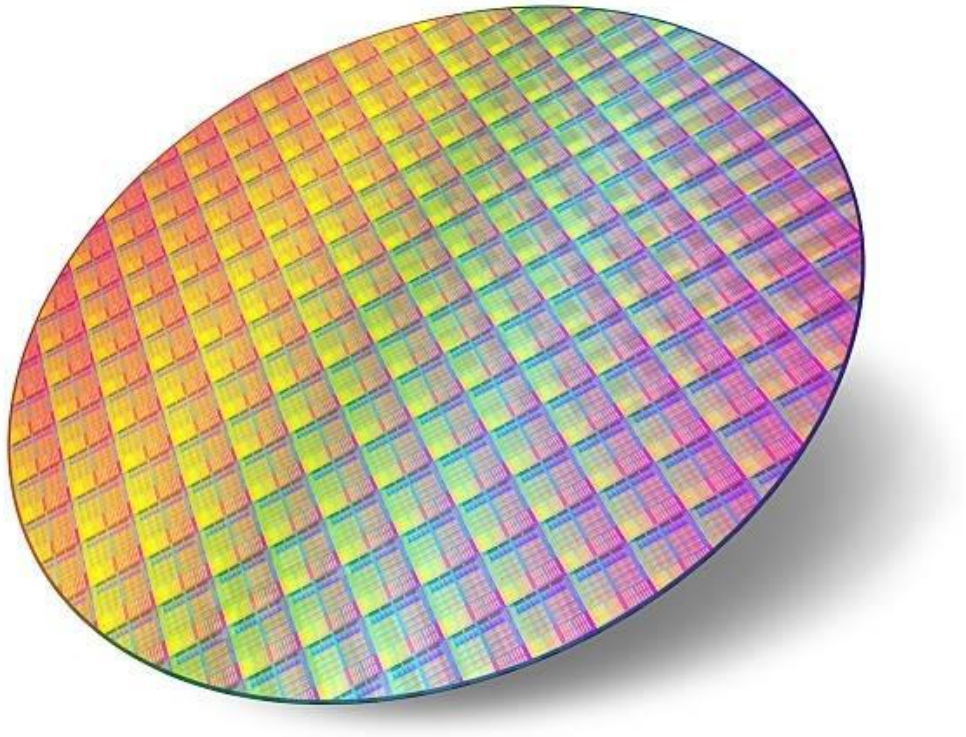
Establishing Resilient Supply Chains for Electronics & Semiconductor Manufacturing

Semicon India Program



इलेक्ट्रॉनिकी एवं
सूचना प्रौद्योगिकी मंत्रालय
MINISTRY OF
ELECTRONICS AND
INFORMATION TECHNOLOGY
सत्यमेव जयते

इंडिया सेमीकंडक्टर मिशन
India Semiconductor Mission
Catalyzing India's Semiconductor Ecosystem

Fastest Growing Major-Economy

Advantage India

- Fastest growing G20 Economy
- Highest Fin-Tech Adoption
- 2nd in Internet User Base
- Vibrant Startup Ecosystem

5th Largest Economy jumped **6 positions** since 2012

7% GDP Growth (FY 2022-23)

522 Mn Working class Population with median age of 28.2

3rd Largest Economy by 2027 (Morgan Stanley Report, 2022)

