures both sustainability and performance.

Integration with Internet of Things-enabled building management systems further allows real-time monitoring of lift performance, energy consumption and predictive maintenance, ensuring both operational efficiency and minimal downtime – key expectations in the luxury segment.

AI is also enabling a shift from generic to highly personalized VT journeys. Through mobile apps, facial recognition or access control integration, lifts can identify residents even before they reach the lobby. The system can automatically assign lifts, pre-select destination floors and adjust cabin settings such as lighting, ventilation or even preferred music. In ultra-luxury developments, private or semi-private lift zoning is enhanced with AI to learn user preferences over time, ensuring a seamless and discreet travel experience. This level of personalization not only improves convenience but also reinforces exclusivity – an increasingly important differentiator in India’s premium residential market.

Looking ahead, the convergence of AI with data analytics and digital twins will further elevate VT planning and operations. Developers and consultants can simulate resident movement patterns during the design stage itself, allowing for highly optimized core layouts and elevator configurations. Post-occupancy, continuous learning systems will refine traffic strategies dynamically, adapting to evolving usage patterns. In essence, VT in supertall luxury buildings is transitioning from a functional necessity to an experiential, intelligent service – one that quietly anticipates resident needs and delivers a frictionless, almost hotel-like mobility experience within private homes.

To be Continued : Look for the second part of this article in upcoming issues of EW India magazine 



V. Jagadish Kumar, B.E (Mech), IGBC-AP, is principal consultant and director, L’Avenir Consultancy Pvt. Ltd. He has more than 33 years of experience in the VT industry and currently leads one of India’s leading VT consulting firms, L’Avenir lift consultancy. The company has assisted various landmark projects in India with VT consulting services and has currently has 15,000-plus in its consulting base. He is also:

- ◆ Chairman, Indian Society of Heating, Refrigerating and Air Conditioning Engineers VT subcommittee for preparing energy performance standards for Buildings in India
- ◆ Chairman, VT committee for Indian Green Building Council (IGBC) for systems commissioning module preparation
- ◆ Co-chairman, ECSBC 2025 CODE REVISIONS - VT subcommittee for preparing energy conservation sustainability building codes for the Bureau of Energy Efficiency, Government of India
- ◆ National Building Code 2025 standards review panel member
- ◆ Member of syllabus preparation for a lift technician course for Ministry of Labour and Employment, Government of India, under a skill-development initiative
- ◆ Former member of IGBC and committee, Bangalore
- ◆ Member, Forum of Critical Utility Services
- ◆ Author of a unique coffee table book on the global history of elevators with L’Avenir: Elevator Heritage

The Vertical Backbone of the High Rise, Part 1

Your author begins this article series with an introduction.

by Uday Kulkarni

Introduction

A high-rise building is often described by its architecture, its façade, its location, its amenities or the technology incorporated into it. Yet there is one system that quietly determines how successfully the building functions every day: vertical transportation (VT).

Elevators and escalators are sometimes treated as a building service that can be accommodated once the architectural and structural plans have taken shape. In my view, this is one of the most important misconceptions in high-rise development.

After spending more than 40 years in the VT industry with Otis and Schindler and having had the opportunity to lead Schindler's India and South Asia operations as president until 2020, I have seen repeatedly how decisions taken – or not taken – during the early stages of a project can have consequences for the building throughout its life.

VT is not simply about selecting the number of elevators or deciding their speed. It is about understanding the movement of people and goods through a building – during normal operation, peak periods, emergencies, maintenance and even future changes in the way the building is used.

The challenge becomes particularly significant as buildings become taller, denser and more sophisticated. A few seconds of additional waiting time multiplied across thousands of occupants can translate into hours of lost productivity every day. An undersized lift core can compromise performance. Poorly planned traffic zoning can create congestion. Inadequate provision for service and maintenance can become a permanent operational constraint. And once the building is constructed, correcting these decisions can be extremely expensive – and sometimes practically impossible.

This is why VT planning must begin when the building is still on the drawing board, not when the architectural design is already frozen.

The elevator consultant, architect, structural engineer, mechanical, electrical and plumbing consultant, developer and, eventually, the facility management team need to look at VT as an integral part of the building's DNA.

Through this series of articles, I intend to explore this subject from a practical and industry perspective.

We will look beyond the elevator itself and examine questions such as:

- ◆ How many elevators does a high-rise need?
- ◆ How should elevator traffic be analyzed at the planning stage?
- ◆ Why do elevator speed and handling capacity mean different things?
- ◆ How should the elevator core be positioned and sized?
- ◆ What happens when architects and developers leave insufficient space for VT?
- ◆ How should passenger, service, goods and emergency movement be planned?
- ◆ What role does destination control and other modern technology play?
- ◆ How should VT be planned for future changes in occupancy?
- ◆ What are the consequences of getting the planning wrong?
- ◆ And perhaps most importantly – what should a developer ask before the first shovel goes into the ground?

My objective is not to promote elevators as a product or technology. It is to highlight VT as a fundamental element of high-rise building design and functionality.

A beautiful high rise that cannot move its occupants efficiently is, ultimately, an inefficient building.

The elevator may occupy only a small part of the building's footprint. But in a high rise, it can determine how effectively the entire building works.

VT is not a building service to be fitted in. It is part of the building's architecture, engineering and user experience – and it deserves to be planned that way from day one.

In this series, I plan to involve many industry stalwarts including the people on the ground – “people in the lift shaft” – and share their experiences. The plan is also to supplement





this with podcasts and case studies to make this knowledge bank more useful to the younger generation. Feedback from my friends in the industry on this series would be appreciated, for which you can write to the editor. 🌐



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Uday Kulkarni is an inspirational business leader and the founder and CEO of UTOPIAS, bringing more than 40 years of experience in leadership, VT, business transformation and people development. He previously led Schindler India and South Asia, where he was instrumental in driving significant growth in market share, profitability and organizational capabilities. Before Schindler, he spent 18 years with Otis India in various leadership positions. Known for his strong customer-centricity, strategic thinking and ability to build high-performing management teams, Kulkarni combines deep industry expertise with a passion for developing people and leaders. Through UTOPIAS, he provides independent consultancy, elevator and parking system audits, project advisory, as well as coaching, mentoring and management development. His approach is grounded in safety, integrity, innovation and customer value with a clear focus on helping organizations and people achieve sustainable professional growth and excellence.

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Bench Strength: Building the Team in the Independent Elevator Company

What Indian cricket teaches about bench strength – and what four homegrown elevator companies show about the closeness that keeps good people

by Arun Narang

In the summer of 2021, Indian cricket pulled off something few countries could. Virat Kohli's Test team, with Head Coach Ravi Shastri, was in England for the World Test Championship final and a five-match Test series. At the very same time, thousands of kilometers away, a second Indian team – captained by Shikhar Dhawan and coached by Rahul Dravid – landed in Sri Lanka and won the one-day series 2-1. How could India do it? The answer is bench strength. Behind every player in the first team there was another one, trained and ready.

Now picture a Monday morning in your own company. Your best fitter calls in sick. Your service engineer is already at a breakdown across town. A builder is on the phone asking for the supervisor on-site by 11 a.m. Who steps in?

The elevator companies that grow steadily have an answer to that question. They have their own bench – enough trained people so that the work carries on when someone is on leave or moves on. This series' sixth article is about manpower – hiring, training and looking after people so they stay. Four entrepreneurs, in Bengaluru, Kochi, Mumbai and Navi Mumbai, told us how they do it.

Six People Behind Every Lift

Every lift passes through six sets of hands, from the first meeting to years of service.

1. Sales

It begins with a promise. A good salesperson can read a shaft drawing and knows that every date and every detail promised at the sales table must be kept on site.

2. Drawings and Estimation

Next comes the desk that turns the promise into a plan – drawings, bills of materials, costing. A mistake made here travels all the way to the site.

3. Installation Teams – Fitters and Helpers

Then the lift goes up. A fitter with one or two helpers is the basic unit of every elevator company. Pair every new helper with your best fitter – that is where your bench begins.

4. Site Supervisors

Someone has to sign off on each stage before the next begins. Usually this is a senior fitter who has grown into the role or a diploma engineer who has learned the field. Once you are no longer at every site yourself, the supervisor is often the most important person you will hire.

5. Service Technicians

After handover, the lift belongs to service – a stuck lift, a worried customer and a fault to find. Your best installer will not always be your best troubleshooter.

6. Stores and the Office

And when a lift stops one evening, two things decide how quickly it runs again – the right part on the spares shelf and a calm voice on the phone. That voice is often the first a customer hears on a difficult day.

