

A person is climbing a steep, snow-covered mountain slope. The sky is a deep red color, and the overall scene is bathed in a red light. The person is wearing a dark jacket and pants, and is using a climbing tool. The background shows more snow-covered peaks and a valley.

Priming for a **NO NORMAL** future

Technology Sector in India



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Foreword

It would be no exaggeration to state that the last three years have made us re-think the meaning of a single word - "Normalcy". From emerging out of a deadly virus and its devastating repercussions across all areas, to be able to revive businesses, economies across the world were able to recover and build momentum for growth in 2021. The global technology industry witnessed extraordinary growth with focus on hybrid operating models, digital skilling, employee engagement, and were able to build trust, and extraordinary innovation once again. This was reflected in the IMF's Global GDP growth rate of 6.2% in 2021.

However, that we live in a Volatile, Uncertain, Complex, and Ambiguous (VUCA) world was never so evident! The year 2022 started with a black swan event - the Russia-Ukraine war. Further, record-high inflation, resurgence of Covid, along with persistent supply chain issues added to the turbulence. As a result, the global GDP is estimated to have grown at a much subdued 3.4% in 2022 as per IMF.

During all this, India, unsurprisingly, remained resilient. Being the only country with a GDP growth rate of 6.8% in 2022, India has emerged as a leader, the position that will further get strengthened by its G20 presidency this year. India also witnessed lower inflation, higher manufacturing PMI growth and continues to have a stable geopolitical climate, robust digital infrastructure and 5G related developments. India is expected to remain in a high growth trajectory, with expectations of above 6% GDP growth in 2023 and 2024. This view has also been reiterated by IMF which expects India to be one of the two countries that will be responsible for 50% of global growth in 2023.

Within India, the tech industry has been at the forefront of this growth story. Overall technology revenue from India is expected to cross \$245 Bn in FY2023, growing at 8.4% over FY2022. The industry continues to be a net hirer, and is expected to add 2.9 lakh employees this year. The industry's value proposition hinges upon its diverse ecosystem, young and high quality talent pool, excellent physical and digital infrastructure, vibrant domestic market, and strong Government support.

NASSCOM's Annual Strategic Review report is an unmissable collection of facts, trends and examples about the Indian technology industry that not only provides an understanding of the year gone by, but also how the future looks like.

We hope you enjoy reading it, and welcome your feedback and comments.

Debjani Ghosh

President, NASSCOM



Acknowledgements

The Strategic Review report is NASSCOM's annual flagship publication that analyses the performance of the industry, traces its continual evolution and highlights key trends that are influencing and driving the sector forward. The NASSCOM Insights team relies heavily on both primary and secondary research, internal and external research reports, and reaches out to stakeholders across the board – industry, government, research firms, etc. – for their inputs that add value to the report. We would like to thank all our stakeholders for their invaluable contributions, without which this report would not have been possible.

We would like to thank NASSCOM member organisations, who provided relevant data and insights about various industry trends and developments. We acknowledge the inputs and insights from all our research partners and various government bodies.

We would also like to thank all the leaders who participated in our Annual CEO Survey 2023 and shared their views on the future of the technology sector.

A detailed list of contributors is given in the Appendix.

