

Science & Security: Focus on China October 21, 2021

Moderators:

Elizabeth Peloso, Associate Vice President,
Associate Vice Provost Research Services,
University of Pennsylvania

Robert Hardy, Research Security & Intellectual
Property Management Director, COGR

Panelists (Order of Appearance)

Frank Wu, President, Queens College CUNY

Jason Arterburn, Program Director, Center for
Advanced Defense Studies (C4ADS)

Harvey Rishikof, Director of Policy and Cyber
Security Research, University of Maryland, Visiting
Professor, Temple University



Are All Chinese Students and Chinese Americans Spies and Foreign Agents?

Frank H. Wu

COGR

October 2021

Reform

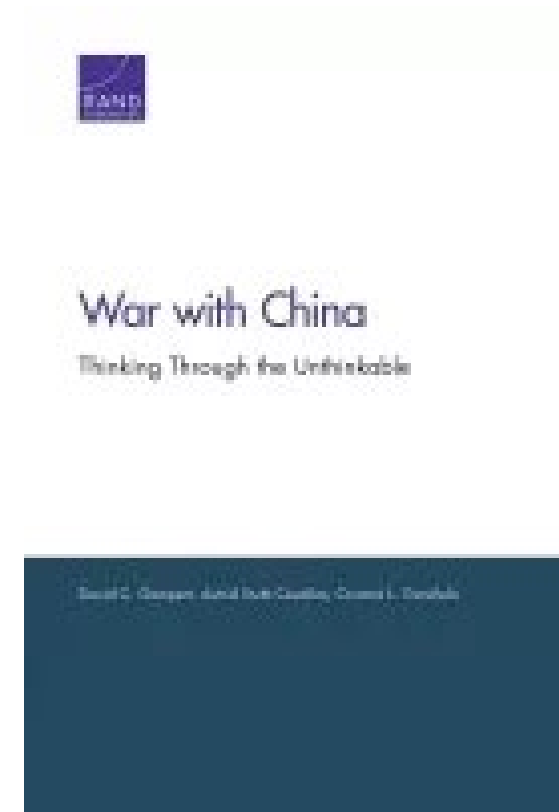
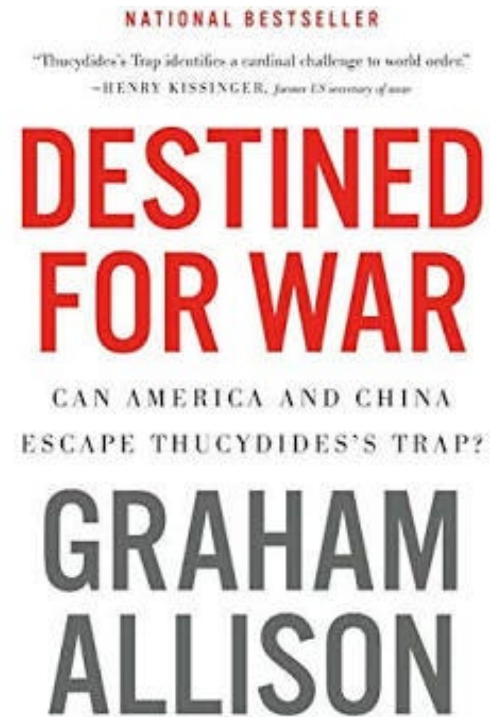
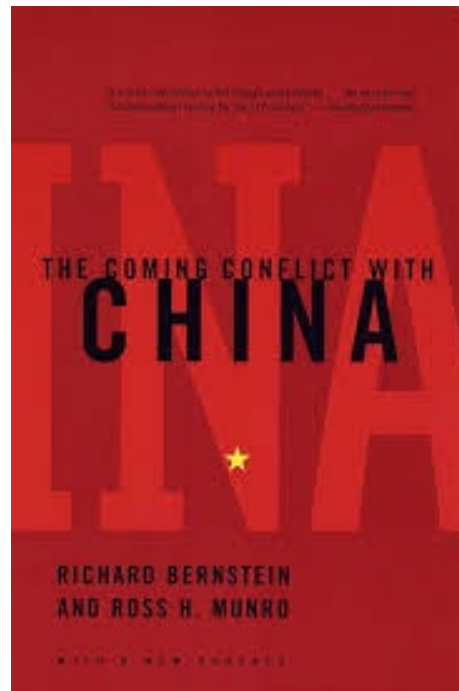
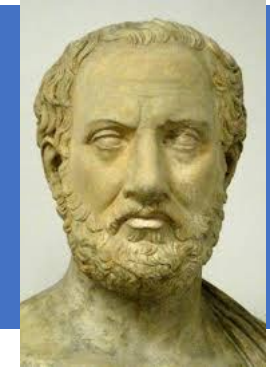
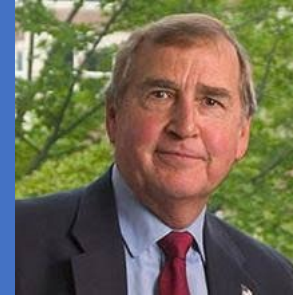
President Wu shared his written submission with APA Justice. In his remarks, he emphasized three “Cs” that should be promoted and one “C” to be avoided:

- **Consistency** of rules and enforcement priorities (among agencies and over time)
- **Clarity** of policies
- **Communications** to promote compliance (including anti-bias aspects)

And **not**

- **Criminalization**

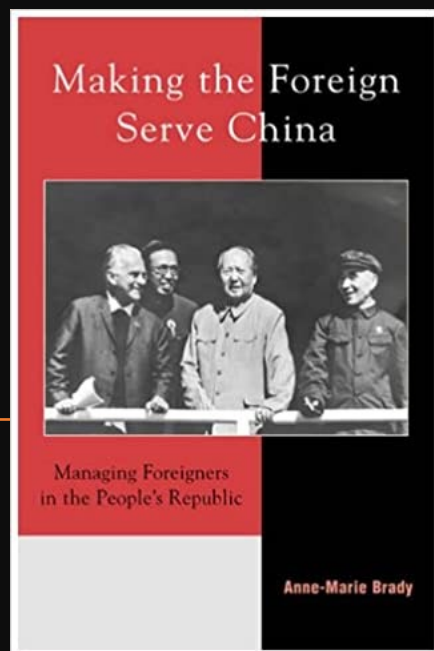
Military War as Inevitability?



