## What is MASH DTI?

Aligned with the CHIPS R&D mission, the Mid-Atlantic Semiconductor Hub (MASH) Digital Twin Institute (DTI) aims to lead in technology advancement, accelerate innovations to market, and educate and train a sustainable workforce in the U.S. semiconductor industry. MASH DTI brings together top industries, world-class universities, startups, state organizations, national R&D labs, and education and workforce development associations to provide access to the world's first distributed semiconductor network with major nodes at Penn State University, Massachusetts Institute of Technology, and Arizona State University.
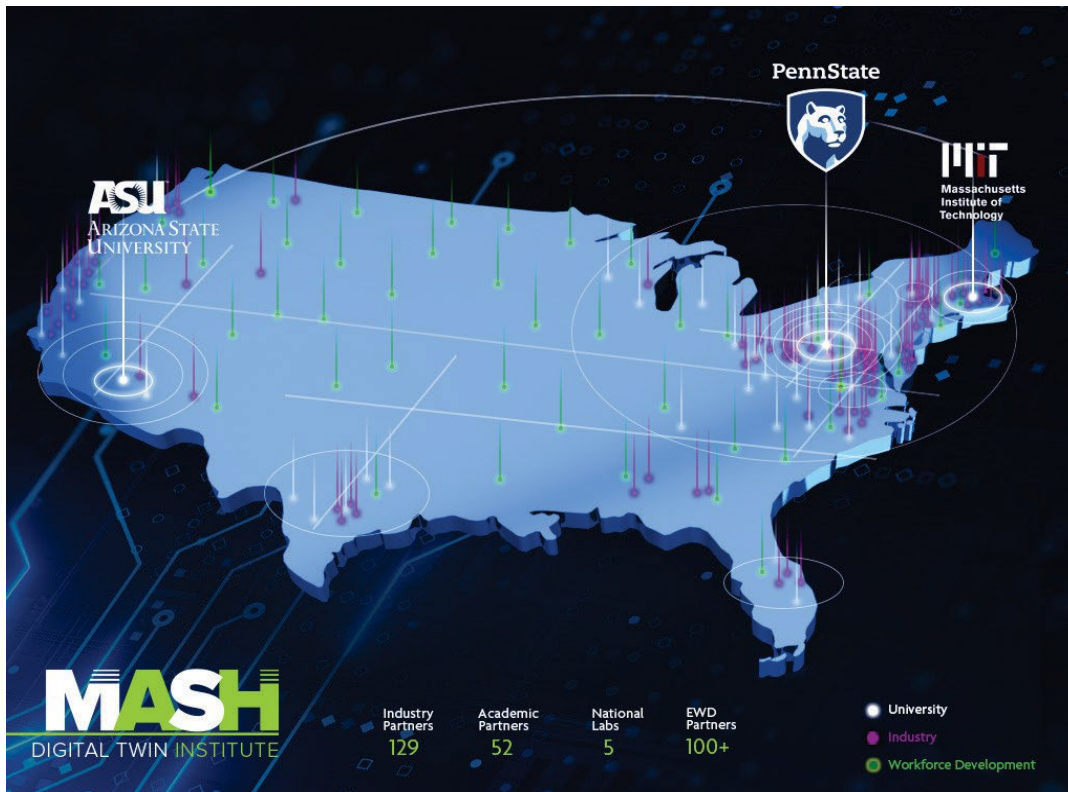
Here's how MASH DTI plans to achieve this:

1. **Bridging R&D and Market Gaps**: MASH DTI will help semiconductor manufacturers successfully bring their innovations to market by providing access to a distributed network of expertise for validating and developing digital twin models including technical, financial, logistical, and educational support.
2. **Accelerating Product Development**: MASH DTI will reduce costs and speed innovations tenfold by developing advanced digital twin technologies that simulate the entire semiconductor supply chain with real-time data and artificial intelligence integration.
3. **Supporting Small and Medium Enterprises**: MASH DTI will support small and medium-sized enterprises by fostering an inclusive environment for the development and commercialization of semiconductor digital twin technologies, expanding market access beyond major semiconductor corporations.
4. **Expanding the Workforce**: MASH DTI will build upon existing workforce development efforts by providing digital twin-supported education and training programs for all levels from K-12 to associate degree programs to retraining professionals within its collaborative network of community colleges, minority-serving institutions, R1 universities, and industry.

By **harnessing the collective infrastructure and expertise of its members**, MASH DTI will bolster U.S. economic competitiveness and national security by addressing the critical digital twin, research and development, and workforce development needs of the semiconductor industry.