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INDIA GCC TRENDS
QUARTERLY ANALYSIS Q4CY2022

February 2023

Foreword

India continues to be the destination of choice to set up new Global Capability Centers (GCCs). In the last quarter of 2022, 11 new GCCs were established, resulting in NASSCOM-Zinnov GCC Intensity Index rating of "High" for this quarter. Approximately 73% of these new centers have all three functional areas of Engineering R&D, IT, and BPM, underscoring the diversity of skilled talent available in India. ~45% of the newly established GCCs were from the Software & Internet vertical, and nearly 58% of the new GCCs are of US-headquartered MNCs.

This Q4 update of the NASSCOM-Zinnov India GCC trends takes stock of the happenings in the last quarter of 2022 and focuses on Telecom and Networking as a vertical. In the previous 3 quarterly editions, we analyzed Retail, BFSI, and Healthcare respectively. With the help of case studies of established, mature GCCs in the Telecom and Networking vertical, this edition of the report underscores the fact that India's mature ecosystem is much coveted, and that GCCs have made themselves indispensable parts of HQ.

India has emerged – time and again – as the top choice for global companies to drive innovation, access skilled talent, groom the next-gen leaders, and build world-class products from. This quarterly report, "India GCC Trends – Quarterly Analysis Q4CY2022" aims to provide a snapshot of the quarter that was, while also showcasing the maturity of the established GCCs in the Telecom and Networking vertical.

AGENDA

Executive Summary

11 new GCCs were established in India during Q4 2022. The NASSCOM-Zinnov GCC Intensity Index was rated High in this quarter

Approximately 73% of the new GCCs established in India have all three functional areas - ER&D, IT, and BPM, in Q4 2022

In Q4 2022, approximately 45% of the new GCCs established in India were from the Software & Internet vertical

Among the newly established and existing GCCs in India, ~ 58% of them were US-headquartered MNCs, as compared to 76% in Q3 2022

Cloud, Artificial Intelligence (AI), Machine Learning (ML), and Software Development are some of the major focus areas for newly established GCCs, and new centers of existing GCCs in Q4 2022

GCC India Overview

USD 35.9 Bn
GCC Market Size (FY2021)

10.8%
CAGR* of GCC Market

1.38 Mn+
Total Installed GCC Talent (FY2021)

11
New GCCs added this quarter (October 2022 – December 2022)

High
GCC Intensity Index# (October 2022 – December 2022)
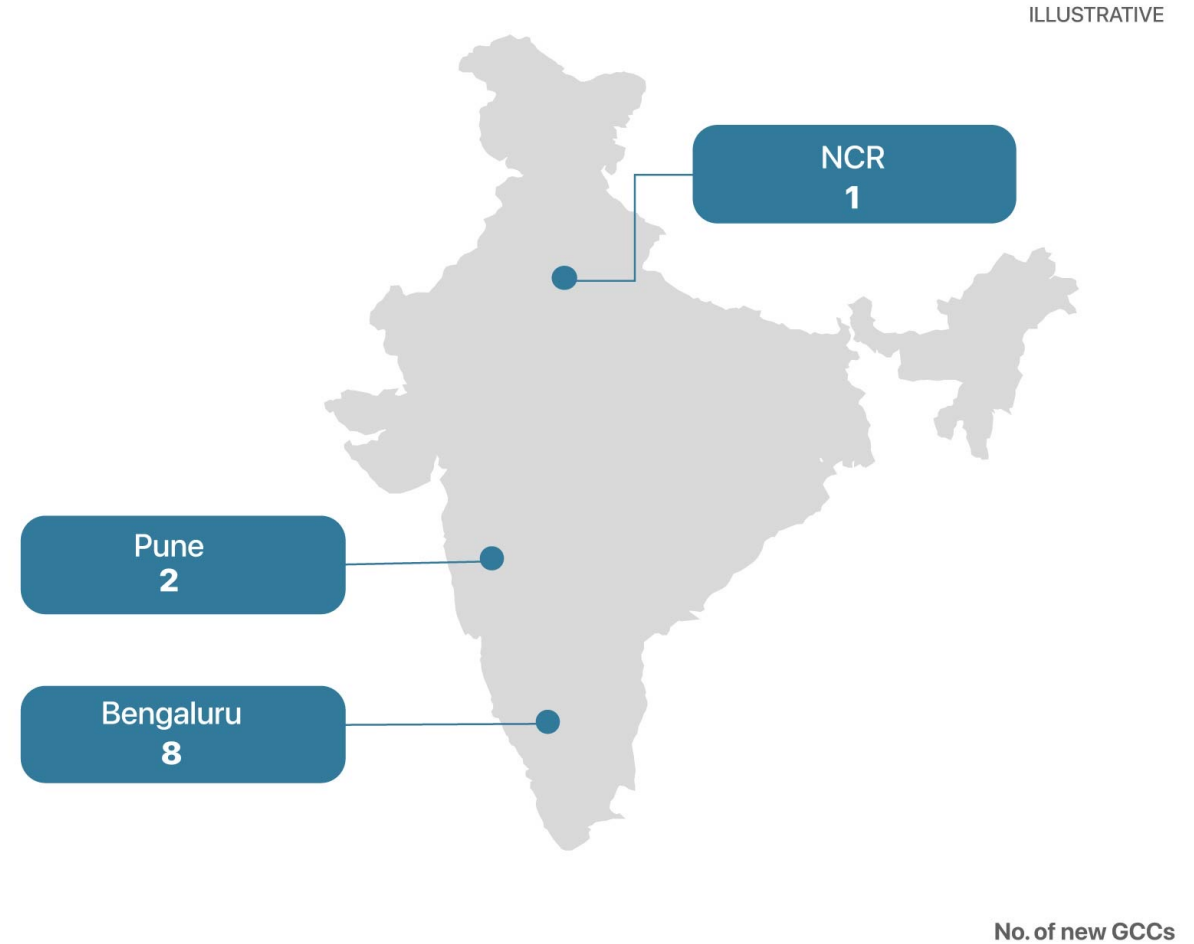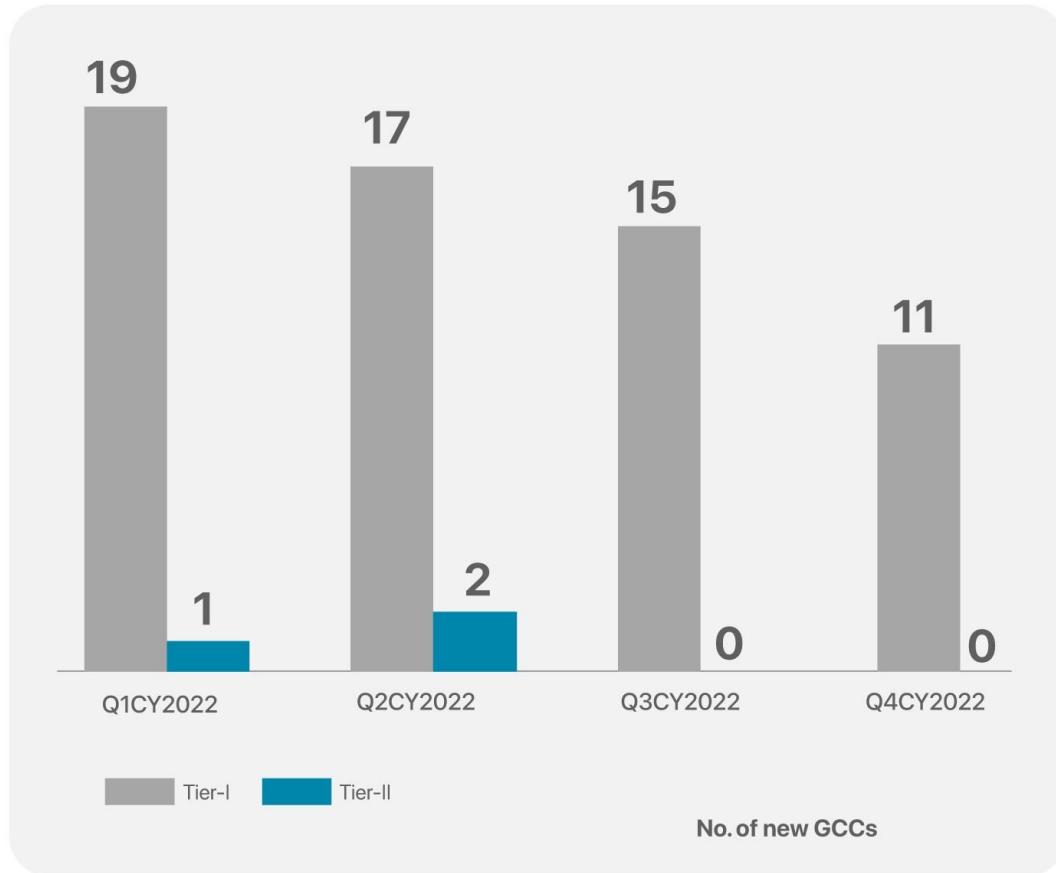
*CAGR calculated from FY15-FY21

