Science, technology, and innovation is about economic security amid global threats and geostrategic competition

A REPORT OF THE CSIS ECONOMIC SECURITY AND TECHNOLOGY DEPARTMENT

Staying Ahead in the Global Technology Race

A Roadmap for Economic Security

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Protecting Sensitive Technologies, Preserving U.S. Advantage

Technology Cooperation, Competition, and Economic Relations

The Investing in America Agenda

Technology Statecraft and Global Governance

Evermore complex economic security challenges are placing new demands on our science, technology, and innovation ecosystems

COMPETITIVENESS
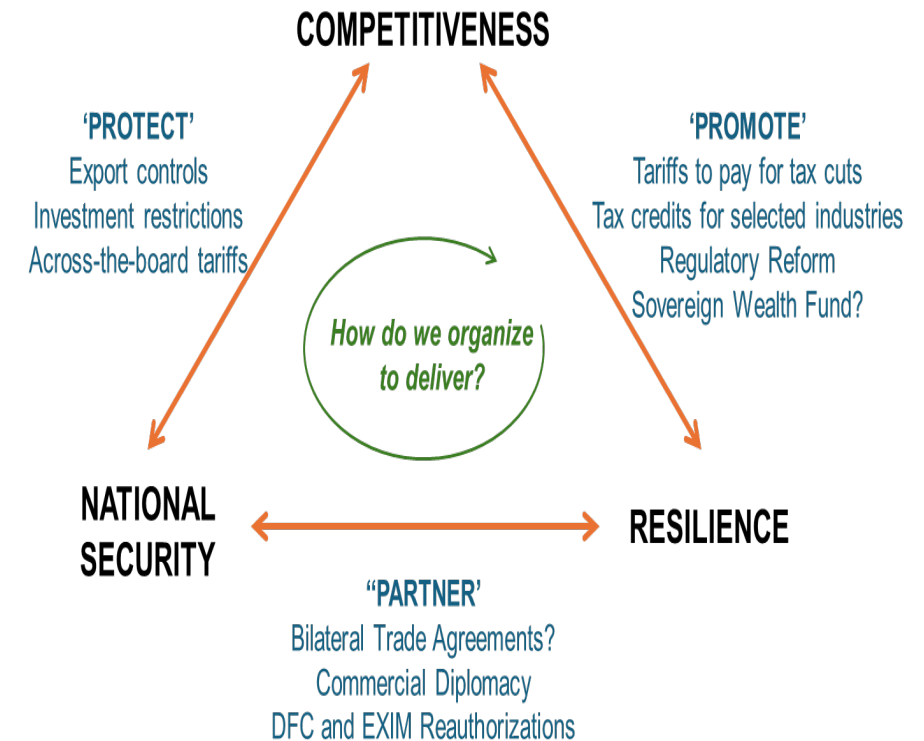
"Dual use"
Civil-military fusion

De-industrialization
Economic dislocation

Not one Sputnik
moment but five!

