

Semiconductor Packaging & Testing Facility @ SASTRA

Phase I Completion Report & Impact Assessment

June 2026

Presented to City Union Bank & Contributing Sponsors

Advancing India's Semiconductor Ecosystem



The Vision

Develop quality manpower for India's rapidly growing semiconductor ecosystem through extensive hands-on, industry-aligned training and theoretical instruction in electronic packaging and testing.



The Execution

Successful operationalization of Phase I at Anusandan Kendra IV, SASTRA Thanjavur campus. Officially inaugurated by Shri S. Krishnan, Secretary, MeitY, Govt. of India, validating its national strategic importance.



The Outcome

Established SASTRA as a premier teaching, training, and research institution in the semiconductor domain, actively bridging the gap between academic theory and OSAT industry realities.

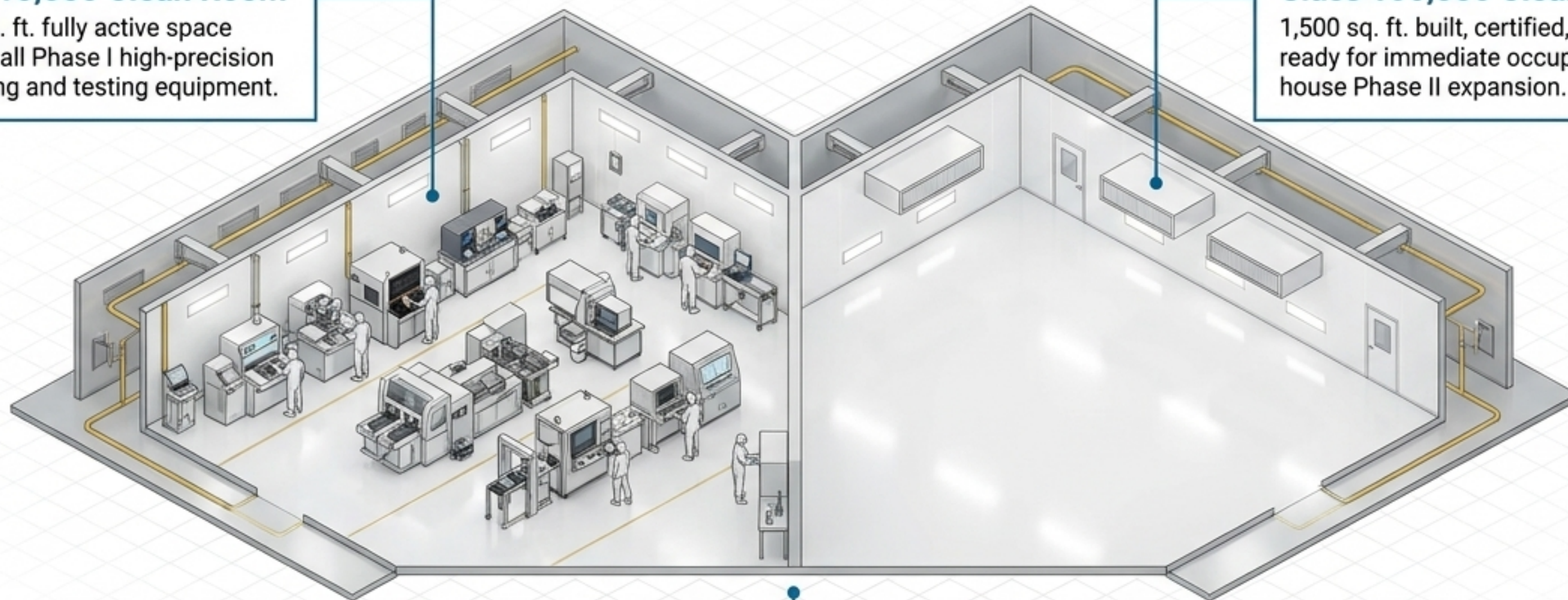
Engineering a Pristine Manufacturing Environment

Class 10,000 Clean Room

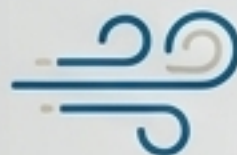
1,500 sq. ft. fully active space housing all Phase I high-precision packaging and testing equipment.

Class 100,000 Clean Room

1,500 sq. ft. built, certified, and ready for immediate occupation to house Phase II expansion.



