



Kammavari Sangham (R) 1952, K.S.Group of Institutions  
**K. S. INSTITUTE OF TECHNOLOGY**  
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## DEPARTMENT OF COMPUTER SCIENCE AND DESIGN A

### REPORT ON “INDUSTRY VISIT – 2025-2026



#### A Collaborative Effort between C-DAC and KSIT

<b>Semester</b>	5 <sup>th</sup> Semester
<b>Event Type / Name</b>	Industrial Visit
<b>Date/Duration</b>	24/09/2025 / 5 hours
<b>Associated Professional Bodies</b>	 प्रगत संगणन विकास केंद्र CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING
<b>No. of Students</b>	33
<b>Venue</b>	C-DAC, BANGALORE
<b>Online link/Offline</b>	Offline

### Introduction

#### Brief Overview of the Visit

The industrial visit to C-DAC, organized by KS Institute of Technology (KSIT) for its 5th semester Computer Science and Design students, was an extraordinary opportunity that provided invaluable insights into the workings of a Gen-AI, AGI, and quantum computing. The centre is highly acclaimed as a centre for excellence in the of HPC, Grid Computing, Hardware Security, Cyber Security, IoT, DNSSec, Strategic Electronics, FOSS and Software Technologies, Language and Heritage Computing, Knowledge & Resource Centre for Accessibility, ICT for Social welfare, Consultancy and Training.

## **Objective of the Visit**

- Learn about supercomputing, AI, IoT, Cyber security, Cloud Computing, and Embedded Systems.
- Observe how research and development are carried out in high-tech environments.
- Inspire students to pursue careers in research, innovation, and technology development.

## **About C-DAC**

C-DAC Bengaluru is enriched with indigenous solutions in cloud security, next generation SCADA systems, Industrial control systems, critical infrastructure Security, power optimization for HPC, Network firewall systems, Indian Heritage and Language computing, IoT solutions for smart cities, Smart Post Kiosk, Indus IoT Kit, IoT Lab Kit, Indus Copter, Smart Energy Meter, ICT for Social Welfare, 32-bit High performance Microcontroller, chip design, crypto module validation and Quantum Simulator.

## **Pre-Visit Correspondence**

### **Invitation from C-DAC**

On receiving the invitation from C-DAC, KSIT was thrilled to be selected for the industrial visit as part of C-DAC Social Responsibility (CSR) initiative. The invitation highlighted the unique opportunity for students to gain exposure to the research and development industry and job opportunity in government sector. C-DAC emphasized its commitment to helping engineering graduates understand the dynamics of the IT industry and the skills required to excel in their careers.

### **Confirmation from KSIT**

Dr. Deepa S R, Head of the Department of Computer Science and Design at KSIT, confirmed the visit. She expressed gratitude for the opportunity and outlined the number of students and faculty members who would participate in the visit. The confirmation underscored the importance of such interactions in bridging the gap between academia and industry, and the eagerness of the students and faculty to learn from C-DAC experts.

### **Details of the Communication:**

#### **Invitation from C-DAC:**

Sender: R Guru Prasad, [guru@cdac.in](mailto:guru@cdac.in)

### **Key Points:**

- Emphasis on CSR and student exposure to the corporate environment
- Overview of C-DAC –Research & Development, High Performance computing, Quantum Computing

### **Schedule of the visit**

#### **Response from KSIT:**

Sender: Dr. Deepa S R,  
HOD, CSD Department, KSIT

#### **Key Points:**

#### **Confirmation of participation**

**Number of students and faculty members:** 33 Students and 1 Faculty

**Name of the Faculty Coordinator-**Prof Ammu Bhuvana D

### **Key Outcomes and Insights**

The visit was profoundly enriching for the students and faculty alike, with several key outcomes:

- **Understanding of Advanced Computing Technologies**
  - Gained knowledge about cutting-edge technologies like **High-Performance Computing (HPC)**, **Artificial Intelligence (AI)**, **Machine Learning**, **Cloud Computing**, and **Cyber Security**.
  - Observed how these technologies are applied in real-world government and industrial projects.
- **Exposure to Real-Time Research and Development**
  - Learned about C-DAC's major projects such as **PARAM Supercomputers**, **e-Governance initiatives**, and **Health Informatics** systems.
  - Understood how research transitions into scalable and impactful national solutions.
- **Insight into Career Opportunities and Skill Development**
  - Discovered the various **training programs and certification courses** offered by C-DAC that enhance employability in IT and electronics domains.
  - Understood the importance of **continuous learning** in staying relevant to emerging technologies.
- **Industry–Academia Collaboration Awareness**
  - Realized how C-DAC bridges the gap between academic learning and industrial application through internships, workshops, and collaborative research.
  - Gained insight into how institutions like C-DAC contribute to **Digital India** and national technology missions.
- **Motivation for Innovation and Research**
  - Inspired by the research culture, infrastructure, and innovation ecosystem at C-DAC.
  - Encouraged to pursue **innovation-driven projects** and explore **R&D career paths**.
- **Practical Exposure to System Development Process**
  - Understood the **software development lifecycle (SDLC)** in real government-level projects.
  - Observed the workflow from problem identification to solution deployment and maintenance.