3rd Largest Startup Ecosystem

144k+ Registered startups

27k+ Technology startups

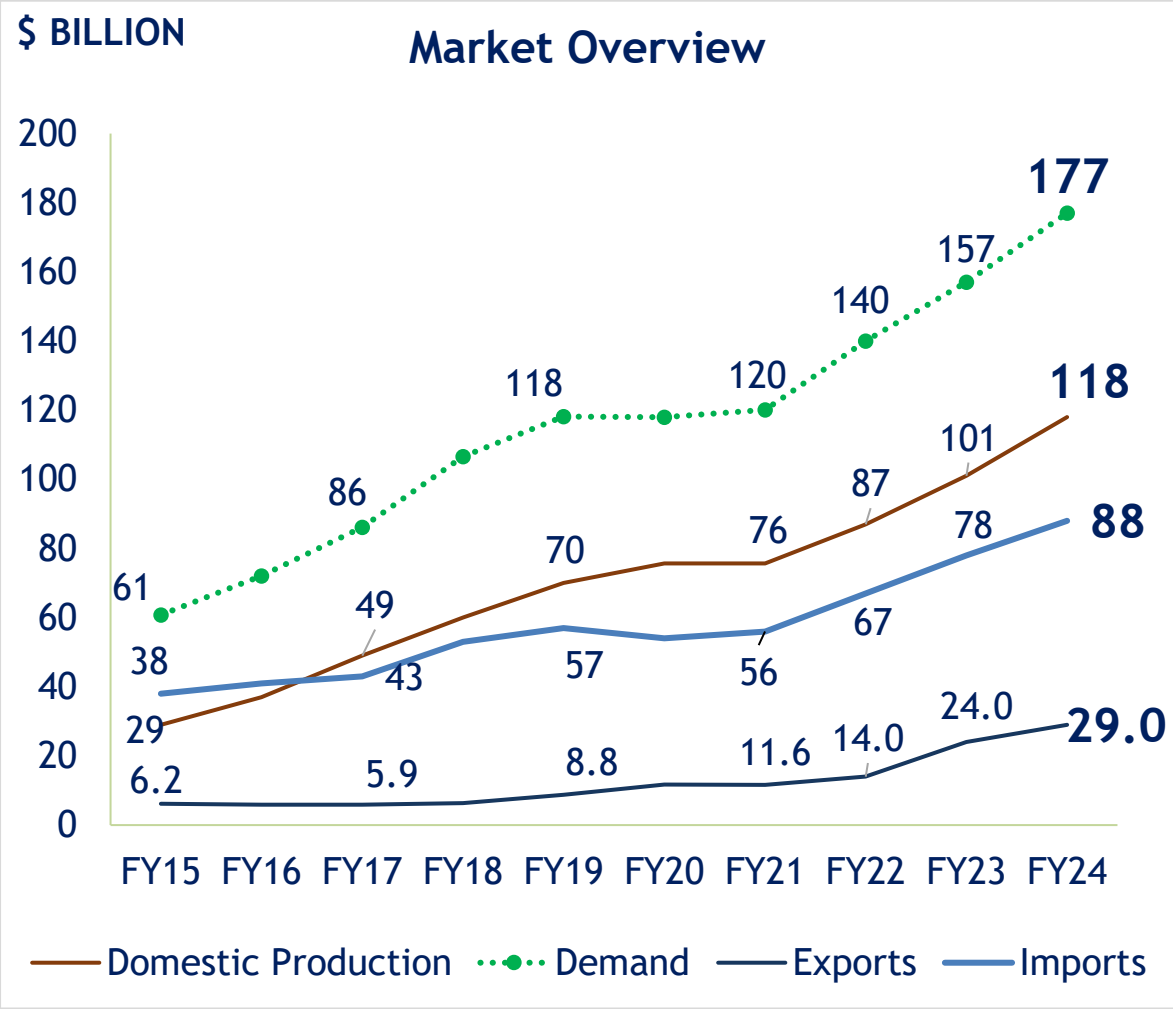
3.6k+ Deep tech Startups

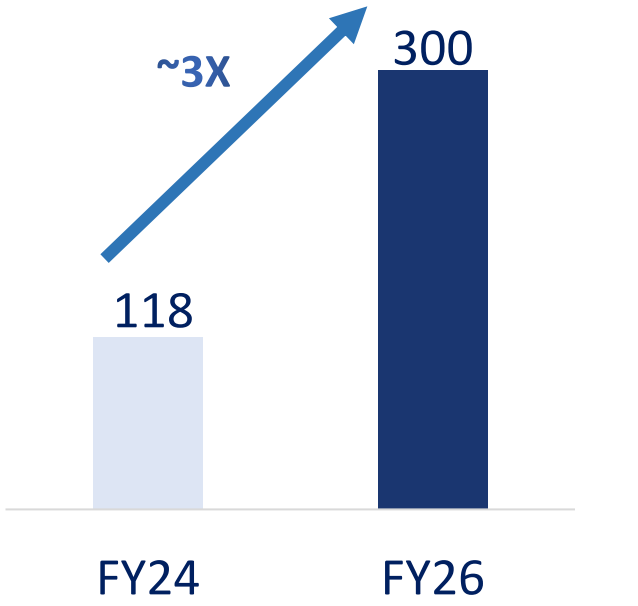
$24 Bn+ Equity investment received by Indian Tech startups

