



Zhejiang, West Lake



Nanjing, Yangtze River



Qingdao, pleasure port



Lijiang, Yunnan

40 years of rapid growth....

	1980	2000	2020	2023
Population (million)	981	1263	1402	1410
Urbanization (%)	19	36	61	66
GDP (billion US\$)	191	1215	14.700	17.700
R&D expenditure (% of GDP)	0,7	1	2,4	2,64
R&D personnel (full time equivalents)	670.000	920.000	5.240.000	7.240.000
students in STEM programs		5.094.000 (62%)	8.620.000 (41%)	

Scientific publications **nature index**

3/2024 – 2/2025

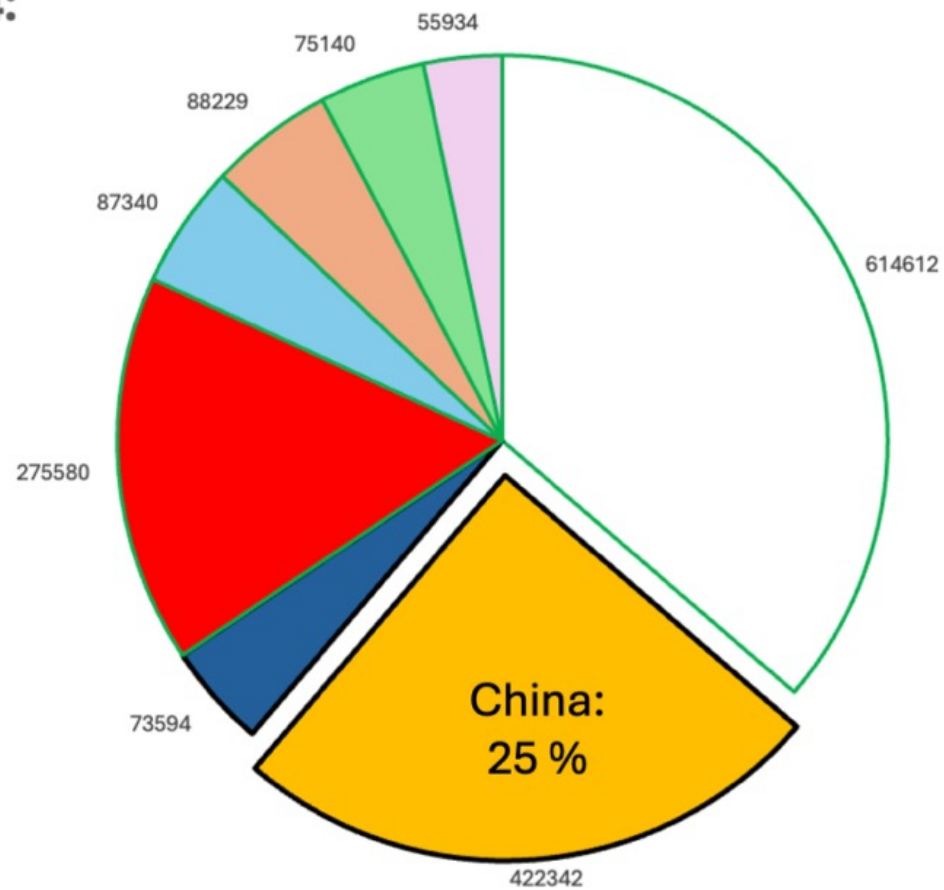
„all“

„biological sciences“

Position	Institution	Count	Share	Position	Institution	Count	Share
1	Chinese Academy of Sciences (CAS)	4532	1395.42	1	Harvard University	1664	534.26
2	University of Science and Technology of China (USTC)	1252	506.37	2	Chinese Academy of Sciences (CAS)	1447	366.00
3	Zhejiang University (ZJU)	898	397.30	3	National Institutes of Health (NIH)	752	287.81
4	University of Chinese Academy of Sciences (UCAS)	1674	385.41	4	Max Planck Society	1005	275.81
5	Tsinghua University	1035	371.04	5	Stanford University	735	215.86
6	Sichuan University (SCU)	584	365.62	6	Zhejiang University (ZJU)	510	203.52
7	Shanghai Jiao Tong University (SJTU)	811	362.01	7	University of Pennsylvania (Penn)	588	188.83
8	Nanjing University (NJU)	726	361.53	8	Peking University (PKU)	676	176.33
9	Peking University (PKU)	1251	354.79	9	Yale University	481	176.31
10	Fudan University	699	332.11	10	Massachusetts Institute of Technology (MIT)	890	174.27
11	Jilin University (JLU)	524	310.33	11	Washington University in St. Louis (WUSTL)	473	162.51
12	Nankai University (NKU)	668	297.17	12	Fudan University	441	160.87
13	Max Planck Society	752	247.64	13	French National Centre for Scientific Research (CNRS)	1280	158.37

**Indexed in PubMed 2024:
1,692,771 publications**

- Rest of World
- China
- Japan
- USA
- Germany
- UK
- Italy
- France



The lives of farmers are changing...

Satellite-controlled tea-picking robot in Zhejiang



Using binocular stereo vision, the tea-picking robot can position where the target bud and leaf are, cut them off precisely, then suck the leaves into its basket via its negative-pressure pipette.[Photo/CRI Online]