How the Team Grows With You

Every founder knows this story. In the early years, at one-to-three lifts a month, you sell, draw and supervise yourself with a small site and service team around you. Then the inquiries grow. At three-to-eight lifts a month, the first supervisor and the first salesperson arrive, and service becomes a team of its own. At eight-to-15, each function needs someone to head it – and your job changes from doing the work to building the people who do it. It is the same ladder we climbed for buying in the last article, "The Buying Ladder: Procurement Strategy for the Independent Elevator Company."

Recruit and Grow Your Own

Where do good people come from? Every good fitter was once a helper, carrying rails up a shaft and watching how a senior worked. Hiring experienced people is hard, because everyone wants the same ones. Growing your own takes longer, but it lasts.

Mohan Kumar B T, managing director (MD), Comfort



Mohan Kumar B T

Elevators & Escalators Pvt. Ltd., Bengaluru, and president, Elevator Manufacturers Association of Karnataka, explains:

"We recruit from Industrial Training Institutes (ITIs), but not only for skill – attitude and common sense matter just as much

because this is a B2C business, and our people face the customer directly. Every recruit does a two-year apprenticeship before we absorb them. And safety is not negotiable."



Manoj Kumar

Manoj Kumar V A, MD, Infra Elevators, Kochi, shares:

"Trained staff are scarce, so we started the Infab Institute of Lift Technology. Trainees install a lift in a training shaft twice and dismantle it twice. Then they go to the field for

on-the-job training. After six months we have a trained technician, certified by the Kerala government's Additional Skill Acquisition Program. And a technically strong person can grow into management – we work on that actively. Even our sales people get technical training."



Vivek Kavle

Vivek Kavle, CEO, Royal Elevators, Mumbai, says:

"Most of our people come through someone we already know. They join because they know we are a good place to work, and because the work is close to home they will not be sent to other cities. Staying close to where they live matters to them."

Upskilling Along the Way

The lift a technician trained on 10 years ago is not the lift they service today. Machines, controllers and standards keep changing, and the team has to keep up.

Mohan Kumar says:

"Every three months we hold internal training on different subjects, and when OEMs offer to train our team, we encourage it. Through our association, we want to work closely with ITIs and the government's skilling programs so the whole industry gets trained people."

Manoj Kumar adds:

"Skill development is also how we keep people. We recently trained our team on brake setting for gearless traction machines – knowing the right gap and setting it correctly –and everyone gets safety training every six months. When people can see how they will grow here, they stay."

Vivek Kavle adds:

"Our founder, Mr. R. R. Patil, started in this industry as an apprentice, so learning on the job is part of how we work. Our seniors teach the juniors on every site, and as the technology changes, we all learn together."

Look After the Person

Training builds the skill. What makes someone stay is how they are treated – on the good days and on the day trouble comes to their family.



Aby Matthew

Aby Matthew, CEO, Abrado's Group, Navi Mumbai – a specialist in customized premium Italian home elevators – reflects:

"We follow a very human approach. Everyone is treated with respect, and my door is always open. When

someone faces an emergency, we stand by them. Skill is important, but it is not the only thing we value – loyalty and dependability matter just as much to us."

Mohan Kumar adds:

"We may be a smaller company, but we give health and family insurance and additional benefits, so our people are covered against risk. We also check whether someone needs help in their personal life, and we are happy to help. It keeps them focused on the job and attrition is much lower."

For Manoj Kumar, it starts with trust:

"I try to build a bond with every employee. We give interest-free loans to trusted staff to build their homes. Our preventive maintenance staff earn an incentive when their lifts have no breakdowns, so every visit gets more attention."

Advantages of Working With Independents

Ask people why they chose an independent, and the same answers come back.

Vivek Kavle says:

"What people tell us they value here is the personal touch. We are not divided by departments – there is affection and understanding in the team, so we move quickly. We look after our contract installers, too, with good rates and advances when they need them. Our retention is high. Our team is our greatest asset."

Aby Matthew adds:

"In a company like ours, every person's work is seen and valued. Our technicians work inside families' homes, and we trust them with that. People feel that trust – and it makes them proud of what they do."

Manoj Kumar agrees:

"People feel more freedom working with us. We do have targets, but it is never only about targets – we look at each person in a broader way."

Think back to that summer of 2021. The second team did not just fill in – it won the one-day series. That is what bench

strength looks like in an elevator company, too. Your best fitter is away, and the lift still goes up on time.

In the last article, we saw that a supply chain can be built – choose your suppliers well, and the machine, the controller and the door arrive on site. People do not arrive that way. They have to be found, trained and looked after, one helper, one fitter, one supervisor at a time. Keeping them is not easy, and every company in our industry knows it.

Read the four voices again, and the same theme runs through all of them. Mohan Kumar asks whether someone needs help at home. Manoj Kumar builds a bond with every employee. Aby Matthew keeps his door open in an emergency. Vivek Kavle's people arrive through someone the company already knows. None of this comes out of a policy manual. It is closeness, and it is how a bench gets built – people stay long enough to be trained, and the next fitter comes from inside the company. In the second article of this season, "When Trust Becomes the Brand," we said that trust is what turns a homegrown company into a brand. Turned inward, that same

trust is why good people come, and why they stay. That is how India's independent elevator companies have found their own ways to win this game.

This article closes the first season of this column, which has explored the phenomenon of India's independent elevator companies. Our respect and thanks go to them, to the thousands of entrepreneurs behind them, and to everyone who shared a story or a quote along the way. A second season is coming soon. Until then, write to us at arun@besco.in or anitha@virgo-comm.com. 



Arun Narang leads BESCO, a supply chain company serving India's elevator industry. He works with homegrown elevator brands and focuses on solutions that support capability-building and better installation outcomes. Narang is based in Mumbai.

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Beyond Maintenance: Bridging the Trust Gap in India's Lift, Escalator and Moving Walk Industry

Technical Inspection – User Awareness – Record Management – Competency Development

by A.H. Bakshi

Introduction

India's lift, escalator and moving walk industry has entered a defining phase of its evolution. Lift, escalator and moving walk systems are no longer premium conveniences – they are essential public infrastructure serving residential societies, hospitals, airports, metro systems, railway stations and commercial buildings.

Every day, millions of passengers place their trust in these systems without ever seeing the engineering discipline that keeps them safe. After working across the complete life cycle of this industry – from OEM operations and field service to technical inspection and international prototype evaluation – I have reached one enduring conclusion: A lift, escalator or moving walk is not merely a machine; it is a public trust entrusted with human life.

The future of our industry therefore depends not only on manufacturing better equipment, but on creating an engineering culture where safety is transparent, evidence-based and jointly owned by every stakeholder.

The Current Industry Challenge: The Service-Side Trust Gap

The greatest challenge facing today's industry is not technology – it is trust.

Service engineers often identify genuine safety concerns requiring corrective action or modernization. At the same time, many lift owners find it difficult to distinguish between routine maintenance, safety-critical repairs and long-term asset management. As a result, technically justified recommendations are sometimes perceived as commercial proposals rather than engineering necessities.

This communication gap leads to delayed decisions, weakened confidence and increased safety risk despite regular maintenance.

This is not an OEM issue, an annual maintenance contract (AMC) issue or a customer issue alone. It is an industry-wide engineering communication challenge that deserves a common technical language built on documented evidence rather than assumptions.

Maintenance and Technical Inspection Are Different

One of the most common misconceptions is that a maintained lift is automatically a safe lift. From an engineering perspective, these are two different objectives.

Maintenance	Technical Inspection
Preserves operational reliability	Verifies safety integrity
Routine servicing	Independent engineering evaluation
Corrects operational defects	Identifies risk & remaining service life
Focuses on availability	Supports life-cycle safety decisions

Maintenance answers the question: Is the equipment operating?

Technical inspection answers the more important question: Is the equipment still safe to continue operating?

As thousands of Indian installations enter their third decades of service, independent technical evaluation becomes essential for responsible asset management.

Global Engineering Practice

Internationally, the engineering philosophy is remarkably consistent. Countries including the U.K., Germany, Italy, Spain, Singapore and the Netherlands require periodic independent third-party inspection of lift and escalator systems alongside routine maintenance.

Although inspection frequency varies between jurisdictions, the principle remains the same as: Maintenance preserves operation. Independent inspection validates safety.

India's rapidly expanding infrastructure presents an opportunity to strengthen this engineering approach through transparent inspection methodologies, documented records and accountable decision-making.



Design-Life Assessment: Evidence Before Replacement

Modernization should never begin with a quotation – it should begin with an engineering assessment.

A structured Design-Life Assessment (DLA) objectively evaluates structural integrity, safety devices, controller obsolescence and actual usage against the original design duty cycle. Its objective is not unnecessary replacement; it is identifying the minimum technically responsible intervention required to preserve safety throughout the equipment's life cycle.

When inspection records support these decisions, modernization becomes an evidence-based engineering process instead of a commercial debate.

Competency Development: Building Industry-Ready Professionals

Another significant challenge facing the sector is the availability of industry-ready technical manpower.

