ICICI Lombard

CORPORATE INDIA RISK INDEX

2024

Intelligence partner FROST & SULLIVAN

Navigating Risks, Powering India's Growth

SECTOR REPORT 2024

Biotech & Lifesciences

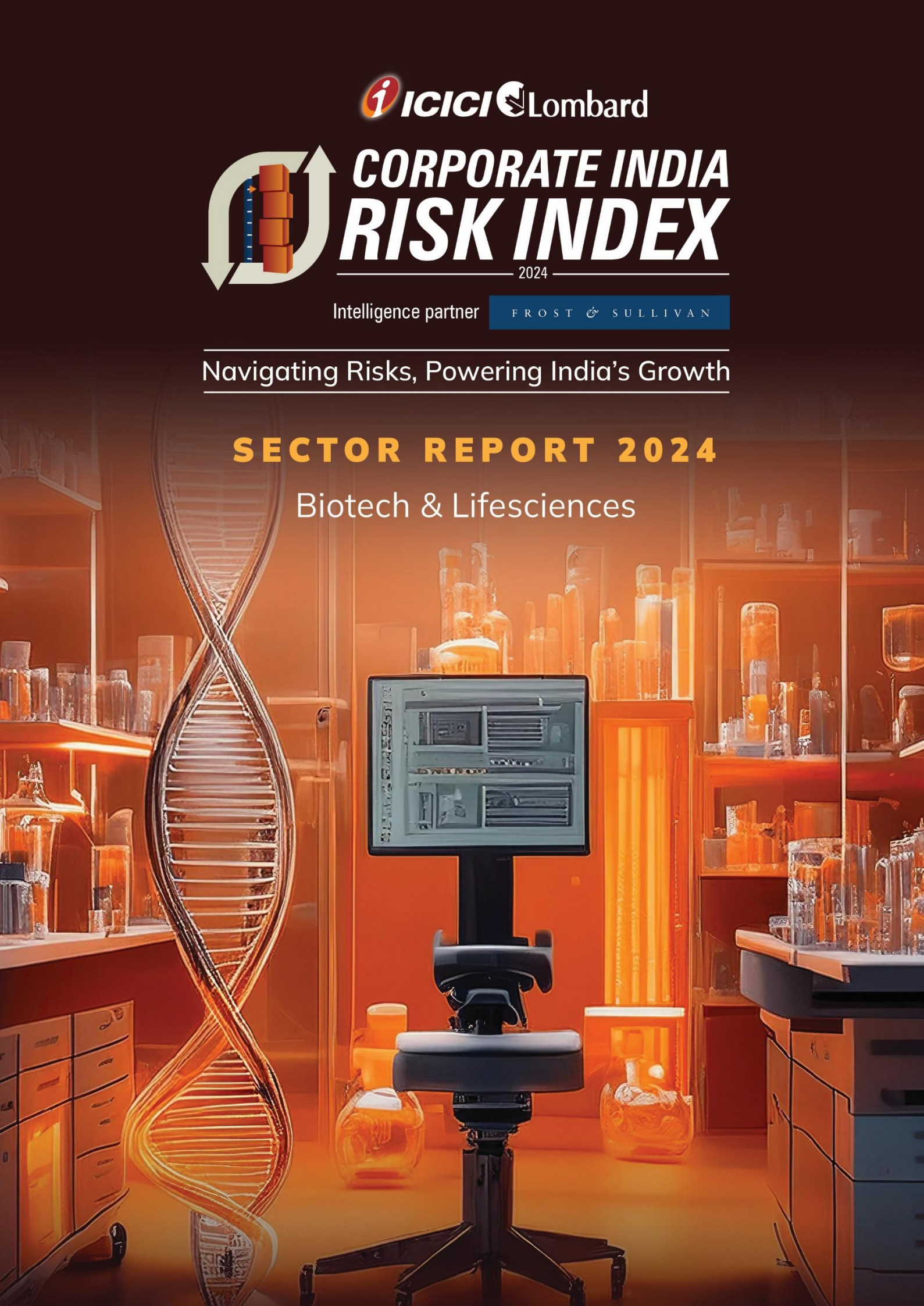


Table of Contents

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

In 2024, India's biotechnology and life sciences sector displayed impressive resilience and growth, despite facing challenges like regulatory complexities, supply chain vulnerabilities, and the need for technological advancement. The sector benefitted from strategic initiatives and collaborations that helped address these issues effectively. Companies, particularly in the Contract Research Development and Manufacturing Organisation (CRDMO) sector, worked towards streamlining regulatory processes, while industry leaders advocated for policy changes to improve operational efficiency and competitiveness. The government's commitment to supporting the sector further enhanced its growth potential, with initiatives to improve logistics infrastructure and expedite approvals.

Supply chain disruptions, particularly those tied to dependence on raw materials from countries like China, remained a key concern. To mitigate risks, Indian firms focused on diversifying their sourcing and expanding their global footprint, with companies like Syngene International acquiring international facilities to enhance manufacturing capabilities. Technological advancements, especially in artificial intelligence (AI), played a pivotal role in improving operational efficiencies and reducing processing times. Collaborations with local startups and global players positioned Indian biotech companies at the forefront of innovation, enhancing their competitiveness on the global stage.

The government's proactive approach, through initiatives like the National Biotechnology Development Strategy, reinforced the sector's resilience and global capabilities. With ongoing investments in research, development, and biomanufacturing, the Indian biotech and life sciences industry not only navigated these challenges but also laid the groundwork for sustained growth and leadership in the years ahead.

