



TOWARDS A GENDER EQUITABLE WORLD

UNVEILING DIVERSITY IN DEEPTECH

KNOWLEDGE PARTNER





FOREWORD

This study into the diversity landscape in India's technology industry was a result of discussions that I've been having with my engineering leaders, including Ajeya Motaganahalli, who runs our India R&D Center. We wanted a data-led perspective on the diversity in the engineering communities that we hire our talent from, including universities and colleges.

Diversity, equity and inclusion (DEI) is an integral part of the culture at Pure Storage and we are deeply proud of our efforts to build an inclusive and diverse workforce that is best-in-class. We believe DEI is not only the right thing to do, but also drives greater innovation in products, a stronger internal culture for our employees, and contributes to a stronger bottom line for our shareholders.

Amongst the processes we have put in place to promote DEI include an Inclusive Leadership Index that holds our VPs accountable for achieving our DEI objectives. This index has been recognized by Gartner as a top DEI practice. In FY23, we increased gender representation across all levels: Women made up 31.5% of all director-level positions, an increase of 3.7% since FY21; and 16.3% of all VP and higher roles, also increasing 3.7% since FY21.

That said, we also have to be realistic about what is happening in the world. In engineering for example, we are limited to the talent that is coming from universities and colleges or mid-level from the industry. In order to further improve gender representation for engineering roles, we need to address many different areas which this report details, such as the number of women being admitted into engineering universities and colleges as well as how long they stay in the industry.

These opportunities can't be easily addressed but we want to start the discussion and we hope this report serves as a starting point for progress.

John "Coz" Colgrove

Co-Founder and Chief Visionary Officer
Pure Storage



FOREWORD

In the realm of DeepTech, where cutting-edge innovations shape the future, India has been making remarkable progress. However, the underrepresentation of women in this transformative domain is a challenge that needs to be addressed. For the benefits of DeepTech to be realized, a diverse workforce is key, and it is important to bridge this gap through collective attention and action. Embracing diversity is not merely a matter of social equity; it is a strategic imperative for unlocking the true power of innovation.

To bridge this gender divide, we must confront the systemic barriers that hinder women's participation from the very onset. Addressing the leaky pipeline, where girls face obstacles in accessing quality STEM education and overcoming societal biases, is imperative. Initiatives that expose young minds to DeepTech concepts, provide mentorship, and offer financial support can pave the way for a more diverse talent pool.

However, our efforts cannot stop at the educational level. The DeepTech industry must actively foster an inclusive culture that nurtures and retains women professionals. This entails implementing targeted leadership development programs, promoting pay parity, skilling programs on new technologies, providing technical career tracks, and offering adaptable work arrangements.

India's DeepTech ecosystem is at an interesting inflection point of growth wherein the exponential shifts in technology, coupled with the innovative start-up sector, are creating new opportunities to tap into. By embracing gender diversity, we will not only uphold the principles of equity and fairness but also unlock a wellspring of untapped potential. It is time to create an environment where women can thrive and contribute their unique perspectives.

India's DeepTech revolution is poised to leave an indelible mark on the global stage and a sharp focus on building a diverse workforce will only accelerate this vision.

Sangeeta Gupta

Senior Vice President

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Introduction

In recent years, India's journey into the realm of DeepTech has been nothing short of remarkable. It's a story of transformation, driven by a combination of government support and ground-breaking initiatives like National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) and Digital India. These efforts have transformed India into a global hub for cutting-edge technologies, with a deep-rooted emphasis on accessibility to technology and innovation.

Picture this: start-ups, armed with advanced tools and open-source software, are pioneering ground-breaking technological products and solutions without the need for hefty initial investments. This democratization of technology has sparked a wave of creativity and efficiency, creating an ecosystem that thrives on diversity and dynamism. Despite large strides towards inclusivity, gender disparity remains prevalent in India's DeepTech ecosystem. This is exacerbated by cultural and systemic barriers.

Within this vibrant landscape, Global Capability Centers (GCCs) are leading the charge for a more inclusive workforce. With women accounting for **~28% of the workforce**, GCCs are on the right path to bridge the gender disparity. However, the journey to gender parity in DeepTech domains presents unique challenges. And given the demand for highly skilled talent in DeepTech, not only is there a need to bridge this gap, but also disproportionately so with women, because the current DeepTech gender diversity stands at a mere ~23%.

The journey begins at birth, where societal norms and systemic barriers start shaping the future. Despite nearly half of India's population being women, not all gain access to primary education, setting the stage for a staggeringly low representation of gender diversity in corporate careers. This transmission loss of women at different stages of education significantly impacts their participation in DeepTech industries. While the macro picture is impressive in that the participation of women in engineering courses being fairly representative of the population, when it comes to top engineering universities from where DeepTech industry prefers to hire from, the gender diversity pipeline is seen to narrow down significantly.

As the talent advances in their careers from this starting point, we observe a significant lack of representation at senior levels, resulting in a gender diversity deficit among DeepTech domain experts. When we uncover the dynamics shaping gender diversity in DeepTech, the findings reveal disparities in educational access and barriers hindering gender diversity advancement in the workplace – each revelation invites further exploration. But what lies beyond these initial insights? What strategies are emerging to bridge the gender gap in DeepTech, and what implications do they hold for the future of the industry? This study delves deeper into gender diversity in the DeepTech industry, where each discovery promises to challenge assumptions, spark conversations, and inspire transformative change.

Factors accelerating the DeepTech Journey

Source: Zinnov's India DeepTech Start-up Report 2022

The DeepTech Journey

The remarkable transformation of India's technological landscape has been propelled by the exponential growth of the DeepTech ecosystem. This paradigm shift is the result of a confluence of factors that have synergized to position India as a global powerhouse in transformative technologies. At the epicenter of India's DeepTech surge lies the government's steadfast support, a vibrant start-up culture, collaborative academia-industry efforts, and a rich pool of skilled professionals. Pioneering initiatives such as the NM-ICPS and the visionary Digital India campaign have laid a robust foundation for the development of cutting-edge technologies. With a particular emphasis on Artificial Intelligence (AI), Machine Learning (ML), Blockchain and beyond, these programs signify a resolute commitment from the government to establish India as a leader in the global technological arena.

TECHNOLOGY BUSINESS INCUBATORS

OBJECTIVES

- Business planning and training
- Infrastructural support and industry connects
- Legal and IPR services
- Commercialization of R&D activities
- Facilitation of technology transfer

STEPS TAKEN

- National Science & Technology Entrepreneurship Development Board (NSTEDB) launched the Technology Business Incubators (TBI) program in early 2000, to increase the number of start-ups engaging in innovation
- Currently, there are 100+ TBIs across India

GOVERNMENT POLICIES & STRATEGIES

OBJECTIVES

- Addressing challenges such as rapid deployment and cross-domain application
- Designing an innovation roadmap for technology development and adoption
- Skilling platforms and efficient delivery of services to citizens

STEPS TAKEN

- Policies and strategy papers focusing on DeepTech have been drafted keeping in mind both the promotion and regulation
- Identifying target sectors that can support immediate DeepTech adoption
- Adoption plans for technologies like Blockchain

GOVERNMENT-CORPORATE COLLABORATIONS

OBJECTIVES

- Supporting exploration in scientific research through funding mechanisms and common platforms for researchers and corporates
- Catering to promotion and innovation needs of DeepTech in niche areas/segments

STEPS TAKEN

- SERB-DST has partnered with Intel and GE to launch an initiative to advance DeepTech research. The focus areas would be AI/ML, Clean Energy, Healthcare, etc.
- The collaboration is under the FIRE® (Fund for Industrial Research Engagement) initiative, which is a joint industry and government platform with a co-funding mechanism

India's DeepTech landscape is defined by the democratization of technology, driven by the accessibility of advanced tools and technologies, including Cloud Computing and open-source software. This levels the playing field for start-ups, empowering innovators to concentrate on research & development, without the burden of high initial investments. It catalyzes the pace of innovation, fostering a dynamic and agile ecosystem that thrives on creativity and efficiency.

India's reputation as a technological hub is rooted in its ability to produce a vast pool of skilled professionals in science, technology, engineering, and mathematics (STEM) fields. This human capital forms the backbone of the DeepTech ecosystem, providing the intellect and expertise needed for ground-breaking innovations. The emphasis on STEM education and continuous learning ensures that India remains at the forefront of technological advancements.

Tracing the Gender Divide

In the intricate landscape of India's demographic composition, the gender divide begins at birth, with men representing 51.5% and women accounting for 48.5% of the population, according to the Ministry of Statistics and Program Implementation. This numerical distinction lays the groundwork for a multi-faceted exploration of gender dynamics across key milestones, encompassing primary education, higher learning, corporate integration, and senior leadership roles.

Based on the 2022 Education Statistics report from the Ministry of Statistics and Program Implementation, it is clear that, of the 48.5% of women born in India, only 70% have access to primary education. Of the 70% of women with access to primary education, only 25% opt to pursue graduate courses. The reasons for this dip are primarily attributable to early marriage, financial constraints, and societal norms and expectations to prioritize domestic responsibilities over education.