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

#Detailed GCC Intensity Index explanation is on Slides 24 and 25

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New GCCs set up across India

BOOKING HOLDINGS

iMerit

d-Matrix

Digi-Key ELECTRONICS

ParentPay COUNT ON US

FORESCOUT

kramer

memryX

SUSE

YARA

GEODIS

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

GCCs in India – A Q4 2022 Overview

New GCCs set up in Tier-I and Tier-II cities

ILLUSTRATIVE

19 Q1CY2022 (Tier-I)
1 (Tier-II)

17 Q2CY2022 (Tier-I)
2 (Tier-II)

15 Q3CY2022 (Tier-I)
0 (Tier-II)

11 Q4CY2022 (Tier-I)
0 (Tier-II)

Tier-I   Tier-II

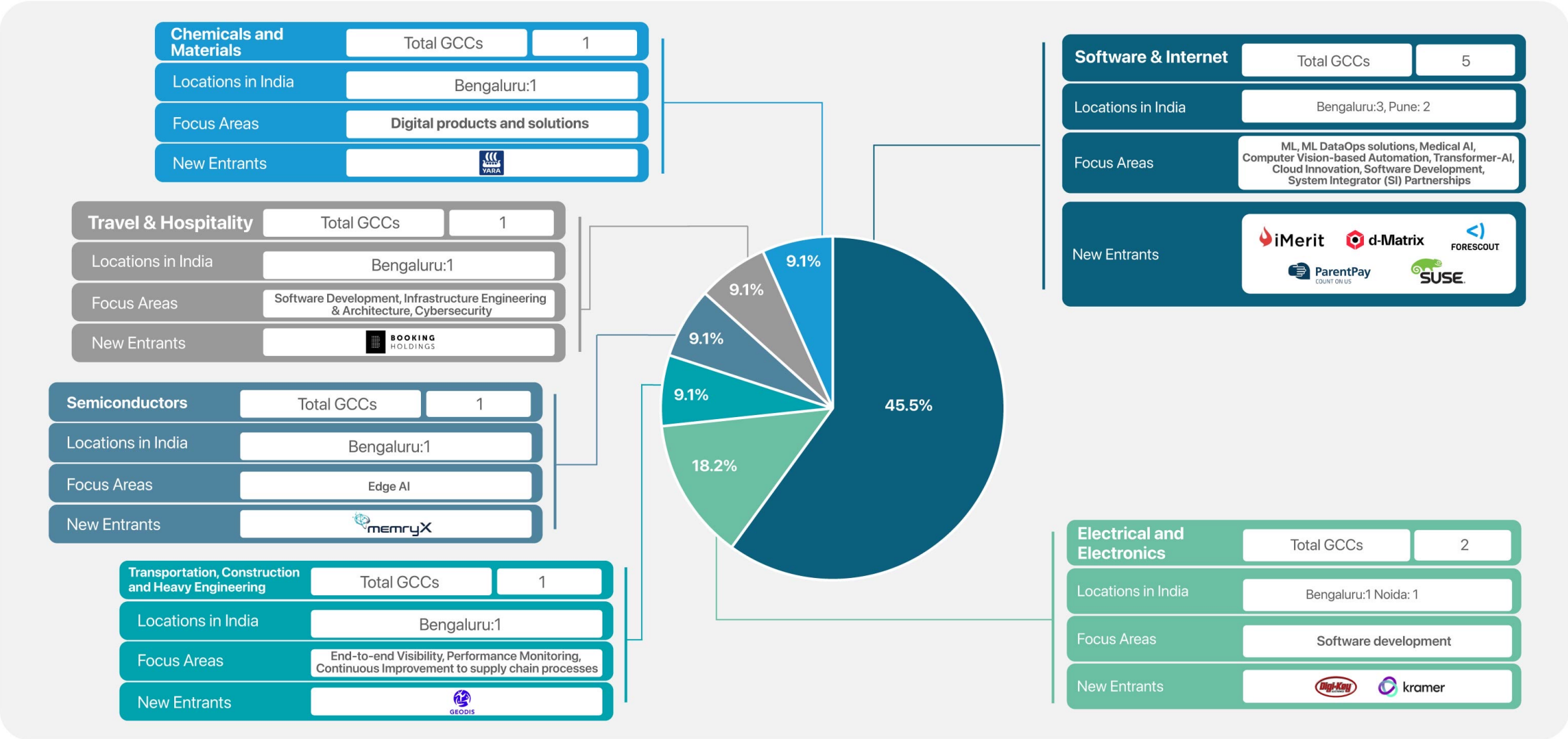No. of new GCCs

NCR
1

Pune
2

Bengaluru
8

No. of new GCCs

Note:
Tier 1 cities include: NCR, Mumbai, Pune, Bengaluru, Chennai, Hyderabad
Tier 2 cities include: Ahmedabad, Vadodara, Thiruvananthapuram, Chandigarh, Jaipur, Coimbatore, Kochi, Nagpur, Mysuru, Mangalore, Madurai, Kanpur, Indore, Visakhapatnam, Goa

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

New GCCs set up in India by Vertical – Q4 2022

Chemicals and Materials

Total GCCs	1
Locations in India	Bengaluru:1
Focus Areas	Digital products and solutions
New Entrants	YARA

Travel & Hospitality

Total GCCs	1
Locations in India	Bengaluru:1
Focus Areas	Software Development, Infrastructure Engineering & Architecture, Cybersecurity
New Entrants	BOOKING HOLDINGS

Semiconductors

Total GCCs	1
Locations in India	Bengaluru:1
Focus Areas	Edge AI
New Entrants	memryX

Transportation, Construction and Heavy Engineering

Total GCCs	1
Locations in India	Bengaluru:1
Focus Areas	End-to-end Visibility, Performance Monitoring, Continuous Improvement to supply chain processes
New Entrants	GEODIS

Software & Internet

Total GCCs	5
Locations in India	Bengaluru:3, Pune: 2
Focus Areas	ML, ML DataOps solutions, Medical AI, Computer Vision-based Automation, Transformer-AI, Cloud Innovation, Software Development, System Integrator (SI) Partnerships
New Entrants	iMerit, d-Matrix, FORESCOUT, ParentPay COUNT ON US, SUSE.

