

# WOMEN IN TECH

A Foundational Understanding of  
Women in Technology Industry



# Contents

---

## 01: Overview

---

Understanding the Basics

---

Profitability and Value Chains in AI

---

Market Sizing and Trends

---

Key Players and Leaders

---

## 02: Insights and Thought Leadership

---

Latest Technology Trends

---

Interactions with Other Tech

---

Ecosystem Leadership

---

Forecasts and Frontiers

---

## 03: IMC Discussions and Engagements

---

## 04: Learning with Fun

---



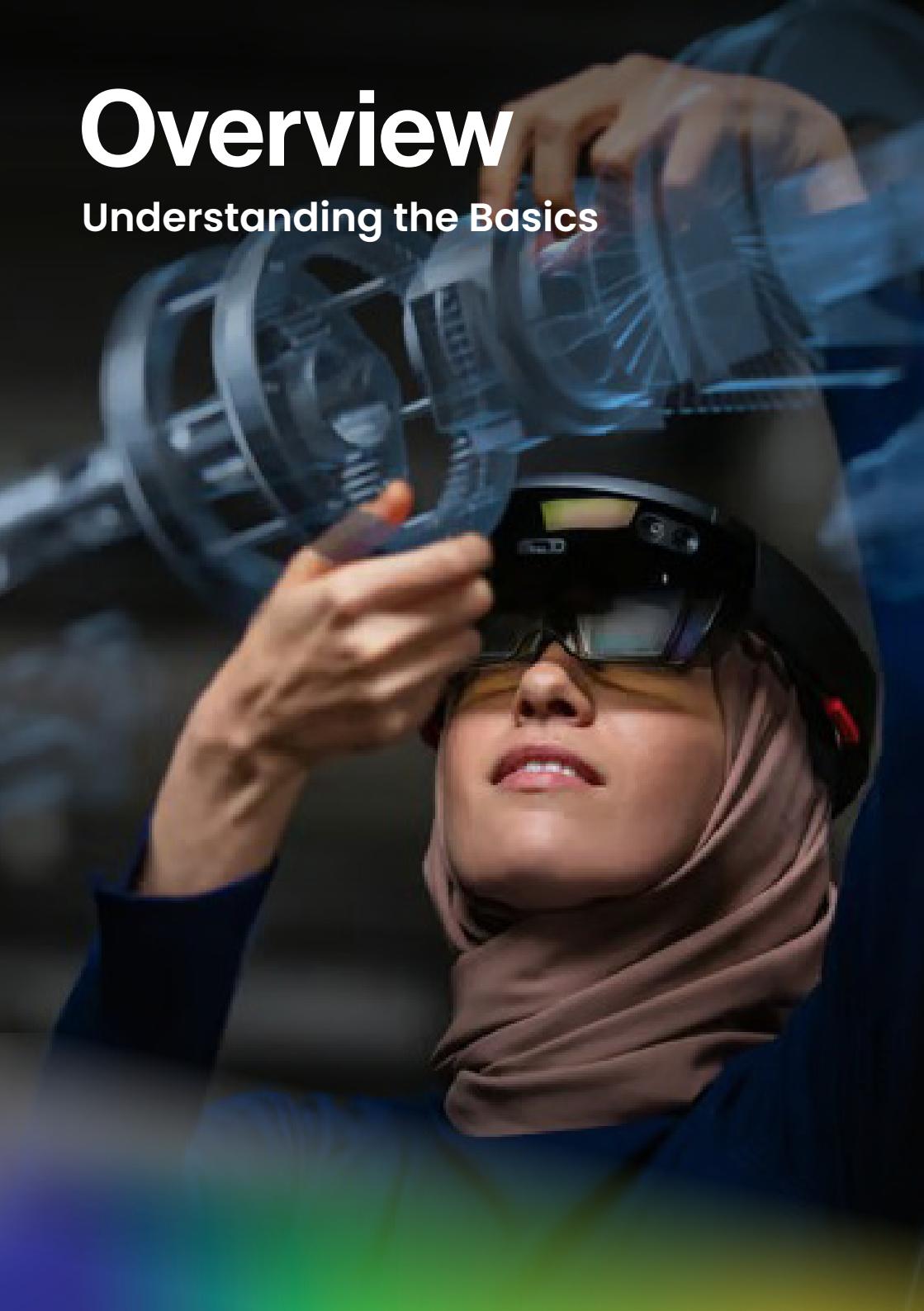
# To the Leaders of Tomorrow

The global electronics industry stands at a crossroads. This book is your guide through the massive shift toward Green Electronics, driven by converging regulations, ESG mandates, and the rising e-waste crisis. We dissect the five core pillars of sustainability—from modular design to energy efficiency—and reveal the urgent transition from a polluting linear model to a closed-loop circular economy. This is about making profit and preserving the planet.

Atta Buoy, prepare for a read through!

# Overview

Understanding the Basics



# Who is a Woman Technologist?

---

A woman technologist is any female professional contributing to the creation, implementation, or governance of technology-based solutions – across research, industry, policy, entrepreneurship, or education. In 2025, their roles span deep technical specializations, strategic leadership, and cross-sectoral collaborations.

## Sector-Wise Representation Snapshot (Global, 2025)

Sector	% Women in Workforce	Notable Roles
Artificial Intelligence	26%	ML engineers, AI ethicists, data scientists
Robotics & Automation	18%	Mechatronics engineers, automation architects
Cybersecurity	25%	Threat analysts, CISO roles
Semiconductors & Electronics	16%	Chip designers, fabrication engineers
Space & Aerospace	19%	Satellite systems engineers, mission planners
Health Tech & Bioinformatics	34%	Computational biologists, health data analysts

Women technologists operate at every point in the value chain – from foundational R&D to deployment and scaling – and their growing influence is redefining inclusive product design, workplace culture, and ethical technology standards.

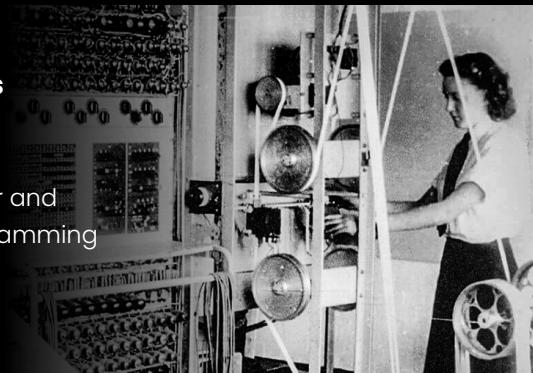
# Evolution of Women – The Powerhouse

---

## 1.

### **Late 1800s–1940s – The Foundations**

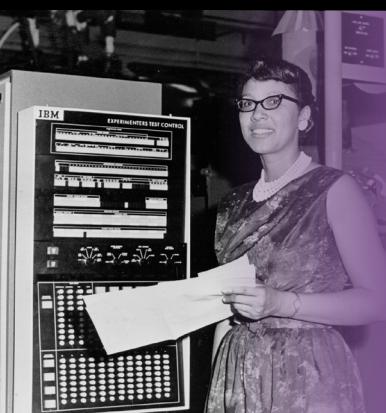
- Ada Lovelace writes the first computer algorithm (1843).
- World War II: Women like Grace Hopper and the ENIAC programmers pioneer programming languages and machine code.



## 2.

### **1950s–1970s – Entry into Industry and Academia**

- Women become central in mainframe programming and aerospace computations (e.g., Katherine Johnson, NASA).
- Growth of women-led computing divisions in major corporations.



### 3.

#### 1980s–1990s – Dot-Com Era Participation

- Increase in women in software development, but decline in CS degree enrolments in the West due to gendered marketing of personal computers.
- India sees a surge in female engineers from IITs, NITs, and state universities joining IT services.



### 4.

#### 2000s–2010s – Globalization and Digital Skills Expansion

- Women lead major open-source projects and tech startups.
- Rise of female executives in Big Tech (e.g., Sheryl Sandberg at Facebook, Ginni Rometty at IBM).



### 5.

#### 2020s–2025 – The Powerhouse Era

- Women head deep-tech startups in AI, quantum computing, and biotech.
- Policy-driven increases in female patent ownership and representation in STEM Nobel nominations.



By 2025, women have transitioned from being under-recognized contributors to frontline innovators shaping multi-trillion-dollar global technology markets.

# Key Tech Domains

---

Women technologists are making measurable contributions in six high-impact domains defining the next decade of innovation.