114+ Unicorns

~10 Mn STEM Graduate Pipeline

~$300 Bn Electronics Manufacturing by 2026





Source: Ministry of Electronics and IT Annual Report

Policy Support for Semiconductor & Electronics Manufacturing (>$22Bn)

PLI Scheme

- Mobile & IT Hardware
- Electronic Components
- IT Hardware

Support for Allied Sectors

- Advanced Chemistry Cell
- Automobiles Components
- Telecom & Networking
- Solar PV Modules
- White Goods

Supported Companies

FOXCONN, DELL, SAMSUNG, Rising Star, PEGATRON, wistron, AT&S, WISTRON, Ascent CIRCUITS PVT LTD, LAVA, Dixon, Sahasra, micromax

Semiconductor Ecosystem in India (Since 1985)

Design/Virtual Fab Ecosystem

intel
Qualcomm
AMD
NXP
Infineon technologies
MEDIATEK
GlobalFoundries
Micron
life.augmented
BROADCOM
Texas Instruments
NVIDIA

EDA & IP Core

cadence
SYNOPSYS
Mentor
arm

Manufacturing Supplier Ecosystem

Equipment & Tools

APPLIED MATERIALS
Lam RESEARCH
KLA

Strategic Facilities

DRDO
SCL
SITAR
GAETEC

Fab Consumables

INOX AIR PRODUCTS
Linde
Air Liquide
PHOENIX Fuels Life
FINAR
IFFCO

India Houses more than 20% of Global Semiconductor Design Engineers

Semiconductor Ecosystem in India

Power

Installed Capacity
448 GW
(3rd largest)

Installed Capacity
Renewables
197 GW
(~43%)

Renewables Targets:
500 GW by 2030

Talent Pool

~10Mn
STEM Talent Pipeline

85k+
Semiconductor Talent Development by 2026

28.2 years
Median Age

Largest Working Population by **2047**

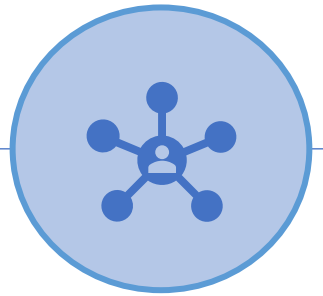
Domestic Market

~$300Bn
Electronics Production by 2026

~$110 Bn
Semiconductor Market Opportunity by 2030
(~10% of Global Market)

2nd Largest Manufacturer of Mobile Handsets

India Semiconductor Mission (ISM)



Dedicated Institution

- Independent autonomous institution
- Expert leadership
- Industry-driven approach to policy implementation

Implementation Agency

- Application appraisal
- Negotiations with applicants
- Approval letter
- Pari-passu Fiscal Support

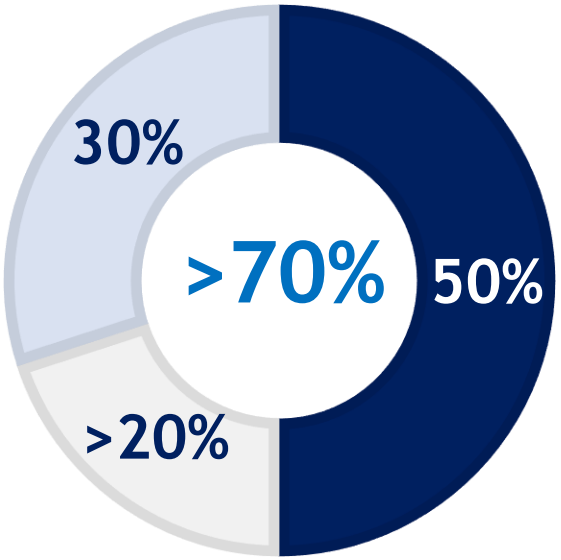
Drive Long Term Strategy

- Sustained engagement with industry
- Partnership with State Governments
- Enable pre-competitive research & capacity building

Semicon India Programme

***50%** pari-passu Incentives for Semicon Manufacturing (~$10 Bn Outlay)*

Incentives



Government of India (Pari-Passu)

State Government

Applicant

Target Segments

- Semiconductor Fab (all nodes)
- Display Fab (LCDs/AMOLED)
- ATMP/OSAT
- Compound Semiconductors Fab
- MEMS
- Sensors
- Discrete devices