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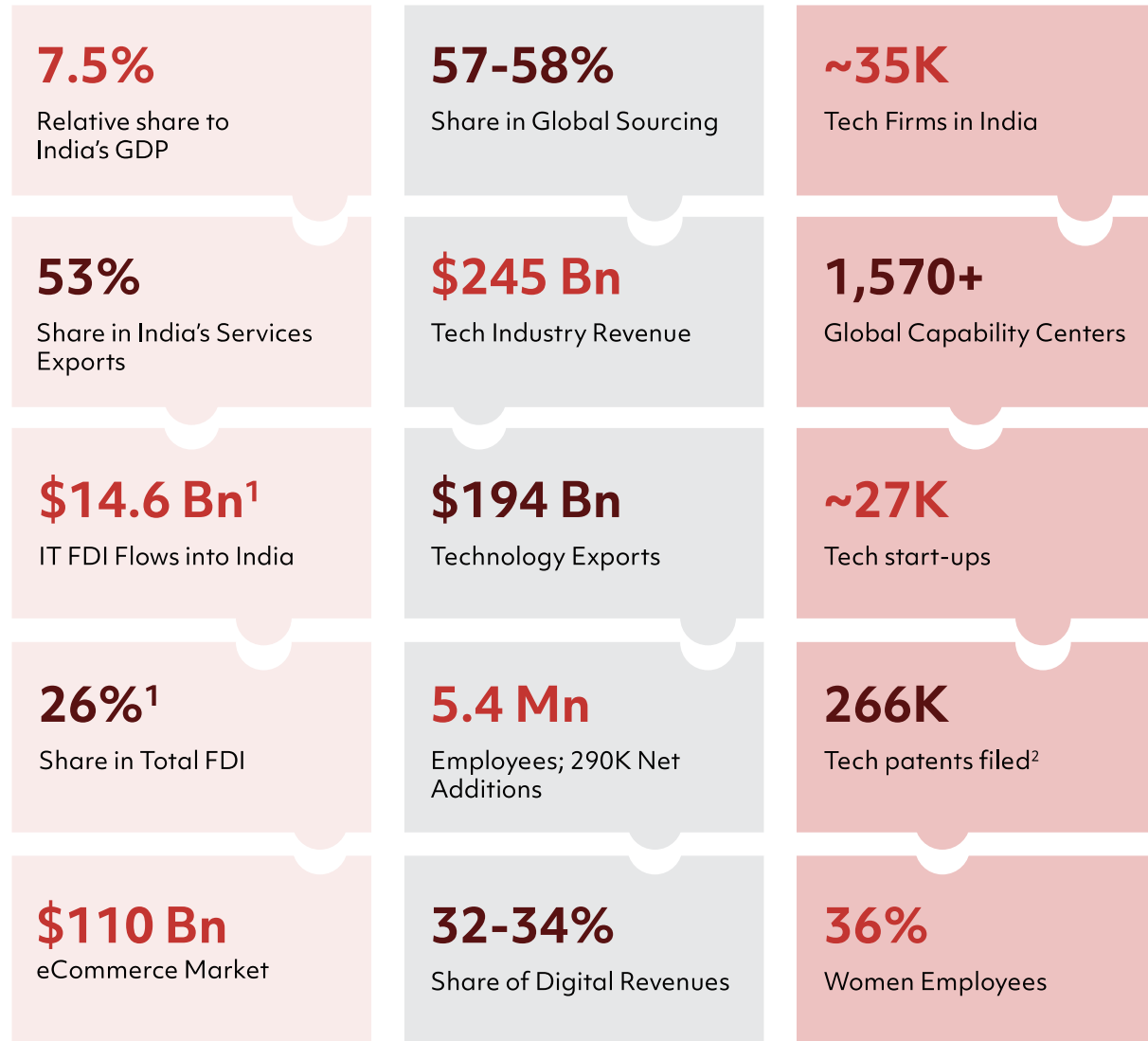
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Executive Summary

Technology Industry: FY2023E Snapshot View



¹Data for April to December 2022

² Patents filed during 2010-2022 in emerging technologies
Source: DPIIT, RBI, NASSCOM

CY2022 - A Year of Mixed Outcomes

VUCA world: The disruptions bought on by the COVID-19 pandemic continued through CY2022. The new variant, BF.7, impacted most Asian economies including Japan and China. With the ongoing disruption of supply chain (esp. wrt semiconductors), both governments and enterprises are re-thinking their supply chain strategy. The surprising invasion of Ukraine by Russia in early CY2022 impacted food & energy security worldwide, leading to higher inflation. CY2022 also saw ongoing concerns around recession as the global economies saw slower growth. However, the growth of emerging economies has been more resilient, with India leading the economic revival at a rate much higher than the rest of the world.