India produces thousands of ITI, diploma and engineering graduates every year. However, lift and escalator servicing is a highly specialized mobile electromechanical profession requiring continuous travel, emergency response, troubleshooting under pressure, customer communication, behavioral discipline and uncompromising adherence to safety protocols.

Recognizing this gap, the National Lift & Escalator Testing Agency (NLETA) has been working within the Skill India Mission framework to bridge education and field engineering through competency-based professional development. The training ecosystem integrates:

- ◆ Fundamentals of lift and escalator engineering
- ◆ Controller logic and simulation
- ◆ Technical inspection methodology
- ◆ Safety standards and documentation
- ◆ Root cause and failure analysis
- ◆ Soft skills and behavioral development
- ◆ Professional ethics and customer communication
- ◆ Emergency response protocols
- ◆ Structured on-the-job training

The objective is not merely to certify candidates – it is to develop responsible professionals who are mentally, technically and ethically prepared before entering the workforce. Stronger professionals ultimately create safer infrastructure.

User Awareness: The Most Undervalued Safety System

Technology alone cannot eliminate accidents. Human behavior frequently determines outcomes.

Field investigations repeatedly show that preventable incidents involve unsafe practices such as overloading,

obstructing lift doors, ignoring recurring abnormalities or attempting unauthorized rescue during emergencies. Children and elderly passengers are particularly vulnerable when safety awareness is absent.

Every service visit should therefore become a Safety Awareness Visit.

A technician who spends a few minutes explaining emergency procedures, reporting protocols and responsible passenger behavior contributes more than maintenance alone. Engineering protects systems; awareness protects people.

Record Management: The Engineering Memory of Every Asset

Engineering decisions should never depend upon memory – they should depend upon documented evidence.

Many installations continue operating without complete inspection histories, component replacement records, modernization recommendations or documented closure of previous non-compliances. Whenever service personnel change, valuable engineering knowledge is often lost.

A robust record management framework should preserve:

- ◆ Periodic technical inspection reports
- ◆ Safety observations and risk classification
- ◆ Corrective and preventive actions
- ◆ Component life cycle history
- ◆ Modernization recommendations
- ◆ Compliance closure documentation

Good documentation is not paperwork – it is the technical memory of every asset throughout its operational life.

Engineering Governance: A Shared Responsibility

A landmark judgment of the Supreme Court of India in *Otis Elevator Co. (India) Ltd. v. Rashmi Handa & Others* reinforces a principle that engineering professionals have long advocated: Public safety is a shared responsibility.

The Court emphasized that technical evidence, maintenance history and documented engineering records are fundamental in determining safety accountability, reinforcing the need for independent engineering governance. The judgment recognizes that manufacturers, service providers, building owners, inspection records and technical evidence all play interconnected roles when determining safety accountability. This judicial principle closely aligns with the engineering framework upon which NLETA has been working since its foundation.

Our philosophy has consistently remained centered on four operational pillars:

- ◆ Technical inspection for objective engineering evaluation
- ◆ User awareness for responsible public participation
- ◆ Record management for transparent decision-making

- ◆ Competency development for preparing industry-ready professionals

NLETA does not seek to replace OEMs, AMC organizations or regulatory authorities. Its role is to strengthen the engineering dialogue between industry, professionals and society through globally aligned inspection methodologies, competency standards and documented engineering governance.

Vision 2047: Engineering Our Contribution to Viksit Bharat

As India advances toward Viksit Bharat 2047, the quality of public infrastructure will be measured not only by its scale, but by its safety and reliability. Smart cities, metro networks, railway infrastructure and high-rise developments require an equally strong engineering ecosystem behind them. Our contribution as professionals is not simply to install or maintain equipment – it is to develop competent manpower, promote independent technical thinking and create transparent engineering records that ultimately protect human life.

For NLETA, Viksit Bharat 2047 is not merely a national vision – it is an engineering responsibility. Our contribution is to strengthen India's lift, escalator and moving walk ecosystem through globally aligned technical inspection, competency development, user awareness and transparent record management.

A developed nation is built upon developed engineering practices.

Conclusion

India already possesses world-class manufacturing capability and exceptional engineering talent. The next milestone for the lift, escalator and moving walk industry is greater public confidence.

That confidence will be achieved when maintenance is strengthened by technical inspection, users understand their role in safety, engineering truth is preserved through record management and competent professionals enter the industry fully prepared for their responsibilities.

Every safe passenger journey begins long before someone presses the call button. It begins with an informed engineering decision.

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About NLETA

NLETA is a competency-driven engineering organization working under the Skill India Mission to strengthen safety, technical inspection, engineering documentation and professional excellence within India's lift, escalator and moving walk industry. NLETA was founded on a unique engineering philosophy: "Think Like the Machine." A lift, escalator or moving walk has no interest in commercial disputes, financial decisions or human conflicts – it performs exactly as it is designed, installed, maintained, inspected and used. Therefore, the safest outcome is achieved when engineering decisions remain objective, documented and ethically responsible. As you design it, install it, maintain it, inspect it and use it – so it performs.

Through technical inspection, design-life assessment, user awareness, record management and competency development, NLETA works to bridge the industry's gray areas by preparing industry-ready professionals and promoting globally aligned engineering governance. Its vision is to contribute meaningfully toward Viksit Bharat 2047 by building safer infrastructure, stronger technical manpower, and greater public confidence in vertical-transportation (VT) systems. NLETA believes that competency is the practical bridge between engineering standards and public safety, transforming shared responsibility into measurable professional capability.



A.H. Bakshi is the founder of NLETA and a VT professional with more than 20 years of experience across OEM operations, field service, technical inspection, modernization and engineering governance. He has served as a core team member for the design document creation, related engineering calculations, technical submission and approval of lift and escalator systems, and as an independent technical inspector for prototype

testing associated with Indian Railways and Delhi Metro projects. During prototype inspections and exposure to international engineering practices, he closely studied how globally mature safety ecosystems create safer communities through independent inspection, competency and documented engineering governance. His professional philosophy is simple: "Every user is my family member." Having received invaluable knowledge and experience from the lift, escalator and moving walk industry, he considers it his social responsibility to bridge its gray areas through technical inspection, user awareness, record management and competency development, helping build a safer, more transparent and globally aligned VT ecosystem for India.

Safety, Regulation and Accountability: Why the Vacuum Lift Issue Matters to India's VT Industry

A perspective on the regulatory challenge before the Kerala High Court

by Narayan Menon

Introduction

The vertical-transportation (VT) industry in India has evolved rapidly over the last several decades. Elevators and escalators have become an essential part of modern residential, commercial and public infrastructure. With this growth, however, comes an equally important responsibility: ensuring that every VT system installed and operated in a building meets the applicable safety, technical and regulatory requirements.

It is against this larger background that the Kerala Elevator Manufacturers Association (KEMA) has approached the High Court of Kerala concerning the installation and operation of vacuum lifts in the State. The proceedings are not intended to oppose technological innovation or legitimate competition within the elevator industry. Rather, they raise a fundamental question of public safety and regulatory compliance: Can a VT system be manufactured, installed and operated when the applicable statutory and technical requirements and regulatory permissions have not been established?

The issue has assumed particular importance because vacuum lifts are being offered and promoted to customers in Kerala, while the regulatory position governing their manufacture, installation and operation remains a matter requiring clear determination by the competent authorities.

KEMA and the Background to the Litigation

KEMA consists of approximately 25 member companies engaged in the manufacture, installation and maintenance of VT systems in Kerala. The Association was formed in 2011 with the objective of promoting cooperation among industry participants, encouraging professional standards and contributing to the orderly development of the elevator industry as a whole.

In the course of its activities, KEMA became aware that certain private entities were undertaking elevator-related activities without the registrations, approvals or licenses contemplated under the applicable regulatory framework. This raised concerns not merely from the perspective of competition among manufacturers, but more importantly from the perspective of the safety of members of the public who purchase and use such installations.

The regulatory framework in Kerala places a significant responsibility on the Electrical Inspectorate. Under the Kerala Lifts and Escalators Act, 2013, the Electrical Inspector has statutory responsibilities in relation to permission for erection and licensing for operation of lifts and escalators. The Act

expressly provides that no owner shall work or allow the working of a lift or escalator except under and in accordance with a license. The Kerala Lifts and Escalators Rules also contemplate an authorized manufacturer and require compliance with prescribed standards. The regulatory framework therefore proceeds on the principle that the manufacture, erection and operation of lifts cannot be treated as an entirely unregulated commercial activity.

The Vacuum Lift Question

The principal concern raised by KEMA relates to vacuum lifts. According to the Association's understanding, there is presently no specific Indian Standard prescribed by the Bureau of Indian Standards (BIS) covering vacuum lifts as a recognized category of lift for installation and operation in India.

