

 **ICICI Lombard**



CORPORATE INDIA RISK INDEX

2024

Intelligence partner

FROST & SULLIVAN

Navigating Risks, Powering India's Growth

SECTOR REPORT 2024

Infrastructure & Realty



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Preface

Corporate India Risk Index is primarily an academic exercise to understand the level of risk that companies are facing and also assist in developing a successful risk aversion plan, CIRI is a first-of-its-kind risk measurement tool to gauge the level of a company's risk exposure and preparedness. This Corporate risk comprises of various aspects of the business—spanning customer, competition, regulatory environment, business operations, technology finances, environmental factors etc. The impact of unprecedented events is significantly higher now.

This Index is a comprehensive framework that draws upon global risk management best practices and comprises of 32 risk elements across 6 broad dimensions. The Risk Index is based on the principles of Lean and Six Sigma that qualify business processes by measuring effectiveness and efficiency.

ICICI Lombard's Corporate India Risk Index provides a crucial tool for assessing and addressing risks, fostering resilience and adaptability in the ever-evolving global landscape. In the current climate of increasing macroeconomic uncertainties, it is essential for corporates to prioritize robust risk management. We believe that a proactive approach to risk management not only fortifies individual businesses but also contributes significantly to India's overall economic growth and stability.

Executive Summary

India's infrastructure and real estate sectors displayed impressive resilience and growth in 2024, with strong government investments, private sector engagement, and increased domestic and foreign demand driving progress. The infrastructure sector benefited from robust capital expenditures, particularly in transport, energy, and industrial projects. Key initiatives like the National Infrastructure Pipeline (NIP), PM Gati Shakti, and public-private partnerships (PPPs) bolstered the development of vital infrastructure, including roads, metro expansions, and the Mumbai-Ahmedabad Bullet Train project. The housing-for-all initiative also received a boost, while electric vehicle (EV) infrastructure saw strong growth, positioning India for a sustainable and digitally integrated urban future.

The real estate sector experienced significant growth, with record sales and new launches, especially in the residential segment. Increased urbanization, rising incomes, and favorable government policies, including incentives for affordable housing, drove demand. Both the premium and luxury housing markets saw strong investment, particularly from high-net-worth individuals (HNIs) and non-resident Indians (NRIs). The commercial real estate segment also showed resilience, with steady demand for office spaces, warehousing, and data centers, driven by the expansion of multinational corporations (MNCs) and the tech sector. Meanwhile, retail real estate enjoyed a resurgence as consumer spending picked up and global brands expanded their presence in Indian cities.

Despite challenges like rising construction costs, supply chain disruptions, and fluctuating interest rates, the infrastructure and real estate sectors continue to grow, with strong policy support and increasing investment. The government's ongoing reforms to improve ease of doing business, attract foreign investments, and enhance land acquisition processes further strengthened these sectors. As India pursues its goal of becoming a \$5 trillion economy, the infrastructure and real estate sectors will remain crucial in driving economic growth, urban transformation, and sustainable development.

Introduction

ICICI Lombard Corporate India Risk Index is a one of its kind, unified, credible, standardized corporate Risk Index that spans over the country level, the industry level, and the company level. The index has a comprehensive sector coverage. Aerospace and Defence, Agriculture and Food Processing, Automotive and Ancillary, BFSI, Biotech & Life sciences, Chemicals and Petrochemicals, Education Skill Development, Energy, FMCG, Healthcare Delivery, Infra and Realty, IT/ITES, Manufacturing, Media and Gaming, Metals and Mining, New Age & Startup, Pharmaceuticals, Telecom and Communication Technology, Tourism and Hospitality, Transportation and Logistics.



The impact is identified across key business risk (internal and external) under the following ‘Strategic Risk Areas’, The ICICI Lombard Corporate India Risk Index Framework comprises of 32 risk elements across 6 broad dimensions.

Market and Economic Risk

Corporate Risks arising due to market and economy related factors, such as internal or external political uncertainty, global slowdown, taxation-regulatory changes etc. Market and economy related risks are also identified as ‘Systematic Risks’, we have further classified the risks into below mentioned categories.

- **Inflation:** Inflation is the general increase in prices within the economy. The rising prices for businesses could result in bigger production spending and a fall in profitability. The companies should be attentive, acute, and responsive to changes in inflation to efficiently manage the prices of final products.
- **Taxation:** In a large democracy like India, complexity of multiple taxes (multiple taxes like GST, custom duties, central excise duty, etc.) is a major concern. The changing legislations, increased scrutiny by tax authorities and increasing public attention are together resulting in tax risks for organizations. There is, thus an increasing urgency for firms to manage their tax affairs efficiently to minimize tax risks.

- **Regulatory Risks:** Regulatory risk is the risk of changes in regulations and laws that might affect an industry or businesses. The regulatory changes can pertain to tariffs and trade policies, business laws pertaining to employment, minimum wage laws, financial regulation, Foreign Direct Investment etc.
- **Foreign Exchange Risk:** The exchange rate plays an important role for firms who export goods and import raw materials. The fluctuations in foreign exchange will have great impacts on the prices of traded goods. For example, if the currency depreciates (devaluation), the exporting firms will benefit. However, the firms importing raw materials will face higher costs on imports. The firms need to hedge their exposure to foreign exchange risks to insulate themselves from the impact from forex changes.
- **Geo-political Tension:** Geopolitical risk means the political and economic risks that are a potential threat to the financial and operational stability of companies.
- **Competitive risk:** Competitive risk is the risk associated with the fact that there are multiple companies competing in the market, each seeking to obtain the highest position and consumer ratings, to gain maximum benefits for themselves. The companies devise different strategies to garner a higher market share and acquire customers from competitors. Any failure in managing the competitive stand could lead to losses in business, thereby making marketing and competition a major risk in market.

Technology Risk

Technology risks are also identified as information technology related risks which may arise due to failure of any installed hardware or software system, spam, viruses or any malicious attack. Also delay/over/under adoption of trending disruptive technologies can lead to technology related risks. We have classified the risks in below mentioned categories.

- **Innovation Risk / Obsolete Technology:** Innovation is the key to success in all the industries. Risk of redundancy and losing out to competition on account of poor R&D is a major concern.
- **Intellectual Property risk:** Dependence on trade secrets and unpatented proprietary know-how.
- **Disruptive Technologies:** These will fundamentally alter the financial prospects of the industry.
- **Data Compromise:** Hardware failure refers to malfunctions within the electronic circuits or electromechanical components (disks, tapes) of a computer system; Software failure refers to an operating system crash. Such failures lead to stoppage of entire computer or operating systems creating substantial losses to business.

Operational and Physical Risk

Risk of losses caused due to faulty or failed processes, systems or human resource related inefficiencies are classified as operational and physical risks. We have classified Operational & Physical risks in below mentioned categories.

- **Critical Infrastructure Failure / Machine Breakdown:** Industries with a heavy dependence on machinery consider any rise in machinery breakdowns a hindrance to their businesses operations. An untimely equipment breakdown can bring businesses to a standstill or be the root cause for fires and explosions. Mostly, human errors and deferred maintenances are the major reasons for such breakdowns. The companies should actively invest in timely maintenance of all machineries.
- **Business Continuity / Sustainability:** Non adoption of Business Continuity/ Sustainability Plans and Lack of Internal Control tools would result in: Failure of businesses, Brand Equity / Loss of reputation, Financial Loss, Business model Failure, Ineffective engagement/communication with stakeholders, Losses in productivity, Lack of opportunity monitoring.
- **Supply chain risk:** Raw Material unavailability and Heavy Dependence on Global Supply Chains / Supplier concentration risk. Unavailability of raw materials owing to disruption in the supply chain or heavy dependency on one source (company/country) which is unable to supply owing to some geo- political tensions, fires, or any other incidents. Transportation is one of the key activities for companies making it an important risk to mitigate. The loss of goods in transit and spillage is one of the major concerns as it accounts for a sizeable loss of revenue to companies.
- **Commodity Price Risk - Volatility in prices of raw materials:** The fluctuations in raw material prices creating a margin pressure / top-line pressure in the scenario of rising input costs.
- **Portfolio Risk:** Loss of key customers, Customer concentration - Key customers accounting for a larger share of revenue, Over-dependence on suppliers, Business Model Risk: Transformative changes in business model, Tail Risks: Ability to overcome or manage extreme worst-case scenarios.
- **Environmental Hazard Risk:** Any environmental hazard having the potential to affect the surrounding environment.
- **Workplace Accident:** Fire and Explosion Hazards, Containment Incidents, Workplace Injuries
- **Human Resource:** Key person risk: This risk occurs when a business or business unit becomes heavily reliant on a key individual. Talent acquisition and retention - The companies require a highly skilled labor force for R&D as well as continuous production. Accessing skilled resources and expertise on an on-going basis is one of the major challenges; moreover, retention of trained staff is imperative. Labor shortages, Union Strikes & Industrial Actions, Employee

health, safety, and security (SHE/Sustainability risk).

- **Financial Risk:** Financial Reporting Risk: Material misstatement of Financial Statements, whether due to fraud or error. Interest rates and equity prices: Interest rate risk arising out of working capital borrowings at variable rates. Equity price fluctuations affect the Company's income or the value of its holdings of financial instruments. Liquidity Risk (Credit Risk / Receivables).
- **Breaches of law (local/ international):** Voluntary/ involuntary breaches of law can lead to costly lawsuits.

Crime & Security Risk

Cybersecurity risks relate to the loss of confidentiality, integrity, or availability of information, data, or information (or control) systems and reflect the potential adverse impacts to organizational operations. These attacks can cause major financial losses, reputational harm, and a loss of client trust. Regarding cybersecurity, the BFSI industry in India has several difficulties, including difficult-to-secure legacy systems, a shortage of qualified cybersecurity personnel, and the requirement for ongoing system and network monitoring. There is a significant investment in cybersecurity tools like network monitoring, endpoint security, access control, and threat intelligence. Many organizations are also implementing cutting-edge technology like artificial intelligence and machine learning to strengthen their security posture.

We have classified Crime & Security risks in below mentioned categories.