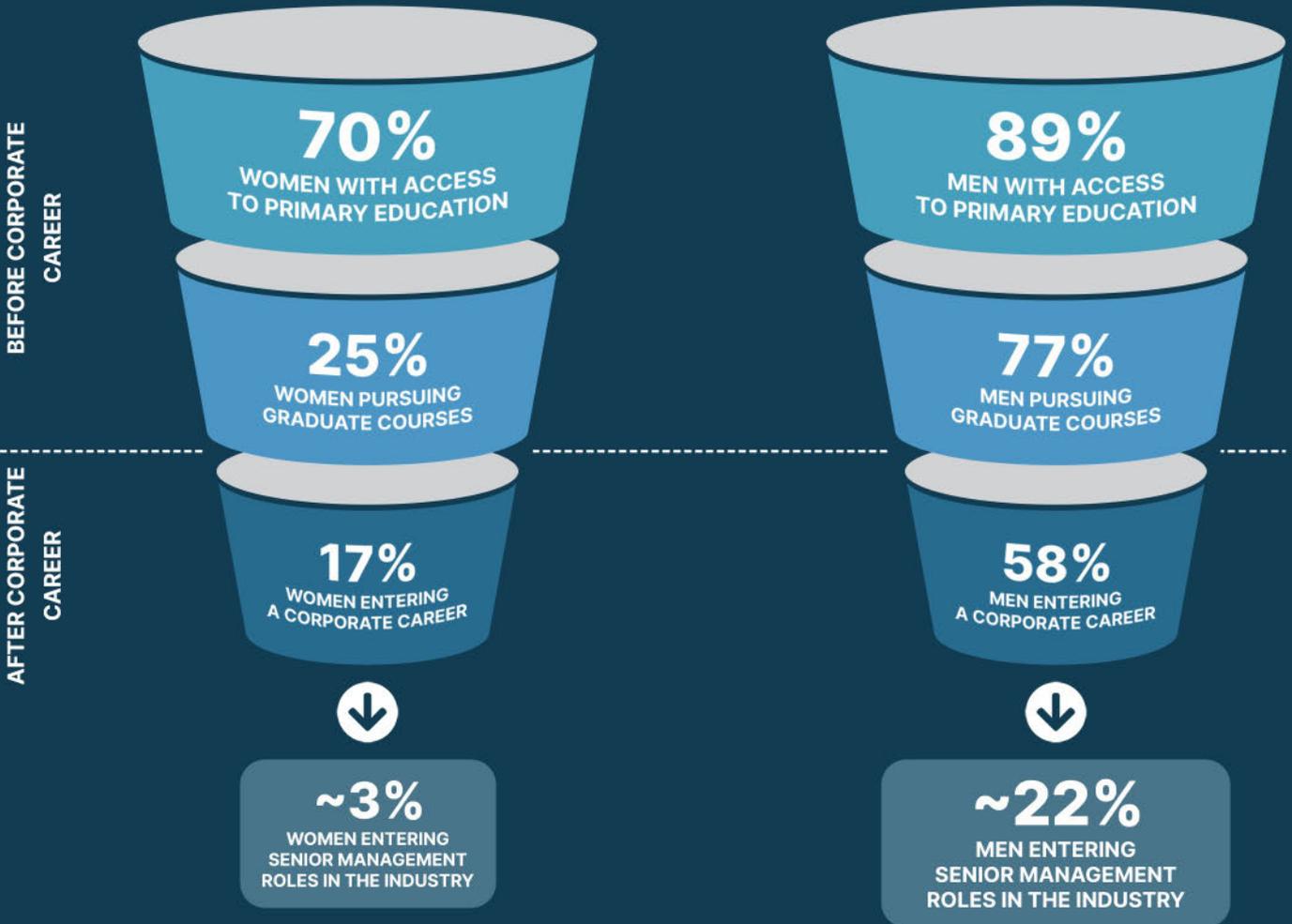
As we traverse further, a mere 17% of these women enter the corporate sector. This lower entry rate points to systemic barriers and biases prevalent in corporate environments that hinder women's professional advancement. Zinnov's Inclusion & Diversity Benchmark 2023 reveals that stereotypes about women's capabilities, limited mentorship opportunities, and workplace cultures that struggle to accommodate work-life balance may contribute to their underrepresentation in the corporate workforce. This underscores the urgent need for organizations to implement inclusive policies and initiatives that bridge the existing gender gap.

Women are underrepresented across Educational and Professional Stages in India.

WOMEN VS MEN: POPULATION IN INDIA

48.5%

51.5%



Note : ~3% refers to the industry-wide representation of women in senior management roles

Source: 2022 Education Statistics report from the Ministry of Statistics and Program Implementation & Zinnov's Returnship report 2022

The journey from birth to boardroom in India reveals stark gender disparities at every stage. The lower percentage of women with access to primary education, progressing to higher learning, and entering corporate careers emphasizes the pressing need for targeted interventions. Addressing societal norms, dismantling biases, and implementing inclusive policies will help foster a more equitable landscape and ensure diversity in India's educational and corporate spheres.



“In today's rapidly evolving digital landscape, every company has become a tech company, and the real challenge lies in the resilience of the talent supply chain. Interestingly, women emerge as pivotal in bridging this gap. Naturally equipped with superior cognitive, analytical, and creative skills, women excel in problem-solving and continuous learning, vital traits for adapting to new technologies and methodologies. As we delve into the nascent world of AI and DeepTech, the role of women becomes even more crucial. With their propensity for learning and unlearning, women are not just participants but also architects in this era of technological evolution.

Debjani Ghosh

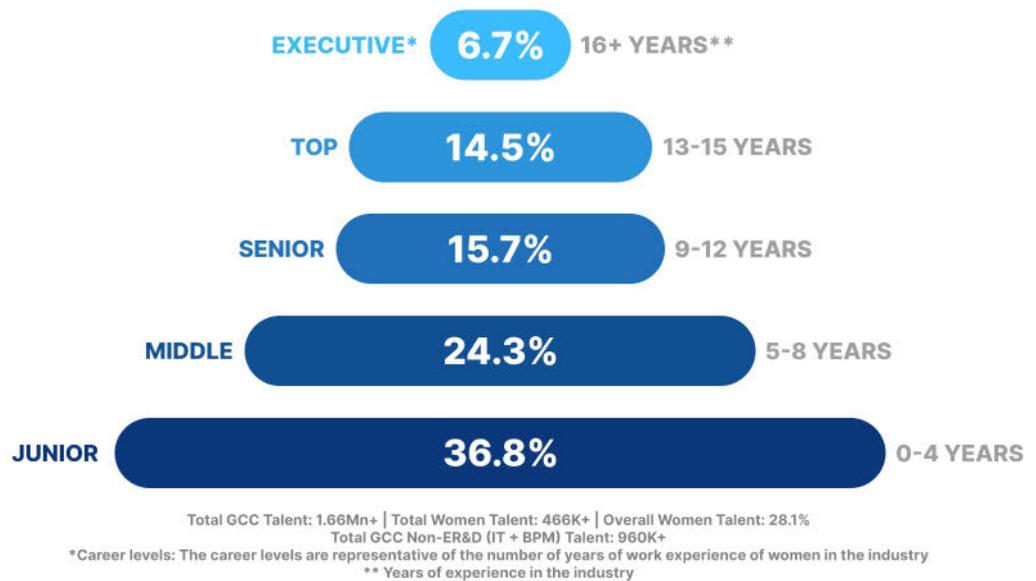
President
nasscom

The Diversity Deficit in DeepTech

In GCCs, where talent converges to drive global operations, the narrative of gender diversity unfolds as a tale of progress as well as challenges. With over 1.66 Mn professionals contributing to GCCs, women make up a substantial 466,000, showcasing strides towards inclusivity. However, the journey to gender parity is far from complete, as the overall gender diversity representation lingers at around 28%.

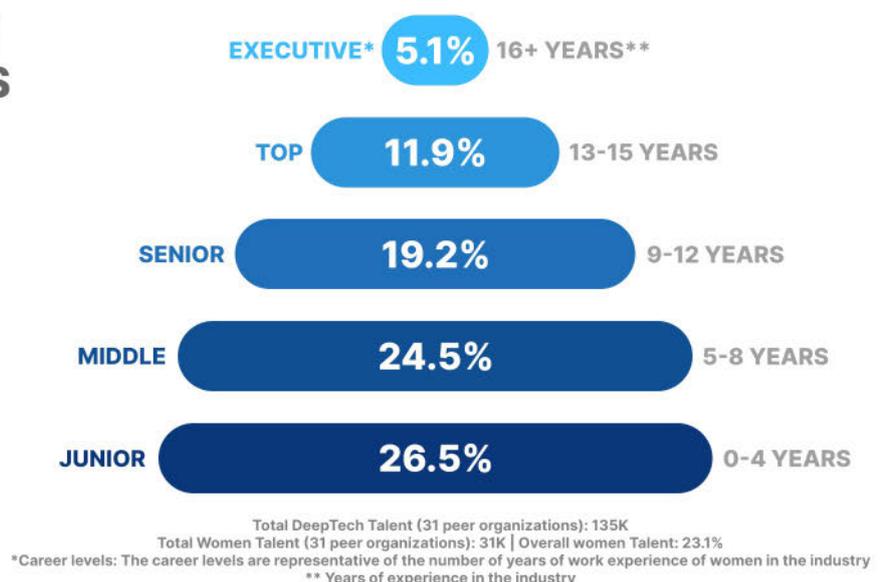
Delving into the nuanced layers of this representation and dissecting it with respect to career stages unveils a distinctive story. At the Junior level, where individuals have 0-4 years of experience, the gender diversity is higher, standing at a significant 36.8%. However, as women move up their careers, the percentage dwindles – Middle level at 24.3%, Senior level at 15.7%, Top level at 14.5%, and Executive level at 6.7%. This dip paints a stark picture, emphasizing the need for targeted interventions to sustain and bolster gender diversity across all career levels.

