China

TFK programme info session 5.3.2026

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Setting the Stage - China's Political, Economic and Societal System

Political power in China resides with the Communist Party of China (CCP).

Under the leadership of Xi Jinping (2012 -) CCP's power has grown, while the civil society is enjoying less freedoms.

CCP's priorities: maintaining power, social stability, economic growth.

China has become a "fully authoritarian state".

Setting the Stage - China's Political, Economic and Societal System

State and party hierarchies run side by side, in a parallel fashion; dual track system.

In essence, the party leads through governmental/state institutions.

Applies to ministries, companies, universities etc.

Often the same people hold both institutional/party positions; same level institutional/party positions not equal in reality.

In universities, for example, the rector is usually the university party office vice-chairman.

Education System in China

Due to the influence of both Confucian and Marxist ideological history and educational tradition in China, the central government has played a very central role in role education.

The Ministry of Education is the highest authority responsible for the development and monitoring of the entire education system in China. Other ministries and governmental organizations such as the Ministry of Science and Technology and the Ministry of Industry and Information Technology also participate in the higher education sector, especially in research.

Development is guided by plans, which are written to mirror each other at different levels.

Education System in China

The role of CCP increasingly salient in the education sector. Strong ideological-political education permeates all educational levels and subjects in China.

At all levels of education, the education system is still deficient in many ways, both quantitatively and qualitatively.

As a result of the education reforms that started in the 1990s and continued until the 2010s, the Chinese education system placed increasing importance on improving the quality of education.

In recent years, the reforms that started at the end of the 1990s have been slowly canceled and more liberal practices have been rejected.

Higher Education System in China

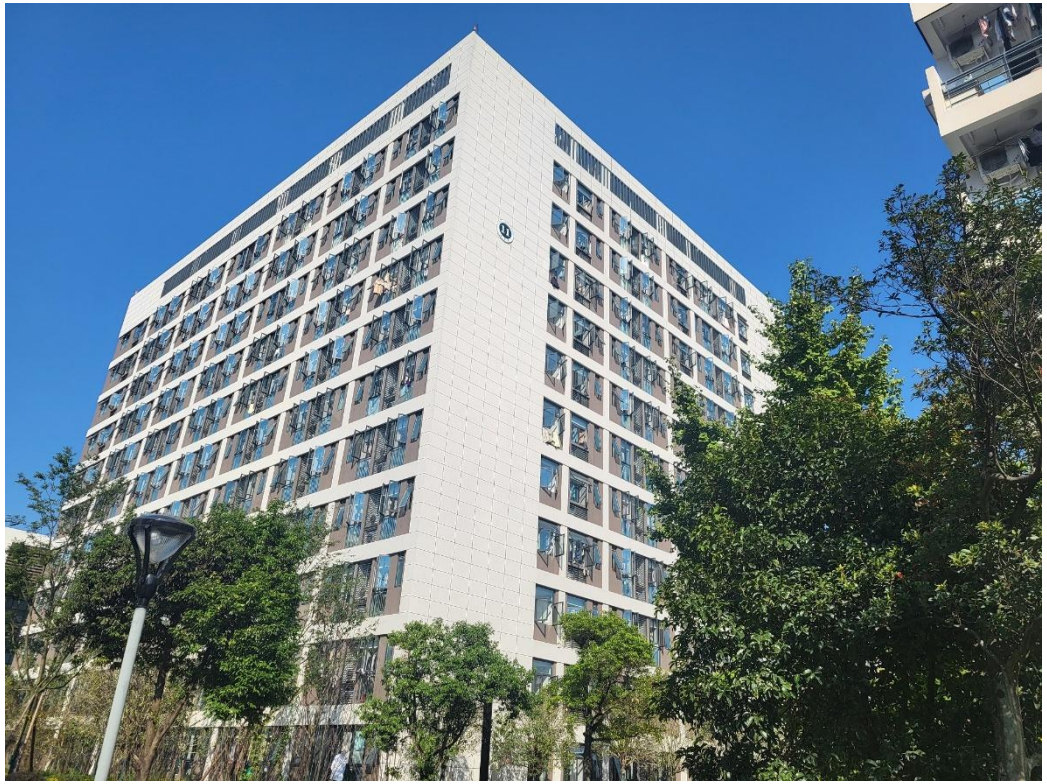
Chinese higher education institutions are mainly (~75%) publicly funded, but private actors are also allowed in the higher education sector.