From Normalization to Disengagement



United Front Influence



Real Cases



Chinese hacker who tried to steal US military data 'deserves respect' – state media

Su Bin should be showed 'gratitude and respect' if he has indeed stolen military secrets, says Global Times editorial

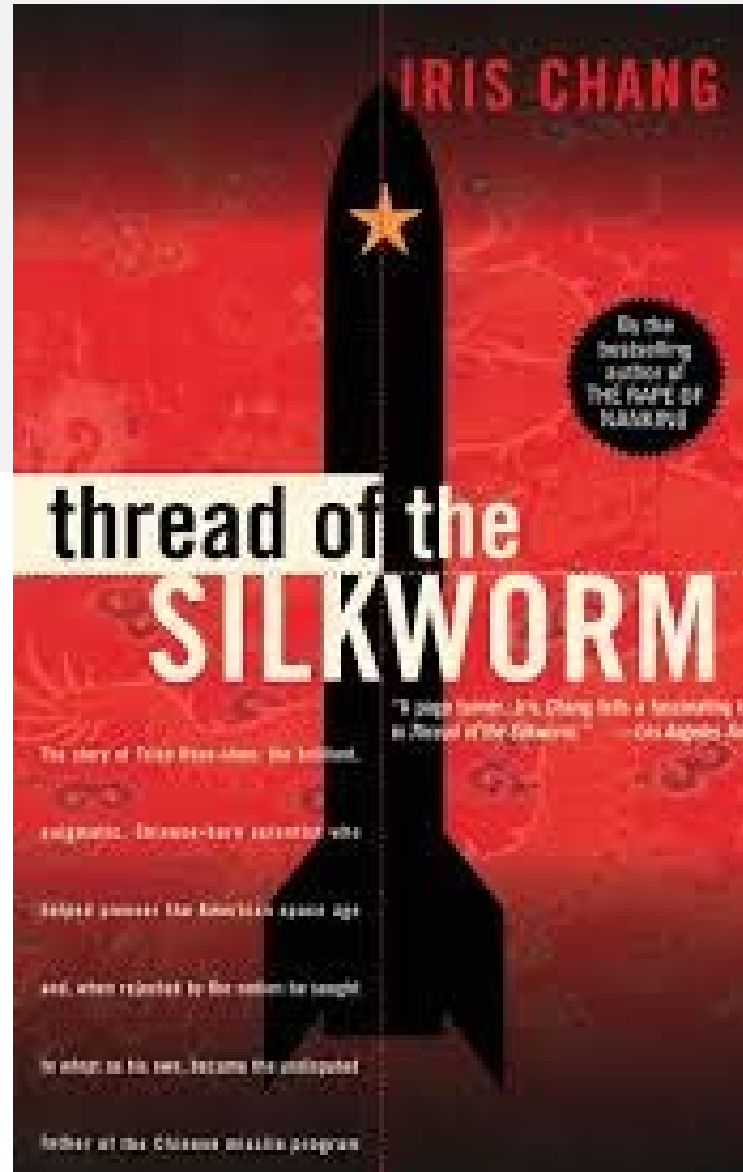


▲ An F-22 fighter jet. Su Bin and his contacts were particularly interested in schematics for this plane among others, according to court filings. Photograph: Getty Images

One of China's most bellicose newspapers has come to the defence of an admitted Chinese cyberhacker, a contradiction of Beijing's official position that the country neither condones nor engages in computer espionage.

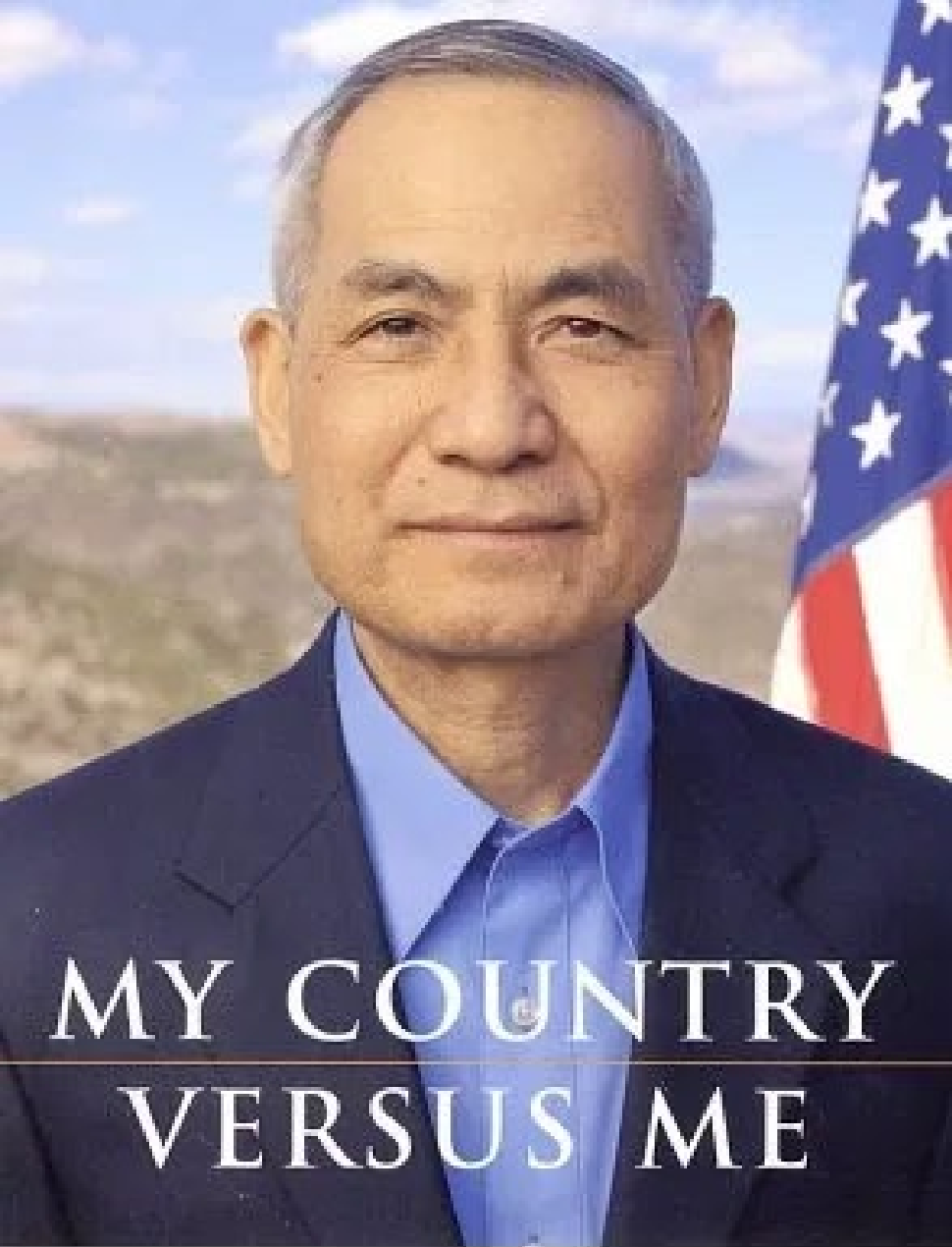
Global Times, an arm of the Communist party's People's Daily newspaper, published an editorial late Thursday headlined "Su Bin deserves respect whether guilty or innocent" that **praised Su Bin**, a Chinese national who **pled guilty on Wednesday** in a Californian federal court to conspiring to hack into the computer networks of US defence contractors.