Technology, the focal point for businesses: Among businesses, the Technology industry was the silver lining as enterprises reshaped and accelerated their digital transformation agenda, and as a result, sourcing, and talent strategies for CY2023. Increasingly, enterprises, including traditional enterprises, are leaning on technology for scaling automation while humanising UX, streamlining supply chain, enhancing cyber resilience, and delivering their sustainability goals towards becoming purpose-driven businesses.

Global technology trends 2022: In CY2022, the total global technology spend stood at \$4.39 Tn, a slight decline of -0.2% over CY2021, driven by lower consumer spending on devices. Enterprise software and IT services crossed the \$2 Tn mark, a growth of 4.5% y-o-y in CY2022.

Indian Technology Industry Overview - FY2023E

While FY2022 was a year of milestones and resurgence-an outlier for the Indian technology industry, FY2023 has been the year of continued revenue growth with a focus on strengthening industry fundamentals and building on trust and competencies. The volatile global economic scenario and impending recession continues to support the demand for technology adoption and digital acceleration. Consequently, technology has become a strategic imperative that is a critical component of business innovation and transformation, as well as a source of improving operational and cost efficiencies.

In FY2023, India's technology industry revenue including hardware is estimated to cross \$245 Bn (8.4% y-o-y growth), an addition of \$19 Bn over last year. Exports, at \$194 Bn, are expected to grow at 9.4% in reported currency terms, and 11.4% in constant currency terms. Domestic technology sector is expected to reach \$51 Bn, growing at 4.9% y-o-y. In rupee terms, domestic tech revenues is expecting a 13% y-o-y growth on the back of continued investments by enterprise and the government.

The industry continues to be a net hirer, adding 290K employees, taking the total employee base to ~5.4 Mn (5.7% y-o-y growth), strengthening its position as the 'Digital Talent Nation' for the world.

Prominent Tech Industry Trends and Business Strategies in FY2023

Tech Industry Segment Trends

01 IT Modernization continues to be the driving force behind Indian IT services

02 The New Pillars of BPM - CX, Data and Modernizing the Core

03 Rise of ER&D - Advantage India

04 Building 'World class from India'- SaaS products and solutions, DeepTech start-ups

05 eCommerce evolving through increasing penetration and business model change

Strategies Strengthening the Fundamentals

06 India Domestic Market - The vision of 'Digital India' on the path to reality

07 India fortifying its position as a key GCC hub

08 Reorganizing for the Future: Leadership Strategies

09 Re-Imagining the Future of Work and Workforce

10 Strengthening the Tech Talent Pipeline

11 Emerging Global Technology Big Bets and the India Opportunity

Tech Industry Segment Trends

1. **IT services** is expected to grow at 8.3% in FY2023 compared to last year. The key drivers of growth include Application Modernization, Cloud Migration, Platformization, and Cybersecurity.
2. **Business Process Management (BPM)** is undergoing a drastic transformation, growing at ~8.7% in FY2023. Digital CX, data driven transformation, as well the position of BPM industry as a key strategic partner to the customer is driving growth.
3. **ER&D** is expected to grow at a double-digit figure of 11.1% y-o-y backed by strong fundamentals and rising demand for Indian ER&D services. Key growth drivers include strategic long-term deals, widespread proliferation of digitalization and cloudification of engineering activities.
4. **Software products**, expected to grow at 7.8% y-o-y in FY2023, is drastically altering the landscape by creating world class products from India which are scalable, thereby showcasing India's entrepreneurial prowess, and a fast developing diverse and inventive DeepTech start-up ecosystem
5. **Indian eCommerce** industry is expected to leapfrog achieving 40% y-o-y growth in FY2023, driven by newer business models, rising demand from tier II/III cities, and extensive use of technology in retail through platformization for customer engagement and experience enhancement.