There are more than 3,000 universities in the country, although they vary in their type and level.

Burden of administration and funding of universities – but not the final say in policy matters – has been transferred to provinces and regional authorities, “centralized decentralization”.

The top universities are concentrated in the eastern and coastal parts of the country (Tsinghua, Peking University, Fudan etc.). They are very well resourced. Many of the best universities are located directly under different ministries.

The entrance requirements to the country's most prestigious universities are very high and the competition for admission is very fierce.



Higher Education System in China

The CCP has made it clear that it aims for further centralization of decision making in education, science and technology sectors. The plans tell about the growing strategic and ideological importance of the sectors in China.

The Chinese government has various flagship projects for higher education institutions, which aim to comprehensively develop the international competitiveness of top Chinese universities.

China has set itself the goal of being the leading country in higher education and research by 2050.

The rankings of Chinese universities in international university comparisons have improved at a steady pace. Yet, in recent years, signs have begun to appear that China wants to break away from international university rankings.

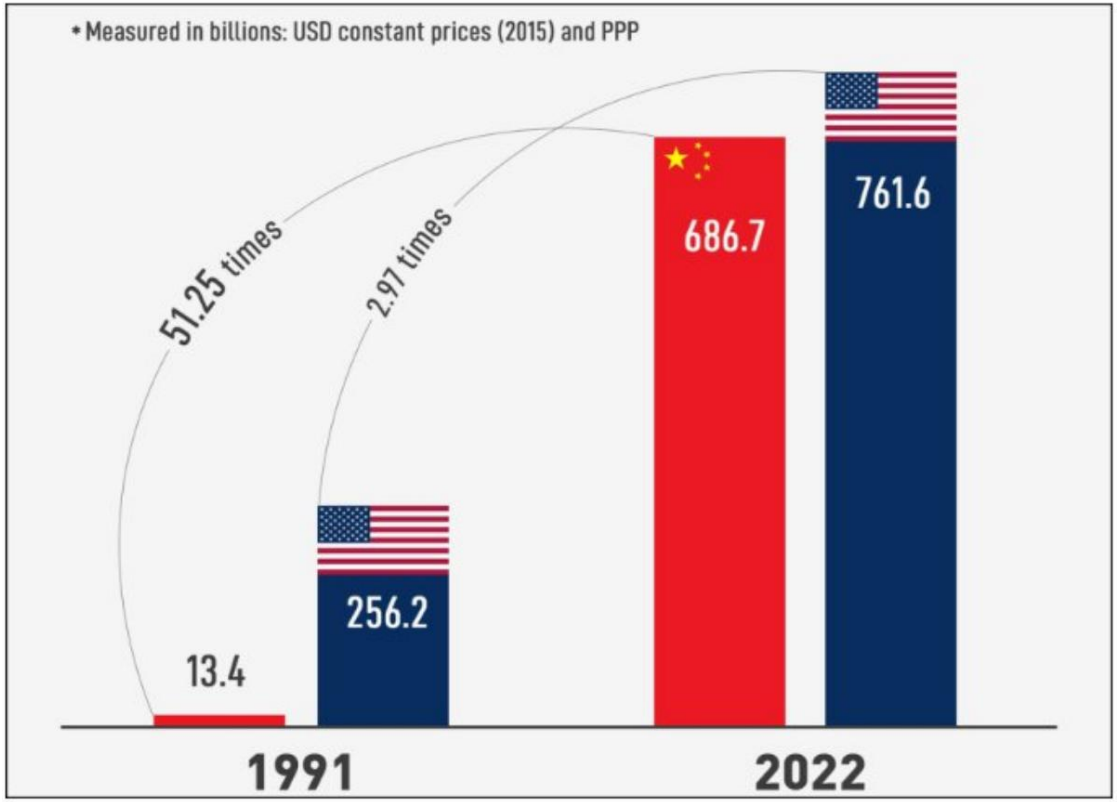
RDI in China

The goals are partly economic: a transition from being the “world’s factory” toward global leadership in science, innovation, and technology. *Made in China → Made by China.*

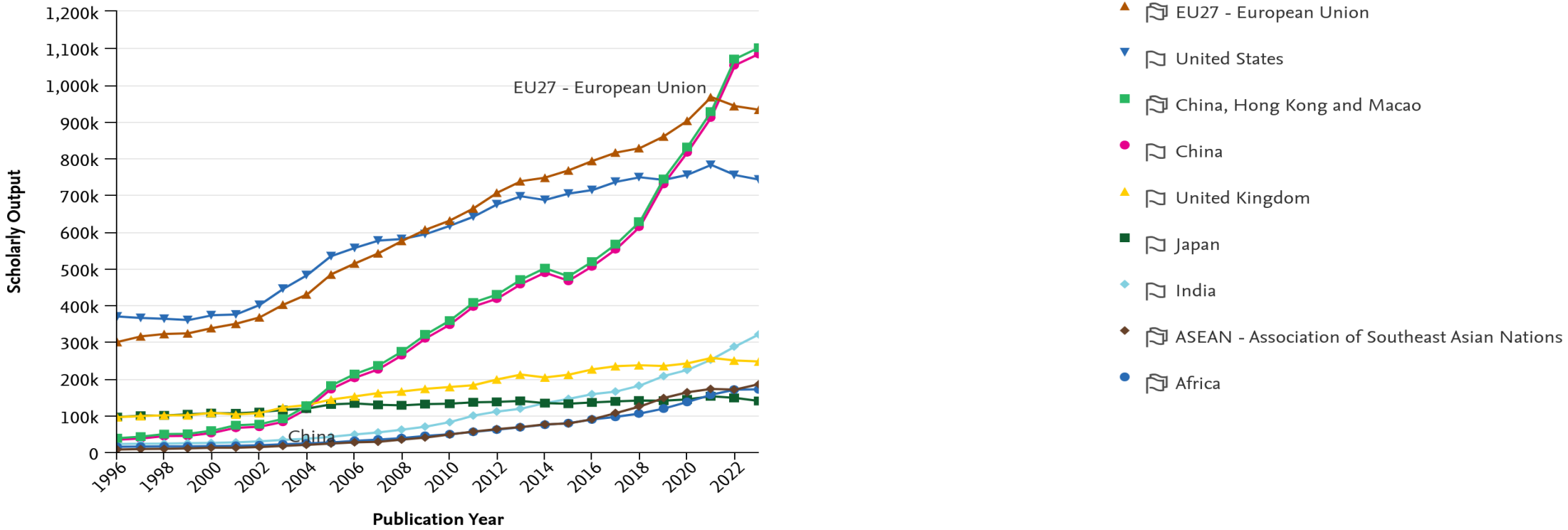
At the same time, there are also political and military goals: scientific and technological expertise as a potential soft power resource for China, the further acceleration of civil–military fusion, and a strong emphasis on self-reliance.

University education programs are increasingly being reformed to better meet the technological and industrial needs of the future.

Investments in research, development, and innovation (RDI) continue to grow steadily.