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

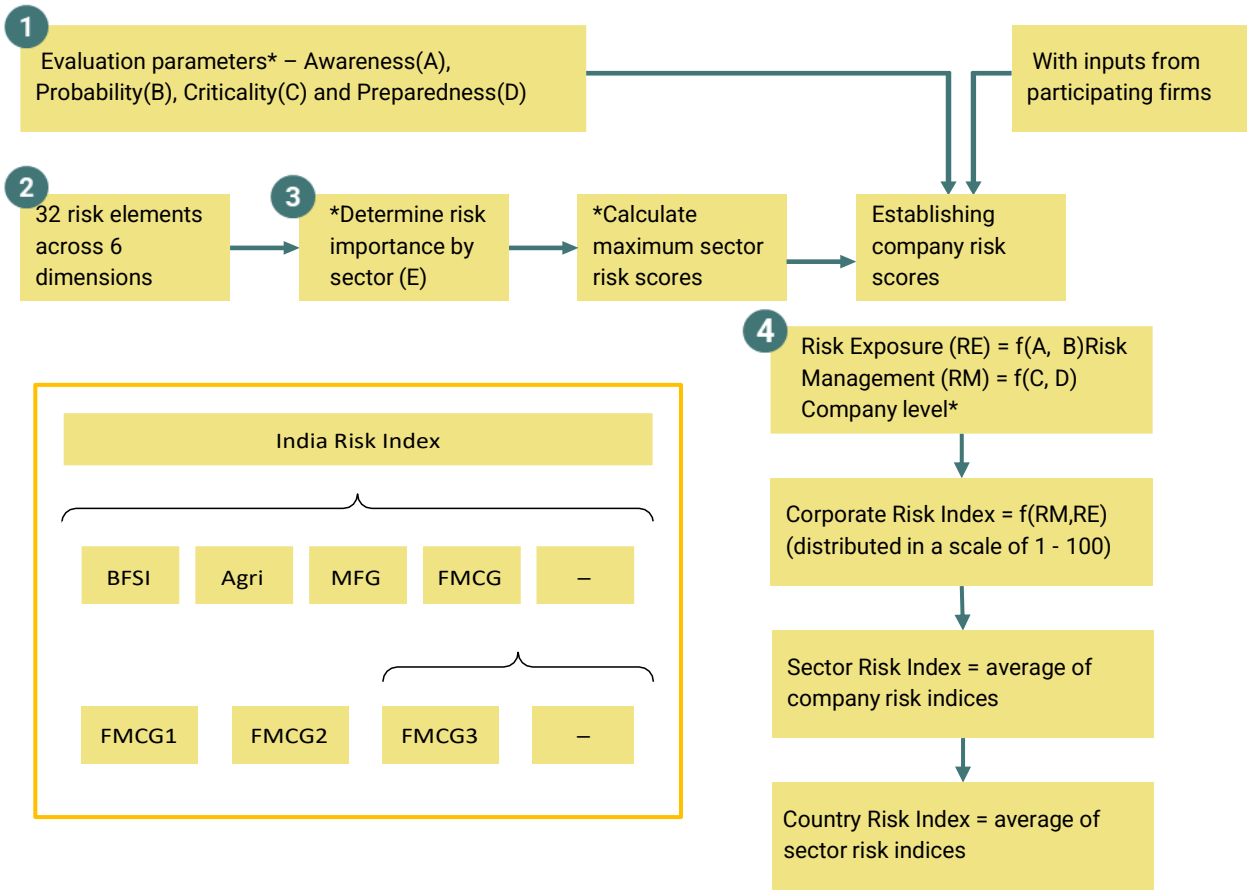


Figure 1: Risk Assessment Approach

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.

Defining the Risk Scale

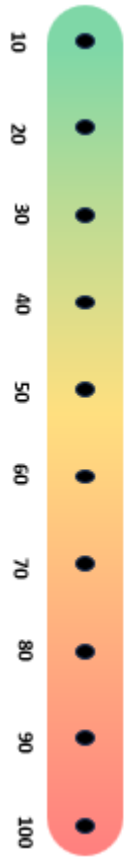
We have selected 20 sectors to understand the current stand of our country today in terms of risk. Risk for various sectors is measured on the risk exposure scale and risk management scale.

A. ICICI Lombard Corporate Risk Exposure – Scale

Risk Exposure: The impact of any internal, external or strategic occurrence on the financial performance of an organization is defined as the corporate risk exposure.

Risk has traditionally been seen as something to be avoided – with the belief that if behavior is risky, it's not something a business should pursue. But the very nature of business is to take risks to attain growth. Risk can be a creator of value and can play a unique role in driving business performance.

Let's look at the risk exposure scale.