Strategies Strengthening the Fundamentals

6. **India's Domestic technology adoption** driven by growing cloud adoption and deals focusing on digital transformation in existing and niche verticals. The Government is also playing a key role as an enabler of technology by building public platforms, digital public infrastructure and other projects, making the 'Digital India' initiative a reality.
7. **India strengthens its position as a GCC hub in 2022** with not only expanding centres in terms of scale and value but growing number of new GCCs setting-up base in India for the first-time. Global + local market focus, location diversification, positioning as 'Research and Innovation Hub' were some of the distinct highlights for the sector.
8. **Business and leadership strategies** revisited to transform existing models and unlock new value from emerging and niche opportunities. Firms are focusing on capability building through strategic acquisitions, partnerships and robust deal pipelines.
9. **Re-Imagining the future of workplace and workforce** Workplaces are witnessing a shift towards hybrid working and satellite offices, following decentralised delivery models and rise of satellite offices across Tier II and Tier III cities.
10. **Strengthening the tech talent pipeline** Digital skilling and emphasis on re-skilling and learning and development are expected to emerge as the leading drivers to grow digital talent and retain key employees within the organizations.
11. **Emerging technology big bets and the India opportunity** 12 technology big bets (that include sensor tech, smart robots, autonomous driving, computer vision, deep learning, autonomous analytics, AR/VR, sustainability tech, edge computing, distributed ledger, spacetech, 5g/6G) are areas where enterprise spend is expected to grow 2X higher than average. With investments in India for these sectors growing at a 31% CAGR, India is already home to a large number of innovative start-ups in these areas, and hence well placed to benefit from the opportunities.

India's Value Proposition: A Strong Economy and a Diverse Tech Ecosystem

India, currently holding the prestigious Presidency of G20 nations, has grown from being the tenth largest economy ten years ago to the fifth largest today. India has been the fastest growing major economy for the third year in a row—poised for further growth, driven strongly by, among other factors, a robust and diverse technology ecosystem. Diverse and inclusive new-age skilled talent pool with strong entrepreneurial mindset,

people first innovation, responsible & ethical tech & governance built on trust, commitment to Environmental, Social & Governance (ESG) goals, & Corporate Social Responsibility (CSR), form the cornerstones of this vibrant ecosystem.

Cost competitiveness and efficiencies, stable and trusted Government consistently building a conducive business environment and infrastructure through reforms and policies, along with the largest and youngest working population and consumer market, makes the industry's foundation even stronger. India's inherent leadership skills have ensured Indian origin leaders occupy a seat at the table in global organizations, fronting global charters across various verticals.

2023-24 Annual Outlook - Towards a 'No Normal' Future

CY2023 has started with signs of moderation – with worldwide growth expected at 2.9%. Even as the global economic climate will continue to remain uncertain, volatility and business resilience will co-exist and that will define the 'No Normal' world that we embark on. Globally, enterprises are likely to see headwinds - demand contraction in some markets, and this uncertainty may result in delayed decision-making.

NASSCOM's Annual CXO Outlook Survey 2023, indicates that while enterprises digital transformation remains core strategic priority for 2023, cost takeout and optimization requirements are also in demand given the macro environment. Cybersecurity, cloud, AI and analytics continue to be the main focus but with more integrated use cases and higher value realization. Hyper-automation and virtual experiences are new themes, driving optimization and new business growth. End-user enterprises are demanding greater domain specialization as also purpose-driven partnerships from their technology partners.

As such, for technology providers, CY2023 is expected to be a year of rationalization (improving utilization & lower attrition), as they consolidate and strengthen current expertise, while making early moves into new business opportunities. The growth areas of technology segments will continue to focus on digital CX, digitization, cloudification, building SaaS-enabled products, cybersecurity and platformization - digital components that are increasingly being built into all deals, partnerships and M&As.