Electrical and Electronics

Total GCCs	2
Locations in India	Bengaluru:1 Noida: 1
Focus Areas	Software development
New Entrants	Digi-Key, kramer

Pie chart values: 45.5%, 18.2%, 9.1%, 9.1%, 9.1%, 9.1%, 9.1%

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

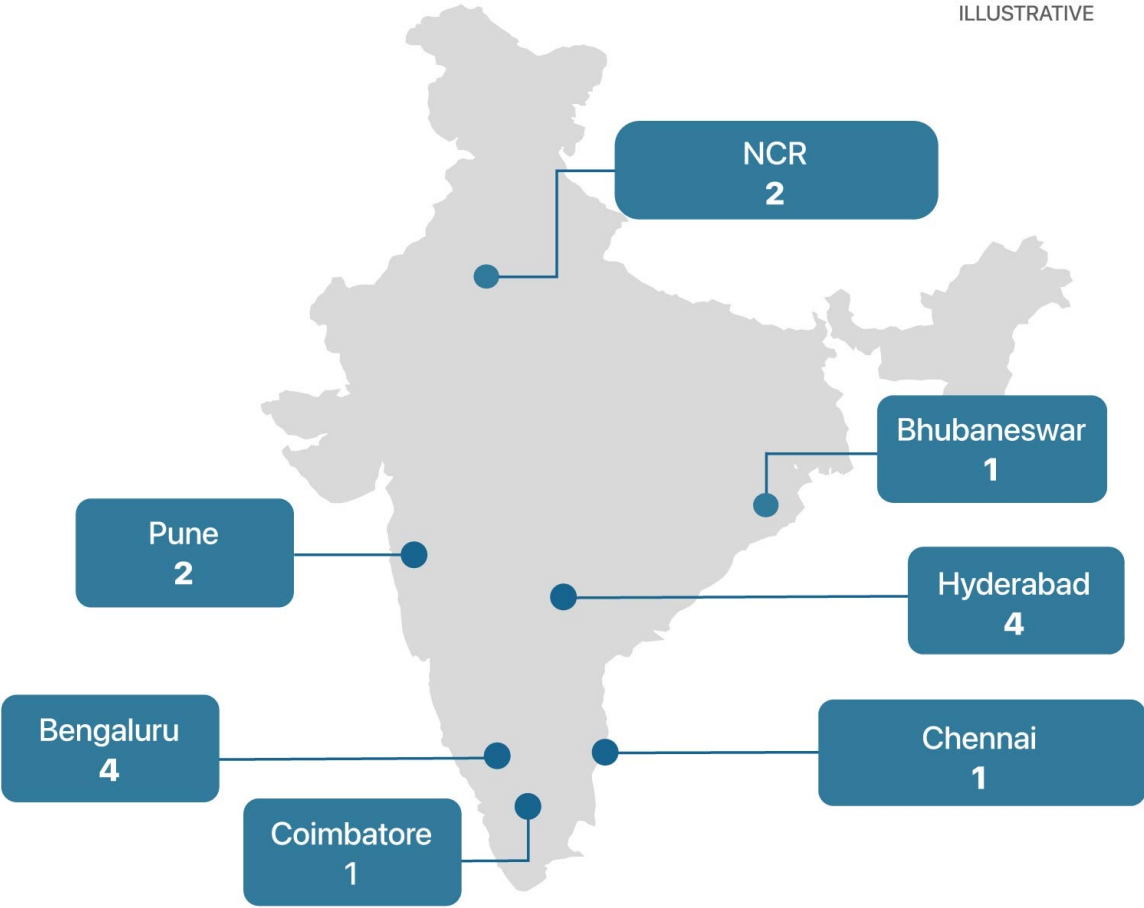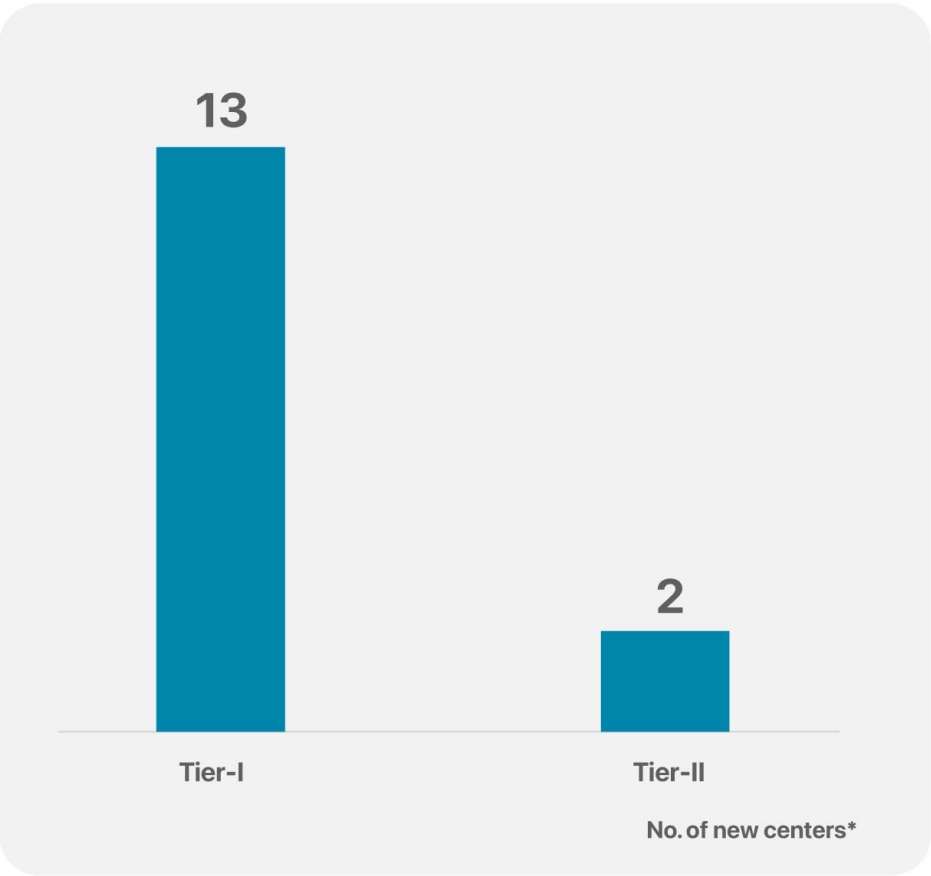# Established GCCs in India that have expanded centers in Q4 2022

Expansion of centers for the established GCCs across India*

* Please note that the center expansion information is non-exhaustive and is based on the details that were publicly announced during the relevant quarter

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

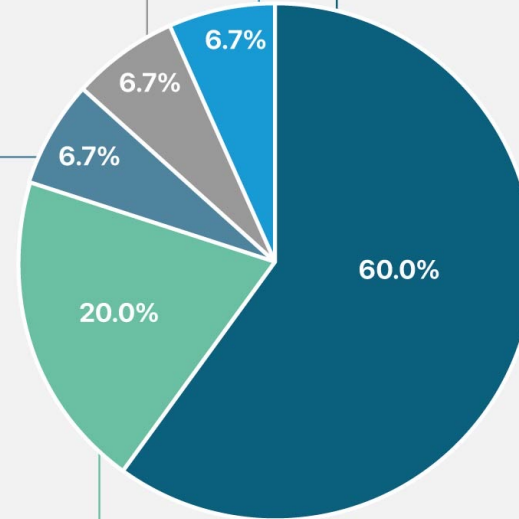# Established GCCs in India that have expanded centers in Q4 2022 – Overview

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Expansion of centers for the established GCCs across Tier-I and Tier-II cities

ILLUSTRATIVE

13

2

Tier-I

Tier-II

No. of new centers*

NCR
2

Bhubaneswar
1

Pune
2

Hyderabad
4

Bengaluru
4

Chennai
1

Coimbatore
1

No. of new centers*

Note:
Tier-I cities include: NCR, Mumbai, Pune, Bengaluru, Chennai, Hyderabad
Tier-II cities include: Ahmedabad, Vadodara, Thiruvananthapuram, Chandigarh, Jaipur, Coimbatore, Kochi, Nagpur, Mysuru, Mangalore, Madurai, Kanpur, Indore, Visakhapatnam, Goa

