



IEEE-USA & Region 8

Tim Lee, IEEE-USA President
Region 8 AGM Budapest, Hungary
5 April 2025





Timothy Lee
IEEE-USA President

Timothy Lee, a Boeing Technical Fellow based in Southern CA, leads the development of disruptive microelectronics technologies for advanced communications networks and sensor systems for airborne and space applications. His current research interests include heterogenous integration (Advanced Packaging), silicon Application Specific Integrated Circuits (ASICs) and gallium nitride Monolithic Microwave Integrated Circuits (MMICs). He led the development of hardware for satellite communications and has built phased-array antenna electronics for commercial and US government customers. He is an active volunteer in the IEEE. He is the 2025 IEEE-USA President; seeking collaboration on technology policy for R&D, STEM education and Workforce Development. Previous roles includes IEEE Board of Directors (2021-2022 Region 6) and past President of the IEEE Microwave Theory and Technology Society (MTT-S). He leads several Technical Working Groups in the IEEE Heterogenous Integration Roadmap (HIR) and is the Vice-Chair in the IEEE Future Networks Technical Community.

IEEE-USA – Supporting the career and public policy interests of IEEE US Members

Mission

IEEE-USA's mission is to recommend policies and implement programs specifically intended to serve and benefit the members, the profession and the public in the United States in appropriate professional areas of economic, ethical, legislative, social and technology policy concern.

Vision

Our vision is to serve the U.S. IEEE member by being the technical professional's best resource for achieving lifelong career vitality and by providing an effective voice on policies that promote U.S. prosperity.

#OneIEEE

<https://ieeeusa.org/>

2025 Policy Priorities

- Promotion of Science & Technology
- Federal R&D Funding & Programming
- CHIPS Act Funding & Programs
- AI Regulations
- Immigration
- Energy
- Space

IEEE-USA Congressional Visit Day



CVD

IEEE-USA Congressional Visits Day
8-9 April 2025



When/Where: 8-9 April 2025 | Washington, D.C.

IEEE-USA Congressional Visits Day (CVD) is an annual event that brings engineers, scientists, mathematicians, researchers, educators, and technology executives to Washington to raise visibility of and support for engineering and technology. This premier event is open to all IEEE members in the United States.

CVD's Objectives

CVD is an opportunity to introduce yourself, your colleagues, your company, and your profession to our elected officials. It also a great opportunity to discuss legislation and issues that are uniquely important to IEEE members.