- **Cyber Crimes:** Data Theft, Spam, scams and phishing, Hacking, Malwares and Viruses, Piracy, Fraud, Corruption, Malicious attacks
- **Counterfeiting:** Counterfeiting of goods/services leads to loss of revenues, profits and ultimately affects the brand equity
- Threat to Women Security
- **Terrorism:** Un-lawful use of violence and intimidation, especially against civilians, in the pursuit of political aims.

Natural Hazard Risk

A natural hazard is the threat of an event that will likely have a negative impact. A natural disaster is the negative impact following an actual occurrence of natural hazard if it significantly harms a community. Due to India's geographical structure, it is one of the most disaster-prone countries in the world. Natural hazards like floods, earthquakes, landslides, and cyclones are common risks faced by India. The situation has worsened due to rise in GHG emissions, loss of biodiversity, deforestation, and degradation of environment. Natural disasters hamper the day-to-day

operations of corporates, and it is important for them to understand that such risks cannot go unheeded. Over the years, Indian corporates have learnt to mitigate such risks by diversifying their supply chains, having multiple logistics partners, diversified geographical presence and multiple vendors.

- **Pandemic and other global epidemic diseases:** Risk to business owing to disruptions caused by global pandemic scale events like the COVID-19 pandemic

Strategic Risk

Strategic risk is the risk of undesirable outcomes of business decisions which may impact a company. Strategic risk is often a major factor in determining a company's worth, particularly observable if the company experiences a sharp decline in a short period of time. Several factors, such as unethical or unlawful activities, poor customer service, product recalls, data breaches, or unfavorable media coverage, can lead to strategic risk. An organization's reputation can be severely harmed by a single negative incident, such as a high-profile data breach or fraud scandal, resulting in a loss of clients, income, and market share.

- **Resource scarcity / Misutilization / Overall Utilization:** Difficulties in acquisition of land, water, fuel, or other resources for operations of business.
- **Public Sentiment:** Current events playing out in the public scene can change the public sentiment.
- **Delay in execution of projects:** Delays in execution of projects can surge in the capex.
- **Increased number of recalls and quality audits:** Impacts both the brand equity and increased operational expenses.
- **Failed / Hostile Mergers & Acquisitions:** High dependence on inorganic growth.

Bottom-Up Risk Assessment Approach

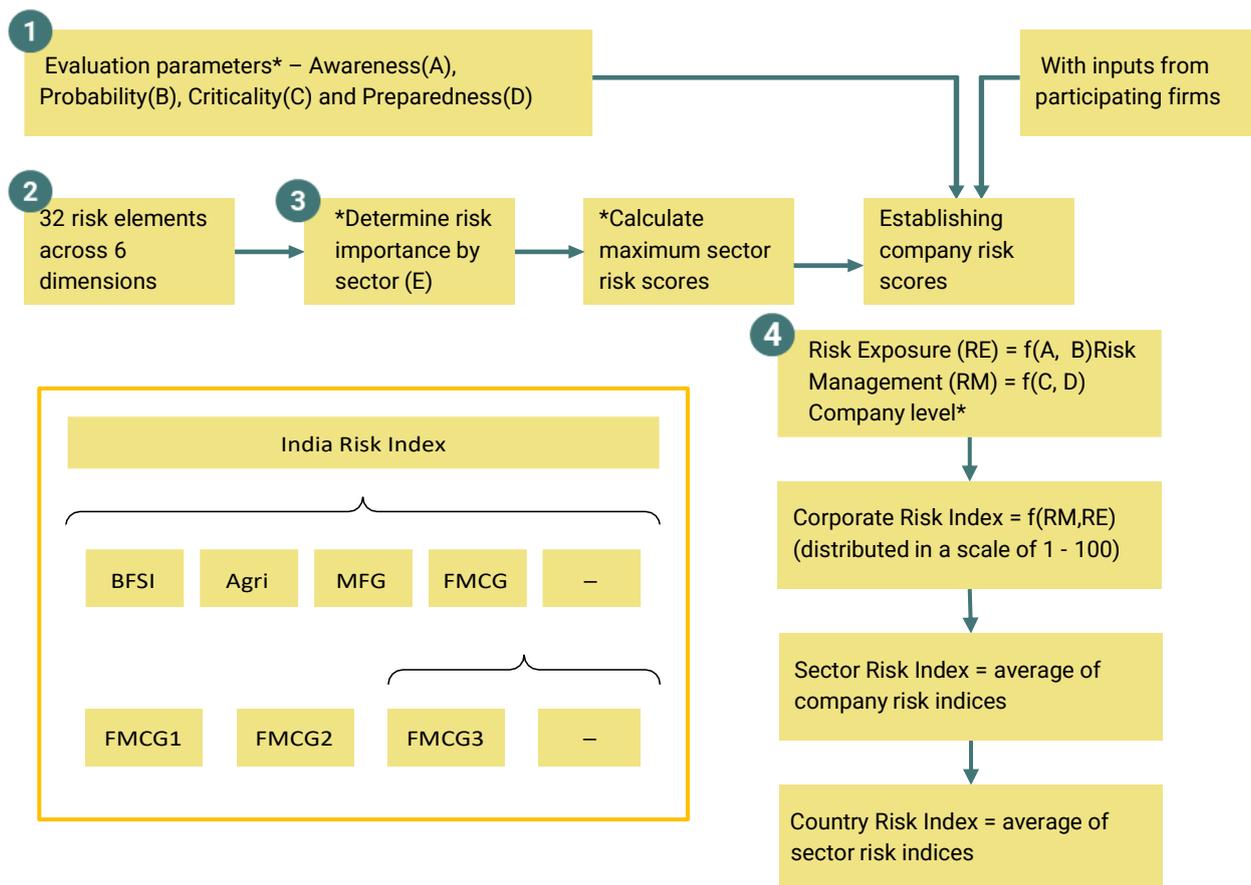


Figure 1: Risk Assessment Approach

- 1. Evaluation Parameters*:** The index maps the risks faced by any enterprise basis of Awareness, Probability, Criticality and Preparedness against the defined Risk elements. The evaluation Parameters are defined as:
 - Awareness - Level of awareness of potential risk affecting the firm.
 - Probability - Likelihood of risk to affect the business goals of the firm adversely.
 - Criticality - Level of impact of the identified risk on the success of business goals.
 - Preparedness - Risk handling practices/ mechanisms already in place to handle the risk.
- 2. Determining Risk Importance*:** Importance/Impact of individual risk element is established against individual sector based on the published corporate risk reports, in depth sector

understanding by F&S team and SMEs.

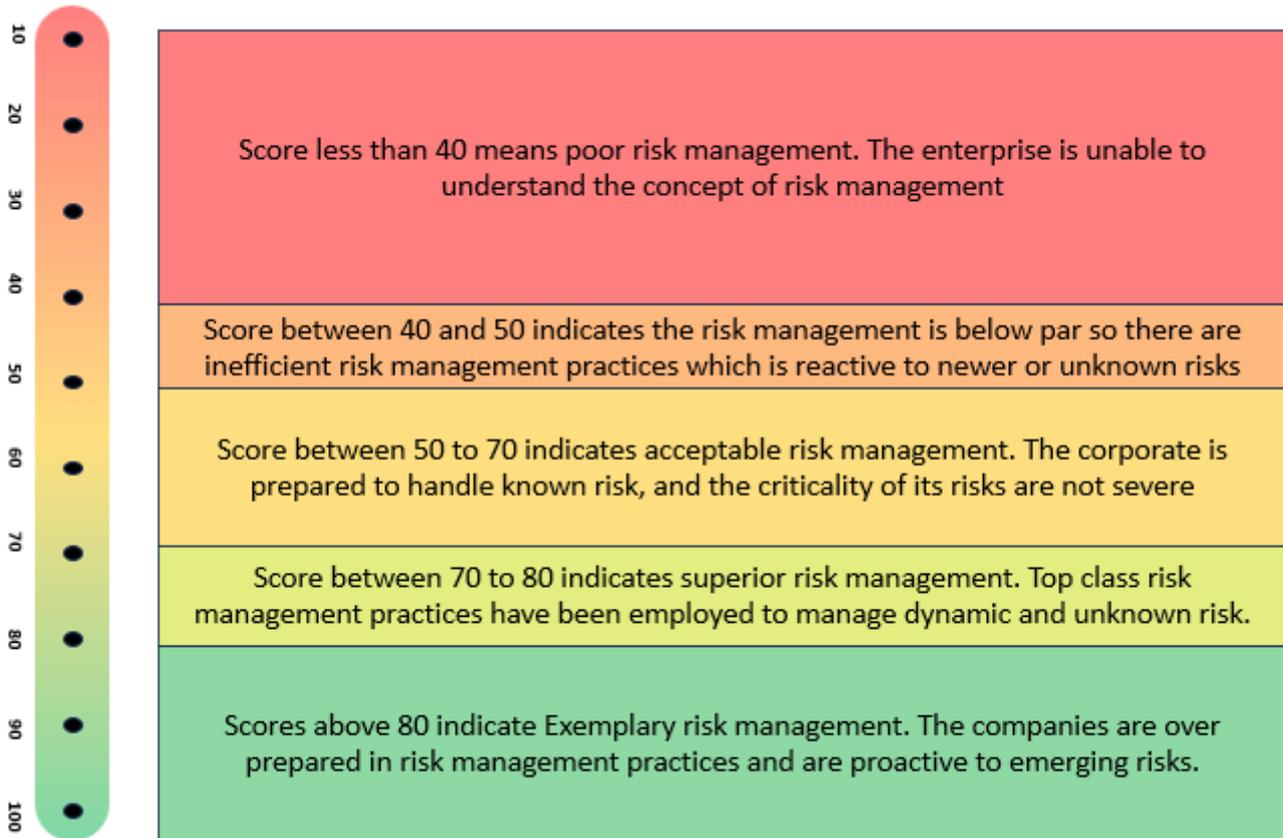
3. **Calculating Maximum Sector Risk Score:** Weighted Sum of all risk elements based on their importance to the respective sector.
4. **Company Level*:** All the Risk Index scores for companies in a sector are averaged to represent the sector; and sectors average to India. Risk Exposure is defined as the function of corporate's Risk Awareness and Probability of risk occurrence. Risk Management is defined as the function of an enterprise risk preparedness and criticality risk impact assessment.

B. ICICI Lombard Corporate Risk Management – Scale

Risk Management: Identification, Evaluation and Prioritization of corporate risks followed by well- coordinated steps to minimize the occurrence of uncertainties in the foreseeable future is defined as the Corporate Risk Management.

