ICICI Lombard
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CORPORATE INDIA RISK INDEX

2023

Intelligence partner FROST & SULLIVAN

SECTOR REPORT 2023

MANUFACTURING

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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 manufacturing industry ended 2023 on a slightly shaky footing as factory growth decelerated to an eighteen-month low in December, pressured by a weaker rise in new orders and output.

With 17% of the nation's GDP and over 27.3 million workers, the manufacturing sector plays a significant role in the Indian economy. The annual production growth rate in the manufacturing industry was 4.7 percent during fiscal year 2023. The manufacturing industry in India has emerged as a fast-growing sector owing to the rapidly increasing population in the country.

With digital transformation being a crucial component in achieving an advantage in this fiercely competitive industry, technology has today sparked creativity. Manufacturing sector in India is gradually shifting to a more automated and process driven manufacturing which is expected to increase the efficiency and boost production of the manufacturing industry.

Major geopolitical affairs also helped India in attracting companies looking for a safe haven. The worsening US-China trade war pushed Apple to diversify away from China and redraw its manufacturing strategy with India at the center. The Russia-Ukraine war and Red Sea Conflict wreaked havoc on supply chains of key materials, including semiconductors, which incentivized countries to consider India as a more stable alternative to set up shop.

India is gradually progressing on the road to Industry 4.0 through the Government of India's initiatives like the National Manufacturing Policy which aims to increase the share of manufacturing in GDP to 25 percent by 2025 and the PLI scheme for manufacturing to develop the core manufacturing sector at par with global manufacturing standards.

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 and 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. Such 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 COVID-19 pandemic and similar another global epidemic.

Strategic Risk

Strategic risk is the risk that failed business decisions may pose to 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

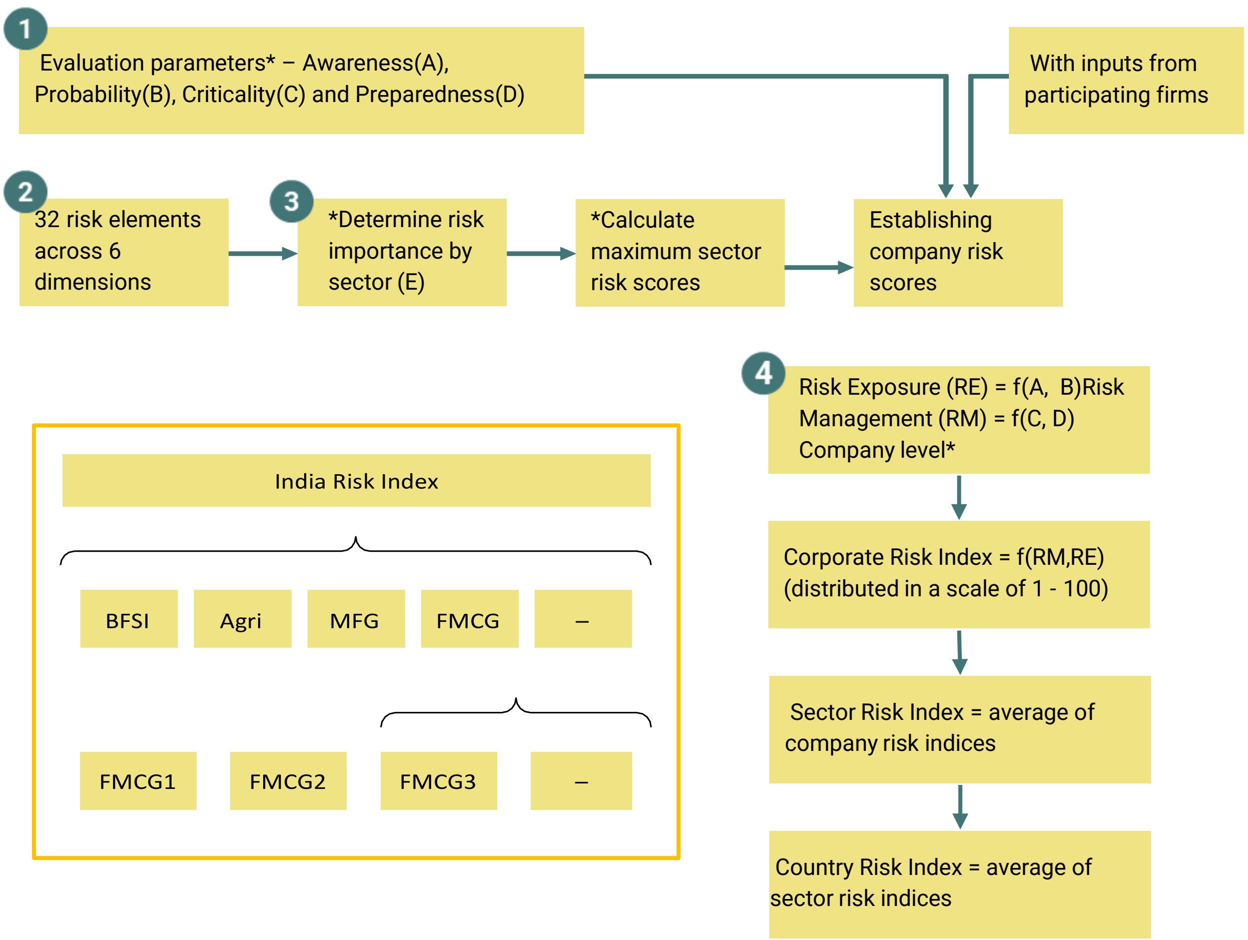


Figure 1: Risk Assessment Approach

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 riskto 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

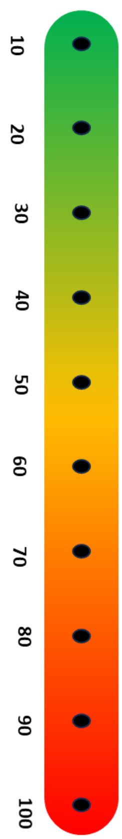
We have selected 20 sectors to understand the current stand of our country today in terms of risk. Risk for various sectors is measured on the risk exposure scale and risk management scale.

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 somethingto 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.



A score **less than 30** indicates very low risk exposure and the corporate entity has minimal overall risk exposure.

A score **between 30 and 50** indicates low risk exposure and the corporate entity's risk exposure is within acceptable or tolerable limits

A score **between 50 and 60** indicates moderate risk exposure and the corporate entity can balance the impact of overall risk to a certain extent.

A score **between 60 and 80** indicates high risk exposure, and its impact is very high in the industry in which the corporate entity operates.

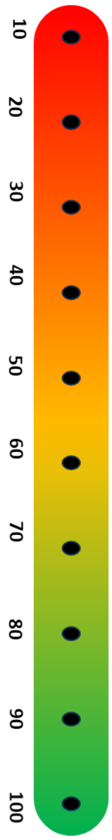
A score **greater than 80** indicates very high Risk Exposure and the corporate entity is unable to foresee risk incidence and the probability of occurrence of these incidents may be extremely high.

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.



A score **less than 40** indicates poor risk management and the corporate entity is unable to understand the concept of risk management.

A score **between 40 and 50** indicates below-par risk management and the corporate entity has inefficient risk management practices that are reactive to newer or unknown risks.

A score **between 50 and 70** indicates acceptable risk management and the corporate entity is prepared to handle known risks and the criticality of its risks is not severe.

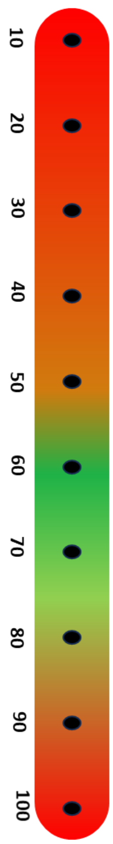
A score **between 70 and 80** indicates superior risk management and the corporate entity has employed top-class risk management practices to manage dynamic and unknown risks.

A score **greater than 80** indicates exemplary risk management and the corporate entity is over-prepared in risk management practices and is proactive in addressing emerging risks.

