



Applied Startup Technology & Research  
Accelerator - ASTRA 2023

## WINNING TOGETHER

Collaborating with Materials to Systems™  
ecosystem to make possible a better future



# INNOVATION is at the core of APPLIED MATERIALS' culture

## About Applied Materials

Applied Materials, Inc. is the leader in materials engineering solutions used to produce virtually every new chip and advanced display in the world. Our expertise in modifying materials at atomic levels and on an industrial scale enables customers to transform possibilities into reality. At Applied Materials, our innovations Make Possible a Better Future.

## Broad and Deep Capabilities

We maintain one of the broadest and deepest portfolios of technologies in the industry to create and modify materials—shaping their electrical, physical, mechanical, and optical properties. Through highly sophisticated methods of deposition, removal, modification, and analysis, we manipulate materials at an atomic level on an industrial scale. An overview of our competence includes:

- Atomic Layer Deposition (ALD)
- Chemical Mechanical Planarization (CMP)
- Chemical Vapor Deposition (CVD)
- Electrochemical Deposition (ECD)
- Epitaxy (EPI)
- Etch Processes
- Ion Implant
- Metrology and Inspection
- Physical Vapor Deposition (PVD)
- Rapid Thermal Processing

# WORLD'S #1

semiconductor and display equipment company



**\$25.79 billion**  
revenue



**\$2.8 billion**  
R&D investment



**~17,300**  
patents



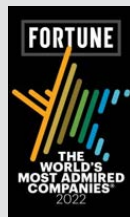
**AMAT** stock  
listing on  
NASDAQ



Headquartered in  
California's  
**Silicon Valley**



**~33,000** employees  
in **24** countries



## About the Program

### Applied Startup Technology & Research Accelerator (ASTRA) 2023

Applied Materials is leveraging its technical and industry expertise to accelerate the growing startup ecosystem in India and Singapore. The aim is to collaborate with startups and transform disruptive possibilities into reality. We also connect the selected startups with our network of customers, supply chain partners, and co investors across leading corporate and financial venture capital firms. We are looking to meet startups that are pioneering innovations in areas of our interest.

Applied Materials is actively collaborating with its knowledge partners, academic and industry ecosystem to engage with the startup ecosystem.

As part of the ASTRA initiatives, Applied Materials aims to engage with the ecosystem using multiple approaches from consultation, collaboration, joint development to investment opportunities. Startups selected for ASTRA will be assessed based on

- Fit to Applied technology & business
- High-Value problems addressed
- Differentiation from existing market solutions
- Business model and Growth Potential

We are part of a close network of academics, researchers, government organizations, commercial partners and entrepreneurs who are shaping the future together.



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We are thrilled to partner with startups through ASTRA India 2023. With this cohort, we continue to support deep tech startups in the broader Generative AI, Semiconductors, ESG, and Supply chain sector across the Materials to Systems™ stack and support breakthrough companies and help bring their innovations to the market

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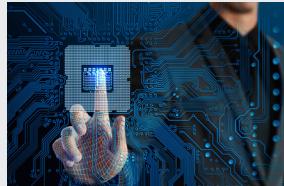
**Anand Kamannavar, Global Head, Applied Ventures, LLC,  
and sponsor of ASTRA**

## Focus Areas for ASTRA 2023

We are looking to engage with startups with products, platforms and solutions in these areas:



Generative AI



Semiconductor and  
Display Technologies



Sustainability



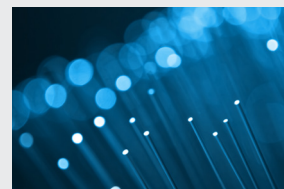
Supply Chain  
Solutions



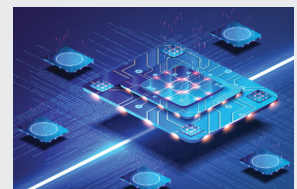
Cybersecurity



Advanced Materials



Advanced Optics  
and Photonics



AI Hardware



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Applied Ventures is looking forward to accelerating India's momentum toward semiconductor manufacturing, with investments in semiconductor, supply-chain & deep-tech start-ups in the region. This will further enhance and amplify Applied Materials' commitment to building a sustainable semiconductor ecosystem, and builds on our recent announcement on establishing a collaborative engineering center in India

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**Om Nalamasu, Senior Vice President, CTO Applied Materials, Inc.,  
and President Applied Ventures, LLC**

# ASTRA Program







The past three editions of ASTRA played a critical role in helping us connect with some of the most dynamic deeptech startups. ASTRA as a platform provides access to our technology, expertise in materials engineering, commercialization, and partner ecosystem to accelerate innovation for startups. With the fourth cohort of this program, I look forward to continuing this incredible journey where we play a meaningful role in fostering innovation, collaboration, and entrepreneurship to cultivate a thriving start-up ecosystem.



