

ECONOMY



SUBSCRIBE


[HOME](#) | [CHINA](#) | [HONG KONG](#) | [ASIA](#) | [BUSINESS](#) | [TECH](#) | [LIFESTYLE](#) | [COMMENT](#) | [SPORT](#) | [VIDEO](#) | [LISTS](#) | [ALL](#)
[\(/topics/focus\)](#)

NEWS CHINA ECONOMY TECHNOLOGY

'Made in China': the smart revolution blueprint set to bring Beijing into the digital age

Beijing's plan to fully bring manufacturing into the digital era is ambitious but success requires careful coordination with wider reforms, experts say

Victoria Ruan

victoria.ruan@scmp.com (mailto:victoria.ruan@scmp.com)

PUBLISHED : Monday, 01 June, 2015, 4:56am

UPDATED : Monday, 01 June, 2015, 11:51am



Robots weld car bodies in a factory in Liuzhou in Guangxi province. Automation and digitalisation could help offset declining productivity and a shrinking workforce as the population ages. Photo: ImagineChina

The "Made in China 2025" blueprint rolled out by Beijing last month is widely seen as a counterpart to Germany's "Industry 4.0" strategy - an effort to create a manufacturing revolution underpinned by smart technologies.

The ambition is to turn China into a "strong" manufacturing nation within a decade, with the priority on digitalisation and modernisation of 10 sectors, including aerospace, railways, new-energy vehicles and new materials. If successful, it would be a huge step up for China from the "world's factory", which for decades saw it churn out mainly cheap, low-quality clothes, toys and other goods.

The plan, briefly announced during the national political meetings in March and fleshed out in more detail on May 18, has excited the market, pushing manufacturing stocks to new highs.

Beijing is keen to cut its reliance on technology imports from the West. Promoting high-end manufacturing is also China's response to worsening productivity, slowing economic growth, and a shrinking workforce that has made its labour costs no longer cheap compared with other emerging

How does the new plan fit into the broad framework of SOE reforms?

RELATED TOPICS

[Focus \(/topics/focus\)](#)

RELATED ARTICLES

[Hong Kong woman, 90, fears for future of son with Down's amid 11-year wait for care home \(/news/hong-kong/education-community/article/1813154/hong-kong-woman-90-fears-future-son-downs-amid-11\)](#)

31 May 2015 - 12:10am

[China's foothold in South China Sea: analysts reveal endgame to Beijing's reclamation efforts \(/news/china/diplomacy-defence/article/1813082/chinas-foothold-troubled-waters\)](#)

30 May 2015 - 6:31am

[US - 1, Fifa - 0: why American law enforcers are so keen to fight global corruption \(/news/world/article/181192/us-1-fifa-0-why-american-law-enforcers-are-so-keen-fight-global\)](#)

29 May 2015 - 5:40am

MOST POPULAR (/MOST-POPULAR)

[VIEWED \(#QT-MOST POPULAR-UI-TABS1\)](#)[SHARED \(#QT-MOST POPULAR-UI-TABS2\)](#)[COMMENTED \(#QT-MOST POPULAR-UI-TABS3\)](#)

[Punish travellers who lie about their health, Sars expert urges \(/news/hong-kong/health-environment/article/1813158/two-south-koreans-who-refused-mers-quarantine\)](#)

[Bid for compromise on Hong Kong electoral reform package fails, pan-democrats warned on 'loyalty' \(/news/hong-kong/politics/article/1814351/bid-compromise-electoral-reform-package-fails-pan-democrats\)](#)

[Outcry over sexy photo shoot featuring naked model at Beijing's Forbidden City \(/news/china/society/article/1814407/outcry-over-sexy-photo-shoot-beijings-forbidden-city\)](#)

[South Korea's health chief apologises for spread of Mers after Korean tests positive in China \(/news/asia/east-asia/article/1814269/south-koreas-health-chief-apologises-spread-mers-after-korean\)](#)

[Google's cardboard virtual headset becomes huge hit ... and it only costs US\\$4 \(/news/world/article/1814065/googles-use-cardboard-makes-virtual-reality-reality\)](#)

WE RECOMMEND



NEWS

[Chinese online celebrity Guo Meimei formally charged with running an...](#)

22 May 2015

<http://www.scmp.com/news/china/society/article/1806404/chinese-online-celebrity-guo-meimei-prosecuted-running-illegal>



NEWS

[Pregnant teacher ordered to have abortion after moving to Chinese...](#)

20 May 2015

<http://www.scmp.com/news/china/article/1804123/pregnant-teacher-ordered-have-abortion-after-moving-chinese-province>



NEWS

[Porn stars in California to wear goggles under new health and safety...](#)

31 May 2015

markets such as Vietnam and Brazil.

