



*CHIPS and Science Act  
Overview*

# Objectives

- Provide an overview of the funding opportunities provided by the CHIPS and Science Act.
- Provide a snapshot of some funding provided to North Carolina.
- Increase awareness of some competitive funding opportunities.



# CHIPS and Science Act Summary

## Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act

- Signed August 9, 2022
- Response to foreign competition and supply chain issues

## Funding Totals

- \$80B - semi conductor investments
- \$200B - STEM research, commercialization, and workforce development

## Types of Funding

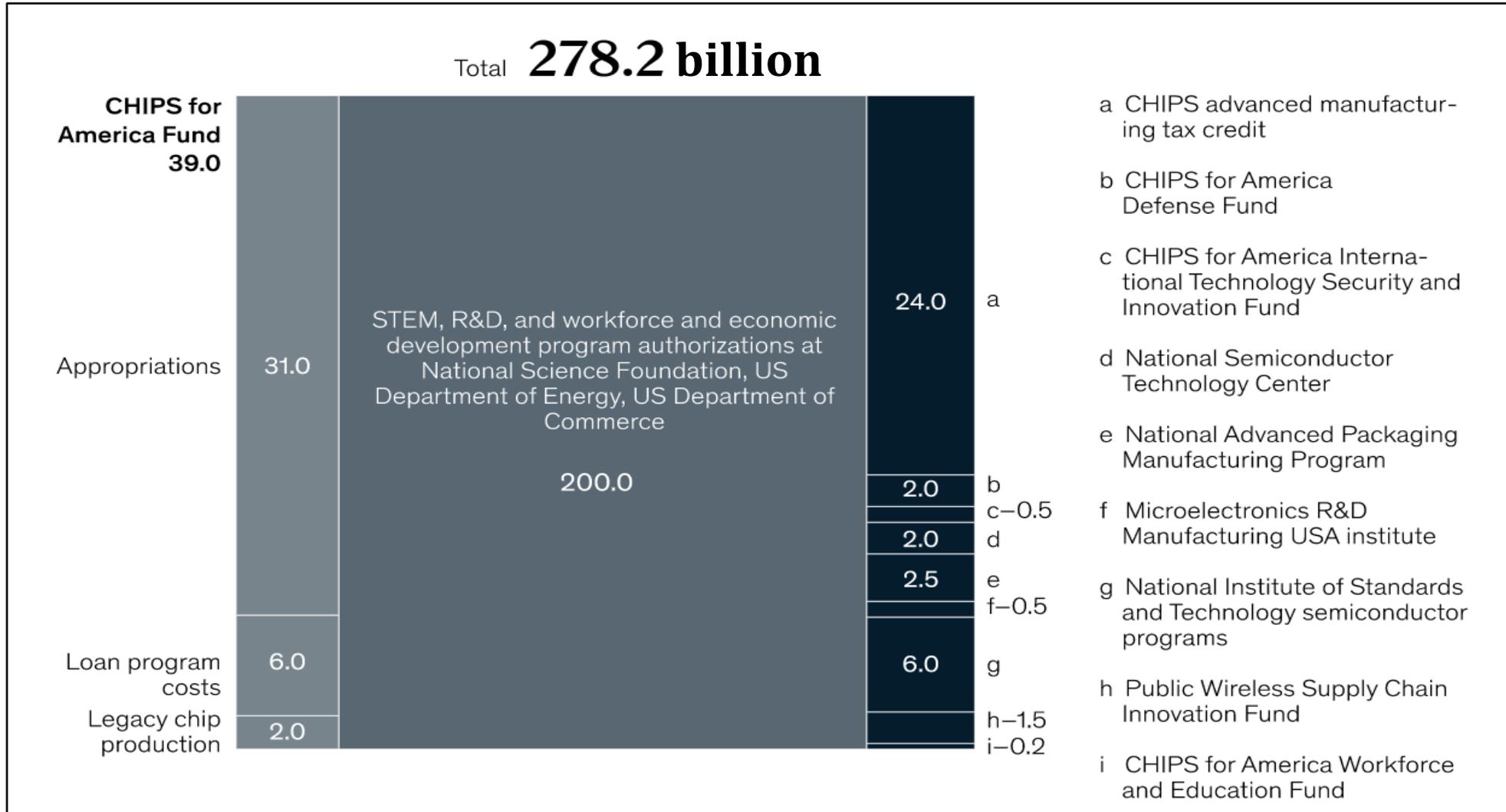
- Direct Funding (Competitive grants and cooperative agreements), loans, rebates, tax credits (Pending program guidance)

