

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**SCHOOL OF ENGINEERING AND TECHNOLOGY**

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Report of One Day Seminar  
On  
"A Vision for India to Lead in Semiconductor R&D and Manufacturing  
(What, Why & How?)"

**Date:** 16.10.2024  
**Time:** 11:00 AM to 05:00 PM  
**Event Organized by:** R&D Cell, GTU  
**Coordinator@ GTU-SET:** Prof. Dr. Gautam Makwana, Associate Professor  
Prof. Sanjivkumar Shakya, Assistant Professor  
**Expert:** Prof. Dr. Mayank Srivastava, Professor, IISc- Bangalore  
**Convener:** Dr. K. N. Kher, Registrar, GTU

**Event Summary:**

The session began with a traditional **Saraswati Vandana**, followed by a warm welcome delivered by Dr. K. N. Kher, Registrar (GTU) and Dr. Rajesh Thakker, Director (R&D Cell), who introduced the expert speaker for the session, Prof. Dr. Mayank Srivastava, Professor, DESE, IISc- Bangalore. Dr. Rajesh Thakker expressed his gratitude for the presence of the distinguished speaker and set the tone for an insightful discussion on Semiconductor.



## **Topics Covered:**

### **1. Introduction to Semiconductors**

- Overview of semiconductor technology and its importance.
- Current global landscape and trends in semiconductor manufacturing.

### **2. India's Current Position**

- Analysis of India's existing semiconductor ecosystem.
- Strengths and weaknesses in the current landscape.
- Key players in the industry (government, private sector, startups).

### **3. Importance of Semiconductor R&D and Manufacturing**

- Role of semiconductors in emerging technologies (AI, IoT, automotive, etc.).
- Economic implications: job creation, GDP contribution, and tech independence.
- Strategic importance in global supply chains.

### **4. Challenges Facing India**

- Infrastructure gaps and investment needs.
- Skill shortages in semiconductor technology and engineering.
- Regulatory hurdles and policy environment.

### **5. Vision for India**

- Defining a roadmap for leadership in semiconductor R&D and manufacturing.
- Key sectors to focus on (e.g., automotive, consumer electronics, defense).
- The role of government policy and support.

### **6. What needs to be done?**

- Investment in research institutions and collaboration with academia.
- Incentives for private sector investment and startups.
- Development of a skilled workforce through education and training programs.

### **7. Collaborative Efforts**

- Importance of partnerships with global semiconductor companies.
- Collaborations with other nations for technology exchange and development.

### **8. Case Studies and Success Stories**

- Examples from other countries that have successfully developed their semiconductor industries (e.g., Taiwan, South Korea).
- Lessons learned and best practices applicable to India.

## 9. Future Outlook

- Predictions for the semiconductor industry in India over the next decade.
- Potential for innovation and leadership on the global stage.

### Facilitation and Vote of Thanks:

The guest, **Prof. Dr.Mayank Srivastava**, was facilitated by **Dr.K.N.Kher**, followed by a heartfelt vote of thanks to the speaker and the organizing team for their efforts and insights, expressing gratitude on behalf of the faculty and students.

### Glimpses of the Event:



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**No. of Students Attended the Seminar: 31**

**No. of Faculties Attended the Seminar: 3**

**Conclusion:**

Prof. Dr. Mayank Srivastava concluded the session with remarks on the nation’s potential to become a global hub in this sector. Key takeaways emphasized the critical role of technological innovation, policy frameworks, and industry-academia collaborations in advancing semiconductor research and production capabilities.

The session ended with an active Q&A session, where faculty and students engaged with the expert, making the discussion highly interactive and informative.

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