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.



A score **less than 40** indicates an ineffective risk index meaning the corporate entity has very high risk exposure or very poor risk management practices or both.

A score **between 40 and 55** indicates a suboptimal risk index suggesting that not all risks are handled effectively and risk management practices of the corporate entity are likely to be outdated or inefficient.

A score **between 55 and 65** indicates an optimal risk index, indicating that most current risks are being handled effectively by the corporate entity. However, emerging risks associated with strategic initiatives need more diligence.

A score **between 65 and 80** indicates a superior risk index, indicating very effective and efficient risk management practices. The corporate is well-positioned to handle current and future risks across dimensions.

A score **greater than 80** is over preparedness indicating high investment in Risk mitigation practices likely over investment in one or more risk dimensions difficult to justify ROI

India - Emerging Superpower with Optimized Corporate Risk Handling

In 2023, India witnessed a number of developments in various sectors, reflecting changes in consumer preferences, technological advances and regulatory trends. These developments shaped the industry and affected strategic decisions among industry players.

Electric vehicles (EVs) gained traction across sectors, driving investments in infrastructure and incentivized by government policies promoting electric mobility. The Automotive industry witnessed a surge in demand for EVs, while Logistics & Transportation embraced electric fleets to reduce carbon emissions and operational costs. Digital transformation accelerated across sectors, fueled by the COVID-19 pandemic. Telemedicine, online banking, and remote work solutions proliferated in Healthcare, BFSI, and IT/ITES sectors, enhancing operational efficiency and customer experiences.

In 2023, sustainability took center stage as sectors across India embraced eco-friendly practices. The Energy sector witnessed a shift towards renewable energy sources, with significant investments in solar and wind power. Industries like Manufacturing and FMCG prioritized energy efficiency and waste reduction initiatives. Hospitality and Real Estate sectors focused on green building practices, while Agriculture adopted precision farming techniques to conserve resources.

AI integration surged in 2023, revolutionizing business operations across sectors. Manufacturing companies leveraged AI for predictive maintenance and quality control, enhancing efficiency and reducing costs. Healthcare adopted AI-powered diagnostics and personalized treatment plans, improving patient care. Financial institutions utilized AI for fraud detection and risk assessment, bolstering security and compliance.

Social media emerged as a powerful tool for brand building and customer engagement in 2023. FMCG and Retail sectors capitalized on social media platforms to launch targeted marketing campaigns and drive product sales. Hospitality and Tourism industries utilized social media influencers to enhance brand visibility and customer loyalty. By leveraging social media analytics and customer feedback, companies across sectors tailored their strategies to effectively connect with their target audience and build brand reputation.

The "Make in India" initiative drove significant changes in supply chain operations in 2023. Sectors like Automotive, Manufacturing, and Pharmaceuticals emphasized local sourcing to reduce dependency on imports. Companies diversified their supplier base and optimized logistics networks to mitigate supply chain risks. This strategic shift towards domestic production enhanced resilience and competitiveness across industries.

Diversity, Equity, and Inclusion (DE&I) initiatives gained momentum in 2023, fostering inclusive workplaces across sectors. Companies in BFSI and IT/ITES led the way with diversity training programs and gender-neutral policies. Healthcare organizations focused on addressing healthcare disparities among marginalized communities. Manufacturing and Retail sectors prioritized inclusive hiring practices to tap into diverse talent pools, driving innovation and employee engagement.

Leadership risks emerged as a critical concern in 2023, prompting sectors to reassess their leadership strategies. Companies in BFSI and Technology faced challenges in adapting to rapid technological advancements and changing market dynamics. Healthcare organizations navigated leadership transitions amidst the COVID-19 pandemic, emphasizing the need for agile and resilient leadership. Strategic investments in leadership development and succession planning became imperative to mitigate leadership risks effectively.

Disruptive technologies like artificial intelligence, blockchain, 5G, and IoT reshaped traditional business models, offering new avenues for innovation and growth in sectors such as Telecom & Communication, Biotech & Life Sciences, and New Age Industries.

The scenario of the Indian economy in 2023 had a myriad of risks and opportunities in various sectors. Cybersecurity emerged as a pervasive risk, affecting industries from banking and finance to healthcare and IT/ITES. With more than 400 million cyber threats detected in nearly 8.5 million locations by 2023, organizations prioritized strong cybersecurity measures. Advanced threat detection systems, encryption protocols and employee training programs were implemented locally to enhance cyber resilience and protect sensitive data.

Another common risk was supply chain disruption, exacerbated by factors such as geopolitical pressures, natural disasters, and semiconductor chip shortages. To mitigate these risks, companies diversified their supplier base, invested in inventory management systems, and adopted agile supply chain practices to enhance resilience and flexibility.

Regulatory uncertainty was rife in industries such as Pharma, Energy, Telecommunications, which required active engagement with regulators. Furthermore, environmental risks emphasized the importance of sustainability and green technologies, renewable energy and waste management practices to reduce environmental impact around us and compliance with legal standards.

Despite the challenges posed by common risks, several sectors emerged as resilient performers in 2023, whose efforts helped us understand the situation in 2023 better. Noteworthy efforts included the "National COVID-19 Vaccination Drive" in healthcare, "Electric Vehicle Adoption Mission" in automotive, and "Green Freight Movement" in logistics. Additionally, initiatives such as the "Make in India Defence" program in aerospace and "Skill India Mission 2.0" in education underscored the nation's commitment to innovation and development.

The Automotive industry in India showed resilience in the face of supply chain disruption and regulatory uncertainty. Focusing on sustainability and innovation, the sector saw an increase in electric vehicle (EV) adoption, with sales reaching Rs 4.22 lakh crore.

The Aerospace & Defence sector focused on developing indigenous manufacturing capacity and technology to strengthen national defence by investing Rs 1.5 lakh crore.

In the Healthcare sector, India has invested heavily in digital health solutions and infrastructure to combat the lingering effects of the COVID-19 pandemic. With a total investment of more than Rs 50,000 crore, companies have expanded telemedicine and implemented AI-powered diagnostics to improve patient care.

The Manufacturing sector prioritized digitalization and process optimization to enhance productivity and competitiveness amidst supply chain disruptions and inflationary pressures. Companies invested Rs 1.2 lakh crore in automation technologies and smart manufacturing initiatives to streamline operations and reduce costs. The Logistics & Transportation companies invested Rs 800 crore in blockchain-based traceability systems and cyber security protocols to secure supply chains and protect sensitive data from cyberattacks.

The Hospitality industry adapted to customer preferences and regulatory requirements through new service offerings and customer engagement strategies. With an investment of Rs 0.5 lakh crore, companies also focused on using contactless technology to improve health and safety measures, ensuring that guests have satisfaction and compliance.

The Agricultural & Food Processing sector embraced technological initiatives to increase agricultural productivity and ensure food security in the face of climate change and supply disruptions. With an investment of Rs 1 lakh crore, companies focused on precision farming and farm-to-fork traceability solutions to improve crop yield and quality.

The BFSI sector focused on digital transformation and risk management to address cyber threats and regulatory challenges. Banks and financial institutions invested Rs 2,50,000 crore to implement advanced cyber security measures and fraud detection systems to protect customer data and prevent financial fraud.

The Biotech & Life Sciences sector showcased innovation and resilience amidst regulatory complexities and supply chain disruptions. The Chemicals & Petrochemicals sector navigated environmental regulations and market volatility through sustainable practices and operational excellence initiatives. Digital learning and job training were adopted to meet workforce challenges and enhance productivity in the face of technological disruption and demographic changes in the Education & Skill Development sector.

The Energy sector has shifted towards renewable energy and sustainable development policies to mitigate the risks of climate change and reduce dependence on fossil fuels. Moreover, with investments of Rs 1.5 lakh crore in smart grid technologies and demand-side management initiatives to optimize energy consumption and reduce emissions, the sector prioritized grid modernization and energy efficiency.