~20 Proposals under appraisal/approval

Approvals under Semicon India Programme *(~USD18 Bn total investment)*

Semiconductor Fab

TATA PSMC

Dholera, GJ

USD 11 Bn
(INR 91,000 Cr.)
Investment

50,000 WSPM
Capacity

28/45/55/90/110
nm nodes

Outsourced Semiconductor Assembly & Test (OSAT)

Micron TATA RENESAS STARS MICROELECTRONICS KAYNES TECHNOLOGY

Sanand, GJ

~USD 2.7 Bn
(INR 22,516 Cr.)
Investment

~16 Mn units/ Week
Capacity

Morigaon, AS

~USD 3.25 Bn
(INR 27,000 Cr.)
Investment

48 Mn units/ Day
Capacity

Sanand, GJ

~USD 915 Mn
(INR 7,600 Cr.)
Investment

15 Mn units/ Day
Capacity

Sanand, GJ

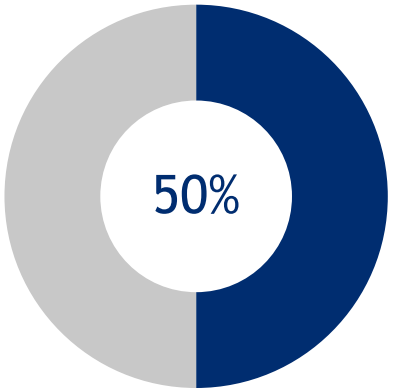
~USD 400 Mn
(INR 3,300 Cr.)
Investment

6.33 Mn units/ Day
Capacity

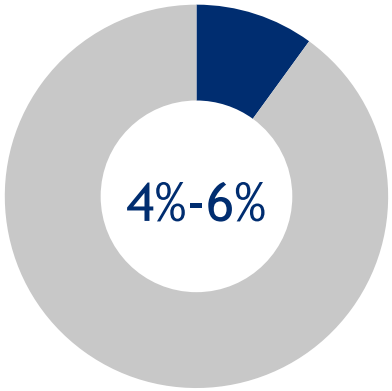
Design-linked Incentive (DLI) scheme

~50% product-design linked and 4-6% deployment linked incentives for Semicon design companies

