



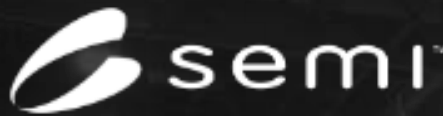
Bridging the Talent Gap

Accelerating Workforce Solutions for Semiconductors

National Academies | Innovative Models for STEM Workforce Development in Critical Technologies



Every breakthrough in technology starts with someone learning **STEM and asking: “how does this work?”**



People Power Progress.

Innovation isn't possible without people.
Skilled. Inspired.

The demand for semiconductor talent has never been greater. More than **170,000** new workers will be needed in the U.S. in the next five years.

STEM Is Where the Semiconductor Workforce Begins

The Starting Point

Every career in the semiconductor industry starts with a foundation in STEM.

But most students don't encounter this industry in a classroom. They discover it through curiosity, building something, solving a problem, or asking how the technology around them works.

- STEM builds the analytical thinking the industry depends on
- Hands-on learning helps students see themselves as problem solvers and builders
- Early exposure helps students understand that advanced manufacturing and engineering are real career options



The Semiconductor Industry Needs STEM Talent at Every Level

Semiconductors are one of the most complex industries in the world, and they require STEM skills across the entire workforce spectrum.

Career pathways fueled by STEM include:

- Process engineers
- Equipment technicians
- Software and AI specialists
- Data scientists and analysts
- Materials scientists
- Advanced manufacturing technicians

What makes semiconductors unique:

- The industry blends engineering, physics, chemistry, computer science, and advanced manufacturing in one ecosystem.



The Challenge: Awareness and Access



While demand for STEM talent is growing rapidly, many students still do not know these careers exist.

Common barriers we see across the ecosystem:

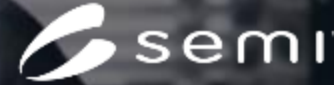
- Limited awareness of semiconductor careers among students and educators
- STEM learning often disconnected from real industry applications
- Lack of visible career pathways from classroom to industry
- Students unsure how their STEM interests translate into real jobs

The result:

A massive opportunity gap between student curiosity and career awareness.

SEMI Foundation Goal:

Make semiconductor careers visible, tangible, and accessible through STEM experiences.