- In Artificial Intelligence (AI), women represent 26% of the workforce, focusing on model optimization, bias mitigation, and governance, exemplified by Dr. Timnit Gebru's work on ethics.
- In Robotics and Automation (18% representation), women lead human-robot interaction and surgical robotics, such as Ayanna Howard's work on assistive robotics.
- In Cybersecurity and Data Privacy (25% representation), leaders are driving privacy-by-design and zero-trust architectures, with Parisa Tabriz at Google being a key innovator.
- In Semiconductors and Electronics (16% representation), women have growing roles in chip architecture, nanomaterials, and cleanroom process engineering.
- In Space and Aerospace (19% representation), contributions span satellite design to mission command, notably Ritu Karidhal, ISRO's "Rocket Woman."
- Finally, BioTech and Computational Biology (34% representation) see women specializing in genome analytics and AI-driven diagnostics.

These domains are projected to contribute over \$12 trillion in global GDP impact by 2035, underscoring that women's sustained participation is a global competitiveness necessity.



**Digital literacy  
empowers women to  
build new tech.**

# Tech Enablers

---

The acceleration of women's participation in technology depends on three foundational enablers: digital literacy, internet penetration, and STEM education access. Together, these form the bedrock infrastructure for building a sustainable female technology workforce.

## Digital Literacy

Defined as the ability to use digital technologies, Digital Literacy rates improved globally to 77% by 2025. In India, initiatives like NDLM reached over 30 million rural women, significantly increasing the adoption of e-governance and online learning platforms, particularly in Tier-II and Tier-III towns.

## Internet Penetration

Global trends show 67% of women worldwide now have internet access, narrowing the gender gap from 15% to 8%. India's momentum is strong, with women's internet penetration reaching 43% in rural areas, driven by affordable smartphone access 68%, fueling gig work and remote tech roles.

## STEM Education Access

Globally, only 35% of STEM students are women, with low representation in engineering 28%. However, India shows strengths, boasting a world-leading 43% of STEM graduates being women, supported by targeted programs like Vigyan Jyoti for mentorship and research exposure..

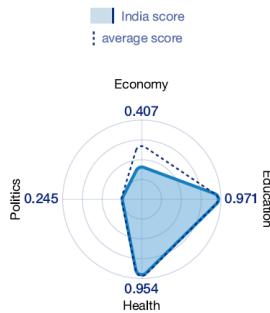
## Economy Profile

**India**Score  
(Imparity = 0, parity = 1)Rank  
(out of 148 countries)

Index Edition

**0.644****131st****2025**

## Global Gender Gap Index 2025 Edition



## Overview

Index and Subindex	2025		▼ 2024	
	Score	Rank	Score	Rank
<b>Global Gender Gap Index</b>				
Economic Participation and Opportunity	0.644	131st	0.641	129th
Educational Attainment	0.407	144th	0.398	142nd
Health and Survival	0.971	110th	0.964	112th
Political Empowerment	0.954	143rd	0.951	142nd
	0.245	69th	0.251	65th

Source: drishtiias.com



# Global and Indian Workforce Trends

---

## Global Workforce Trends (2025) a

- Women represent 28% of the tech workforce globally, but this varies significantly by region and sector.
- Sector-wise Representation:
  - AI/ML: 26%
  - Cybersecurity: 25%
  - Robotics: 18%
  - HealthTech: 34%
- Generational Trends: Gen Z women show higher interest in tech careers than previous generations, with 42% of female STEM students aspiring to AI-related roles.

## India-Specific Workforce Dynamics

- Women account for 36% of India's tech workforce (NASSCOM, 2024).
- IT Services dominate female employment, but representation is rising in product engineering and deep-tech startups.
- The gig economy has unlocked flexible work arrangements – around 12% of India's women tech professionals work in freelancing or project-based roles.

## Generational Profile in India's Women Tech Workforce

Generation	Share (%)	Notable Characteristics
Gen Z (born 1997–2012)	32%	AI-first mindset, high digital fluency, preference for hybrid work
Millennials (1981–1996)	49%	Leadership track, strong presence in corporate DEI programs
Gen X & Boomers (1965–1980)	19%	Senior leadership, mentoring roles, policy advocacy

## Emerging Workforce Models

- Cross-border Remote Teams – Women in India working for global startups without relocation.
- Returnship Programs – Structured re-entry roles post career breaks.
- Intrapreneurship Platforms – Encouraging women to lead innovation projects within corporates.

Labor Markets in India: Measurement in Times of Structural Change| Surjit S Bhalla Karan Bhasin Tirthatamoy Das Former ED, IMF University at Albany IIM Bangalore



# Breaking the Barriers

---

Despite measurable progress, systemic barriers persist in the path to equitable participation for women in technology.

- Gender bias in recruitment and promotion is evident, as women are 12% less likely to be shortlisted for senior roles, and only 87 women are promoted for every 100 men at the managerial level.
- Furthermore, a global pay disparity exists, with women earning 16% less, widening to 20% in deep-tech sectors like AI hardware in India.
- Finally, Work-Life Equity remains an issue, as around 45% of Indian women drop out post-childbirth due to inflexible cultures, contrasting with best practices like shared parental leave and subsidized childcare.

## Key Barriers & Solutions

Barrier	Impact	Solutions Implemented
Gender bias in recruitment	Lower diversity in senior roles	Blind hiring tools, AI bias audits
Pay gap	Lower retention, morale	Pay transparency laws (UK, EU), annual salary audits
Work-life imbalance	Higher attrition	Hybrid work, childcare benefits, returnships

Hey Leaders!

After covering the basics, now let us move further into understanding the current global scenario.



# Market Sizing and Trends

# Global Trends and India's Momentum

---

The year 2025 marks a pivotal inflection point for gender representation in technology, with women now representing 28% of the core global tech workforce, up from 23% in 2019. However, distribution remains uneven, as North America accounts for 34% of tech roles, while the European Union has 32% in STEM jobs due to gender-balanced mandates. Asia-Pacific averages lower at 23%.

## India's Momentum

India is one of the fastest-growing talent markets, where women constitute 36% of the IT-BPM sector's workforce, with a strong presence in AI and Cloud. Furthermore, Tier-II and Tier-III cities now contribute 22% of female tech hires, supported by remote work and regional skill hubs, enhanced by Government-led initiatives like Digital India.

## Key Market Drivers

The rise is fueled by Hybrid & Remote Work Models enabling career continuity, Global ESG Commitments integrating diversity into reporting, and STEM Education Expansion through bootcamps and university partnerships.

The challenge now lies in moving from participation to parity, ensuring women in tech are not only present but also driving decision-making, innovation, and ownership of core intellectual property.

# WOMEN IN THE WORKFORCE

## The Economic Gender Gap



Source: statista.com



# Women Who Lead

---

## Mira Murati

Chief Technology Officer at  
OpenAI



Mira has led the engineering and deployment of influential AI products, including ChatGPT, Codex, and DALL-E. Known for her leadership, she balances technical rigor with user-centered design, ensuring models are powerful and usable. She is instrumental in aligning model development with real-world deployment and safety protocols.



## Sheryl Sandberg

Former COO, Meta; advocate for women's leadership in tech.

Sheryl helped build one of the most profitable ad-driven businesses in history. She is the author of Lean In, inspiring a global movement for women

in leadership. Today, she focuses on philanthropy and women's workplace equality through her foundation and initiatives.



# Roshni Nadar Malhotra

**Chairperson, HCLTech; driving AI services growth.**

Roshni is the first woman to lead a publicly listed Indian IT company. Beyond business leadership, she drives social impact through the Shiv Nadar Foundation and The Habitats Trust. She has consistently ranked among Forbes' "Most Powerful Women in Business."

# Debjani Ghosh

**President, NASSCOM; leading digital inclusion programs.**

Debjani is an influential voice in India's digital economy, leading initiatives on digital inclusion, AI adoption, and skilling programs to prepare the workforce. Recognized by Fortune, she continues to advocate for technology-led growth.



# Sectoral Representation

---

## AI/ML

Global: 26% women in AI-related roles; concentration higher in applied AI for healthcare and fintech.

India: ~28% in AI jobs; initiatives like Responsible AI for Youth are targeting early adoption among girls.

## Cybersecurity

Global: Women make up 25% of the cybersecurity workforce, a leap from 11% in 2013.

India: Representation at ~23%, with rising demand for skills in cloud security and threat analysis.

## Cloud Computing

Women hold ~30% of global cloud-related roles; demand for cloud architecture and DevOps skills is outpacing supply.

Indian IT giants are pushing cloud certifications for women, with AWS She Builds reporting 6,000+ certified participants since 2022.