Core Utilities Integrated



Compressed Dry Air



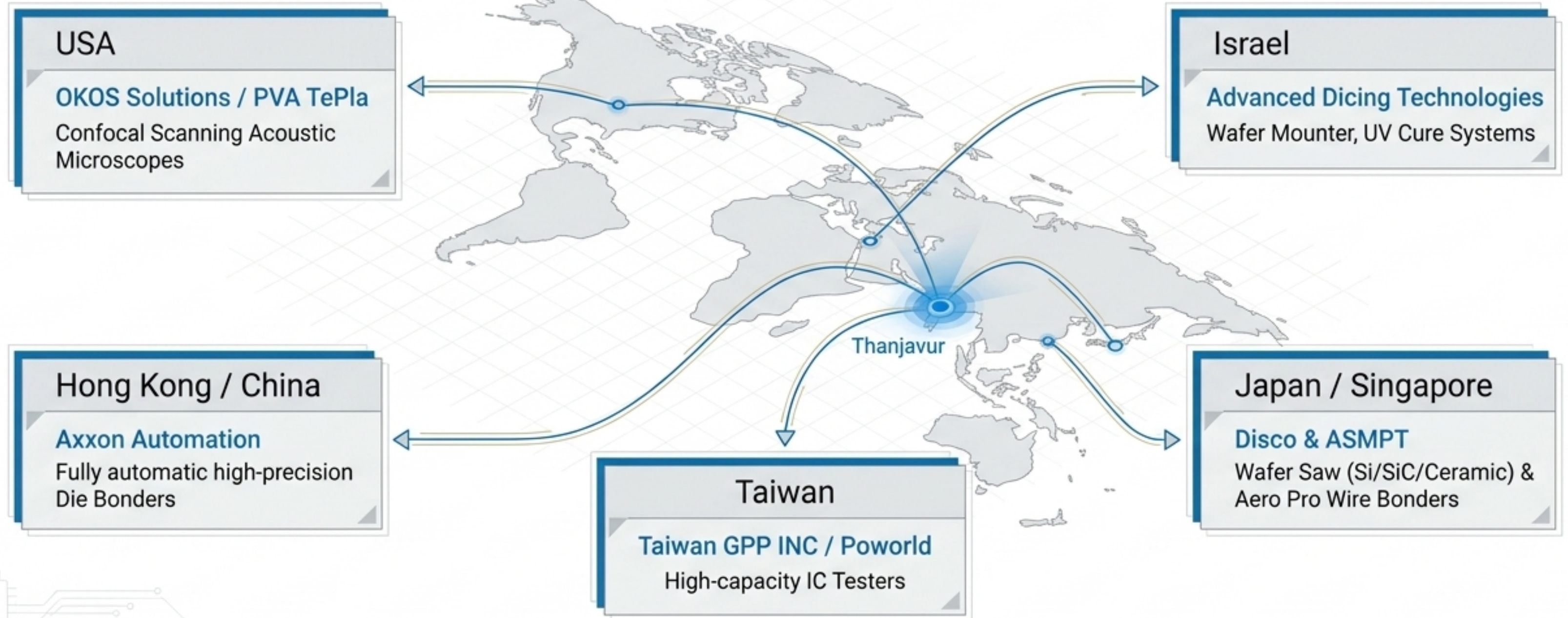
Chiller & DI Water Plants



CO₂/N₂/Forming Gas

Sourcing Top-Tier Global Technology

Students and researchers train on the exact, industry-standard equipment utilized in leading global OSAT facilities.



Equipping the Capability Arsenal



Pillar 1: Wafer Processing

Wafer Mounting System

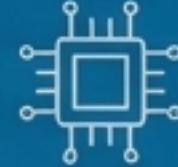
Advanced Dicing
Technologies, up to 12-inch