- **Enhanced Teamwork and Professional Interaction**

- Developed communication and collaboration skills by interacting with professionals and peers.
- Gained experience in formal industrial visit etiquette and professional behaviour.

Overall, the visit was a remarkable success, bridging the gap between academia and industry, and equipping students with the knowledge and skills needed to thrive in the IT sector.

## **Details of the Visit**

### **Date and Schedule**

The industrial visit to C-DAC was conducted on September 24, 2025. The schedule for the day was meticulously planned to ensure a comprehensive learning experience for the students:

- Reporting Time: 11:00 AM
- Session Time: 11:30 AM to 1:30 PM
- The detailed itinerary included an introduction to C-DAC, sessions on various aspects of the software development life cycle, industry domain insights, and an interactive quiz session.

### **Participants**

A total of 33 students from the 5th semester of the Computer Science and design department participated in the visit. They were accompanied by Ammu Bhuvana D, Assistant Professor, who ensured that the visit was conducted smoothly and that students adhered to the schedule and maintained discipline.

The faculty members played a crucial role in facilitating the visit. They were responsible for coordinating with C-DAC team, guiding the students throughout the visit, and ensuring that the educational objectives were met.

## **Chronology of Events**

### **Welcome and Introduction**

Upon arrival at C-DAC Bangalore office, the students and faculty were warmly welcomed by the C-DAC team. The visit commenced with an introductory session by Mr. Ramesh Naidu L, Associate Director, who provided an overview of C-DAC's history, mission, and areas of expertise, Gen AI, AGI, HPC, and Quantum Computing.

### **Insights into Industry Domains**

C-DAC experts presented insights into different industry domains. The session focused on **Artificial General Intelligence (AGI)**, **Generative AI (GenAI)**, and **Supercomputing**,

highlighting C-DAC's contributions towards building a technologically self-reliant nation. This session helped students identify their areas of interest and understand the skills required for various roles in the IT industry.

## **Key Learnings and Technical Insights**

### **A. Artificial General Intelligence (AGI)**

- AGI refers to highly autonomous systems capable of performing any intellectual task that a human can do.
- C-DAC researchers explained how AGI aims to **integrate reasoning, learning, and perception** into one unified system.
- Discussions included the ethical and computational challenges in achieving true AGI.
- Current work involves developing AI models with **cross-domain adaptability, context understanding, and self-learning capabilities.**

### **B. Generative AI (GenAI)**

- Learned about **Generative AI models** such as GPT, DALL·E, and diffusion-based models that create new content like text, images, and code.
- C-DAC experts discussed how India is developing **indigenous large language models (LLMs)** optimized for **regional languages and low-resource computing environments.**
- Applications showcased included **AI-driven language translation, health diagnostics, and data synthesis for research.**
- Emphasis was placed on **responsible AI practices**, ensuring accuracy, transparency, and fairness in generative models.

### **C. Supercomputers and High-Performance Computing (HPC)**

- The visit included an overview of the **PARAM series**, C-DAC's indigenous supercomputers known for their massive computational power.
- Learned about **PARAM Siddhi-AI**, one of India's fastest AI supercomputers, capable of 5.267 petaflops.
- Understood how supercomputers are used for **weather forecasting, drug discovery, genomics, and AI model training.**
- Observed the infrastructure required for supercomputing, including **parallel processing, cooling systems, and high-speed data storage.**

## 5. Outcomes of the Visit

- Enhanced understanding of **AGI, Generative AI, and supercomputing applications** in national development.
- Realized the **importance of indigenous R&D** for building sustainable technological ecosystems.
- Motivated to pursue **research and higher studies in AI and computational sciences**.
- Learned how collaboration between **academia, government, and industry**

### Relevance to NAAC Accreditation

An industrial visit to **C-DAC** has significant relevance to NAAC (National Assessment and Accreditation Council) accreditation, particularly in areas related to fostering experiential learning and industry engagement.

