

DARPA Perspective

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Microsystems Technology Office

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Breakthrough technologies and capabilities for national security

Create breakthrough, paradigm-shifting solutions

Accept and manage significant technology risk

Disrupt or massively accelerate technology roadmaps





JUMP 2.0 Center theme alignment with ERI 2.0/MTO

MTO Thrust

ERI 2.0 Focus Area

JUMP 2.0 Centers



TALK
Securing communications

COMPUTE
Increasing information processing efficiency at the edge

DECIDE
Accelerating innovation in AI hardware

BUILD
Manufacturing complex 3D microsystems

COMPOSE
Optimizing design and test for complex circuits

SECURE
Overcoming security threats across the entire hardware lifecycle

HARDEN
Developing electronics for extreme environments

CUBIC
Center for Ubiquitous Connectivity

PRISM
Center for Processing with Intelligent Storage and Memory

COCOSYS
Center for the Co-Design of Cognitive Systems

CHIMES
Center for Heterogeneous Integration of Micro Electronic Systems

COGNISENSE
Center on Cognitive Multispectral Sensors

ACE
Evolvable Computing for Next-Generation Distributed Computer Systems

SUPREME
Superior Energy-efficient Materials and Devices



DARPA Program Manager (PM) Mentors in JUMP 2.0

DARPA PM Mentors will engage JUMP 2.0 centers

Attend yearly center reviews and SAB caucus discussions

Interact with center researchers and industry liaisons

Identify breakthrough ideas to seed DSSPs and new DARPA programs

COCOSYS



John Davies
EW/Adv. Processing

CUBIC



James Wilson
Integration

CogniSense



Thomas Ehrenreich
Directed Energy

ACE



Lok Yan
Hardware Emulation

PRISM



Matt Wilding
Software Engineering

CHIMES



Todd Bauer
MEMS/Rad-Hard

SUPREME



Jason Woo
CMOS/Processing

JUMP 2.0 PM



Dev Palmer
MTO Deputy Director

PM

DARPA web bio

John Davies	https://www.darpa.mil/staff/mr-john-davies
James Wilson	https://www.darpa.mil/staff/dr-james-wilson
Thomas Ehrenreich	https://www.darpa.mil/staff/dr-thomas-ehrenreich
Lok Yan	https://www.darpa.mil/staff/dr-lok-yan

PM

DARPA web bio

Matt Wilding (I2O)	https://www.darpa.mil/staff/dr-matthew-wilding
Todd Bauer	https://www.darpa.mil/staff/dr-todd-bauer
Jason Woo	https://www.darpa.mil/staff/dr-jason-woo
Dev Palmer	https://www.darpa.mil/staff/dr-dev-palmer



Forbes

BREAKING • BUSINESS

CHIPS Act Passes: House Approves \$280 Billion Bill To Boost Microchip Production And Counter China

Brian Bushard Forbes Staff
I cover breaking news for Forbes

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Jul 28, 2022, 03:26pm EDT

Source: Forbes



Source: CNET

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IEEE Spectrum FOR THE TECHNOLOGY INSIDER

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NEWS SEMICONDUCTORS

U.S. Passes Landmark Act to Fund Semiconductor Manufacturing >CHIPS and Science Act of 2022 provides billions for new fabs and other incentives