The IT ITES sector continued to drive digital transformation and innovation to address cybersecurity threats and meet evolving customer demands. With investments of Rs 4 lakh crore, companies focused on cloud computing and cybersecurity solutions to protect data and ensure business continuity.

The Metals & Mining sector focused on sustainable practices and community engagement to address environmental concerns and social risks associated with resource extraction. With investments of over Rs 0.8 lakh crore, companies implemented reclamation and rehabilitation projects to restore mined areas and promote biodiversity conservation.

The New Age sector, comprising startups and technology companies, showcased innovation and resilience amidst market uncertainties and funding challenges. Additionally, the sector prioritized talent acquisition and retention, with investments of Rs 0.5 lakh crore in employee benefits and workplace diversity initiatives to attract top talent and foster a culture of innovation.

The Telecommunication sector continued to expand connectivity and digital infrastructure to meet growing demand for broadband services and IoT applications. With investments of over Rs 2 lakh crore, companies deployed 5G networks and fiber-optic cables to enhance network capacity and speed.

In summary, India's diverse sectors demonstrated resilience and innovation in navigating through a challenging operating environment in 2023. As India continues its journey towards economic prosperity, proactive risk management and innovation will remain critical drivers of success across diverse sectors.

India Showcasing an Optimized Risk Handling

Figure 2: Corporate India Risk Index 2023

A score of 64 on the Corporate Risk Index indicates optimal handling of risk by the Indian companies. However, to enter the superior risk handling territory, the Indian companies have scope to improve upon their risk management practices in the areas of crime & security risks and strategic risks. It was observed across sectors that there is an increased focus on cybersecurity and other technological risks.

In the sectorial analysis of risk exposure, it was found that companies were most affected by market & economy and operational & physical risks due to inflation, global volatility and geopolitical events like the Red Sea crisis, Israel Palestine conflict and Russia Ukraine War.

Another common risk was supply chain disruption, exacerbated by factors such as geopolitical pressures, natural disasters, and inflation. To mitigate these risks, companies diversified their supplier base, invested in inventory management systems, focused on localization and adopted agile supply chain practices to enhance resilience and flexibility.

It was observed that risk management is getting an increased focus in the growth strategy of every organization with companies having dedicated risk teams to manage their risk exposure. All the organizations fell either into ‘Superior Risk Management’ or ‘Optimal Risk Management’ category indicating good risk management practices.

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

Figure 3: Corporate India Risk Index 2023 Sector Score

Superior Risk Index

Superior risk handling was found in nine industrial sectors: Telecom & Communication, Pharmaceuticals, Healthcare Delivery, Automotive & Ancillary, Manufacturing, FMCG, Media & Gaming, New Age & Startups and Tourism & Hospitality.

Optimal Risk Index

Optimal risk handling was found in 11 industrial sectors: BFSI, Energy, Transportation & Logistics, Agriculture & Food processing, Metals & Mining, Aerospace & Defence, IT ITES, Education & Skill Development, Infrastructure & Realty, Biotech & Lifesciences and Chemicals & Petrochemicals.

Manufacturing Sector Insights 2023

Even as the global conflict remained geographically distant from India, ripples comprised increased oil import bills, inflation, cautious government and a sluggish equity market. India reported an estimated economic growth of 7.6% in 2023-2024 against 7.2% in 2022-23. India had retained its position as the fifth-largest global economy and was seen as a principal driver of the global economy (with China).

India moved up in the Ease of Doing Business (EoDB) rankings from 100th in 2017 to 63rd in 2022. Per capita income almost doubled in nine years to Rs 172,000 during the year under review, a rise of 15.8% over the previous year. India’s GDP per capita was US$ 2,450 (March 2023) (2,04,289.21 Indian Rupee), close to the magic figure of US$ 2500 (INR 208458.38) when consumption usually spikes across countries.

In order to become a global superpower and maintain its independence, India must focus on developing its domestic manufacturing sector. India's manufacturing industry is a significant economic pillar, contributing 17% to the country's GDP and providing employment for over 27.3 million people. The government has recognised this need and has implemented various reforms, such as GST and PLI schemes, to boost manufacturing. These reforms have already shown positive results and the global value chain reconfiguration due to the pandemic presents an opportunity for India to become a manufacturing powerhouse. The growth of the manufacturing sector will not only boost the economy but also create employment opportunities for millions of people. Both in domestic and export markets, customers continued to postpone their buying and to keep a tight control over their inventory. The focus was on buying in small lots and buying as close to the secondary demand as possible. However, some green shoots were visible towards the end of the fiscal, with export markets seeing lower than expected slowdown. The high cost of raw materials, including cotton, dyes, chemicals and packaging material, continued to put pressure on the industry during FY23. Amid the persistent challenges, the government continued to extend support to the industry. Its initiatives included an increase in the rates of incentives for the exports of readymade garments and dress materials from 2% to 4%.

The Indian government aims to increase the manufacturing industry's contribution to GDP to 25% by 2025 through new laws and policies. India's manufacturing value chains, particularly in basic metals, textiles and apparel, renewable energy, chemical goods, pharmaceutical formulations, capital goods, and automotive components, have the potential to expand rapidly due to the country's abundance of low-cost labor, natural resources, and skilled professionals. This expansion could lead to India becoming a major player in global manufacturing, with the potential to export goods worth $1 trillion (INR 83.4 trillion) by 2030.

India's vast young population has yet to reach its full potential due to a significant skills gap. A large proportion of the Indian workforce lacks the necessary skills to work in the manufacturing industry. Estimates suggest that only 4.7% of India's workforce is formally skilled, in contrast to the US with 52%, the UK with 68%, Japan with 80%, and China with 24% of their workforce formally skilled. Furthermore, some manufacturing plants in India still employ unproductive processes despite the availability of advanced manufacturing techniques.

To address this challenge, the central government has introduced several schemes such as Pradhan Mantri Kaushal Vikas Yojana for Technical Institutes (PMKVY-TI), Employability Enhancement Training Programme (EETP), National Employability Enhancement Mission (NEEM), AICTE-Startup Policy, Skill Assessment Matrix for Vocational Advancement of Youth (SAMVAY), Leadership Development Programs, and others. These initiatives aim to reduce the skills gap, but it will take time to yield results.

India is facing a significant challenge in the manufacturing industry due to limited investments being made upfront to establish manufacturing plants. There are multiple factors contributing to this, including political instability, economic fluctuations, uncertainty regarding project feasibility, and unpredictable growth patterns. Banks are also hesitant to provide loans to manufacturing setups. Compared to other countries that export, capital investments are high in India, and the costs of land and power are also above the global market average.

Small and medium-sized enterprises (MSMEs) account for approximately 29% of India's gross domestic product (GDP). However, due to the prevalence of numerous small businesses in the Indian manufacturing industry, there are challenges in scaling up production, resulting in high production costs. This, in turn, makes it difficult for Indian businesses to compete in the global market. By enhancing production capacity, costs can be reduced, and product quality can be improved.

The Indian manufacturing industry is facing two significant challenges. Firstly, it is difficult to manufacture certain products in India due to the availability of cheaper alternatives from countries like China. Secondly, high import duties on raw materials increase the cost of production, making it challenging to compete with cheaper alternatives in both domestic and international markets. In addition, India's transport infrastructure is inadequate compared to the global average, resulting in higher logistics costs. According to government data, the average logistics cost in India is 13% of revenue, whereas the global average is 8%. Indices of manufacturing activity such as PMI-manufacturing, the Index of Industrial Production and the Index of Core Industries (ICI) demonstrate that manufacturing activity continues to grow steadily. Indicators of the services sector (UPI transactions, high credit demand) also point towards sustained expansion. To drive the virtuous cycle of infrastructure investment and job creation, the Union Government has considerably increased the capital expenditure outlay to Rs 10 Lakh Crore, which is 33% higher than the previous year. The increase in infrastructure spending, especially in tier II and tier III cities is anticipated to have a substantial effect on the Indian economy, generating new employment opportunities and stimulating growth. Overall, the demand conditions in India remain conducive to supporting economic activity. India faces the coming financial year with confidence imparted by underlying and overall macroeconomic stability, while being on the alert against geo-political and geo-economic risks.