The risk management scale works in the opposite to that of the risk exposure scale.

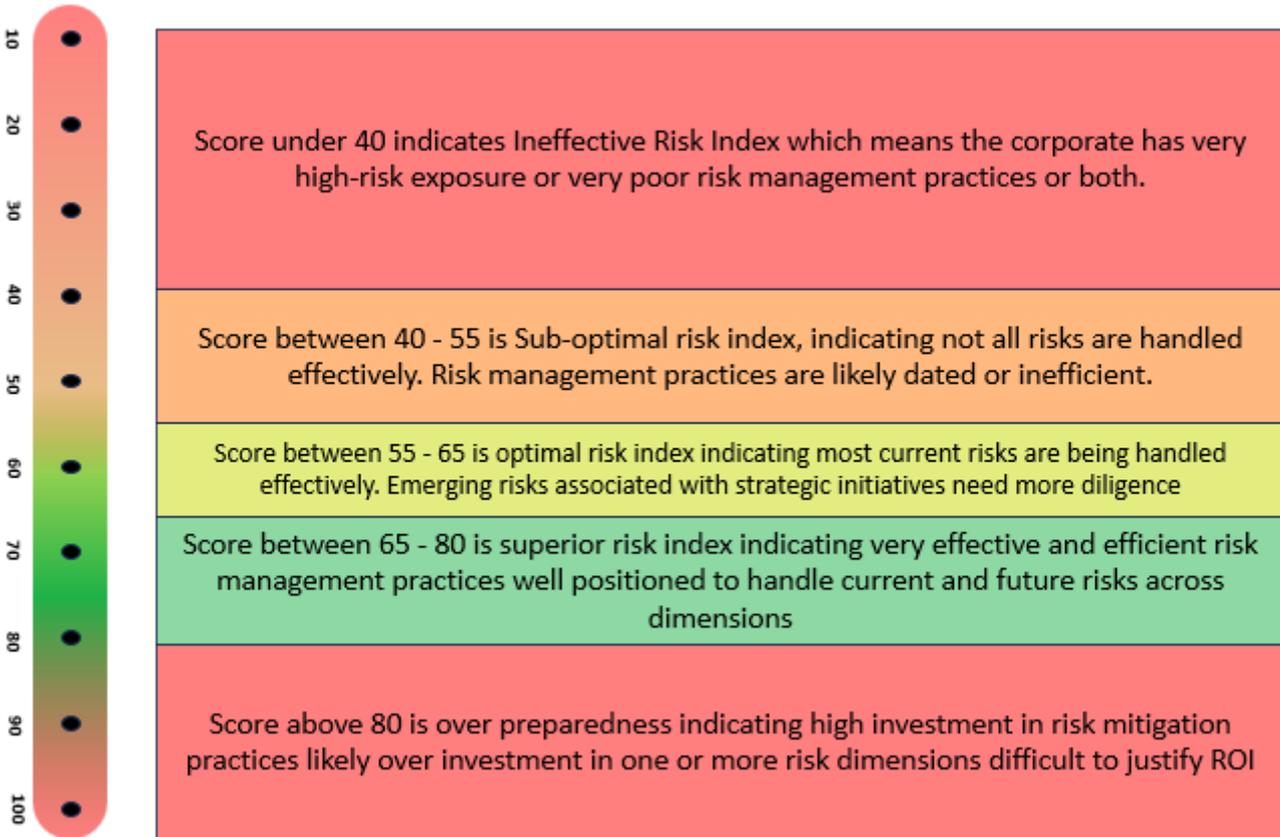
Let’s look at the risk management scale.



c. ICICI Lombard Corporate Risk Index – Scale

Risk Index: Risk Index is a measurement tool to gauge the level of Risk Exposure against Risk Preparedness. The score intends to give companies/Sector/Country access to an extensive and quantifiable metrics of risk management.

Let's look at the risk Index scale.



India - Resilient Growth and Superior Risk Management

In 2024, India's diverse sectors demonstrated significant growth and resilience, leveraging technological advancements, strategic reforms, and proactive risk management to navigate an evolving economic landscape. Despite global challenges, industries embraced innovation, digital transformation, and sustainable practices, positioning themselves for long-term success.

In this year, the integration of Artificial Intelligence (AI) across various sectors presented both significant opportunities and risks. While AI-driven innovations enhanced productivity, decision-making, and customer engagement, the adoption also raised concerns around data privacy, cybersecurity, and workforce displacement. India navigated these risks by implementing robust data protection regulations and promoting AI ethics in the development and deployment of technology. Additionally, the government and private sector invested in reskilling programs, ensuring the workforce was equipped to adapt to the evolving digital landscape. AI's strategic implementation across sectors like BFSI, healthcare, and manufacturing helped India enhance operational efficiency while balancing the challenges posed by rapid technological transformation. The Aerospace & Defence sector saw substantial advancements as India attracted global aerospace companies seeking to strengthen supply chains. Local firms expanded their capabilities, particularly in the growing private space sector, driving both revenue growth and global competitiveness. The Agri & Food Processing sector turned to precision farming and AI-driven analytics to enhance productivity, while renewable energy solutions like solar-powered cold storage reduced post-harvest losses, improving sustainability and efficiency.

In the Automotive sector, the shift toward electric vehicles (EVs) gained momentum, supported by government schemes aimed at promoting EV adoption. Major manufacturers expanded their EV portfolios, addressing both sustainability goals and evolving consumer demands. The BFSI sector continued its digital transformation, with AI integration enhancing fraud detection and compliance, further improving security and efficiency.

The Biotech & Lifesciences sector experienced accelerated growth, particularly in genomics and vaccine development, with India solidifying its role as a global leader in pharmaceutical manufacturing. The sector's innovation, supported by public and private investments, enhanced healthcare technology and medical devices. In Chemicals & Petrochemicals, India attracted significant investments to meet rising demand, driven by growing consumption from its expanding middle class, while the Education sector embraced AI and digital learning platforms, expanding access to quality education and equipping the workforce for future demands in emerging technologies.

The Energy sector made substantial progress towards sustainability, with a focus on renewable

energy, including ultra-mega solar parks and offshore wind projects. These initiatives were supported by favorable government policies and decreasing costs of clean energy technologies. The FMCG sector adapted to inflationary pressures by shifting focus towards premium products and e-commerce platforms, which were increasingly driving sales, particularly in rural markets.

In Healthcare, there was significant growth fueled by digital innovations such as telemedicine and AI-driven diagnostics, which helped improve access and efficiency in healthcare delivery. India also continued to strengthen its position as a global hub for medical tourism, offering competitive treatment options. The Real Estate sector benefitted from increased demand in affordable housing and infrastructure development, with commercial real estate seeing steady growth and an emphasis on sustainable building practices.

The IT sector continued to thrive despite global challenges, driven by demand for cloud services, cybersecurity solutions, and AI technologies. Tier 2 and 3 cities emerged as new tech hubs, with government support enhancing regional tech expansion. The Pharmaceutical sector saw an uptick in exports and domestic manufacturing, with reduced dependence on imports and new product launches in global markets bolstering its growth. In Manufacturing, India focused on boosting production through initiatives like the Production-Linked Incentive schemes, especially in electronics and EV manufacturing, which also contributed to job creation and supply chain resilience. The "China + 1" strategy adopted by global firms has played a pivotal role in shaping India's manufacturing sector. While it has increased risk exposure, it has also driven companies to invest in more sophisticated, globally relevant risk management practices, strengthening the sector's resilience and positioning India as a key player in global supply chains.

Media & Entertainment saw continued growth, with OTT platforms gaining popularity, especially in regional content. The Gaming industry also flourished, becoming a key revenue generator as mobile gaming gained dominance. In Steel and Mining, investments in decarbonization and digitalization allowed the sectors to reduce environmental impact and enhance operational efficiency. Startups saw substantial funding despite global slowdowns, with SaaS, fintech, and D2C brands leading the charge in innovation and market expansion.

The Telecom sector expanded 5G coverage and rural internet penetration, narrowing the digital divide and improving connectivity across the country. The Tourism & Hospitality sector rebounded strongly, attracting both domestic and international visitors, with eco-conscious travelers opting for sustainable tourism options and luxury experiences. Finally, the Logistics sector benefited from advancements in automation and multimodal connectivity, reducing costs and improving efficiency, while the government's National Logistics Policy streamlined operations, cutting transit times and enhancing cross-sector integration.

In summary, 2024 saw India's sectors display resilience and adaptability, addressing emerging risks through innovation, digital adoption, and sustainability initiatives. The country's ongoing focus on risk management, technological advancement, and strategic reforms has positioned its economy for continued growth and transformation, paving the way for India to solidify its place as a global economic leader.

India Showcasing an Optimized Risk Handling



Figure 2: Corporate India Risk Index 2024

A score of 65 on the Corporate Risk Index indicates optimal handling of risk by the Indian companies. In 2024, India faced significant market, economy, and operational risks across various sectors, highlighting areas for improvement in the coming years. The year was further complicated by global events such as the ongoing Israel-Palestine conflict, which led to geopolitical instability and fluctuations in global oil prices. The rise of recession fears in major economies like the United States and Europe disrupted supply chains and created demand uncertainties, impacting Indian exports and manufacturing. Investor sentiment in India remains flat in 2024, reflecting the cautious behavior of Angel and VC investors globally. This persistent challenge, which has carried over from 2023, highlights ongoing risks in the market and underscores the uncertainty that continues to affect investment decisions in the country.

Additionally, India’s national elections increased risk exposure, with political uncertainty and policy shifts potentially affecting business operations, investor confidence, and sectoral reforms. These global and domestic challenges underscored the need for stronger risk management

frameworks and adaptive strategies across India's industries to navigate future uncertainties effectively.

In response to the heightened risks in 2024, companies across India have increasingly focused on strengthening their risk management frameworks. With the backdrop of global uncertainties, such as geopolitical conflicts and economic slowdowns, alongside domestic challenges like the national elections, businesses have prioritized proactive risk identification, mitigation strategies, and resilience-building measures. This shift reflects a broader trend of embedding risk management into corporate strategy, with an emphasis on agility, digital transformation, and sustainability.