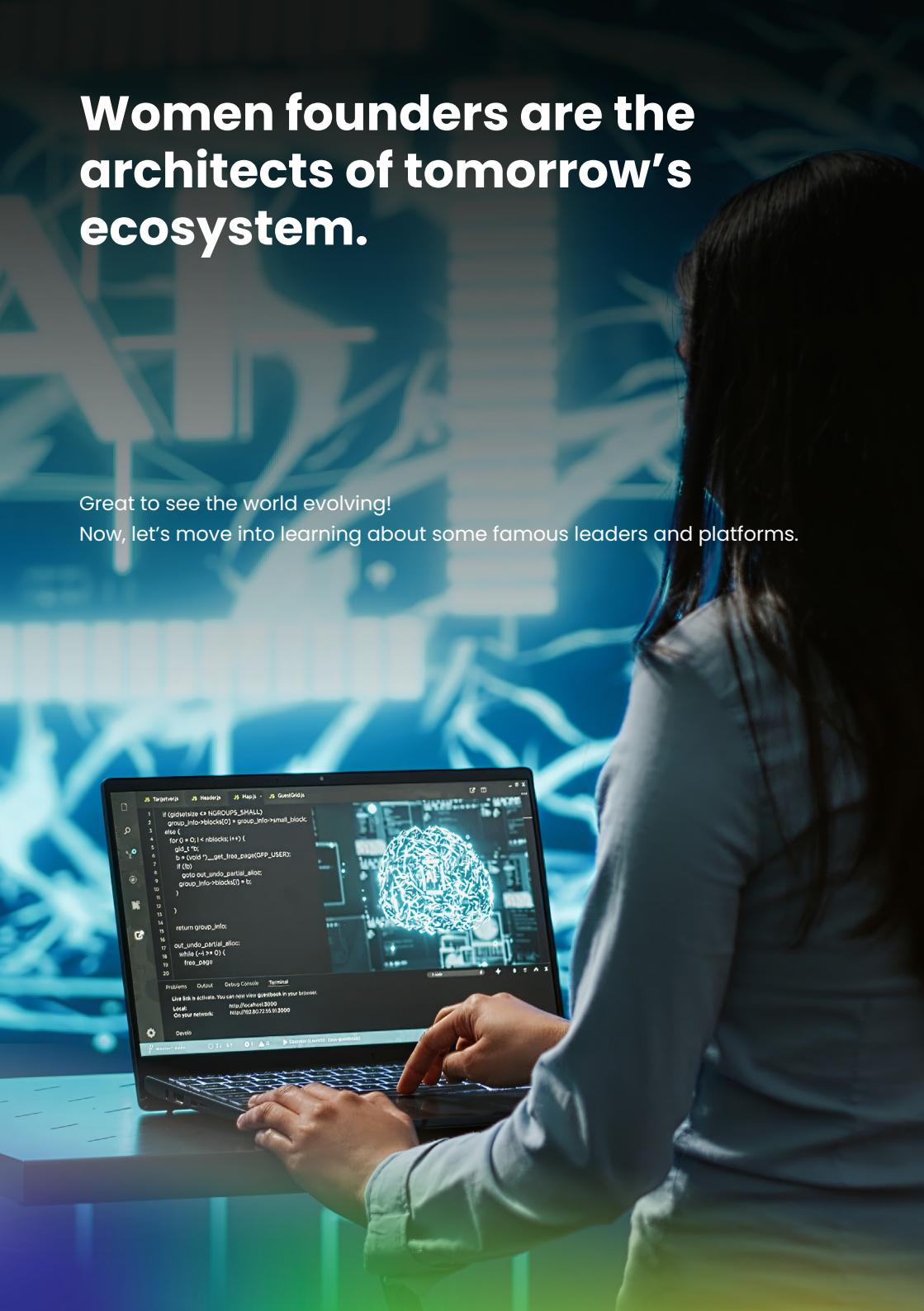
## Robotics and Automation

Women are underrepresented (~18% globally, ~15% in India) but growing in areas like industrial automation UX design and robotic process automation (RPA) development.

# Women founders are the architects of tomorrow's ecosystem.

Great to see the world evolving!

Now, let's move into learning about some famous leaders and platforms.



# Key Players and Leaders

## Women Founders in the Ecosystem

---

The startup ecosystem has emerged as a powerful enabler for women in technology, providing opportunities for leadership, innovation, and ownership.

### Global Context

- In 2025, 22% of tech startups worldwide have at least one woman founder, up from 15% in 2018.
- Women-led startups have shown 35% higher ROI over five years compared to male-only founding teams in comparable sectors (First Round Capital study).

### India's Emerging Women Founder Network

- India has over 8,000 women-led startups in technology, fintech, healthtech, and edtech.
- Funding Flow:
  - Women-led startups received \$1.4B in venture funding in 2024, a 28% increase YoY.
  - Government initiatives like Startup India Seed Fund and private accelerators like Sheroes and Encubay focus on female founders.

# Notable Women Founders in Tech India



## Falguni Nayar

**Nykaa**

Leveraged digital commerce to create a \$7B+ beauty and lifestyle platform.

## Ruchi Kalra

**Oxyzo**

Fintech co-founder whose company became a unicorn in under four years.



## Ghazal Alagh

**Mamaearth**

Consumer tech brand built on direct-to-consumer digital strategies.

## Funding Trends for Women-led Startups in India (2020–2025)

Year	No. of Women-led Startups Funded	Funding Volume (\$M)	YoY Growth (%)
2020	310	450	—
2021	370	620	38%
2022	460	890	43%
2023	530	1,100	24%
2024	590	1,410	28%



# Women Tech-Networks and Communities

---

## Global Platforms

- AnitaB.org & Grace Hopper Celebration – The world's largest gathering of women technologists, with 30,000+ annual attendees.
- Women Who Code – Over 350,000 members worldwide offering coding resources, job boards, and leadership opportunities.
- Girls in Tech – Operates in 50+ countries with programs in design thinking, app development, and entrepreneurial skills.

## India-Specific Networks

- SHEROES – Digital community for women professionals, entrepreneurs, and technologists.
- Women in Product India – Network for product management professionals.
- WiT India (Women in Technology) – Supported by corporates like Intel and Accenture, focuses on leadership readiness and tech skilling.

## Selected Communities and Reach (2025)

Network	Reach/Membership	Region Focus
AnitaB.org	350,000+	Global
Women Who Code	350,000+	Global
SHEROES	25 million	India & SEA
WiT India	15,000+	India

A photograph of two professional women of different ethnicities standing side-by-side in an office environment. The woman on the left has blonde hair and is wearing a black blazer over a light-colored ribbed turtleneck. The woman on the right has dark curly hair and is wearing a blue textured blazer over a white button-down shirt. They are both smiling and looking towards the camera. The background is a modern office interior with blue lighting.

**Diverse leadership trends  
define the future of  
technology.**

2  
0

# Insights and Thought Leadership

# Latest Technology Trends

## Women in Tech Leadership

---

### Global Leadership Snapshot (2025)

Women hold 28% of board seats in tech companies globally, up from 21% in 2018.

- In the C-Suite, women occupy:
- 25% of CTO roles
- 22% of CIO roles
- 20% of CEO roles in tech companies.

### India's Leadership Landscape

- Women occupy 18% of board seats in Indian tech firms.

### Policy Influence

- Women tech leaders are increasingly shaping digital policy – from data privacy frameworks to AI ethics guidelines.
- Initiatives like Women Leading in AI (EU) and Digital India's Women in Tech Forums create platforms for female leaders to advise governments.

### Women in Leadership Positions 2025

Region	Women on Boards (%)	Women in CTO Roles (%)
Global	28	25
India	18	21

# Prominent Leaders

---



## Debjani Ghosh

**President, NASSCOM**

Driving India's tech policy vision with a focus on inclusivity.

## Roshni Nadar Malhotra

**Chairperson, HCLTech**

First woman to head a listed Indian IT company



## Revathi Advaithi

**CEO, Flex**

Leading global manufacturing and supply chain digitization.



# Women in Robotics and Automation

---

Women are increasingly contributing to robotics and automation, from design and programming to integration in manufacturing and service sectors.

## Global Snapshot (2025)

- Women constitute 18–22% of the global robotics workforce, with higher representation in automation engineering and UX/UI for human-robot interaction.
- Growth in collaborative robotics (cobots) has opened new avenues for women in safety design, task automation, and human-centered robotics.
- Women-led robotics startups have grown by 150% globally since 2018.