UV Cure System

AV-57, 365 nm wavelength

Wafer Saw

Disco DAD3361, 1.8 kV
single spindle



Pillar 2: Assembly & Bonding

Fully Automatic Die Bonder

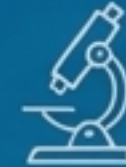
Axxon AXD-1201 for QFP,
QFN, SOP, BGA

Epoxy Cure System

Despatch LAC2, up to 250°C

Wire Bonders

ASMPT Aero Pro, thermosonic
gold/copper bonding



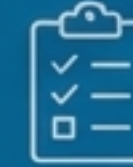
Pillar 3: Advanced Inspection

Confocal Acoustic Microscope

PVA TePla OKOS VUE 400-P

Optical Microscope Suite

Leica Vistoria M, Ivesta 3, EZ4



Pillar 4: Testing & Storage

Bond Tester

Nordson 4000 stellar

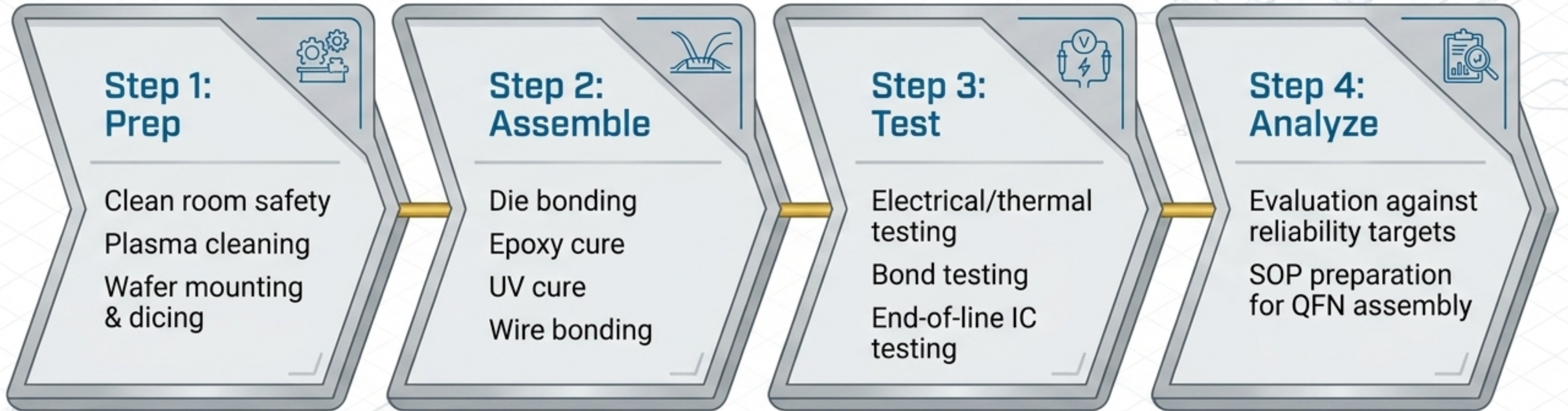
IC Tester

Poworld PFET8200G

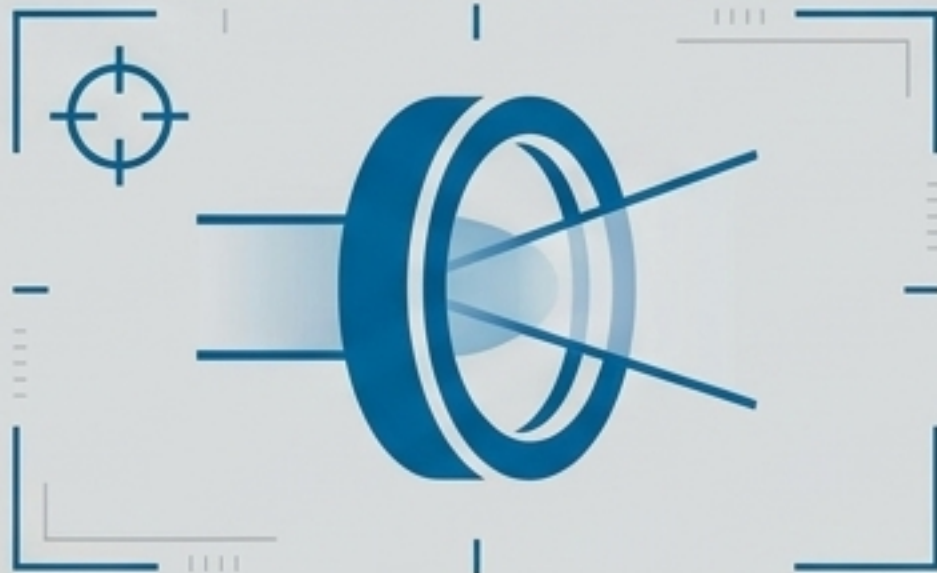
Deep Freezers

Blue Star, down to -40°C for
epoxy storage

Navigating the Semiconductor Packaging Lifecycle



Ensuring Research-Grade Inspection and Reliability



Optical Inspection Suite

Featuring the Leica microscope suite (Vistoria M, Ivesta 3, EZ4). Capabilities include **up to 50x objectives** and **4K 60fps** imaging.