As a result, sectoral risk indices have remained within the superior and optimal risk index range, demonstrating that most industries in India have effectively managed the challenges they faced. Through a combination of technological innovations, regulatory compliance, and strategic planning, sectors have been able to maintain stability and navigate both internal and external risks. This disciplined approach to risk management has ensured that, despite various pressures, India's sectors remained well-positioned for sustainable growth and continued progress in 2024.

Below is a broader categorization of sectors in terms of risk index:

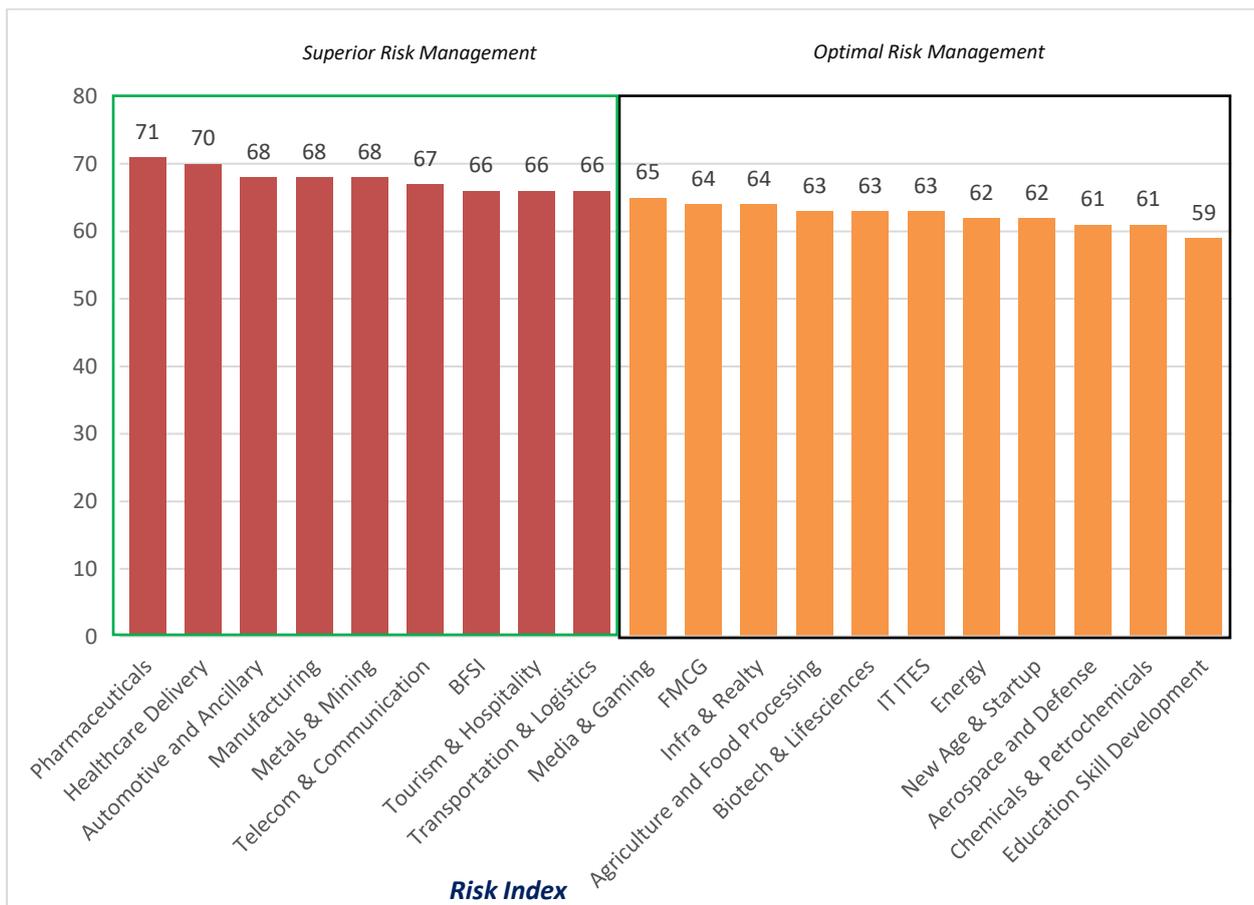


Figure 3: Corporate India Risk Index 2024 Sector Score

Superior Risk Index

Superior risk handling was found in nine industrial sectors: Pharmaceuticals, Healthcare Delivery, Automotive & Ancillary, Manufacturing, Metals & Mining, Telecom & Communication, BFSI, Tourism & Hospitality, and Transportation & Logistics.

Optimal Risk Index

Optimal risk handling was found in 11 industrial sectors: Media & Gaming, FMCG, Infra & Realty, Agriculture & Food processing, Biotech & Lifesciences, IT ITES, Energy, New Age & Startup, Aerospace & Defence, Chemicals & Petrochemicals and Education & Skill Development.

Infrastructure & Real Estate Sector Insights 2024

India's infrastructure and real estate sectors in 2024 witnessed unprecedented growth, fueled by a combination of government-led investments, foreign direct investment (FDI), technological advancements, and a rising demand for modern urban developments. The National Infrastructure Pipeline (NIP) continued to be a major driving force, with projects worth over ₹110 lakh crore (\$1.4 trillion) under implementation, spanning roads, highways, railways, ports, and energy infrastructure. The Delhi-Mumbai Expressway, Chennai-Bengaluru Industrial Corridor, and Eastern and Western Dedicated Freight Corridors saw significant progress, reducing logistics costs and improving supply chain efficiencies.

The PM Gati Shakti National Master Plan played a crucial role in integrating multiple infrastructure projects to optimize development efforts and remove bottlenecks in transportation and logistics. India's highway construction reached an all-time high, with daily road-building rates exceeding 40 km per day, enabling smoother connectivity between urban and rural areas. The expansion of metro rail networks across cities like Mumbai, Bengaluru, Hyderabad, and Ahmedabad reduced traffic congestion and enhanced public transport efficiency, while the Parvatmala scheme introduced several new ropeway projects in hilly regions to boost tourism. In the real estate sector, demand for residential, commercial, and industrial spaces surged, with major metropolitan cities witnessing a 12-15% increase in property prices, driven by improved infrastructure, growing disposable incomes, and an influx of Non-Resident Indian (NRI) investments. Luxury real estate flourished, with DLF, Godrej Properties, Tata Realty, and Prestige Group launching high-end projects catering to ultra-high-net-worth individuals (UHNWIs).

The Indian REIT (Real Estate Investment Trust) market gained traction, with Blackstone-Sattva's Knowledge Realty Trust IPO becoming the largest REIT offering in the country, attracting both domestic and global investors. The demand for Grade-A commercial spaces skyrocketed as multinational corporations expanded their footprints, particularly in IT hubs like Bengaluru, Hyderabad, and Gurugram, with co-working spaces and flexible office solutions gaining popularity among startups and mid-sized enterprises. Smart infrastructure and green buildings became a focal point, with developers increasingly adopting LEED and IGBC-certified designs to meet sustainability targets and energy efficiency norms. The Government of India's "Housing for All" initiative continued to bridge the gap in affordable housing, with PMAY (Pradhan Mantri Awas Yojana) accelerating construction of low-cost homes for the economically weaker sections (EWS) and middle-income groups. Additionally, rental housing policies underwent a revamp to attract

institutional investors, with major players like Brookfield, Blackstone, and Embassy Group entering the long-term rental housing market.

The rapid adoption of PropTech (Property Technology) revolutionized real estate transactions, with AI-driven property management systems, blockchain-based land registries, and virtual reality (VR) home tours making property buying and selling more transparent and seamless. Infrastructure financing saw a major boost through green bonds, municipal bonds, and private equity investments, allowing large-scale developments to take off without excessive dependency on government funding. The Smart Cities Mission, which aimed to modernize 100 cities with digital infrastructure, smart surveillance, and improved civic amenities, made substantial progress, further reinforcing India's status as a key global real estate and infrastructure investment destination.

Despite this momentum, challenges such as rising raw material costs, regulatory bottlenecks, and land acquisition hurdles continued to affect project timelines, prompting the government to introduce reforms for single-window clearances, fast-tracked environmental approvals, and ease of doing business initiatives. Looking ahead, the future of India's infrastructure and realty sectors remains bright, with urbanization, technological integration, and sustainability initiatives shaping the landscape, ensuring long-term economic growth, and transforming India into a globally competitive real estate and infrastructure powerhouse.

Infrastructure & Real Estate Sector Risk Index 2024 Vs 2023

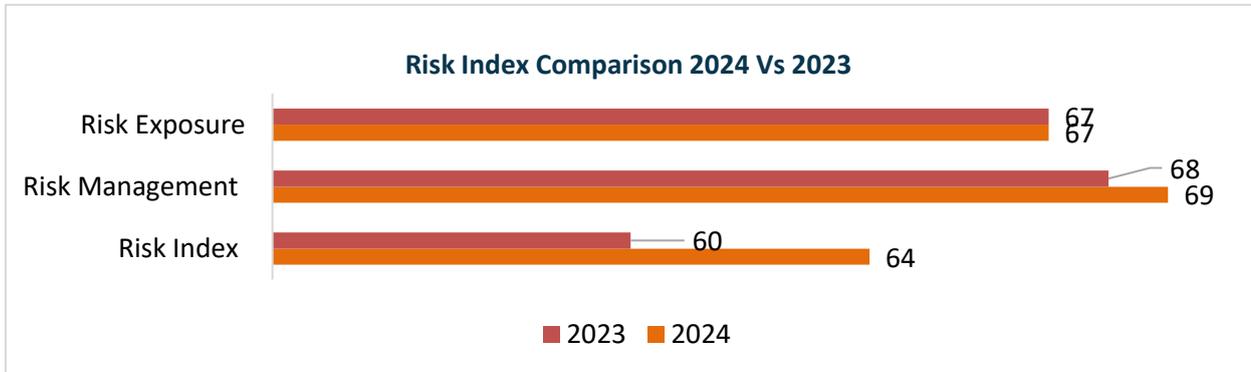


Figure 4: Detailed Comparative Analysis 2024 Vs. 2023

Infrastructure & Real Estate Sector Risk Index 2024 Vs 2023

The overall Risk Index for the sector has increased from 60 to 64 in 2024, owing to an increase in the risk management while risk exposure has remained the same

Infrastructure & Real Estate Sector Risk Exposure 2024 Vs 2023

Risk exposure remains the same due to the persistent nature of challenges such as geopolitical tensions, rising interest rates, raw material shortages, and environmental factors. While companies have bolstered their risk management strategies, the underlying external and market-related risks (like fluctuations in demand, policy changes, and financial pressures) have remained consistent.