## Timelines

- Most grants spread across FFYs 2022-2026
- Most funding pending appropriation
- Semiconductor and regional hub investments appropriated; agency rules are still pending for many of these programs



# CHIPS and Science Act Summary Funding



Source: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-chips-and-science-act-heres-whats-in-it>



# CHIPS and Science Act Summary Funding Structure

## **CHIPS**

**\$80B**

Invests in manufacturing facilities, supply chain industries, and workforce associated with semiconductor Chips.

*and...*

## **Science**

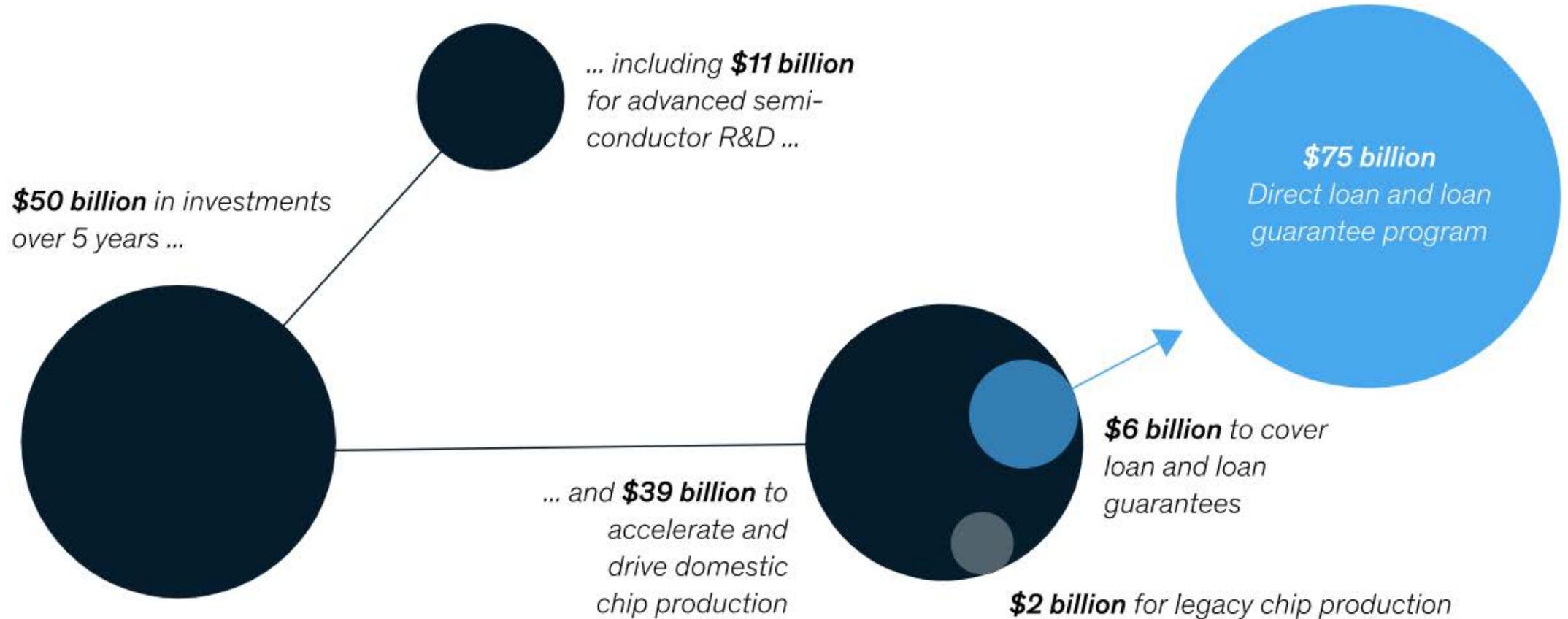
**\$200B**

Invests in STEM research, commercialization, and workforce pipelines (Clean energy, quantum computing, artificial intelligence, cybersecurity, and nanotechnology).