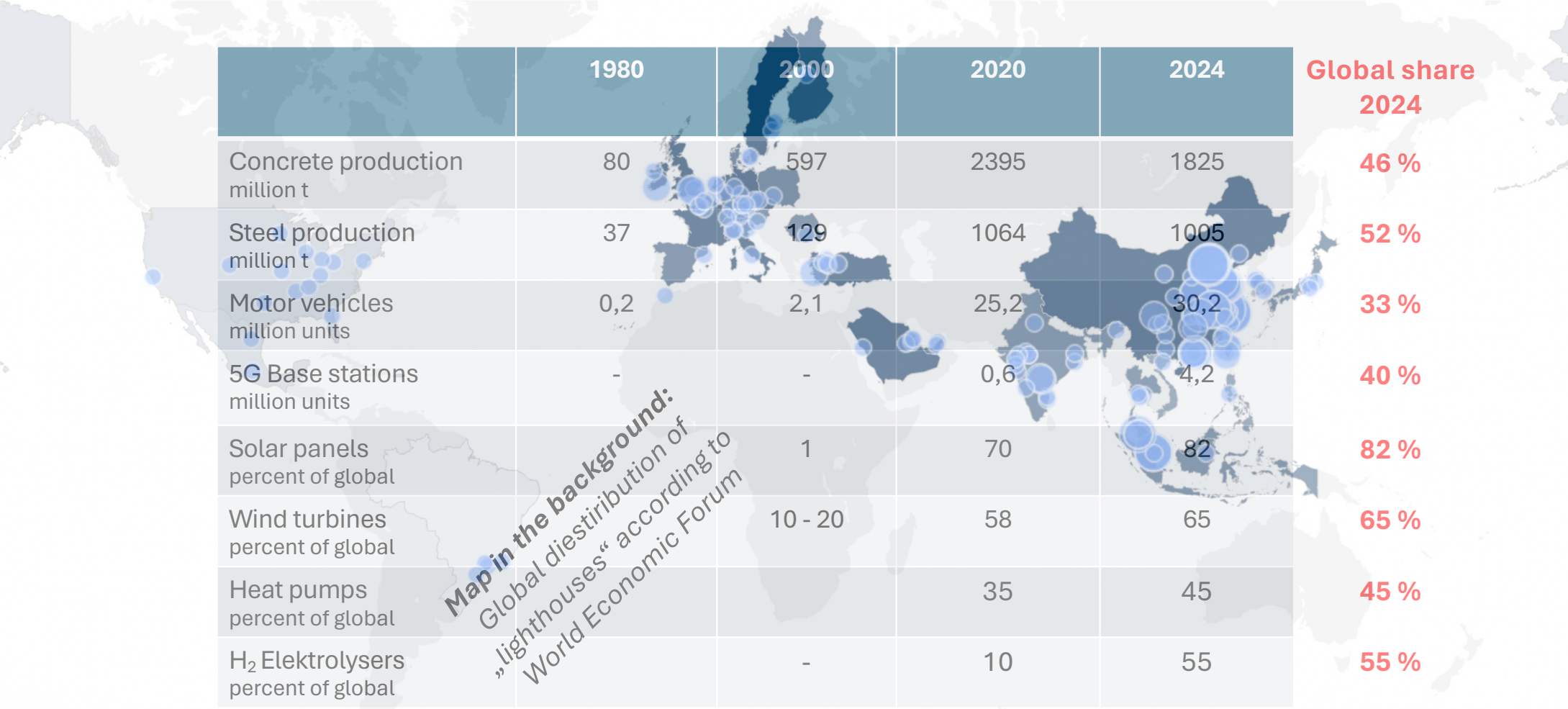


Workers harvest hydroponic lettuce in a plant factory in Nantong, east China's Jiangsu province. (People's Daily Online/Xu Congjun)

Hydroponic “lettuce factory” in Jiangsu

Bio 4 Business

China's share of world industrial production



	1980	2000	2020	2024	Global share 2024
Concrete production million t	80	597	2395	1825	46 %
Steel production million t	37	129	1064	1005	52 %
Motor vehicles million units	0,2	2,1	25,2	30,2	33 %
5G Base stations million units	-	-	0,6	4,2	40 %