Following the adoption of Industry 4.0 practices, manufacturing efficiency of consumer durables have improved significantly on account of investment in Research and Development ("R&D"), use of technologically advanced infrastructure, and improvement of production methods. In India, the urban markets (metros, Tier 1, Tier 2 and Tier 3 cities) dominate the consumer durables sector, accounting for nearly two-thirds of the market. Although the Indian rural market is underpenetrated, the demand for consumer durables in rural areas also significantly rose in the second half of the year supported by aspirational buying.

Manufacturing Sector Risk Index 2023 Vs 2022

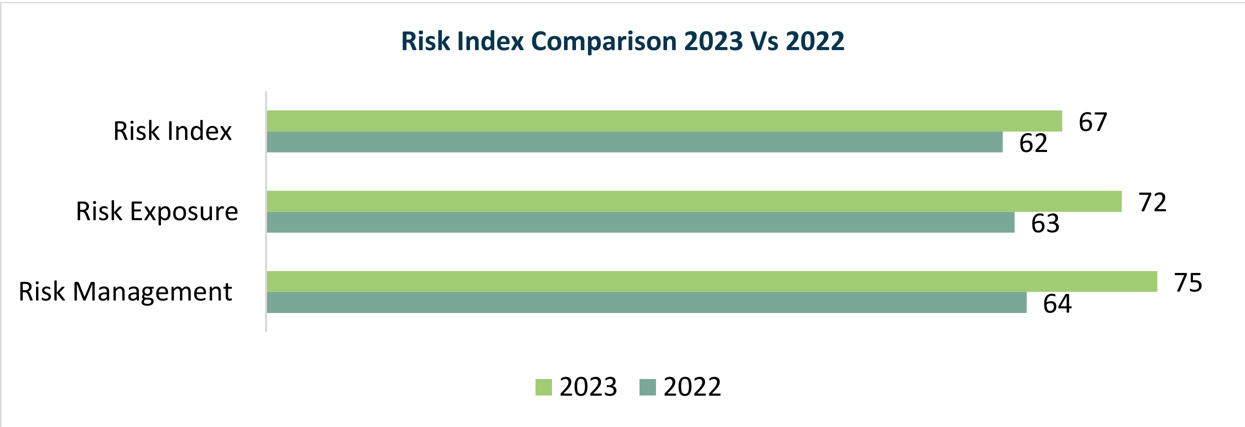


Figure 4: Detailed Comparative Analysis 2023 Vs. 2022

Manufacturing Sector Risk Index 2022 Vs 2023

The manufacturing sector showed a superior risk index of 67 in 2023, improving from optimal risk index of 62 in 2022. Buoyant customer appetite, advertising, and expanded capacities all boosted optimism in 2023. The risk exposure increased by points from 63 to 72. The manufacturing sector in India has been one of the most targeted industries for ransomware extortion in 2023 raising cybersecurity risks. The market and economy, the operational and physical risk increased due to high inflation and increased customs duties on finished products which affected commodity prices and tensions, to supply chain disruptions. Increased scrutiny of safety measures due to higher safety incidents and fatalities in 2023 as compared to 2022 has increased the risk exposure.

Manufacturing Sector Risk Exposure 2022 Vs 2023

With economic activity returning to pre-pandemic levels and an increase in manufacturing output rate and private consumption levels, the risk exposure increased significantly for the manufacturing sector, especially for the technology, operational & physical and natural hazards dimensions, which increased by 13, 8 and 9 points respectively. The adoption of Industry 4.0 practices has led to improved manufacturing efficiency of consumer durables on account of investment in Research and Development ("R&D"), use of technologically advanced infrastructure, and improvement of production methods which has affected competitiveness. The natural disasters of 2023 had a particularly devastating effect on rural and developing nations, mainly because of logistical issues, production gaps, and difficulties in supplying basic needs due to water pollution and crop losses. In the financial year 2022-23, SII says it identified over 1,500 severely injured manufacturing workers, including automotive workers, across many states in India.

Manufacturing Sector Risk Management 2022 Vs 2023

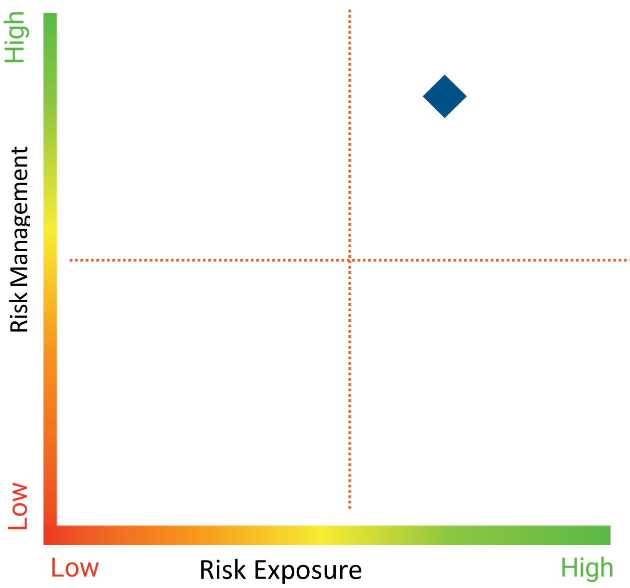
The risk management of the manufacturing sector significantly increased from 64 to 75. This is aided by the PLI scheme, which aims to attract investment in 14 key sectors to enable efficiency of scale, making Indian industries globally competitive through heavy subsidization, which levies a huge burden on the public exchequer. Significant progress has been made to achieve National Logistics Policy targets, viz. reduction in logistics cost, improvement in India's ranking in the Logistics Performance Index (LPI) and create a data-driven decision support mechanism for an efficient logistics ecosystem. The "Sustainability Survey Report 2023" by The Yarn Bazaar and Wazir Advisors, states that around 80% of stakeholders in the Indian textile industry have already adopted some form of sustainable manufacturing practices. Several Indian manufacturers are integrating solar power into their operations. With a growing focus on technology, innovation, and skilled labor, India is emerging as a dynamic hub for manufacturing.

Key Highlights

Risk Dimension Analysis: Market and Economy

Risk Exposure Score: 72

Risk Management Score: 77



Inflation

- India's GDP growth rate rose to a pace of 7.8% y/y in the April-June quarter of 2023, compared with growth of 6.1% y/y in the January-March quarter of 2023, according to data released by India's National Statistical Office.

- Private consumption grew by 6.0% y/y in real terms in the April-June quarter of 2023, improving on the 2.8% y/y pace of growth recorded in the January-March quarter.

- Manufacturing output rose by 9.3% y/y in August, with an increase of 1.2% month-over-month (m/m). Output of consumer non-durables also showed rapid expansion at a pace of 9.0% y/y in August, while output of primary goods rose by 12.4% y/y in August.

- Buoyant customer appetite, advertising, and expanded capacities all boosted optimism. The positive outlook for production and demand strength fed through to another round of job creation in the manufacturing industry.

- September PMI survey data showed a let-up in the recent surge in costs faced by Indian goods producers. After quickening to a one-year high in August, the rate of inflation receded to its lowest mark in over three years.

- According to S&P Report, Panelists indicated paying more for copper, electronic components, foodstuff, iron and steel, but noted lower costs for aluminum and oil. Nevertheless, reportedly driven by higher labor costs and demand strength, average prices charged by Indian manufacturers rose at a solid and faster rate that outpaced its long-run average.

- The September CPI data brought India's CPI inflation rate back within the Reserve Bank of India (RBI's) inflation target for CPI inflation of 4% within a band of +/- 2%.

- High inflation coupled with strong growth indicates that there may be a long pause in the Reserve Bank of India's policy stance.