IEEE-USA Career and Members Services

TRENDING ON IEEE-USA InSight



**Hard Skills Impress;
Soft Skills Persuade**



**Unleashing Your Potential
Through Microlearning**



**Embrace Change and Thrive
in the Next Quarter-Century**



**Reset, Reflect, Repeat:
Leaning into Discomfort**



**Six Things To Know
About Your Boss**



**Eight Key Skills Needed to
Effectively Manage People**

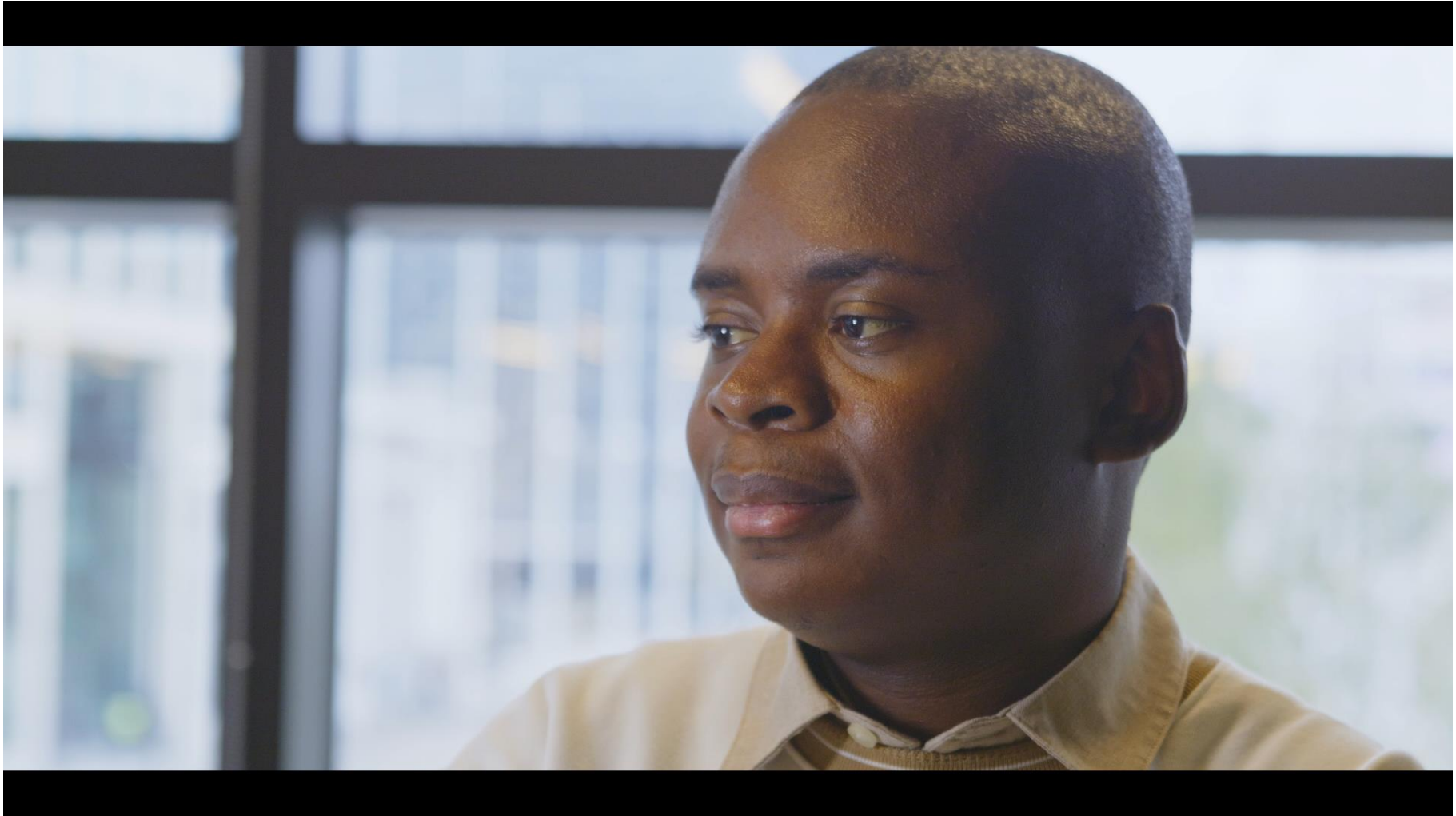
IEEE-USA Communications

IEEE PROFESSIONAL HOME CAMPAIGN

- At IEEE President Tom Coughlin's request, we took on producing/directing a video project to raise the visibility of IEEE members all over the globe. This **"IEEE is my Professional Home"** campaign is a continuation of something we started in late 2019 called "IEEE-USA is my Competitive Edge" – and has been highly successful.
- We filmed members in Tokyo, Japan; Glasgow, Scotland; London, England & Belfast, Northern Ireland.
- Work is ***now complete on the 7 video spots***
- NIC approved additional funding of \$150k late last year to help promote the videos in 2025. 50k for Japan, 50k for the UK and 50k for US marketing purposes via streaming, cable and over the air TV.
- Spots will begin airing on those markets in the months ahead, along with organic social media, YouTube and more.