According to Citigroup, China plans to invest 8.02 trillion yuan in the next few years to modernise and transform its industry - a far more ambitious programme than Europe's plan to spend an estimated €1.35 trillion (HK\$11.50 trillion) on similar improvements over a much longer timeframe of 15 years. Yet some observers fear "the loud thunder might result in little rain" - as one Chinese proverb puts it.

Stephen Roach, former chairman of Morgan Stanley Asia and a veteran China watcher, called the vision "another of China's classic goal-oriented plans".

"'Made in China 2025' is a very ambitious and aspirational goal, but until the path to that goal is clarified, it smacks more of rhetorical flourish than a credible commitment," Roach, now a Yale University professor, said.

For Roach, a key question is: "How does the new plan fit into the broad framework of SOE [state-owned enterprise] reforms?"

The blueprint was also unclear about who would implement the plan - market forces or the National Development and Reform Commission, the powerful agency in charge of economic planning, Roach said.

Beijing should move faster to reform state monopolies, which have stood in the way of greater productivity and technological innovation in the manufacturing sector, observers say.

SOEs sitting on a mountain of subsidies, cheap land and easy access to loans have aggressively expanded their market share over the decades without carefully considering commercial returns. They are usually headed by senior officials appointed by the Communist Party through a politically focused evaluation system.

We should first
implement our
Industry 1.0 ...
[before dreaming
bigger]

But as economic growth slowed in the first quarter, SOEs saw an almost 30 per cent drop in profits, while their private-sector counterparts recorded growth of 6.8 per cent over the same period last year.

China National Erzhong Group, a state-run maker of heavy equipment based in Sichuan province, was forced to delist from the Shanghai Stock Exchange on May 22 after a string of continuous losses since 2011. Last year, its net losses amounted to 7.9 billion yuan (HK\$10 billion). The poor performance was linked to the company's participation in a large government-led aircraft manufacturing project, estimated to have tied up 200 billion yuan in investment.

Since the era of Deng Xiaoping, China has sought to introduce technology from abroad by opening up its previously state-regulated markets to foreign players. The 1980s saw tie-ups between state-owned carmakers, such as the FAW Group and SAIC Motor, and global giants including Volkswagen, General Motors and Toyota.

Since then, the mainland's car market has expanded into the world's largest, producing 23 million vehicles a year. However, the sector still lacks domestic brands that can rival world-class car companies and home-grown technology.

Last year, German car-part supplier and technology group Bosch reaped €6.4 billion in sales in China, a jump of 27 per cent over the previous year, thanks to its technology found mainly in vehicle braking, engine and train systems.

"The quality, stability, and reliability of auto parts must go through all kinds of experiments and numerous tests before they can be put into commercial use," said Jinan Zhang, a sales director at Bosch Rexroth in China. "The process is lengthy - probably taking five to 10 years."

Yale Zhang, managing director of advisory firm Automotive Foresight (Shanghai), said SOEs had not shown the patience to wait such periods if they were still making profits through their joint ventures.

Asked whether Deng's policy to "exchange market share for technology" had worked well in the carmaking sector, Yale Zhang said: "Honestly, no."

STEPHEN ROACH, PROFESSOR,
YALE UNIVERSITY

YALE ZHANG, DIRECTOR,
AUTOMOTIVE FORESIGHT

The hip, young faces of Japan's rural renaissance

[\(/news/asia/east-asia/article/1810648/hip-young-faces-japans-rural-renaissance\)](#)

28 May 2015 - 5:17am

Hong Kong needs to step up checks on shark fin trade after Costa Rica shipments slip under radar

[\(/news/hong-kong/health-environment/article/1809921/hong-kong-needs-step-checks-shark-fin-trade-after\)](#)

27 May 2015 - 5:26am

[\(http://www.scmp.com/news/world/article/1814105/porn-stars-may-be-forced-wear-goggles-under-proposed-new-california-rules\)](#)



NEWS
Chinese woman jailed for blocking subway train in row over her crying...

07 May 2015

[\(http://www.scmp.com/news/china/society/article/1788103/chinese-woman-jailed-blocking-subway-train-row-over-her-crying\)](#)



SPORT
Chinese sprinter first Asian to break 10-second 100m mark

31 May 2015

[\(http://www.scmp.com/sport/china/article/1813360/chinese-sprinter-first-asian-break-10-second-100m-mark\)](#)



VIDEOS
US and Japan say China's island-building in the South China Sea is...