Taxation

- With a new production-linked incentive (PLI) scheme, the country witnessed a surge in investments and production across crucial sectors.
- The government has been attempting to make hardware and electronic manufacturing in India a tempting proposition for global companies.
- The government lowered customs duties on several components, while increasing it on the finished product.
- The Budget has also extended the concessional customs duty on several input parts by one more year to boost local manufacturing investment.
- In May, the government had notified the second phase of the PLI scheme for IT hardware with a budgetary outlay of Rs 17,000 crore, double that of the first phase.

Regulatory Risks

- The Union Budget also provided for an outlay of Rs. 5,000 crores of fifty-year interest-free loans to States under the 'Scheme for Special Assistance to States for Capital Investment 2023-24', which will be linked to or allocated for certain purposes which, inter-alia, includes constructing the Unity Malls.
- As part of Reducing Compliance Burden exercise and based on data uploaded on the Regulatory Compliance Portal, more than 3,600 compliances have been decriminalized and more than 41,000 compliances have been reduced by various Ministries/ Departments and States/ UTs.
- India has reported meteoric improvement in Ease of Doing Business Ranking from 142nd rank in 2014 to 63rd rank in the World Bank Doing Business 2020 report.
- The Jan Vishwas (Amendment of Provisions) Bill, 2023 was passed by the Parliament. Through this Amendment Act, a total of 183 provisions are proposed to be decriminalized in 42 Central Acts administered by 19 Ministries/Departments.
- All States/UTs are being assessed under Business Reform Action Plan on the basis of implementation of designated reform parameters contained in the Action Plan such as Investment Enablers, Access to Information and Transparency, Online Single Window System, Land Allotment, Construction Permits Enablers, Labour Regulation Enablers, Environment Registration Enablers, Inspection Enablers, Obtaining Utility Permits, Contract Enforcement, Sector-specific reforms, etc. Report of BRAP 2022 is to be released soon.

- Further under EoDB reforms, the Government is moving towards centralized KYC and PAN as Single Business Identity and Regulatory Impact Assessment, thereby giving impetus to FDI in the country and domestic manufacturing activities.

- Products to be sold under the same brand internationally. Sale of multi-brand goods is not allowed even if produced by the same manufacturer.

Geopolitical Risks

- Ahead of a key election year, the government promoted its schemes, including the Make in India initiative and the Indian Semiconductor Mission (ISM).

- Major geopolitical affairs also helped India in attracting companies looking for a safe haven.

- The Russia-Ukraine war and Red Sea conflict wreaked havoc on supply chains of key materials, including semiconductors, which incentivised countries to consider India as a more stable alternative to set up shop.

Foreign Exchange Risk

- The INR/US$ exchange rate is expected to fluctuate in the 82-84 range, with the currency gradually settling at the lower bound. However, a marginally weaker currency should not entail much concern as this would make Indian exports more attractive.

- For instance, compared to November 2022, India's trade deficit was almost half in November 2023. Although exports declined by 5.43 percent on a year-on-year basis for the period January-October, imports declined by 7.31 percent in the same period, improving the trade balance.

- While there was a reduction in the exports of petroleum products and precious stones, there was significant growth in the exports of telecom instruments, electric machinery and drug formulations—highlighting possible key sectors for the economy.

- Further, on the external sector front, according to IMF estimates, both Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) inflows increased in 2023.

Competitive risk

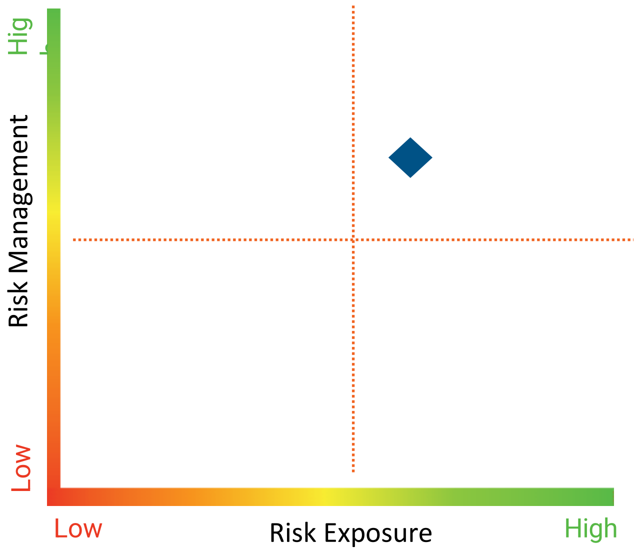
- The PLI scheme aims to attract investment in 14 key sectors to enable efficiency of scale, making Indian industries globally competitive, through heavy subsidization which levies a huge burden on the public exchequer.

- The manufacturing industry which is led by the automobile, textiles, and electronics sectors, is growing in tandem with the expected rise in domestic consumers—reiterating the importance of aggregate demand in an underemployed economy.

Risk Dimension Analysis: Technology

Risk Exposure Score: 73

Risk Management Score: 76



Data Compromise

- The manufacturing sector in India has been the most targeted industry for ransomware extortion in 2023, Palo Alto Networks' Unit 42 said in its recently released report, titled 'Ransomware Retrospective 2024: Unit 42 Leak Site Analysis and Incident Response report 2024.'
- As part of the Ransomware Retrospective, they studied 3,998 leak site posts from various ransomware groups. Leak sites are platforms where threat actors publicly disclose stolen data as a means of coercing victims into paying ransom.
- This unsettling trend underscores the critical vulnerabilities within the Indian manufacturing sector, where limited visibility into operational technology (OT) systems, inadequate network monitoring, and suboptimal cyber-hygiene implementation have left organizations exposed.
- Zero Trust Architecture (ZTA) is redefining access management, demanding stringent identity verification and continuous authentication.
- AI and machine learning will power proactive threat detection, safeguarding against evolving cyber risks. The proliferation of IoT devices will spur innovations in dedicated security protocols to shield manufacturing processes and sensitive data. Biometric authentication methods, such as fingerprint and retina scans, will likely see increased adoption, bolstering identity security.
- In the manufacturing sector, the transition to Industry 5.0 will necessitate a paradigm shift in cybersecurity strategies. There will be a greater emphasis on AI-centric security frameworks, ensuring that technological advancements integrate with human intervention.

Disruptive Technology

- The Ministry of Heavy Industry & Public Enterprises launched 'Smarth Udyog Bharat 4.0' as an Industry 4.0 initiative.
- The National Association of Software and Services Companies (NASSCOM) inaugurated centers for AI and data science in Bengaluru and Hyderabad to develop emerging disruptive technologies such as AI/ML and leverage the power of data science. These initiatives have influenced the widespread adoption of digitization in the manufacturing industry of the country.
- With a growing focus on technology, innovation, and skilled labor, India is emerging as a dynamic hub for manufacturing.
- Government programs such as the Atal Innovation Mission, Niti Aayog, and Startup India are encouraging the establishment of accelerators and incubators to develop DeepTech breakthroughs.
- One groundbreaking facet of DeepTech is digital twin technology, poised to revolutionize India's manufacturing landscape. These virtual replicas of physical facilities offer real-time insights, enabling predictive maintenance, smart manufacturing, AI-driven quality control, and blockchain-powered supply chain optimization. Additionally, digital twins empower precise product customization, promising to elevate efficiency and competitiveness in Indian manufacturing.

R&D/ Innovation Failure

- Adequate investment in research and development can significantly reduce the need for subsidy schemes and allow an organic type of economic growth to shape the future of the Indian economy.
- Initiatives such as 'Make in India' have been instrumental in fostering a favorable business environment, encouraging investment, and promoting indigenous manufacturing.
- Focus on R&D is key to the success of MSMEs, especially the 'D' part of R&D, which helps them create innovative and differentiated products. Without differentiated products, it's difficult for MSMEs to compete on the standard product with the large players. The differentiated innovation may be on technology, product design, efficient manufacturing or on the business model.
- According to announcements by the Ministry of Science & Technology, India ranks sixth globally in R&D investment.