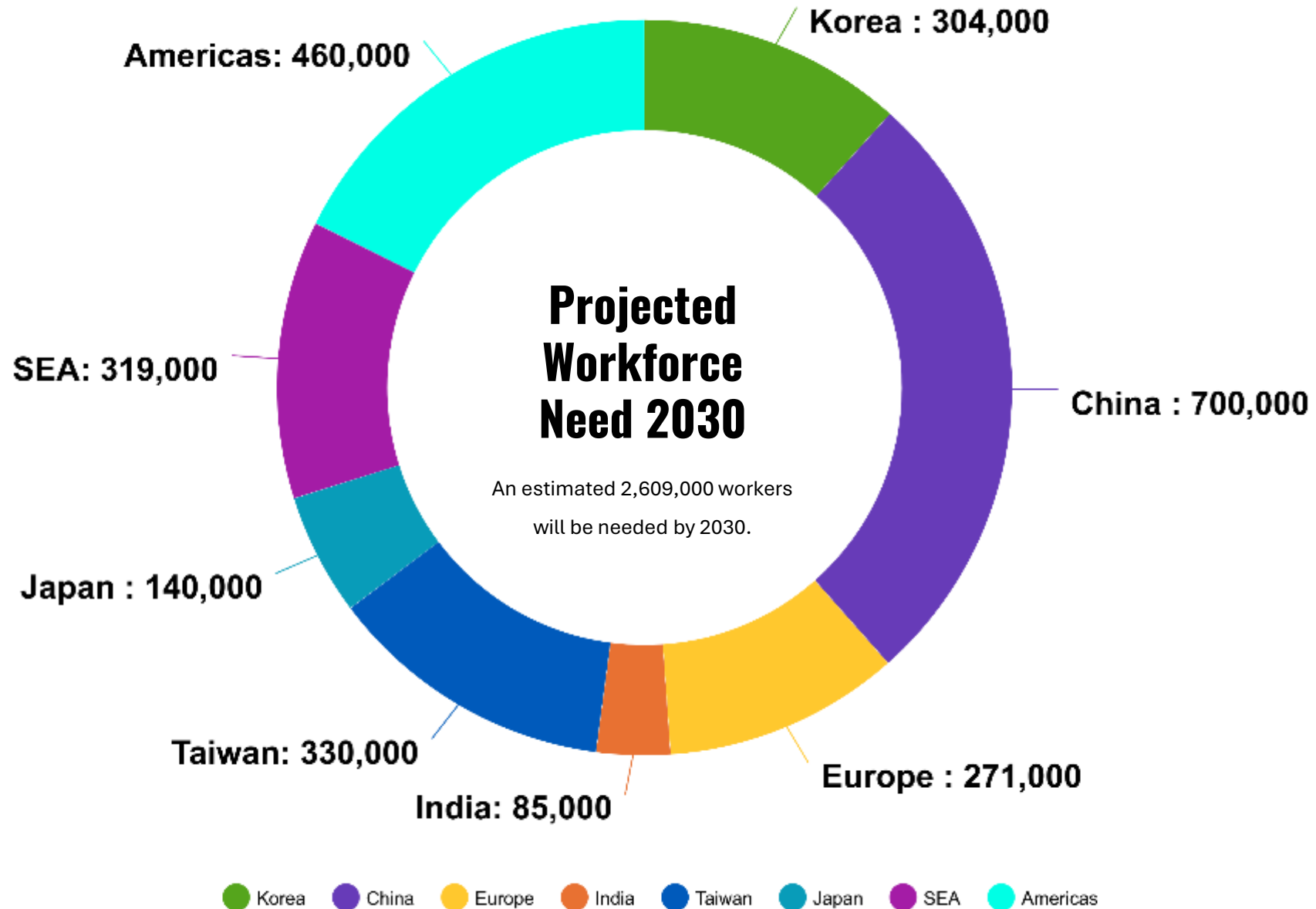


SEMI

- Industry Advocacy and Collaboration
- Standards and Best Practices
- Events and Networking
- Market Research and Insights

SEMI Foundation

- Workforce Development Programs
- STEM Education and Outreach
- Broadening Access to Electronics Careers
- Partnership Building



Building the Workforce that Powers Our World

Mission: To support economic opportunity for workers and the sustained growth of the microelectronics industry through creating pathways and opportunities for job seekers, and tools and systems for semiconductor companies to attract, develop, retain, and advance a broad, skilled workforce.



50+ workforce initiatives worldwide in SEMI regions



Extensive national programming in the United States



Building opportunity at the regional and state level



Ensuring a skilled talent pipeline for industry

Founded in 2001. Global Impact Today.

Impact at a Glance



6.5+ Million

Storytelling & Media

6.5M+ engaged worldwide through SEMI Stories and the “Chip In” documentary.



394,000+

Broad Global Reach

Engaging 394,000+ participants across Europe and Asia — from 380,000 in Europe to thousands more in SEA, China, Japan, Korea, and Taiwan.



260,000+

NextGen Inspiration

260,000+ students and early talent engaged through portals, pop-ups, camps, and events.

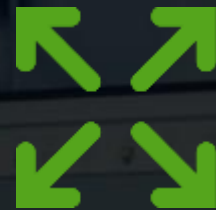
Global Impact at a Glance



1.25+ Million

Careers & Upskilling

1.25M+ participants reached through SCAN, VetWorks, and new industry certifications.



3,300+

Expanding Access

3,300+ participants and families engaged through childcare support and programs that expand access.



7,000+

Knowledge Amplifiers

7,000+ teachers and learners engaged through SEMI U and teacher trainings.

Meet the Team



Shari
Vice President



Michelle
Executive Director



Omar
Sr. Specialist



Perla
Sr. Specialist



Steven
Manager



Mariam
Sr. Manager



Patrick
Manager



Mike
Program Director



Melinda
Manager



Lauren
Op. Associate



Ian
Sr. Manager



Anissa
Training Manager



Bia
Program Manager



Naresh
Director



Nick
Project Manager



Shan
Program Director



Berton
Program Manager



Clarissa
Administrator



Stephanie
Admin. Associate



Purvi
Program Manager



Rob
Program Manager



Lynn
Administrator



Megan
Program Manager



Richard
Sr. Manager



Sheffy
Sr. Manager



Alex
Hub Manager



Jessica
NNME Director

5 Pillars Powering Our Programs and Initiatives



National Talent Ecosystem for Scale

Unifying education, workforce, government and industry into a nationwide engine for talent.



