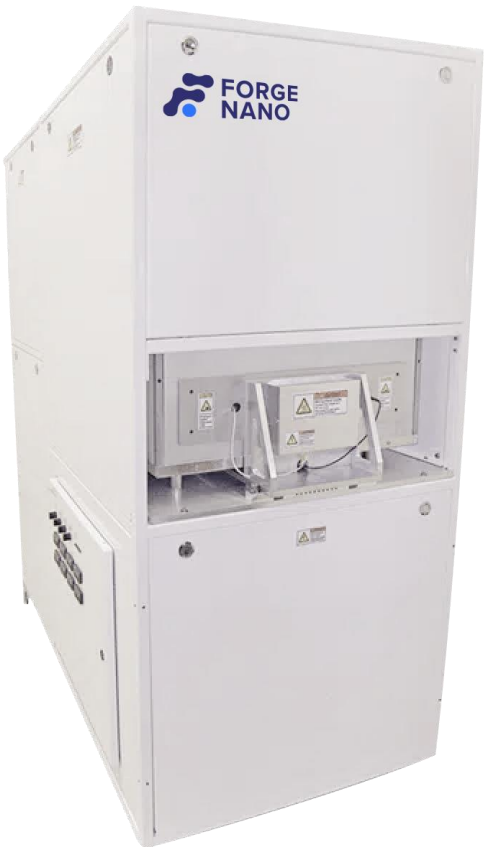
Global HQ:
12300 Grant St #110, Thornton, Colorado 80241
Phone: +1. 720.259.8579

THEIA

R&D SCALE WAFER COATING SYSTEM

THEIA combines production proven design and system components of our commercial solution TEPHRA™ in an R&D package that delivers unmatched performance, flexibility, reliability, and safety. THEIA is field upgradeable to accommodate the ever-changing needs of scientists and engineers. THEIA enables a seamless transition from R&D to production. Recipes created with THEIA can be sent to TEPHRA for a simple and straightforward path to commercial scale production.



Fast FAQs

12 nm/min deposition rates
<1s cycle times (0.5s purge)
Up to 90% precursor utilization
<1% WtW non-uniformity

Key Features

Hardware:

- Fast pneumatic valves (1 msec actuation)
- In situ pressure regime control for rapid cycle times

Process:

- Catalyzed thermal ALD processing eliminates need for plasma
- 100x more efficient chemical utilization compared to traditional ALD

- Shared University Facilities
- National Laboratories
- Fab R&D Arms
- Dedicated Semiconductor R&D Hubs

FORGE NANO

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SPECIFICATIONS & OPTIONS

Standard Specifications	
Main Dimensions	80 x 42 x 75 in
Wafer Sizes	Ø 75 – 200 mm
Operating Temperature	Up to 500°C (chuck) Up to 200°C (walls)
Precursor Lines	Up to 6
Inert Gas Lines	2
Gas Distribution	Showerhead
Loading	Manual
Interface	Windows 10 GUI
Compliance	CE & UL508A

Options & Upgrades

- Quartz Crystal Microbalance (QCM)
- Remote Plasma Source (PE-ALD)
- Ozone Generator
- Automated Load Lock
- Hazardous Gas Enclosure
- Heated Precursor Cabinet
- Foreline Pump & Activated Carbon Filter
- External Chemical Safety Sensors

Versatile R&D options at production speed

THEIA is designed to adapt to changing R&D environments and streamline the research process for faster results and quicker process integration.

MATERIALS

Oxides: Al_2O_3, SiO_2, HfO_2, ZrO_2, Ta_2O_5, AZO, TiO_2, Y_2O_3

Nitrides: TiN, TaN, AlN, GaN, ZrN,

Metals: Ru, Pt, Co, Cu, Ni

APPLICATIONS

Barrier Films
Seed Layers
Moisture Barriers
Dielectrics
Passivation Layers
Antireflection Coatings
Transparent Conductive Oxides

Forge Nano is a leading materials science company harnessing the power of Atomic Armor, the company's proprietary ALD nanocoating technology, to accelerate manufacturing innovation, transform product performance and achieve a more sustainable future for a range of industries around the world. Atomic Armor produces superior coatings that can unlock a material's performance at the atomic level and deliver custom solutions from small-scale R&D and laboratory work to large-scale, high-volume production lines.

Forge Nano puts the world's leading Atomic Layer Depositions authorities at your fingertips. Contact our experts to learn about this breakthrough in materials science.

www.forgenano.com