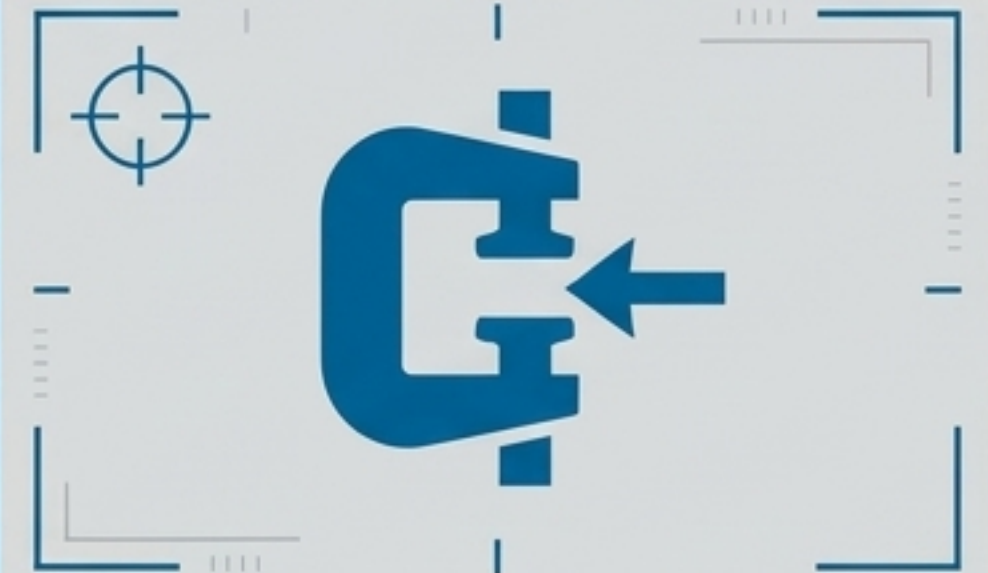
Used for documenting die surface scratches, wire bond geometry, micro-cracks, and highly detailed failure analysis stitching.



Acoustic Microscopy

Powered by the PVA TePla OKOS VUE 400-P.

Utilizing **1-230 MHz** transducers for non-destructive, deep failure analysis across all 2D-packages.



Mechanical Reliability

Powered by the Nordson 4000 stellar.

High-precision mechanical stress testing, including wire pull tests (**up to 100g**), ball shear tests (**up to 250g**), and die shear tests (**up to 100kg**).

Engineering the Next-Generation Talent Pipeline

KPI Dashboard



Curriculum Integration Flowchart



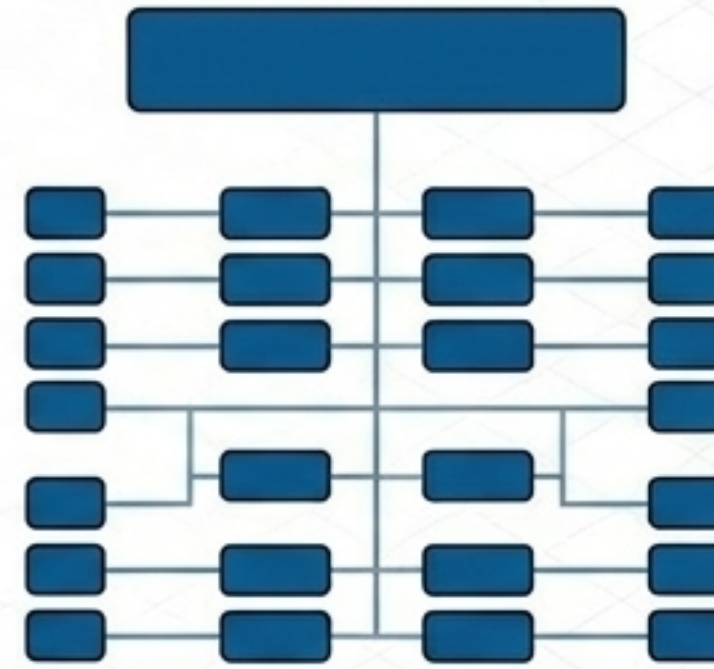
Forging Global Academic Synergies with Taiwan

SPARC Program Integration



- Supported by the Ministry of Education.
- Intensive hands-on training for 3 SASTRA core faculty at Lunghwa University of Science & Technology, Taiwan.
- Ongoing reciprocal visits by Taiwanese faculty and students to SASTRA.