IEEE-USA Produced Promotional Video



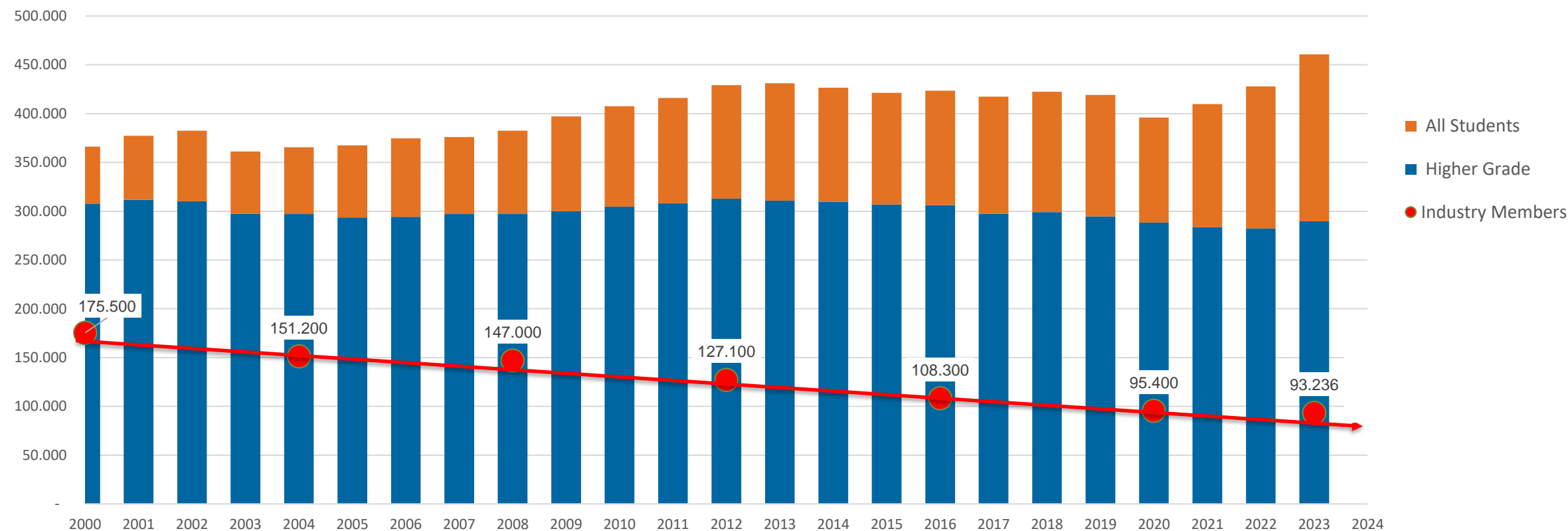


Industry Engagement Critical to Membership for IEEE

Case Study: Semiconductors



IEEE Membership – Overall and Industry, 2000 to 2024



Notes:

- *Higher Grade* includes those of member grades Honorary, Associate Member, Member, Senior Member, Fellow, plus those of corresponding Life Status
- *All Students* includes Student members and Grad Student members. Grad Students was added as a separate grade in 2007
- Starting in 2003, members with Life status were required to confirm they wish to continue receiving products and services
- Red dots represent higher grade industry members (including those with Life status). From 2000 to 2020, these are estimates based on responses to Member Segmentation Survey. For 2024, this is an actual count of those indicating "Industry" in member database, as of 4 November.