Product Design Linked- ₹15 Crore



Deployment Linked - ₹30 Crore



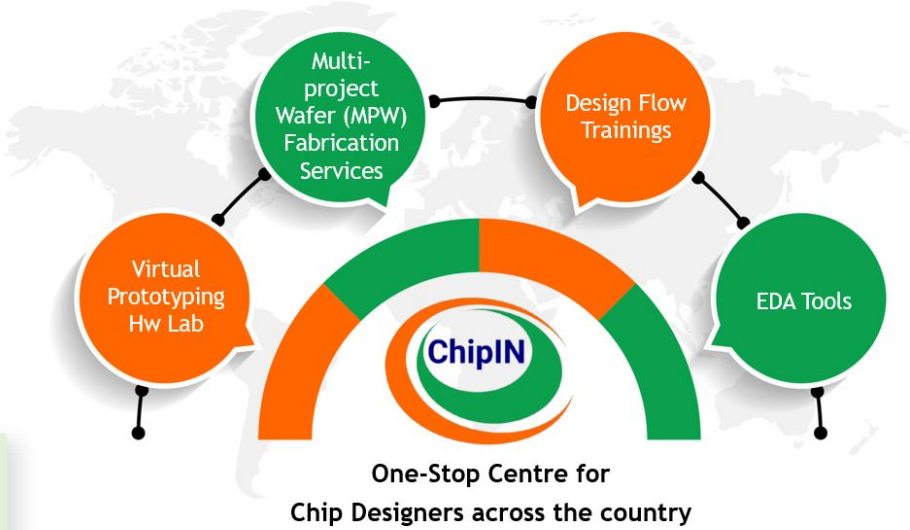
Government of India Applicant

Infrastructure Support - EDA Tools

Target Segments

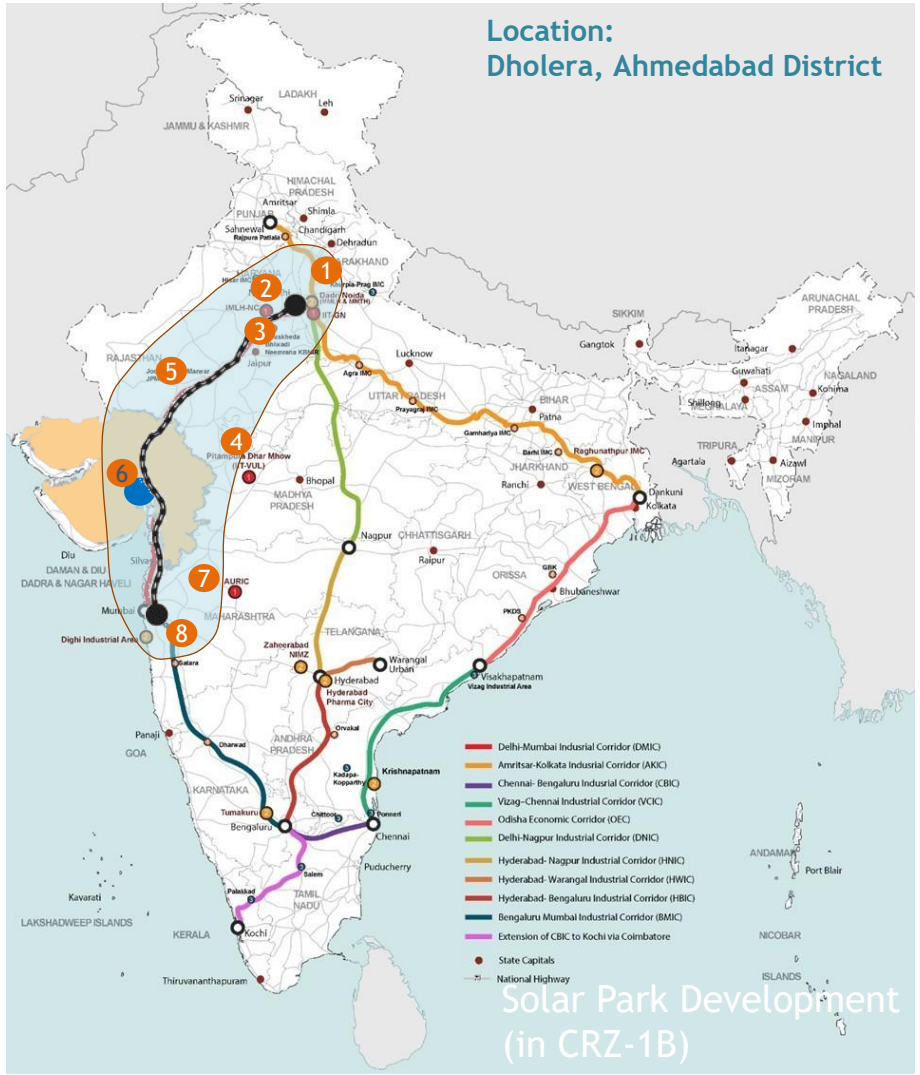
Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores

13 Companies approved for financial Support;
31 Companies approved for EDA Tool Support



Under Chips to Startups (C2S): EDA Tools to 200 Academic Institutions; Training 85K specialized manpower

Ecosystem Case Study I: Semicon City (Dholera, Gujarat)