DIVERSITY ACROSS GCCs



The intricacies deepen when exploring gender representation in DeepTech roles within GCCs. Given the nature of work and the demand for talent with specialized skills, the percentage of diversity in DeepTech roles falls below the overall GCC average. At the Junior level, women account for 26.5%, Middle level at 24.5%, Senior level at 19.2%, and Top level at 11.9%. Alarmingly, at the highest echelon, a mere 5.1% of women are at the Executive level in DeepTech organizations.

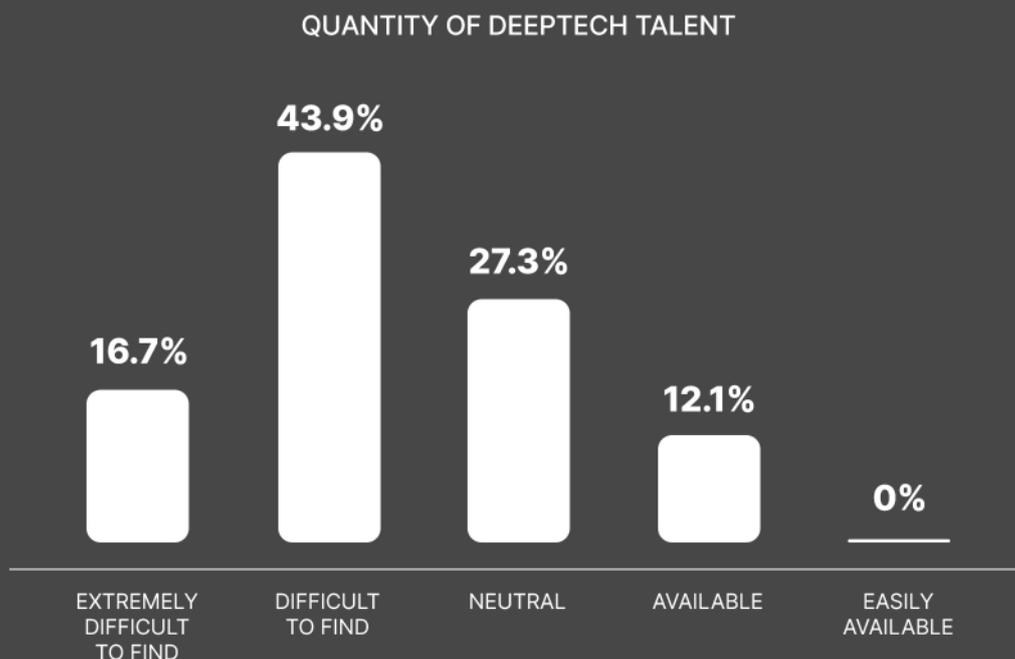
DIVERSITY ACROSS 31 DEEPTECH PEERS



Gender diversity dwindles at the upper level, in Top and Executive levels across both GCCs and DeepTech organizations, severely limiting women's access to executive positions. The availability and accessibility of a qualified talent pool in DeepTech pose distinct challenges, resulting in a more constrained recruitment landscape. This limitation stems from the intricacies embedded in the nature of work within the DeepTech sector, which necessitate highly specialized skills. The DeepTech workloads often demand a profound understanding of cutting-edge technologies such as Artificial Intelligence, Machine Learning, Blockchain, and other complex domains.

Furthermore, the scarcity of domain experts in these specific fields exacerbates the challenge of sourcing suitable candidates. The shortage of individuals possessing not only technical prowess but also a nuanced understanding of the industry intricacies creates a bottleneck in the talent pipeline. The demand for professionals well-versed in the latest advancements, coupled with a practical grasp of the unique challenges posed by DeepTech, further amplifies the difficulty of identifying and recruiting diverse candidates.

Is there a dearth of DeepTech talent?



Source: Zinnov's India DeepTech Start-up Report 2022

While organizations and leaders have acknowledged the importance of gender diversity, there is an urgent need for more targeted efforts. The lack of gender diversity in DeepTech is highlighted in the lower representation of women in engineering universities in India. This gender gap contributes to the underrepresentation of women in technology-related fields.

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My former organization had a global program called 'Leadership in Action,' a six-month immersive program designed to accelerate the development of high-performing/high-potential Directors/Senior Directors to VP-level roles. This program included experiential learning activities, such as creating a solution proposal for a high-profile, strategically complex project that required general management skills and direct interactions and presentations to CXO-level executives. This experience was a turning point in my career as it provided significant visibility to CXOs and opened up critical global roles for me.

Snigdha Ghosh Ray

VP, Payments at Diebold Nixdorf,
India R&D Hub Country Lead
Diebold Nixdorf



Addressing the Talent Pipeline

In unraveling the intricacies of the DeepTech sector's talent pool, it is essential to trace the origins of this workforce. A significant portion of DeepTech talent hails from the top engineering universities in India. To understand the present landscape, Zinnov conducted an analysis on a retrospective view of women engineering graduates from 2004 to 2023, from the Computer Science and Electronics & Communication streams from 42 Top Engineering Universities (8 IITs and 34 other Tier-II and Tier-III Universities) leveraged for hiring by GCCs and zoomed in on 23 Top Engineering Universities (8 IITs and 15 other Tier-II and Tier-III Universities) leveraged for hiring by DeepTech organizations.

The study categorizes the graduating classes of B.Tech Computer Science (CSE) and Electronics & Communication (ECE) into five time periods with women likely to be employed in the DeepTech workforce with the following years of work experience:

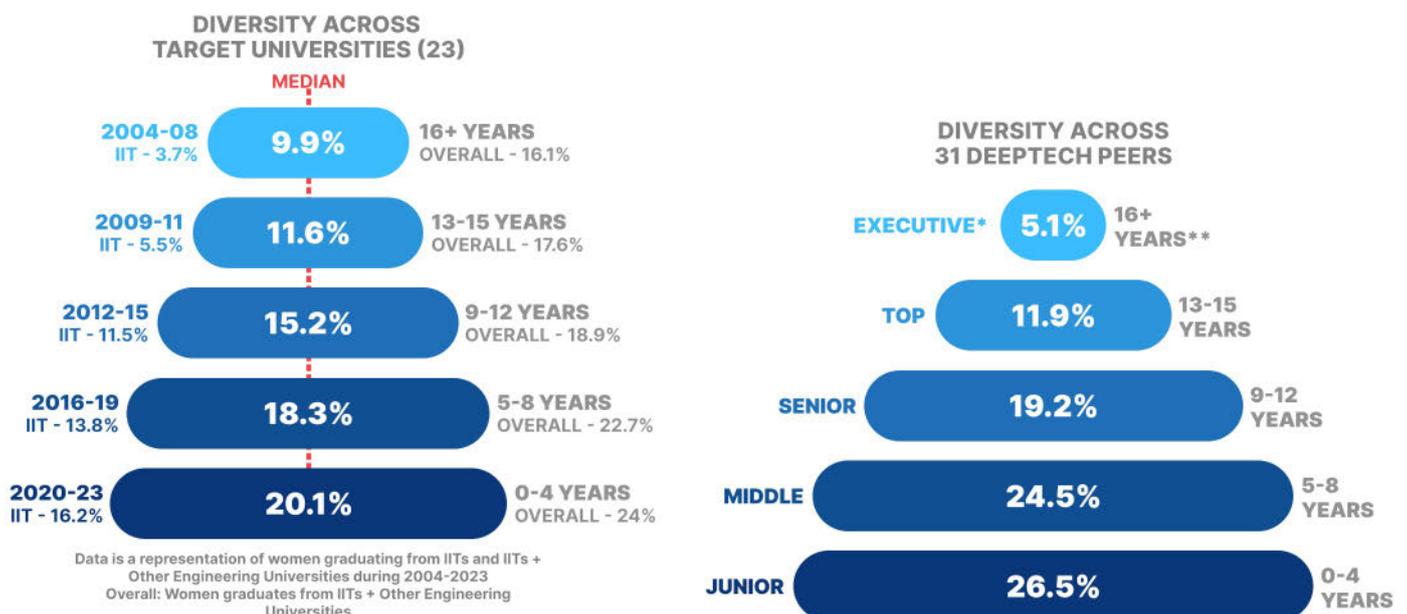
- 2004-2008 representing women with an experience of 16+ years (Executive level),
- 2009-2011 for women with an experience of 13-15 years (Top level),
- 2012-2015 for women with an experience of 9-12 years (Senior level),
- 2016-2019 for women with an experience of 5-8 years (Mid level), and
- 2020-2023 for women with an experience of 0-4 years (Junior level).

This segmentation provides a nuanced view of the talent pipeline available for the DeepTech sector as of 2024.

For the study, Zinnov considered a median value for women graduating from 23 of the top universities comprising of Indian Institutes of Technology (IITs), and IITs plus Other Universities (IITs + IITs + NITs + BITS)* from where DeepTech industry prefers to hire from, for the five graduation periods.