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

* Please note that the center expansion information is non-exhaustive and is based on the details that were publicly announced during the relevant quarter

Established GCCs in India that have expanded centers in Q4 2022 – by Vertical

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Transportation, Construction and Heavy Engineering	Total GCCs	1
Locations in India	NCR:1	
Focus Areas	Software Development, Global Supply Chain Solutions	
New Entrants	DP WORLD	

Medical Devices	Total GCCs	1
Locations in India	Bengaluru:1	
Focus Areas	Metrology and Material Analysis	
New Entrants	RENISHAW apply innovation™	

Healthcare	Total GCCs	1
Locations in India	Hyderabad:1	
Focus Areas	Data Science, Advanced Analytics, Data Management, DevOps, Advance AI Capabilities	
New Entrants	Roche	

Software & Internet	Total GCCs	9
Locations in India	Bhubaneswar:1 Chennai:1 Coimbatore:1 Hyderabad:3 Pune:2 Noida:1	
Focus Areas	AI/ML, Data Science, Hospitality solutions, Cloud, Hybrid Cloud, ER&D, Smart Manufacturing, Digital Supply Chain, Software Development, APM & Security Capabilities	
New Entrants	new relic, marlabs, IBM, rackspace technology, amadeus, precisely, GeBBS, o9, conga	

Electrical and Electronics	Total GCCs	3
Locations in India	Bengaluru:3	
Focus Areas	AI, ADAS Technology, Software & System Development, Cloud, Cybersecurity, Powertrain Electrification, Software Defined Vehicle, Connected Vehicles	
New Entrants	PI-SQUARE, MAGNA, STELLANTIS	

Pie chart:
- 60.0%
- 20.0%
- 6.7%
- 6.7%
- 6.7%
- 6.7%

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

An analysis of the Telecom & Networking# Vertical

GCC Units## Distribution in India (Top 6 Cities) – As of December 2022

City	No. of GCC units (% of total)
Bengaluru	39%-41%
NCR	15%-17%
Mumbai	9%-11%
Chennai	9%-11%
Hyderabad	9%-11%
Pune	9%-11%

■ No.of GCC units (% of total)

#The industries covered under Telecom & Networking are Networking, Networking Equipment Manufacturers, Telecom Carriers, Telecom Equipment Manufacturers, etc.

New Entrants*

BCD International   **cradlepoint**

Center Expansion**

Viasat

Top Companies***

ERICSSON   NOKIA   CISCO

BT   verizon✓   HUAWEI

JUNIPER NETWORKS   Sprint Now part of T·Mobile   orange

*** Based on GCC headcount in India

Key Insights

- Bengaluru and NCR are the two major hubs for Telecom & Networking GCCs, and they account for ~56% of the total GCC units

- Approximately 22% of Telecom & Networking GCCs have their centres in 3 or more cities

- ER&D, IT, and BPM functions have approximately 56%, 30%, and 14% of the total installed talent in Telecom & Networking respectively

- Bengaluru and NCR house ~71% of the total installed talent for Telecom & Networking GCCs

- Approximately 74% of the total Telecom & Networking GCCs in India are US-headquartered
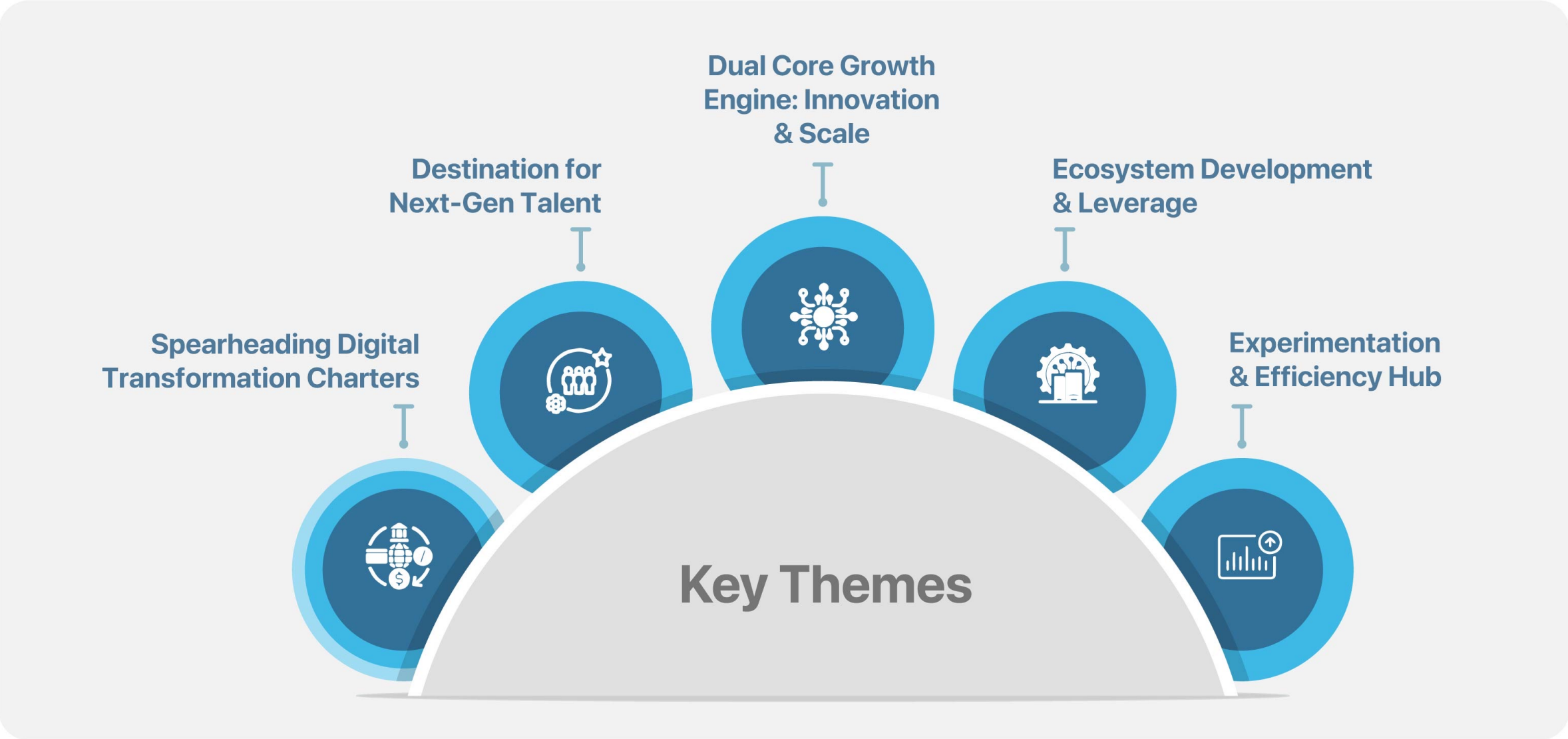
GCC unit refers to the individual GCC location/office

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

* New Entrants refers to companies set up in or after 2021; the logos are illustrative and non-exhaustive

** Center Expansion refers to companies that expanded their centers in India in or after 2022; the logos are illustrative and non-exhaustive

Key Themes that are growing India's leadership in the GCC Ecosystem

Dual Core Growth Engine: Innovation & Scale

Destination for Next-Gen Talent

Ecosystem Development & Leverage

Spearheading Digital Transformation Charters

Experimentation & Efficiency Hub

Key Themes

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

BT Group India has a strong employee development and engagement program that helps employees to solve some of the world's biggest technological challenges