BY SAMUEL K. MOORE | 29 JUL 2022 | 3 MIN READ

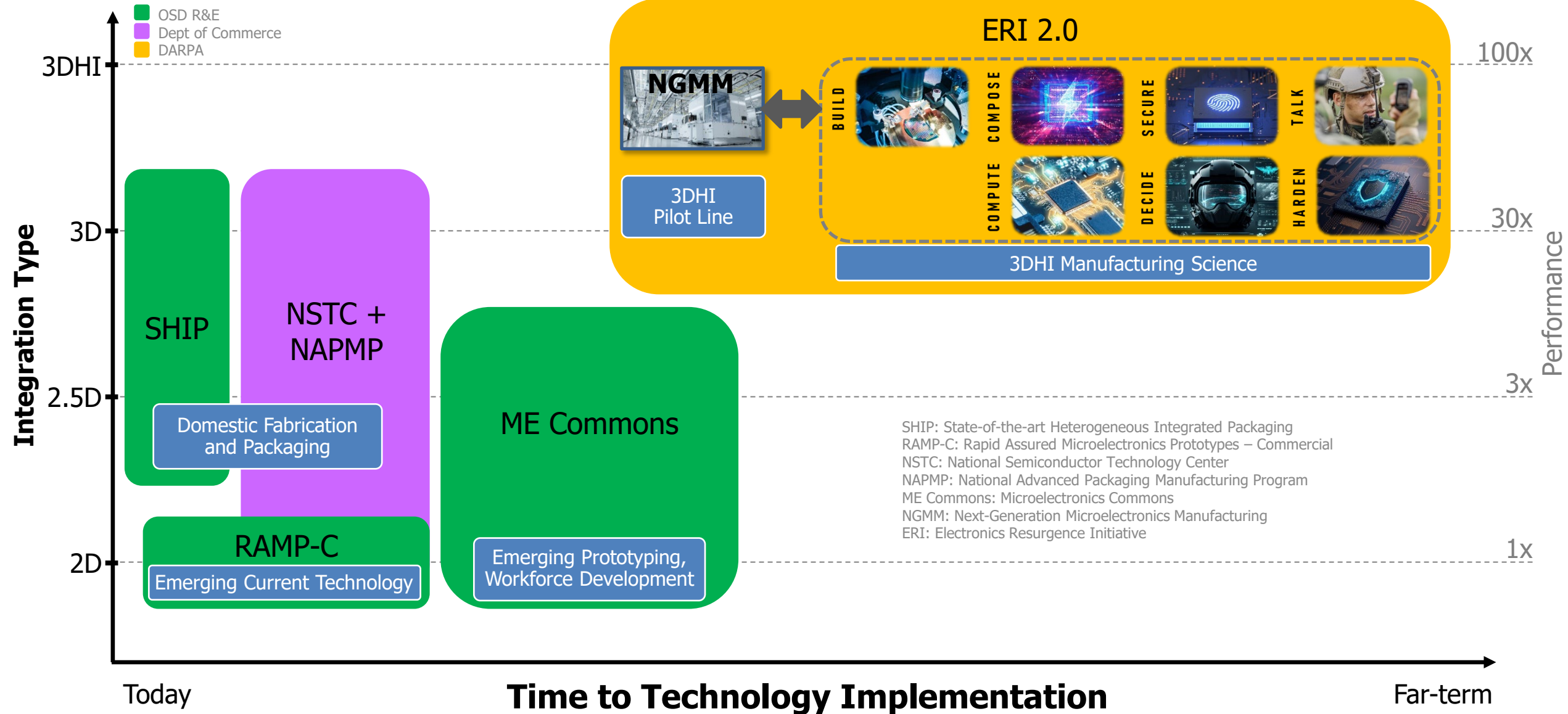


Chip manufacturers are hoping their expansions will be less costly now. GETTY IMAGES

Source: IEEE



ERI 2.0: A long-term vision for advanced microelectronics manufacturing





Program Manager (PM)

- Conceive, develop and execute complex research programs based on revolutionary ideas in advanced microsystems with high potential impact on national security
- Two-year initial appointment
 - Appointments may be extended up to a total of six years
- Various hiring vehicles
 - Term federal employee
 - Intergovernmental Personnel Act assignment
- Experienced professionals from academia, government, industry, and active duty military

<https://www.darpa.mil/work-with-us/employment-at-darpa>

Scientific, Engineering, and Technical Assistance (SETA)

- Support staff to DARPA PM
- Permanent contract position
- Technical (Tech SETA)
 - Key member of the program development team
 - Tracks technical milestones
 - Assists with proposal reviews
- Budget and Financial Management (BFM SETA)
 - Manages the PM's calendar and correspondence
 - Tracks program budgets
 - Organizes meetings and program reviews

Search "DARPA" on
<https://ecstech.com/careers/> and
<https://careers.boozallen.com/jobs/search>

Innovation Fellow

- Develop and manage a portfolio of high-impact, exploratory efforts to identify breakthrough technologies
- Two-year position at DARPA for early career scientists and engineers
- Ph.D. graduates within five years of receiving a doctorate and active-duty military with STEM degree
- BS or MS-level candidates with STEM degrees in exceptional circumstances

<https://www.darpa.mil/innovationfellowship>

Candidates selected for positions at DARPA must be eligible to obtain a security clearance



DARPA opportunities outside of JUMP 2.0



Young Faculty Award (YFA)

- Identify and engage rising stars in junior research positions inside and outside of academia (see solicitation for eligibility details)
- \$250K/year for two years, possible \$500K Director's Fellowship in year three
- Solicitation typically published in August



Advanced Research Concepts (ARC)

- Focus on the rapid exploration and analysis of a high volume of promising new ideas
- One FTE for one year up to \$300K
- Program announcement DARPA-EA-23-01; periodic topic announcements with rolling six-month deadlines

DARPAConnect

- Broaden DARPA's reach and stimulate growth and collaboration with small businesses and educational institutions new to the national security space
- Hold pop-up events in a few cities around the country along with education opportunities, workshops, a mentor/ambassador component, and other outreach efforts
- Join the contact list at darpaconnect@darpa.mil and stay up-to-date on related opportunities, activities, and events





JUMP 2.0 DARPA-Sponsored Special Projects (DSSSPs)



Dsmurat, LGPL, via Wikimedia Commons



Innovation and impact



JUMP 2.0 has an amazing team

Let's do amazing things!



Industry partners





www.darpa.mil