VIRGINIA ALLIANCE FOR SEMICONDUCTOR TECHNOLOGY

VFAB POWERED BY VAST

Virtual Fabrication Access Bridge

A FIRST-IN-THE-NATION SHARED INFRASTRUCTURE FOR SEMICONDUCTOR INNOVATION

The **Virtual Fabrication Access Bridge (VFAB)** is the **first statewide platform in the U.S.** that provides integrated access to semiconductor fabrication tools, cleanrooms, and labs across multiple universities. This groundbreaking system simplifies user access, increases facility utilization, and reduces barriers to hands-on semiconductor research and prototyping.

Why VFAB Matters

- Nationally unique tool-sharing and scheduling platform
- Enables cross-institutional collaboration and research
- Expands Virginia's capacity to train, innovate, and commercialize next-gen semiconductor and hardware technologies
- Serves as a critical backbone to the FTSC, SEED, and ELITE programs

INFRASTRUCTURE SNAPSHOT

170+	30	~70,000
Tools	Staff	sq. ft

~1:6 Staff-to-equipment ratio

100+ users currently registered

Behind the Scenes: Building VFAB into a Statewide Access Platform

PLANNING & PROCUREMENT

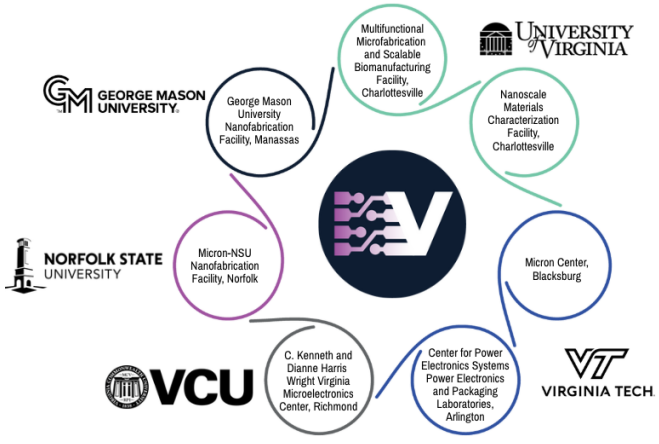
- Defined project scope
- Generated RFP
- Selected vendor per state guidelines
- Finalized contract

DATA, POLICY & INFRASTRUCTURE SETUP

- Collected data from 7 sites (170+ lab tools)
- Established SOPs and usage rules for each tool
- Set pricing structures for internal, external, academic, and commercial users
- Set up secure servers to ensure compliance
- Allocated hardware and resolved daily IT issues

TESTING & LAUNCH PREPARATION

- Beta-tested all system components (account creation, access, reservation, billing, etc.)
- Completed soft launch across centers
- On track for full launch in July 2025



Over 1.5 years, VFAB has progressed from concept to execution through intensive multi-university collaboration — and is now preparing to unlock statewide access to 170+ tools across 7 semiconductor labs.

WHERE WE CAN GROW

VFAB is built for scale. With increased investment and coordination, VFAB can:

- **Double or triple statewide user capacity** to meet student and research demand
- **Expand access to startups and small businesses**, accelerating time from idea to prototype through SEED
- **Support micro credentialing and hybrid training** through FTSC programs
- **Enable transdisciplinary collaboration** across ELITE research clusters like Photonics, Nano-Optics, Logic and Memory, and Heterogeneous Packaging

Budget Priorities & Investment Opportunity

To fully realize VFAB's potential and meet demand, the system must:

- **Repair, upgrade, and maintain high-value equipment**
- **Acquire new, advanced tools** to fill gaps in fabrication and packaging capability
- **Expand staffing to manage increased throughput and user support**
- **Support sustainability and maintenance** across all partner institutions
- **Integrate new institutions and partners** into the VFAB system

CALL TO ACTION: THE TIME TO INVEST IS NOW

VFAB is already powering Virginia's semiconductor R&D and talent training. With strategic investment, it can become the nation's most efficient and accessible university-based fabrication system—**lowering the cost of innovation, speeding up commercialization, and giving Virginia a long-term competitive advantage.**

Let's scale the platform that will build the next generation of chips—and chipmakers.

For more information or partnership opportunities, contact vfab@vast-alliance.org

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