This creates an important regulatory question. The absence of a specific BIS standard cannot simply be treated as an administrative technicality when the equipment concerned is intended to transport human beings. The applicable statutory authorities must necessarily consider whether the equipment satisfies the technical, electrical and safety requirements necessary for lawful installation and operation.

KEMA's concern is therefore not directed against the concept of vacuum technology itself. Innovation should be encouraged. However, innovation in a safety-sensitive industry must proceed within an appropriate regulatory framework. A customer purchasing a lift for a residence, commercial establishment or other premises should be able to ascertain whether the equipment has been lawfully manufactured, installed, inspected and licensed.

The Earlier Proceedings Before the High Court

The present proceedings are not an isolated development. KEMA had previously approached the High Court of Kerala in W.P.(C) No. 36128 of 2023, raising concerns regarding the regulatory status and installation of vacuum lifts. In those proceedings, the High Court directed the competent Electrical Inspectorate authorities to take appropriate action in accordance with law. When KEMA found that the regulatory concerns continued, a contempt proceeding, Contempt Petition No. 818 of 2024, was instituted.

During the contempt proceedings, the Electrical Inspectorate placed before the High Court the action taken by it. The Inspectorate informed the Court that directions had been issued for disconnection of electrical supply to vacuum lifts and that a communication had also been issued to Nibhav Lifts Pvt. Ltd. requiring appropriate permission from BIS. The

Inspectorate further informed the Court that awareness measures had been undertaken through social media regarding the importance of using legally permitted lifts and cautioning the public regarding home lifts.

On the basis of the submissions and action reported by the Electrical Inspectorate, the contempt proceedings were closed. However, KEMA's subsequent experience was that the underlying issue did not disappear. According to the Association, installations and promotional activities concerning vacuum lifts continued, despite the regulatory concerns that had previously been brought before the High Court. It was in these circumstances that KEMA once again approached the High Court by filing W.P.(C) No. 18602 of 2026.

Why Regulatory Authorities and Other Parties Were Brought Before the Court

The inclusion of multiple respondents in a writ proceeding must be understood in the context of the relief sought. The petition raises questions involving statutory regulation, enforcement, electrical safety, licensing and the activities of private entities engaged in the manufacture or installation of the equipment. The Government and the concerned statutory authorities have therefore been brought before the Court because the issue cannot be effectively resolved without examining the responsibilities of the authorities entrusted with regulating lifts and electrical safety.

Where private entities are specifically connected with the manufacture, marketing or installation of the equipment forming the subject matter of the proceedings, their presence may also become necessary to ensure that any order passed by the Court is effective and that the affected parties are given an opportunity to place their position before the Court. The objective is consequently not to stigmatize any individual manufacturer or service provider. The larger issue is whether the same regulatory standards must apply uniformly to every participant in the industry.

The Significance of the Present Interim Order

The present proceedings have acquired significance because the High Court has taken note of the earlier proceedings and directed the competent authority to place its position before the Court by way of an affidavit.

The direction to the Chief Electrical Inspectorate to explain what action has been taken pursuant to the stand earlier placed before the Court is important. It enables the Court to examine whether the regulatory measures earlier represented to the Court have actually been implemented and whether the present situation is consistent with those earlier representations. The interim order should not, however, be misunderstood as a final adjudication on the legality or illegality of any particular vacuum lift manufacturer or installation. The Court is presently examining the regulatory and factual position. The ultimate determination will have to be made after considering the pleadings, documents and submissions of all concerned parties.

Nevertheless, the proceedings send an important message: Where public safety and statutory licensing are involved, regulatory authorities must have a clear and consistent position, and that position must be effectively implemented.

What Happens Next?

The immediate next stage is for the concerned respondent authority to file the affidavit directed by the High Court. The affidavit is expected to place before the Court the factual and regulatory position, including the steps taken pursuant to the earlier proceedings and the present status of the issue.

KEMA, as petitioner, will thereafter have the opportunity to examine the contents of the affidavit and place its response before the Court, if necessary. Depending upon the contents of the affidavit and the submissions of the parties, the Court may issue further directions, require additional documents or hear the matter on the substantive issues raised in the writ petition. The respondents, including any affected private parties, are also entitled to place their factual and legal position before the Court in accordance with the applicable procedural law and the directions issued in the proceedings.

A Matter Larger Than a Dispute Between Manufacturers

KEMA believes that this litigation should not be viewed merely as a dispute between competing manufacturers. A lift is a safety-critical system. Unlike an ordinary consumer product, a lift carries human beings vertically within a building and operates through mechanical, electrical and control systems. The consequences of defective design, improper installation, inadequate maintenance or absence of statutory inspection can be serious.

The Kerala Lifts and Escalators Act itself recognizes the importance of licensing and inspection. The statutory framework provides for permission for erection, completion reporting, licensing for operation and inspection by the competent authority.

The same principle should apply regardless of whether the technology is conventional, machine-room-less, hydraulic, home-lift based or vacuum based. The customer should never be placed in a position where he or she has to determine independently whether a lift is legally permissible or technically compliant. That responsibility must be supported by a transparent regulatory system.

The Need for Clarity for Customers

One of the most important consequences of the present issue concerns consumers. A customer may purchase a vacuum lift believing that the availability of a commercial product necessarily means that it is approved for installation and operation. That assumption may not always be correct. The distinction between commercial availability, technical compliance and statutory permission must therefore be clearly communicated.

KEMA's position is that manufacturers and installers should be able to demonstrate the applicable approvals, registrations,

standards and licenses before offering such systems to the public. Customers should also be encouraged to verify whether the proposed installation can lawfully be erected and operated and whether the necessary inspection and licensing requirements have been satisfied. This is ultimately a question of informed consumer choice and public safety.

Conclusion

The proceedings initiated by KEMA before the High Court represent a larger call for regulatory clarity and uniform enforcement in India's evolving VT sector. KEMA has no objection to technological advancement. On the contrary, the Association recognizes that innovation is essential for the future of the elevator industry. But innovation and safety must progress together. New technologies must be brought within a clearly defined technical and regulatory framework before they become widely deployed in environments where human lives are involved.

The present proceedings before the High Court therefore provide an opportunity to address an issue that extends beyond

Kerala. The central question is whether the regulatory system is sufficiently equipped to deal with emerging VT technologies and, where a technology does not yet fit within an established standard or licensing framework, what process should be followed before it is placed in service. For KEMA, the objective is simple: Every elevator, irrespective of its technology or manufacturer, should operate on the foundation of safety, technical standards, statutory compliance and accountability.

A clear regulatory determination will protect not only the established elevator industry but, more importantly, the customers and members of the public who ultimately depend upon these systems every day. 



Narayan Menon is president of KEMA and director – Advisory Board, EON Elevators Pvt. Ltd.



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Rethinking Elevators for an Energy-Starved Future

Why the next generation of VT may need architects and engineers to think differently.

by Amish Mistry

images Courtesy: magnific.com

The elevator is one of the quiet inventions that has fundamentally transformed the modern city. It has allowed buildings to grow taller, cities to become denser and millions of people to live and work vertically. Yet, because elevators have become such an integral part of buildings, we rarely stop to



question the basic assumptions behind their design.

We tend to think of an elevator primarily as a machine: a motor, a cabin, cables or belts, controls, doors and safety systems. Over the years, enormous progress has been made in improving these components. Motors have become more efficient, controls more intelligent, regenerative systems have reduced energy losses and destination-control systems have improved the movement of passengers.

But perhaps the next step in elevator innovation lies somewhere else. Perhaps we need to begin by asking a more fundamental question: What happens when an elevator moves through a building?

It does not move through an empty space. It moves through air.

Every journey involves moving a large cabin through a tall, enclosed vertical space. As the cabin moves, the air around it also has to move. At higher speeds, this interaction becomes increasingly significant. The shape of the cabin, its relationship with the shaft and the spaces around the moving components all influence how easily the elevator moves.

This suggests an intriguing possibility: Could elevators themselves be designed more aerodynamically? Not necessarily to turn them into aircraft-like objects, but to rethink their form, their relationship with the shaft and the way they move

through the building. This question becomes particularly important when we look toward the future.

The End of the Age of Abundant Energy

For much of the modern era, energy has been treated as something that can simply be supplied. When buildings became taller, we installed more powerful systems. When cities became denser, we built larger infrastructure. When buildings became more complex, we added more mechanical and electrical systems.

But the 21st century is beginning to challenge this assumption. Our cities are becoming increasingly dependent on electricity. Buildings require energy for cooling, lighting, communication, water pumping, mobility and an expanding range of digital infrastructure. At the same time, we are trying to move away from fossil fuels and toward cleaner energy systems.

The challenge, therefore, is not simply to produce more energy. It is also to need less of it.