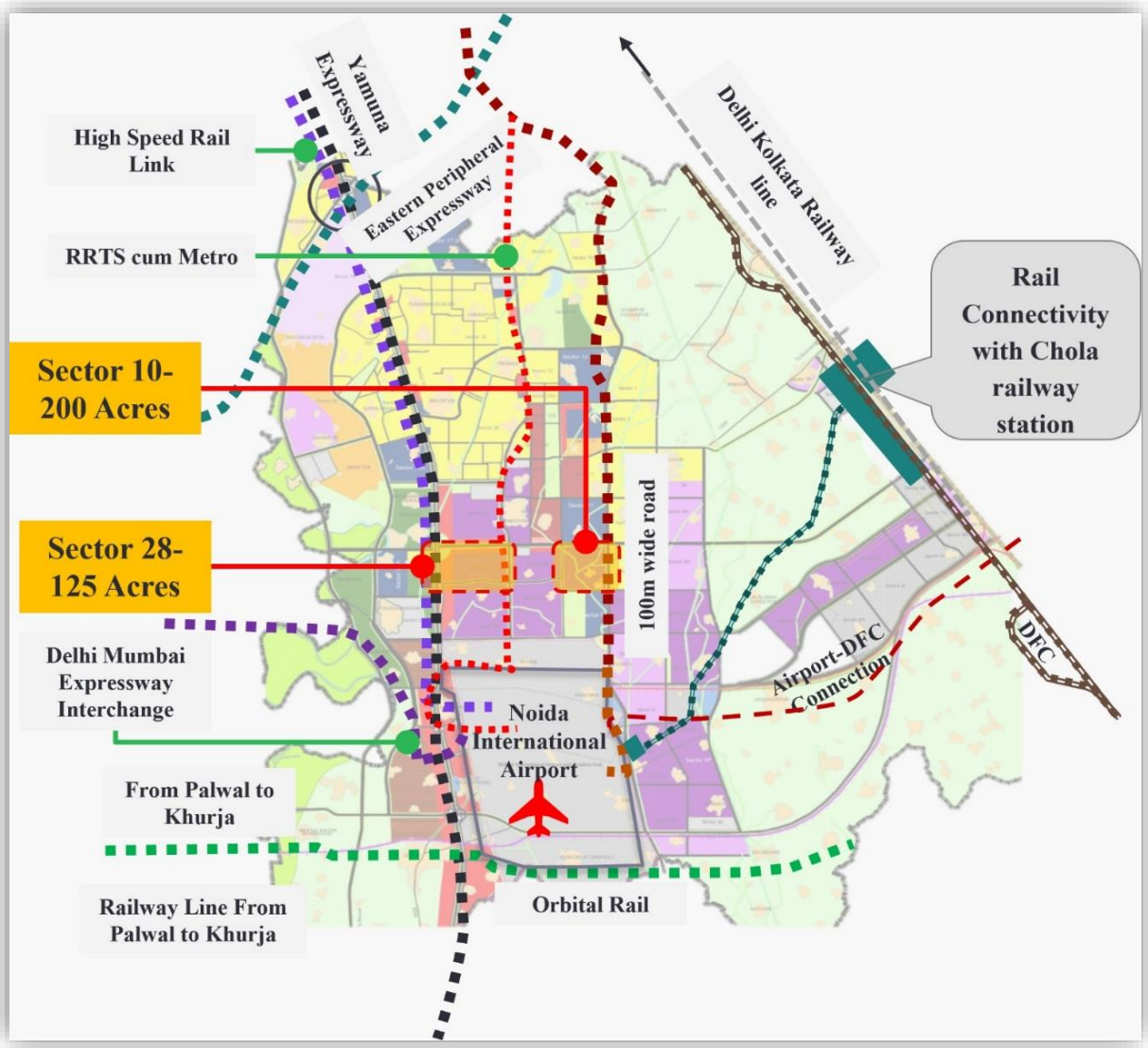


Salient Features

- **Land:10K Acre** developed, > 100K Acre Land
- **Water: 30 MLD→100 (2 yrs.)→300 (5 yrs.)**
- **Power (Quality):5 interconnected Substations**
- **International airports by 2025-26**
- **High Speed Train from Ahmadabad planned**
- **5 GW Solar Power under construction (300 MW commissioned)**
- **Good Ports connectivity**

Existing Allotees ReNew POWER TATA

Ecosystem Case Study II: Semicon Parks (Noida, Uttar Pradesh)



Salient Features

- 2 Semiconductor clusters earmarked (Sector 28, Sector-10) in Yamuna Expressway Authority
- Land Bank: 325 acre; Power: 400/200/132 KV substation; Water: 8 MLD; STP 60 MLD

Multimodal Connectivity

- Noida International Airport (Distance from sector28&10-4km, CoD April-2025)
- Rapid Rail Transit System; High Speed Rail planned from Delhi to Varanasi
- Interchange of Delhi-Mumbai Expressway Constructed at Yamuna Expressway

Building Global Semiconductor Partnerships

MoU on Building Supply Chain Resilience & Innovation (ITSI Partnership)

MoU with IBM, Purdue University, Lam Research & IISc

MoC with Japan on Semiconductor Supply Chain Partnership

MoU with EU on Semiconductor Supply Chain Partnership under the framework of Trade & Technology Council (TTC)