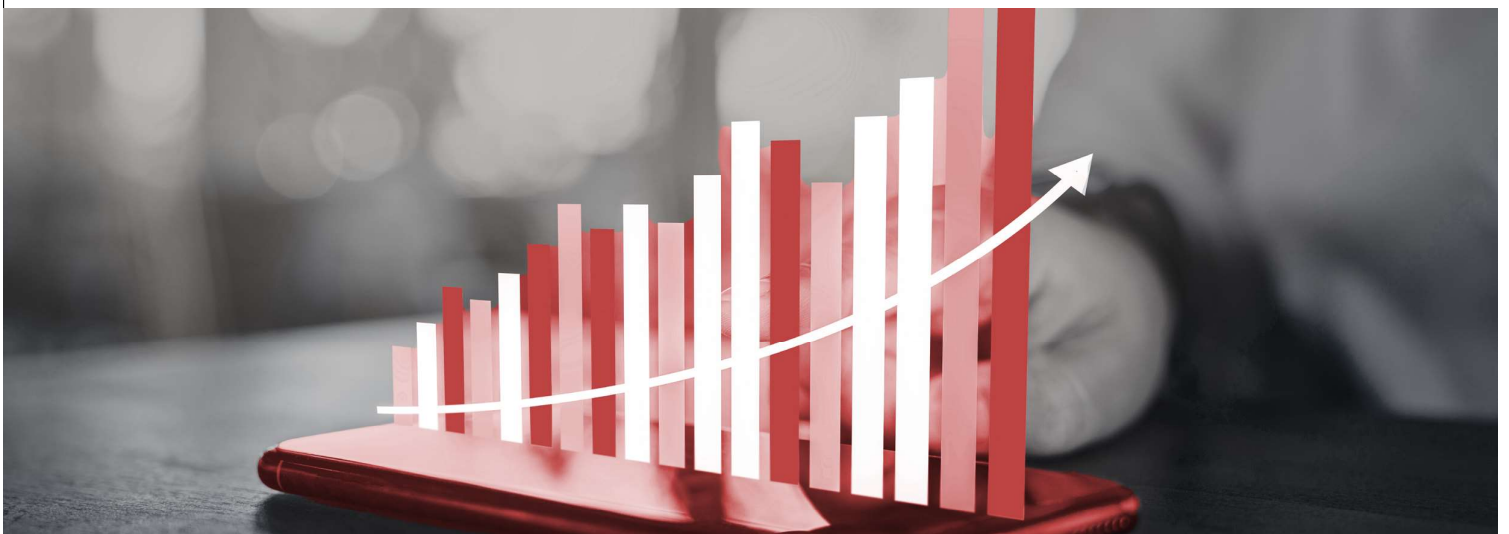
An underlying theme that will emerge stronger is 'Focus on Quality Talent' - strengthening capabilities in niche and pure tech areas like cloud, AI/ML/NLP through reskilling/upskilling, improved and increased thrust on employee engagement, culture, health and wellness.

Digital transformation will be the most critical transformation journey that enterprises will embrace to evolve into adaptive entities, capable of absorbing volatility and building sustainable growth models. In CY2023, the immediate focus may be on wins in cost control; however, the coming 6-7 years will test organizational agility to take on bolder risks and report practical gains.

Over this Techade, the playbook to thrive in a 'No Normal' future would converge around four key themes:

1. Adapt to a No Normal Future - Change is the Only Constant
2. Digital Transformation Partners - The Big Shift
3. Trust, Resilience, Inclusion & Sustainability - Redefining the Rules of Competition
4. Digital Mastery & Innovation - The Key Differentiators

Enterprises that adapt quickly and constantly are the ones that will lead in a "No Normal Future".



A Glimpse of Our Research



The NASSCOM AI Adoption Index



Future Of Cloud And Its Economic Impact: Opportunity For India



Sandboxing Into The Future – Decoding Technology's Biggest Bets



India's DeepTech Start-Ups – Poised For Impact



NASSCOM-Deloitte The Future Growth Sectors In Digital Engineering



Digital Enterprise Maturity 3.0 - Boosting Business Resilience Through Technology



Future Of Work - Implications For India Tech Industry - June 2022



Tech Start-up Report 2022 – Rising Above Uncertainty: The 2022 Saga of Indian Tech Start-ups



Metaverse – Prepare to Win



State of Data Science & AI Skills in India – Data and the Art of Smart Intelligence



Sustainability - Opportunity for Tech Services and Solutions



The Evolution of BPM Services | Cost, Outcomes, and Growth

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