BT Group

Objective

Vision: To make BT Group a brilliant place to work by enabling people to be part of inclusive, diverse, and multi-skilled teams that work together. To provide an environment where colleagues can thrive and play a part in shaping a brighter tomorrow by helping the customers connect for good. To solve some of the world's biggest technological challenges
Locations of the India centers: Gurugram, Kolkata, Bengaluru
Global Year of Inception: 1980
Year of Inception in India: 1987

Initiatives

Employee Wellbeing	Diversity, Equity & Inclusion	Talent Development
BT's wellbeing strategy The well being strategy is underpinned by 4 pillars – physical, mental, financial and social wellness **Wellness Initiatives** Mental health training, Awareness sessions on diseases/health conditions such as menopause, Stress management sessions, Yoga, Zumba, laughter therapy sessions in the workplace and On-site health camps **COVID Initiatives** Home care treatment, doctor tele-consultation, oxygen concentrator support, vaccination cost contribution, salary advance, etc. **Other Initiatives** • Hybrid smart working model for all colleagues • Flexible Insurance Benefit • Peer 2 Peer Support Network • Employee Assistance Programme	**Reignite 3.0** BT's flagship programme empowers women on a career break to rekindle their professional aspirations **Development Initiatives aimed at strengthening representation at the leadership level** Created a mentoring programme for HiPo women at mid management, Ascend, Accelerate and Women leaders forum **Accessibility, Enabling people with disabilities** Conducted leadership sensitization sessions, partnered with key vendors to support hiring of people with disabilities and implementing infrastructural changes like tactile floorings, Braille signage and special washrooms accessible for differently-abled colleagues **D&I Trainings & Microlearning** 'Let's Talk about Race' training for all people managers in GBS and India **Women Wellbeing** Roll out of Maternity benefits, maternity buddies, lactation rooms, crèche facilities, free office transportation for women and special cabs for women on maternity	**Succession Planning** Focused leadership development through Executive Coaching, Mentor/Progression Sponsor and Management Development Programs from B-Schools aimed at helping leaders grow, expand their mindset, and prepare themselves to solve the most pressing business issues **First Time Managers** Line manager and SME onboarding programme 212 degree **Mid-management** Line manager capability building through Developing Leader and MILE programmes. Annual talent and succession reviews along with quarterly talent check-ins undertaken **Promoting a learning culture** Have taken a blended learning approach with leaders as teachers, begun virtual and in-person masterclasses and GBS Careers Fair **Adoption of digital learning** Created a LinkedIn Learning library of 16,000 courses, 4,80,000 videos in 7 languages, to bridge the skills gap
Impact • **2180** Individuals attended sessions on physical, mental, and financial wellness in the last 6 months • **92%** - Engagement outcome score in the Your Say survey • **9.4** NPS Score and brilliant feedback on wellness sessions • **86%** Wellbeing score in the 'Annual colleague' category in the Your Say survey	**Impact** • **236+** Women were employed within & outside BT with the likes of Accenture, E&Y, Bidgely • **4** women were promoted from Sr. Manager to Director in India • **1493** Managers attended 'Race' inclusion Trainings • **40%** Women internal moves in GBS	**Impact** • **73%** - LinkedIn Learning Activations • **98%** - Talent retention through the MILE programme • **1150** - Individuals participated in the GBS Careers Fair • **90%** - LNPS for GBS across training programmes

Verizon India is committed to create an inclusive experience by implementing focused, segmented DEI approaches and programmes. These are meant to provide critical levers for growth, collaboration and inspiration

Case Study: Destination for Next-Gen Talent

Overview

Verizon

With the largest workforce outside the US, Verizon India has evolved from an operational center to a vital innovation hub.

Verizon's India center is working on developing and delivering top AI, ML, Extended Reality (XR) and Chatbots as part of some of the next-generation technology solutions.

Global Year of Inception:
2000

Year of Inception in India:
2001

Locations of the India center:
Chennai, Bengaluru, Hyderabad

Objective

To inculcate diversity principles, policies, and practices among employees and activate the company's commitment as an equal opportunity employer

Initiatives

Inculcating D&I

Verizon India mandates 'inclusion' training for all employees, which ensures a respectable workplace where everyone feels involved, valued and belonged even in the hybrid model. The trainings are:

- Unconscious Bias: A mandatory 2.5 hours training module for all employees, that is closely monitored and reviewed for completion by the leadership team.

- New Joiners Induction program: This program covers the reporting policies of discriminations and harassment in the workplace to the new joiners

Women Empowerment

Tech Makers Program

- Verizon India's DEI team charters the Tech Makers Program to empower women in technology

- This program provides opportunities to be a part of industry forums and platforms like NASSCOM, eWIT, Glasgow Haskell Compiler's interactive environment (GHCI), Geek Goddess that encourage women members to code

- This program helps women to gain visibility and emerge as thought leaders and role models in technology

Returnship Program

Wings – Back to Work

- The program helps women restart their careers after a break

- It is designed for qualified women who have had a career break of between six months to five years

- The participants of the program can apply to any of the open positions in the company

- Women in the program had a three month 'warming period' to help adjust to the new workplace environment

Impact/Outcomes achieved by India center

- Verizon India has 30% gender diversity

- Approximately 50 PWDs are currently working in the India center

- The center has become one of the top 50 companies for women, in the large companies' category of "Great Place to Work"

- The center has been named one of the top 100 companies for working mothers

PWD: Persons with disabilities   DEI: Diversity, Equity & Inclusion

CISCO focuses on a host of internal and external innovation practices to enable efficiency, scale and innovation in the organization

Overview

CISCO

With more than 71,000 employees worldwide, CISCO is one of the global leaders in the development of routing and switching, as well as in advanced technologies such as home networking, IP telephony, optical networking, security, storage area networking, and wireless technology. Cisco also provides a broad range of service offerings including technical support and advanced services.

Global Year of Inception:
1984

Year of Inception in India:
1999

Locations of the India center:
Bengaluru, Chennai, Pune, Hyderabad, NCR

Objective

To get a broad understanding of the potential partnerships and talent in order to enable efficiency, scale and innovation, a comprehensive ecosystem scan of start-ups, universities, and organizations etc. was conducted.

Initiatives

Leverage Start-up Ecosystem

Cisco introduced "LaunchPad," a B2B Corporate Accelerator Program, in 2016 with the objective of helping the startup community to scale greater heights.

Over the years, the program has accelerated 54 cutting-edge start-ups, seven successful cohorts, 35 startup Proof of Concept (POC)/tech integration, USD 206 Mn overall funding, 90 percent follow-on funding, three exits, eight solution partners and created 1700+ jobs in the last five years.

The core focus areas of Cisco LaunchPad are enterprise tech, IoT, digitalization, and futuristic tech, with an emphasis on 12 industry verticals – healthcare, retail, agriculture, manufacturing and warehousing, surveillance and asset tracking, transportation, security, collaboration, emerging tech, edtech, enterprise tech, and energy and utilities.

Ecosystem Partnership

Cisco partnered with **Inflow Technologies** to establish a Center of Excellence (CoE) to accelerate the adoption of emerging technologies. The objective of the CoE is to provide model-specific, real-time scenarios based on advanced cross-architecture solutions.