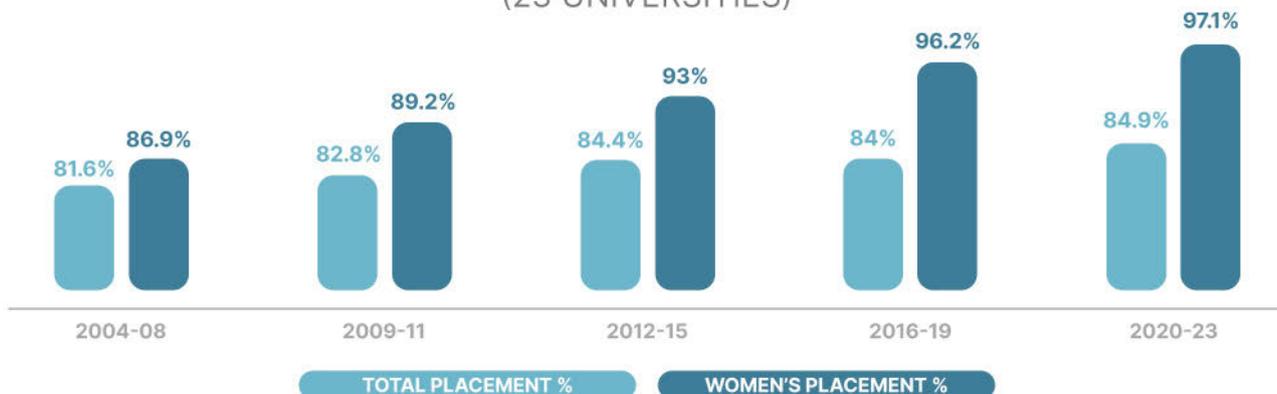
(*IIT: Indian Institute of Information Technology, NIT: National Institute of Technology, BITS: Birla Institute of Technology and Science, BIT: Birla Institute of Technology)

The graph below represents a limited supply of women's talent pool from universities. When comparing the number of women graduating from these universities to the representation of women in the DeepTech space, the low presence of women in DeepTech can be attributed to the limited supply of a diverse talent pool from top universities. Many universities, particularly IITs, may have fewer women graduate students in STEM-related fields, which are commonly required for roles in DeepTech industries. This lack of gender diversity directly impacts the number of women candidates entering and advancing within the DeepTech sector.



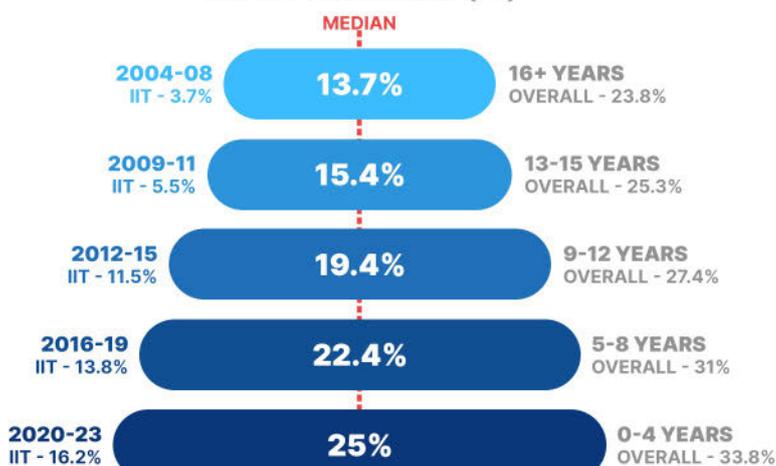
The study highlights an encouraging trend, when we analyzed placement statistics of the first set of 23 universities. Despite the disparity in women's representation, women graduates consistently outperformed in securing placements, suggesting their representation in the workforce is only limited by the inflow pipeline. Hence, to enhance gender diversity in the DeepTech ecosystem, it becomes imperative to prioritize increased women's admissions into these universities and/or increasing the pool of universities from where DeepTech GCCs hire from, ensuring a robust pipeline of diverse talent.

PLACEMENT TREND (23 UNIVERSITIES)



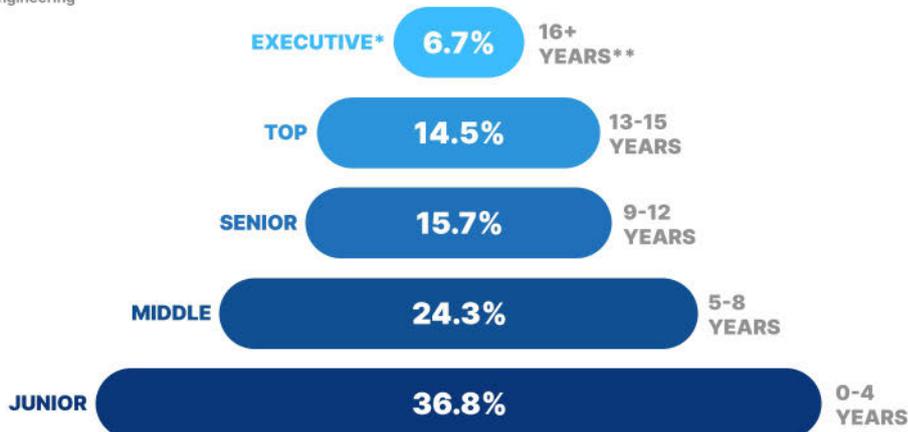
On extrapolating women talent across GCCs, we observed a similar trend with women talent supply from 42 universities comprising of IITs and IITs plus Other Universities (Regional Engineering Colleges + IITs + IIITs + NITs + BITS). We believe this is a more likely preferred mix of hiring universities for fresh graduates across GCCs.

DIVERSITY ACROSS TARGET UNIVERSITIES (42)



Data is a representation of women graduating from IITs and IITs + Other engineering universities during 2004-2023. Overall: Women graduates from IITs + Other Engineering Universities

DIVERSITY ACROSS GCCs



Total GCC Talent: 1.66 Mn+ | Total Women Talent: 466K+ | Overall Women Talent: 28.1%
Total GCC Non-ER&D (IT + BPM) Talent: 960K+

* Career levels: The career levels are representative of the number of years of work experience of women in the industry
** Years of experience in the industry

PLACEMENT TREND (42 UNIVERSITIES)



Source: Zinnov Research and Analysis

This revelation pinpoints to an important call to action for GCCs. To enhance women's representation at the entry levels, GCCs must expand their pool of target universities for fresher hiring to include Tier-II and Tier-III universities that have significantly higher women students than just relying on Tier-I universities. As GCCs add more Tier-II and Tier-III universities to their hiring mix, the women's supply for tech roles increases as the placement rates of women graduates increase (as evidenced above). Therefore, it becomes essential for GCCs to increase the pool of universities from where they hire from.

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I returned to the workforce after a hiatus of five years, where I encountered a culture that valued the skills and experiences of women returning from career breaks. Without facing a 'motherhood penalty,' I was reinstated at the same seniority level and received equitable compensation. This experience underscores the importance of visionary leadership and organizational commitment to facilitating the seamless reintegration of women professionals, ensuring their continued growth and contribution.