RDI in China



Source: Elsevier SciVal database

RDI in China

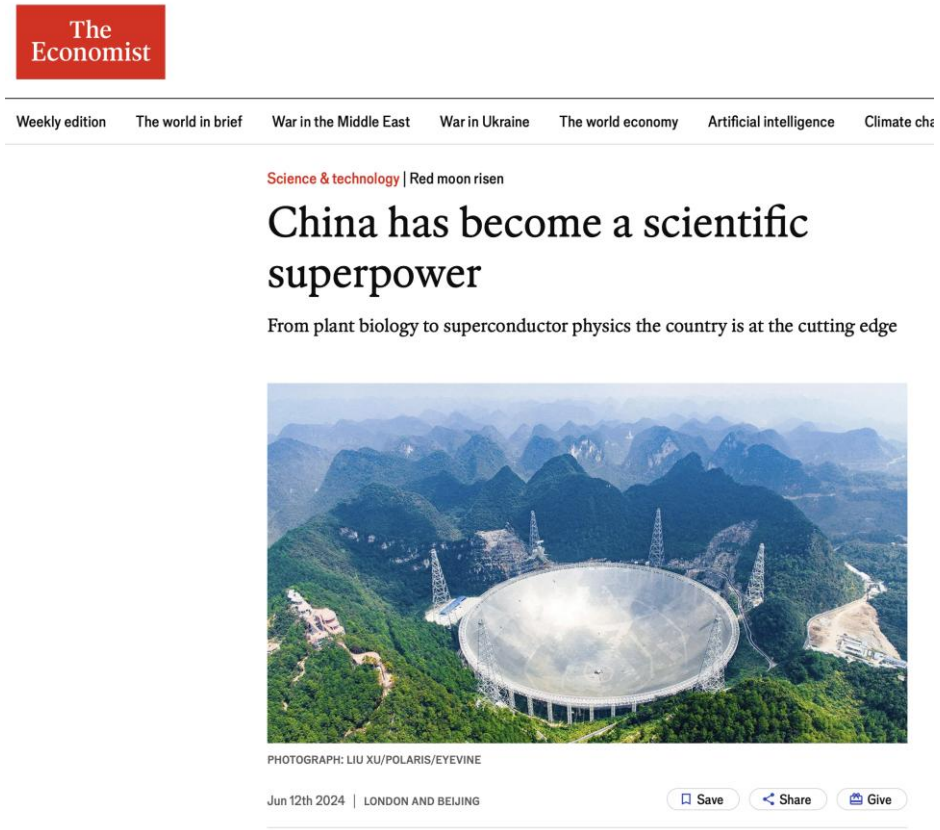
Through strategic planning and strong resource allocation, China's success in various RDI (research, development, and innovation) rankings has steadily increased.

Particularly noteworthy is the remarkable rise in top-level research.

There are continuously significant scientific breakthroughs. It is notable that these often occur in emerging or disruptive technology fields, which have dual-use applications and the potential to circumvent export restrictions imposed on China. There is also clear synergy potential between these areas.

However, China's rise still faces major challenges and problems: a relative lack of basic research, vast amounts of mediocre research output, limited true innovation, and a strong STEM emphasis.

China's slowing economic growth remains a question mark, as does whether investments in scientific and technological innovation will be able to pay for themselves. Public pressure may affect the allocation of resources to the education and research sector.


The Economist

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China has become a scientific superpower

From plant biology to superconductor physics the country is at the cutting edge

PHOTOGRAPH: LIU XU/POLARIS/EYEVINE

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Tsinghua and Zhejiang universities each carry out as much cutting-edge research as the Massachusetts Institute of Technology.