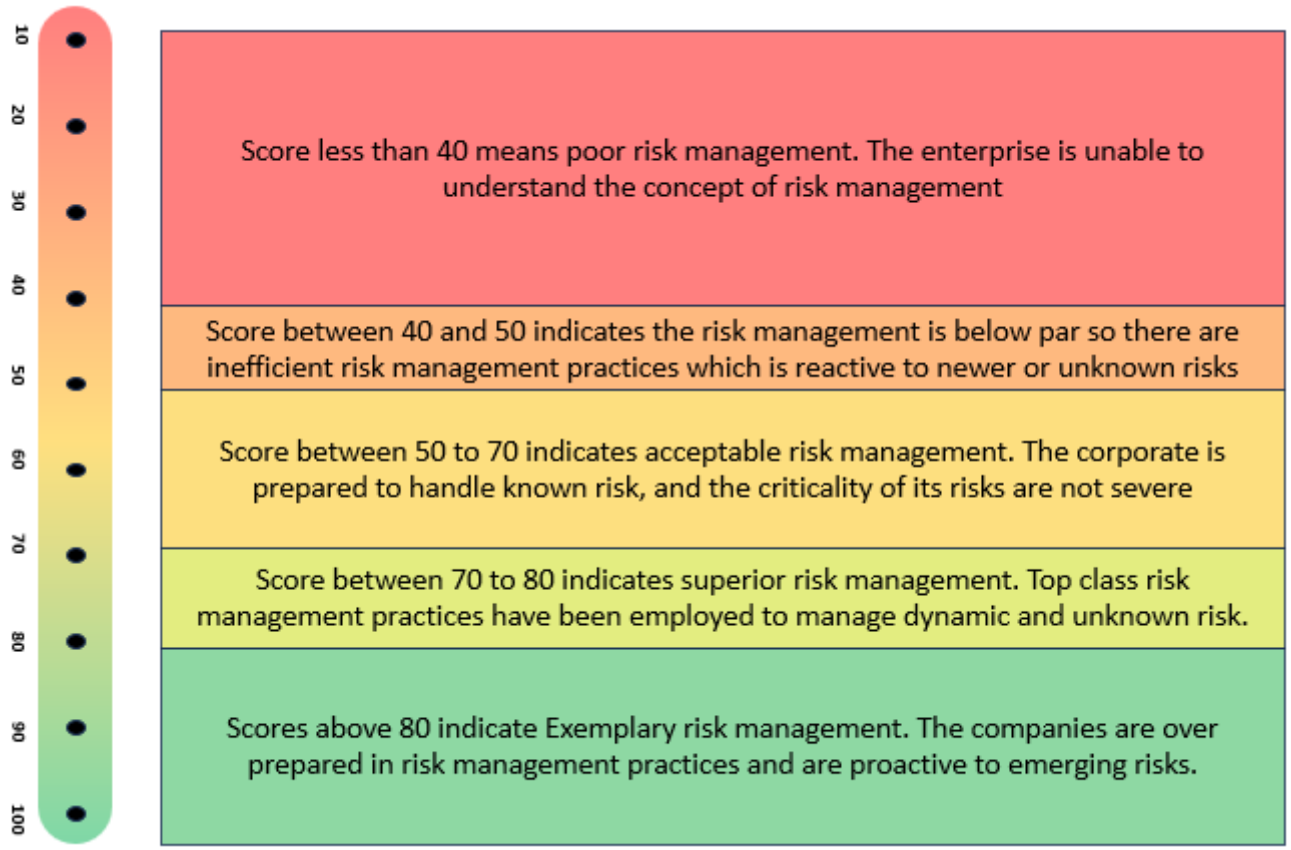
Score: If less than 30 means there is very low risk exposure, and the sector has minimal exposure to overall risk
Score between 30 to 50 indicates low risk exposure and its risk exposure is within acceptable or tolerable limits
Score between 50 to 60 indicates moderate exposure indicating corporate can balance the impact of overall risks up to a certain extent
Score between 60 to 80 indicates high risk exposure and its impact is very high in the industry in which the corporate operates
Score greater than 80 indicates very high-risk exposure. The corporate is unable to foresee risk incidents and probability of occurrence of these incidents may be extremely high

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.

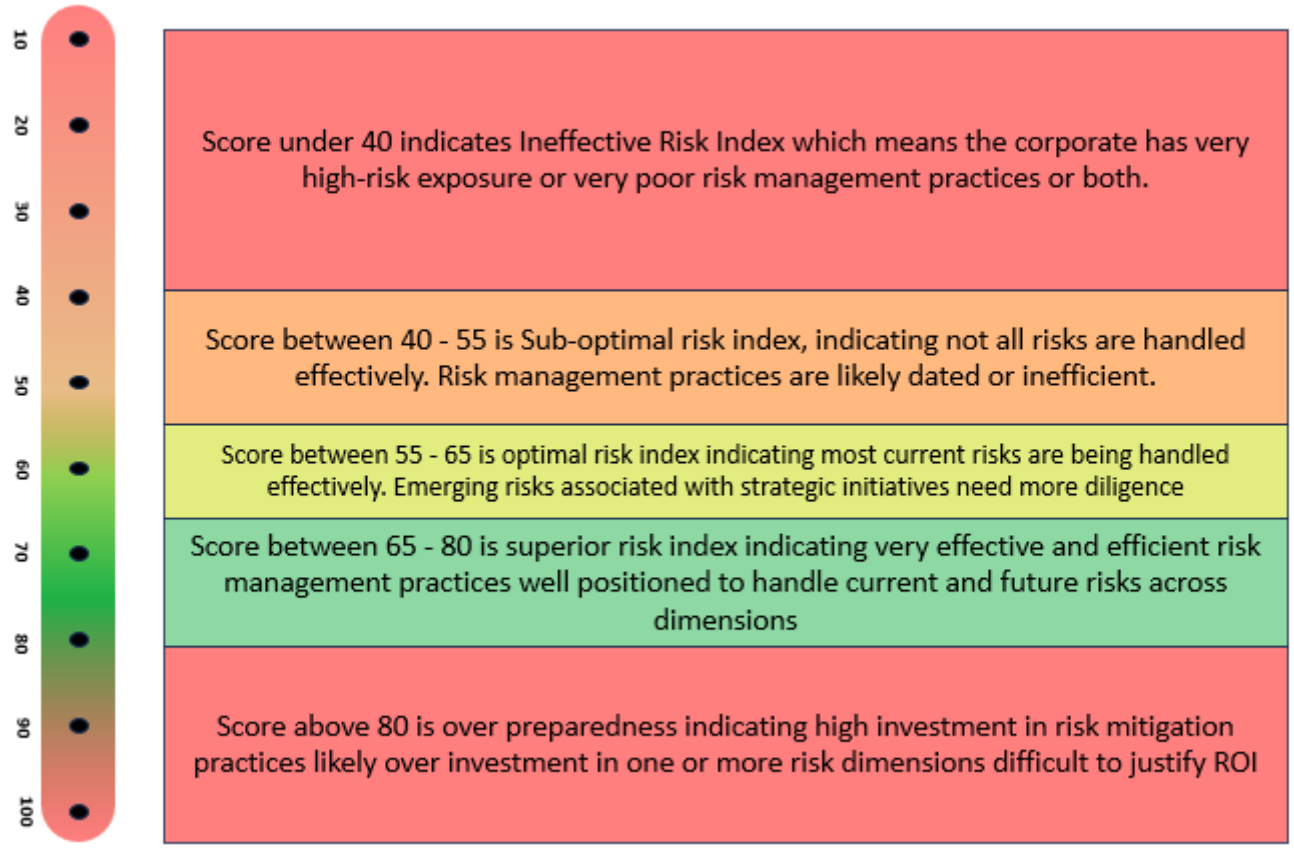
Let's look at the risk management scale.