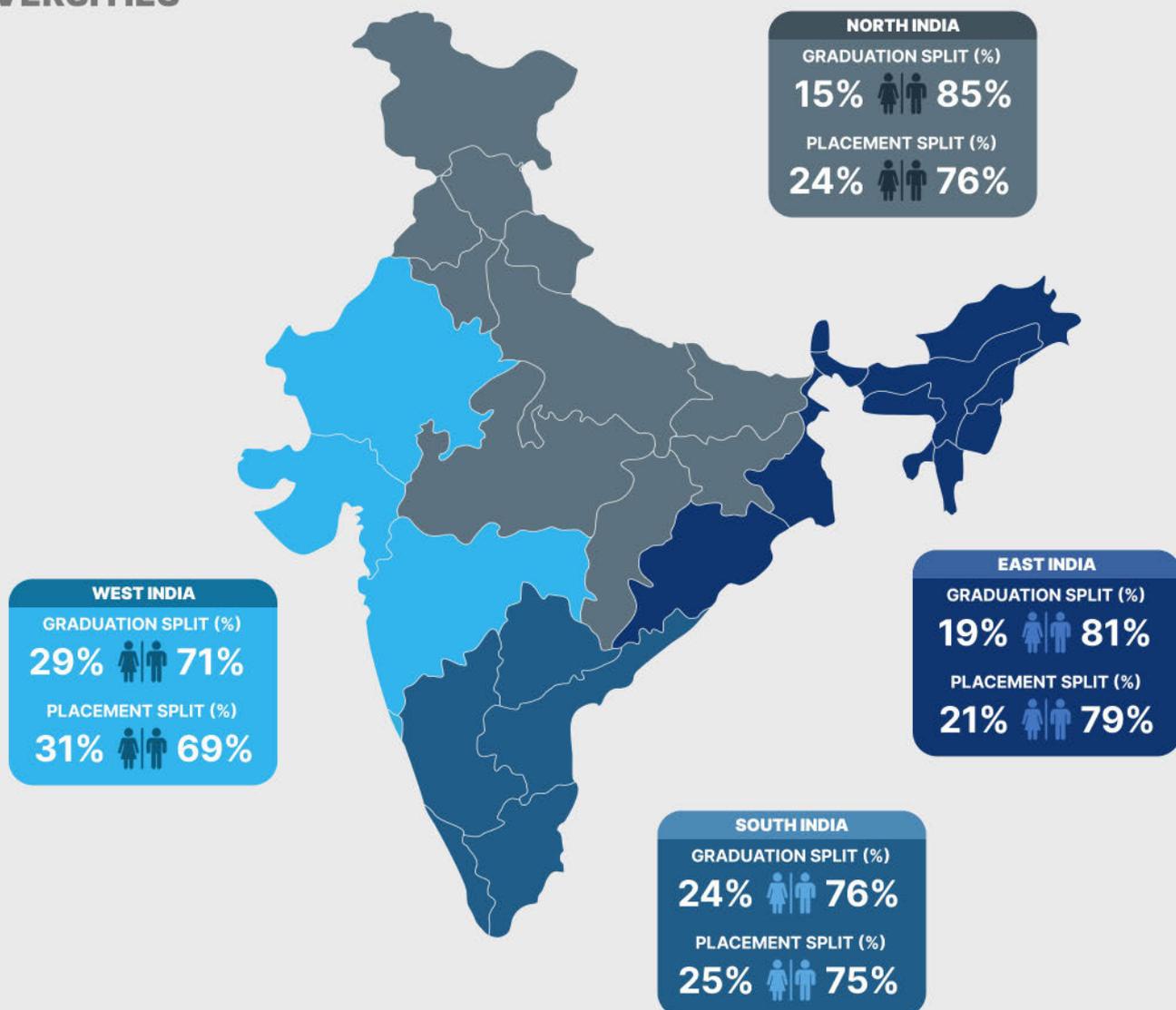
Utsah Kohli

Head of Communications India
NatWest Group



The West of India stands out as a beacon of gender diversity, boasting the highest representation among fresh women graduates across all universities evaluated. This phenomenon is partly attributed to the abundance of Tier-II universities in the region, that offer increased opportunities for women students. Additionally, South India, particularly states like Karnataka, Kerala, and Tamil Nadu boast higher gender diversity, thanks to the commendable efforts from the governments and other ecosystem players. Social reform movements, robust educational infrastructure, and gender-inclusive policies have been the hallmarks of these states, contributing to their higher women enrollment rates. This not only reflects a profound commitment to education but a greater focus on gender equality.

REGIONAL SPLIT OF GENDER DIVERSITY ACROSS THE STUDIED UNIVERSITIES

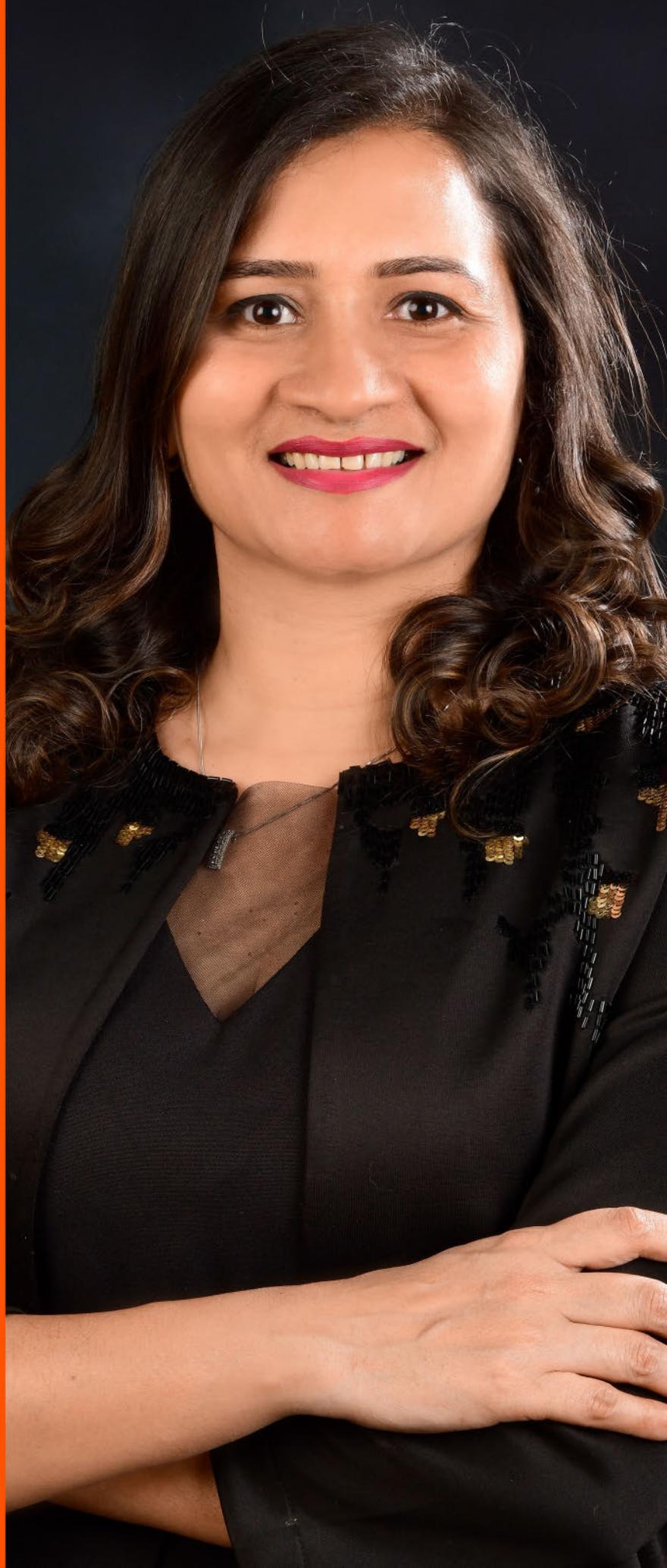


Source: Zinnov Research and Analysis

“Mentoring provided invaluable guidance and wisdom from experienced professionals, helping me navigate challenges and seize opportunities with confidence. Upskilling equipped me with the latest knowledge and expertise, enabling me to adapt to evolving industry demands and excel in my role. Leadership development empowered me to cultivate essential leadership qualities, fostering collaboration, innovation, and resilience within teams. Together, these programs have not only propelled my career forward but also nurtured my personal and professional growth, shaping me into a more capable and effective leader.

Neha Jain

Director, Innovation and Operations
Akamai India



We observed a similar heartening trend in women’s participation in GCCs and DeepTech roles. Bengaluru accounts for the maximum participation of women in the workforce. Bengaluru, often referred to as the Silicon Valley of India, has become a prime destination for women’s workforce participation due to several compelling reasons:



- The city is home to a vibrant IT ecosystem, with multinational corporations, tech start-ups, and research centers providing ample job opportunities for women in software development, data science, and related fields.
- The presence of renowned educational institutions, including prestigious engineering institutions and universities, that encourage both men and women to pursue careers in technology, management, and research has played a key role in increasing gender diversity.
- Bangalore’s cosmopolitan environment fosters diversity and inclusivity, that provides a supportive community, networking opportunities, and mentorship for women seeking professional growth.



WOMEN’S REPRESENTATION ACROSS CITIES IN GCCs AND DEEPTECH

	GCCs	DEEPTECH
NCR	27%	5.1%
MUMBAI	21.5%	0.3%
PUNE	27.5%	1%
HYDERABAD	29.7%	2.4%
BENGALURU	31.4%	14%
CHENNAI	25.3%	0.6%
OTHERS*	24.2%	1.04%

*Others cities include Kolkata, Ahmedabad, Coimbatore, Chandigarh, Kochi, Indore, etc.

Source: Zinnov’s Inclusion & Diversity Maturity Benchmark, 2023 | Zinnov Research and Analysis

Confronting the Exodus

The battlefield for gender equality in engineering is fraught with challenges that stretch far beyond the hallowed halls of universities. From the outset, socio-economic hurdles, limited access to primary education, and the weight of familial responsibilities conspire to impede women's entry into this male-dominated domain. Yet, even for those who surmount these initial obstacles, the war is far from won. A steady stream of dropouts post-enrollment serves as a constant drain on the fresh talent pipeline feeding into universities and, ultimately, the hiring pools of GCCs. This ongoing exodus creates a cascading effect, leading to a significant contraction of the available women talent pool at each successive career level, a phenomenon that reaches its zenith at the Executive level.

To truly confront this issue, we must delve into the nuances that drive these dropouts, acknowledging that the factors at play diverge based on experience and career levels. Only by understanding the enemy in all its complexities can we hope to mount an effective counteroffensive against the forces that continue to undermine gender parity in engineering.