Article from The Guardian



Early Cases: Qian Xuesen

- From the NY Times obituary of Qian Xuesen: But by 1950 his American career was over. Shortly after applying for permission to visit his parents in the newly Communist China, he was stripped of his security clearance by the Federal Bureau of Investigation and accused of secretly being a Communist. The charge was based on a 1938 document of the Communist Party of the United States that showed he had attended a social gathering that the F.B.I. suspected was a meeting of the Pasadena Communist Party. . . Aviation Week, which named Mr. Qian its man of the year in 2007, quoted Dan Kimball, a former under secretary of the Navy, as calling Mr. Qian's deportation "the stupidest thing this country ever did."



Early Cases: Wen Ho Lee

- Statement by U.S. District Judge Parker: I might say that I am also sad and troubled because I do not know the real reasons why the executive branch has done all of this. We will not learn why because the plea agreement shields the executive branch from disclosing a lot of information that it was under order to produce that might have supplied the answer. . . Although, as I indicated, I have no authority to speak on behalf of the executive branch, the president, the vice president, the attorney general, or the secretary of the Department of Energy, as a member of the third branch of the United States Government, the judiciary, the United States courts, I sincerely apologize to you, Dr. Lee, for the unfair manner you were held in custody by the executive branch.



False Positives

Changing Standards: Now



JUSTICE NEWS

Attorney General Jeff Sessions Announces New Initiative to Combat Chinese Economic Espionage

Washington, DC ~ Thursday, November 1, 2018

Remarks as prepared for delivery

Changing Standards: Not Too Long Ago



 **Fogarty International Center**

Search...

Advancing Science

[About Us](#) [Funding](#) [Grants](#) [Global Health Resources](#) [Programs](#)

[Home](#) > [News](#) > [Global Health Matters](#) > NIH leaders celebrate 30 years of research with China

[Global Health Research News](#)
[Global Health Matters Newsletter](#)
[Events, Conferences & Workshops](#)
[Webcasts & Videos](#)
[Publications](#)
[Fogarty Trainee Profiles](#)

🔔 COVID-19 is an emerging, rapidly evolving situation.

- Latest COVID-19 public health information from the U.S. Centers for Disease Control and Prevention
- Latest COVID-19 research information from the U.S. National Institutes of Health (NIH)
- COVID-19 resources for global health researchers from Fogarty

NIH leaders celebrate 30 years of research with China

November - December, 2009 | Volume 8, Issue 6

Double Standards

Global Opinions

America's new — and senseless — Red Scare

- Exhibit A in prosecutorial overreach is the case of Chunzai Wang. One of the world's leading experts on climate change, Wang worked for 17 years for the National Oceanic and Atmospheric Administration. His papers, some of which focused on the interplay of El Nino and global warming, have been cited thousands of times. In 2012, Wang won NOAA's Research Employee of the Year Award for "personal and professional excellence," followed in 2013 by its Scientific Employee of the Year Award, for "professional excellence and exceptional productivity." He was indisputably the most prolific scientist on NOAA's staff.
- Hounded by the Commerce Department, Wang left the United States in 2016 and got a job as a research professor at the Chinese Academy of Sciences. . . In all, it appears that Chinese institutions paid Wang \$2,100 over the course of three years for helping students there on research involving climate change.
- At court, Judge Cecilia Altonaga questioned the idea of prosecuting Wang, noting that her only regret "is that I have to adjudicate" his case. The judge also noted that "given the nature of Wang's contributions to an area that is at the forefront of our daily review of news, climate change, given the nature of the research he conducts and — and the information he supplies and how valuable it is," she found it "regrettable" that Wang should end up a felon.
- John Pomfret in the Washington Post



National Interest

PROPUBLICA

Graphics & DataNewslettersAbout

Racial Justice

Health Care

Regulation

Trump Administration

More...

Series

Video

CORONAVIRUS

The Trump Administration Drove Him Back to China, Where He Invented a Fast Coronavirus Test

A federal crackdown on professors' undisclosed outside activities is achieving what China has long struggled to do: spur Chinese scientists to return home. In this crisis, it's costing the U.S. intellectual firepower.

by David Armstrong, Annie Waldman and Daniel Golden, March 18, 5 a.m. EDT

Racial Profiling?

Did Trump Call Most Chinese Students Spies?

Politico reports that the president called "almost every student" from China a spy.

By **Elizabeth Redden** // August 9, 2018

[HOME](#) > [POLITICS](#)

The director of the FBI says the whole of Chinese society is a threat to the US — and that Americans must step up to defend themselves

Racial Profiling Confirmed

‘Rogue’ U.S. Agency Used Racial Profiling to Investigate Commerce Dept. Employees, Report Says

An obscure federal office operated for more than a decade as an “unaccountable police force” inside the Commerce Department, using extreme and unauthorized tactics.

Commerce Dept. Will Shutter Unit That Conducted Rogue Investigations

An internal inquiry found that the office improperly opened investigations and overstepped its legal authority, but stopped short of attributing the problems to racial or ethnic bias.

Acquittals and Dismissals

“RIDICULOUS CASE”: JUROR CRITICIZES DOJ FOR CHARGING SCIENTIST WITH HIDING TIES TO CHINA

After a mistrial is declared in a closely watched case, a juror says the FBI owes an apology to University of Tennessee scientist Anming Hu.

U.S. District Judge Tom Varlan wrote that no reasonable jury could have inferred that holding a professorship at Beijing University of Technology barred him from working on NASA-funded research.

Multiple Cases Total Failures Despite Ominous Press Releases Early On

China Initiative Cases Dismissed

The U.S. government has moved to dismiss cases against five Chinese researchers charged with lying about ties to the Chinese military on visa applications. The decision follows a mistrial in another case.