The Indo-Taiwan Conferences (2025/2026)

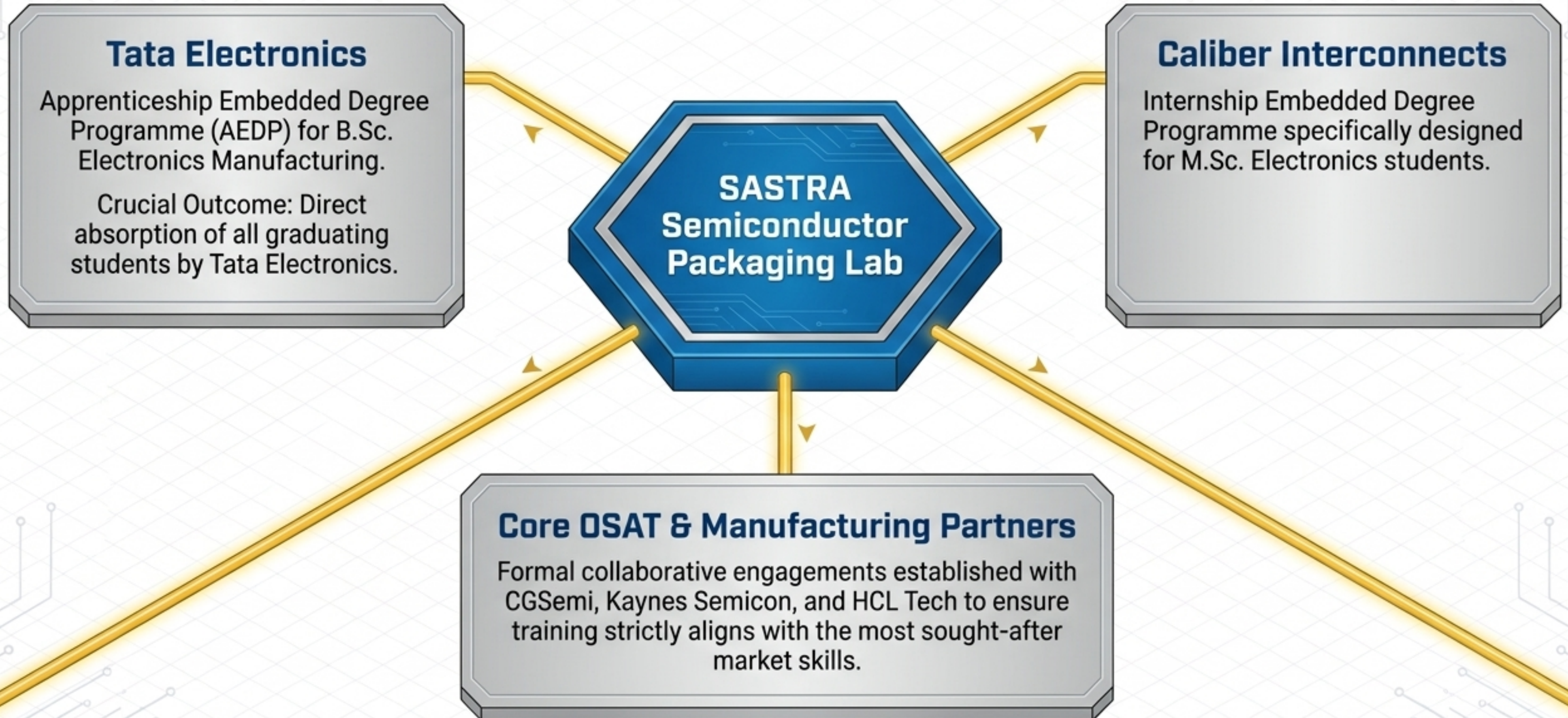


Two major events (Aug 2025 & Jan 2026) bridging Indian academia with Taiwanese OSAT expertise.

Scale: 900+ total participants

Reach: 140+ delegates across **20** industries & **25** academic institutions

Integrating with the Domestic Industry Ecosystem



Phase I Impact and Financial Overview

Rs. 14 Crores

Total Value of Infrastructure
Established

1,250

Beneficiaries (Students and professionals
trained in Year 1)

>1,000

Annual Output (Expected continuous
yearly beneficiaries moving forward)

6

Formal Partners (Active, signed engagements
with semiconductor industry leaders)

Phase II Activation – Scheduled for completion by December 2026. This phase will fully activate the 100,000-class cleanroom facility to further scale operations.

Building the Foundation Together

SASTRA acknowledges with a deep sense of gratitude the financial support extended by the following corporates for the successful establishment of Phase I.