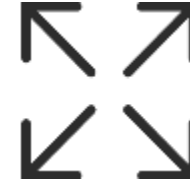
Early Awareness & Industry Exposure

Inspiring the next generation by making semiconductors real, relevant, and exciting.



Pathways to Careers

Turning curiosity into careers with clear, industry-aligned training and opportunities.



Expanding Opportunity & Access

Breaking barriers so everyone has a fair shot at success in semiconductors.



Global Workforce Solutions

Driving a worldwide movement to grow the semiconductor workforce.



1-National Talent Ecosystem for Scale

Launched by the SEMI Foundation in 2025, the **National Network for Microelectronics Education** is the nationwide engine powering semiconductor talent. It unites educators, employers, workforce systems, and policymakers to co-design and scale solutions in every corner of the U.S.

The Faces Behind the Foundation



Michelle
Executive Director



Jessica
NNME Director



Patrick
Program Manager



Steven
Marketing Manager



Megan
NNME Node Manager



Alex
NNME Hub Manager



Ian
Sr. Finance Manager



Lauren
Operations Associate



Sheffy
Sr. Program Manager

Connecting National Strategy to Regional Action

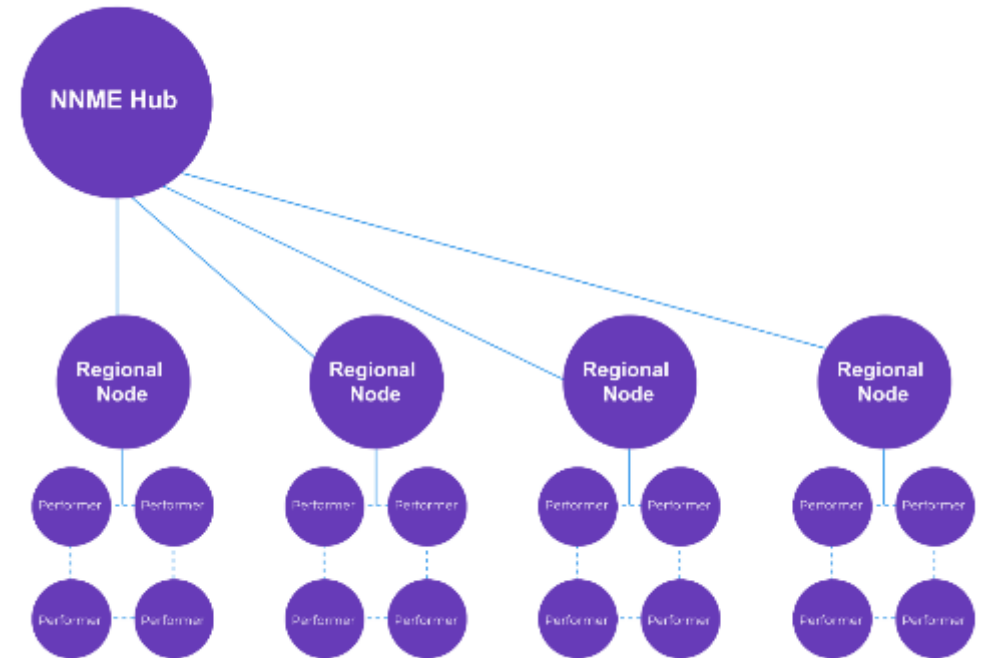


Scaling the talent pipeline is challenging:

- Misalignment between education and industry needs
- Inequitable access to resources
- Underinvestment in education and training and facilities
- Outdated workforce development capabilities
- Fragmented training ecosystems
- Limited awareness of semiconductor career opportunities.

Regional Nodes change this:

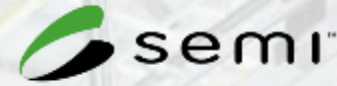
- Align regional stakeholders
- Develop and deliver industry-aligned education and training
- Expand equitable access
- Strengthen pathways into semiconductor careers
- Modernize and upgrade education, training, and facilities
- Integrate emerging technologies
- Connect education providers with employers
- Scale work-based learning
- Build regional and community awareness
- Align federal, state, and industry initiatives
- Be part of a nationally coordinated strategy led by NNME Hub



Performers may include industry, colleges and universities, workforce development organizations, K-12 Schools, EDO's, etc.