By [Elizabeth Redden](#) // July 26, 2021

Former Cleveland Clinic Employee and Chinese “Thousand Talents” Participant Arrested for Wire Fraud

Reconsideration by Former Prosecutors

John Hemann, a former federal prosecutor in San Francisco, worked the flagship China Initiative case: the 2018 indictment of Chinese state-owned Fujian Jinhua. He said the department was successfully prosecuting China-related economic espionage cases long before Sessions's announcement.

But pressure to demonstrate the initiative's success — to “show statistics,” he said, “has caused a program focused on the Chinese government to morph into a people-of-Chinese-descent initiative,” including Chinese-born scientists working in the United States.

Reform

President Wu shared his written submission with APA Justice. In his remarks, he emphasized three “Cs” that should be promoted and one “C” to be avoided:

- **Consistency** of rules and enforcement priorities (among agencies and over time)
- **Clarity** of policies
- **Communications** to promote compliance (including anti-bias aspects)

And **not**

- **Criminalization**

THE DATA SOURCES OF FIRST RESORT

OCTOBER 21, 2021

JASON ARTERBURN





**“ABSENT A SIGNIFICANT REALIGNMENT OF RESOURCES,
THE U.S. GOVERNMENT AND INTELLIGENCE COMMUNITY
WILL FAIL TO ACHIEVE THE OUTCOMES REQUIRED TO
ENABLE CONTINUED U.S. COMPETITION WITH CHINA.”**

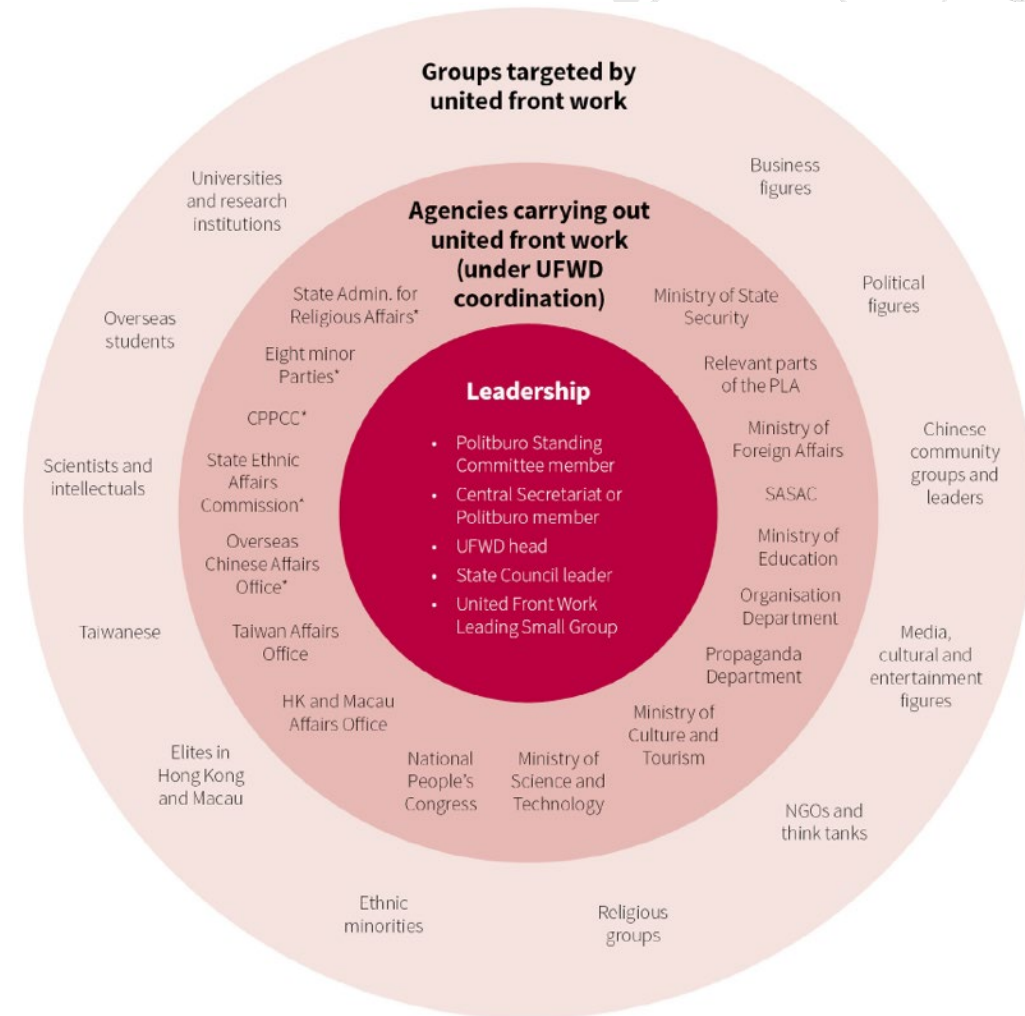
House Permanent Select Committee on Intelligence
The China Deep Dive, September 2020

**PUBLICLY AVAILABLE INFORMATION
WILL BE **INDISPENSABLE** IN EFFORTS
TO ADDRESS NATIONAL SECURITY
THREATS FROM CHINA**

THE CHALLENGE

It is difficult to characterize the relationships between China's party-state and commercial actors because China's commercial system is

1. Complex
2. Diversified
3. Politicized



Source: Australia Strategic Policy Institute

THE OPPORTUNITY

China's military-industrial complex leaves a data footprint through its interactions with the economy

Corporate

Corporate registries from source (China) and target jurisdictions

Trade

US Import/Export Records, Chinese trade data, third country trade data

Investment

Foreign direct investment & securities data

News

Other open source information for targets of interest

Social Media

Public platform posts of companies and their associated individuals

Tax Information

Local tax registries verify identifiers for companies of interest

Note: Each box represents a type of data source, for which many discrete datasets exist.

Procurement

Chinese military & government procurement portals

Certificates

Open source searches for military production licenses

MCF Platforms

Continued scrape of Chinese MCF platforms

Patents

Google Patent records

Academia

Chinese academic articles, talent program associations

Litigation

Hong Kong, PRC, Macau court records



Goal: Identify Chinese state-sponsored technology transfer networks.