Cisco in partnership with NASSCOM Foundation launched **Cisco thingQbator** (combination of 'Internet of Things' and 'Incubator'), a virtual makerspace and program to help universities and academic institutions accelerate innovation around IoT and digital technologies in their campus. The program was created with the goal of creating new startups

Government Collaboration

Cisco partnered with **Ministry of Housing & Urban Affairs** to establish an **Urban Observatory** that leverages data analytics to optimize city operations, improve governance, and enhance the economic performance of cities

Cisco has also partnered with the **Gurugram Metropolitan Development Authority** to support the city's futuristic Integrated Command and Control Center (ICCC) designed to enhance citizen safety, optimize public infrastructure, and manage traffic

Cisco signed an MOU with the **Kerala State IT Mission** to bring the benefits of technology to farmers in simple yet effective ways

Impact/Outcomes achieved by India center

- Till 2021, Cisco Launchpad had accelerated
  - 54 cutting-edge startups
  - 35 startups had reached the POC stage/tech integration,
  - USD 206 million in overall funding

- Cisco thingQbator has generated more than 2500 ideas, 700 projects and more than 250 prototypes along with 32 startups till date

- Kerala State IT Mission and Cisco have developed a network over 260 acres of paddy and shrimp firms

MOU: Memorandum of Understanding

Ericsson has setup their third Global AI Accelerator (GAIA) in Bengaluru, apart from US and Sweden to accelerate and solve next generation telecom challenges

Overview

Ericsson

Telefonaktiebolaget LM Ericsson, commonly known as Ericsson, is a Swedish multinational networking and telecommunications company headquartered in Stockholm. It operates in more than 180 countries across the globe and has a comprehensive portfolio that ranges across Networks, Cloud Software Services, and emerging business; powered by 5G and IoT platforms.

Global Year of Inception:
1876

Year of Inception in India:
2005

Locations of the India center:
Bengaluru, Chennai, Gurugram, Kolkata, Pune, Mumbai

Objective

Leverage cutting-edge AI and automation technologies to create data-driven, intelligent, and robust systems for automation, evolution, and growth in the 5G era

Initiatives

AI Capabilities

Ericsson established a Global Artificial Intelligence Accelerator (GAIA) India CoE to leverage cutting-edge AI and Automation technologies to create data driven, intelligent, and robust systems for automation, evolution, and growth

- The COE is addressing challenging problems in the Telecom domain using AI, including visual intelligence of drone images to predict issues with root causes, derived from terabytes of data for large telecommunication operators in the world

- The COE focuses on building assets on Explainable AI, Distributed AI, and Trusted AI aspects

- The COE is also developing production-grade AI models along with AIOps involving ML, Deep Learning, Federated Learning, Reinforcement Learning and Machine Reasoning, etc.

Acquihire

Ericsson has acquired the workforce of Niche AI, a Bengaluru-based AI startup, for GAIA to develop open-source solutions to modernize telecom networks, using AI/ML

5G Collaboration

Capgemini has collaborated with Ericsson to deploy the 5G (standalone) Industry Connect solution at its 5G Lab in Mumbai. It enables industry innovation, experimentation and deployment of 5G and Edge Technologies for clients across industries

Ericsson established a COE and Innovation Lab for 5G at Indian Institute of Technology (IIT) Delhi to develop new 5G-based apps and business models for better agricultural yields, better healthcare, smarter cities, etc.

Impact/Outcomes achieved by India center

- India centers developed Ericsson SmartForest, a modular solution with hardware and software that uses AI, edge processing and cloud technology to monitor and detect fires, enabling faster response times and action before severity and cost escalation

- Ericsson is providing 5G connectivity in 12 geographical regions in India for Bharti Airtel

- Ericsson is developing India's first 5G Standalone network

- Ericsson India filed 1698 patents in 2020 through WIPO's Patent Cooperation Treaty (PCT) system

WIPO: World Intellectual Property Organization

Nokia's global delivery center in Chennai is one of the largest telecom manufacturing units in India that caters to both the domestic and international markets, and ships to over 100 countries

Case Study: Spearheading Digital Transformation Charters

Overview

Nokia

Nokia is a Finnish multinational communications corporation engaged in the manufacturing of network infrastructure, location-based technologies, and advanced technologies for businesses worldwide

In India, Nokia witnessed several remarkable milestones, including launching 2G/GSM technology in early 2000, bringing 3G services in 2011, pioneering 4G/LTE technology in 2012, and introducing 5G to India in 2022

Global Year of Inception:
1865

Year of Inception in India:
1994

Locations of the India center:
Bengaluru, Chennai, Jaipur, Noida, Mumbai

Objective

To make India and the world ready for 5G, contribute to the Indian economy and the country's growing profile as a manufacturing and engineering hub

Initiatives

Nokia's Conscious Factory

Nokia's "Conscious Factory" in Chennai works closely with the parent factory in Oulu (Finland), which has been recognized by WEF as the Fourth Industrial Revolution Lighthouse, and engages in the following:

• Manufacturing 5G boards including massive MIMO for base stations, and GPON for fixed optical networks

• Creation of a Digital Twin, on the back of connectivity, for all major assets on a shop floor. This has enabled the automation of the production flow and remote operation and maintenance

• Deployed a private wireless network to achieve greater agility that has helped reduce cost and boost productivity

Digital Use Cases deployed in Chennai (India) :

Access Control
• Reception Area
• Restricted Zone

Training and Skilling
• Augmented Reality (AR)
• Virtual Reality (VR)

Remote operations and Monitoring
• Solder paste printing and inspection
• Automated monitoring and production of massive MIMO boards

Asset tracking and inventory control
• Asset Tracking
• Inventory control

Connected Mobility
• Autonomous Guided Vehicles (AGVs)
• Autonomous Intelligent Vehicles (AIVs)

Impact/Outcomes achieved by India center

• 700+ patents filed

• Production capacity of 12.8 billion components every year

  31% labour time reduction through robotic automation

• 31,000-human hours saved through software robotic process automation (RPA)

• Manages networks in 26 countries and provides network lifecycle support in over 100 countries

GSM: Global System for Mobile communication
GPON: Gigabit Passive Optical Network
LTE: Long Term Evolution
MIMO: Multiple-Input and Multiple-Output
WEF: World Economic Forum

Telstra has paved its journey in India to be considered as one of the major innovation hubs to solve challenges in AI, IoT, 5G etc. for the global organization

Case Study: Dual Core Growth Engine: Innovation & Scale

Overview

Telstra

Telstra Group Limited is an Australian telecommunications company that builds and operates telecommunications networks and markets voice, mobile, internet access, pay television and other products and services

Global Year of Inception:
1993

Year of Inception in India:
2005

Locations of the India center:
Bengaluru, Chennai, Hyderabad, Mumbai, Pune

Objective

To be an epicenter of talent and innovation that drives Telstra's digitally connected future. To empower an innovative ecosystem by co-creating with partners, to bring cutting-edge technology and solutions to businesses and customers

Milestones

2019	2021	2021
Established an Innovation & Capability Center (ICC) in Bengaluru	Launched two Innovation & Capability Centers in Pune and Hyderabad	Established a Network and Product Engineering Lab in Bengaluru

Initiatives

Innovation & Scale

- In 2019, Telstra opened an Innovation and Capability Center in Bengaluru to address the IT skill shortage of around 60,000 skilled workers in the IT sector in Australia over the next five years

- In 2021, Telstra expanded its Innovation and Capability Centers in Hyderabad and Pune to provide technologists an opportunity to use technology, automation, and innovation to solve some of the world's critical challenges in areas of Internet of Things (IoT), 5G, AI, ML, among others

- The Hyderabad center would act as a hub of specialized high-performance software engineering (HPSE). It would encompass a deep technology consumer software engineering team that would directly innovate for the customers of Telstra

- The Pune center would have a blend of operations and technology teams. These teams would focus on enhancing Telstra's existing domain expertise in the telecom business and develop application software engineering, to enable business process change

- The Network and Product Engineering Lab opened in 2021 in Bengaluru aimed at accelerating innovation in next-gen mobile technology testing

Impact/Outcomes achieved by India center

- Development of an end-to-end 4G and 5G environment to test 4G/5G mobile handsets and IoT devices of various original equipment manufacturers (OEMs)