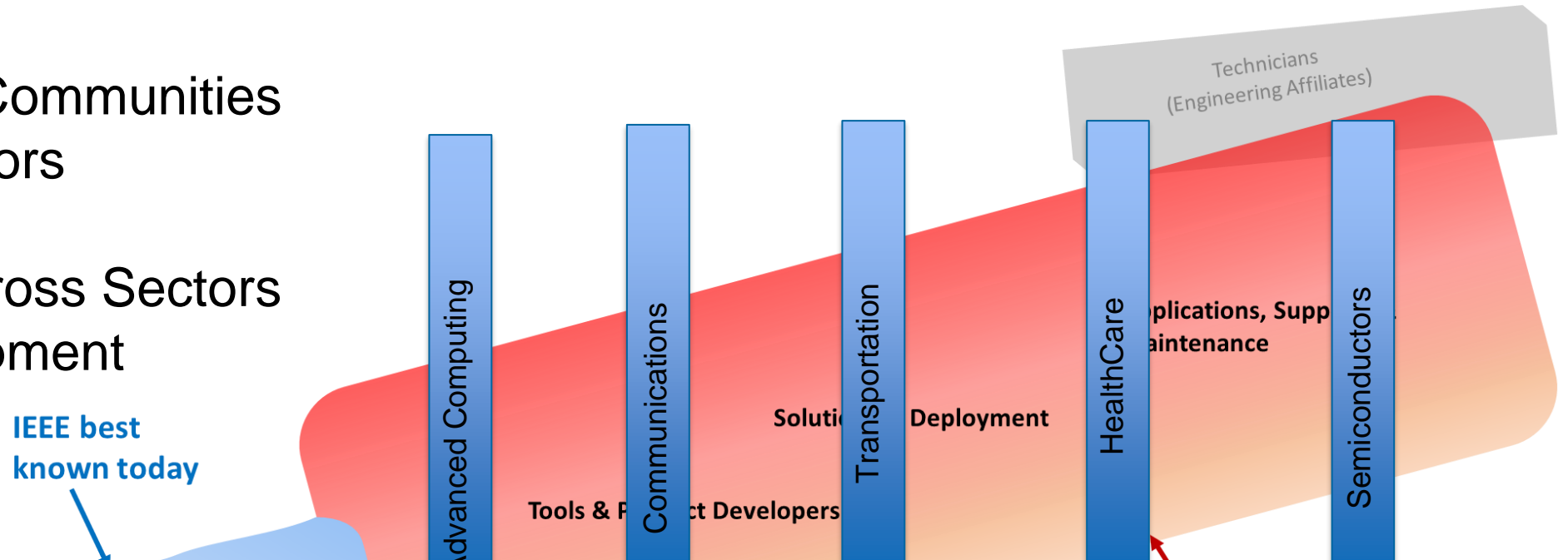
Sources: IEEE Annual Statistics, Member Segmentation survey, member database

IEEE and IEEE-USA’s goal to invigorate growth of Industry Membership and Participation

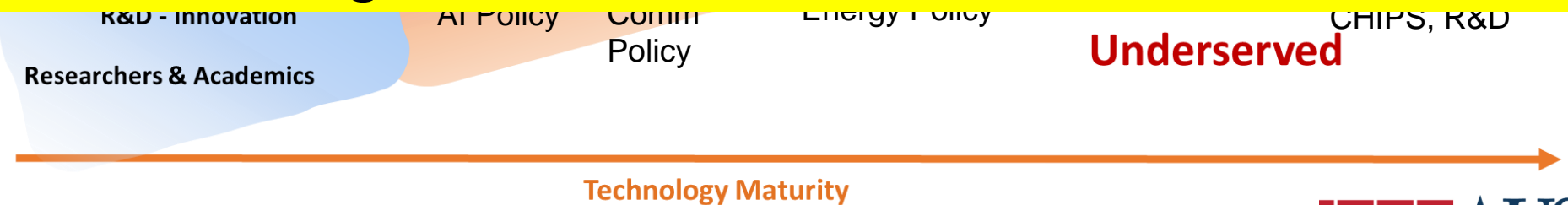


Industry Professionals' Needs Across Verticals

- More than 66% of US Members are in Industry
- Building Tech Communities
 - Tech Corridors
 - Rural Areas
- Tech Policy Across Sectors
- Career Development
- STEM Pipeline