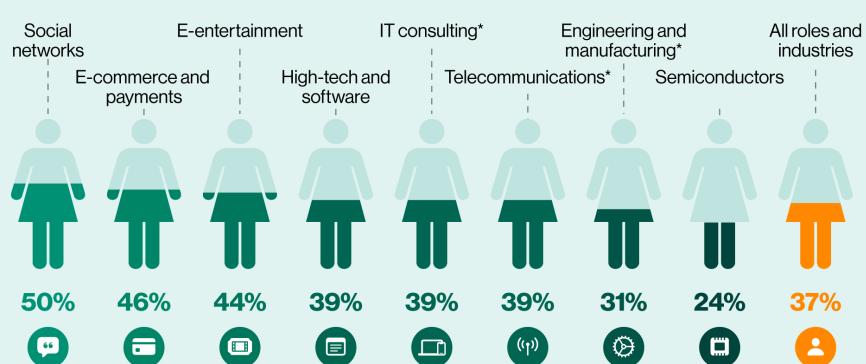
## India Context

- Automation adoption in automotive, electronics, and pharmaceuticals has increased demand for robotics engineers.
- Initiatives like FICCI's Women in Manufacturing Forum and IIT Delhi's e-Yantra Women Robotics Program have trained over 3,000 women in robotics and embedded systems.

## Women in Robotics by Region (2025)

Region	% Workforce (Women)	Major Sectors Involved
North America	22	Manufacturing, Logistics, Defense
Europe	20	Healthcare, Industry 4.0
India	16	Automotive, Electronics
East Asia	18	Consumer Electronics, AI Robotics

Industry | Average percentage share of women (%) in tech roles



Source: McKinsey & Company

\*Data represents tech-adjacent companies



# Women in Cybersecurity and Data Privacy

---

Cybersecurity remains a high-demand field with chronic talent shortages, offering career growth opportunities for women.

## Current Landscape (2025)

- Women represent 25% of the global cybersecurity workforce (up from 20% in 2019).
- In India, representation has reached 22%, driven by government cyber cells and private security operations centers (SOCs).
- Demand for data privacy officers and compliance auditors is rising with laws like India's Digital Personal Data Protection Act (DPDP, 2023) and the EU's GDPR.

## Key Initiatives

- CyberShiksha (NASSCOM) – trained over 1,000 women in cybersecurity fundamentals and advanced security.
- WiCys (Women in Cybersecurity) – global network for mentorship and research collaboration.

## Cybersecurity Job Growth by Segment (2025–2030)

Segment	Global CAGR (%)	India CAGR (%)
Cloud Security	12	14
Threat Intelligence	10	12
Data Privacy & Audit	15	18

# Women in Electronics and Semiconductors

---

## Global Trends

Women hold 14–16% of engineering roles in the semiconductor industry. Leading firms like Intel, TSMC, and Texas Instruments have implemented targeted women-in-engineering leadership programs.

Demand for embedded systems developers is increasing with IoT proliferation.

## India Snapshot

India's SemiconIndia program and Design Linked Incentive (DLI) scheme encourage female participation in semiconductor R&D.

Women-led startups are emerging in sensor technology, automotive chips, and AI accelerators.

## Women in Semiconductor Roles by Function (India, 2025)

Function	Women's Share (%)
Chip Design	15
Verification & Testing	18
Embedded Programming	20
Manufacturing Ops	12

# Women in Space-Tech

---

## Global Developments

- NASA's Artemis program aims for 50% female astronaut crews by 2030.
- ESA, JAXA, and SpaceX have appointed women to leadership roles in mission design, propulsion, and orbital research.
- Women are leading planetary defense and space sustainability research.

## India's Momentum

- ISRO has seen a steady rise in female scientists—30% of Chandrayaan-3's core team were women.
- Women engineers are leading PSLV and GSLV launch vehicle subsystem development

## Women in Space-Tech: India vs Global (2025)

Metric	India	Global Average
Women in Space Engineering (%)	18	22
Women in Mission Control (%)	25	28
Women Astronauts (%)	<5	12



Source. [indiatoday.in](https://www.indiatoday.in)

Skyroot Aerospace launches Kalpana fellowship for women interested in space tech. The fellowship aims to provide a robust platform for women to engage hands-on with advanced space technology projects.



# Women in Health-Tech

---

## Global Landscape

Women comprise 35–40% of the global bioinformatics workforce. AI-driven health diagnostics, genomics, and personalized medicine are expanding career opportunities.

## India's Advancements

Women researchers lead projects in genome sequencing and digital epidemiology at institutions like CSIR and NCBS. HealthTech startups (e.g., Niramai, SigTuple) co-founded by women have attracted global funding for AI-based diagnostics.

## HealthTech & Bioinformatics Job Growth (2025–2030)

Sector	Global CAGR (%)	India CAGR (%)
Digital Diagnostics	14	16
Genomics R&D	12	15
Health Data Science	13	17

**Women lead the  
way in research and  
patents.**



# Women in Research, Patents, and Innovation

---

## Global Snapshot

- Patent Filings: WIPO reports that women were listed in 16% of international patent applications in 2024, up from 12% in 2015.
- Fields of Strength: Women are overrepresented in patents related to biotech, medtech, and clean tech but underrepresented in hardware and semiconductor innovation.
- Research Output: Elsevier data shows women authored 33% of all STEM research papers globally in 2024.

## India's Performance

- Patent Trends: Women contributed to 13% of India's patent filings in 2024, compared to 8% in 2017.
- Innovation Hubs: IISc Bengaluru, IIT Bombay, and Anna University are key centers with 25–35% women in research teams.
- Funding: DST's "Women Scientist Scheme" has supported 7,000+ women researchers in the last decade.

# WOMEN in SCIENCE



The vast majority of data are presented in headcounts (HC), which are the total number of persons employed in R&D. This includes staff employed both full-time and part-time. The regional averages for the share of female researchers (based on available data only) for 2013 are represented above.

Some examples, in % of women researchers:

	Myanmar	85,5%
	Bolivia	62,7%
	Latvia	52,8%
	Philippines	52,3%
	Cuba	46,6%
	Namibia	43,7%
	France	25,6%
	Ethiopia	13%
	Sources:	UN DESA's Statistics Division, UNESCO

**VOICE**  
MONTHLY NEWSLETTER OF UN DESA



An estimated  
**58 MILLION**  
children of primary  
school age are out  
of school.

The vast majority of the world's  
youth are literate. However,



**92% of** young men **vs.** **87% of** young women have basic reading and writing skills.

**31 MILLION**  
of them are girls

Worldwide,  
**WOMEN**  
account for  
**30%**  
of all researchers.



Nearly two thirds of the world's  
**781 million** illiterate adults  
are **women**, and almost all of  
them live in developing countries.

The proportion of graduates in:



**SCIENCE**  
fields

1 in 9 men  
1 in 14 women



**ENGINEERING**  
fields

1 in 5 men  
1 in 20 women

Source. un.org



# Future Roles and Skillsets

---

## Top Emerging Roles for Women Technologists (2025–2030)

- AI Ethics Officer – Oversight of algorithmic bias, fairness, and compliance with regulatory AI frameworks.
- Quantum Computing Engineer – Application design and algorithm optimization for quantum processors.
- Cybersecurity Threat Hunter – Proactive detection and neutralization of advanced persistent threats (APTs).
- ClimateTech Systems Architect – Integration of IoT, AI, and renewable energy management platforms.
- Human-AI Interaction Designer – Development of intuitive, inclusive, and accessible AI interfaces.

## Projected Demand Growth by Role (2025–2030)

Role	Global Growth (%)	India Growth (%)
AI Ethics Officer	60	75
Quantum Computing Engineer	50	65
Cybersecurity Threat Hunter	48	55
ClimateTech Systems Architect	40	58
Human-AI Interaction Designer	42	54

A woman with dark hair tied back is working in a server room. She is wearing a light-colored, short-sleeved, ribbed top over a white collared shirt and brown trousers. A lanyard with a badge hangs around her neck. She is holding a coiled yellow cable in her hands, looking up at a server rack. The background shows rows of server racks with blue and red lighting. In the bottom right corner, there is a close-up of a white electrical outlet with several cables插进。

**Women transform the  
global tech future.**

# Watchlist 2030

---

By 2030, women in technology will not just be participants but key architects of global innovation ecosystems.

## Forecasted Shifts

- 50:50 Gender Parity in STEM graduations achievable in leading economies by 2030 with sustained policy support.
- AI Governance Leadership – Women to hold 40% of AI ethics board positions globally.
- Rise of Women-led Unicorns – India projected to have 25+ women-founded tech unicorns by 2030.

- Tech for Social Impact – Increased focus on health equity, climate resilience, and rural digital access.