Step 1: Gather Baseline Data

79m corporate records

860m social media profiles

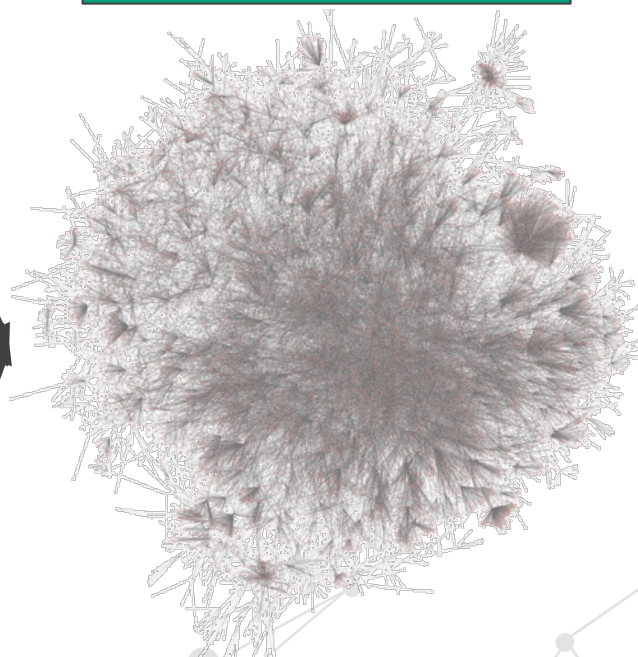
2m civil society organizations

26k political elite lists

1k junket operators

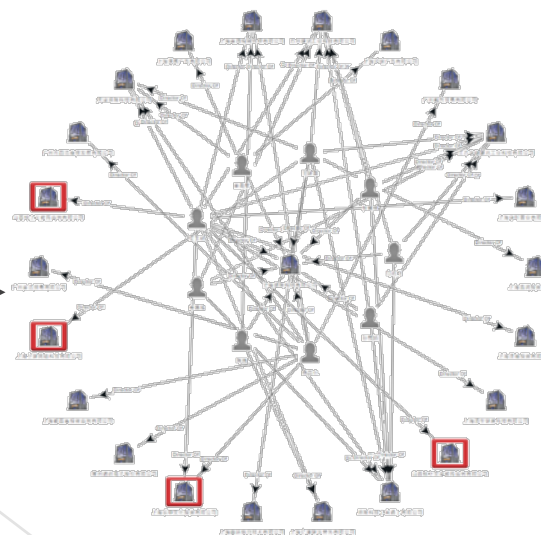
1.1m academic papers

Step 2: Layer Risk Indicators / Seed Lists



Screen for first, second and third-order connections to targets

Step 3: Conduct Deep-Dive Analysis

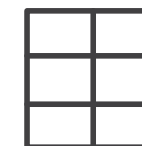


Identify and map suspected networks

4. Produce Analysis to Drive Action



Dossier



Structured Data



Source Documents

STEP 1: BUILD BASELINE DATA

C4ADS analysts identify, collect, translate, and curate high-advantage datasets from publicly available sources. C4ADS data engineers then integrate the datasets.

16k

subsidiary companies
of SASAC (core SOEs)
& their officers

23k

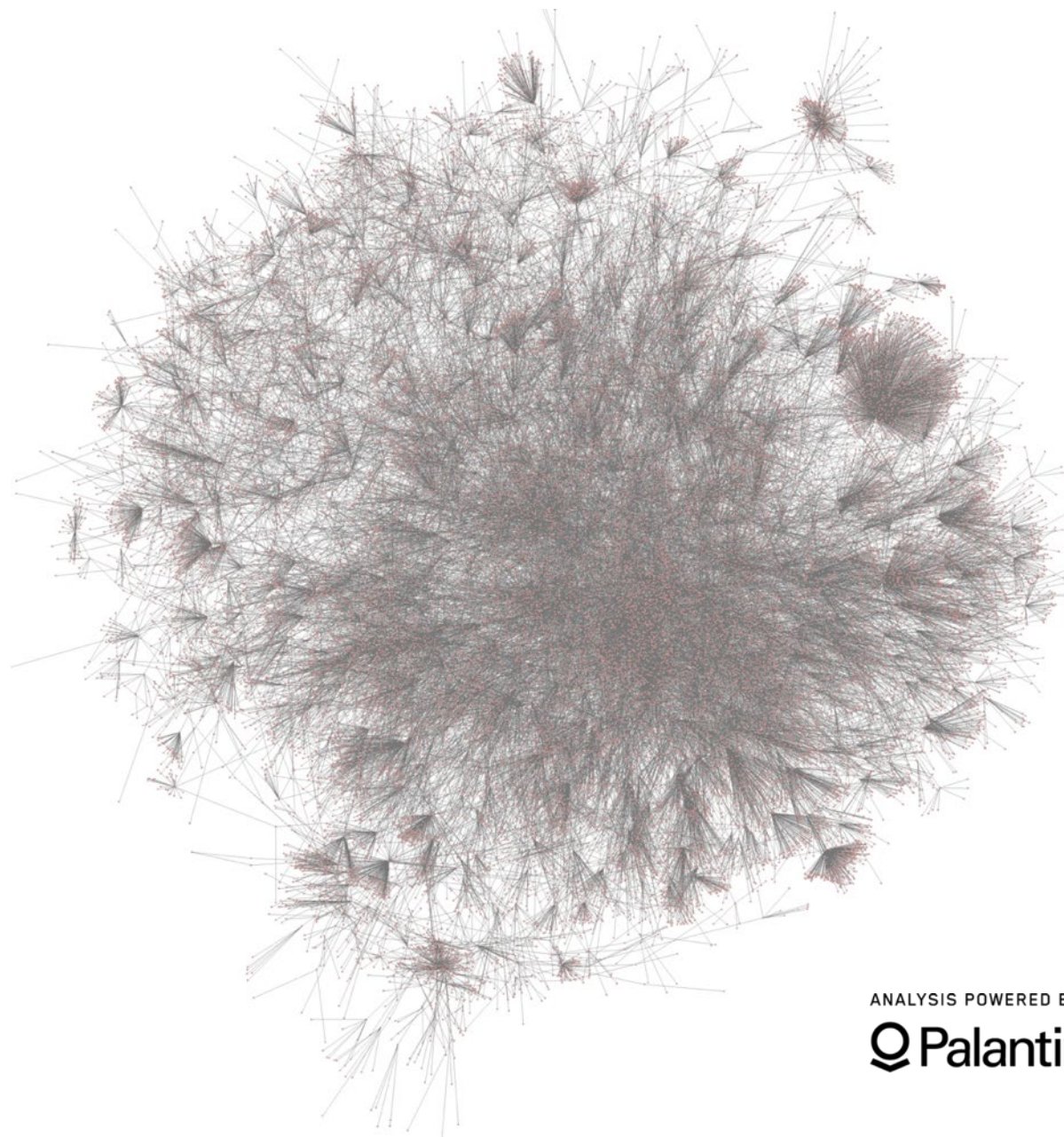
subsidiary companies
& officers of defense
universities