The scale of everyday vertical movement provides an extraordinary context for this discussion. Today, elevators are among the most frequently used forms of transportation in the world, although we rarely think of them in those terms. Estimates cited in academic and industry literature suggest that more than seven billion elevator journeys take place around the world every day.

Seven billion is difficult to visualize. It means that every day, billions of individual journeys are made not across roads, railways or runways, but vertically within the buildings that make up our cities.

The energy associated with each journey is relatively small and varies considerably depending on the height of travel, passenger and car weight, elevator technology, speed, traffic patterns and whether the system is moving or waiting. For perspective, one measured high-rise commercial installation recorded approximately 504 trips per day and consumed about 52.5 kWh of electricity daily, or roughly 0.1 kWh per trip.

If that figure were used purely as an illustration – not as a universal average – seven billion journeys at 0.1 kWh each would represent approximately 700 million kWh, or 0.7 TWh, in a single day. Over a year, that simple extrapolation would amount to approximately 255 TWh.

The actual global figure will be different, potentially substantially so, because elevator installations and operating conditions vary enormously. The purpose of the calculation is



therefore not to claim a precise global energy consumption figure. It is to appreciate the scale of the opportunity.

When something is repeated billions of times every day, even a relatively small improvement in the energy required for each individual action can become significant at a global scale. This is precisely why the elevator deserves to become part of the larger conversation about energy and the future of cities.

Much progress has already been made. More efficient motors, regenerative drives, improved controls, better traffic management, lighter components and intelligent systems have all contributed to reducing elevator energy consumption. But perhaps there is another dimension that deserves greater attention.

What if we reconsidered the physical act of moving the elevator itself?

What if the form of the cabin, its relationship with the shaft and the movement of air around it could be designed to reduce the effort required for every journey?

This is where aerodynamic thinking becomes interesting. The question is no longer simply, “How can we make the elevator motor more efficient?” It becomes: “How can we make the entire journey require less energy?”

That is a fundamentally different design question. And it becomes increasingly relevant as buildings become taller, urban populations grow and vertical transportation (VT) becomes an even more important part of everyday life.

From the Machine to the Environment

Perhaps we have been looking at elevators too narrowly. We generally evaluate the elevator as a machine: How efficient is its motor? How much electricity does it consume? How quickly can it move? How many passengers can it carry?

But an elevator is also part of a larger environmental system. As it travels through the shaft, it displaces air and creates movement within the enclosed space around it. The geometry of the cabin and the shaft can therefore influence how much effort is required to move efficiently.

This is where the idea of aerodynamic design becomes interesting. We already understand this principle in many other forms of transportation. Cars, trains, aircraft and even bicycles

are shaped partly by their relationship with the air around them. Their designers understand that form influences movement.

Why should the elevator be fundamentally different?

An elevator cabin could potentially be considered not simply as an enclosed room, but as a moving object within a vertical environment. Its shape, edges, surfaces and relationship with the shaft could all be reconsidered. Even relatively modest improvements in how a cabin moves through air could become meaningful when multiplied across thousands of journeys every day and millions of journeys over the lifetime of a building.

The objective is not necessarily to make elevators faster. It may be to make them move more intelligently.

Rethinking Speed

This also raises an interesting question about our obsession with speed. For decades, faster elevators have been associated with technological advancement. In very tall buildings, high-speed elevators are essential to moving people efficiently over large vertical distances. But speed has consequences. As movement becomes faster, the interaction between the elevator and its surrounding environment becomes more significant. There is therefore a point at which simply increasing speed may not represent the most intelligent use of energy.

The future may require us to think in terms of optimal speed rather than maximum speed.

Different buildings may have different requirements. Different times of day may require different operating strategies. A building might prioritize speed during peak periods while operating more economically during quieter periods.

The important shift is conceptual: Efficiency should not always mean doing the same thing faster. Sometimes it means asking whether we need to do it that way at all.

A Conversation Between Architecture and Engineering

This is where academia has an extraordinary opportunity.

The elevator has traditionally occupied an interesting but somewhat fragmented position between architecture and engineering. Architects determine the building’s spatial organization, circulation, proportions, structure and relationship with people. Engineers develop machinery, controls, safety systems and technical infrastructure.

Yet the elevator sits precisely at the intersection of these disciplines. It is simultaneously a machine, a space, a circulation system, an environmental element and an architectural experience.

Why Not Make It a Shared Academic Laboratory?

Architecture schools could investigate spatial organization, human experience, building form, circulation and the



relationship between elevator systems and the architecture of tall buildings.

Mechanical and electrical engineering departments could investigate movement, energy consumption, materials, controls, airflow and system optimization.

Structural engineering could explore the relationship between shafts, structures and moving systems.

Environmental engineering could examine the elevator's relationship with the building's energy systems.

Computer science could contribute simulation, sensing, AI and predictive control, while industrial design could rethink the cabin itself.

The opportunity lies in bringing these disciplines together around a common question: What should the elevator of the next 50 years look like?

The Elevator as an Academic Research Project

Imagine an architecture student working alongside a mechanical engineering student to design an experimental elevator cabin. The architect may begin by asking how the cabin should feel, how it should occupy the shaft, how its form might contribute to the building and whether it can become lighter, more adaptable or more spatially efficient.

The engineer may approach the same problem through movement, energy, airflow and optimization. A sustainability researcher may examine its lifetime environmental footprint, while a computer scientist may consider whether the system can learn from passenger behavior. A materials researcher may investigate whether the cabin can be lighter while reducing its embodied impact.

Suddenly, the elevator stops being a proprietary product developed almost entirely within one industry. It becomes a multidisciplinary design problem.

Universities are perhaps the ideal places for such experimentation because they are not constrained by the immediate commercial requirements of the marketplace. They can ask questions that industry may not yet have a business case to ask. More importantly, universities can bring disciplines together before professional boundaries become barriers. An

architecture studio and an engineering laboratory need not operate as separate worlds. They can become two sides of the same experiment.

From Laboratory to Living Building

There is also an opportunity to connect academic research directly with real buildings. Universities could establish experimental elevator laboratories or vertical-mobility research centers where different cabin forms, shaft configurations, materials, control strategies and operating patterns could be studied.

Existing buildings could become living laboratories. Sensors could measure energy consumption, passenger movement, operating patterns, pressure, vibration, noise and maintenance requirements. Students could analyze the data and propose improvements.

Over time, this could create something extremely valuable: an evidence base for the next generation of elevator design. Instead of asking only what is technically possible, we could begin asking what is environmentally, economically and socially appropriate.

Industry, too, could benefit from such collaboration. Elevator manufacturers could provide technologies, components and real-world problems. Universities could provide experimentation, independent research and fresh perspectives. Building owners could provide operational environments. Students could become participants in genuine innovation rather than simply studying established solutions.

Such partnerships could create a new generation of professionals who understand that VT is not merely an engineering service or an architectural requirement, but a shared design challenge.

Designing for Less

There is a larger lesson here.

For much of the 20th century, technological progress was often expressed through addition: more power, more speed, more capacity, more automation and more infrastructure. The challenges of the future may require another kind of innovation: innovation through reduction.

Less energy. Less material. Less friction. Less unnecessary movement. Less waste.

The aerodynamic elevator is therefore not merely a technical proposition. It represents a different way of thinking about design. Rather than adding more technology to compensate for inefficiency, we begin by asking whether the fundamental form of the system can be improved. It is a philosophy that extends well beyond elevators.

The question is always the same: Can we design the problem out, rather than engineer our way around it?

The Elevator as a Design Opportunity

Perhaps the elevator deserves to be reconsidered as an important component of sustainable architecture.

It is one of the most frequently used pieces of infrastructure in a high-rise building. It operates for decades. It influences the planning of the building, the movement of people, the energy demand and even the experience of arriving at one's destination. Its future therefore cannot belong exclusively to the elevator industry. It belongs equally to architects, engineers, researchers, educators, manufacturers, building owners and the people who use elevators every day.

The most interesting innovation may emerge precisely at the boundaries between these disciplines.

The elevator of the future may be lighter, quieter, smarter and more energy efficient. But perhaps it will also be shaped differently – not because aesthetics demands it, but because the physics of movement demands it. And perhaps the most important change will happen before the elevator is ever manufactured.

