CHIPS for America: Investment Process Overview

May 7, 2024
Agenda & Objectives for today

Agenda

- Context and objectives for the CHIPS Act
- Building the team, designing a portfolio strategy, and crafting a rigorous review process
- Executing merit review and applicant engagement
- Scoping and sizing awards
- Due diligence, legal documentation, and award execution process
Today’s Speakers

Brad Koenig
Senior Relationship Director

Ozair Ahmad
Investment Principal
The CHIPS Vision
## Context for the CHIPS Act

### Four Critical Developments Leading to CHIPS Act Passage in August 2022

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| **1. Offshoring of U.S. Semiconductor Capacity** | • U.S. share of global fabrication capacity was **40% in 1990 and 12% in 2020**  
  o U.S. companies account for ~46% of the semiconductor **design** market today |
| **2. Concentration of Fabrication in East Asia** | • ~**80%** of semiconductor fabrication capacity today in East Asia  
  • Geopolitical considerations and natural disasters threaten severe disruption |
| **3. Pandemic Exposed Severe Impact of Chip Disruption** | • Delays and shortages of semiconductors during the COVID-19 pandemic led to enormous economic losses  
  o **An estimated 9.5 million light vehicles were not sold in 2021** due to a lack of the necessary semiconductors |
| **4. Substantial Increase in Leading-Edge Fab Cost** | o Cost of leading-edge fabs increased from ~$1B in 2001 to $20B+ today |
CHIPS for America Programs

$39 billion
for incentives

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
• Metrology
CHIPS for America Vision

**National Security**
Support U.S. manufacturing of high-quality and secure chips for defense and other critical infrastructure applications.

**Economic Security**
Strengthen supply chain security and increase economic resilience in critical sectors.

**Future Innovation**
Spur innovation, increase competitiveness, and ensure long-term U.S. leadership in the sector.
Vision for Success
Future projects will be prioritized based on whether they can be operational by 2030

Leading-Edge Logic
- Anticipating ~20% of global leading-edge logic chip manufacturing and at least two new large-scale clusters of leading-edge logic fabs

Advanced Packaging
- Multiple high-volume advanced packaging facilities

Memory
- U.S.-based fabs will produce high-volume, cost-competitive memory chips

Current-Generation and Mature
- Strategic increase in production capacity for current-gen and mature chips
Achieving this vision requires:

• Catalyzing private investment
• Protecting taxpayer dollars
• Building a skilled and diverse workforce
• Engaging with U.S. partners and allies
• Driving economic opportunity and inclusive economic growth
Launching the Program
Building the Team

CPO Director
Mike Schmidt

Investments
Deal teams analyze applications, coordinate merit review, conduct due diligence, and negotiate funding agreements

Strategy
Experts across national security, economic security, workforce, environment, economic development, semiconductor industry

Risk
Ensure taxpayer dollars are protected on a deal-by-deal basis

Opportunity & Inclusion
Supports programs goals of workforce & supply chain diversity as well as community investment

External Affairs
Lead interactions with external parties, including Congress, state & local governments, media, industry groups, and more

Operations
Support critical operational aspects of application process and program

Chief Counsel
Ensure compliance with the letter of the statute & with government policies, in addition to creating legal documentation

Front Office
Drive core programmatic topics

- Over 150 total team members
- Extraordinary blend of public and private sector experience
- Building a program from the ground up
Engaging with Experts

CPO frequently meets with industry stakeholders to refine its view of the market, including...

1. Leading-Edge + Current & Mature Customers
2. CEOs, C-Suite, and Semiconductor Procurement Executives
3. Semiconductor Industry Associations
4. EDA Vendors, Supply Chain Equipment & Materials Producers
5. Key Industry Investors and Experts
6. Workforce, Labor, Environmental Experts and Other Key Stakeholders

…and many more experts across the semiconductor value chain
Portfolio Approach

CPO is investing in a holistic portfolio of critical technologies that reflects the latest market intelligence

- Every application is first evaluated on its own merits, but awards are also decided based on building a portfolio that achieves CPO’s Vision for Success

Key Portfolio Principles

- The portfolio should reflect public and private customer needs across different nodes and technology types
- $28B for Leading-Edge Chip Manufacturing
- At least $2B for Mature nodes
- Targeted investments in Advanced Packaging & Supply Chain projects
- Focus on projects in production by 2030
Implementing a Rigorous Process
Announced Funding Opportunities

- **February 28, 2023**: For commercial leading-edge, current, and mature node fabrication facilities.
- **June 23, 2023**: For large semiconductor materials and equipment facility projects $300M+.
- **September 29, 2023**: For smaller semiconductor materials and equipment facility projects under $300M.