Intellectual Property

- Over the past five years, the Indian government has taken positive steps to strengthen its IPR regime, such as efforts to modernize its IP offices; increase manpower; use IT and technology in e-filing of applications; deliver certificates of grant and registration of patents, trademarks and designs in a digital format; reduce the number of trademarks forms; use video conferencing for hearing of IP applications; create expedited examination procedures; and spread awareness on IP issues.

- In August 2023, the Digital Personal Data Protection Act, Jan Vishwas (Amendment of Provisions) Act, Biological Diversity (Amendment) Act, 2023 received the assent of the President of India.

- This may enable technology and IP-focused entities to better shield disclosure of sensitive information, which is a positive step. However, in the absence of any context in the Act, it is not clear how such provisions will be implemented.

- It would amend the definitions of non-Indian entities and biological resources, require National Biodiversity Authority pre-approval for IPR applications for foreign entities and Indian entities before grant of such IPR and at the time of commercialization respectively, add restrictions on IPR application activities on biological resources when normally traded as commodities, and decriminalize cognizable and non-bailable offenses. Overall, the compliance requirements for foreign entities seeking protections in India under the Act would remain strict.

- Patents Act, 1970, Trade Marks Act, 1999, Copyright Act, 1957, and Geographical Indications of Goods (Registration and Protection) Act, 1999 would also be amended. Under the Jan Vishwas Act, several offenses with an imprisonment term in certain Acts would be decriminalized by imposing only a monetary penalty. One of the positive amendments it would introduce would be to substantially reduce the penalty for failure or refusal to file Form 27 under the Patents Act and to do away with the provision for imprisonment.

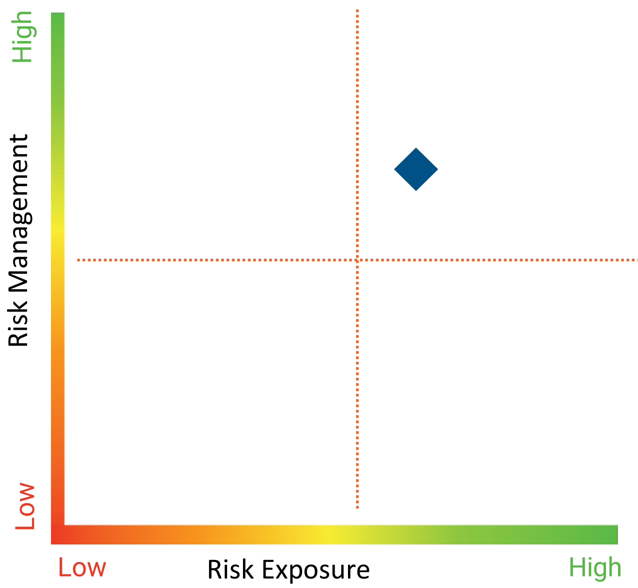
- According to the National Skill Development Corporation, only 2.3% of the Indian workforce has undergone formal skill training. This shortage of skilled workers is a major hurdle in the adoption of new technologies and processes, which in turn affects innovation in manufacturing.

- According to a report by Entrepreneur, the manufacturing industry should adopt the following technological innovations: using the Total Lifetime Value Calculator (TLVC) for Generative Designs, employing Additive Manufacturing (AM) in Applications, deploying of Digital Factory Data.

Risk Dimension Analysis: Operational and Physical

Risk Exposure Score: 73

Risk Management Score: 76



Accidents/Fire Safety

- The Safe in India (SII) Foundation's report, SafetyNiti 2023, found that 80 percent of a group of 30 Tier 2 OEM suppliers in Haryana state who were recently audited by brands including Maruti, Honda and Hero, failed their safety audit.
- In 2023, only two OEMs reported that they are monitoring the actions their Tier 1 (i.e. direct) suppliers are taking to improve safety further down the supply chain, among Tier 2-4 suppliers who provide parts to Tier 1 suppliers.
- The SII report found that just four of the 10 OEMs say they have OSH policies for contract workers that are on a par with those for their permanent workers, a figure unchanged since 2022.
- In the financial year 2022-23, SII says it identified over 1,500 severely injured manufacturing workers, including automotive workers, across many states in India.
- According to government data, three workers die every day in Indian factories due to a lack of basic safety measures.
- Inadequate training for technical workers has been a primary cause of accidents in the workplace in India. Neglecting basic safety measures and neglecting the usage of PPE or other safety protocols have recently doubled the risk.
- Thirty-three of the BSE50 companies, as on March 31, 2023, (excluding banking, financial services and IT), reported a combined 101 fatalities related to work in FY23, about half of the 211 in FY22. The fatalities reported include all kinds of labour at work: On-roll, contractual, and third-party. The 33 companies had a combined employee strength of 2.9 million. For some companies, though, the employee strength may not include contract labour.

Equipment Malfunction

- Infrequent inspections from the labour department, lack of training and safety prerequisites, and fatigue from long working hours besides the use of outdated power press machines without regular maintenance and replacement have been identified as key reasons behind accidents.

Supply Chain Disruption

- On completion of one year of launch of National Logistics Policy significant progress has been made to achieve NLP targets, viz. reduction in logistics cost, improvement in India's ranking in the Logistics Performance Index (LPI), and create data-driven decision support mechanism for an efficient logistics ecosystem.

- Open Network for Digital Commerce (ONDC) is an initiative by DPIIT aiming at promoting open networks for all aspects of exchange of goods and services over digital or electronic networks.

- ONDC recorded more than 6.3 million transactions in the month of November'23 across 600+ cities. 2.3 Lakh+ sellers and service providers are active on the ONDC network spread across 500+ cities and towns across India. 59 Network Participants are live on the Network.

- Mobility through the ONDC network is live in Bengaluru, Mysuru, Kochi and Kolkata with taxi and auto drivers on boarded. The ONDC team has successfully conducted a pilot for exports, with Singapore being the first market to buy products from Indian sellers through the ONDC Network.

- Single-brand retail entities (SBRT) would be permitted to set off their incremental sourcing of goods from India for global operations during the initial five years, starting from the 1st April of the year of the opening of first store, as against the compulsory sourcing requirement of 30% of purchases from India. After completion of a five-year period, the SBRT entity will be required to meet the 30% sourcing norms directly towards its India's operation, on an annual basis.

Commodity Price Volatility:

- Greater volatility in the price of imported goods passes through to domestic prices and thereby results in more volatile consumer inflation.

- According to the World Bank, commodity prices rose 5 percent in the third quarter of 2023, driven by a surge in oil prices.

- The start of the conflict in the Middle East in early October led to an initial uptick in prices, though the impact so far has been small: by end-October, commodity prices remained 29 percent below their June 2022 peak. The decline reflects a combination of slowing economic activity impacting metal prices and favorable weather conditions boosting agriculture yields.

- Agricultural prices have been relatively stable during the past 12 months, evidenced by a modest drop of 2 percent in 2023Q3 and a 3 percent decrease from a year ago. Food prices experienced larger declines over the past year (-6 percent).

- Factors like the non-renewal of the Black Sea Grain Initiative, India's export ban of non-basmati rice, and intensification of El Niño have been offset by improved supply prospects for key food commodities, including maize, soybeans, and wheat.

- With electric vehicles now comprising one in five cars sold globally, the demand for minerals used in electric vehicle and battery production, such as cobalt, lithium, and molybdenum, will continue to soar. In the short term, they have followed the downward trend in base metals prices, although prices remain volatile due to the stratified and concentrated nature of mineral markets.

Human Resources:

- According to the Periodic Labour Force Survey, the labor force participation rate (LFPR) has increased from 41.3 percent in June 2022 to 42.4 percent in June 2023. The female LFPR is still considerably low at 30.5 percent.

- The decoupling of industrial growth and employment can be interpreted as a result of an employability gap, where the average worker does not possess the requisite skill set to enter the workforce.

- While several government initiatives exist to promote the training of workers, policies should be addressed to increase awareness about the available avenues and simplify the transformation process.

Interest Rate Risk:

- Average interest rate paid by the manufacturers has been reported to be 9.3 per cent.