Infrastructure & Real Estate Sector Risk Management 2024 Vs 2023

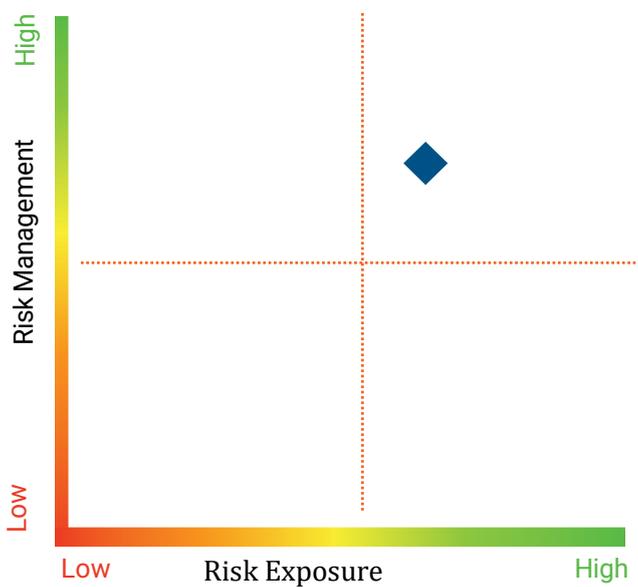
The heightened risk management score reflects the sector's stronger focus on addressing both external and internal risks. With the continuation of issues like rising raw material costs, regulatory delays, environmental concerns, and financing challenges, companies in the infrastructure and real estate sectors have adopted more robust risk mitigation strategies. For instance, enhanced project management practices, the use of technology to streamline operations, and better supply chain management systems have all played a role in improving risk preparedness. Furthermore, the implementation of more comprehensive due diligence during project planning, the use of dynamic pricing models, and more transparent regulatory compliance measures have helped manage risks in an increasingly complex operating environment. The sector has also ramped up sustainability efforts, addressing environmental risks with green building certifications and eco-friendly designs to align with evolving regulatory requirements and consumer preferences.

Key Highlights

Risk Dimension Analysis: Market and Economy

Risk Exposure Score: 74

Risk Management Score: 71



Inflation

- In 2024, average home prices in India were projected to rise by 6.5%, outpacing the previous year’s 4.0% increase. This surge heightened affordability challenges, particularly for first-time homebuyers.

- Urban rental rates were anticipated to climb between 7.0% and 10.0%, significantly surpassing the expected consumer inflation rate of approximately 4.3% to 4.4% over the next two fiscal years. Inflation led to higher costs for raw materials such as steel and cement, escalating

project budgets and potentially delaying developments. As inflation rises, the purchasing power of consumers diminishes, leading to reduced demand for new properties and affecting overall market dynamics.

- Developers may face squeezed profit margins as they balance rising costs with the need to keep property prices competitive, potentially leading to compromised quality or delayed projects.

Taxation Risk

- The introduction of the Real Estate (Regulation and Development) Act (RERA) aimed to enhance transparency and accountability within the sector. While these reforms protected homebuyers, they also imposed stricter compliance requirements on developers.
- Changes in property taxes and Goods and Services Tax (GST) rates influenced buyer sentiment and sales dynamics, necessitating adaptive strategies from developers.

Geopolitical Risks

- Projects like China's planned \$137 billion dam in Tibet raised concerns about potential impacts on water resources in India, underscoring geopolitical risks associated with infrastructure development. Shifts in government policies due to geopolitical tensions can lead to abrupt changes in regulations, affecting ongoing and future projects.
- Geopolitical conflicts can disrupt the supply of essential materials, causing delays and increased costs in construction projects. Political instability can deter both domestic and foreign investors, leading to reduced funding and slowed sector growth.

Foreign Exchange Risk

- Exchange rate movements impacted the purchasing power of Non-Resident Indians (NRIs), affecting their investment decisions in domestic real estate.
- A weaker domestic currency increased the cost of imported fixtures and fittings, impacting project budgets and potentially leading to higher property prices or reduced profit margins for developers.
- Projects financed through foreign currency loans faced higher repayment costs if the domestic currency depreciated, straining cash flows.
- Currency fluctuations can deter foreign investors, leading to reduced capital inflow and affecting project funding. To mitigate forex risks, companies may incur additional costs through hedging strategies, impacting overall profitability.

Regulatory Risk

- Navigating bureaucratic procedures for project approvals can lead to delays and increased costs, affecting project viability and timelines.
- Acquiring land for development remains challenging due to legal disputes and resistance from local communities, hindering project initiation. Adhering to evolving regulations requires significant investment in legal and administrative processes, impacting overall profitability.

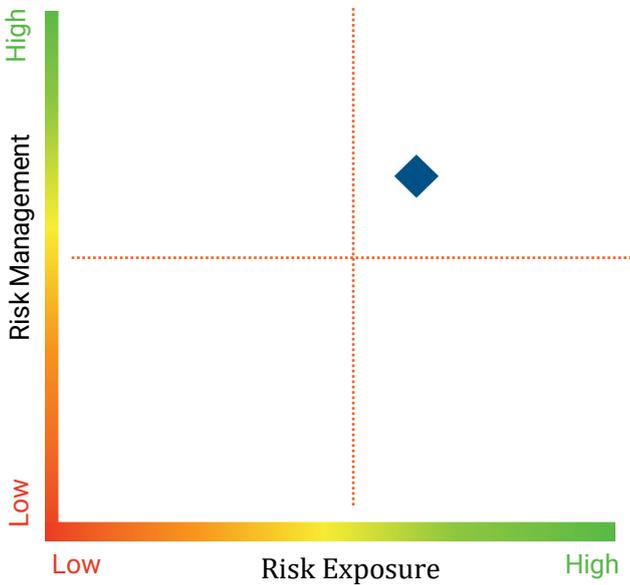
Competitive Risk

- An influx of new entrants can lead to oversupply, reducing profitability for existing players. Intense competition may trigger price undercutting, affecting margins and financial stability. Innovation Pressure: Companies may need to continually innovate to maintain market share, increasing operational costs.
- Talent Acquisition: Competition for skilled labor can drive up wages and impact project budgets.
- Brand Differentiation: Standing out in a crowded market requires significant marketing and branding efforts.

Risk Dimension Analysis: Technology

Risk Exposure Score: 62

Risk Management Score: 60



Innovation Risk / Obsolete Technology

- The rise of property technology (PropTech) solutions transformed how real estate was bought, sold, and managed. Companies that failed to integrate these technologies risked inefficiencies and losing market share to more tech-savvy competitors.
- The growing emphasis on eco-friendly and energy-efficient properties required developers to innovate. Failure to adopt sustainable practices could result in reduced demand and regulatory challenges.

- Traditional companies may resist adopting new technologies, leading to operational inefficiencies and loss of competitiveness.
- Investing in new technologies requires substantial capital, which may not yield immediate returns, posing financial risks.
- Adoption of digital solutions increases vulnerability to cyber-attacks, necessitating robust security measures

Intellectual Property Risk

- Unauthorized replication of proprietary designs and technological innovations can lead to competitive disadvantages and legal disputes. Such infringements not only erode market share but also diminish the return on investment in research and development, discouraging further innovation.
- Weak enforcement mechanisms can result in widespread IP violations, reducing the incentive for companies to innovate. This environment can deter foreign investors concerned about the protection of their intellectual assets, thereby limiting technological advancement within the sector.
- Global operations expose firms to varying IP laws, increasing the complexity of protecting intellectual property. Navigating these differences requires robust legal strategies and can lead to increased operational costs and potential vulnerabilities.
- The proliferation of counterfeit construction materials poses significant risks to project integrity

and safety. Utilizing substandard materials can lead to structural failures, legal liabilities, and damage to a company's reputation.

- Unauthorized use of proprietary software and digital tools in project management can lead to legal repercussions and compromise data security, affecting overall project efficiency and stakeholder trust

Disruptive Technology

- The rise of automation and artificial intelligence presents challenges in integrating new technologies with existing systems. Companies must invest in training and infrastructure to adapt, or risk falling behind competitors who embrace these advancements.
- Implementing digital twin models requires significant investment and expertise. Failure to adopt such technologies can lead to inefficiencies and reduced competitiveness as the industry moves towards more data-driven decision-making.
- Adopting blockchain technology can enhance transparency but requires overhauling traditional processes. Resistance to such changes can result in operational inefficiencies and loss of stakeholder trust.
- The emergence of property technology (PropTech) solutions is transforming how real estate is bought, sold, and managed. Companies that fail to integrate these technologies may struggle with inefficiencies and lose market share to more tech-savvy competitors. ²
- Incorporating IoT devices for building management enhances efficiency but requires substantial investment. Companies that do not adopt these technologies may face higher operational costs and reduced tenant satisfaction.

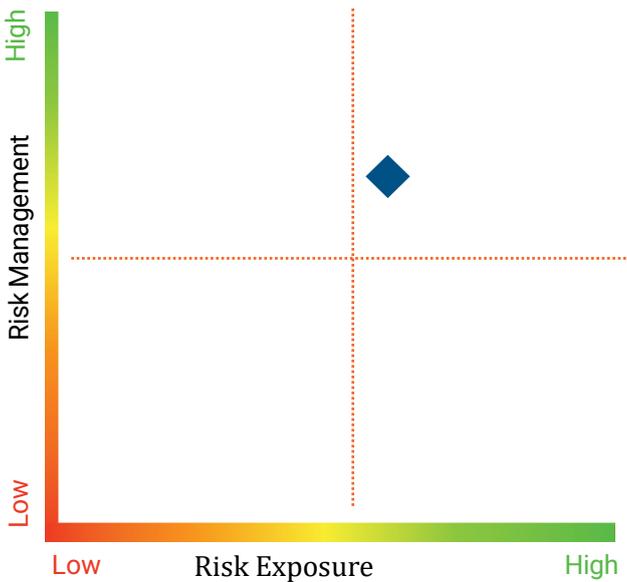
Data Compromises

- Breaches can lead to disclosure of confidential client or project data, impacting trust. Data breaches can trigger regulatory fines and legal actions.
- Loss of stakeholder trust and reduced competitive advantage following incidents of data compromise. Data loss or corruption significantly interrupts project timelines and management processes.
- Expenses associated with data recovery, legal fees, and customer compensation add significant financial burdens.