The CHIPS Program Office has received over 640 statements of interest, over 190 pre-applications and full applications, and over 160 small supplier concept plans.
NOFO 1 Application Process

The CHIPS team conducts an in-depth, standardized “Merit Review” of the project with feedback and determinations made by the Investment Committee.

1. Statement of interest (600+ received)
2. Pre-application (optional) → Feedback
3. Full application
4. Due diligence
5. Award preparation

Preliminary Memorandum of Terms (PMT)
CPO’s Merit Review process is akin to commercial due diligence in the private sector, leveraging critical information from sources such as customer calls to conduct an in-depth review of the applicant and project.

**Economic and national security**
Example: CPO will review how effectively the project enhances domestic supply chain resilience.

**Commercial viability**
Example: CPO will conduct in-depth review of end market demand through sources such as customer calls.

**Financial strength**
Example: CPO will review the certainty of private funding sources (including third-party and company funding).

**Technical feasibility & readiness**
Example: CPO will study and assess the construction workplan, as well as the project’s environmental risks.

**Workforce development**
Example: CPO will review the quality of workforce partnerships and plans to develop and retain a diverse workforce.

**Broader impacts**
Example: CPO will review future domestic investments and the applicant’s capital allocation policies.

CPO then constructs a PMT that is anchored on tailored milestones that reflect construction, technical, environmental, workforce and other criteria that the applicant must meet to receive funding.
**Funding Instruments & Allocation**

**Funding instruments**

- Direct Funding
- Loans
- Loan Guarantees

**Total funding**

- For CHIPS **Direct Funding**, up to ~$39B available in total

**Funding by project**

- Direct funding expected to be **5-15% of project capital expenditures**

- For CHIPS **Loans and Loan Guarantees**, up to $75B in total in direct loan or guaranteed principal

- Expected total amount of a CHIPS Incentives Award expected not to exceed **35% of project capital expenditures**

**Alternate funding sources:**

- Investment Tax Credit (26 U.S.C. § 48D)
- State & Local Incentives
- Private Investments
CHIPS Award Decision Factors

Bespoke process for each Applicant – no “one-size-fits-all” comparison across CPO

1. National and economic security prioritized
2. Optimize return on the Direct Funding investment and act as a steward of taxpayer funds
3. Size/impact of project/capacity relative to needs/gaps
4. Scope of project (LE, memory, C&M, advanced packaging, supply chain, etc.)
5. Nature of the capacity (greenfield, brownfield, modernization)
6. Timing of the project
7. Incentives to drive outcomes
8. Onshoring vs. alternative sources of supply
9. Financial returns
# PMT, Due Diligence & Final Legal Documents

Following Merit Review, a multi-step process is launched to finalize legal documentation & complete due diligence

| Negotiate PMT Key Terms | • Potential funding amounts between Direct Funding, Loans, and/or Loan Guarantees  
| | • Disbursement milestones (e.g., construction, production, and/or business goals)  
| | • Policy commitments across workforce, NEPA, R&D investments/partnerships, and broader impacts |
| Expand Due Diligence | • Increased scope and depth of due diligence  
| | • May include external technical advisors, such as accountants and construction consultants |
| Draft Long-Form Term Sheet | • An expanded version of the term sheet, outlining a more fulsome set of legal points |
The Road Ahead
CHIPS has made significant strides in the last year…

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<th>Strong Industry Response</th>
<th>On Track for Significant Impact on Leading Edge</th>
<th>Announced 7 PMTs* to Date</th>
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<td>• Large and compelling set of opportunities, with 600+ Statements of Interest</td>
<td>• Anticipating ~20% leading-edge market share in the U.S. by 2030 (up from 0% today)</td>
<td>• BAE Systems</td>
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<td>• Corresponding $300B+ in private investment catalyzed</td>
<td>• Surpassing the expectation of two leading-edge clusters</td>
<td>• GlobalFoundries</td>
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*PMT: Preliminary Memorandum of Terms

With much more to come over the course of this year…
...And CHIPS is spurring investment in the semiconductor industry across the country

Semiconductor manufacturing private investments announced from May 2020 to April 2024

Source: Semiconductor Industry Association
Resources

• Visit CHIPS.gov for resources, including:
  • Funding Updates List
  • Funding Opportunities
  • Vision for Success papers
  • Applicant Guides and Templates
  • FAQs and fact sheet
• Join our mailing list
• Contact us
  • askchips@chips.gov – general inquiries
  • apply@chips.gov – application-related inquiries
Thank You