**Srinivas Satya, Country President, and Managing Director, Applied Materials India Private Limited**

## The Journey

Our program provides its participants access to the best of Applied Materials – its people, network and advanced technologies.

REGISTER ONLINE	STARTUP SELECTION	PITCH DAY	INVESTMENT
			
<p><a href="#">Register here</a> with your brief proposal and background</p>	<p>Shortlist of final selected startups to be announced</p>	<p>Startups to pitch their product/solution on the event day to a panel of technology SMEs and sector Analysts</p>	<p>If the proposed product/solution and fit are validated, Applied Ventures will evaluate the startup as investment candidate</p>

As a partner, Applied Materials will act as a consultant to start-ups for addressing market and technology challenges and to explore potential scale-up pathways. The selected companies will also have access to the product development expertise, best known methods for maximizing market opportunities, Applied Infrastructure and ecosystem connect through this engagement. The product/solution must align with Applied Material's interest in Semiconductor and Display Technologies, Generative AI, Cybersecurity, Sustainability, Supply Chain Solutions and AI HW.

Startups that are selected from ASTRA will have access to a selection of the following opportunities



**ASTRA 2022 finalists:** Aira Matrix, Crossscope, Analytica, Six Sense, Morphing Machines, Attonics Systems, Nanolumi

**ASTRA 2020 finalists:** Aindra, Ecolibrium Energy, Switchon, Multi Nano Sense Technologies, Lightspeed AI, Alpha IC, NIMO, AjnaLens

**ASTRA 2019 finalists:** Pandorum Technologies, Shilps Sciences, Onward Health, Falkonry, NeeWee, Leucine

## Applied Ventures (AV)

Applied Ventures, LLC is the venture capital arm of Applied Materials, Inc., (NASDAQ: AMAT). For more than a decade, Applied Ventures has invested in start-ups that are pioneering innovations in smartphones, augmented reality and virtual reality, AI, driverless cars, big data, life sciences, 3D printing, robotics, cleantech, and advanced materials. Start-ups can gain access to new materials engineering and semiconductor technology innovations and leverage our global fab infrastructure to validate high-performance devices and scale faster. We offer start-ups atomic-level engineering capabilities on 200mm/300mm silicon wafers, glass substrates and roll-to-roll substrates. **Applied Ventures is stage agnostic and invests up to \$100M per year. To date, we have provided capital to more than 90 companies in 17 countries.**

### Applied Ventures Sample Portfolio



For more details on collaboration and our investment portfolio, visit <http://www.appliedventures.com>

# Selection Criteria

- Available demonstration of proof-of-concept or available within 3 months
- Seed funding should have been previously secured
- Ongoing engagement with customer/s or potential customers is an advantage but not mandatory
- IP portfolio and/or Freedom to Operate is an advantage
- The product/solution must align with Applied Material's interest in Generative AI, Semiconductor and Display Technologies, Sustainability, Supply Chain Solutions, Cybersecurity, Advanced Materials, Advanced Optics and Photonics and AI Hardware
- Startup must have a differentiated solution with a strategic fit to Applied

# To Apply

- Applications for ASTRA 2023 are now open. Fill up the application form [HERE](#)
- In your executive summary, please include: Biographical information of key management, Description of the product and/or service, Explanation of your market, Competition and Differentiation, Funding history and Business plan.
- Please mention 'For ASTRA' in the Description field of the submission form.

For any queries, reach out to us at [Applied\\_Idea\\_Accelerator@amat.com](mailto:Applied_Idea_Accelerator@amat.com)

## DATES TO REMEMBER:

- Last date to submit application : **5<sup>th</sup> September, 2023**
- Announcement of shortlisted startups : **10<sup>th</sup> September, 2023**
- Pitch Day : **27<sup>th</sup> September, 2023**
- Venue : **The Den, ITPL Main Rd, Whitefield, Bengaluru, India**

### Please note:

Once we receive the information, it can take 2-4 weeks for the initial review process. Please try to submit detailed information as part of your application. Upon completion of the initial review, you will either be asked to submit any required additional information or informed of our decision. Please do not disclose any confidential information to us.

By submitting the form, you agree and represent to us that any information or data that you provide to us ('Information') is considered non-confidential and non-proprietary to you or any other party, and Applied Materials has no obligation towards you or any other party to protect such information. Any information you transmit shall be considered non-confidential and non-proprietary information regardless if marked 'Confidential' or 'Proprietary'. Applied Materials will have no obligation of any kind with respect to such information. By communicating with Applied Materials, you acknowledge and agree to the foregoing terms. If, after consideration of your non-proprietary disclosure, we wish to have further discussions, we may wish to enter into a confidentiality agreement with you.