Solar panels percent of global		1	70	82	82 %
Wind turbines percent of global		10 - 20	58	65	65 %
Heat pumps percent of global			35	45	45 %
H ₂ Elektrolysers percent of global		-	10	55	55 %

Map in the background:
Global diestiribution of „lighthouses“ according to World Economic Forum

Sources: IEA, World Economic Forum and other

...the lives of the workers too

in 2015 “Workbench
of the World”

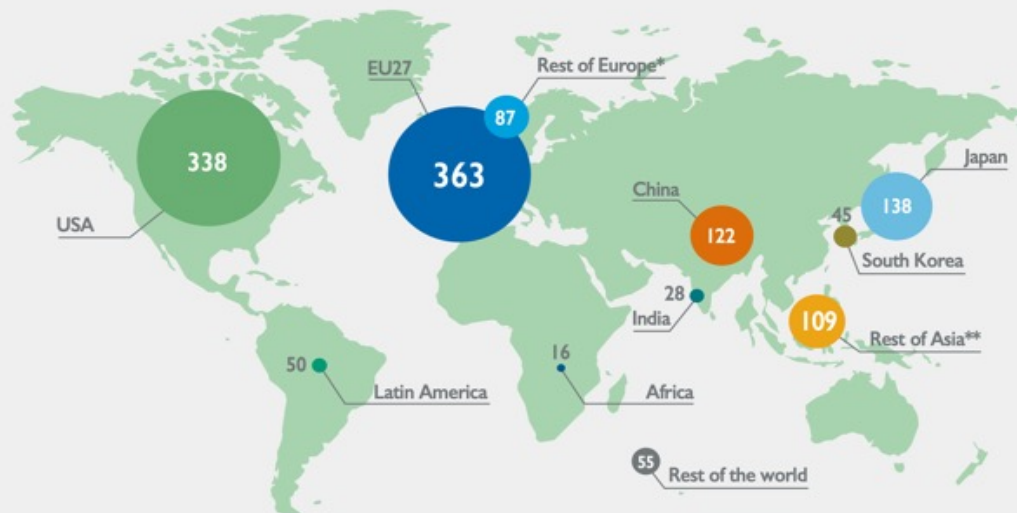
In 2023:
52 “Future factories”
in Zhejiang Province
alone