Strategies to Scale Talent

SEMI Foundation Partner POV



A major milestone for the semiconductor industry, we are coming together to scale talent nationally and strengthen the workforce pipeline for the future.



"NSF is thrilled to be investing in NNME, which will coordinate and expand access to workforce training opportunities for America's semiconductor industry. Together with the private sector, NNME will bolster opportunity for all Americans and strengthen our competitive advantage"

-Erwin Gianchandani, NSF Assistant Director for Technology, Innovation and Partnerships

2-Early Awareness & Industry Exposure

Our awareness-building efforts are designed to spark interest early, **meet learners where they are**, and make the semiconductor industry tangible, relevant, and exciting.

- K–12 Programming
- High Tech U
- SEMIquest
- Semiconductor Day
- Workforce Development Pavilion
- SEMI Stories
- Chip In Documentary
- Chips in Motion

The Faces Behind the Foundation



Richard
Sr. Manager



Perla
Sr. Specialist



SEMQuest

Immersive Semiconductor Experience

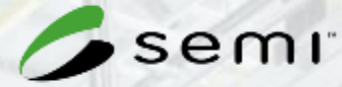
Exhibit Displayed at the Arizona Science Center for
3 Months in 2025

- 3,700+ visitors and counting — including 160+ teachers and nearly 1,000 students, inspiring educators who reach 45,000+ learners statewide.
- Earned major visibility through local Arizona coverage and international media in Asia and India.
- Laying the groundwork to sustain and scale SEMQuest across Arizona and new communities nationwide.

Industry Awareness

SEMI Foundation Participant POV

SEMIquest brought semiconductors to life for Arizona students, turning what they'd only seen in pictures and videos into a real, hands-on experience.

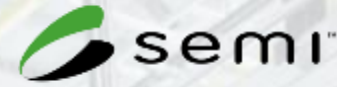


"It's so cool, it's unbelievable to actually see semiconductors, I had only heard about them through pictures and videos, but I've never actually seen it..."

-Levi, 8th Grade Student in Arizona

Global Educator Resources

SEMI Foundation Participant POV



Semiconductor careers start with awareness; high school students deserve to know this industry exists and have clear resources to explore pathways into it.



VEDA THOMAS

College & Career Coordinator,
Pontiac Academy for Excellence High School

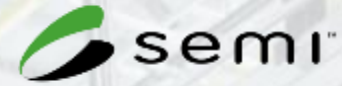
"Today's biggest takeaway for me is knowing that there are resources out there like this for our students and knowing that students are being exposed to these great opportunities..."

-Veda Thomas, Pontiac Academy for Excellence High School

Strategies to Scale Talent

Industry POV

We are engaging campuses nationwide, bringing industry and education together, connecting students with career pathways, employers, and opportunities in microelectronics.



KRIS RILEY

Managing Partner & Vice President of Sales
and Client Development, Design Systems, Inc.

"It's been great talking to students today, I'm seeing a lot of positivity, and engagement in seeking a general understanding of semiconductors, and what the potential is for their career development which is really powerful to see."

-Kris Riley, Managing Partner, Design Systems Inc.

3-Pathways to Careers

Moving from awareness to readiness to employment, we help **talent flow into the industry** with purpose and preparation. These initiatives form our core talent pipeline, guiding learners through progressive stages of skill-building and readiness:

- U.S. DOL National Group Sponsor
- Semiconductor Career and Apprenticeship Network (SCAN)
- Certification Programming
- SEMI U
- ChipPath Career Portal