- The Economist 12.6.2024

RDI in China

CWTS Leiden Ranking

	University	P	P(top 10%)	PP(top 10%)
1	Harvard Univ	30542	6897	22.6%
2	Stanford Univ	14010	3114	22.2%
3	Univ Toronto	19971	2792	14.0%
4	Univ Michigan	16716	2632	15.7%
5	Univ California - Berkeley	11549	2610	22.6%
6	Univ California - Los Angeles	14093	2516	17.9%
7	Univ Cambridge	13403	2453	18.3%
8	Johns Hopkins Univ	14406	2431	16.9%
9	MIT	9488	2406	25.4%
10	Univ Penn	13672	2397	17.5%
11	Univ Oxford	13007	2391	18.4%
12	Univ Washington - Seattle	13514	2306	17.1%
13	Univ California - San Diego	11532	2169	18.8%
14	Univ Coll London	12494	2067	16.5%
15	Columbia Univ	11406	2023	17.7%
16	Univ California - San Francisco	10061	2009	20.0%
17	Yale Univ	10111	1940	19.2%
18	Cornell Univ	11080	1933	17.4%
19	Duke Univ	10718	1836	17.1%
20	Imperial Coll London	10411	1788	17.2%

2009 - 2012

	University	P	P(top 10%)	PP(top 10%)
1	Harvard Univ	36163	7003	19.4%
2	Zhejiang Univ	40492	5228	12.9%
3	Shanghai Jiao Tong Univ	37612	4649	12.4%
4	Tsinghua Univ	25595	4225	16.5%
5	Huazhong Univ Sci & Technol	29549	4022	13.6%
6	Sichuan Univ	33023	3768	11.4%
7	Cent S Univ	30394	3694	12.2%
8	Stanford Univ	17975	3472	19.3%
9	Sun Yat-sen Univ	27994	3330	11.9%
10	Univ Toronto	25229	3289	13.0%
11	Peking Univ	23196	3212	13.8%
12	Univ Chin Acad Sci	24421	3204	13.1%
13	Xi'an Jiaotong Univ	26520	3073	11.6%
14	Wuhan Univ	21977	3043	13.8%
15	Univ Oxford	16697	3037	18.2%
16	Harbin Inst Technol	22769	3008	13.2%
17	Fudan Univ	24737	2899	11.7%
18	Univ Coll London	16585	2694	16.2%
19	Univ Michigan	19528	2677	13.7%
20	Johns Hopkins Univ	18570	2624	14.1%

2020 - 2023

Good Scientific Practice in China

Research security is also an increasingly prominent theme in China. It is visible at all levels—from the state to individual actors operating in the science and research sector. A collection of anecdotes:

Increasingly strict rules have been introduced regarding the cross-border movement of research (and other) data.

Additional legislation has also been enacted with implications for science policy and research security—for example, new legislation concerning state secrets.

Access to Chinese research publications has begun to be restricted for foreigners and from outside China.

China's export control regime, particularly regarding rare earth elements, has tightened.

Good Scientific Practice in China

Many other issues and problems with good scientific practices:

The mobility and interaction of actors in the science and research sector have also begun to be restricted: travel limitations on Chinese researchers, prevention of diplomats' access to universities, etc,

Course modules and subjects on "national security" have been introduced into higher education institutions,

There have also been public awareness campaigns—approaching paranoia in tone—aimed at educating citizens to identify "foreign influence",

Intellectual property rights issues,

Chinese talent attraction programs,

Requirements of political loyalty,

Control of Chinese student communities abroad and using them to further CCP's political interests.

At the same time, some real reforms as well; for example, efforts to curb so-called "paper mills" and other forms of scientific misconduct.

Higher Education Cooperation with China

Increasing concerns about dual-use and that cooperation with China leads to China learning from us, but us not learning from China.

Western countries have increasingly limited scientific cooperation to selected, non-sensitive areas (Limitations also at the EU level, most notably *Horizon*)

Concerns about research cooperation with China have been strengthened as a result of China's position in issues such as restrictions on air connections China's position *vis-à-vis* Russia's aggression against Ukraine (incl. research cooperation with Russia).

Yet, China is an extremely important cooperation partner for many countries and individual universities.

Chinese universities have thousands of joint study programs with foreign HEIs. Different types and levels of joint studies.

Especially previously China has been very open to such collaborative ventures, but in the past few years especially top universities have become more selective. Official policy also more opposed to double-degrees than before.

China wants to cooperate especially in (STEM) fields where it still lacks know-how. Cooperation in other topics and fields sometimes tolerated, but often not supported.