## Women in Tech Projections for 2030

Metric	2024 Value	2030 Projection
Women in Global Tech Workforce (%)	28	40
Women-led Unicorns in India	6	25+
Women on AI Ethics Boards (%)	18	40
Women in STEM Graduations (%)	36	50

Leaders! Seems like women are the real emerging stars of the new world. Go, grab your coffee's and dive into learning what is the way forward to make this future possible.



# Interactions with Other Tech

## Career Guidance and Pathways

---

### Core Skills in Demand (2025)

AI & Data Science – Python, TensorFlow, ML Ops, prompt engineering.  
Cybersecurity – Cloud security, ethical hacking, zero-trust frameworks.  
Cloud & DevOps – Kubernetes, AWS/GCP/Azure certifications.  
Full Stack Development – React, Node.js, APIs, mobile app frameworks.

### Certification Trends

65% of women in tech pursue at least one professional certification annually.  
Popular programs:  
AWS Certified Solutions Architect  
Google Data Analytics Professional Certificate  
Certified Information Systems Security Professional (CISSP)

### Career Pathways

Technical Specialization – Deep expertise in a single domain (e.g., AI, cybersecurity).  
Tech Leadership – Transition to product management, CTO roles.  
Entrepreneurship – Starting product-based or services-based ventures.  
Research & Academia – Leading innovation in labs and universities.

## Top 5 Certifications Among Women in Tech (India, 2025)

Rank	Certification	Domain
1	AWS Certified Solutions Architect	Cloud
2	Google Data Analytics Certificate	Data Science
3	CISSP	Cybersecurity
4	Microsoft Azure Fundamentals	Cloud
5	TensorFlow Developer Certificate	AI/ML



# Role of Academia

## Career Guidance and Pathways

---

Academic institutions play a decisive role in building the talent pipeline for women in technology, from school-level STEM engagement to advanced research positions.

### Global Academic Trends

- Early STEM Intervention: UNESCO data shows that only 35% of STEM students globally are women, but countries with targeted school programs (e.g., Finland, Canada) report 45%+ female enrollment in technology degrees.
- University-Industry Collaboration: Partnerships like MIT's "Women in AI" program and Stanford's "She++" initiative have doubled female participation in computer science electives in a decade.
- Scholarships & Grants: Google's Women Techmakers Scholarship and AnitaB.org's Pass It On Awards have collectively funded 5,000+ women globally in STEM since 2010.

### India's Academic Landscape

- Higher Education: In 2024, 43% of STEM graduates in India were women, up from 34% in 2016 (AICTE data).
- IITs & NITs: The IITs have seen a rise from 8% to 20% female enrollment in B.Tech programs between 2017–2024 after implementing supernumerary seats.
- Skill Development: AICTE's "Margadarshan" and "Prerana" programs are encouraging first-generation women engineers.

## Women in STEM by Education Level (India, 2024)

Level	Female Share (%)
Secondary School STEM	42
Undergraduate STEM	43
Postgraduate STEM	39
PhD in Technology	36

That's great to hear about some great initiatives globally and domestically that aims towards building an equal workforce, that also builds and provides a strong learning base for these young entrepreneurs.

Leaders, now let us read about some more things that builds a strong ecosystem around these initiatives



# Workforce Transition

## Policies and Frameworks

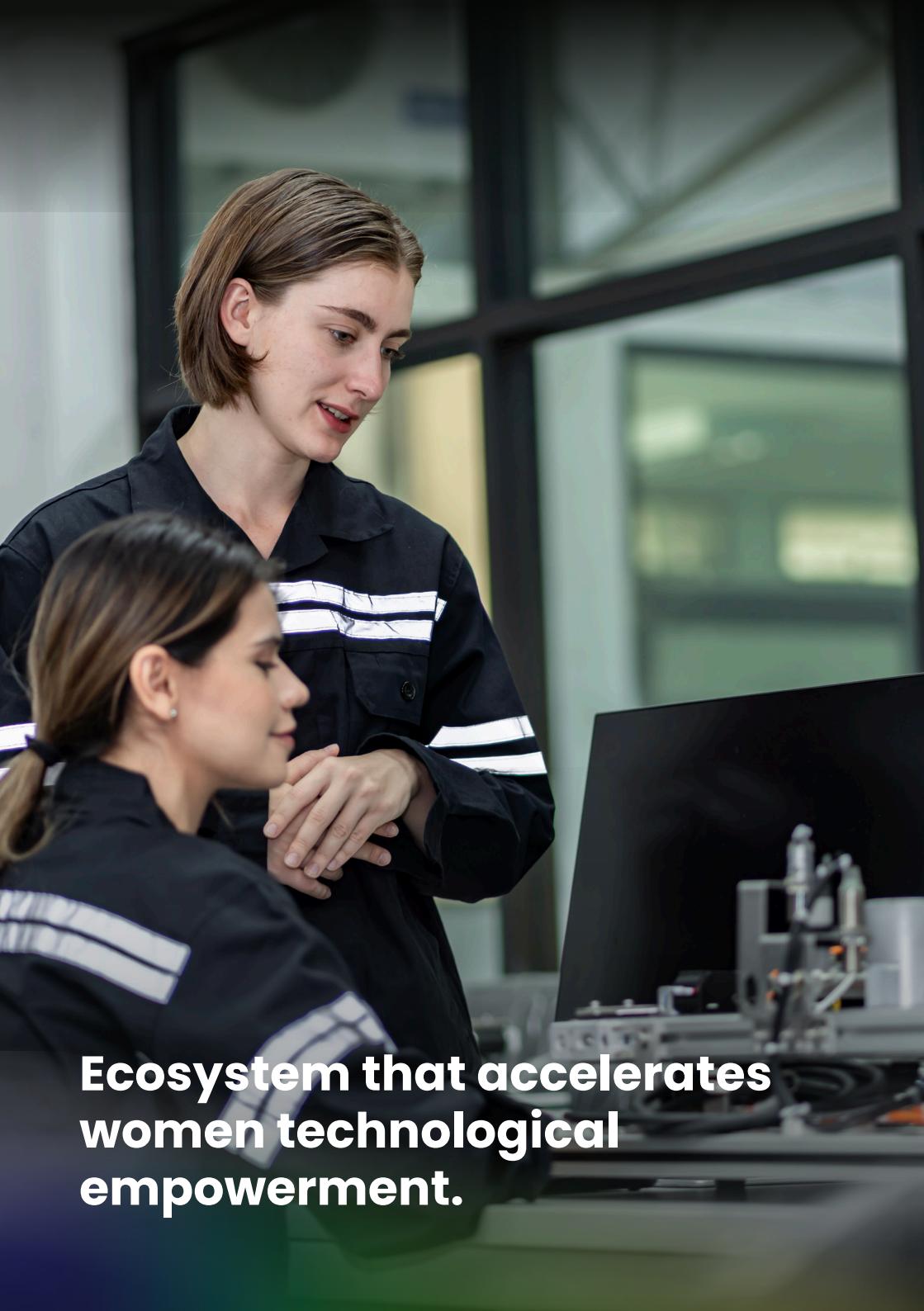
---

### Global Best Practices

- EU Directive on Gender Balance (2026 target): Requires 40% representation of women on corporate boards for listed companies.
- US Equal Pay Act Enforcement: Tech firms face higher compliance audits to ensure pay parity.
- Singapore's SkillsFuture for Women: Funds mid-career reskilling for women in AI, data analytics, and cybersecurity.

### India's Policy Environment

- Maternity Benefit (Amendment) Act, 2017: Increased paid maternity leave to 26 weeks for formal sector employees.
- Digital Skilling Initiatives: "Digital Saksharta Abhiyan" targets 60 million women by 2027.
- Incentives for Women Entrepreneurs: Stand-Up India Scheme provides loans between ₹10 lakh–₹1 crore for women-owned tech startups.
- AI Ethics & Inclusivity: NITI Aayog's Responsible AI framework includes gender bias detection in algorithms as a policy priorityHigh-Demand ESG Roles in Electronics



**Ecosystem that accelerates  
women technological  
empowerment.**

# Government Schemes Empowering Women in STEM

---

India's policy framework for women in STEM has expanded significantly between 2018–2025, focusing on early education, higher studies, research funding, and workplace incentives.

## Key Schemes & Programs

### **Vigyan Jyoti (Department of Science & Technology)**

- Targets girls in Class 9–12 from 100 districts.
- Offers mentorship, exposure visits to labs, and career guidance in STEM.
- Women Scientists Scheme (WOS-A/B/C)
- Provides research grants, fellowships, and entrepreneurial support to women scientists returning after career breaks.

### **AICTE Pragati Scholarship**

- Financial assistance to 5,000 meritorious girl students annually pursuing technical education.
- GATI (Gender Advancement for Transforming Institutions)
- Institutional framework for assessing and improving gender equity in STEM research organizations.