The Faces Behind the Foundation



Mike
Program Director



Nick
Program Manager



Rob
Program Manager



Anissa
Curriculum Manager



Omar
Sr. Specialist



Purvi
Program Manager

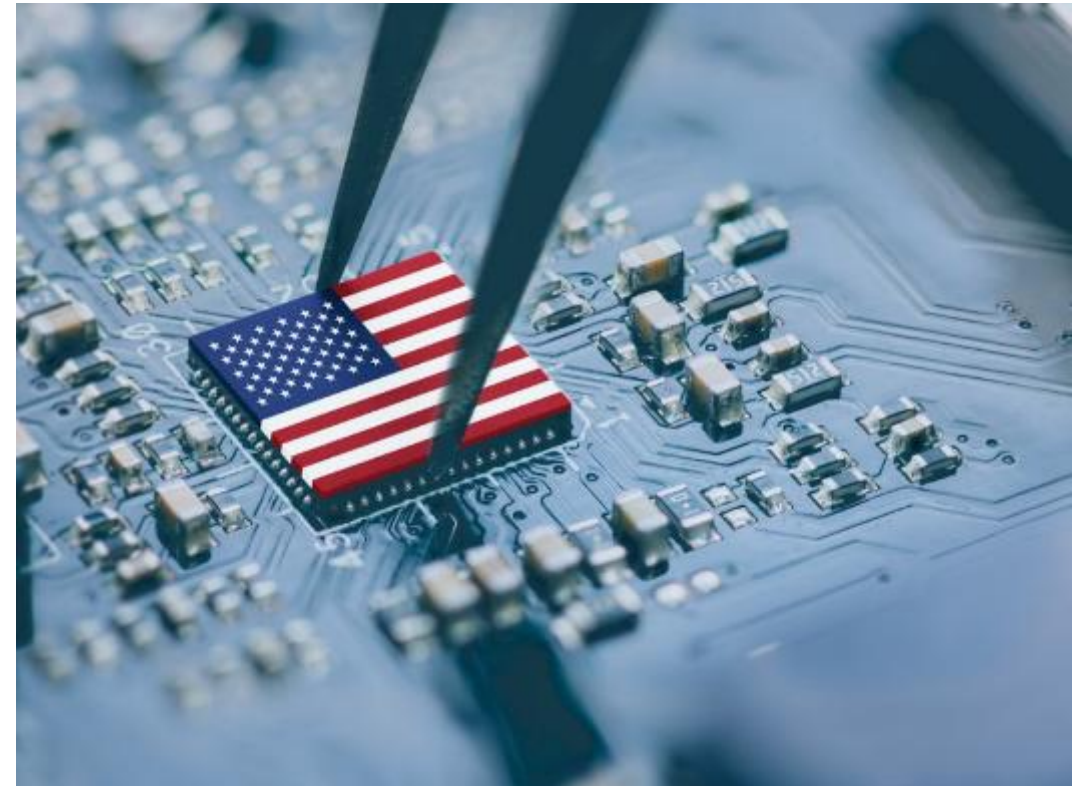
SEMI Foundation Named USDOL National Group Sponsor

The SEMI Foundation has received designation as a National Group Sponsor from the United States Department of Labor, a significant federal recognition that positions SEMI at the center of the nation's workforce strategy for advanced manufacturing.

This designation directly aligns with the Administration's *America's Talent and Workforce Strategy*, which elevates Registered Apprenticeships as a core tool for building a resilient, competitive workforce in strategic industries like semiconductors.

Why this is exciting

The SEMI Foundation can now design, register, and scale apprenticeships nationally, working directly with member companies, removing friction, accelerating adoption, and strengthening the industry's talent pipeline.

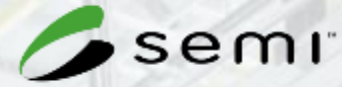


The U.S. will need more than 170,000 additional semiconductor workers by 2030, making workforce development a priority.

Apprenticeships

SEMI Foundation Participant POV

Our SCAN program can change what someone believes is possible, turning uncertainty into purpose, and interest into a real career start in the semiconductor industry.



"I did not see me enjoying it...as much as I do now...and it's because of the SCAN program at the SEMI Foundation."

-Roberto Crisologo, Western Digital Apprentice

4-Expanding Access & Opportunity

We make sure the industry's doors are open for all Americans. Our strategies are not standalone, they are embedded within every program we design and deliver to ensure more people can **participate, succeed, and thrive** in the semiconductor workforce.

- VetWorks
- Women in Semiconductors (WIS)
- Women of the Fab Owners Alliance (FOA)
- Semiconductor Pride
- Chips & Childcare