Bio 4 Business



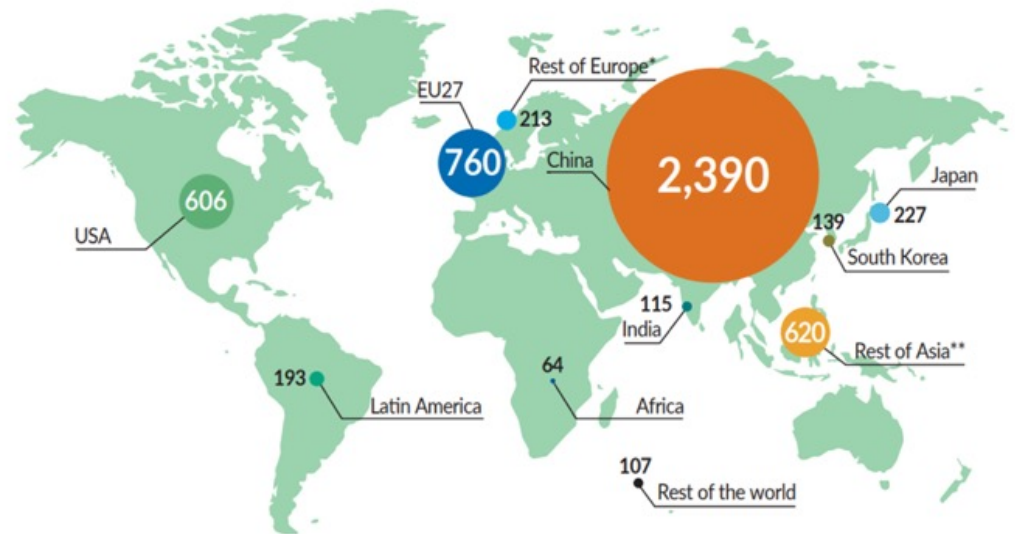
China dominates many industries, including chemicals

World chemical sales, 2002 (€1352 billion)



Source: Cefic Chemdata International
* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
** Asia excluding China, India, Japan and South Korea

World chemical sales, 2022 (€5,434 billion)



Source: Cefic Chemdata International
* Rest of Europe covers UK, Switzerland, Norway, Turkey, Russia and Ukraine