- As per FICCI's quarterly survey on manufacturing for last quarter of FY 23-24, a little under 45 per cent of the respondents reported that the increase in repo rates in the last few months has led to a slight increase in the lending rate by their banks, thereby increasing their cost of borrowing. Close to 90% of respondents reported sufficient availability of funds from banks for working capital or long-term capital.

Credit Risk:

- The RBI data on sectoral deployment of credit for the period 2019-23, shows that the industry sector has not been able to get adequate institutional credit despite many sectors working hard to recover from the covid crisis.

- Despite the introduction of the Emergency Credit Line Guarantee Scheme (ECLGS), the credit growth to the sector has not been in sync with the overall economic growth.

- Deprivation of institutional credit will increase the sector’s informal units to depend more on moneylenders charging usurious interest rates and exploiting them, preventing their growth. Institutional lending is always a two-way interface – the sector should demand credit and banks should find the demand bankable.

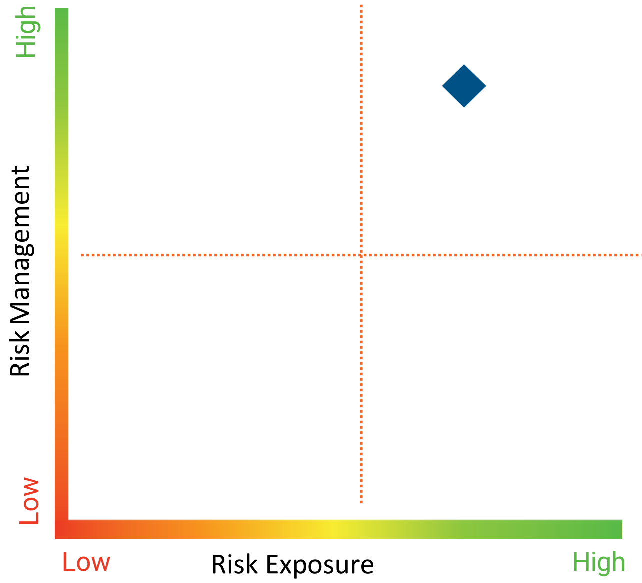
Environmental

- India ranks 112th among 166 countries in terms of its Sustainable Development Goals (SDG) score. However, a focus on manufacturing-led growth will have serious implications for environmental quality, posing a trade-off between growth and well-being.
- India has taken several measures to promote the 2030 Agenda during its G20 Presidency and is incorporating frameworks in line with sustainability requirements, in its economic agreements.
- As per data from 2022, the manufacturing sector in India contributed about 15% of the country's gross domestic product (GDP) and is also a major contributor of the country's emissions.
- The "Sustainability Survey Report 2023" by The Yarn Bazaar and Wazir Advisors, states that around 80% of stakeholders in the Indian textile industry have already adopted some form of sustainable manufacturing practices.
- Several manufacturers in India are integrating solar power into their operations.
- Textile and apparel manufacturing units, particularly in water-scarce regions, are implementing rainwater harvesting systems to reduce their reliance on groundwater and municipal water supplies.
- Industries dealing with hazardous liquid wastes, such as pharmaceuticals and chemicals, are adopting Zero Liquid Discharge systems to eliminate wastewater discharge and recover valuable water for reuse.
- Companies are implementing practices such as segregating waste at the source, recycling waste into usable products, and partnering with waste management companies for efficient disposal.
- For instance, many textile companies are recycling fabric waste into new garments, while food and beverage companies are converting organic waste into compost. Many agri businesses utilize all the waste generated from produce to make biomass briquettes that takes care of their business energy needs. Even the ash generated from biomass boilers is repurposed to use either as fertilizer in the form of biochar or sold to local brick manufacturers who use it as an input material.

Risk Dimension Analysis: Crime and Security

Risk Exposure Score: 67

Risk Management Score: 70



Cyber-crimes

- With attackers increasingly targeting software and API vulnerabilities, organizations need to move away from point-solutions that increase time to detect/respond and end up being more costly in the long-term.
- It said that more advanced threat actors are moving away from traditional and interactive phishing campaigns to less noticeable and possibly automated methods of exploiting system weaknesses and pre-existing credential leaks.
- According to the 2023 India Threat Landscape report by Cyfirma, Manufacturing companies saw 11.6% of cyber attacks

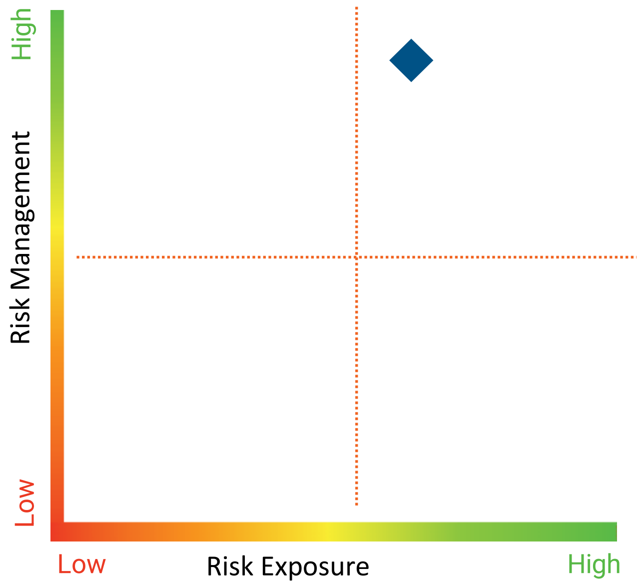
Counterfeiting

- According to a joint report by Crisil, and the Authentication Solution Providers Association almost 25-30% of all products sold in the country are spurious with counterfeiting being most prevalent in apparel and FMCG sectors, followed by pharmaceutical, automotive, and consumer durables.
- The survey also revealed that almost 89% of consumers acknowledge the presence of fake products in the market and are often compelled to buy counterfeits for reasons such as sensitivity to price, demand-supply gap, and desire to buy luxury brands, peer pressure, and social motivations.

Risk Dimension Analysis: Natural Hazard and Event

Risk Exposure Score: 68

Risk Management Score: 70



Natural Hazards:

- The natural disasters of 2023 had a particularly devastating effect on rural and developing nations, mainly because of logistical issues, protection gaps, and difficulties in supplying basic needs due to water pollution and crop losses.
- In 2023, the nation witnessed an array of devastating natural calamities that not only challenged its resilience but also underscored the urgent need for climate action; from the sudden and violent flash floods to the unexpected cloudbursts, the perilous landslides, uncontrolled wildfires, and the earth-shattering tremors of earthquakes.
- The devastating floods across parts of India are the consequence of a wide range of factors, including excessive untimely and prolonged rainfall that occurred, coastal storm surge, water main breaks, dam failures, and more. Floods can have a devastating impact on businesses, causing damage to infrastructure, disrupting operations, and leading to financial losses.
- The effects of natural catastrophes on business operations can be reduced by putting into place comprehensive disaster management plans that include risk assessments, emergency response procedures, and continuity measures. Companies should consider conducting comprehensive risk assessments to identify vulnerabilities and develop contingency plans specific to their locations and industry sectors.