NATIONAL
SECURITY

RESILIENCE

Supply chain
vulnerabilities

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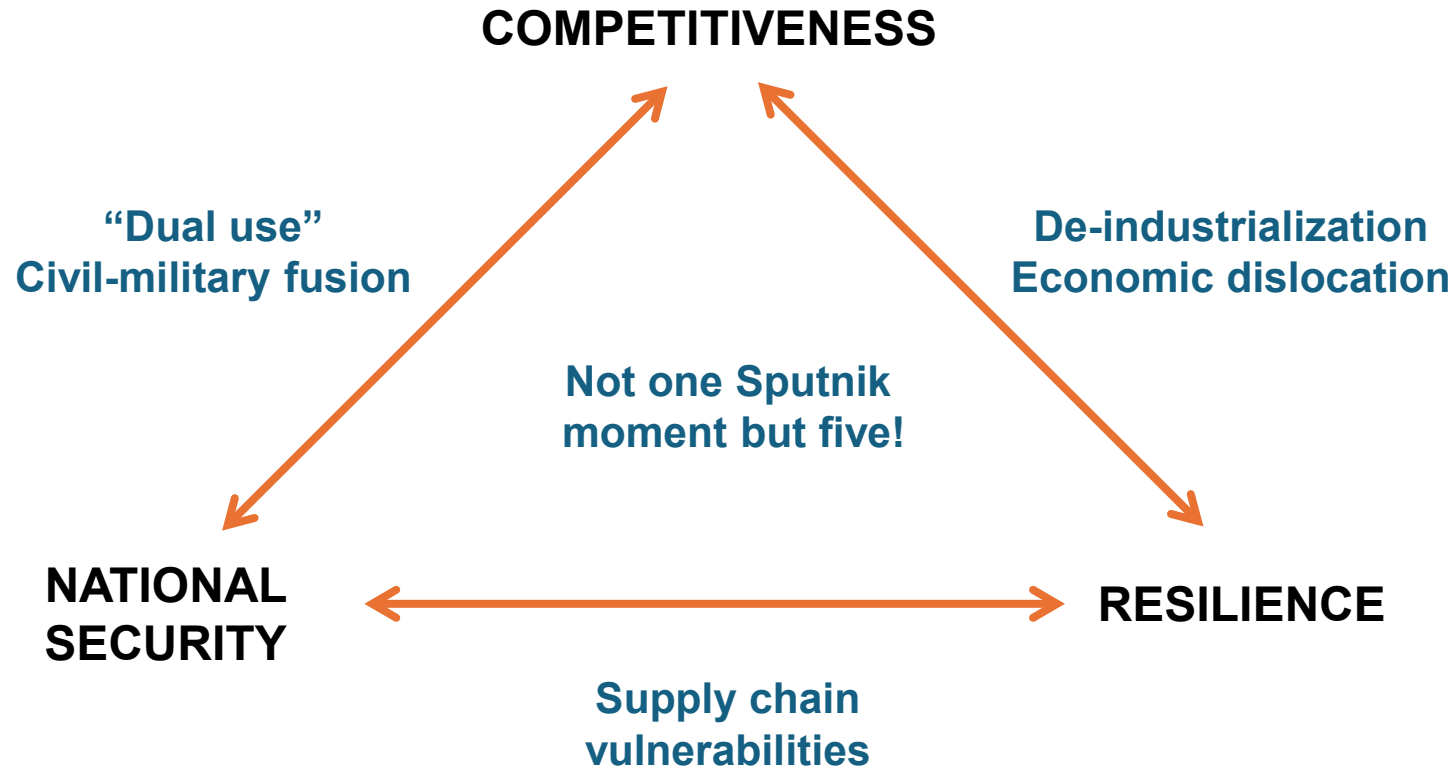
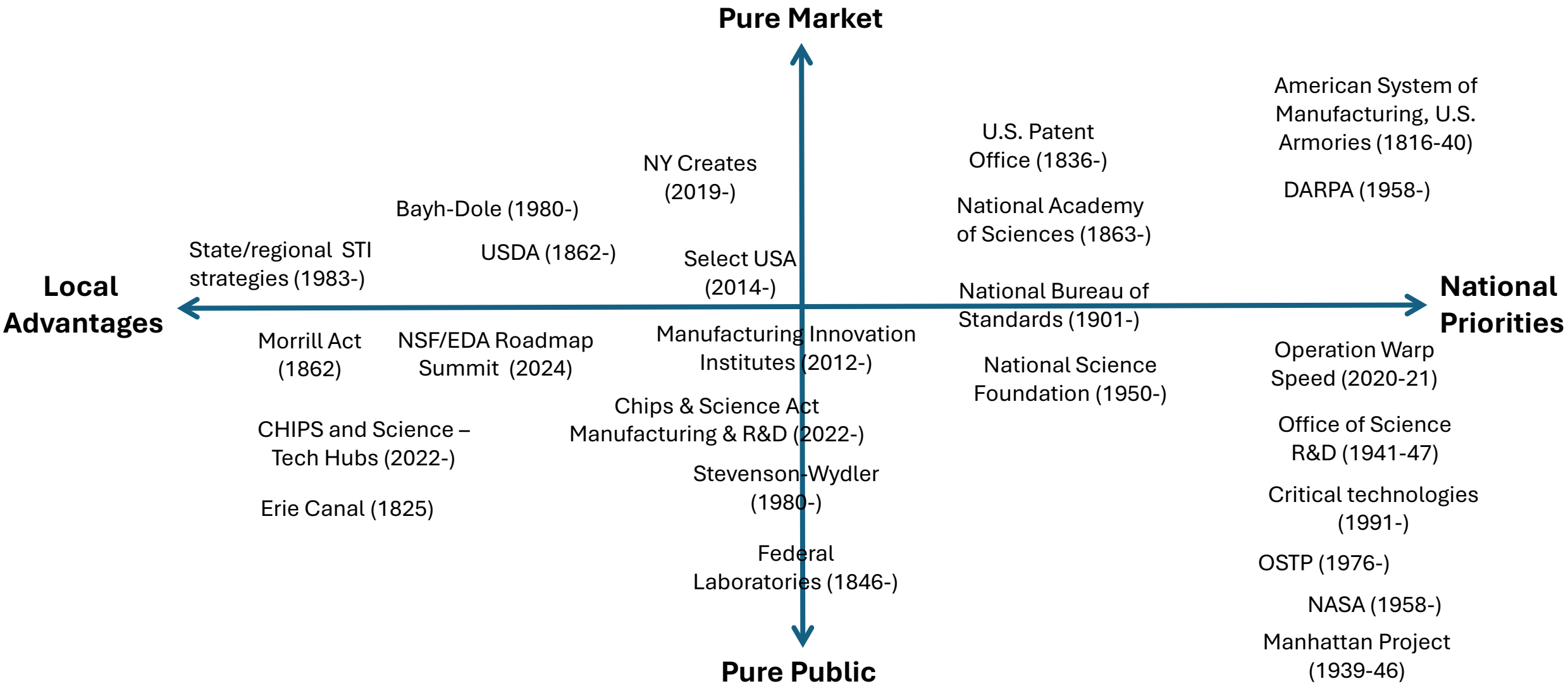# How we organize to deliver is a choice and can build on our unique strengths and lessons from experience