The Faces Behind the Foundation



Melinda
VetWorks Manager



Mariam
Sr. Manager



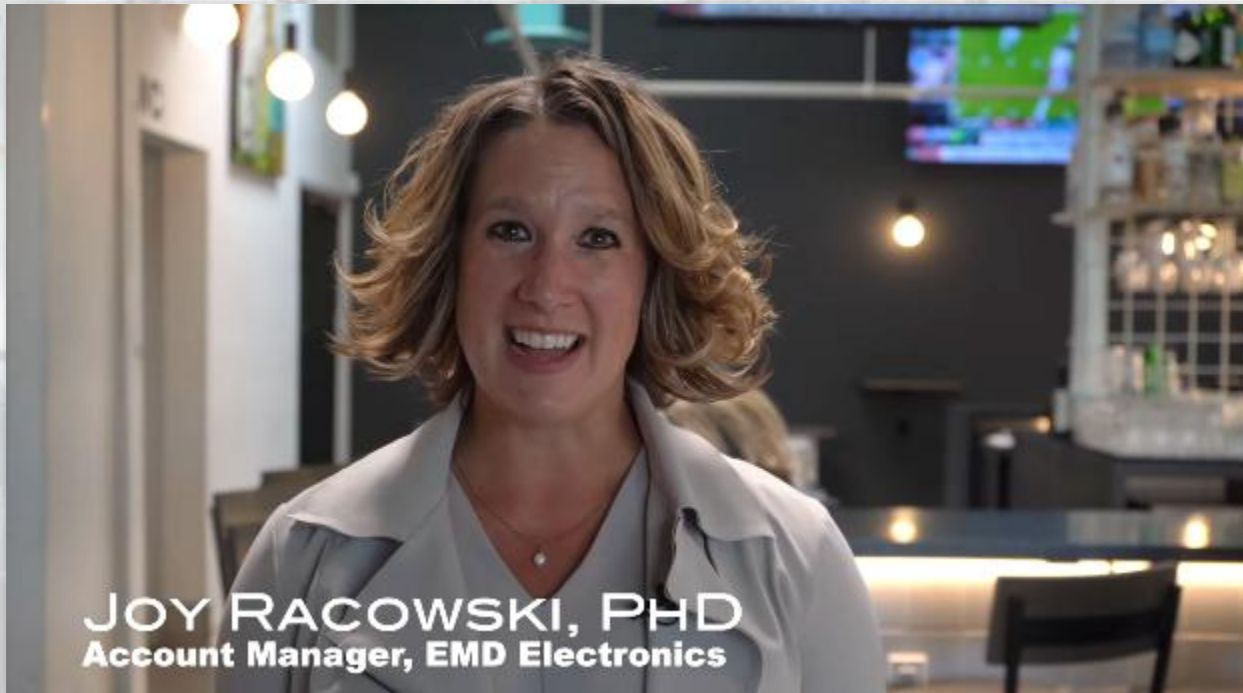
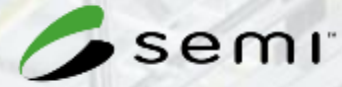
VetWorks

- 55,000+ veterans and service members reached in 2025 through partnerships with DOL VETS, Hiring Our Heroes, and Heroes MAKE America.
- Recognized as a high-growth industry for transitioning military, with direct links to SEMI career pathways in official transition handbooks.
- 30+ partner engagement events and 20+ employer participants this year, deepening industry connections.
- 2025 focus: strengthening strategic partnerships to convert awareness into career opportunities for veterans nationwide.

Expanding Access

SEMI Foundation Participant POV

Women in Semiconductors conversations help widen the door, bridging long-standing gaps and bringing more people into the industry little by little.



Our industry has been male dominated, so conversations like these are important to help us bridge the gap and get more people into the workforce, together."

-Joy Racowski, Account Manager, EMD Electronics

5-Global Workforce Development Solutions

Our global efforts make sure that workforce readiness isn't just a U.S. priority, it's a shared, **international movement** supported across the SEMI community.

- Global Schools
- Educator Resources
- SEMI U
- High Tech U
- ChipQuest
- 20 Under 30
- Student Bootcamps
- Mentorship Programs
- Hackathons

The Faces Behind the Foundation



Shari
Vice President



Berton
Director, Education



Shan
Program Director



Naresh
Director



Bia
Program Manager



Stephanie
Admin. Associate

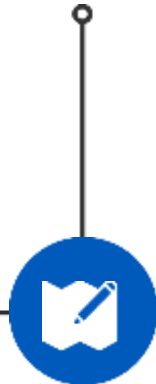


Lynn
Administrator

Global Progress in Play

Momentum is Building Globally with Support from Regional SIPS Working Groups

Mapped initiatives globally to uncover synergies and accelerate learning.



Mapped Global WFD Initiatives

Unified Awareness



Unified awareness strategy through Workforce Development Pavilions, Student Tours, Talent Forums, and partnerships with world-class universities

Replicable workforce models identified in Europe, APAC for scale.