Risk Dimension Analysis: Operational and Physical

Risk Exposure Score: 71

Risk Management Score: 71



Critical Infrastructure Failure / Machine Breakdown

- Reliable energy sources are crucial for infrastructure development. Fluctuations in energy availability or costs can significantly impact project feasibility and operational efficiency.

- Global events can lead to shortages of essential construction materials, causing project delays and increased costs. Diversifying suppliers and maintaining inventory buffers are strategies to mitigate this risk.

- Efficient logistics are vital for timely project completion. Disruptions in transportation or warehousing can lead to delays and increased expenses, affecting profitability

Business Continuity / Sustainability

- Projects perceived as environmentally harmful may face opposition from local communities and activists, leading to delays or cancellations. Engaging stakeholders and incorporating eco-friendly designs can mitigate this risk.
- Consumers are increasingly seeking energy-efficient homes. Failure to incorporate sustainable features can lead to reduced demand and lower property values. Properties lacking certifications like LEED may be less attractive to environmentally conscious buyers or tenants, affecting occupancy rates and profitability.

Supply Chain Risk

- Dependence on international suppliers for critical materials can lead to vulnerabilities. Geopolitical tensions, trade restrictions, or pandemics can disrupt supply chains, causing project delays and increased costs.
- The efficiency of infrastructure projects heavily relies on robust transportation networks. Any disruptions due to natural disasters or inadequate maintenance can impede project timelines and

escalate expenses.

Commodity Price Risk - Volatility in prices of raw materials

- Sudden fluctuations in prices of steel, cement, fuel, etc., can escalate construction costs.
- Limited availability and effectiveness of hedging instruments in India increases exposure to commodity price swings. Sudden price rises squeeze margins, especially in fixed-price contracts.
- High commodity prices can induce broader inflation, compounding cost increases. Inflexibility in adjusting contracts for price changes increases the financial risk for developers.

Portfolio Risk

- Over-investment in certain locations or asset types makes companies vulnerable to sector-specific downturns.
- Illiquid real estate assets limit portfolio flexibility in response to market shifts.
- Diversification Challenges: Balancing portfolios with infrastructure and realty assets requires careful strategy and significant resources.
- Frequent market volatility can lead to uncertainty in property valuations, affecting investment confidence.
- Correlated downturns in realty and infra segments can magnify losses.

Environmental Hazard Risk

- Increasing frequency of extreme weather events poses risks to infrastructure integrity. Projects must be designed to withstand such events, necessitating additional investment in resilient materials and technologies.
- Governments are enforcing stricter environmental regulations. Non-compliance can result in fines, project delays, and reputational damage, emphasizing the need for sustainable practices.

Workplace Accident

- High risk of accidents at construction sites increases legal liabilities and operational costs. Poor working conditions can reduce labor productivity, extending timelines and raising costs.
- Workplace unrest can significantly delay projects and escalate budgets. Difficulty retaining skilled workers increases recruitment and training expenses. Frequent workplace accidents or poor conditions harm corporate reputation, affecting client trust and future contracts.

Human Resource

- Difficulty attracting qualified professionals, especially in technical roles, can delay projects. Wage inflation due to high demand for skilled labor increases project costs.
- High attrition rates create instability, increasing recruitment and training expenses. Continuous investment in training programs for new technologies and regulations adds to HR expenditure.
- Managing diverse workforce cultures in mega-projects can lead to reduced efficiency and conflicts.

Financial Risk

- Increased borrowing at higher interest rates reduces profitability and increases default risk. Irregular payment cycles and prolonged receivable periods can cause liquidity challenges.
- Rising interest rates directly affect borrowing costs, impacting project viability.
- Stricter lending criteria from banks and financial institutions restrict capital availability.
- Deteriorating financial health can trigger credit rating downgrades, increasing the cost of debt.

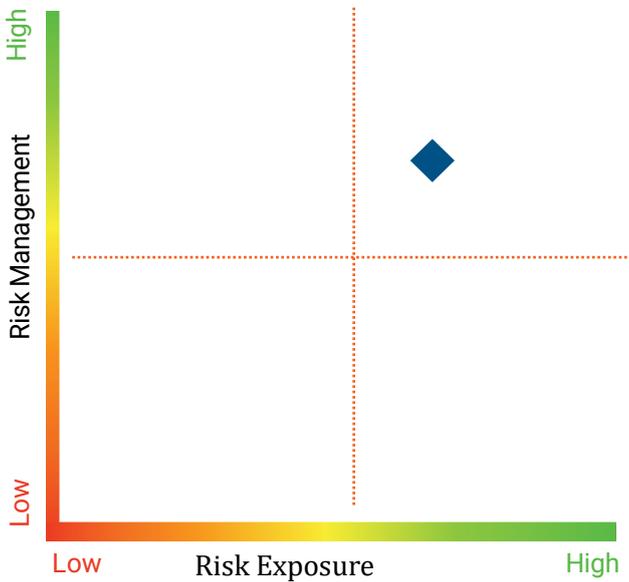
Breaches of law (local/ international)

- Non-compliance with laws leads to penalties and litigation costs. Legal issues can halt project execution, escalating overall costs and timelines.
- Frequent legal disputes undermine trust among investors and customers.
- Greater scrutiny from regulators necessitates more rigorous internal controls, increasing operational expenditure. Lengthy litigation processes drain financial resources and divert managerial focus from strategic objectives.

Risk Dimension Analysis: Crime and Security

Risk Exposure Score: 53

Risk Management Score: 61



Cyber-crimes

- Integration of digital systems in infrastructure projects increases exposure to cyber threats. Attacks can disrupt operations, leading to safety hazards and financial losses.

- Sensitive project information stored digitally is at risk of unauthorized access. Breaches can result in intellectual property theft and compromise competitive advantage.

- Critical infrastructure systems are attractive targets for ransomware, where

attackers lock systems until a ransom is paid, disrupting services and incurring significant costs.

- The adoption of smart technologies in buildings introduces vulnerabilities. Unauthorized access to building systems can compromise tenant safety and privacy, leading to legal liabilities.
- Real estate transactions involve large sums, making them targets for cyber fraud. Ensuring secure payment systems is crucial to prevent financial losses.

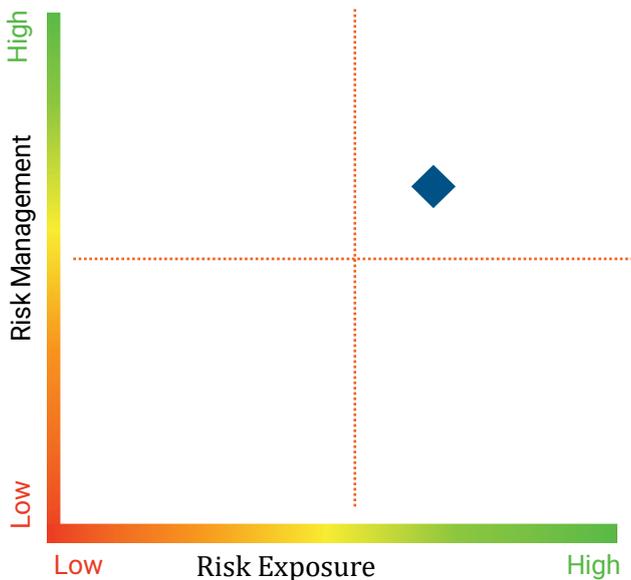
Counterfeiting

- Use of counterfeit construction materials can compromise structural integrity and safety. Projects using counterfeit products face regulatory fines, litigation, and severe compliance penalties. Exposure of counterfeit usage severely damages brand integrity and client confidence.
- Increased Inspection Costs: Enhanced scrutiny to detect counterfeit materials escalates operational expenses.
- Structures built with counterfeit products may face reduced resale or lease valuations.

Risk Dimension Analysis: Natural Hazard and Event

Risk Exposure Score: 62

Risk Management Score: 70



Natural Hazards like flood, drought, famine, earthquake, landslide etc

- India's susceptibility to earthquakes necessitates stringent building codes. Non-compliance can result in catastrophic structural failures, loss of life, and significant financial liabilities.
- Monsoon-induced floods can damage infrastructure and delay projects. Implementing effective drainage systems and site assessments are crucial to mitigate such risks.

- Coastal regions face the threat of cyclones, which can devastate infrastructure. Designing resilient structures and emergency preparedness plans are essential to minimize damage.
- Hilly terrains are prone to landslides, posing risks to infrastructure projects. Conducting geological surveys and implementing stabilization measures are vital for safety.

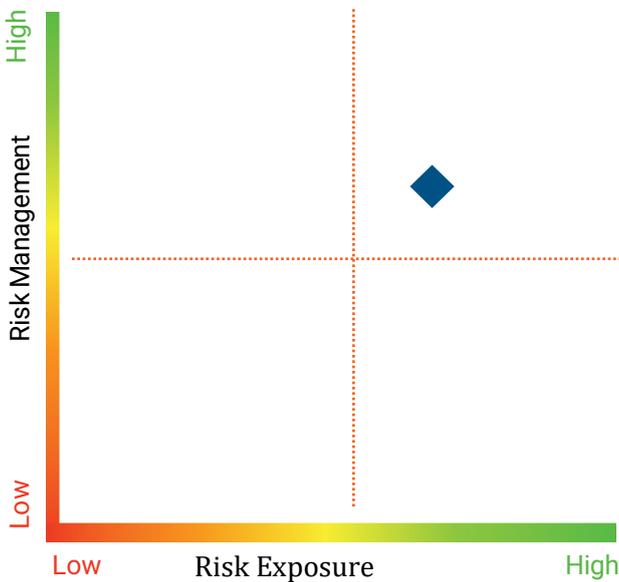
Pandemic and other Global Epidemic Diseases

- The COVID-19 pandemic led to significant operational challenges, including labor shortages and supply chain disruptions, causing delays in project timelines and increased costs.
- The pandemic altered consumer preferences, with a heightened demand for larger homes and properties in less densely populated areas, prompting developers to reassess project strategies. [2]
- Economic uncertainties during the pandemic resulted in reduced investment and liquidity constraints, affecting the financial stability of real estate firms and delaying new project launches.
- Frequent changes in health and safety regulations required rapid adaptation by construction companies, leading to increased compliance costs and operational complexities.
- The pandemic accelerated the adoption of digital tools for virtual property tours and remote project management, necessitating rapid technological integration and training.