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.

Biotech & Lifesciences Sector Insights 2024

The biotechnology and life sciences sector in India is witnessing unprecedented growth in 2024, driven by cutting-edge advancements in biopharmaceuticals, genomics, and synthetic biology. India continues to solidify its position as a global biotech hub, particularly in vaccine production, biosimilars, and precision medicine. The sector's expansion is largely attributed to government initiatives, increased private sector investments, and a robust startup ecosystem focusing on innovation in healthcare, agriculture, and industrial biotechnology. The Indian government has played a pivotal role in fostering this growth through policies such as the National Biotechnology Development Strategy and the Production Linked Incentive (PLI) scheme, which have incentivized domestic biomanufacturing and research. Regulatory reforms have further streamlined clinical trial approvals and biosimilar pathways, making India an attractive destination for contract research and manufacturing. This has led to increased collaborations between Indian biotech firms and global pharmaceutical giants, leveraging India's cost-effective and high-quality production capabilities.

Despite rapid progress, the sector faces key challenges, including high R&D costs, regulatory complexities, and dependence on China for Active Pharmaceutical Ingredients (APIs), which exposes India's supply chain to external vulnerabilities. The development of biologic drugs remains capital-intensive, requiring significant financial backing and long-term investment strategies. Additionally, the industry grapples with a shortage of skilled professionals in niche fields like bioinformatics, synthetic biology, and genetic engineering, necessitating greater emphasis on STEM education and workforce training programs. Intellectual property concerns and stringent global compliance standards further add to operational costs, requiring Indian biotech firms to continuously innovate while adhering to international quality benchmarks.

Looking ahead, India's biotech sector is set to witness groundbreaking advancements in AI-driven drug discovery, mRNA vaccine development, and personalized medicine. With a strong push towards self-reliance in API manufacturing and the growing adoption of sustainable bio-manufacturing practices, India is on track to reduce import dependence and enhance its global competitiveness. By 2033, the country is expected to emerge as a global leader in biotechnology and life sciences, driving transformative healthcare solutions, sustainable industrial practices, and economic growth on an unprecedented scale.

Biotech & Lifesciences Sector Risk Index 2024 Vs 2023

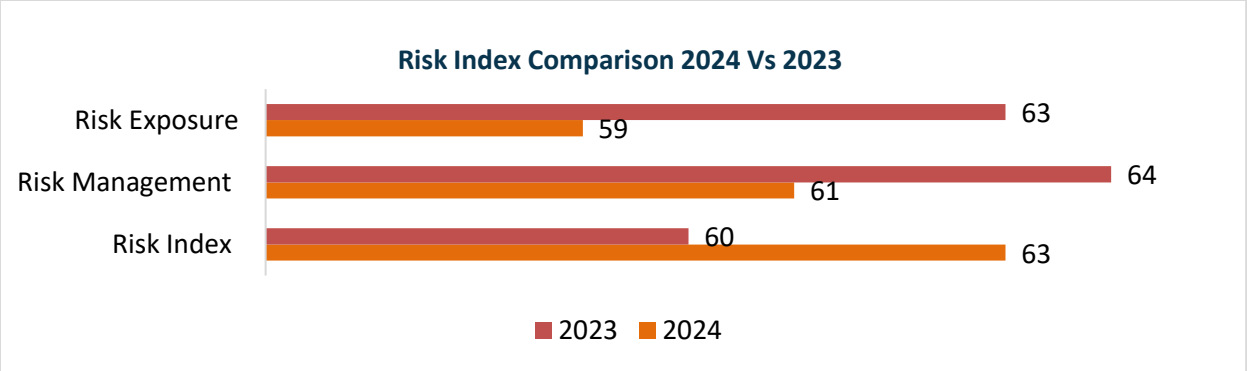


Figure 4: Detailed Comparative Analysis 2024 Vs. 2023

Biotech & Lifesciences Sector Risk Index 2024 Vs 2023

The overall Risk Index for the sector increased from 60 to 63 in 2024, owing to a decrease in the risk exposure from 63 to 59 in 2024.

Biotech & Lifesciences Sector Risk Exposure 2024 Vs 2023

The decline in risk exposure reflects improvements in managing external and internal risks. Companies in the sector made significant strides in addressing supply chain vulnerabilities, especially reducing reliance on single sources for raw materials. Diversifying global manufacturing capabilities helped mitigate supply chain disruptions. Additionally, government support and policy reforms, including initiatives to streamline regulatory processes and enhance infrastructure, further reduced the sector's vulnerability to regulatory delays and logistical issues.