MAJOR FACTORS BEHIND WOMEN DROPOUTS AT TOP & EXECUTIVE LEVELS (13+ YEARS)

- Unconscious biases in the workplace
- Career pivots or entrepreneurial ventures
- Pay disparity
- Menopause

MAJOR FACTORS BEHIND WOMEN DROPOUTS AT SENIOR LEVEL (9-12 YEARS)

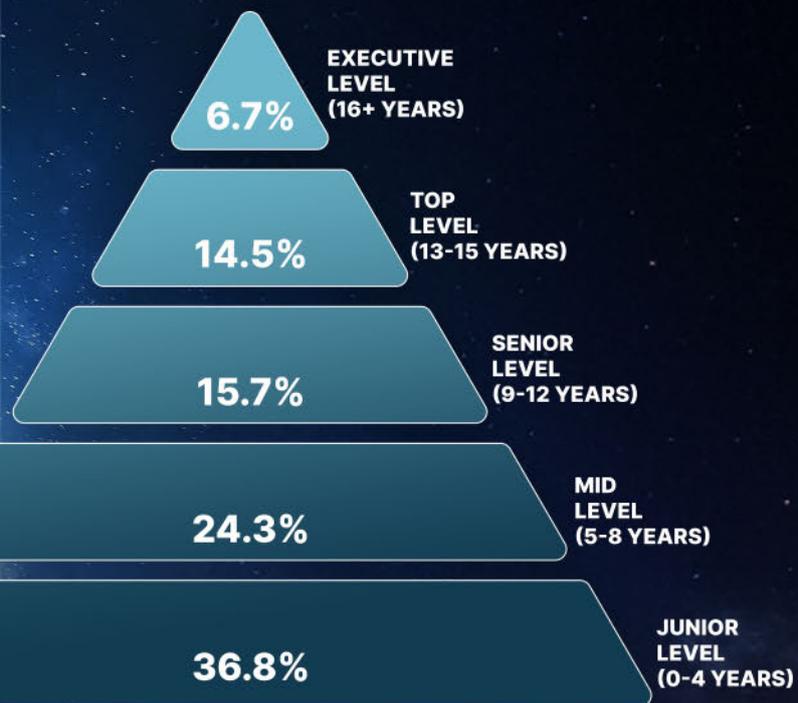
- Family and caregiving responsibilities
- Health and well-being
- Gender bias and discrimination
- Lack of leadership development opportunities

MAJOR FACTORS BEHIND WOMEN DROPOUTS AT MID LEVEL (5-8 YEARS)

- Caregiving responsibilities
- Maternity/Postpartum depression
- Limited career advancement opportunities
- Work-life balance

MAJOR FACTORS BEHIND WOMEN DROPOUTS AT JUNIOR LEVEL (0-4 YEARS)

- Personal aspirations
- Higher studies
- Marriage
- Lack of mentorship and guidance



As a 26-year-old woman leading a tech start-up, programs like mentorship, upskilling, and leadership development have been crucial in my journey. Having a seasoned leader as a mentor provided invaluable guidance like offering career advice, sharing industry insights, and helping me navigate challenges. My mentor also played a key role in shaping my strategic thinking and leadership style.

Swarnali Singha

Co-founder and Chief Business Officer
Zeron



Organizational Interventions

Organizations are increasingly acknowledging the strategic imperative of implementing targeted initiatives and interventions to stem the tide of attrition amongst women talent. At the core of these interventions is a growing recognition of the unique challenges that women face at every phase of their careers. These interventions not only demonstrate a commitment to fostering gender diversity but have also proven effective in mitigating the factors contributing to women's attrition. When these interventions are implemented strategically, organizations fortify their ranks against the insidious factors that have long conspired to deplete their pools of women talent.

These targeted initiatives represent a pivotal shift in mindset – a realization that success hinges not just on recruitment, but on stanching the drain of women talent that has long undermined efforts to elevate them to their rightful place amongst the engineering graduates. Each intervention has the potential to upend the status quo, edging us ever closer to the long-sought equilibrium.

Leadership Development Programs

To combat the lack of gender diversity in leadership positions, organizations are implementing robust leadership development programs tailored to the needs of women employees. These ingenious women leadership programs focus on honing leadership skills, providing mentorship, molding, and instilling leadership potential in women across hierarchy levels and creating pathways for career advancement.

By creating clearly defined pathways for career advancement, these programs serve as upward propulsion systems, propelling their participants on trajectories aimed squarely at shattering the glass ceilings that have long obstructed their ascent. These leadership programs serve as strategic interventions that go beyond mere lip service to gender diversity and action against the institutionalized imbalances that have long stunted women's growth, and subsequently, gender parity.

Morgan Stanley

Morgan Stanley has built dedicated Women Leadership programs that deal with molding and instilling leadership potential in women across three hierarchy levels, including VP Women Development Series, Women Vice President Leadership Program, and Women Executive Director Leadership Program.



HSBC has instituted the 'ASCEND' program in collaboration with YSC, a premier leadership consultancy, to empower its women employees to aspire for leadership roles. The program is conducted in 3 phases, i.e., Discovery Phase, Development Journey Phase, and Career Management and Conversations Phase.

Almost 25% of the batch was promoted to the next level, and over 40% moved to horizontal jobs or international assignments. It also led to other interventions with senior managers and line managers on building an inclusive culture in the organization. The success of the program led to a second such initiative on a younger cohort of women to focus on early career development.

Returnship Programs

Returnship programs have emerged as a successful intervention to reintegrate women back into the workforce, post their career breaks. These programs offer structured re-entry paths, combining training, mentorship, and transitional roles, allowing women to rebuild their professional confidence and skills.



Wish program provides first-time career opportunities to women who, for various reasons, have never been a part of the workforce before. The program supports women's first career, irrespective of their age, and includes women in their 40s and 50s. As of 2023, 16 women kicked off their corporate journeys through Wish.



The Goldman Sachs Returnship program in India is designed for women who rejoin the workforce after an absence of two or more years. This paid, 12-week program, provides individuals with an opportunity to strengthen their technical skills, explore a new career path, and assess their ability to transition back into the workforce on a full-time basis.

Pay Parity in the Organization

Addressing pay disparities is a fundamental intervention to ensure gender equity. Organizations are conducting regular pay equity audits, correcting discrepancies, and transparently communicating their commitment to equal pay. By ensuring that women talent is compensated fairly for their contributions, organizations create an inclusive culture that fosters loyalty and reduces the likelihood of attrition.



In 2018, Adobe announced that they have achieved gender pay parity in India. Some steps taken by them include reviewing job descriptions to ensure use of gender-neutral terms, carefully scoping the requirements and responsibilities of each job at Adobe to ensure roles are properly matched against the market, and drive fair and competitive pay for employees.

Benefits Policies for Working Mothers

Organizations are reevaluating and enhancing benefits policies to better accommodate the needs of working mothers. Implementing flexible work schedules, remote work options, menopause leaves, and family-friendly policies like in-office childcare, organizations are aiming to create a supportive environment that allows women to balance their professional and personal responsibilities effectively, reducing the likelihood of attrition.



Mondelez India reimburses expenses incurred by its employees on in-house nanny services. The policy, which is applicable for employees with children aged 6 months to 4 years, also includes those who have taken the adoption or surrogacy route to parenting.



These organizations are supporting women employees who are choosing to freeze their eggs, a procedure often associated with infertility treatments that enables women to attempt pregnancy later through In Vitro Fertilization (IVF). The egg freezing process is incorporated as part of their employee Medical Insurance policies, showcasing a commitment to reproductive health support for their female workforce.

DIAGEO

Diageo has become the first global company to make the balance+ menopause app available to its employees worldwide. balance+ is the world's first medically approved menopause health and well-being companion for perimenopausal and menopausal women.

Flexible Work Arrangements

This includes offering remote work opportunities and flexible scheduling to support employees through various life transitions, such as maternity or caregiving responsibilities. By accommodating diverse personal and professional needs, organizations can foster a more inclusive and supportive workplace environment, promoting employee well-being and productivity.



Citibank has introduced a new work-from-home (WFH) option for women employees, allowing them up to 12 months of remote work after their 26-week maternity leave. Additionally, women employees can request three months of WFH during the final trimester of their pregnancy.

These interventions represent a proactive approach by organizations to address the multi-faceted challenges contributing to women's attrition. By implementing these strategies, companies not only strengthen their commitment to women and inclusion but also create workplaces where women can thrive, ultimately reducing attrition rates and fostering a more equitable and resilient workforce.

“The future of work must be inclusive, ensuring equity and empowerment for women and our diverse talent pool. I am deeply committed to enabling unique professional and growth experiences for our associates, so that they thrive in the workplace. A crucial component of cultivating such an environment is themed mentorship programs – 1X1 mentoring, reverse mentoring, speed mentoring, and industry mentoring. Pairing women with influential leaders who actively support and sponsor their growth is also pivotal. In my career, I have benefitted immensely from prioritizing upskilling and having multiple mentors and coaches. I would hence encourage women to embrace continuous learning as a cornerstone of their professional journey.

Sheenam Ohrie

Managing Director

Broadridge Financial Solutions, India



Ecosystem Enablers

Introducing initiatives to mitigate women's attrition from the workforce is undoubtedly crucial. But it is equally vital to focus on strategies aimed at bringing more women into the talent pipeline in DeepTech fields. Organizations have outlined and deployed a barrage of initiatives aimed at mitigating the steady hemorrhaging of women talent from the workforce. But even as they endeavor to stanch this flow, they cannot afford to neglect the equally pressing imperative of attracting more women to enroll in STEM courses in the first place. If we are to inch towards a world where gender parity is the norm and not the exception, the entire ecosystem needs to join hands to further the cause.

Early Exposure Programs

Partnering with institutions that introduce young girls to DeepTech concepts and career opportunities at an early age will be key. This could involve organizing workshops, coding camps, or mentorship programs that expose girls to coding, Robotics, Artificial Intelligence, and other technical fields. These institutes, typically operating under a public-private partnership model, serve as valuable sources for feeding into the DeepTech talent pipelines.



Offers a wide range of programs aimed at supporting college-aged students and early career professionals (ages 18-25) in persisting in their Computer Science education and succeeding in their first internships and jobs.



Working towards empowering people to gain access to better healthcare, education, skills, and livelihood opportunities through digital literacy and digital tools in India.