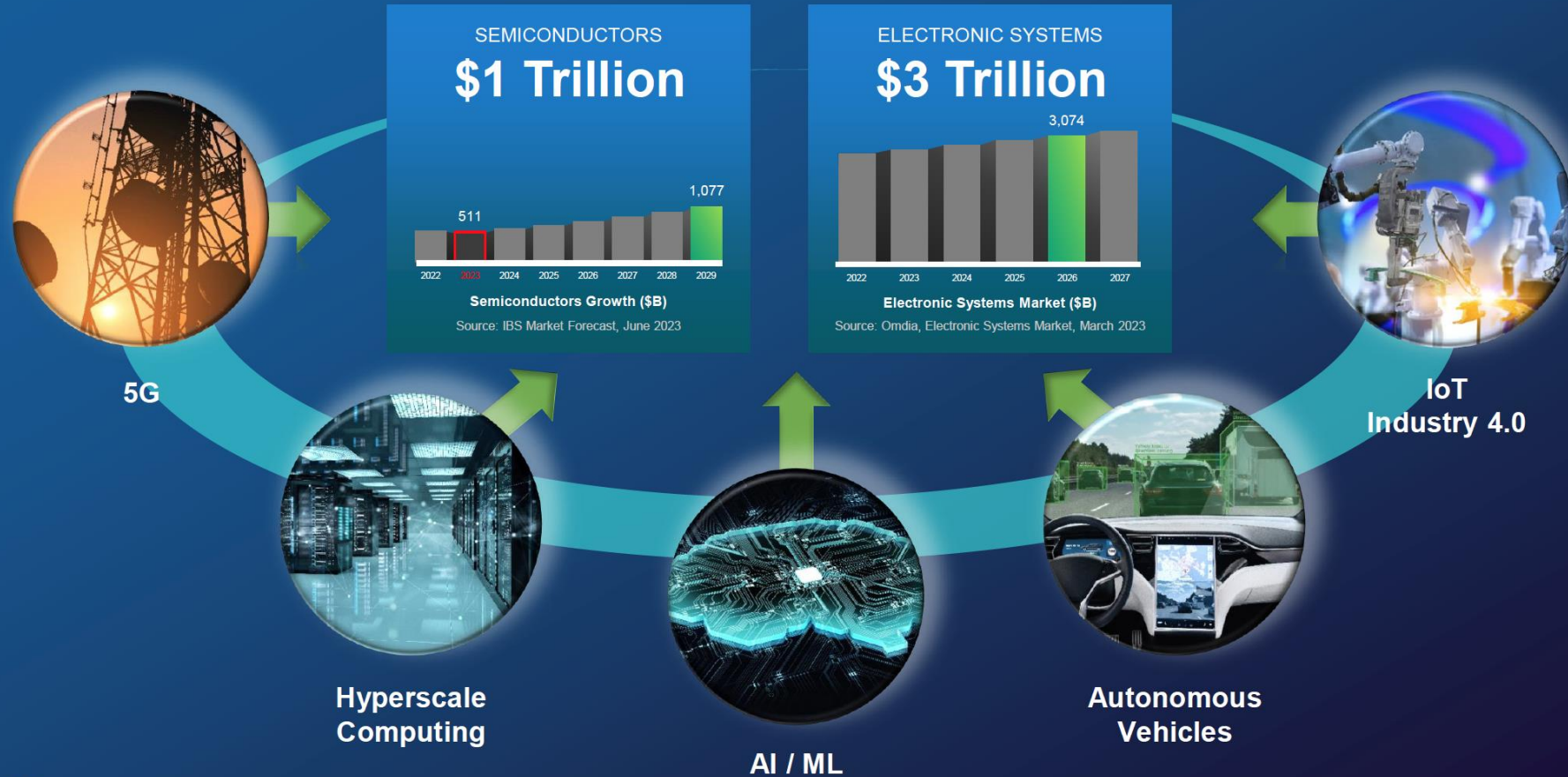
How can we work together in 2025 to make a difference?