Biotech & Lifesciences Sector Risk Management 2024 Vs 2023

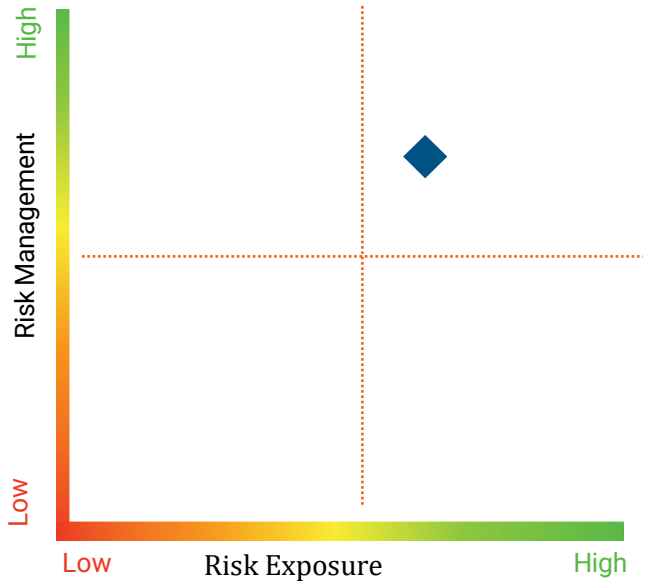
While risk exposure decreased, the slight decline in the risk management score can be attributed to ongoing challenges in implementing and adjusting to regulatory frameworks and technological disruptions. Despite the progress made in risk mitigation, there may still be lingering complexities in managing new technologies like AI and ensuring full compliance with evolving regulatory standards. Additionally, while firms have invested in technological advancements, the integration of AI and automation may not yet be fully optimized, contributing to the lower score in risk management.

Key Highlights

Risk Dimension Analysis: Market and Economy

Risk Exposure Score: 69

Risk Management Score: 71



Inflation

- Rising costs of raw materials, clinical trials, and equipment procurement have increased operational expenses in FY24, impacting profit margins across the sector.
- Inflationary pressures on labor costs and supply chain expenses have forced companies to reevaluate pricing strategies and explore cost-cutting measures.
- The biotech sector is highly dependent on imported reagents, chemicals, and active pharmaceutical ingredients (APIs), making it particularly vulnerable to currency fluctuations and global commodity price hikes.

Taxation Risks

- The Changes in R&D tax credits, drug pricing regulations, and tax compliance policies have introduced financial uncertainty, making long-term investment planning more complex.
- The introduction of higher corporate taxes in major biotech hubs like the U.S. and Europe has impacted global firms with cross-border operations, reducing after-tax profits.
- Import tariffs on pharmaceutical ingredients and biopharma components in key markets have raised production costs, influencing supply chain strategies.

Foreign Exchange Rates

- Most of biotech raw materials, including APIs, reagents, and specialized lab equipment, are imported from China and Europe, making Indian biotech firms highly vulnerable to currency fluctuations and increasing procurement costs.

- The Indian rupee depreciated by 6% against the US dollar in 2024, leading to a rise in the cost of imported biopharmaceutical ingredients, forcing firms to reallocate R&D budgets and delay non-essential projects.
- Exchange rate volatility has impacted contract research and manufacturing (CRAMS) revenue, with Indian biotech exporters experiencing a reduction in profit margins due to fluctuating forex rates and increased hedging expenses.
- Biotech companies are increasing reliance on currency hedging strategies, but the cost of forex risk management has risen in 2024, adding financial strain to mid-sized firms operating on tight margins.
- Delayed international payments due to forex volatility have disrupted supply chain timelines, leading to longer lead times for critical raw material imports and affecting drug production schedules for Indian manufacturers.

Geopolitical Risk

- Stricter trade policies on China-origin raw materials have disrupted API and biopharma ingredient imports, causing supply chain bottlenecks and increasing procurement costs for Indian biotech firms in 2024.
- Heightened geopolitical tensions between India, China, and the US have led to increased scrutiny on cross-border data sharing, delaying international clinical trial approvals and slowing global R&D collaborations.
- Export restrictions on advanced biotech equipment and gene-editing technologies from Western nations have limited access to cutting-edge biomanufacturing tools, reducing India's ability to scale high-tech biologics and personalized medicine production.
- Investments in biotech expansion into politically unstable emerging markets declined as companies reassessed risks associated with policy unpredictability, sudden regulatory shifts, and economic sanctions.
- Sanctions and trade barriers on Russia and other affected regions disrupted global biotech supply chains, leading to delayed shipments of essential reagents and specialized raw materials, impacting vaccine and biologic drug production timelines.

Regulatory Risk

- Delays in clinical trial approvals of up to 6-9 months have made India less competitive in global biotech research, prompting efforts to streamline regulatory processes.
- The US FDA plans to increase inspections of Indian drug manufacturing units in 2024, which could lead to a rise in operational costs as companies prepare for compliance, with estimates suggesting that preparation costs could increase by up to 25% for some firms
- The average time taken for regulatory approvals for new biotech products can extend up to 18 months, impacting the speed at which innovations can reach the market and potentially leading to lost opportunities for firms

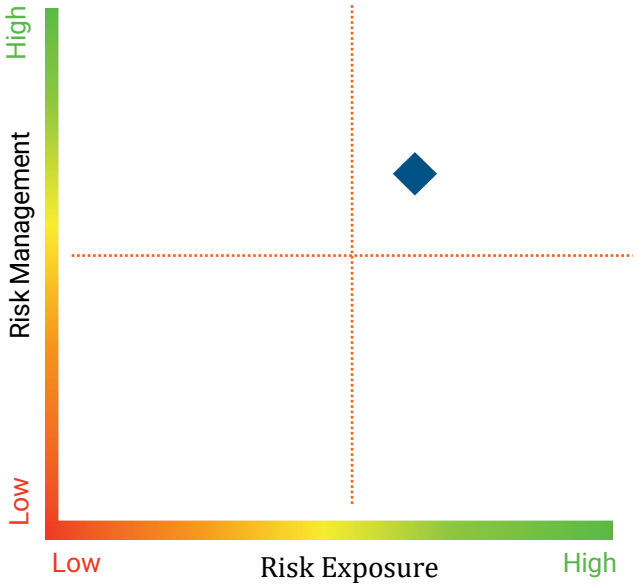
Competitive Risk

- Intensifying global competition from China and the U.S. in biopharmaceutical innovation is putting pressure on Indian biotech firms, with China increasing R&D investments in 2024, surpassing India's growth in biotech research funding. This has led to Indian firms losing out on international contracts and slowing new product launches.
- The rise of copycat biologics and biosimilars in the Indian market has increased pricing pressures, with generic drugmakers offering cheaper alternatives to patented biologics. This has forced leading Indian biotech firms to accelerate new drug pipelines and invest heavily in intellectual property protections to retain market share.