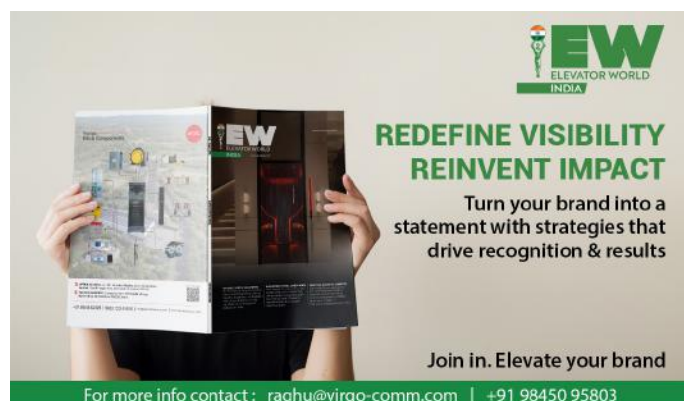
It will happen in the classroom, in an architecture studio, in an engineering laboratory and in a joint research project between disciplines that have traditionally worked separately. Because the energy-starved future will require us to rethink many of the assumptions that shaped the buildings of the energy-abundant past.

The elevator is one such assumption. We have spent more than a century learning how to make elevators move faster. Perhaps the next century should teach us how to make them move better – with less.

That may be the real opportunity before us: not simply to build a more efficient elevator, but to rethink the very relationship between the elevator, the building, the air around it and the energy that makes its movement possible. 



Amish Mistry, is a Mumbai-based architect with more than 30 years of experience and a keen interest in integrating and promoting sustainable technology. He is a mentor and instructor at India's architectural institutes, focusing on the topic of digital design.



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Global Tardif's Next Phase of Growth

The Canadian company partners with three operator-investors and Norea Capital.

submitted by Norea Capital



(l-r) Karl Lepage, Nicolas Giguère, CEO Carl-David Belley, François Tardif and Luc Ménard, president and managing partner of Norea Capital

Global Tardif (GT), a leading independent elevator manufacturer in Canada, in April announced it entered its next growth phase through a partnership with three operator-investors and private-equity firm Norea Capital. Thanks to these alliances, GT is confident it will increase its market share across Canada and internationally. The partnership brings three experienced operators to the GT team: Carl-David Belley, who has been appointed CEO; Nicolas Giguère, who will act as strategic advisor; and Karl Lepage, a key member of the current management team.

Founded in 1984 by Jean-Guy Tardif and taken over by his son, François, in 1995, GT has established itself as one of the largest independent elevator manufacturers in Canada. Operating from a manufacturing facility located in the Quebec City area in Saint-Augustin-de-Desmaures, the company specializes in the production of both standard and custom-designed elevators. GT designs and manufactures standard and tailor-made solutions for independent installers and major OEMs.

A Canada-Headquartered Powerhouse

With several hundred elevators manufactured and delivered each year, GT is the largest independent elevator manufacturer in Quebec and one of the largest in Canada. The company employs 80 people and operates a 200,000-ft² manufacturing facility. GT specializes in a wide range of standard and custom elevator systems, including machine-room-less (MRL) traction elevators used in buildings ranging from two to more than 20, high-speed traction elevators for high-rise buildings, a full

range of hydraulic elevators and freight elevators and vertical-transportation systems for persons with reduced mobility. GT also develops custom MRL solutions for the modernization and replacement of OEM equipment.

GT's projects include the Irving Oil headquarters in Saint John, New Brunswick, Canada. In the U.S., GT has delivered major projects including the New York Times Building in NYC; Target Field in Minneapolis; the Salt Lake City Library in Salt Lake City and the Mandalay Bay Resort & Casino in Las Vegas. In the Middle East, it provided elevators for the King Abdul Center for Culture in Dhahran, Saudi Arabia.

GT Will Remain Independent

As it moves forward, GT will remain independent. François Tardif, selling owner, said:

"The transition we announced (on April 2) not only secures GT's future, but also firmly positions it for continued growth. For more than 41 years, we have supported hundreds of companies in their growth and success. I am pleased that our family-owned business will remain an independent manufacturer going forward, and I sincerely thank our employees, whose commitment has been instrumental to GT's success over the years."

François Tardif recognized the contributions of key GP collaborators including Karl Lepage, Rémy Gauvin, François Martin, Josée Bécharde and Alain Bouchard, "whose commitment has been instrumental to the development and success of the company." François Tardif said he is optimistic about the arrival of Giguère, former co-president and founder of Qualtech, and Belley, who brings nearly 20 years of experience at Julien, where he notably helped build an organization recognized for its operational excellence. "These additions are a natural complement to the existing management team and employees, and provide a strong foundation for Global Tardif's next growth phase," François Tardif said. "I look forward to continuing my collaboration with the new leadership and thank Norea Capital for its confidence in Global Tardif and its growth potential."

New CEO Belley expressed confidence in the transition and in the continuity of operations, which will continue to rely on the recognized expertise of the existing team and the strength of GT know-how developed over the years. Belley said:

"From the very beginning of my discussions with the team, I have been truly impressed by the passion, expertise and commitment of the people who are the driving force behind GT. This team has built a strong reputation in the elevator industry through its technical expertise and the quality of its work. My



The 52-story New York Times Building in NYC

objective is to build on these solid foundations, ensure continuity of this expertise and implement the initiatives required to at least double our business volume over the next five years. We believe that market conditions in Canada and

projects nationwide and internationally. He pointed out that, in addition to those mentioned previously, elevator projects in which GT has been involved include:

- ◆ Montreal's Olympic Stadium
- ◆ The Parliament Building in Ottawa
- ◆ The Broadway Subway Project in Vancouver
- ◆ AT&T Stadium in Dallas
- ◆ The Burj Khalifa in Dubai, the tallest skyscraper in the world

"We are proud to partner with GT as it enters its next growth phase," Ménard said. 🌐



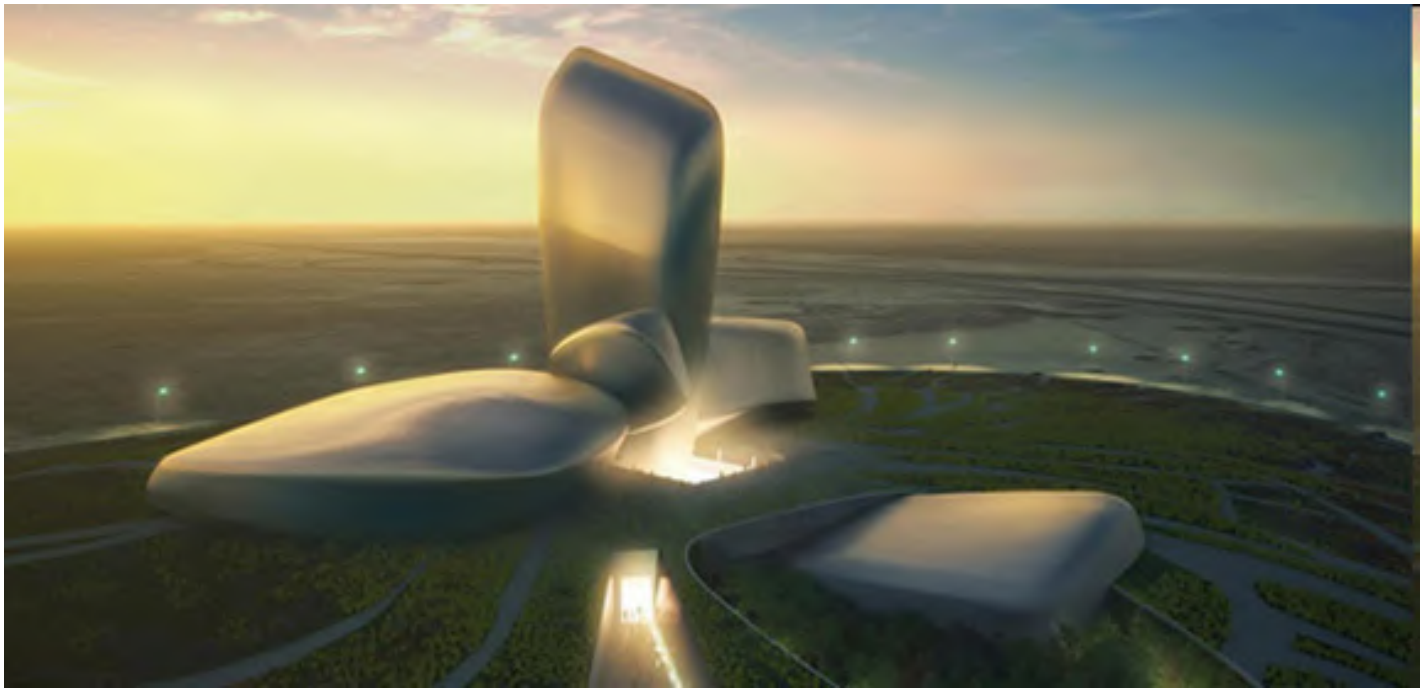
About Norea Capital

With CAD\$560 million (US\$402.25 million) in assets under management, Norea is an independent private-equity manager focused on Canadian mid-market companies. Norea acts as a strategic partner to support private businesses in their growth plans, mergers and acquisitions, ownership transfers, and the implementation of value-added governance structures. Norea is distinguished by its partnerships with major family businesses established in Montreal and active both in Canada and internationally, leveraging their expertise for the benefit of local entrepreneurs.

internationally are particularly favorable for achieving this goal."