## Digital Saksharta Abhiyan (DISHA)

- National mission to impart digital literacy to 60 million people, with a focus on rural women.

## Impact Metrics (2025)

- STEM Scholarships: Over 200,000 scholarships awarded to women in tech disciplines since 2018.
- Research Grants: Women's share in national R&D funding increased from 8% in 2015 to 18% in 2025.
- Employment Outcomes: Schemes contributed to a 12% increase in female participation in India's formal tech workforce between 2018–2025.

## Top Government STEM Initiatives (India)

Initiative	Focus Area	Year Launched	Coverage (till 2025)
Vigyan Jyoti	STEM exposure & mentorship	2019	250,000+ schoolgirls
WOS-A/B/C	Research re-entry & grants	2014	5,000+ women scientists
Pragati Scholarship	Technical education funding	2014	35,000+ girl students
GATI	Institutional gender audit	2020	60+ institutions



# Initiatives for Women

---

## Global Practices

- Women-only Hackathons: Initiatives like SheHacks, WomenHack, and Technovation Girls have trained over 200,000 participants globally since 2015.
- Simulation Labs: MIT's Reality Hack Lab and ETH Zurich's Robotics Lab incorporate virtual reality (VR) and AI-driven digital twins for experimentation.
- Innovation Grants: The European Women in Tech Challenge awards €100,000 annually for winning prototypes.

## India's Growing Ecosystem

- NASSCOM Women Wizards Rule Tech (W2RT) – Mentorship combined with hackathon-based problem-solving.
- DST's Women Entrepreneurship and Innovation Hubs – Provide physical and digital simulation facilities for product prototyping.
- Campus Programs: IIT Bombay's Mood Indigo Hackathon and IIT Delhi's Women Who Code challenges have seen 30–40% female participation rates.

## Notable Women-in-Tech Hackathon Outcomes (India, 2024)

Program/Event	No. of Participants	Post-event Startup Formations
W2RT Hackathon	2,000+	12
Women Who Code Challenge	1,200+	8
Technovation India	5,000+	20

**Corporate diversity  
initiatives drive a more  
inclusive industry.**



# Corporate Initiatives Driving Gender Diversity

---

Leading technology companies are actively implementing diversity, equity, and inclusion (DEI) initiatives to bridge gender gaps. These initiatives span recruitment, career progression, retention, and leadership pathways.

## Key Strategies Observed Globally

- Inclusive Hiring Practices: Blind recruitment processes and AI-based bias detection tools have reduced unconscious bias in candidate screening.
- Mentorship and Sponsorship Programs: Targeted sponsorship of women for leadership roles — e.g., IBM's Technical Women Pipeline Program has increased women's representation in senior technical roles by 8% in three years.
- Flexible Work Models: Microsoft and Dell report 30–40% improvement in female retention in tech roles after implementing hybrid schedules.
- Leadership Development Programs: Intel's "Women at Intel Network" supports 7,000+ women globally with tailored training, resulting in a 14% rise in women in technical leadership since 2020.

## India-Specific Corporate Best Practices

- Infosys Restart with Infosys – A returnship program for women on career breaks, offering 6–12 months of structured upskilling.

- TCS iON Digital Learning – Micro-credentialing courses aimed at reskilling women in emerging tech fields.
- Wipro's WIN (Women of Wipro) – Internal networking platform with 1,200+ women leaders mentoring junior colleagues.

## Sample Corporate DEI Metrics (2025)

Company	Women in Workforce (%)	Women in Tech Roles (%)	Women in Leadership (%)
IBM	33	28	25
Microsoft	31	26	23
Infosys	38	34	20
TCS	36	32	19



# Gender Pay Gap and Economic Impact

---

## Global Overview

- The global gender pay gap in tech is estimated at 16%, meaning women earn \$0.84 for every \$1 earned by men in similar roles.
- Pay disparity is widest in executive technology leadership (up to 20%) and narrowest in junior software development roles (5–8%).
- McKinsey Global Institute estimates that closing the gender gap in STEM could add \$12 trillion to global GDP by 2035.

## India's Context

- The pay gap in Indian IT services stands at 26% in 2024, down from 33% in 2016 (Monster Salary Index).
- High-tech manufacturing shows a narrower gap (~15%) due to standardized pay structures.
- Women in emerging tech roles (AI, cloud architecture) have seen faster wage growth than in legacy tech domains.

## Gender Pay Gap in Tech (2024)

Role	Global Gap (%)	India Gap (%)
Software Developer	8	12
Cloud Architect	10	15
Cybersecurity Analyst	12	18
CTO	20	26