Risk Dimension Analysis: Technology

Risk Exposure Score: 63

Risk Management Score: 65



Innovation Risk / Obsolete Technology

- India's expenditure on research and development (R&D) in biotechnology is notably low, at about 0.5% of GDP, compared to the global average of 1.7%. This gap highlights a significant risk in maintaining innovation competitiveness
- The high cost of transitioning to next-generation bio-manufacturing technologies poses financial challenges for mid-sized biotech firms.
- Companies investing in lab automation and AI-driven diagnostics are gaining a competitive edge in reducing R&D cycle times
- Despite recent government initiatives (e.g., Vigyan Dhara and BioE3), India's R&D investment remains low. For instance, the "innovative pharmaceuticals risk/reward index" ranks India at 54.6/100, trailing behind developed and some Asian peers
- India's R&D expenditure remains low at 0.8% of GDP, compared to the global average of 1.7%, limiting innovation competitiveness globally

Intellectual Property Risk

- Despite being a major player in biotech production, India contributes only 1% to global biotech patent filings, highlighting its weak innovation pipeline relative to competitors like the US and China
- The absence of specialized IP courts leads to inconsistent rulings and prolonged litigation timelines. For example, biotech-related disputes often take 3-5 years to resolve, delaying commercialization
- The lack of clear regulations for AI-generated drug patents has created legal uncertainties, limiting the ability of biotech firms to secure exclusive rights to AI-assisted drug formulations & algorithms
- Weak enforcement in emerging markets such as India, China, and Brazil has resulted in an increase in unauthorized generic production, leading to revenue leakage for patent holders.

Disruptive technology

- AI-driven drug discovery platforms have reduced early-stage research timelines but companies slow to adopt machine learning and quantum computing for molecular simulations risk inefficiencies and higher R&D costs.
- CRISPR gene-editing technologies are entering clinical applications, with biotech firms racing to develop personalized gene therapies for hereditary diseases, cancer immunotherapy, and rare metabolic disorders, reshaping the drug development landscape.

Data compromise

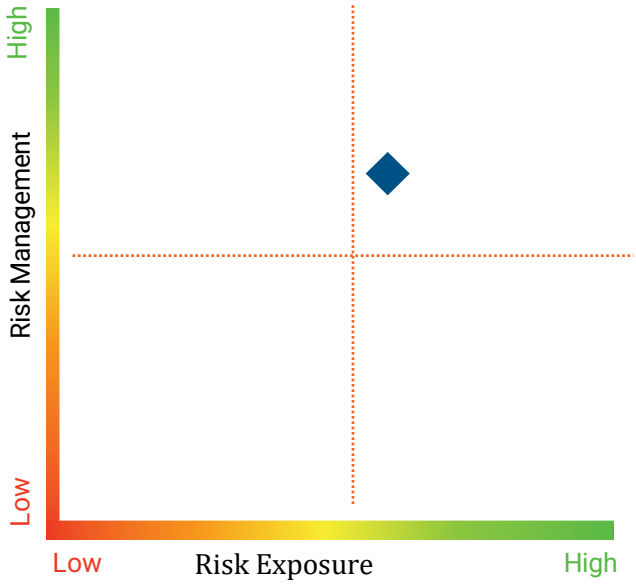
- Biotech firms in India faced increase in cyberattacks targeting clinical trial data, patient records, and proprietary research in 2024
- The pharmaceutical sector, including biotech & life sciences was among the most affected.
- Ransomware attacks on biotech companies have surged, with organizations globally reporting data breaches, leading to disrupted R&D timelines and intellectual property theft, forcing firms to increase cybersecurity investments to safeguard sensitive information

Risk Dimension Analysis: Operational and Physical

Risk Exposure Score: 64

Risk Management Score: 66

Breakdown



Critical Infrastructure Failure / Machine

- Aging biomanufacturing facilities and outdated production equipment have led to an increase in unplanned downtime across Indian biotech plants in 2024, disrupting vaccine and biosimilar production. Companies are now investing in predictive maintenance, automation, and AI-driven monitoring systems to reduce operational failures and improve infrastructure reliability.
- Many biotech products require strict temperature-controlled logistics, but power outages, inadequate cold chain infrastructure, and transport delays led to an increase in biologic product losses in 2024, affecting vaccine stability and biosimilar efficacy

Business Continuity/ Sustainability

- Biopharmaceutical manufacturing contributes to global industrial carbon emissions, leading companies to invest in green bioprocessing, AI-optimized energy usage, and carbon capture technologies to reduce environmental impact.
- India generates 743 tonnes of biomedical waste daily, increasing compliance costs in 2024 as firms adopt bio-based waste recycling and circular economy models.

Supply Chain Risk

- Most of India's vaccine and biologic drug production depends on cold chain logistics, but frequent power outages and inadequate storage facilities resulted in product losses in 2024, forcing companies to invest in backup power solutions and advanced storage technologies
- Shipping costs for biotech raw materials increased in 2024, driven by geopolitical tensions and rising fuel prices, impacting profit margins for Indian manufacturers. Companies have responded by localizing supply chains and securing long-term contracts with regional suppliers.

- Biotech firms have increased their inventory levels to mitigate supply chain risks, which is straining smaller firms with limited liquidity. The government is considering incentives for domestic API production to ease dependency on imports

Commodity Price Risk

- API procurement costs rose due to global supply chain disruptions, forcing biotech firms to absorb additional costs, reducing profit margins across the sector.
- It heavily relies on imports for essential raw materials, particularly APIs, with over majority sourced from China. This dependency exposes the sector to supply chain vulnerabilities and price volatility, as geopolitical tensions or supply disruptions can significantly impact raw material availability and costs.

