LABS OVER FABS:
HOW THE U.S. SHOULD INVEST IN THE FUTURE OF SEMICONDUCTORS

POLICY RECOMMENDATIONS

1. PUSHING THE BOUNDARIES OF CHIPS

- The U.S. should create or reinforce 25 university-industry centers of excellence in semiconductors with a heavy emphasis on cutting-edge research and development.

2. MAKING CHIP CAREERS COMPETITIVE

- The federal government in tandem with state and local school authorities should sponsor high school centers of hardware excellence that can offer students spaces to experiment, explore, learn and build in chip and hardware fields.

- The United States government should fund a national talent program for 5,000 undergraduates and 1,000 graduate students per year to cover full tuition and annual stipends for an academically selective corps of next-generation semiconductor researchers, scholars and professionals (the CHIPS Fellowship Program — Creative and High-tech Innovation Professionals in Semiconductors).

- Similar to the NSF CAREER Award for early-stage research professionals, the government should expand funding for scholars across a diverse range of semiconductor-related fields pursuing projects at the cutting-edge of this field.

3. OPENING AMERICAN SEMICONDUCTORS

- As part of its supply-chain resilience initiatives, the Defense Department should mandate that open standards be used throughout its supply chains wherever feasible.

- Through NIST and other standards-setting agencies, the U.S. should spearhead global initiatives alongside its allies to define and standardize new open-source models for semiconductors and the software built on top of them.