** Asia excluding China, India, Japan and South Korea

Digitalisation everywhere...



Students have a science class wearing virtual reality headsets in a primary school in Qinhuangdao, north China's Hebei province. (Photo by Cao Jianxiong/People's Daily Online)

School children in Qinhuangdao use AR
(over 90 % of all schools completely digitalized)

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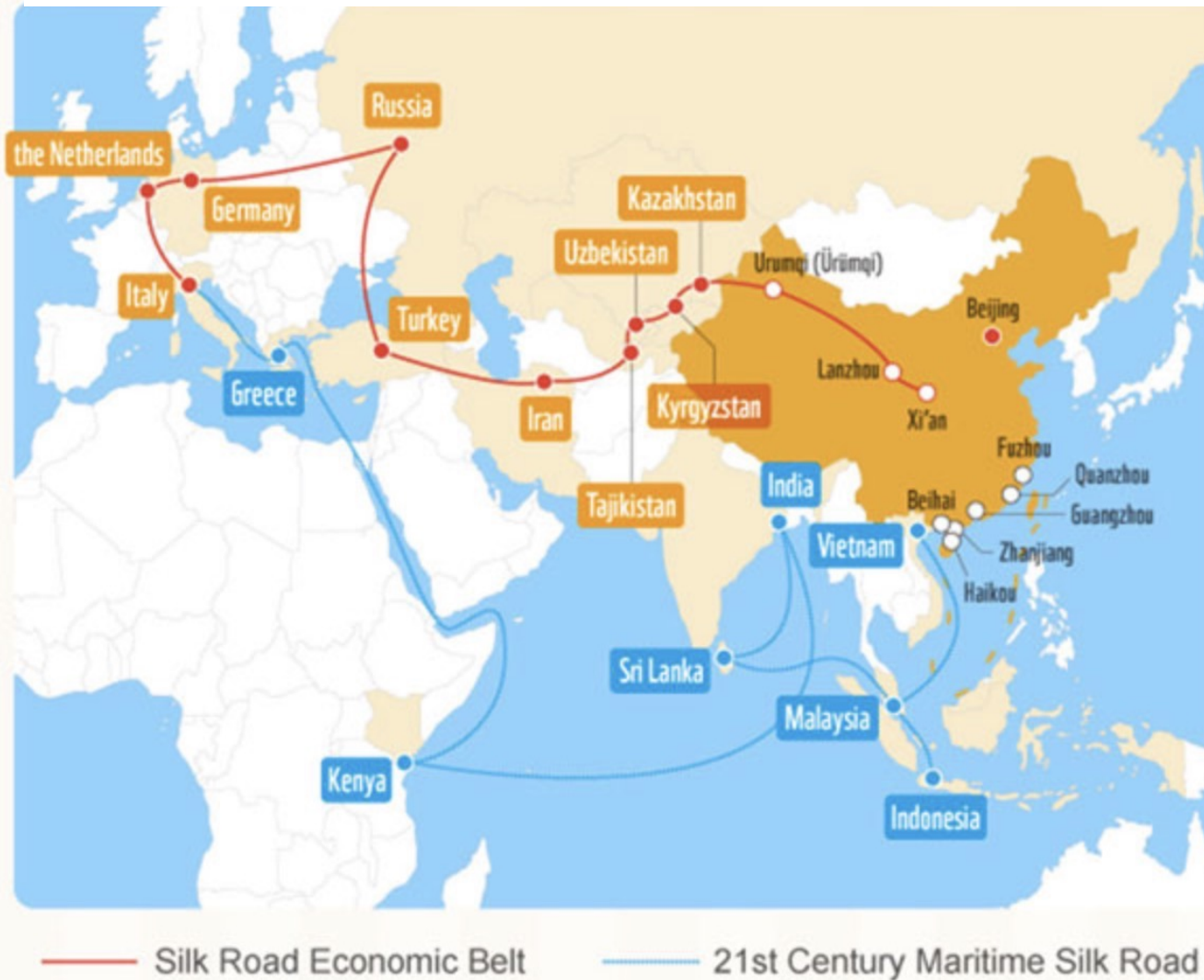