## THE TOP 10 AVERAGE SALARY HOW DO MEN AND WOMEN COMPARE

⌚ Average Male Salary

⌚ Average Female Salary



EBAY



APPLE



FACEBOOK



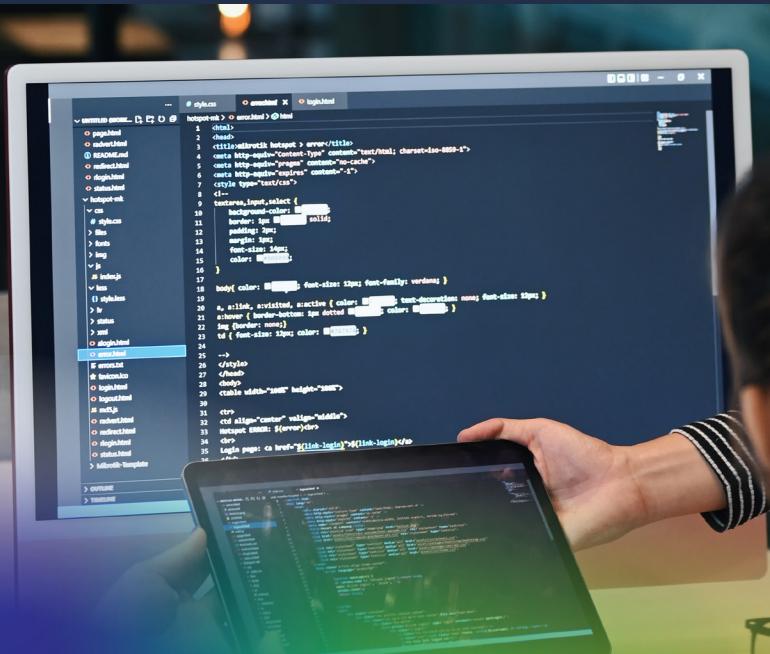
MICROSOFT

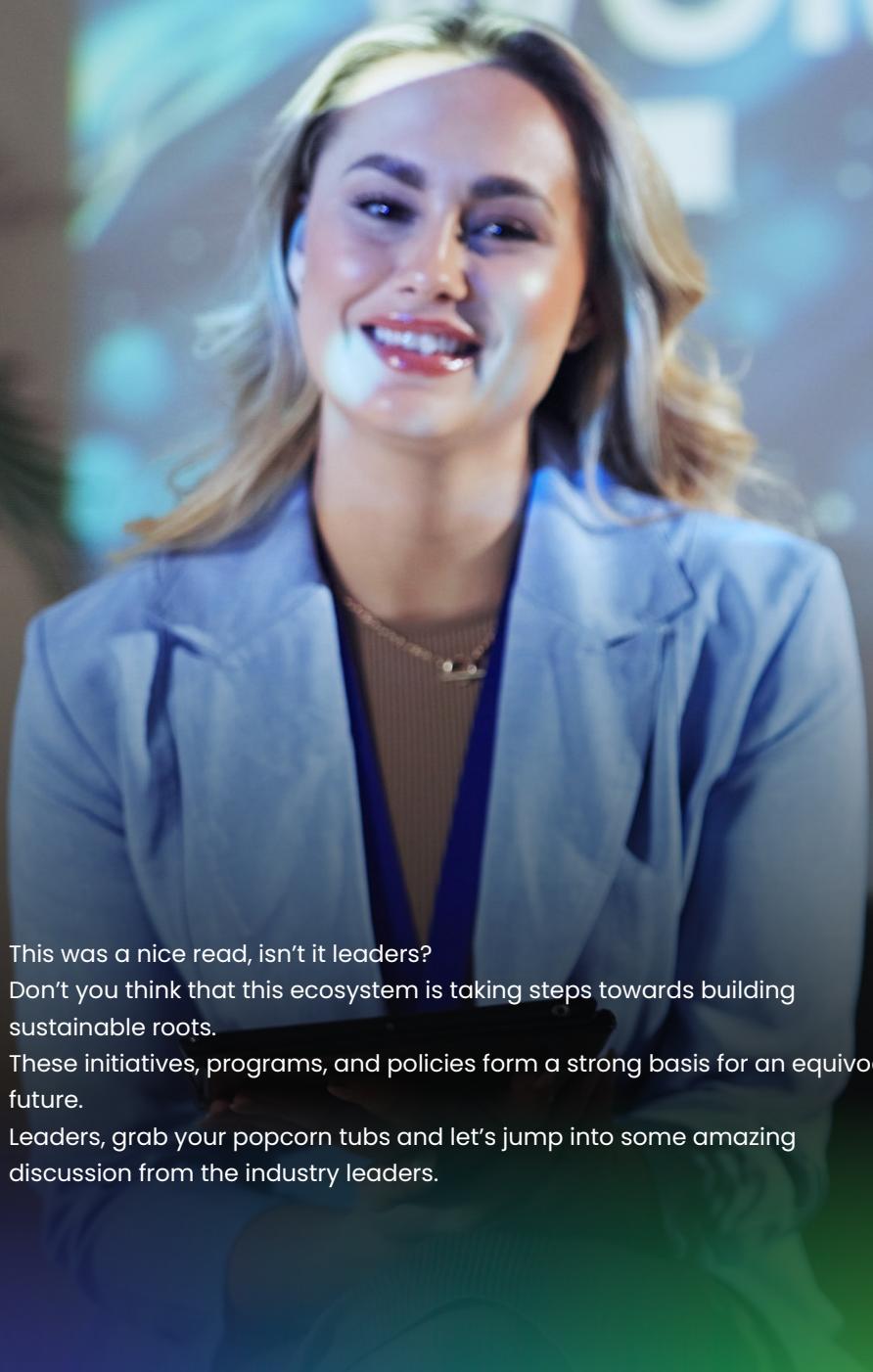


GOOGLE



Source: digitalinformationworld.com





This was a nice read, isn't it leaders?

Don't you think that this ecosystem is taking steps towards building sustainable roots.

These initiatives, programs, and policies form a strong basis for an equivocal future.

Leaders, grab your popcorn tubs and let's jump into some amazing discussion from the industry leaders.

A close-up photograph of a woman with dark, curly hair smiling and speaking into a black microphone. She is wearing a tan blazer over a green top. The background is blurred, showing what appears to be a stage or event setting.

**Visionary women tech  
leaders guide our world  
forward.**

3  
8

# IMC 2024 Discussions and Engagements

Panelists



**Miss Anjana Himalayan**  
EVP Technology Strategy & Architecture, Vodafone Idea



**Miss Lara Dewar**  
Chief Marketing Officer, GSMA

Panel Title

# The Future Engineer Woman: Driving the Digital Paradigm

Panelists



**Ms. Ranjani HG**

Principal Data Scientist, Globe  
AI Accelerator, Ericsson

**Miss Akanksha Saxena**

Director DT Cyber  
Strategy & Governance,  
KPMG

# **Here is what was discussed in the panel**

## **Miss Anjana Himalayan, EVP Technology Strategy & Architecture, Vodafone Idea**

Miss Himalayan asserted that deep tech and quantum computing are evolving areas where women still face challenges, including male domination, lack of mentorship, and difficulty securing VC funding (success rate is 2/3rds less than men). She noted that women leaders are nonetheless driving research and innovation in these fields.

## **Miss Lara Dewar, Chief Marketing Officer, GSMA**

Miss Dewar emphasized that diversity drives innovation and highlighted the need to create more platforms like this to counter low female leadership statistics 26%. She stressed that women bring unique perspectives, often solving global challenges related to healthcare and sustainability, and urged action to drive change quickly.

## **Ms. Ranjani HG, Principal Data Scientist, Globe AI Accelerator, Ericsson**

Ms. Ranjani asserted that diversity enhances innovation and creativity, noting women bring soft skills, ethics, and multitasking to emerging tech. She explained that women are spearheading awareness of bias in AI models (e.g., facial recognition) and driving necessary regulatory changes around data consent and transparency.

### **Miss Akanksha Saxena, Director DT Cyber Strategy & Governance, KPMG**

Miss Saxena focused on the challenges women entrepreneurs face, primarily securing funding and building necessary networks and mentorship. She stressed that perceptions must change and that a supportive environment, tax incentives, and programs like Stand Up India are vital.

### **Conclusion**

The discussion affirmed that women are critical in shaping the sustainable digital future, especially in AI and IoT. To accelerate this, the ecosystem must tackle funding gaps and gender bias, while leadership (including men) must champion inclusive policies, mentorship, and STEM education starting early.

# IMC 2025

## Discussions and Engagements

### Panelists



**Ms. Maneesha Garg**  
Partner & Head –  
Managed Services,  
KPMG in India



**Ms. Vijaya Vivek  
Kamath**  
Chief Executive Officer,  
Sensorise



**Ms. Payal Mittal**  
Deputy General  
Manager, MTNL

Panel Title

# Women in Tech – Diverse Minds, Disruptive Ideas



**Smt. Rekha Gupta**

Hon'ble Chief Minister of Delhi

Moderator

Panelists



**Ms. Hiral Sharma**  
Principal Architect,  
Fortinet



**Dr. Elena Fersman**  
Vice President, Head  
of AI Innovation and  
Incubation, Ericsson



**Ms. Aman Sharma**  
Chief Digital Officer,  
Constl

# **Here is what was discussed in the panel**

## **smt. Rekha Gupta**

Smt. Gupta emphasized that digital transformation must translate into equal opportunity for women, requiring safe cities, inclusive skilling, and supportive workplace policies to help women thrive as engineers and founders.

## **Ms. Maneesha Garg**

Ms. Garg asserted that AI systems risk entrenching bias, making women's participation in design, governance, and consulting mission-critical. She argued that leadership must hard-wire inclusion into hiring and promotions.

## **Ms. Vijaya Vivek Kamath**

Ms. Kamath asserted that women lead complex network and cloud transformations, urging organizations to grant women P&L and architecture ownership, not just coordination, as diverse teams boost security and reliability.

## **Ms. Payal Mittal**

Ms. Mittal discussed rich opportunities in telecom solutions, stressing that structured mentorship, transparent career paths, and outcome-based evaluations help women achieve senior leadership.

## **Ms. Hiral Sharma**

Ms. Sharma asserted that women in product roles embed inclusion into user journeys, advocating for accessibility features and building more empathetic, widely adopted solutions.

### **Dr. Elena Fersman**

Dr. Fersman asserted that AI must be shaped by women to influence core research and algorithms, noting that diverse teams actively reduce blind spots in safety and fairness.

### **Ms. Aman Sharma**

Ms. Sharma asserted that women founders face gaps in capital and networks, emphasizing the value of peer networks, accelerators, and procurement reforms.

### **Conclusion**

The panel concluded that achieving true equity in technology requires addressing systemic bias, closing the persistent 16% global pay gap, and tackling high post-maternity attrition rates. Leadership must proactively implement transparent, outcome-based policies and provide supportive work cultures.

This was a great discussion, dear future leaders.

These woman leaders have pin-pointed some key issues and have demonstrated great efforts by taking some steps towards equalizing the reality. We believe that women of today will definitely lead the future of tomorrow.

Now leaders, with great motivation and coffees, let us move towards our next fun and learn segment!