MoU with Singapore on Semiconductor Supply Chain Partnership

Recent Announcements

APPLIED MATERIALS®

$400 Mn. for setting up collaborative engineering centre

AMD

$400 Mn. in next five years to expand R&D operations in India

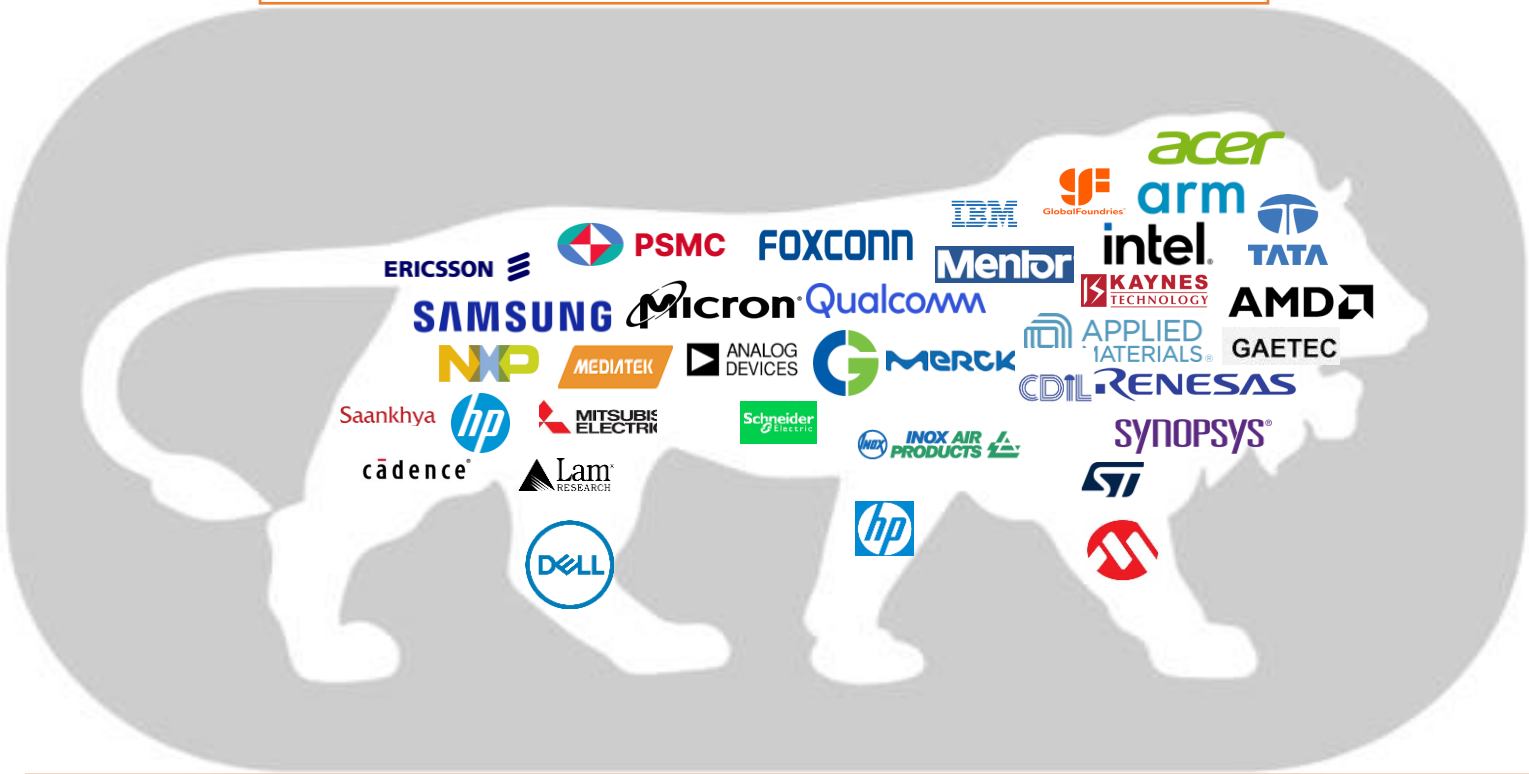
MICROCHIP

$300 Mn. in expanding its R&D presence in India

Lam RESEARCH

Train 60K Indian engineers through its Semiverse platform

Make in India for the World



Thank You