100k

civil society
organizations & their
controlling entities
(e.g. UFWD)

26k

members of national
& provincial
governments or
CPPCC bodies

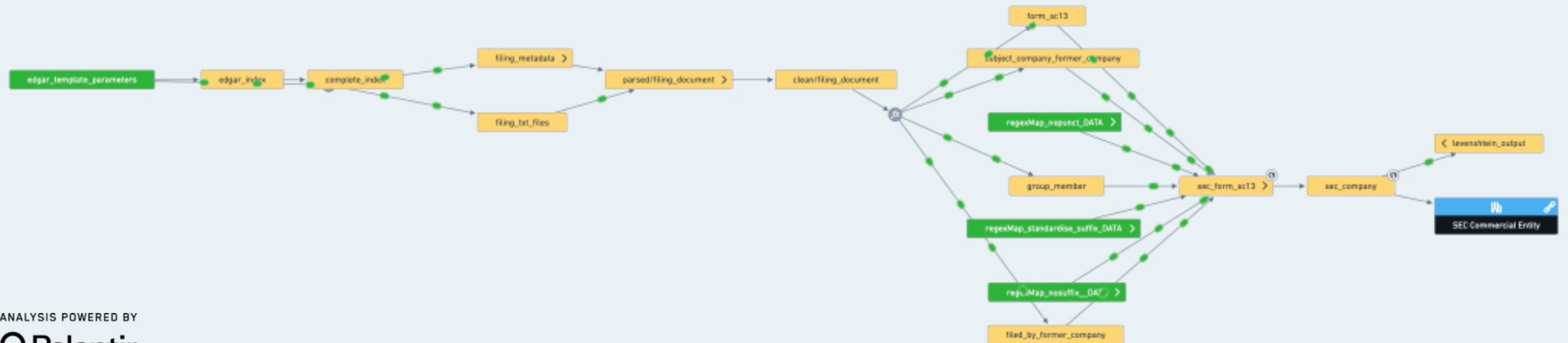


ANALYSIS POWERED BY
 Palantir

pipelines to internal & external data sources

processed & integrated with code

continuously refreshed datasets for analysts



ANALYSIS POWERED BY



STEP 2: LAYER RISK INDICATORS

C4ADS enriches data with risk tags so that users can take a risk-based approach to target selection.

RISK SIGNALS IN PUBLIC DOMAIN

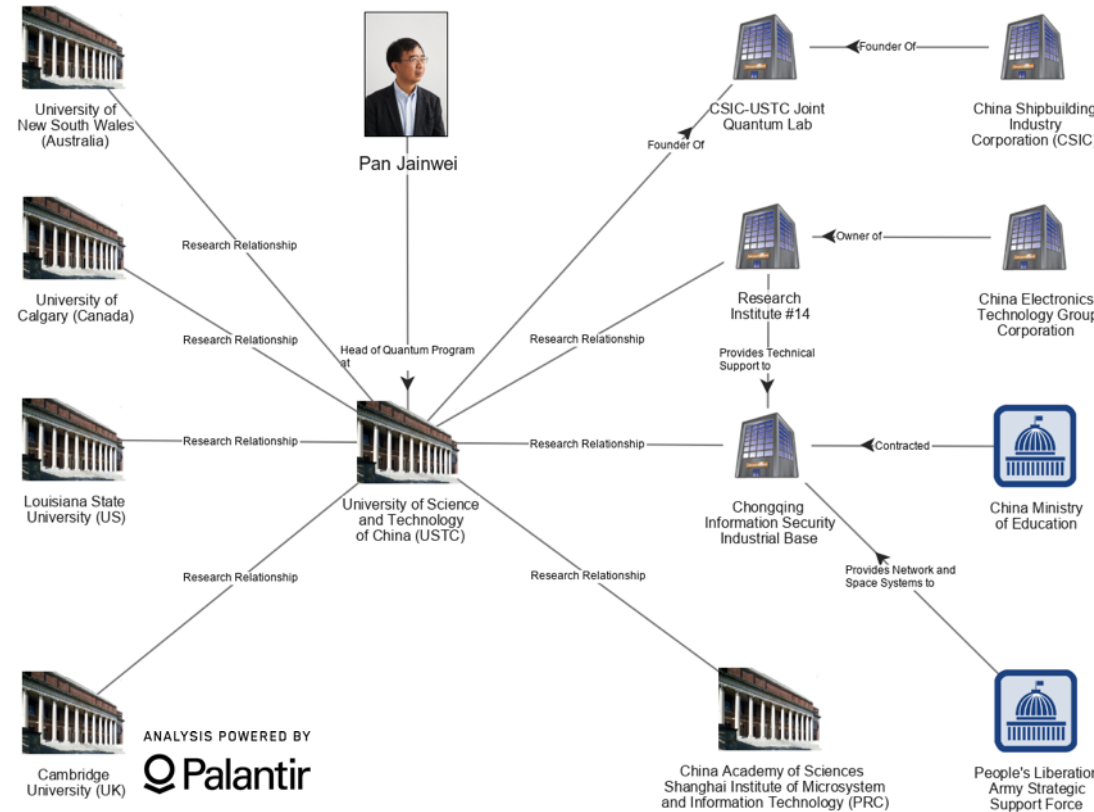
Association with Thousand Talents Program

Research in priority sector targeted by Chinese development plans

Historical and ongoing partnerships with state-owned defense contractors

Publicized research on projects with direct military applications

Collaboration with academics from universities directly affiliated with China's military



PAN Jianwei, Vice President of University of Science & Technology of China (USTC)

Runs quantum physics laboratories with Chinese state-owned defense contractors

FLEXIBLE APPROACHES TO ANALYSIS

High-scale data integration supports a range of analytic workflows depending on specific requirements



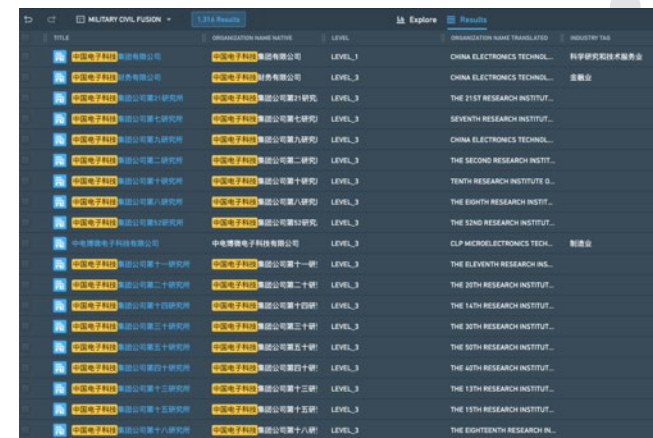
Entity-Centric Analysis

For a company, person, or organization of interest, users can search for relevant identifiers and network connections across all datasets. Users can conduct investigations within the platform.