Portfolio Risk

- Companies overly reliant on a single biologic or biosimilar product saw a revenue decline in 2024, as increased competition in the generics market forced pricing reductions.
- Few Indian biotech firms have more than three revenue-generating products, increasing their financial vulnerability

Human Resource

- India's biotech sector faces talent gap in specialized fields like bioinformatics, synthetic biology, and AI-driven drug discovery, slowing innovation and delaying drug development timelines.
- Despite India producing a large number of STEM graduates, there is a significant gap between academic training and industry requirements

Financial Risk

- Despite India's potential as a biotechnology hub, there is a notable gap in venture capital funding. This scarcity of investment hampers the growth of startups and smaller firms, limiting their ability to innovate and expand.
- Access to funding remains a major hurdle, especially for early-stage biotech startups. Despite government initiatives, the biotech sector receives only 0.05% of India's GDP as funding from the Central Government

Breaches of law (local/ international)

- The enforcement of the UCPMP in 2024 led to increased regulatory actions against unethical marketing practices, emphasizing the need for compliance to maintain corporate reputation and avoid legal penalties
- The sector faced scrutiny over environmental and biosafety compliance, with calls for a more robust regulatory framework to address ethical and legal considerations.

Environmental Hazard Risk

- Laboratories consume up to ten times the energy and four times the water of typical office spaces, indicating significant resource usage in the biotech sector
- Release of toxic gases (formaldehyde, ammonia, sulfur compounds) from labs causes air pollution and health risks

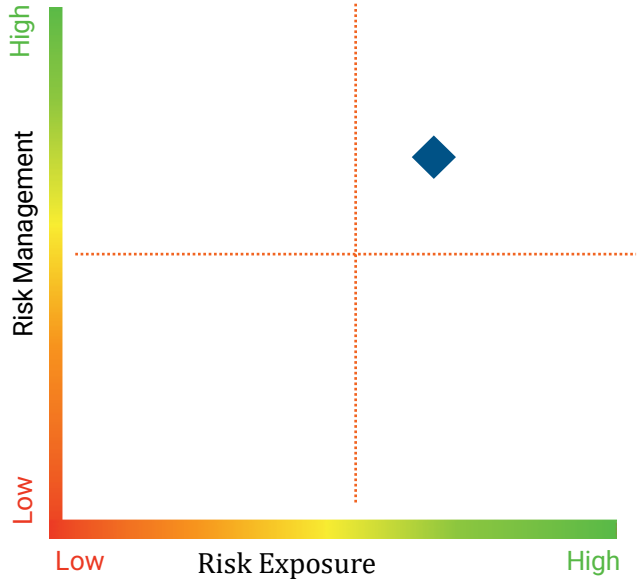
Workplace Accident

- India's biotechnology laboratories operate at various biosafety levels (BSLs), with concerns particularly surrounding BSL-2 labs, which lack accredited agencies for compliance certification. This gap poses a significant biosafety hazard, as improper handling of biological materials can lead to accidental releases or infections
- Biotech laboratories and manufacturing units often handle flammable chemicals and gases, increasing the risk of fires and explosions.

Risk Dimension Analysis: Crime and Security

Risk Exposure Score: 56

Risk Management Score: 55



Cyber-crimes

- Biotech firms have reported increased cyber threats in 2024, with ransomware attacks targeting clinical trial data, patient records, and proprietary drug formulations, leading to significant financial and operational risks.
- India's healthcare sector has become a prime target for cybercriminals, facing an average of 6,935 cyber attacks per week, significantly higher than the global average of 1,821 attacks per healthcare organization.

Counterfeiting

- Many of counterfeit medicines supplied worldwide are estimated to originate from India.
- These factors have positioned India as a leading global producer of low-cost generic medicines, inadvertently facilitating the proliferation of counterfeit drugs.

Threat to Women Security

- Due to safety concerns, female employees in biotech firms avoid late-night lab work or field research, leading to reduced research efficiency.
- The hierarchical power dynamics in Indian science labs leave students, especially women, vulnerable to exploitation, as dependence on supervisors can deter reporting of harassment due to fear of retaliation.

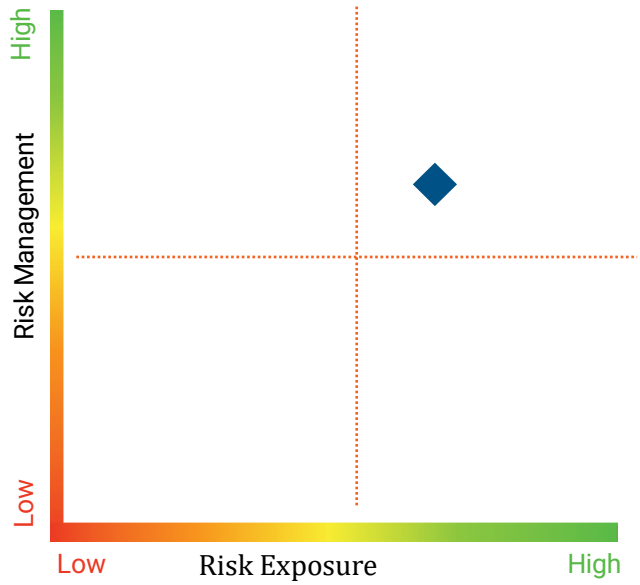
Terrorism

- India's growing biotech sector faces risks from bioterrorism, with concerns over unauthorized access to hazardous biological agents in research labs
- Terror threats to critical life sciences infrastructure, including vaccine production and pharmaceutical supply chains, could disrupt public health security.