Industry Engagement need to focus on Verticals

Key Industry Drivers for Semiconductors

Generational Semiconductor Drivers



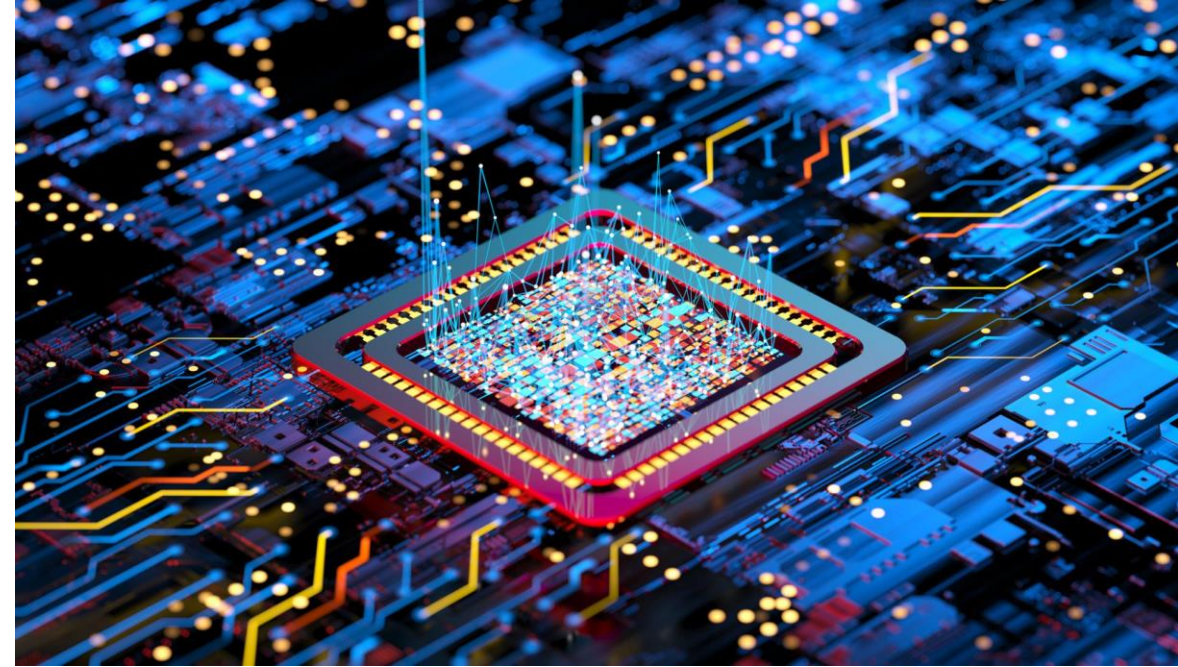
CHIPS and Science Act of 2022

The CHIPS Act is a bill that provides \$52.7 billion for American semiconductor production, research and development, and workforce education initiatives¹²³. It aims to encourage companies to move chip manufacturing back into the United States and strengthen the country's ability to compete in future technologies.

The Act also includes funding for technology deployment and workforce development

IEEE-USA funded Fellow contributed to sections of the CHIPS and Science Act

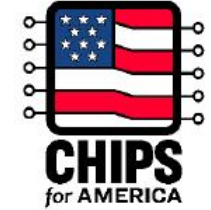
Advanced Packaging is the new paradigm for next generation microelectronics advancements



Building Infrastructure and Workforce Development

<https://ieeeusa.org/ieee-usa-commends-chips-act>

CHIPS for America Vision



Economic Security

The CHIPS Act will strengthen supply chain security and increase economic resilience in critical sectors.



National Security

The CHIPS Act will ensure that the U.S. can manufacture advanced technologies, including secure chips for the U.S. military.



