

Tackling the Technology Competition with China

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I OVERVIEW

- 1** **China the Leader**
- 2** **China the Laggard**
- 3** **Key Investments Needed**
- 4** **A New International Technology Policy Regime**
- 5** **Proposed Areas for Cooperation and Collaboration**

China the Leader

CHINA AT PARITY OR AHEAD

- Genomics, quantum science, artificial intelligence (AI)

R&D SPENDING

- China poised to overtake United States as largest spender on R&D (PPP) as early as 2019

STRATEGIC EMPHASIS

- Strong government support for achieving scientific and technological milestones

China the Laggard

DEPENDENT ON FOREIGN TECHNOLOGY

- Jet engines
- Semiconductors

INNOVATION SHORTFALLS

- Few world-class universities and research institutes
- Patents – quantity over quality

CLOSED AUTHORITARIAN SYSTEM

- Scientists and technologists tend to flourish in open societies

Key Investments Needed

R&D

- 4%: total U.S. R&D spending as percentage of GDP (currently about 2.8%)
- 1.2%: total U.S. government spending as percentage of GDP (currently about 0.7%)

AMERICAN TALENT

- Increased STEM education and skills training
- Resources for research and better availability of compute

INTERNATIONAL TALENT

- Maintain the Optional Practical Training Program (OPT)
- Reform the H1-B visa application process
- Create new ways to recruit high-skilled immigrants

A New International Technology Policy Regime

WHAT IT IS

- A new organization to achieve broad-based, proactive and long-term multilateral cooperation
- Members would be leading liberal-democratic technology powers such as US, Japan, UK, France, Germany, Canada, Australia, The Netherlands, and South Korea

NECESSITY

- No single country can easily prevail in technology competition with China
- China achieving dominance in critical technologies would confer substantial economic, military, and political advantages

A New International Technology Policy Regime

PURPOSE

- Regain the initiative in the global technology competition
- Protect and preserve key areas of competitive technological advantage
- Promote collective norms and values around the use of emerging technologies

PROPOSED AREAS FOR COOPERATION

- R&D, supply chain diversity and security, standards-setting, multilateral export controls, countering the illiberal use of advanced technology

Proposed Areas for Cooperation and Collaboration



RARE EARTH ELEMENTS

- Mining and processing
- Recycling
- Man-made substitutes



SEMICONDUCTOR FABRS

Consortium to establish new fabs



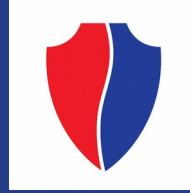
EXPORT CONTROLS

Restrict sale of semiconductor manufacturing equipment to China



5G – OPEN ARCHITECTURE

Stimulate transition to network virtualization



THANK YOU



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