Biden-Harris Agenda

COMPETITIVENESS
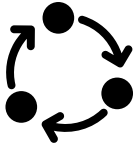
'PROTECT'
Export controls
Investment Screening
Sanctions
Strategic tariffs

'PROMOTE'
Firm-level subsidies, tax cuts
Infrastructure investments
Investment funds
Sovereign Wealth Fund?

How do we organize to deliver?

NATIONAL SECURITY

RESILIENCE

'PARTNER'
Economic Cooperation Agreements
Development Finance Corporation Export Import
Bank's China Transformation Exports Program

Elements of Likely Trump-Vance Agenda

COMPETITIVENESS

'PROTECT'
Export controls
Investment restrictions
Across-the-board tariffs

'PROMOTE'
Tariffs to pay for tax cuts
Tax credits for selected industries
Regulatory Reform
Sovereign Wealth Fund?

How do we organize to deliver?

NATIONAL SECURITY

RESILIENCE

"PARTNER'
Bilateral Trade Agreements?
Commercial Diplomacy
DFC and EXIM Reauthorizations

Our federated STI ecosystem reflects organic growth, institutional diversity, system complexity, as well as redundancy

Pure Market

American System of Manufacturing, U.S. Armories (1816-40)

U.S. Patent Office (1836-)

DARPA (1958-)

NY Creates (2019-)

Bayh-Dole (1980-)

National Academy of Sciences (1863-)

Local Advantages

State/regional STI strategies (1983-)

USDA (1862-)

Select USA (2014-)

National Bureau of Standards (1901-)

National Priorities

Morrill Act (1862)

NSF/EDA Roadmap Summit (2024)

Manufacturing Innovation Institutes (2012-)

National Science Foundation (1950-)

Operation Warp Speed (2020-21)

CHIPS and Science – Tech Hubs (2022-)

Chips & Science Act Manufacturing & R&D (2022-)

Office of Science R&D (1941-47)

Stevenson-Wydler (1980-)

Critical technologies (1991-)

Erie Canal (1825)

OSTP (1976-)

Federal Laboratories (1846-)

NASA (1958-)

Manhattan Project (1939-46)

Pure Public

A State STI Strategy
Arkansas Research Alliance

Collaborations between Federal, Subnational Governments and the Private Sector
Select USA Summits
NSF / EDA Roadmap Summit

A National Strategy Driving Public Investments to Leverage Private Investment
CHIPS and Science Act – Manufacturing Incentives
Bipartisan Infrastructure Law – Regional Clean Hydrogen Hubs

National and Subnational 'Purpose-Built Non-Profit(s)' for R&D / Commercialization
CHIPS and Science Act – NatCast operating National Semiconductor Technology Center
CHIPS and Science Act – Tech Hubs and Tech Hub Consortia
NY Creates – Albany Nanotech Complex

Five tests of whether STI institutional models fit for purpose

1. Goals-setting at the right level
How effectively is the STI ecosystem at defining goals and setting priorities?
Are institutions, public and private, closest to the problem empowered to drive?

2. Collaboration & coordination across public and private sectors, incl. finance
Are there organizational models and incentives for coordination within and across sectors?
Are ecosystems leveraging and stacking capital to fund R&D, commercialization, scaling?

3. National security considerations are everyone's business
Are responsible parties identified to monitor and mitigate national security risks?
Are government institutions supporting private institutions and consortia to do this?

4. Evaluating what works
Are there institutions, public and private, that are calling balls and strikes?

5. Making course-corrections
Are STI ecosystems able to use failures, withdraw support, and improve continuously?

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