Future Innovation

The CHIPS Act will spur innovation, increase competitiveness, and ensure long-term U.S. leadership in the sector

National Institute of Standards and Technology | U.S. Department of Commerce

4

Euro semi firms push for 'Chips Act 2.0' to expand beyond manufacturing

€43 billion (\$47 billion) European Chips Act finalized in 2023, dubbed by some as "Chips Act 2.0."

Nine EU Member States have launched the Semiconductor Coalition, marking an important step toward deepening cooperation Europe's semiconductor ecosystem.

"To ensure technological sovereignty, resilience and strategic autonomy, the EU must strongly enhance its cooperation – between governments, industry, research institutions – and jointly create and coordinate a common strategy to increase production capacity, invest in cutting-edge research, and develop a skilled workforce."

<https://digital-strategy.ec.europa.eu/en/policies/european-chips-act>

<https://digital-strategy.ec.europa.eu/en/news/strengthening-europes-semiconductor-future>

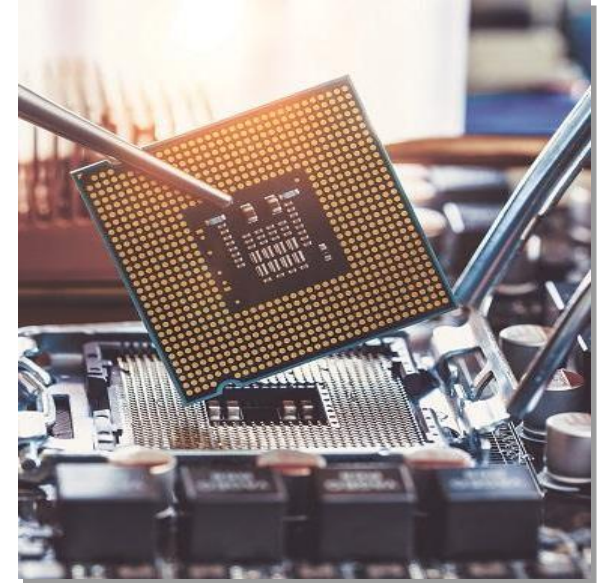
Addressing Semiconductor Talent Shortage is Critical

- Industry projections indicate that by 2030, the global semiconductor sector will need to hire approximately 1 million additional skilled workers while also retaining its current workforce. 44% of semiconductor companies point to talent development as one of their top three transformation-critical capability areas.
- With increased demand for semiconductors worldwide driven by geopolitical shifts and supply chain disruptions, there is often competition for the same limited pool of skilled workers
- Industry leaders expect GenAI to have a transformative impact on the semiconductor sector; rapid adoption of GenAI technologies requires specialized skills in chip design, advanced manufacturing and system integration.
- Talent shortage is further exacerbated by an aging workforce and what appears to be low industry appeal for younger workers.
- IEEE should work together across all Regions for Workforce Development

IEEE Global Semiconductor Activities

Ad hoc formed under IEEE Future Directions

- Objectives:
 - **Inform** – Create website with links and information related to global semiconductor initiatives and related programs
 - **Engage** – Identify opportunities for IEEE members and groups to expand their reach with the initiatives and guide industry advancements
 - **Support** – Support overall involvement in the industry for industry professionals and STEM for encouraging the future workforce



IEEE Global Impact

- Semiconductor Working groups in Region 9 and Region 10 support of ATP and Workforce Development, supporting interactions between industry, government and academics to support global resilience.
- Meetings with International Technology Security and Innovation (ITSI) Fund entities scheduled. Assembly, Test and Packaging footprints in areas such as Vietnam, Phillipines, Indonesia, Costa Rica, Panama and Mexico supporting global resiliency.
 - Plans for upcoming Region 9 Semiconductor Summit.
- Committee members active on major semiconductor groups:
 - ICOS – International Cooperation on Semiconductors
 - OECD - Organization for Economic Change Development – Semiconductor Informal Exchange Network

What can we do together in Region 8?



**Academia + Industry +
Government = winning formula
for Collaboration for
Workforce and Membership
Development**

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