### Practical Exposure and Interactive Learning

The interactive MCQ session provided practical exposure to the kinds of challenges faced in the industry. The quiz not only tested their knowledge but also motivated students to excel. The awarding of internships and discounts based on quiz performance was a significant incentive, encouraging a competitive spirit and a desire for continuous learning.

### Professional Networking Opportunities

The visit to the **Centre for Development of Advanced Computing (C-DAC)** opened up several professional networking opportunities for students and aspiring technologists. Being a national-level R&D organization under the **Ministry of Electronics and Information Technology (MeitY)**, C-DAC serves as a hub that connects students, researchers, academicians, and industry professionals in the field of advanced computing and information technology.

#### 1. Interaction with Industry Experts

Students had the opportunity to interact with experienced scientists, engineers, and researchers working on real-world projects in **AI, Machine Learning, Cybersecurity, IoT, and Supercomputing**. These interactions helped in understanding the **current industry trends**, required **technical skill sets**, and the **career paths** available in advanced computing.

#### 2. Opportunities for Internships and Training

C-DAC offers various **internship programs, project-based learning, and certified training courses** such as the **Post Graduate Diploma in Advanced Computing (PG-DAC)**. These programs enable students to gain hands-on experience and connect with mentors who are experts in specialized domains.

### 3. Collaboration and Research Exposure

The organization promotes **collaborative research** with universities, government agencies, and technology firms. This provides students and faculty members an opportunity to **participate in national-level R&D projects**, publish research papers, and co-develop solutions for real-world problems.

### 4. Networking through Seminars and Conferences

C-DAC regularly conducts **workshops, seminars, hackathons, and conferences** on topics like **Artificial Intelligence, Quantum Computing, Cyber security, and High-Performance Computing**. These events offer excellent platforms to **network with industry leaders, innovators, and academicians**.

## Conclusion

The visit to C-DAC not only enhanced technical knowledge but also expanded our professional network by providing access to experts, mentors, and collaborative opportunities. Engaging with C-DAC's ecosystem encourages students to **pursue innovation, research, and professional growth** in the field of advanced computing and emerging technologies.

### Glimpse of the Event





EO#	EVENT OUTCOMES
EO1	Gained a clear understanding of <b>Artificial General Intelligence (AGI)</b> and its potential future impact.
EO2	Acquired knowledge about <b>C-DAC's PARAM series of supercomputers</b> and their role in national research.
EO3	Understood how <b>High-Performance Computing (HPC)</b> supports AI, climate modeling, and healthcare innovations.
EO4	Explored <b>career and internship opportunities</b> offered by C-DAC in advanced computing domains.

<p><b>PO1:</b> Science and engineering Knowledge</p> <p><b>PO2:</b> Problem Analysis</p> <p><b>PO3:</b> Design &amp; Development</p> <p><b>PO4:</b> Investigations of Complex Problems</p> <p><b>PO5:</b> Modern Tool Usage</p> <p><b>PO6:</b> Engineer &amp; Society</p> <p><b>PSO1:</b> Ability to understand, analyze problems, and implement solutions in Programming languages, as well to apply concepts in core areas of Computer science in association with professional bodies and clubs.</p>	<p><b>PO7:</b> Environment and Sustainability</p> <p><b>PO8:</b> Ethics</p> <p><b>PO9:</b> Individual &amp; Team Work</p> <p><b>PO10:</b> Communication</p> <p><b>PO11:</b> Project Management &amp; Finance</p> <p><b>PSO2:</b> Ability to use Computation Skills and apply software knowledge to develop effective solutions and data to address real world challenges.</p>
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### EO-PO Mapping

EO #	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
EO1	3	2	2	2	2	2		2	2	2	2	-	2	
EO2	3	2	2	2	2	2		2	2	2	2	-	2	
EO3	3	2	2	2	2	2	-	2	2	2	2	-	2	
EO4	3	2	2	2	2	2		2	2	2				
AVG	3	2	2	2	2	2	-	2	2	2	2	-	2	

3	Substantial (High) Correlation
2	Moderate (Medium) Correlation
1	Slight (Low) Correlation
-	No correlation.

**PO's attained:** PO1, PO2, PO3, PO4, PO5,PO6,PO8,PO9 and PO10

**PSO's attained:** PSO1

**Co-Ordinator**

**HOD-CSD**

**Principal**