# CHIPS Investments - Domestic Manufacturing of Semiconductors

## Budget to expand domestic manufacturing of mature and advanced semiconductors



Source: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-chips-and-science-act-heres-whats-in-it>

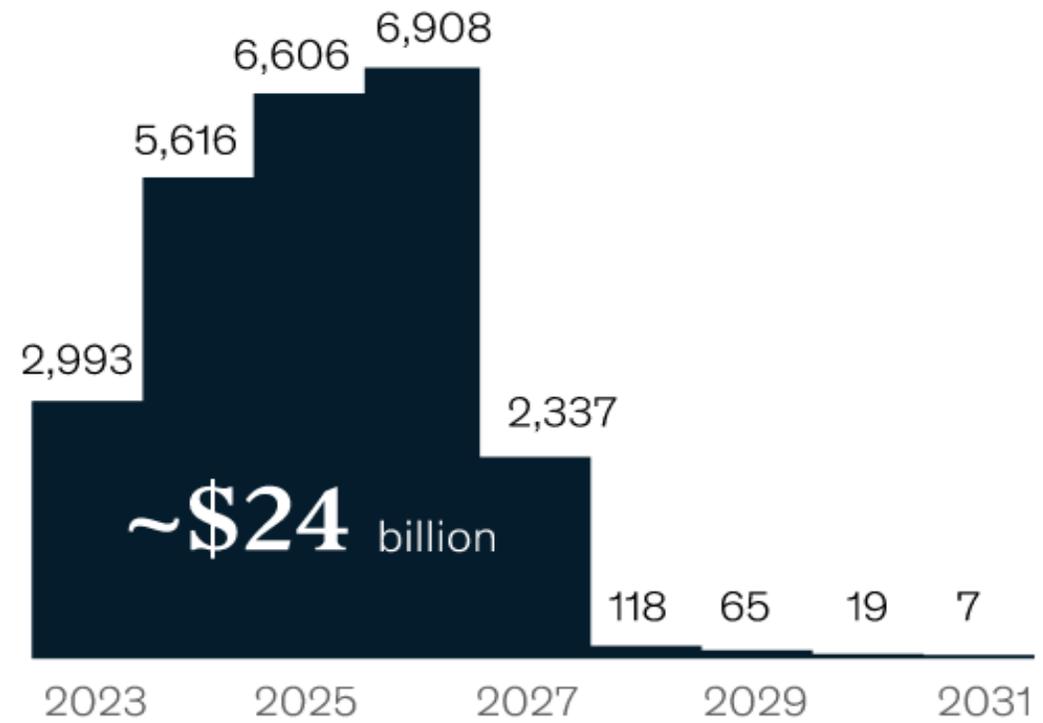


## CHIPS Investments – Domestic Manufacturing of Semiconductors

**\$24B**

- Taxpaying entities receive a 25% advanced manufacturing investment tax credit for semiconductor manufacturing and processing equipment.

Estimated outlays of advanced manufacturing investment tax credits by US Treasury, \$ million



Source: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-chips-and-science-act-heres-whats-in-it>