Top-Down Analysis

For an industry, region, or typology of interest, users can search across all data to return entities that meet specific criteria, e.g. all universities in China that have synthetic biology research programs.

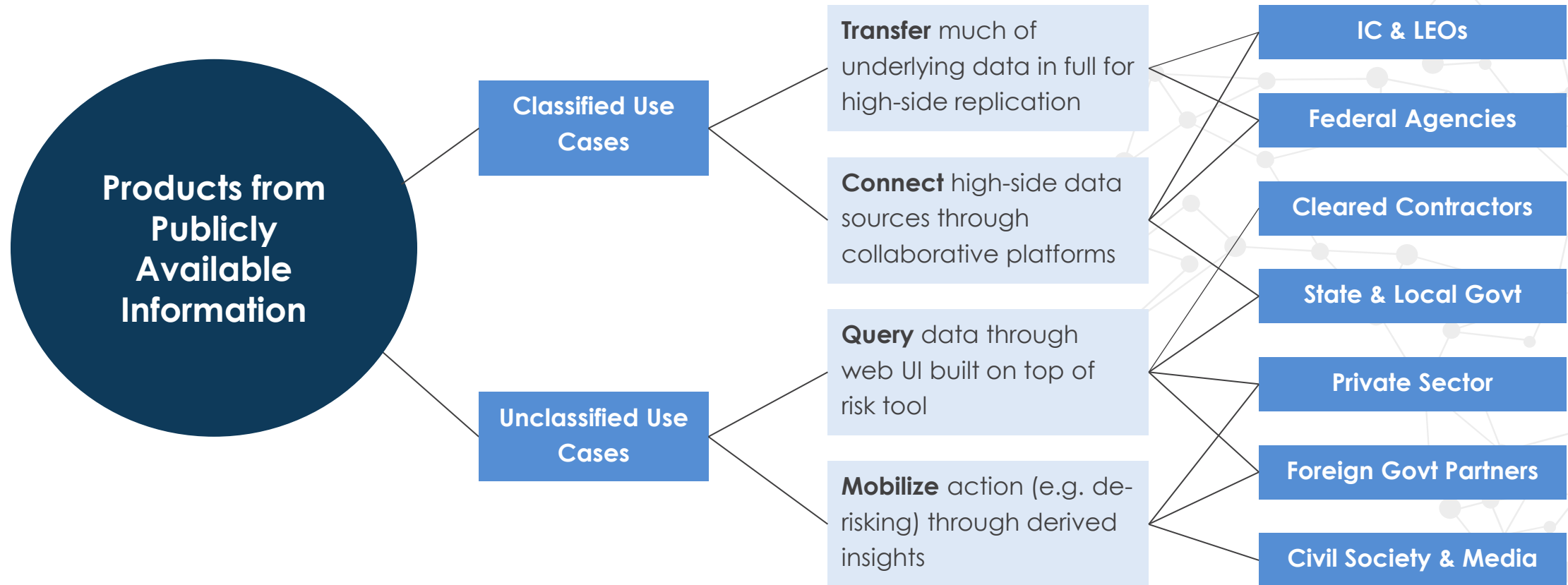


Bulk Screening

Users can conduct bulk screens across the data asset for people, companies, or organizations of interest. Users can also configure alerting within the platform for data that is regularly refreshed (e.g. trade data).

STEP 3: COORDINATE TAILORED RESPONSE

Underlying architecture can be used as foundation to bring together entire community in whole-of-society response



EXAMPLE APPLICATIONS



JOINT VENTURES BETWEEN SOES & UNIVERSITIES

Chinese universities are invested in tens of thousands of companies, many of which transfer university research to the Chinese defense industry. A C4ADS investigation identified dozens of these companies by looking for joint ventures between universities and China's defense conglomerates.

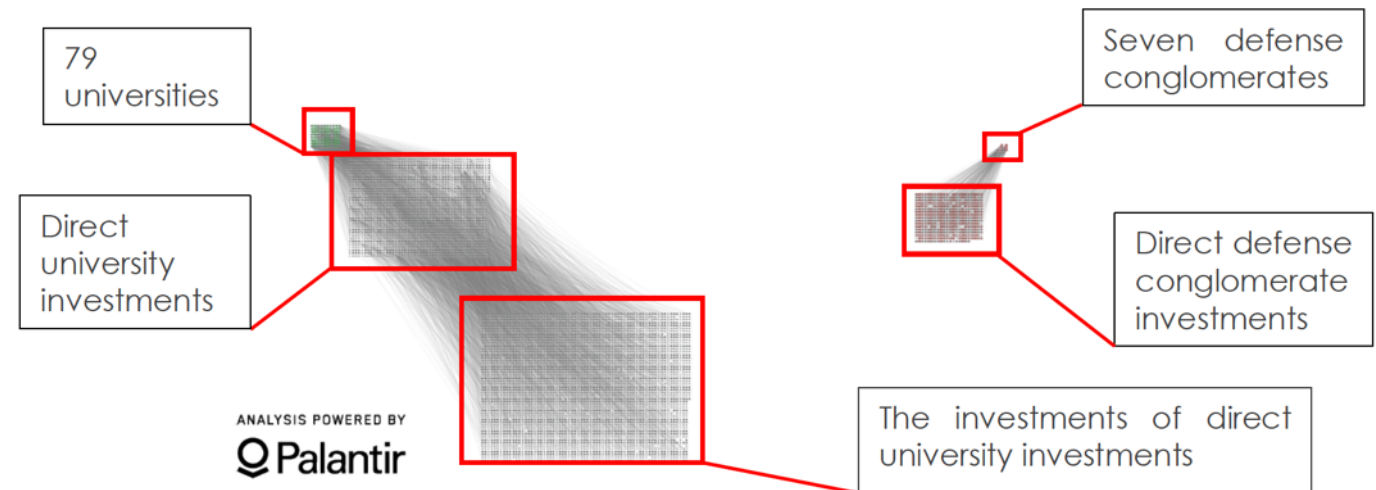
The problem:

University faculty work for these joint ventures, and “civilian” universities transfer hundreds of patents to them. This exposes foreign partners of those universities to China's military.