- Development of testing devices for 5G networks in a virtual environment

- Development of software for smart devices

- Development of application software engineering to enable business process change

- Telstra has filed 2 patents from India

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

New GCCs set up in India in Q4 2022 – Focus Areas(1/2)

S. No.	Company	City	Total Headcount	Vertical	Focus Areas
1	i-Merit	Bengaluru	55+	Software & Internet	• Focuses on developing end-to-end ML DataOps solutions across autonomous mobility, medical AI, and technology • Heavily investing in leading-edge research and development across ML DataOps including ML and computer vision-based automation, synthetic data and data augmentation
2	d-Matrix	Bengaluru	Less than 50	Software & Internet	• Focuses on developing a fully digital in-memory computing accelerator for AI inference that is highly efficient and optimized for the computational patterns in Transformers-AI • Recently raised Series A funding of USD 44 Mn from premium investors: Microsoft M12, Playground Global, SK Hynix, and Marvell
3	ParentPay	Pune	Less than 50	Software & Internet	• Aims to leverage the strong IT talent ecosystem of Pune for software development • Focuses on promoting the ongoing learning partnership with Thoughtworks to implement leading-edge agile methodologies like Pair Programming, Trunk-based development and other global best practices in software product development
4	Forescout	Pune	50+	Software & Internet	• Provides critical support to organizations across the region with 24x7 first line response available for customers • Local specialist team provides regional service to Asia Pacific and Japan (APJ) based organizations • Engaged with several global system integrator partners in India such as TCS, Infosys, HCL, Wipro and L&T to consolidate global support and customer engagement
5	SUSE	Bengaluru	Less than 50	Software & Internet	• Aims to serve as a COE with a combination of sales, product and development teams • Focuses on engineering functions specifically on the Linux portfolio. Plans to build a support center in future • Plans to house approximately 20% of the total workforce in the COE
6	Booking Holdings	Bengaluru	Less than 50	Travel & Hospitality	• COE focuses on Fintech, Financial services, Cybersecurity, and Trust & Safety services • Focuses on Fintech, IT, infrastructure engineering and architecture, software, and financial systems development

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

S. No.	Company	City	Total Headcount	Vertical	Focus Areas
7	Digi-Key Electronics	Bengaluru	Less than 50	Electrical & Electronics	• Focuses on technology and innovation for Digi-Key's global operations • Aims to support the HQ in keeping pace with its suppliers' and customers' demands for services and innovation
8	Kramer Electronics	Noida	Less than 50	Electrical & Electronics	• Aims to be the extension to its global R&D organizations in Israel and Canada • Focuses on the development of applications and software solutions in the UCC* space as well as other software centric products • Plans to leverage the strong ecosystem of NCR in software development
9	MemryX Inc.	Bengaluru	Less than 50	Semiconductor	• Focuses on developing differentiated core architectures built from the ground-up to deliver customer-friendly features and scalable processing solutions for Edge AI • Plans to leverage the strong AI ecosystem of Bengaluru and its extensive experience in semiconductor capabilities
10	GEODIS	Bengaluru	70+	Transportation, Construction and Heavy Engineering	• Focuses on end-to-end visibility, performance monitoring, and continuous improvement to supply chain processes on a 365/7/24 multilingual basis • Aims to leverage the talented ecosystem of supply chain specialists in Bengaluru and complement the existing centers in Mexico, USA, France, Serbia, and China
11	Yara International	Bengaluru	200+	Chemicals and Materials	• The COE will make digital products and services, housing teams from Digital Production, Digital Solutions, and Global IT

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

Expansion of Centers* of established GCCs in India in Q4 2022 – Focus Areas (1/2)

S. No.	Company	City	Vertical	Focus Areas
1	Marlabs	Pune	Software & Internet	• Plans to train, upskill, and reskill employees in the technologies needed to help smart manufacturing and digital supply chain businesses accelerate and innovate • Aims to leverage the strong ecosystem of Pune for software development • Partnered with a leading Cloud-first ERP provider, Infor, to deliver Cloud-first Innovation to clients
2	IBM	Bhubaneswar	Software & Internet	• Focuses on strengthening the Hybrid Cloud and AI Consulting capabilities delivered to global clients from India • Aims to leverage the diverse and rich talent available in emerging cities as well as fast-track digital transformation and economic growth of the region
3	New Relic	Hyderabad	Software & Internet	• Aims to be a product and engineering hub and strengthen the teams' capabilities across new verticals • Focuses on advancing new products across the New Relic observability platform, with a focus on core Application Performance Monitoring (APM), security capabilities, partner integrations, and the customer experience • Plans to grow the team by 150% in the next 6 months
4	Precisely	Noida	Software & Internet	• Acts as a COE for research and development (R&D), engineering, and customer support functionsi
5	Conga	Chennai	Software & Internet	• Leverage talent to accelerate the company's growth and serve its global customer base • Plans to grow the technology headcount in areas such as AI, ML, Data Science, etc. from the current 30 to a 100-member team by 2024
6	Rackspace	Hyderabad	Software & Internet	• Serves as a professional services resource center by offering solutions based on actual customer input, market intelligence, and real-world experience • Focuses on deepening customer engagement with an in-depth, cloud-first expertise as a trusted technology advisor
7	o9 Solutions	Coimbatore	Software & Internet	• Acts as a hub for R&D, product management, and delivery for global and India customers • Plans to hire 100 employees
8	Amadeus	Pune	Software & Internet	• The new R&D lab will focus on strengthening its technology solutions for the hospitality industry • The Center will play a pivotal role in deepening Amadeus' presence in the Indian market and anchoring activities for Amadeus Labs in India and worldwide • Aims to expand its engineering capabilities and leverage the diverse and skilled local talent pool of Pune

* Please note that the center expansion information is non-exhaustive and is based on the details that were publicly announced during the relevant quarter
Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

S. No.	Company	City	Vertical	Focus Areas
9	GeBBS Healthcare Solutions	Hyderabad	Software & Internet	• Focuses on scaling GeBBS' operational capabilities • Aids in organization growth strategy and provides a positive service experience to its clients
10	Magna	Bengaluru	Automotive	• Focuses on vehicle electrification and software defined vehicles, and serves as the key base for the company in powertrain electrification, electronics and software • Plans to work on software and system development, simulation, testing and vehicle integration, digital, data, and cloud solutions for electric vehicle programs • Invested US 20 Mn to set up the new engineering center
11	Stellantis	Bengaluru	Automotive	• The new center will focus on the development of software and technology and serve as the primary development center for SmartCockpit – one of the three technology platforms that are key to the company's digital transformation strategy • Aims to be a next-generation acoustic lab, to develop specific audio signatures and premium audio experiences for Stellantis vehicle owners worldwide • Plans to hire a 500 member workforce and develop AI and ADAS technologies
12	Pi Square Technologies	Bengaluru	Automotive	• Focuses on innovative product development and embedded engineering services for large global automotive companies and original equipment manufacturing (OEM) giants • Aims to leverage emerging automotive technologies like in-vehicle infotainment, connected vehicles, Advanced Driver-Assistance System (ADAS) to facilitate autonomous driving, battery management systems, the software-over-the-air (SOTA) update, cybersecurity, and functional safety • Plans to hire 1000 engineers by 2024
13	DP World	Gurugram	Transportation, Construction and Heavy Engineering	• Houses development teams for trade and logistics software solutions with the aim to revolutionize the global supply chain • Plans to hire 240 employees in the Gurugram center
14	Roche	Hyderabad	Healthcare	• Develops Data Science and Advanced Analytics related capabilities, and expands the existing offerings to include forecasting, data management and DevOps • Supports projects across the entire product lifecycle — from pre-clinical to launch, to growth, maturity and decline phases
15	Renishaw	Bengaluru	Medical Devices	• The Center will provide customers with access to demonstrations of Renishaw's solutions for metrology and material analysis • Houses technical, operations and sales, and marketing teams