Recently many likeminded countries (Sweden, the Netherlands etc. have become more active in China).

Student Mobility to and from China

Many Chinese students go abroad these days, especially at the higher education level, although the trend is somewhat slowing down.

Especially Anglo-American universities have been popular. With increasing great power rivalry, new alternatives are emerging.

With the Chinese economic growth slowing down, more and more Chinese students are now struggling to finance their studies abroad.

Consumers – usually parents – increasingly attentive about the price of studies.

Growing interest towards “international degrees” in China.

Student mobility to China has slowed down considerably. Chinese HEIs have high hopes of the resuming student inflow.

Higher Education Cooperation Between Finland and China

Cooperation has taken place especially in fields, which have been designated as mutually beneficial; green technology, climate, health.

Cooperation in “delicate” topics virtually impossible safely – increasingly many topics belong to this category. No explicit lists.

However, as China’s economic growth is slowing down, China is realigning its priorities also in the higher education system, which might yield new ”safe” opportunities as well. For example, design and arts, education & lifelong learning and especially: VET, HEI – work life cooperation.

The preference for “International studies in China” might also open new, cross-sectoral opportunities in China for Finnish HEIs

Certain experimental sites and projects, which to a degree run contrary to the increased centralization and control.

TFK Projects with Chinese Partners

Co-creation Hub in Nursing Education

Finland-China collaborative course on Global Food Safety: An approach to enhance global sustainability

Global Media Education through Development of Online Teaching

Master's level courses in exoskeletons for work and sports rehabilitation

Playful learning pedagogy in early childhood education and care: co-designed and co-taught blended intensive course by Finnish and Chinese universities

Sustainable educational solutions for chemical ecology and atmospheric pollution

Food for Thought

HEIs in China are still eager to cooperate at the moment.

HEIs in China sometimes wish to use international cooperation as means to boost their institutional CV rather than to further actual cooperation.

HEIs sometimes wish to pit international partners against each other, and even try to make it difficult for them to coordinate with each other.

Research universities in China are increasingly selective – they wish to cooperate with HEIs of similar status (i.e. other research universities).

Total refusal to cooperate with China not in our interest.

Urging others to avoid sensitive cooperation with China has also been used as a way to gain a competitive edge by some actors.

Need to firmly assert that a country the size of Finland cannot cooperate with every interested party.

Food for Thought

Crucial to follow the Chinese governmental developmental plans to know what is ”hot”.

Knowing the background of your partners and continued (re-)evaluation of ongoing cooperation is important.

In the case of China, it is especially imporant to know what is the status of the partner HEI *vis-à-vis* the CCP and Chinese military. Yet, developing ties with the CCP (i.e. university party office) often a necessity to get things done.

Exchange of information among likeminded partners (both national and international) crucial.

Urging China and Chinese institutions to comply with the accepted norms of science and scientific cooperation even when cooperation is carried out.

Food for Thought

Om inte samarbeten med Kina utvecklas inom specifika områden riskerar Europa sin ekonomiska utveckling, långsiktiga säkerhet och hamnar i ett vetenskapligt bakvatten.

- Svenska Dagbladet 25.6.2025

...ehkä eurooppalaiset nyt havahtuvat siihen, kuinka pahasti Eurooppa on teknologian kehityksessä Kiinaa ja Yhdysvaltoja jäljessä ja ryhtyy toimiin...Varmuutta siitä ei kuitenkaan ole. Merkit eivät ole kovin lupaavia, strategisessa reviiritaistelussa pehmeät jäävät helposti jalkoihin...Jos Eurooppa jää teknologiakehityksessä jälkeen ja muista riippuvaiseksi, taantuminen alkaa ennen pitkää näkyä elintasossa. Ei ole lainkaan varmaa, että demokratiamme kestää sen.

- Helsingin Sanomat 9.9.2025

Major risks [exist] associated with academic collaborations with China.

- Datenna, August 2024

Thank you!

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