Replicable Models in Progress

Secured Funding



Significant funding secured in the Americas and Europe monitoring opportunities across all regions.

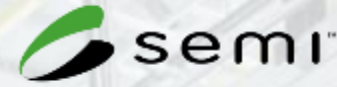
Regional workforce surveys underway in Europe, with others to follow.



Gaining Regional Insights

Global Workforce Pavilions

SEMI Foundation Participant POV



Our Global Workforce Pavilions unite industry, education, and government in one place...accelerating talent solutions and scaling the semiconductor workforce worldwide.



"Truly inspiring to see SEMI Foundation's workforce development efforts at #SEMICON India. The focus on students, training, and collaboration across academia, government, and industry is exactly what India needs to fuel its Semiconductor journey!"

-Vikas Sharma, Founder, Screen2Hire

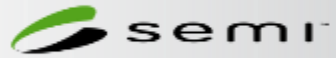
Heat Map: US

Excite and inspire early ... 3rd grade onward

Attract and motivate ... K12-college

Pathways to professional careers

Continuous learning



Primary School

High School

Technical College

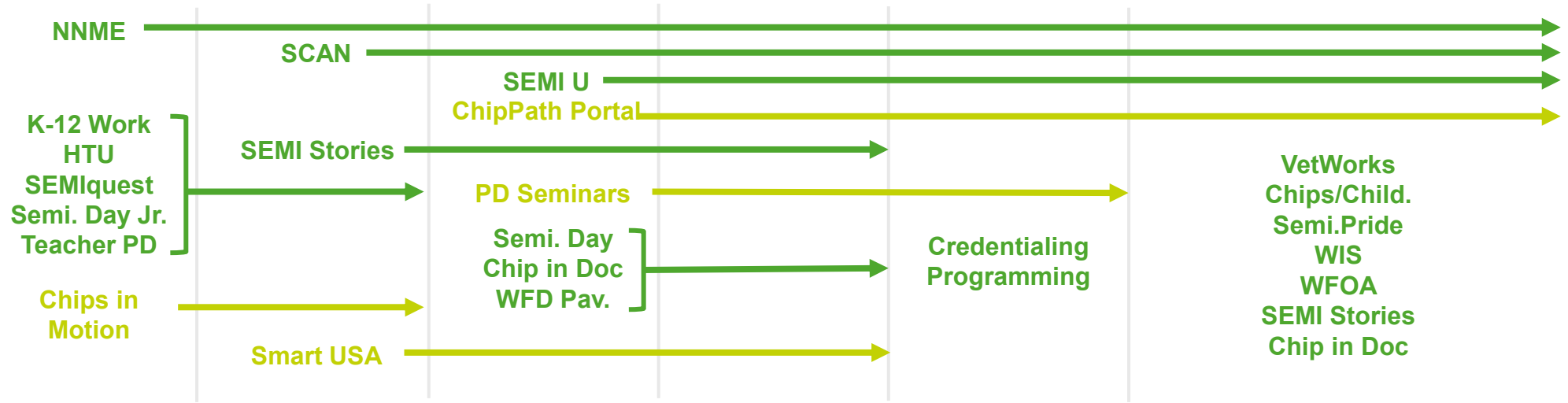
University

Certifications

Re-Skilling/
Up-skilling &
Veterans

Career &
Beyond

U.S. Initiatives



Green: all good

Yellow: in progress

Full Speed Ahead (2026)



NNME Regional Nodes Coming Soon

Building a nationwide talent engine to connect education, workforce, and industry.



Rolling Out Chips in Motion

A digital-first campaign inspiring the next generation through immersive, mobile, and engaging experiences



Scaling Core Programming Globally

Expanding proven workforce solutions across SEMI regions to meet worldwide industry demand.

Powering Progress Together.

Ways to get involved



Partner on Workforce Programs

Shape talent pipelines through internships, apprenticeships, and curriculum alignment.



Join Our Networks

Collaborate with peers, share best practices, and access talent pools.



Sponsor Awareness + Education Initiatives

From Chips in Motion to SEMIquest and Student Tours—make semiconductors visible and exciting.



Support Access Programs

Champion initiatives that get all Americans excited about careers in this industry.



Invest in the Future

Fund scholarships, program expansion, and national efforts to sustain long-term growth.



The workforce challenge is the **opportunity of our time. Contact us at semifoundation@semi.org or reach out directly to me at sliss@semi.org.**