The solution:

These joint ventures are **a publicly identifiable means through which Chinese university research ends up in the hands of the Chinese military.**

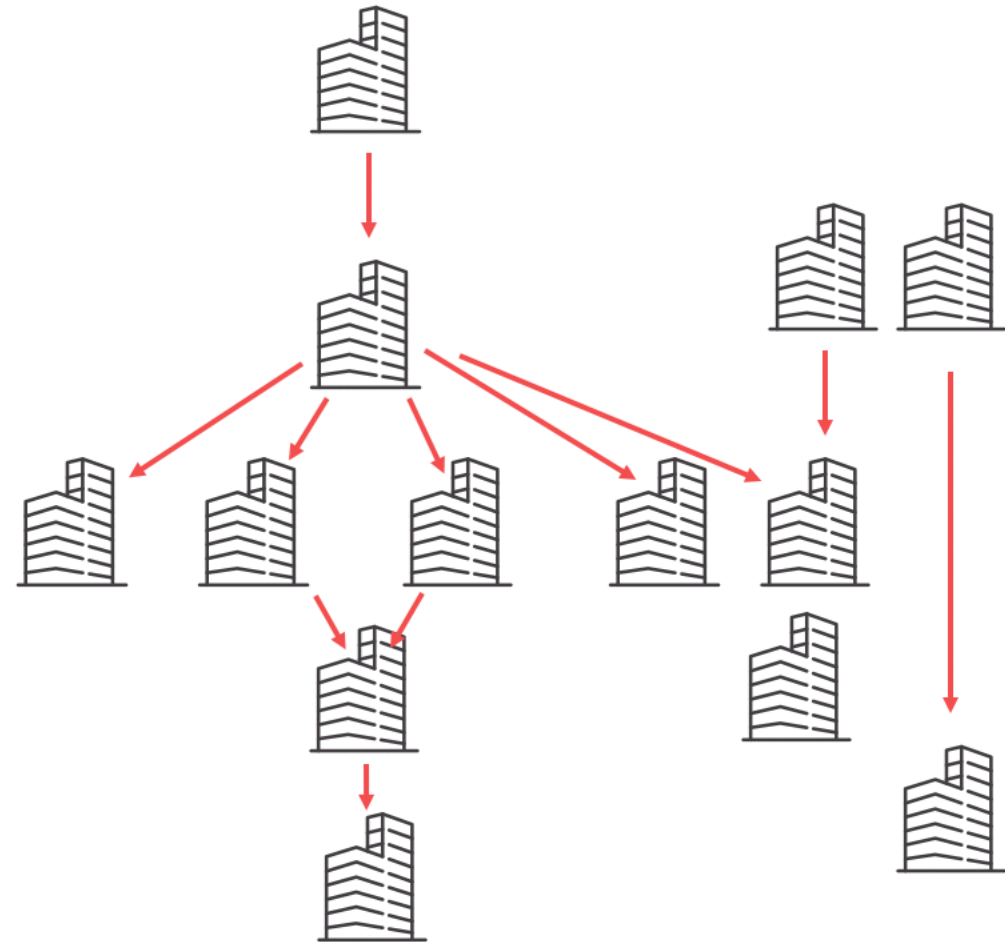
In an analysis of the 20,000 investee companies of 79 universities, C4ADS identified dozens of joint ventures between twenty universities and seven defense conglomerates.



MAPPING OUTBOUND INVESTMENT & TRADE

The complex nature of Chinese corporate networks can obscure foreign investments by risky entities.

Using investment data paired with our mapped corporate networks, **C4ADS identified foreign companies overseas that have received investments from Chinese state-owned enterprises and national champions.**



MAPPING RESEARCH NETWORKS WITH PATENTS

China maintains a public database of patents to explore analytic questions related to technology acquisition.

What companies, universities, and research institutions conduct research with China's defense conglomerates?

Which university researchers hold concurrent jobs working for defense conglomerates?

What researchers and labs within defense conglomerates, universities, or companies are working on key technologies of concern from USG perspective?

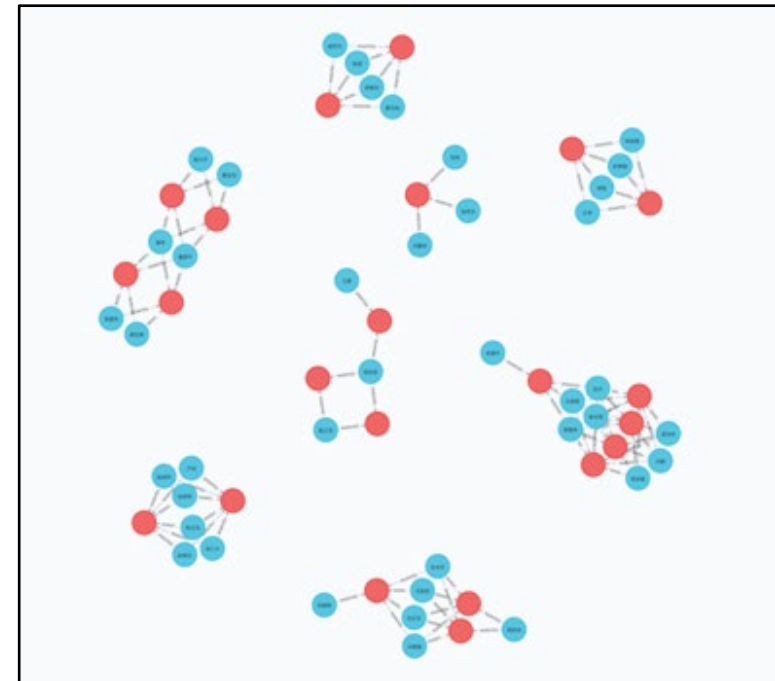


Figure: Technology patent networks between universities and defense conglomerates



“The issue is less that China’s political economy is riven with ‘contradictions’ ... but rather that **the analytical frameworks that many of us are using to understand China’s economy are stuck in past paradigms** that view ‘state’ and “market” as standing in tension.”

Jude Blanchette (2020)

THANK YOU

jason.arterburn@c4ads.org

C4ADS
innovation for peace



Harvey Rishikof

**Director of Policy and Cyber Security Research,
University of Maryland &
Visiting Professor, Temple University**