Playing in the Big Leagues

Norea Capital President and Managing Partner Luc Ménard said GT is "already competing at the highest level" and has significant growth potential. Due to the quality and reliability of its products, the company has successfully delivered complex



The King Abdul Aziz Center for Culture in Dhahran, Saudi Arabia, served by 17 elevators

Safety Components

The silent guardians of every elevator journey

by Montanari Lifts Components Technical Department

In today's vertical-transportation (VT) industry, safety is more than a regulatory requirement: It is the foundation of every reliable and market-approved elevator system. While traction machines power elevator movement, it is the safety components and accessories working behind the scenes that ensure every journey is secure, smooth and dependable.

From residential buildings to commercial complexes and high-rise developments, modern elevators rely on precision engineered safety systems that continuously monitor operating conditions, respond instantly to anomalies and ensure essential protection to both passengers and equipment.

A reliable components' system contributes far beyond emergency protection. It helps to comply with international regulations while enhancing passenger comfort and reducing installation and maintenance costs.

Safety System in Modern Elevators – How It Works

Modern VT calls for efficient lifting solutions able to ensure efficient service continuity and maximum safety. Though often overlooked, the shaft accessories play crucial and interrelated functions:

- ◆ Speed governors continuously monitor elevator speed and immediately detect overspeed conditions. When the operating speed exceeds the preset limit, the governor activates the safety gears, allowing the elevator to stop in a controlled and smooth manner. Montanari speed governors (RQ, RQ-A and NOR) are engineered for precision and reliability, providing dependable performance across a wide range of elevator applications while ensuring full compliance with international safety standards.
- ◆ Safety gears engage the guide rails during emergency situations, bringing the elevator car to a controlled stop. All gears by Montanari (KB40, PL50 and PPR25BD/PPR40BD for Cantilevered applications) provide smooth intervention, excellent durability and long-term operational stability, ensuring passenger protection when it matters most.
- ◆ Tension devices are engaged to maintain the correct governor rope tension throughout the elevator's operating cycle, enabling accurate governor operation and consistent safety-gear activation. Montanari developed both vertical and horizontal solutions (TEV200, TEV200BD, TEV300, TEV300BD and TAB163.1) to ensure system stability while reducing wear and maintenance requirements.



- ◆ Diverting pulleys are needed in most shaft configurations to allow motor, cabin and system connection, guiding suspension ropes and ensuring precision to reduce friction and promote smooth rope travel.
- ◆ Rope attachments provide secure and reliable connection between the suspension ropes and the elevator system, ensuring system integrity and longevity.

Key Requirements for Elevator Safety Components

As global industry leader, Montanari has been investing to anticipate market needs and support Indian and international clients with a complete range of traction machines and safety components that easily integrate with existing and new elevator systems.

Our comprehensive range of speed governors, safety gears, tension devices, diverting pulleys and rope attachments deliver dependable performance, long service life and operational reliability. Each product is developed to ensure:

- ◆ Precision engineering and robust construction for dependable performance, even under demanding operating conditions
- ◆ Smooth integration with modern elevator systems
- ◆ Long service life and reduced maintenance given rigorous testing and quality standards

By combining advanced engineering with proven manufacturing expertise, Montanari delivers safer, more reliable rides to every passenger, building and elevator professional.

As true elevator performance is not measured by movement, yet the confidence that every ride is protected by engineering you can trust. 

EECMAI Marks Leadership Transition, Announces New Management Committee for 2026-2029

New leadership team elected unopposed; Ashok Subhedar to serve as president.

submitted by EECMAI

The Elevator & Escalator Component Manufacturers' Association of India (EECMAI) witnessed a significant leadership transition at its Members' General Meeting held on Wednesday, September 9, at The Den Hall, Hablis Hotel, Chennai.

The meeting marked the conclusion of the tenure of three key office bearers who have made significant contributions to the development and strengthening of the association.

Abey George, Tecno Doors Pvt. Ltd., who served as founding treasurer and interim president; Hiren Panchal, Apson Motor (India) Pvt. Ltd., founding vice president; and Jainam Delivala, Rolliflex Cables Pvt. Ltd., secretary, stepped down from their respective positions.

EECMAI placed on record its sincere appreciation for their valuable contributions, leadership and commitment toward building the association and creating a stronger platform for representation and collaboration within the elevator and escalator component industry.

New Management Committee for 2026-2029

Following the leadership transition, EECMAI announced its new Management Committee for the 2026-2029 term. All five office bearers were elected unopposed, reflecting the collective confidence and consensus of the Association's members.

The new leadership team comprises:

- ◆ President: Ashok Vijay Subhedar, DSA Electro Controls Pvt. Ltd.
- ◆ Vice President: B. S. Kumaraswamy, Monteferro India Guiderails and Elevator Parts Pvt. Ltd.
- ◆ Treasurer: Harish Ashok Nakman, Harshal Control Systems Pvt. Ltd.
- ◆ Secretary: Vishal Anant Kulkarni, Portal Engineering Ltd.
- ◆ Joint Secretary: Aakarsh Khandhar, Delta Electronics (India)

The newly elected office bearers will formally take charge effective September 20. The remaining nominated positions of the Management Committee will be announced shortly.

A New Phase for EECMAI

The new Management Committee takes charge at an important time for India's elevator and escalator industry, which is witnessing growing emphasis on safety, standardization, regulatory compliance, technological advancement, domestic manufacturing and global competitiveness.

The new Management Committee takes charge at an important time for India's elevator and escalator industry, which is witnessing growing emphasis on safety, standardization, regulatory compliance, technological advancement, domestic manufacturing and global competitiveness.

The new leadership is expected to build on the foundation established by EECMAI's founding members while further strengthening the association's role as a collective voice for elevator and escalator component manufacturers.

Key areas of focus will continue to include industry representation, technical and regulatory engagement, standards and compliance, knowledge sharing, member participation and greater collaboration across the industry ecosystem.

With the new Management Committee assuming office for the 2026-2029 term, EECMAI enters its next phase with a renewed focus on industry collaboration, stronger representation and creating greater opportunities for the growth and competitiveness of India's elevator and escalator component manufacturing sector. 

About EECMAI

EECMAI, established on September 10, 2020, with 14 founding and co-founding members, has grown into a strong collective voice for India's elevator and escalator component industry. Over the past six years, EECMAI has focused on advancing safety, quality, standardization, innovation and indigenous manufacturing, while fostering collaboration among industry stakeholders, government bodies and international organizations. Through active engagement in Bureau of Indian Standards standards, promotion of IS 17900 and global benchmarks, technical initiatives, knowledge-sharing platforms and industry-focused programs, EECMAI continues to strengthen the sector and support the vision of a globally competitive, safe and sustainable Indian vertical-transportation industry.

Schindler X8

Roadshow Reaches High Point

On the Männlichen above Grindelwald, Switzerland, Schindler demonstrated the X8: a passenger elevator rethinking installation in existing buildings.

by Sascha Göbel, EW Correspondent



In Grindelwald, Switzerland, the Schindler X8 Roadshow reached its high point.

Schindler staged the X8 product launch on June 22-26.



A modular house, two floors, two fully operational elevators, set against the alpine backdrop of the Männlichen: This is how Schindler staged the X8 – the Swiss group's latest product innovation – on June 22-26. Initially, it will be aimed at the Swiss and Italian markets. No elevator pit, no overhead, no load-bearing concrete shaft, a drywall elevator front, door-integrated controls, 230-V single-phase power and elevator configuration in less than 5 min. In short: Schindler is bringing fundamental innovation to the elevator sector.

The ambition is clear: Elevator installation should become more predictable, faster and less dependent on the shell

construction phase. The Schindler X8 reduces the requirements placed on the building and the construction process to such an extent that an elevator can be ordered late, delivered quickly and installed with minimal labor. Especially in existing buildings, this is more than a convenience – it can determine feasibility and economic viability.

The Schindler X8 is therefore more than a simplification of conventional elevator installation. It marks a technological leap: with a dynamic car brake, an autonomous door with an integrated operating fixture, a reimagined approach to functional safety and a multilayered operating system as the elevator's digital architecture.

In Grindelwald, Switzerland, the Schindler X8 Roadshow reached its high point. The same installation had previously been shown at Design Week and at Global Elevator Exhibition in Milan, as well as at Swissbau in Basel. The system also seeks proximity to the premium segment in terms of design: Its design lines have received the Red Dot Award and the iF Design Award.