Drones surveying a high-voltage system in Guilin



A „digital twin“ of a river in Gansu for flood control

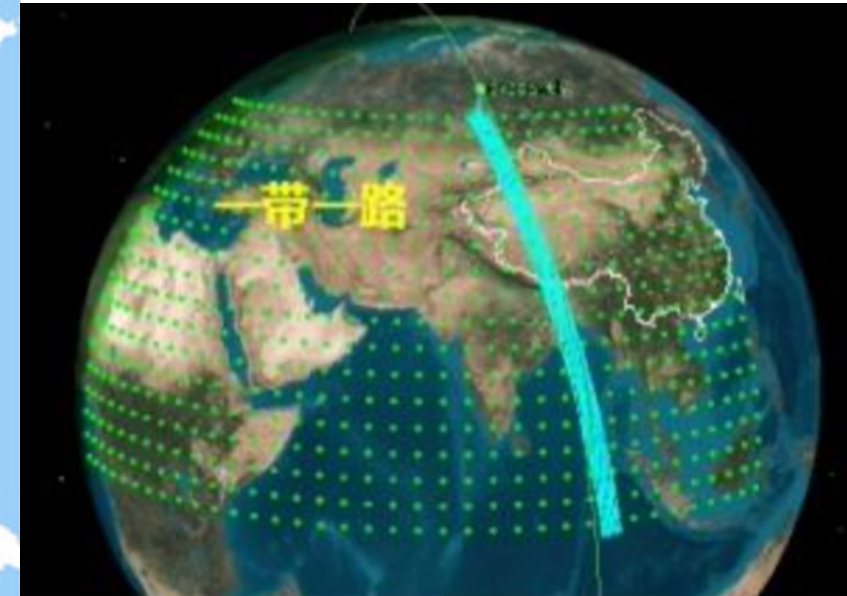
The „belt and road“ vision



SDG-SAT1 satellite

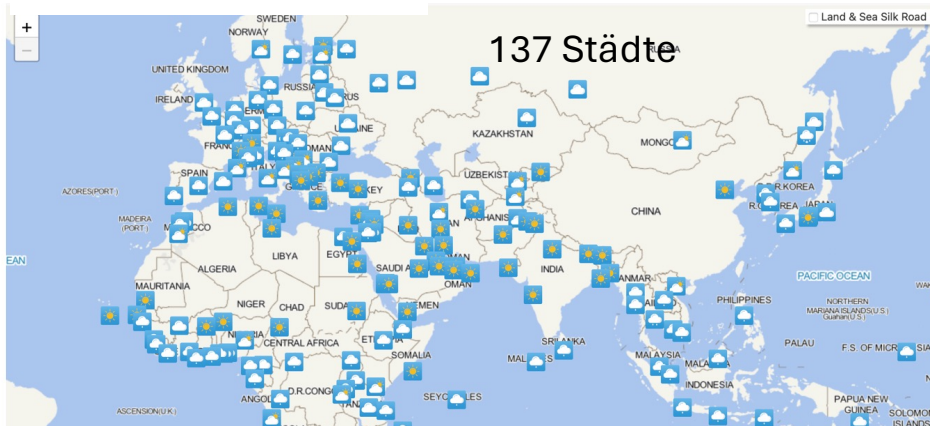


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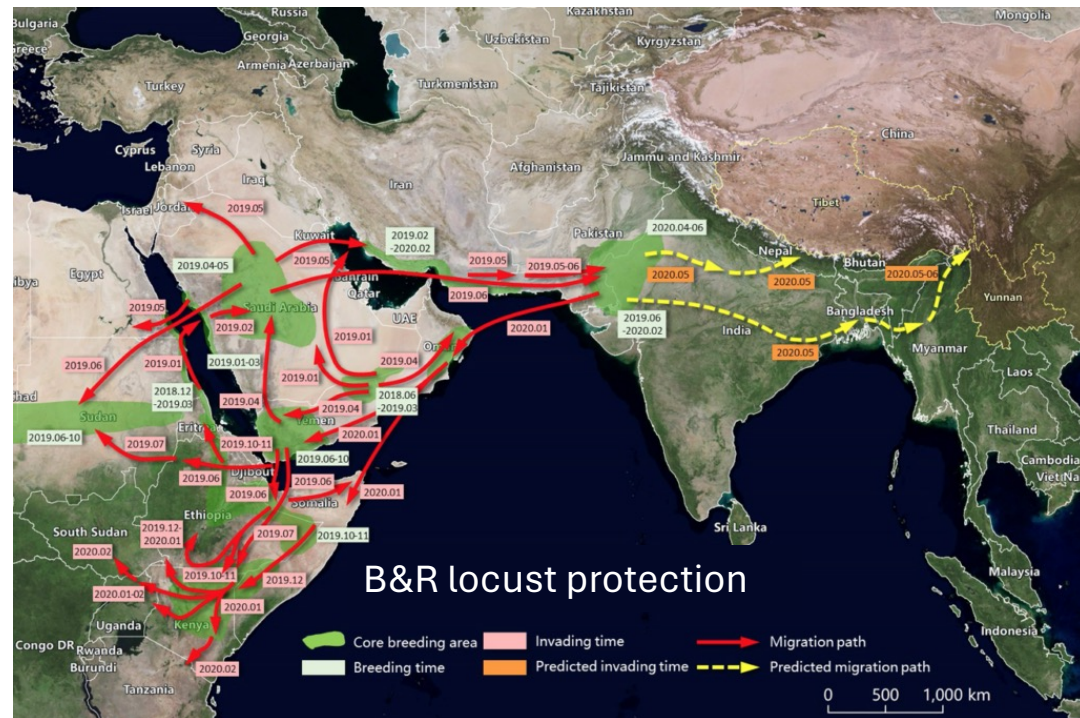




B&R weather forecast



B&R health services



B&R locust protection



B&R science cooperation (Addis Ababa)