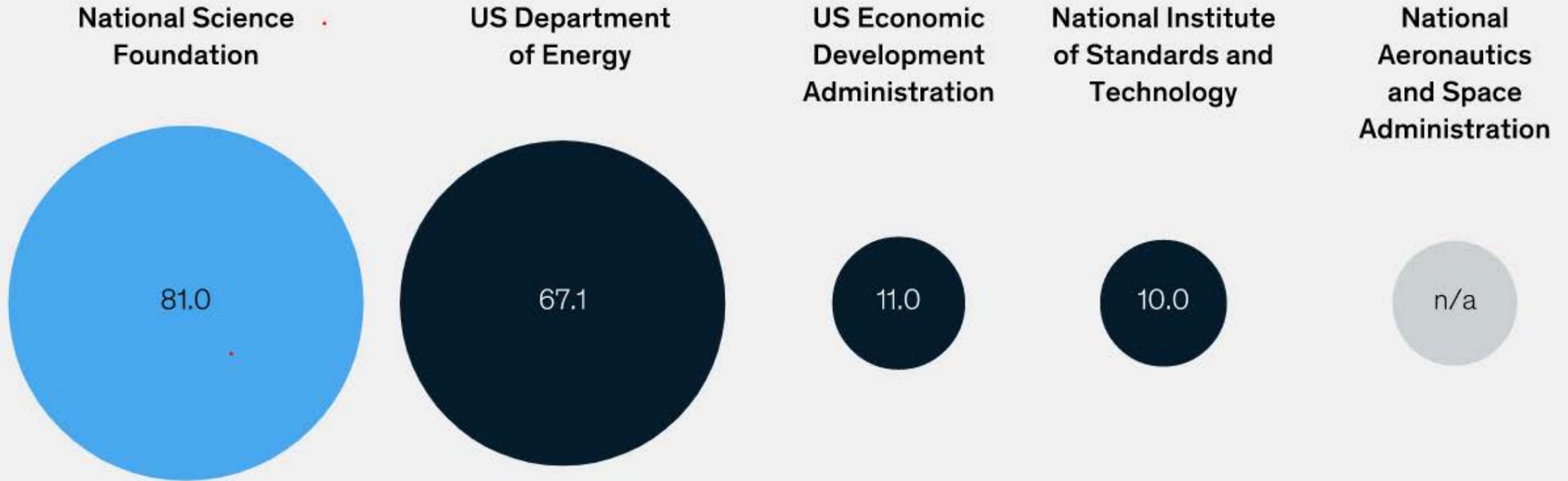
### **\$4.2B in defense-specific chips, wireless supply-chain funding, International IT tech, and workforce.**

- \$2B - CHIPS for America Defense Fund
- \$1.5B - Public Wireless Supply Chain Innovation Fund
- \$500M - CHIPS for America International Technology Security and Innovation Fund
- \$200M - CHIPS for America Workforce and Education Fund



# Science Investments - STEM, R&D, and Workforce Development

CHIPS and Science Act funding 2022–27,<sup>1</sup> \$ billion



<sup>1</sup>Final funding levels subject to future budget appropriations by US Congress.

Source: Congress.gov; Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act of 2022, H.R. 4346, 117th Cong. (2022)



# \$50B in Funding Opportunities



Source: [National Institute of Standards and Technology](#)



# 1<sup>st</sup> NOFO - \$39B of \$50B in Funding Opportunities

## CHIPS for America Programs



### \$39 billion for manufacturing

#### Components:

1. Attract large-scale investments in advanced technologies such as leading-edge logic and memory
2. Incentivize expansion of manufacturing capacity for mature and other types of semiconductors

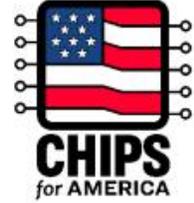
### \$11 billion for R&D

- National Semiconductor Technology Center
- National Advanced Packaging Manufacturing Program
- Manufacturing USA institute(s)
- National Institute of Standards and Technology measurement science

Together with CHIPS initiatives from other agencies, including DOD, State, NSF, and Treasury

Workforce development

# Vision for Success



## Leading-Edge Logic

- ✓ The U.S. will have at least **two new large-scale clusters of leading-edge logic fabs**
- ✓ **U.S.-based engineers** will develop the process technologies underlying the **next gen of logic chips**



## Memory

- ✓ U.S.-based fabs will **produce high-volume memory chips on economically competitive terms**
- ✓ **R&D for next-generation memory** technologies critical to supercomputing and other advanced computing applications will be **conducted in the U.S.**



## Advanced Packaging

- ✓ The U.S. will be home to **multiple high-volume advanced packaging facilities**
- ✓ The U.S. will be a **global leader in commercial-scale advanced packaging technology**



## Current-Generation and Mature

- ✓ The U.S. will have **strategically increased its production capacity** for current-gen and mature chips
- ✓ Chipmakers will also be able to **respond more nimbly** to supply and demand shocks

By the  
end of the  
decade...



## Helpful Resources

- Visit [CHIPS.gov](https://www.chips.gov) (Guides, templates, FAQs, and fact sheets)
- CHIPS [Workforce Guide](#)