On the mountain, technical details became tangible that had rarely been at the center of the communication so far. A 230-V AC supply is sufficient; at the connection point, it is converted to 48-V DC. Forty-eight volts fall within the range of safety extra-low voltage, creating a safety advantage for the shaft electrics. The drive operates as a hybrid system. For power peaks, a buffer storage unit supplements the grid supply. It lowers connection costs and keeps the car moving to the next landing in the event of a power failure.

The mechanics also follow the principle of reduction. The car and two counterweights run on only two rails; the rail cross-section is shared where conventional systems require four rails. Two compact, electronically synchronized drives replace one large drive. As a result, the overhead remains low – and the



The system seeks proximity to the premium segment in terms of design.

Continued



A modular house, two floors, two fully operational elevators, set against the alpine backdrop of the Männlichen



The “Uniarrow” control replaces conventional push buttons.



The car and two counterweights run on two rails.

Continued

elevator moves closer to the building instead of imposing its own massive structure on it.

This break with convention is most evident in the dynamic car brake. It combines holding and safety functions directly on the car, moving away from traditional concepts in which central braking and safety-gear functions are more closely tied to the drive and shaft architecture. This was made possible because Schindler rethought key elevator components – resulting in numerous patent applications.



(l-r): Schindler management hosts Paolo Ferrario, Guido Stillhard and Florian Meier

Shaftless – Almost

Schindler's claim of "no pit, no overhead" sounds like the laws of physics have been suspended. The data sheet specifies a 150-mm pit and a 2,400-mm overhead: minimal, but still present. Planners will therefore continue to account for both – just on a much smaller scale.

The real novelty lies elsewhere: The concrete or steel shaft supplied by the building is no longer required. Schindler provides a load-bearing drywall front with integrated doors; loads are transferred through the rail structure into the building, not into the drywall walls. This reverses the construction sequence: Walls and floors can be completed before installation begins; a wall opening is sufficient. For retrofits in existing buildings, this is the decisive lever.

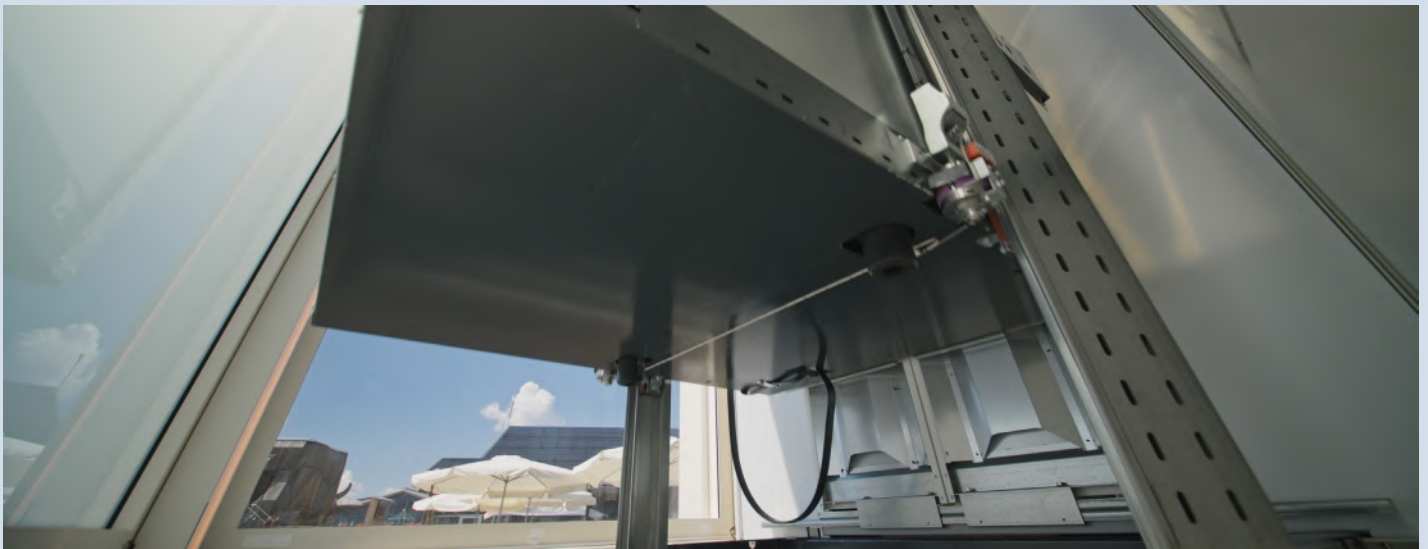
The self-supporting monorail system with individual brackets and front fixation further reduces building-side requirements, because central loads are carried through the elevator structure and less conventional shaft structure is required.

The door architecture follows the same logic. The autonomous door with an integrated operating fixture reduces interfaces between the building, the door front and the elevator system. It no longer appears as a separate component that requires extensive coordination, but as a pre-integrated part of the Schindler X8 front.

Short delivery times require a high degree of industrialization. Six design lines, recognized with the Red Dot and iF Design Awards, can be configured and ordered in a short period of time. The user experience includes the "Uniarrow" control, which replaces conventional push buttons. Visually, the result is a smooth, calm surface instead of visible operating logic.

Regulatorily, the Schindler X8 is deliberately positioned in the upper segment. It is placed on the market under the Elevator Directive 2014/33/EU and is harmonized with EN 81-20/-50 – unlike many home elevators, which fall under the Machinery Directive. This enables a travel speed of 1.0 m/s, while platform lifts often remain in the range of 0.15 to 0.5 m/s. Maintenance is digital: with around-the-clock remote

Continued



Schindler X8 provides a load-bearing drywall front with integrated doors.

Technical Specifications

Rated load	480 kg (6 persons)/630 kg (8 persons)
Speed	1.0 m/s
Max. travel height	30 m
Landings	Up to 10
Floor-to-floor height	2,500–4,000 mm
Power supply	230 V, single-phase (Plug & Play)
Pit/overhead	150 mm/2,400 mm
Doors	Center-opening, 800/900 mm
Directive/standards	Elevator Directive 2014/33/EU · EN 81-20/-50
Design lines	Luna, Mineral, Savanna, Terra, Forest, Volcano



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monitoring, predictive maintenance and over-the-air updates.

The foundation for this is a new, multilayered operating system. It is the digital backbone of the Schindler X8 and connects control, sensors, safety logic and service access into an integrated system architecture. This structure is complemented by a wireless backbone that aggregates condition data from various sources and expands the system's diagnostic capabilities.

Functional safety is therefore not merely a regulatory obligation, but part of the product architecture. Safety functions, software, sensors and connectivity were designed from the outset as an interconnected system.

Laser-based car positioning also fits into this logic. It provides precise digital position information and supports the new system architecture.

On the Mountain

On the Männlichen, visitors could also see the logistics behind this promise. The product owner summarized it as “1+1+1”: one week of production, one week of delivery, one week of installation.

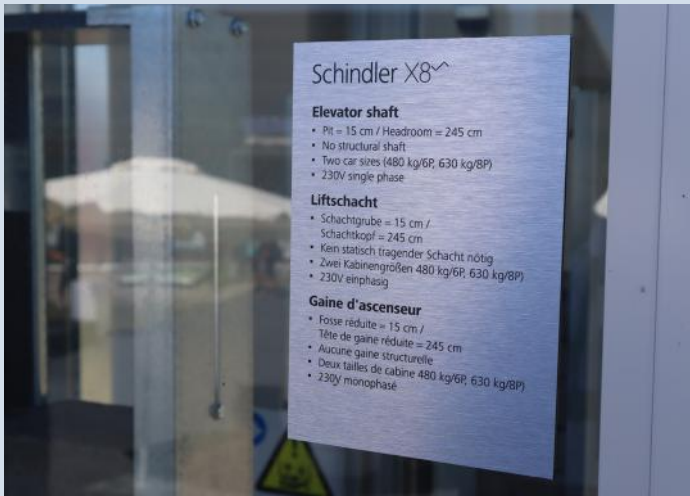
The Schindler X8 achieves simplicity not by making physics disappear, but by reducing interfaces: less shaft, less shell construction, less dependence on construction progress. Pit and overhead are reduced to a minimum; the conventional shaft is eliminated — and with it one of the

slowest and most expensive parts of many elevator projects. Whether this creates a new market segment will not be decided by the installation on the mountain, but by the market's response. The technology is there. 🌐

Sascha Göbel is a freelance engineer and technical journalist at Sasusei Engineering. He covers lift technology, standards and markets, among other topics, for ELEVATOR WORLD Europe.



The Schindler X8 reduces the requirements placed on the building and the construction process.



The Schindler X8 is more than a simplification of conventional elevator installation.

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*The alien in the image is 5'8" for size reference

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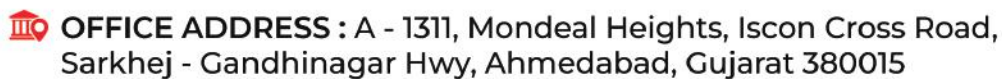


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