* Please note that the center expansion information is non exhaustive and is based on the details that were publicly announced during the relevant quarter
Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

Related NASSCOM and Zinnov Reports

S. No.	PUBLICATIONS	TITLE	DATE	LINK
1	NASSCOM/Zinnov	NASSCOM Tech Start-Up Report 2022 - Rising Above Uncertainty: The 2022 Saga Of Indian Tech Start-Ups	February-23	https://nasscom.in/knowledge-center/publications/nasscom-tech-start-report-2022-rising-above-uncertainty-2022-saga
2	NASSCOM	Metaverse – Prepare To Win	January-23	https://nasscom.in/knowledge-center/publications/metaverse-prepare-win
3	Zinnov	Top 10 Technology Trends 2023	January-23	https://zinnov.com/digital-technologies/technology-trends-2023-report/
4	NASSCOM	Modern Project Management In Indian Tech Industry	December-22	https://nasscom.in/knowledge-center/publications/modern-project-management-indian-tech-industry-driving-impact-hybrid
5	Zinnov	Metaverse in the Public Sector – a Focused Analysis	December-22	https://zinnov.com/digital-technologies/metaverse-in-the-public-sector-a-focused-analysis-report/
6	NASSCOM/Zinnov	India GCC Trends Quarterly Analysis Q3CY22	November-22	https://nasscom.in/knowledge-center/publications/india-gcc-trends-quarterly-analysis-q3cy2022
7	NASSCOM/Zinnov	India GCC Trends Quarterly Analysis Q2CY22	August-22	https://nasscom.in/knowledge-center/publications/india-gcc-trends-quarterly-analysis-q2cy2022
8	NASSCOM/Zinnov	India's DeepTech Start-Ups – Poised For Impact	August-22	https://nasscom.in/knowledge-center/publications/india-deeptech-start-ups-poised-impact
9	NASSCOM/Zinnov	India GCC Trends Quarterly Analysis Q1CY22	May-22	https://nasscom.in/knowledge-center/publications/india-gcc-trends-quarterly-analysis-q1cy22
10	NASSCOM/Zinnov	GCC India Landscape – 2021 & Beyond!	September 2021	https://nasscom.in/knowledge-center/publications/gcc-india-landscape-2021-beyond

Source: Zinnov Research & Analysis, News, Articles, Company Website, etc.

Methodology

This report has been co-developed by NASSCOM and Zinnov through a comprehensive study to understand the GCC Landscape in India.

The report analyzes the following:

- New GCCs that entered India in the fourth quarter of 2022, i.e., October–December 2022
- An overview of industry verticals along with several best-in-class case studies (for this quarter, Telecom & Networking was analyzed)
- Key trends shaping the GCC landscape in India in the fourth quarter of 2022 i.e., October–December 2022
- GCC Intensity Index for Q4 i.e., October–December 2022 is intended to measure the performance of the new GCCs as well as existing GCC expansions setting up their offices in India, based on parameters such as no. of new GCCs, expansion of existing GCCs, industry verticals, functions, tiers, locations, HQ location, work profile, etc.

STEPS TO CALCULATE THE GCC INTENSITY INDEX

Step 1: Parameters to be used for GCC Intensity Index were shortlisted by NASSCOM and the Zinnov team

Step 2: Analytical Hierarchy Process (AHP) was used to do a relative assessment of each individual parameter

Step 3: Weightages were assigned to each individual parameter based on AHP assessment

Step 4: Individual scores were rated for each of the parameters based on the data for the given quarter

Step 5: Final number, or GCC Intensity Index, was calculated with the help of the assigned weightages and the scores for the given quarter

Step 6: Rating Index, which is divided into 5 major categories – Very High, High, Medium, Low, and Very Low, was used to arrive at the final outcome

Glossary

DEFINITIONS

PARAMETERS	NO. OF GCCs
No. of new GCCs	Indicates the total number of new GCCs set up in India by global companies
No. of new Centers	Indicates the total number of new centers expanded by the existing GCCs in India
Planned work profile	This includes the major work such as Shared Services Center/Tech COE/ Process COE/Global Business Services (GBS), etc.
Variety in Functions (ER&D, IT, BPM)	This includes the 3 major functions – Engineering Research & Development (ER&D), Information Technology (IT), Business Process Management (BPM)
Variety in Companies (Industry Vertical)	This includes different verticals such as BFSI, Software & Internet, Semiconductors, Transportation, Energy and Utilities, Media & Entertainment, Pharmaceuticals, Consumer Electronics, Retail, Medical Devices, FMCG, Aerospace & Defence, Chemicals and Materials, Healthcare, Automotive, Telecom & Networking, Professional Services, Computer peripherals, Storage, Biotechnology, Travel & Hospitality, and Mining and Metals, etc
Variety in HQ Location (Regional)	This includes the different regions such as Americas, APAC, EMEA
Variety in Tiers (India)	This includes the different tiers of locations in India such as Tier-I, Tier-II, and Tier-III Tier-I cities include: NCR, Mumbai, Pune, Bengaluru, Chennai, Hyderabad. Tier-II and Tier-III cities include: Kolkata, Ahmedabad, Vadodara, Thiruvananthapuram, Chandigarh, Jaipur, Coimbatore, Kochi, Nagpur, Mysuru, Mangalore, Madurai, Kanpur, Indore, Visakhapatnam, Goa, etc.
Variety in India Locations	This includes the different cities in India such as New Delhi, Gurugram, Noida, Mumbai, Pune, Bengaluru, Chennai, Hyderabad, Kolkata, Ahmedabad, Vadodara, Thiruvananthapuram, Chandigarh, Jaipur, Coimbatore, Kochi, Nagpur, Mysuru, Mangalore, Madurai, Kanpur, Indore, Visakhapatnam, Goa, etc.

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NASSCOM®

NASSCOM is the industry association for the technology sector in India. A not-for-profit organization funded by the industry, its objective is to build a growth-led and sustainable technology and business services sector in the country with over 3,000 members. NASSCOM Insights is the in-house research and analytics arm of NASSCOM generating insights and driving thought leadership for today's business leaders and entrepreneurs to strengthen India's position as a hub for digital technologies and innovation.

NASSCOM is focused on the development of the technology sector through policy advocacy, and setting up the strategic direction to dominate new frontiers.

For more information, visit www.nasscom.in

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Founded in 2002, Zinnov is a leading global management consulting and strategy advisory firm, with a presence in 9 global locations including Santa Clara, Houston, New York, Seattle, Paris, Gurgaon, Bangalore, and Pune. In the last 20 years, Zinnov has worked closely with Global Enterprises and Fortune 2000 companies across their value creation journeys and helped them develop actionable insights – across revenue, talent, innovation, scale, and optimization. With core expertise in Product Engineering, Digital Transformation, Innovation, and Outsourcing Advisory, Zinnov enables companies to develop and optimize a global engineering footprint through center setups, and technology and functional Centers of Excellence (COEs), portfolio optimization, partnerships, and real-time data and insights – through its unique GCoE Accelerator Platform (GAP) offering. This multi-lever approach helps Zinnov's customers be a part of an immersive and highly networked model, enabling them to achieve higher R&D efficiencies, innovation, and productivity. The company's expertise also extends to advising global PE firms in asset shortlisting and target evaluation, due diligence, and value creation, especially for their portfolio companies through a globalization lens.

With its team of experienced consultants, subject matter experts, and research professionals, Zinnov works with global industry bodies to identify business and technology trends, and also serves clients from across multiple industry verticals including Enterprise Software, BFSI, Healthcare, Automotive, Retail, and Telecom in the US, Europe, Japan, and India across their digital transformation and innovation journeys.

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