January 2013: „The Great Beijing Smog“

$PM_{2.5} > 500 \mu g/l$

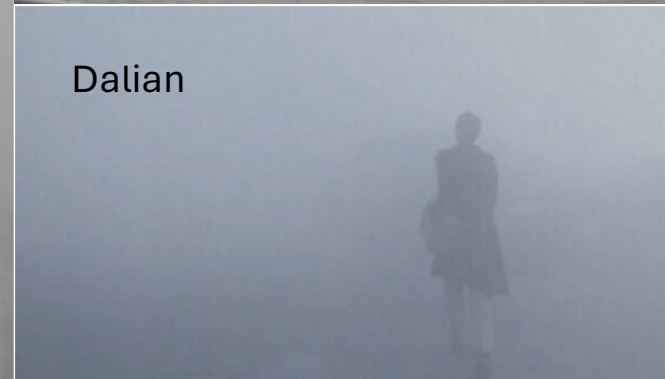


Photo taken on Jan. 13, 2013 shows the fog-shrouded buildings at the Central Bussiness District in Beijing, capital of China. Dense fog on Sunday hit China's east and central regions from the northeast to the south, causing serious air pollution. [Xinhua]

Changchun

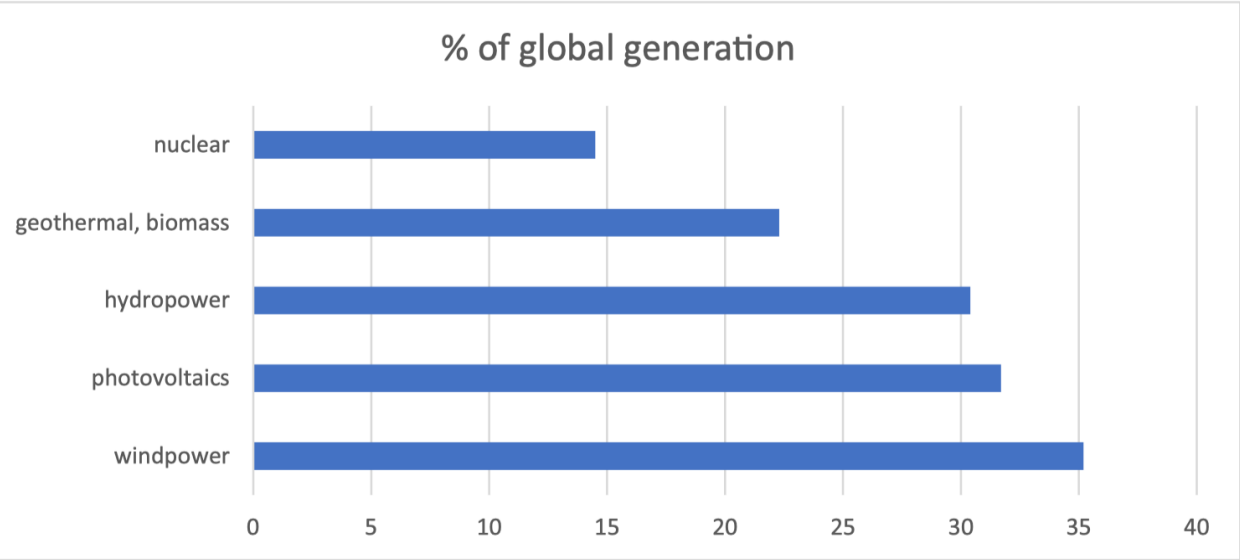


Dalian



Nanjing





2023: a major driver for defossilized energy



Firmly based on „Socialism
with Chinese characteristics“

~100 mllion Chinese are
members of the CPC





Nation

prosperity

democracy

civilization

harmony

Society

freedom

equality

Justice

rule of law

Citizen

patriotic

engaged

integer

friendly

Socialist values

核

SHEHUO
HEXIN



Bio 4 Business

Stuttgart

China and Japan

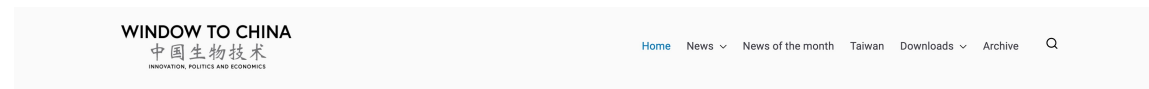
- technology scouting
- company profiling
- policy evaluation



Baden-Württemberg

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Biotech in China

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Biotech in China

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