Supporting STEM Education for Girls

Many organizations are investing in initiatives that support STEM education for girls. By actively engaging in educational outreach programs, providing scholarships, and supporting initiatives that encourage girls to pursue STEM fields, companies are not only contributing to a more diverse talent pipeline but also creating an environment that encourages women to enter and stay in these traditionally male-dominated fields.



Launched Girls4Tech program in 2014 to create future problem solvers by incorporating the payments technology company's deep expertise in technology and innovation. In 2020, the company announced a new goal for the program to reach five million girls globally by 2025.



Intuit Rise supports the education of young girls from low-income families and creates opportunities for their families to prosper. To date, 362 meritorious girl students from 13 states across the country have been supported, with a target to enroll 150+ girls in the program each year.

Building Technology Talent Pipelines

Building and establishing apprenticeship training and certification initiatives in engineering universities, focused on training, mentoring, and certifying women, and targeting more universities and mentoring women talent helps build a more robust pipeline of women talent.



EmpowerMe is an initiative to create a level playing field, ensuring every woman's voice is heard and valued in the world of engineering. Through one-on-one mentorship, skill development workshops, and networking opportunities, women are nurtured to pave the way for a diverse and inclusive future in STEM fields. The program provides an opportunity to join as full-time employees post the internship, based on their performance and suitability for roles.

Under the Foundation For Excellence program, mentees are selected on the basis of merit and financial background (up to INR 3 L in annual income), mostly from NITs, IITs, and a few other government colleges. Mentors from Pure Storage help the participants with soft skills like effective communication, time management, task prioritization, innovative thinking, etc., for a period of 6 months.

Scholarships and Educational Grants

Organizations are offering scholarships, grants, or financial assistance to support women pursuing higher education in fields where they are underrepresented. This helps alleviate financial barriers and encourages more women to pursue degrees in STEM fields, business, or other areas.



Google's Women Techmakers' program provides visibility, community, resources, and scholarships for women in technology.



Amazon WoW networking platform in India is specifically designed for women engineering students. This platform offers various benefits such as skill-building sessions, access to resources, conversations with alumni about their career experiences, and building a career in technology.

Internship Opportunities

Providing internship opportunities exclusively for women students, allows them to gain hands-on experience in the corporate environment. This can help bridge the gap between academic learning and practical application while also giving them exposure to potential future career paths.



Codess is a global platform by Microsoft to encourage women in the field of technology. B.E/B.Tech second-year women students from any university with 70% in the current academic program, get internship opportunities with Microsoft.

the rising tide

2028E

27.3%

2024

23.1%

CAGR
3.71%

Women's Representation in DeepTech

By 2028, women's participation in the workforce is anticipated to rise by a compound annual growth rate (CAGR) of 3.71%. This is a positive indicator of the industry's collective efforts to address gender imbalances. And interestingly, the expected rise of women's participation to ~27.3% in the DeepTech domains, signifies the result of a commitment to fostering a more inclusive workplace.

“Upon my return from maternity leave, I benefited from a half-time, half-pay policy, facilitating a smooth transition back to work over a month before resuming full-time duties. Additionally, the company provided substantial daycare support and conveniently located daycare facilities near the workplace. Furthermore, my manager demonstrated exceptional support, prioritizing deliverables over office hours, allowing for flexible working hours. This approach enabled me to excel on my terms, leading to a promotion within a year of returning to work post-maternity leave. These employee-centric policies played a pivotal role in my professional growth during a critical phase in my career.

As part of my MBA program at ISB, I also participated in the Hult Prize/Clinton Global Initiative business case competition. My team and I presented a business plan for a social enterprise which would work in urban slums in India, to control the incidence of noncommunicable diseases such as diabetes or cardiovascular disease. Our business plan won first prize and was awarded USD 1 Million to set up the social enterprise and turn it into a going concern. Being awarded this prestigious prize by President Bill Clinton was a career highlight for me, and has also been a source of professional growth in my career journey!

Aditi Vaish

Senior Director, Product Innovation
Honeywell



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When my son, Arsh, entered 10th grade, I consciously chose to prioritize quality time with him during these crucial formative years. As I adopted a more involved role at home, working part-time, I received wholehearted acceptance of my decision and unwavering support from my manager, highlighting the value of flexible work environments. It is paramount to ensure a level playing field for women; the foundation of a successful workplace lies in fair policies and equitable experiences for all associates.

Sudipta Paul

Vice President
Broadridge India





Snehal Samprati
Principal Growth Product Manager
Pure Storage

When I moved from being an individual contributor to a manager, I did seek a mentor who I looked up to, and it has worked out really well. In my previous organization, as well as in Pure Storage, we get to participate in 'BetterUp' coaching which I find super beneficial. While mentoring and coaching are two very different things, I have had the fortune to have access to both and have benefitted from both. I think it is important to coach employees on how to seek mentors which will be more helpful than just assigning mentors.



Jyothi Rani
Member of Technical Staff
Pure Storage

I feel there is less interest amongst women engineers to transition to a leadership role. Exposing women to the nitty-gritties of leadership might increase their interest and hence their future representation, which I believe would lead to the overall betterment of representation of women in leadership.



Sonia Taneja
Senior Engineering Manager
Pure Storage

I really appreciate how Pure focuses on keeping its culture strong and staying up-to-date with technology. Pure focuses on growing women leaders, which is great. As a manager, I got to join the 'BetterUp' coaching program, which gave me personal coaching and tools to improve my skills. I also got to participate in the 'Get to Know Me,' program, which is a fast mentorship program with Pure leaders. This enabled me to meet leaders in the company.



Palak Goenka

Member Technical Staff
Pure Storage

I believe implementing returnship programs following career breaks could serve as a significant enabler for supporting the career advancement and retention of women employees. These programs offer a structured pathway for women returning to the workforce after a hiatus, providing them with the necessary support, training, and resources to ease their transition back into professional roles, ultimately fostering their career progression and retention within the organization.



Aditi Krishnaprakash

Technical Program Manager
Pure Storage

Flexibility in work hours at Pure has truly been a game-changer for me, fostering a healthier work-life balance. Outside of my role at Pure, I've dedicated over 30 years to honing my craft as a professional classical violinist. Pure's unwavering support has been instrumental in allowing me to pursue my musical endeavors with passion and dedication.

What next?

Within the ever-evolving landscape of DeepTech, where cutting-edge innovations shape industries, a significant challenge persists – the glaring gender disparity. Despite the industry's transformative potential, women remain underrepresented, from software development roles to leadership positions. The absence of gender diversity acts as a barrier, hindering the industry's capacity for innovation. The gender gap, therefore, represents more than just a social issue; it is a significant obstacle to maximizing the sector's innovative prowess. As the DeepTech sector continues to redefine the boundaries of technology, addressing this gender gap is crucial not only for promoting equality but also for unlocking the industry's full innovative potential.

In its journey towards fostering a diverse and inclusive ecosystem, Pure Storage, a prominent player in the DeepTech space, has encountered two major challenges. Firstly, the limited pool of women talent emerging from top engineering universities highlights the concerning lack of women pursuing engineering degrees in India. Secondly, a noticeable trend of executive-level departures within the industry suggests obstacles in retaining and advancing women into leadership roles within the DeepTech sector.

Undeterred by these challenges, Pure Storage is taking proactive steps to address them. By prioritizing mentorship programs for women engineers, Pure Storage aims to enrich its talent pool with diverse perspectives and experiences. Additionally, Pure Storage is expanding its recruitment efforts beyond a select group of institutions traditionally favored by peer organizations, casting a wider net to include a broader range of universities. Through these initiatives, including targeted mentorship programs for women engineers at select universities, Pure Storage is committed to creating a future where diversity is not just an aspiration but a lived reality. Each action taken is a step towards transforming the organization into a more inclusive and innovative workplace, where every individual's voice is heard and valued.

To drive meaningful progress towards gender equity within the DeepTech ecosystem, the industry must focus on two pivotal strategies. Firstly, it must prioritize increasing the representation of women in engineering programs by actively bolstering enrollment and diversifying recruitment efforts to include a broader range of educational institutions. Secondly, industry leaders should address retention challenges across GCCs, fostering inclusive environments where women can excel and advance their careers. By implementing these measures, the industry can pave the way for a more equitable future, ensuring that women have equal opportunities to thrive in the DeepTech ecosystem.



AFTERWORD

The tough challenges we face today have shaped new ways of thinking and doing things. Modern technologies such as Artificial Intelligence, Biotechnology, Nanotechnology, and Quantum Computing have the potential to provide advanced solutions to complex problems in areas like healthcare, agriculture, climate change, energy, and more. All of these successes have been achieved on the back of a highly talented tech talent pool. The depth and richness of our talent pool will determine our success in the long run.

Despite having the highest number of female STEM graduates in the world, the representation of women in tech, especially in DeepTech, remains low in India, highlighting a profound underutilization of skills and creativity. While we recognize the resilience, talent, and innovation demonstrated by those who are already leading the way, their stories serve as beacons of inspiration for future generations of women considering careers in this dynamic field.

As we conclude this report, we hope you've gained some valuable insights, from the data and stories, to take further action in driving inclusivity and progress within the DeepTech sector. Our hope is that it serves as a call to action for stakeholders across industries, academia, government, and society to double down on their efforts towards achieving gender parity and unlocking the full potential of our collective intellect.