Risk Dimension Analysis: Strategic Risk

Risk Exposure Score: 62

Risk Management Score: 69



Resource scarcity / Misutilization / Overall Utilization

- Global supply chain disruptions led to shortages of essential construction materials, causing project delays and increased costs. The pandemic-induced migration resulted in labor shortages, affecting construction timelines and necessitating higher wages to retain workers.

- The push for sustainable practices led to the adoption of energy-efficient technologies in construction, balancing operational efficiency with environmental considerations. Projects increasingly focused on efficient water usage

and recycling systems, addressing both regulatory requirements and public expectations for sustainability.

- Urbanization pressures necessitated innovative land use strategies, including vertical construction and mixed-use developments, to maximize space efficiency.

Public Sentiments

- Homebuyers increasingly sought transparency and accountability from developers, influenced by past project delays and frauds, leading to a preference for reputed builders.
- Public awareness about environmental sustainability grew, with buyers showing interest in green-certified buildings, prompting developers to incorporate eco-friendly features.
- Infrastructure projects faced opposition from local communities concerned about displacement and environmental impact, leading to delays and increased project costs.
- There was a noticeable shift towards larger homes and properties with better amenities, reflecting changing lifestyle preferences post-pandemic.
- Fluctuations in economic confidence influenced property buying decisions, with periods of optimism leading to increased sales and downturns causing market stagnation.

Delay in Execution of Projects

- Prolonged regulatory approval processes significantly extend project timelines.
- Extended timelines escalate financing costs due to longer borrowing periods. Delays can lead to

contractual disputes, litigation, and associated legal expenses. Delayed execution increases holding costs and reduces capital efficiency.

Increased Number of Recalls and Quality Audits

- Extensive audits add administrative overhead and compliance expenditures. Time-intensive audit processes slow project completion timelines.
- Heightened audit frequency can expose operational inefficiencies, leading to additional remediation costs. Audits divert managerial resources and staff attention away from operational tasks.
- Greater scrutiny increases the likelihood of detecting non-compliance, resulting in fines.

Failed / Hostile Mergers & Acquisitions

- Hostile takeovers can lead to abrupt management changes, disrupting operational stability.
- Forced mergers may face integration problems, causing internal resistance and lower productivity.
- Investor Uncertainty: Uncertainty arising from hostile activities impacts stock prices and investor confidence negatively. Strategic and operational decisions are delayed during takeover battles, impacting projects.
- Employee uncertainty during mergers increases turnover rates and talent loss, reducing productivity.

ICICI LOMBARD: Key Solution Offerings

Property

Evaluation of various risks to understand areas for improvement, such as fire preparedness, electrical safety, safety & emergency preparedness, maintenance and house-keeping, etc. By evaluating risks, we can identify potential hazards and advise on mitigating risks.

- **Property Loss Prevention:** We believe users should carry out detail risk visit followed by benchmarking of the industry good practices (Industry Risk Profiling). For instance, industries such as chemicals & petrochemicals impose a major challenge in manufacturing due to inherent risk. We recommend solutions for “Low Focus - High Loss Areas. This can help in minimizing severity losses. All the risk recommendations are grouped into four different segments based on cost-impact matrix and the priority is decided accordingly. Key decision makers at user’s end can ensure to get recommendations implemented.
- **Comprehensive Risk Assessment (CRA):** A Comprehensive Risk Assessment is a systematic approach to electrical safety specially designed for industries to evaluate potential hazards and recommend improvements, coupled with savings. It is an important tool for identifying risks, severity of hazards and avoid incidents arising out of electrical faults.
- **Electrical Risk Assessment (ERA):** An Electrical Risk Assessment is a basic solutions focused towards electrical safety designed to evaluate potential hazards and recommend improvements. Majority of fires in India are caused due to electrical installations. Ensuring safety of electrical installations of industrial unit or organization is critical to reduce risk and ensure safety compliance with Safety Standards and Regulation. ERA is an important tool which have 6 inbuilt solutions such as Electrical Audit & Thermography, etc.
- **Fire Hydrant IoT:** Fire Hydrant IoT: Fire hydrant IOT (ILGIC Patented Solution) is an automated device for monitoring key parameters such as Hydrant and Sprinkler line pressure, Main and Jockey pump on-off status, Firewater tank level. These can be interpreted to provide intelligence on unauthorized usage of water and leakage, effectively saving water. This information pertaining to breach of above-mentioned parameters is notified through dashboard & email alerts. Monitoring of such system is essential as these fire fighting systems are lifeline during any emergency.
- **Temperature & Humidity IoT:** Provides end-to-end plug & play ambient temperature and humidity monitoring Solution to manage temperature and humidity-controlled environment more efficiently. It generates - Automated reports (historical trends for different locations etc.). Intelligent Alerts - SMS & emails is sent to the concerned (one or multiple) stakeholders in case

any anomaly.

- **Electrical IoT:** Electrical IoT is a patented solution (ILGIC Patented Solution) to avoid any instances of short circuiting due to abnormal voltage & current conditions. These are mainly built for application in warehouses. This solution has been created as these locations are having huge stocks with lesser manpower during emergencies mainly during non-business hours. The device automatically cuts off power in case of abnormality & restarts back when situation is normal.
- **Ultrasound technology for Gas Leak Detection:** Use of ultrasound technology for leak detection in process lines. The methodology recommends a non-destructive way of avoiding losses with no downtime. The main objective is to identify the leakages in all pressurized systems including pipelines by using ultrasound technology and tag them for rectification. It also includes listing leaks with individual CFM losses and cost savings possible.
- **Fire Mitigation Solutions:** Solutions have been designed based on their specific needs, keeping in mind the level of awareness and complexity of the location. These best-in-class solutions which are installed at correct locations.
- **Renewable Solutions:** In line with our philosophy of recommending business solutions, we recommend efficiency measurements for wind and solar power generating assets. Drones are used to provide high accuracy and quick reach which is not possible through any traditional methodology. User get to know about the low performing module and ways to improve the same within the entire solar plant with latlong identification. We recommend advanced drone-based technology for inspection of wind turbines and solar PV modules.

Marine

In the dynamic realm of marine insurance, cargo faces a myriad of risks, from unpredictable weather conditions to unforeseen accidents, safeguarding against potential challenges at sea and in surface transportation / INLAND movement is paramount.

- **MLCE (Marine loss control engineering):** Frequent occurring losses due to Peril such as accident, wet damage, theft, non-delivery, pilferage, hijack of consignments, mishandling shall be examined with ground inspections, to determine root cause analysis with MIS, claim assessment reports collectively in the form of logistics audit.
- **MWS (Marine warranty surveys):** Our inhouse practices of condition survey prior risk inception & post risk inceptions helps our customers to have an independent risk management of the high value / ODC (over dimensional cargo) movements conducted by the Insured so that reliance over logistics service provider is supervised with Insured's nominated risk assessment team having a worldwide presence with a supervised network. Not only marine cargo, but HULL insurance risk exposures are surveyed for risk assessment and risk management.
- **Technical engagements:** Uncertainty of the risk associated with the transit can be concluded

with marine experts. Assessing vessel's condition for SEA transit as a full chartered load on behalf of the Insured, Risk assessment of cargo from packing, handling, lifting, securing, transit and final delivery methodology shall be discussed with the logistics team. Vessel selection, stowage and securing methods can be jointly discussed with the User's logistics team for a safe transit, dispatch and delivery coverage after assessing the risk on desktop with a virtual or F2F engagement and / or a ground visit.

- **Transit Telematics:** With the government's constant agenda of upgrading to digitalized operations by introducing ULIP and NITI Aayog mode of operations, not having a visibility of transit will hamper your logistics operations. IOT and SAAS (software as a service) based products incorporating the design of a cost efficiency and loss mitigation system can help enhance delivery with safe operation. Additionally, a 24*7 risk control is recommended to effectively monitor and mitigate theft / pilferage prone dispatches to ensure a safe transit delivery. Be it a temperature-controlled cargo, expensive cargo in transit or liquid bulk cargo in lorry tankers, it is essential to mitigate the risk and losses that might occur due to accidents caused by fatigue, unexplained conditions, or theft. We have case studies of successful recovery of stolen goods with our telematics services.

Liability

The growing adoption of technology in organizations has not only led to crucial data being stored and processed on digital platforms but also facilitated the automation of operations, thereby enhancing business efficiency. However, this shift also amplifies cyber risk, exposing sensitive information to potential threats and rendering organizations vulnerable to financial losses, reputational damage, and legal liabilities. As organizations delve deeper into the digital realm, fortifying cybersecurity measures becomes imperative to safeguard operational integrity and protect critical data from unauthorized access or breaches.

- **Phishing Simulation:** Experience cutting-edge phishing simulation tests to fortify your organization's defenses against cyber threats. You can enable phishing attack simulations to educate your employees on identifying and handling potential risks. Through engaging and interactive scenarios, you can raise awareness and equip your team with the necessary skills to detect and thwart phishing attempts.
- **Awareness Campaigns:** With Cyber Awareness Campaigns, you can go beyond just educating organizations about cybersecurity. The campaigns are meticulously designed to empower your team with essential best practices, insights into global incident trends and a comprehensive understanding of potential risks. Interactive designs help you captivate and engage your employees, fostering a cyber-aware culture within your organization. Customized campaigns can perfectly align with your unique needs and requirements and stay informed and vigilant.
- **Incident Response and Readiness:** A bespoke service that fortifies organizations with robust processes and clear communication channels for proficient cyber-incident management. This

recommendation not only trims down the incident response time but also facilitates prompt, accurate action within the crucial initial hours. By meticulously assessing your organization's incident response policies and sculpting response systems in alignment with global industry benchmarks, this ensures you are thoroughly prepared to tackle the evolving digital threat landscape.