Risk Dimension Analysis: Natural Hazard and Event

Risk Exposure Score: 61

Risk Management Score: 62



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

- The life sciences and biotech sectors are increasingly vulnerable to unpredictable climate challenges, affecting production timelines and supply chains.
- Heatwave, water scarcity along with rising temperatures can affect lab-controlled environments, impacting drug stability and storage
- India faces a 40% water deficit by 2030 (NITI Aayog), severely affecting biotech hubs like Hyderabad, Pune, and Bangalore.

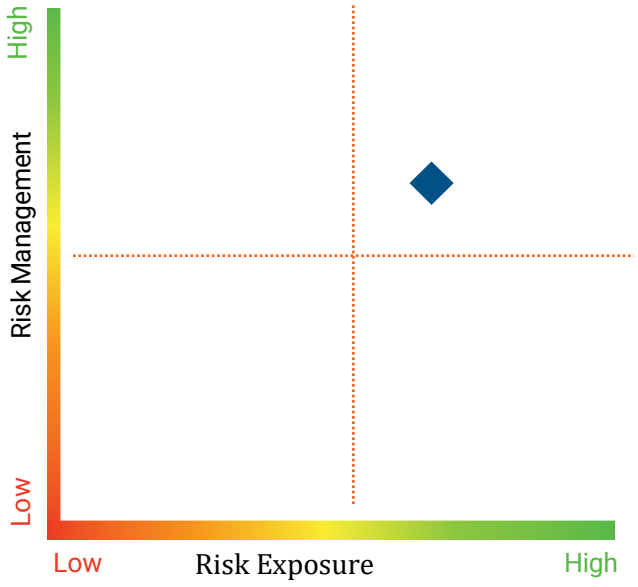
Pandemic & other global epidemic diseases

- The Indian biotech sector increases in investments in pandemic preparedness in 2024, with major firms expanding mRNA vaccine research, rapid diagnostic kits, and antiviral drug development to combat future outbreaks.
- Dependence on imported vaccine raw materials and APIs exposed India's biotech sector to global supply chain disruptions, with majority of India's API requirements are met through imports from China.
- Global funding for pandemic response shifted towards mRNA and AI-driven drug discovery, creating a competitive risk for Indian biotech firms.

Risk Dimension Analysis: Strategic Risk

Risk Exposure Score: 26

Risk Management Score: 29



Resource scarcity / Misutilisation / Overall Utilisation

- Increased demand for biomanufacturing has intensified competition for key raw materials, with India's dependence on imported fermentation media, cell culture reagents, and specialized enzymes increasing procurement costs
- Water consumption in biopharma production remains a major sustainability concern
- Inefficiencies in utilizing biopharma production capacity have led to supply chain bottlenecks. Factors such as delays in regulatory approvals and slow technology transfer processes have resulted in underutilization of manufacturing capacity, impacting drug availability and export potential.

Public Sentiment

- Concerns over the ethical implications of gene editing, stem cell research, and synthetic biology have led to increased public scrutiny
- Misinformation and vaccine hesitancy remain significant risks, with social media-driven narratives reducing public trust in biotech innovations, leading to a decline in vaccination rates for non-COVID immunization programs in 2024.

Failed / Hostile Mergers & Acquisitions

- India's biotech and pharma M&A activity declined due to disparities in company valuations between buyers and sellers have been a significant barrier to successful M&A transactions.
- Hostile takeover attempts increased in India's biotech sector, with struggling startups and mid-sized firms becoming targets due to funding constraints.

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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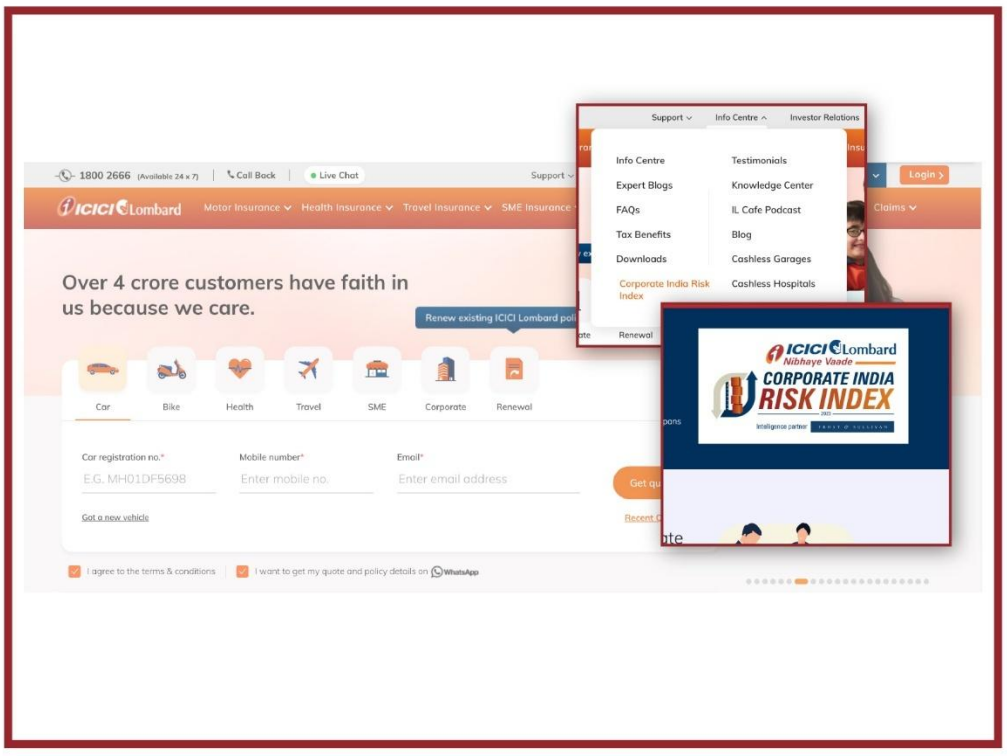

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