To fully harness the transformative power of technology, we must break down barriers, challenge stereotypes, and actively foster an environment where everyone, regardless of their gender, age or background, feels empowered to contribute and excel. While the number of women choosing STEM courses has been steadily increasing, we need to accelerate pathways for more female representation in STEM education. Not only is this about equality, it's also a powerful investment in driving India towards becoming a tech powerhouse.

Together, let us commit to building a more equitable and inclusive tech industry in India and beyond.

Ajeya Motaganahalli

VP Engineering & Managing Director, India R&D

Pure Storage



AFTERWORD

Amplifying the Wave of Change

India's trailblazing DeepTech journey has been a story of transformation. But beneath the surface lies a stark reality: a glaring absence of women in the sector, especially in executive roles. It will threaten our country's remarkable technology renaissance.

The numbers are sobering. A mere 5.1% of women reach the Executive level in India's DeepTech companies. That's a smaller percentage than women in Executive roles in GCCs – which stands at 6.7%. This imbalance isn't just a matter of social justice; it's a big threat to the sector's ability to compete globally. After all, how can an industry that prides itself on shattering boundaries and pushing the limits of human ingenuity reach its full potential when half of the population has been excluded?

At the root of this disparity is India's educational system. From the outset, societal norms and systemic barriers dissuade young girls from pursuing careers in STEM fields. This only increases as girls enter universities and then take jobs in the corporate sector.

But this bleak narrative is not set in stone. A wind of change is blowing through the corridors of power. A small but growing number of organizations believe gender diversity is a workplace imperative, and at all levels.

What are they doing? Some have launched mentorship programs. Others have developed "returnship" initiatives that bring women who left their jobs back into the workplace. And a few have leadership development programs tailored to support women as they climb up the corporate ladder. These companies are slowly but surely changing the status quo.

These interventions are not mere tokenisms; they are strategic investments in unlocking the full potential of India's talent pool. They are equipping women with the tools and support they need to shatter glass ceilings and ascend to positions of influence.

Yet even as these corporate efforts gain momentum, they are not nearly enough. Rapidly increasing gender diversity in DeepTech requires a seismic shift in societal attitudes and cultural norms. Indian government, business and education leaders must now collectively recognize that gender parity is not just a moral imperative, but an economic and innovative necessity.

The road ahead is long and arduous, but the rewards will be immense. By harnessing the power of diversity and fostering an environment where women can thrive, India's DeepTech industry will unlock a wellspring of creativity, innovation, and competitive advantage.

The choice is clear: Embrace change or risk stagnation. The time to act is now, for the winds of progress are gathering strength.

Pari Natarajan
CEO
Zinnov

APPENDIX

SCOPE AND METHODOLOGY

The scope of this study is to explore women's representation in DeepTech domains and roles. While doing so, the study also delves into the availability of women talent pool from top engineering universities in India.

The discovery in this study is based on two major segments

Women's Participation in DeepTech: It includes the percentage of women in the DeepTech Industry and delves into the reasons for women's attrition from the workforce.

Fresh Talent study: Zinnov conducted an analysis on a retrospective view of women engineering graduates from 2004 to 2023, from the Computer Science and Electronics & Communication streams from 42 Top Engineering Universities (8 IITs and 34 other Tier-II and Tier-III Universities) leveraged for hiring by GCCs and zoomed in on 23 Top Engineering Universities (8 IITs and 15 other Tier-II and Tier-III Universities) leveraged for hiring by DeepTech GCC Peers. The studied institutes are:

- IITs: IIT Bombay, IIT Delhi, IIT Kanpur, IIT Madras, IIT Kharagpur, IIT Roorkee, IIT Guwahati, IIT Hyderabad, IIT Gandhinagar, IIT Ropar
- IIITs: IIIT Hyderabad, IIIT Delhi, IIIT Bangalore, IIIT Bhubaneswar, IIIT Allahabad, IIIT Pune, IIIT Kottayam, IIIT Vadodara, IIIT Naya Raipur
- BITs: BIT Mesra, BITS Pilani, BIT Sindri, BIT Jaipur
- NITs: NIT Trichy, NIT Warangal, NIT Surathkal, NIT Calicut, NIT Rourkela, NIT Jaipur, NIT Durgapur, NIT Kurukshetra, NIT Jamshedpur, NIT Hamirpur
- Other Top Engineering Colleges: Delhi Technological University, Vellore Institute of Technology, VJTI, Manipal Institute of Technology, SRM Institute of Science and Technology, PES University, Thapar Institute of Engineering and Technology, PSG College of Technology, RVCE, BMS
- Fresh Talent graduation and placement data was collected through primary connects with the placement cells and RTI queries
- A median value for women graduating from IITs and IITs plus Other Universities (IITs + IIITs + NITs + BITs) was taken into consideration for different graduation years.

To study women's representation in DeepTech roles, we identified 5 main job families that cover this space. Additionally, for each job family, we have also identified job roles with multiple unique skills specific to this space. The 5 job families and their related roles are listed below:

- System Software & Kernel - System Architect; Linux Engineer; Unix Engineer; Storage Developer; Datapath Software Engineer; Datapath Testing Engineer; Kernel Developer; Storage Engineer/DB Engineer; Storage Architect; Hardware Design Engineer; System Engineer - Virtualization; Database Engineer; Performance Engineer; Embedded Software Engineer, Flash Array Platforms; C, C# Developer; Firmware Engineer; Java Developer; and Python Developer
- Cloud Platform Service - Cloud Architect; Cloud Database Engineer; Cloud Engineer; Cloud Infrastructure Engineer; Cloud Product Manager; Cloud Solutions Architect; Cloud Support Engineer; Cloud Test Engineer; Cloud Security Engineer; and Cloud Site Reliability Engineering Lead
- UI Dev & UX Design - UX Architect; UX Designer; UX Developer; and UX Researcher
- DevOps & Automation - Automation and Artificial Intelligence Lead; Automation Architect; Build/Release Engineer; Cloud DevOps Analyst; Cloud Security DevOps Engineer; DevOps Architect; DevOps Consultant; DevOps Engineer; QA Test Automation Engineer; Release Manager; Security Automation Engineer; and Test Automation Analyst
- Big Data & Data Analytics - Big Data Developer; Data Engineer; Data Management Analyst; Data Steward; Data Stewardship Analyst; Data Stewardship Specialist; Hadoop Developer; Principal Data Engineer; Chief Data Scientist; Data Sciences Consultant; Data Scientist; Deep Learning Engineer; Machine Learning Compiler Engineer; Machine Learning Engineer; Machine Learning R&D Engineer; Machine Learning Scientist; and Modeling and Simulation Scientist

The employed talent pool is further classified into the indicative job levels as Junior, Middle, Senior, Top, and Executive levels based on the work experience. Following are the experience levels considered for each of the indicative job roles:

- Junior: 0 to 4 years of experience
- Middle: 5 to 8 years of experience
- Senior: 9 to 12 years of experience
- Top: 13 to 15 years of experience
- Executive: 16+ years of experience

DEFINITIONS

DeepTech GCC Peers: DeepTech GCCs under consideration in this study are organizations operating in Storage and Systems domains

GCC: GCC stands for a Global Capability Center. GCCs are the captive units that include MNC (headquartered outside India)-owned units in India, undertaking work for the parent's global operations

Diversity: Diversity talent is representative of gender diversity

ABOUT PURE STORAGE

Pure Storage (NYSE: PSTG) delivers the industry's best platform to store, manage, and protect the world's data. With a cloud experience across a unified storage operating environment, Pure empowers every organization with the agility to meet evolving data requirements at speed and scale, while reducing total cost of ownership. Pure believes it can make a meaningful impact in reducing data center emissions worldwide by providing a storage platform that enables customers to significantly reduce their carbon and energy footprint. Pure is proud to be a customer-first organization, as evidenced by the highest Net Promoter Score in the industry. For more information, visit www.purestorage.com.

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ABOUT ZINNOV KNOWLEDGE PARTNER

Founded in 2002, Zinnov is a global management and strategy consulting firm, with presence in New York, Santa Clara, Houston, Seattle, Bangalore, Gurgaon, Pune, Hyderabad, and Paris. Over the past 22 years, Zinnov has successfully consulted with over 250+ Fortune 500 enterprises to develop actionable insights to help them accelerate their technology journeys to create value – across dimensions of revenue, transformation, and optimization. With core expertise in Digital Engineering Talent, Digital Transformation, Innovation, and Outsourcing Advisory, Zinnov assists clients by:

- Enabling global companies to develop and optimize a global engineering talent footprint through center setups and accelerators - in an as-a-service model, as well as optimizing their global portfolios, to achieve higher R&D efficiencies, innovation, and productivity;
- Advising global PE firms in asset shortlisting and target evaluation, commercial due diligence, and value creation;
- Growing revenue for companies' products and services in newer markets through account intelligence, market entry, and market expansion advisory;
- Helping global companies outline and drive their open innovation programs, design and operate accelerator programs, and enable collaboration with start-ups across specific use cases and predefined outcomes;
- Structuring and implementing Digital Transformation levers enabled by technologies like AI/ML, Intelligent Automation, Cloud, IOT, etc.

With their team of experienced consultants, subject matter experts, and research professionals, Zinnov serves clients from across multiple industry verticals including Enterprise Software, BFSI, Healthcare, Automotive, Retail, and Telecom in the US, Europe, Japan, and India. For more information, visit www.zinnov.com.