- **CXO's Session:** CXO's Session service provides immersive training sessions, personalized coaching & interactive discussions to empower your CXOs with cybersecurity knowledge that aligns with your business objectives. The subject matter experts recommend strategic guidance and in-depth insights into the ever-evolving threat landscape, translating technical jargon into practical language. Regular cybersecurity forums facilitate peer-to-peer learning and benchmarking against industry standards. CXO- focused approach ensures a cyber-aware leadership team that drives your organization's success securely into the future.
- **Weekly Threat Intelligence Bulletin:** Stay ahead of cyber threats with the Weekly Threat Intelligence Bulletin. We meticulously curate this comprehensive bulletin, providing timely insights on emerging threats, vulnerabilities, and attack trends. Delivered directly to your inbox, it recommends proactive advantage by promptly identifying potential risks. With continuous updates and ongoing support, you can confidently adapt your Defence strategies to combat the most sophisticated threats. It enables you to make informed decisions and protect your organization from emerging threats with Weekly Threat Intelligence Bulletin.
- **Email Security:** Safeguard your organization's communication channels with the Email Security solutions. We recommend robust measures to protect against phishing, malware & other email-borne threats. The advanced email filtering and authentication technologies prevent malicious emails from reaching your users inbox. Implementing encryption protocols to ensure the confidentiality of sensitive data in transit is a good idea. With real-time monitoring and threat intelligence, email security measures provide proactive Defence, detecting and blocking suspicious activities promptly. You can protect your organization's reputation and sensitive information with comprehensive Email Security measures, ensuring a secure and reliable email environment.
- **Agent-less Patching:** Agent-less patching platform for companies and MSMEs who want a rapid solution to distribute critical security updates and vulnerability fixes without causing system downtime. The patching platform not only assists with patch deployment, but it also enables your system administrator in understanding the patches, Adjustments & impact of the patches on the system. Before applying the patch, the software generates a warning if the system requires downtime or a reboot. You can experience a hassle-free patching process with the platform recommending enhanced security for your organization.
- **EDR/MDR Services:** Elevate your organization's cybersecurity capabilities with the Endpoint Detection and Response (EDR) and Managed Detection and Response (MDR) services. These advanced solutions provide continuous monitoring, rapid threat detection & effective incident response, safeguarding your digital assets in real-time. With EDR, proactively detect and

respond to threats at the endpoint level, while MDR service offers 24/7 monitoring and expert support. You can strengthen defenses against the most sophisticated cyber-attacks with EDR/MDR services, ensuring a resilient and secure digital environment.

- **All-in-one Operating System:** All-in-One Operating System is a true game-changing platform that provides a fortified desktop environment to foster secure collaboration and centrally managed cybersecurity resilience. Inbuilt endpoint security serves as a vigilant guard, blocking potential dangers. Effortless IT management provides with a user-friendly interface, leading to significant cost savings in IT infrastructure. It provides in-built end-point security, automated updates and patches along with extensive device reports. Organizations can unlock a secure and prosperous future by embracing the All-in-One Operating System in their IT infrastructure.
- **Cyber Risk Management & Compliance Dashboard:** Gain a clear understanding of your organization's cyber risk exposure with Cyber Risk Management & Compliance Dashboard. This powerful tool assesses your risk posture, quantifies potential financial Impact & evaluates compliance with industry standards and regulations. Armed with this information you can make informed decisions to prioritize cybersecurity investments and ensure compliance with relevant laws and regulations. The intuitive dashboard provides a comprehensive view of your cybersecurity performance enabling data-driven decision-making. This solution enables organizations to stay ahead of threats and ensure a resilient cybersecurity posture.
- **Security Score Card:** Track your organization's cybersecurity performance with a dynamic Security Score Card solution. This comprehensive rating provides a clear overview of your security posture, highlighting areas that require attention and improvement. It empowers data-driven decisions, allowing you to focus on strengthening key areas. Identify potential risks and compliance gaps with industry standards and regulations. With actionable insights, you can prioritize cybersecurity investments effectively, ensuring a robust and resilient Defence against cyber threats. This Security Score Card solution can be your strategic tool to proactively elevate your cybersecurity posture.
- **VAPT:** Enhance your organization's cybersecurity defenses with the Vulnerability Assessment and Penetration Testing (VAPT) service. Skilled professionals conduct rigorous assessments, simulating real-world attacks to identify potential vulnerabilities in your digital infrastructure. With detailed insights, you can fortify your defenses and proactively address weak points before malicious actors exploit them. This service goes beyond identifying vulnerabilities, you also get actionable recommendations to mitigate risks effectively. Organizations can be one step ahead of cyber threats, ensuring the security and resilience of your critical assets with the comprehensive VAPT service.

Engineering

In engineering risk management, it's vital to adopt a holistic approach that extends beyond immediate concerns to proactively tackle potential risks and uncertainties. Drawing upon

considerable expertise in claims handling and risk evaluation, a robust and customized protection strategy can be ensured.

Construction endeavors face a myriad of risks such as floods, cyclones, impact damage, fires, theft, and collapse. However, the adverse effects of these risks can be mitigated through the implementation of extensive loss prevention measures specifically tailored for engineering projects.

- **Engineering Loss Prevention Exercise (ELP):** To effectively manage losses in Engineering Risk, fostering a culture of loss prevention is crucial. It's widely acknowledged that each construction project is distinct, presenting specific challenges related to geography, geology, occupancy, and construction methodology, which in turn result in unique associated risks. To cater this challenge a specific risk management framework which deals about the unique requirement of each project could be created for the loss prevention with reference to some parameters of distinctive research and industries best practices.
- **Drone Solutions for Linear Projects:** In recent years, the construction industry has undergone significant changes due to the introduction of drone-based construction solutions. These cutting-edge technologies are transforming the planning, design, and execution of construction projects. A major benefit of drone technology in construction is its capacity to conduct aerial surveys, providing extensive coverage and detail. Drones, equipped with advanced cameras and sensors, can rapidly capture precise images and data, offering project managers valuable insights into site conditions. This data can facilitate project planning, cost estimation and design optimization by providing a comprehensive understanding of the project's parameters.
- **CPM - Fleet & Fuel Management:** An advanced GPS-equipped sensor is available to precisely measure direct fuel consumption, evaluate engine efficiency, and detect potential tampering of diesel engines in both mobile vehicles and stationary machinery. This solution enables real-time alerts for service reminders and critical health issues, facilitating prompt resolutions and enhanced utilization. Additionally, it offers valuable insights into machinery and equipment performance through comprehensive analyses, resulting in optimized inventory usage and increased efficiency.

Health

We highly recommend exploring proactive and preventive healthcare solutions, which can make a significant difference in maintaining good health. Recognizing that majority of in-patient department (IPD) admissions could be prevented with timely interventions and regular healthcare, it is important to focus on health, not just during illness.

- **Pioneering Digital Platform:** We recommend exploring digital health innovations offered by industry leaders, which provide cutting edge health solutions through the IL TakeCare (ILTC) app. Our platform has transformed the way health services are delivered by introducing a fully digital and cashless Outpatient Department (OPD) and Wellness Program.

- **Health Advisory Services:** We recommend a suite of health advisory services on the IL TakeCare app. Users can access health risk assessments, diet and exercise trackers, health parameter tracking and trends and sleep, meditation & hydration reminders. In addition, the platform recommends a feature to upload health records up to 1GB, and provides informative health blogs.
- **IL TakeCare App:** IL TakeCare app is a One-Stop-Solution for users with insurance needs. This robust user engagement is a testament to the high-value features that the app provides. Unique to the app is the innovative self-health assessment feature, which includes Face scan technology that can measure blood pressure, heart rate, cardiac variance, and SpO2 levels. The platform provides seamless teleconsultations with medical practitioners and specialists, and even recommends access to mental wellness experts to the insured. The facility for cashless OPD services and the efficient claim settlement process further enhance user experience. By encapsulating a wide range of state-of-the-art health services and solutions, the IL TakeCare platform revolutionizes corporate health management and serves as a comprehensive digital health solution.



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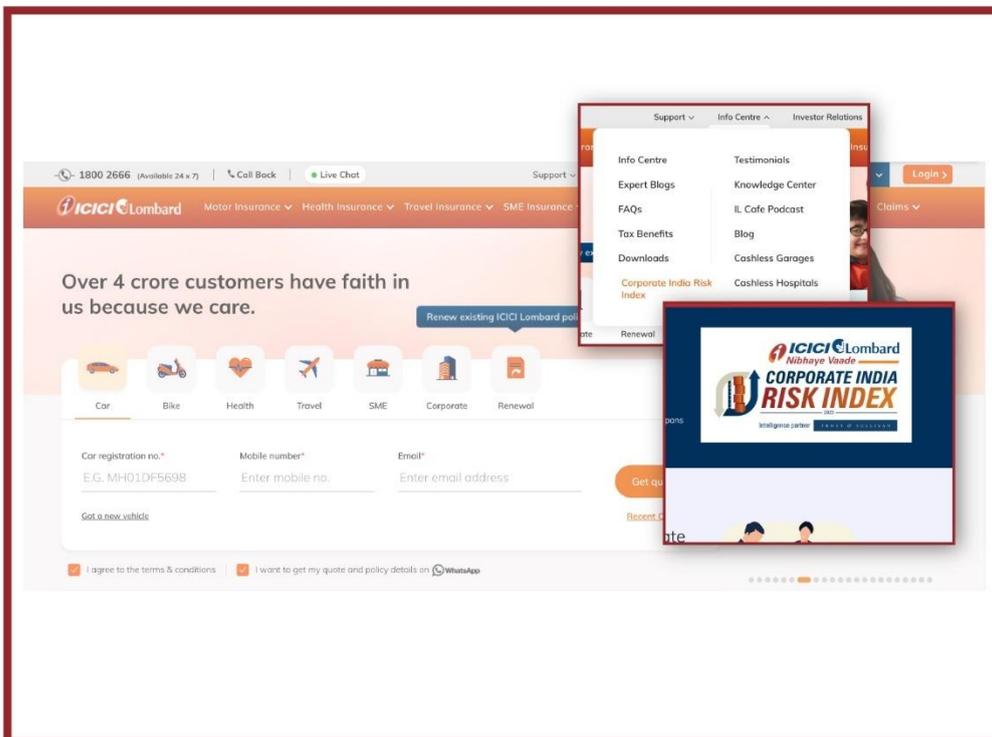
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