# Learning with Fun



04



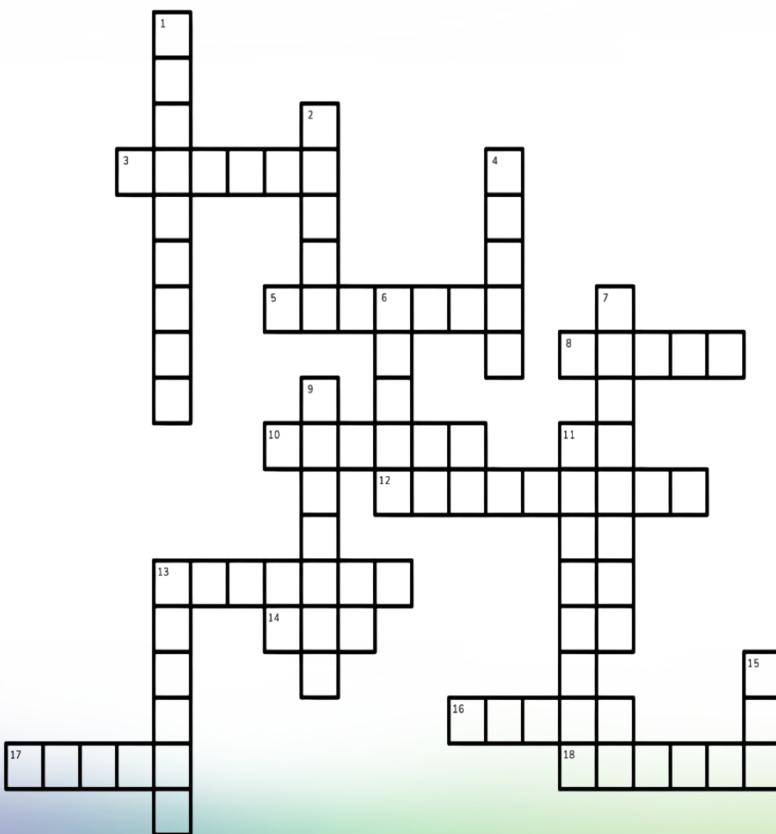
# Crossword

## Across

3. CEO of India's largest private sector bank, ICICI Bank
5. Former CEO of Yahoo and Google's first female engineer
8. First female programmer, known for writing algorithm for Analytical Engine
10. COO of Facebook and author of bestseller 'Lean In'
12. Tech entrepreneur and founder of NextDrop, a water delivery service
13. Co-founder of Microsoft and philanthropist through the Bill and Melinda Gates Foundation
14. Former CEO and chairman of Hewlett-Packard
16. Founder and CEO of data analytics company, Mu Sigma
17. Chairman, President, and CEO of IBM
18. Former IBM executive and CEO of Hewlett-Packard

## Down

1. NASA mathematician portrayed in 'Hidden Figures'
2. Founder and Executive Chairwoman of Brazilian software company, PagSeguro
4. Chairman of YouTube and former Google executive
6. Chairperson and former CEO of PepsiCo
7. Indian-American tech executive and founder of foodtech startup, Kimbula
9. Founder and CEO of video messaging app, Bumble
11. Venture capitalist at Kleiner Perkins Caufield & Byers
13. One of the first women to receive a Ph.D. in computer science
15. First computer programmer and daughter of poet Lord Byron

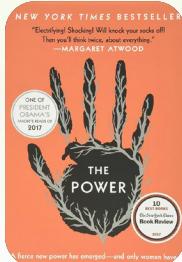


# Find the Words

---

R U H O I N K U P J B T E N P  
A S R Y M I C H E L L E E C A  
U L D H M I C N G E L W G I D  
S R U N E E A L M E Y H M N M  
S O S Z G L U R A A E I E D A  
R N S U O A F A R N V T I Y S  
E C H N L D E U I G I N H L R  
S T R N E A O E S E A E G A E  
H M N C K A L N S L T Y S E E  
M D A W D Y A B A A H M I T E  
A R S N R S K A T I E Y G L A  
G H A E U E C T S A N O E P Y  
T H H S H F M E L I N D A R D  
C S N W C L A I N D R A X I E  
M L H E L E N U S A R A R A G

# Literature

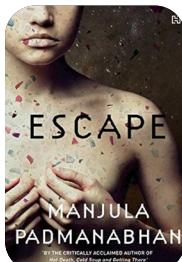
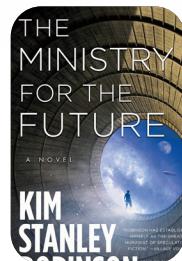


## The Power, by Naomi Alderman

Envisions a future where women gain the ability to generate electricity from their bodies, upending gender hierarchies. The novel explores how this shift impacts governance, technology policy, and global geopolitics.

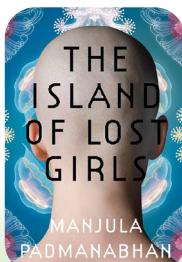
## The Ministry for the Future, by Kim Stanley Robinson

Centers on a female-led UN agency driving climate crisis solutions through advanced technologies such as geoengineering, AI climate models, and renewable energy infrastructure.



## Escape, by Manjula Padmanabhan

A dystopian narrative where women confront authoritarian control in a hyper-technologized society, raising questions about surveillance, bodily autonomy, and resistance.



## The Island of Lost Girls, by Manjula Padmanabhan

Explores genetic engineering, reproductive rights, and the ethics of biotechnological interventions through a gendered lens.

# Pop Culture



## Mission Mangal (2019)

Based on the real-life Mars Orbiter Mission, this film portrays a team of ISRO scientists—several of them women—solving engineering and budgetary challenges to put India in interplanetary history books. It underscores the capability of women in high-stakes space technology.

## Rocket Boys (Series)

While focusing on India's early nuclear and space programs, the series also depicts women in research, showing their quiet but critical contributions to building India's science ecosystem.



## Hidden Figures (2016)

Brings to light the story of African-American women mathematicians whose calculations were essential to NASA's space missions. The film redefines who gets credit in history and makes visible the "hidden" women in mission-critical tech roles.



## The Imitation Game (2014)

Set during WWII, it features female codebreakers working at Bletchley Park. While Alan Turing is central, the story acknowledges women's roles in cryptography and intelligence technology.

# Comic Strip

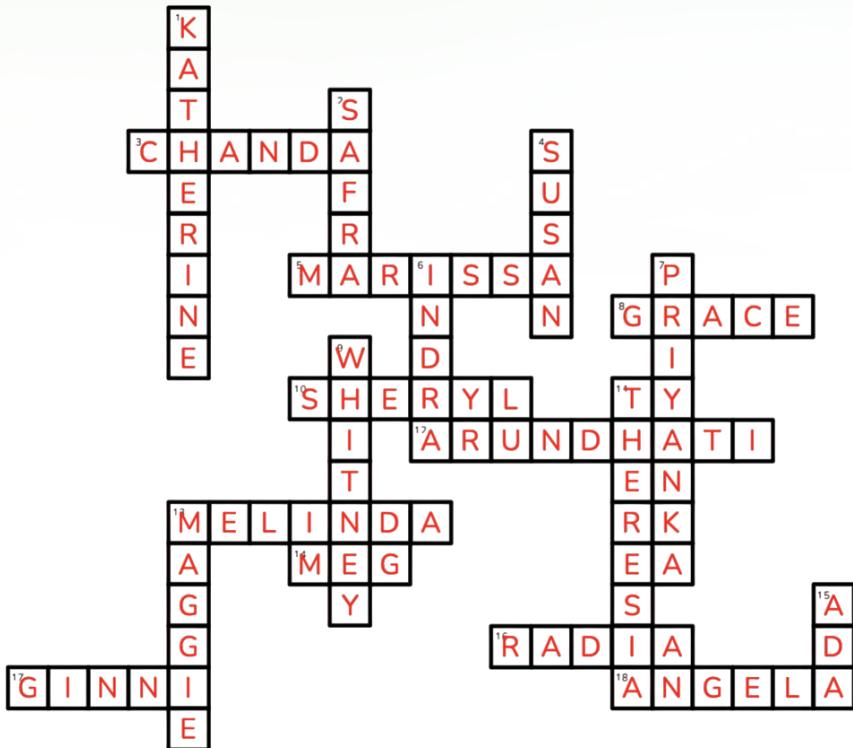
## A DAY IN THE LIFE OF A WOMAN TECHNOLOGIST



# Solutions

## Crossword

---



# Find the Words

Ada  
Geetha  
Katie  
Michelle  
Sheryl

Angela  
Grace  
Marissa  
Padmasree  
Susan

Chanda  
Helen  
Meg  
Reshma  
Ursula

Cindy  
Indra  
Melinda  
Sara  
Whitney



# Bibliography

---

1. <https://www.drishtiias.com/daily-updates/daily-news-analysis/global-gender-gap-report-2025>
2. <https://www.statista.com/chart/4467/female-employees-at-tech-companies>
3. <https://www.aiprm.com/women-in-tech-statistics/>
4. <https://www.indiatoday.in/science/story/skyroot-aerospace-launches-kalpana-fellowship-for-women-interested-in-space-tech-2504670-2024-02-20>
5. <https://www.un.org/zh/desa/women-science>
6. <https://www.digitalinformationworld.com/2020/08/what-gender-pay-gap-looks-like-at-google-facebook-apple-and-other-top-tech-companies.html>



The future of technology is being written by women—and this is their story. From the labs of BioTech to the frontiers of SpaceTech, discover how women are overcoming systemic bias and funding gaps to dominate AI and Cloud. Featuring insights from IMC discussions and a watchlist of future roles, this book is your essential guide to the policies, platforms, and people driving diversity and economic impact across the global tech ecosystem.

Scan to get the  
Digital Book



[www.indiamobilecongress.com](http://www.indiamobilecongress.com)  
[www.zamun.com](http://www.zamun.com)