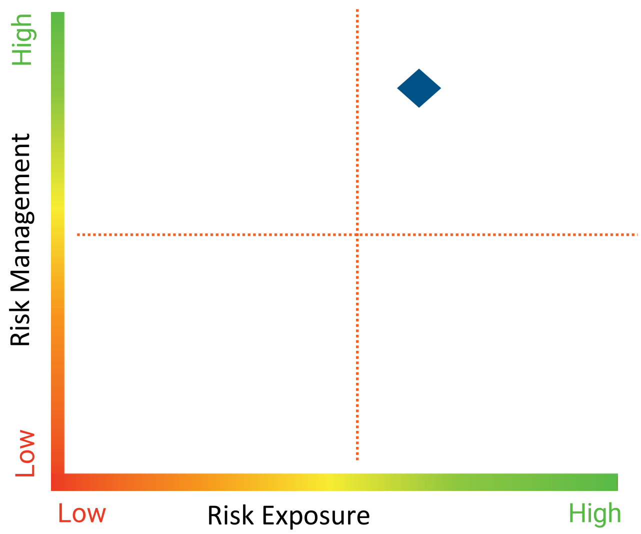
Pandemic and other global epidemic diseases:

- Retail 4.0 in India puts the focus on personalization with an offline + online approach.
- As rising interest rates led to weak demand in the developed countries, the China demand also disappointed despite removal of Covid related cubs. The weak China demand meant more exports out of China which pushed the international steel prices further down.
- Social distancing norms, nationwide lockdown imposed by the government induced travel restrictions, migration of laborers, and supply chain disruptions.
- With the change in the Industry 4.0, automation of conventional manufacturing, and industrial practices, COVID-19 boosted digital manufacturing in India. Increased use of robots, Shop Floor automation, use of sensors and data analytics, adopting IOT technologies gained traction during the period.

Risk Dimension Analysis: Strategic Risk

Risk Exposure Score: 70

Risk Management Score: 74



Resources Scarcity/Misutilization

- Sustainable manufacturing involves optimizing processes to minimize waste generation and resource consumption while maximizing energy efficiency, thus reducing the impact on the environment. It includes the usage of inputs and methods that use less energy as well as fewer hazardous materials, for instance, through recycling, reducing pollution or implementing less carbon-intensive processes.

- As India continues to witness growth, its rapid consumption of coal, oil and natural gas has become a concern due to their significant contribution to pollution. The adoption of renewable energy sources offers opportunities for a greener manufacturing sector and for companies to reduce their carbon footprint.
- Renewable energy such as biomass, green coal and solar power, can provide reliable energy for manufacturing processes. It is predicted that renewables can contribute up to 27 per cent of the final energy consumption for global manufacturing by 2030.
- Transportation of goods also contributes to pollution. The surge in demand for goods and services in recent years has fueled an increase in freight activity, resulting in heightened oil consumption and a subsequent rise in carbon emissions. The adoption of electric vehicles (EVs) and hybrid vehicles for logistics and transportation can significantly reduce emissions.
- According to IBEF, India holds the ability to become a global manufacturing hub by the year 2030 and can add more than INR 41 Lakh crore annually to the global economy. The massive production has led to the need for sustainability.
- Efficient material consumption is a key determinant of manufacturing outcomes.

Strategic Risks:

- Despite ranking 5th on Global Manufacturing Output, India's manufacturing industry continues to lag in terms of its competitiveness.
- While global manufacturers are now advancing towards paradigms like manufacturing on demand and mass customisation, India's manufacturers are yet to reap the promises of digitization. Where global manufacturers have spent INR 74 lakh crore on Industry 4.0 technologies, India's manufacturing technology spend hovers around INR 40-50,000 crore, logged mostly by large-scale players.

- Value chains across key segments like metal, electrical equipment, and textiles remain unorganized. This is set to change in 2023 with the emergence of niche ecommerce platforms that cater to the needs of specific sectors. Equivalents of Amazon, which leads the retail sector in ecommerce, are likely to emerge for industries such as agricultural equipment, textile, construction, etc. As more and more players adopt these platforms, the industry will witness formation of ecosystems which will compete to weed out lagging businesses.
- Initiatives like the Bharatmala Pariyojana Project, the proposed DESH Bill, and the National Logistics Policy, have also helped enhance opportunities in the industrial market.
- Textiles and garment manufacturing sectors experience increased investment, with global brands reconsidering sourcing strategies and investing in Indian units.
- Earlier this month, the Indian government approved investments by 27 companies, under its INR 16 thousand crore scheme to manufacture IT hardware domestically. The companies are expected to invest around INR 2900 crore collectively and will likely create around 50,000 jobs in this sector.

Increased no of recalls and audits:

- In FY23, 30 companies undertook voluntary product recalls, while 16 were forced to recall their products, shows data sourced from Prime Database.
- Product recall information forms part of the business responsibility and sustainability reporting (BRSR) framework that is mandatory disclosure for the top 1,000 listed companies from FY23. Since many companies have not disclosed data for FY22, a YoY comparison is not tenable.
- While the voluntary recalls have been cautionary in nature, the reasons for forced product recalls range from improper functioning, damage in transit, quality issue, to leakages, product contamination and product being out of specification. However, the disclosed details don't reveal whether the recall has been done in the domestic or export market.

Failed/ Hostile M&A

- Despite global economic and geopolitical challenges, India’s deals market is expected to remain steady, reflecting strong confidence from businesses and investors amidst a global economic slowdown, according to the latest ‘India M&A Trends 2024’ report by Deloitte.
- The industrial and manufacturing sectors witnessed a significant 33 per cent and 22 per cent rise in deal value and volume, respectively, in 2023 compared to 2022.
- The manufacturing sector, driven by automotive, is expected to spur the M&A activity with deal growth expected in auto-components and electric vehicles (EVs).
- Despite major Indian companies continuing to remain promoter-owned and controlled, the law has evolved to reduce hurdles previously associated with transferring shares to a bidder. Thus, this creates a favorable environment for multiple hostile takeovers across sectors.

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 activities such as Electrical Audit & Thermography built in with other such solutions.
- **Fire Hydrant IoT:** Fire hydrant monitoring is an automated solution that monitors key parameters such as Hydrant and Sprinkler line pressure, Main and Jockey pump on-off status. These can be interpreted to provide intelligence on unauthorized usage of water and leakage. 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. The outcome of the exercise will help the plant maintenance team to rectify the leaks and reduce the energy cost. This will also improve the process parameters and production quality.

- **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 places by risk assessors.
- **Renewable Solutions:** In line with our philosophy for recommending business solutions, we recommend advise on efficiency measurements for wind and solar power generating assets. Drones are used to provide high accuracy and the 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 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, root cause analysis with MIS, claim assessment reports.
- **Technical engagements:** Uncertainty of the risk associated with the transit can be concluded with marine experts. 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 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 station and detailed post hijack recovery case studies is recommended to effectively monitor and mitigate theft / pilferage prone dispatches and 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.

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 minimization with reference to some parameters of distinctive research and industries best practices.

- **Drone Solutions:** 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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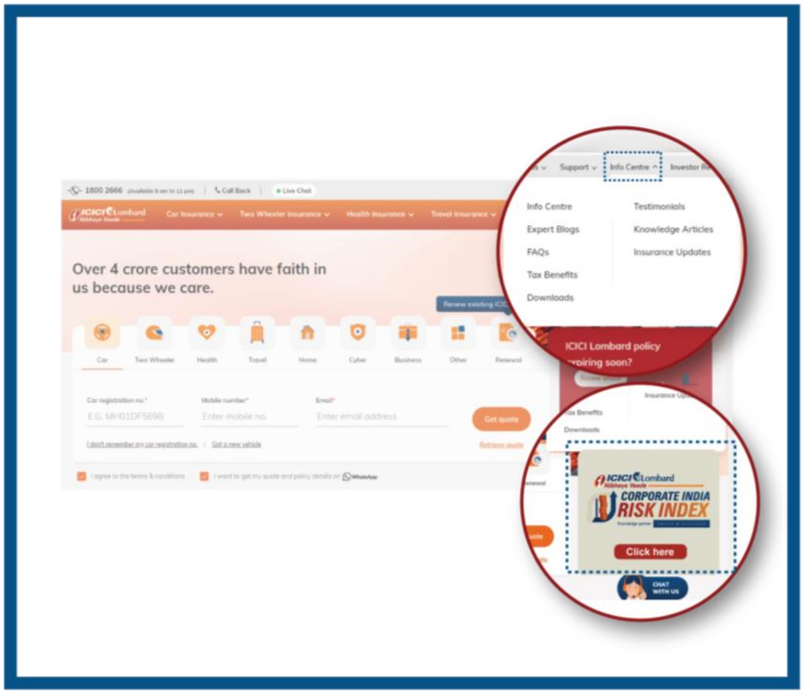

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