31 May 2015

[\(http://www.scmp.com/video/china/1813359/us-and-japan-say-chinas-island-building-south-china-sea-eroding-regional\)](#)



LIFESTYLE
10 restaurants in Wan Chai for lunch or dinner

01 Jun 2015

[\(http://www.scmp.com/lifestyle/food-drink/article/1811145/10-restaurants-wan-chai-lunch-or-dinner\)](#)



LIFESTYLE
The bald facts about diet: to avoid hair loss, you need meat

04 May 2015

[\(http://www.scmp.com/lifestyle/health/article/1783399/bald-facts-about-diet-avoid-hair-loss-you-need-meat\)](#)



COMMENT
Fear of missing out a driving force in markets in China, Silicon...

01 Jun 2015

[\(http://www.scmp.com/comment/insight-opinion/article/1814405/fear-missing-out-driving-force-markets-china-silicon-valley\)](#)



BUSINESS
Hong Kong ranks third most luxurious city in world for prime property

01 Jun 2015

[\(http://www.scmp.com/business/markets/article/1814389/hong-kong-ranks-third-most-luxurious-city-world-prime-property\)](#)



SPORT
Samuel Saiz scores winner as Atletico Madrid beat West Ham in HKFC...

31 May 2015

[\(http://www.scmp.com/sport/hong-](#)

"We should first implement our Industry 1.0 and Industry 2.0 plans" before dreaming bigger.

To be sure, China is catching up, and has even become a technological leader in some industrial areas such as high-speed rail, driven by growing market demand and massive government spending.

There was a moment of national pride in 2011 when a test on the Beijing-Shanghai express railway achieved a record speed of 487km/h. But a deadly collision in Wenzhou in Zhejiang province in July, 2011, quickly punctured the bubble of euphoria. Dozens of people died and nearly 200 others were injured when a bullet train stalled on the tracks and a second train slammed into it.

But the tragedy spurred the nation to overhaul its high-speed rail safety, and China is now a global leader in exporting the sector's technology.

Sun Bangcheng, chief engineer at state-owned CNR Tangshan Railway Vehicle Company, said China had developed faster rail speeds and had a lower product defect rate than European rivals thanks to more than a billion yuan in government investment on automation technology research since the accident.

"I expect the country will spend at least as much on R&D in this area in the next five-year period," Sun said.

The funds would be partly used to improve forecasting of natural disasters, such as tsunami or typhoons, so coastal railways could automatically cut their power to prevent accidents, he said. Sun described the project as "massive" and in need of closer cross-sector cooperation.

Miao Wei, the minister of industry and information technology, told Caixin Media the "Made in China 2025" strategy and Germany's "Industry 4.0" shared similar goals, with both aiming to "deeply integrate" information technology with advanced manufacturing to drive a new wave of industrial development. "China has regained the title of the biggest manufacturing nation after losing the position for 150 years. We are big, yet not strong," he said.

China might be able to quickly narrow its gap with developed nations by applying internet technology to manufacturing, Miao said. But the nation still faced many challenges, including a shortage of top-class talent, resources and environmental bottlenecks, and a shrinking supply of migrant workers, he said.

Network security was also a big concern for China as it developed big data services, he said. "Some Chinese companies have yet to go through the 2.0 and 3.0 versions," Miao said, while most German manufacturers were in a stage somewhere between 3.0 and 4.0.

However, Morgan Stanley Asia chief economist Chetan Ahya said China's innovation depended less on talent supply and more on releasing the potential of the private sector.

"I don't think talent is an issue in China. Talent is there," he said. "The most important macro policy would be: reform the public sector and also clean up the banks."

Some analysts have also drawn comparisons between Beijing's blueprint and the "Make in India" policy touted by the nation's leader, Narendra Modi.

Ahya said they shared a broad objective of keeping the manufacturing sector competitive through adjusting the structure of the production chain. But India, with per capita income at US\$1,500, a fifth of China's, would be adding about 130 million people to its working-age population over the next 10 years, while the mainland's workforce declined for the third year in a row in 2014. "India was trying to do what China did 10 years back," Ahya said.

<https://cdn3.scmp.com/sites/default/files/2015/06/01/18.jpg> **Taiwan must pioneer Internet of Things to maintain tech edge over mainland, experts say**

"Smart living" and wearable technology will take centre stage at Asia's biggest tech trade show which kicks off tomorrow in Taipei with gadgets promising to do everything from analyse your state of mind to identify burglars.

Computex will see 1,700 exhibitors from Taiwan and around the world draw an expected 130,000 visitors over the five-day event, now in its 35th year.

Mobile technology and 3D innovations will also be key areas of this year's

[kong/article/1814174/samuel-saiz-scores-winner-atletico-madrid-beat-west-ham-hkfc](http://www.scmp.com/article/1814174/samuel-saiz-scores-winner-atletico-madrid-beat-west-ham-hkfc)



SCMP MAGAZINES
Tate Dining Room chef Vicky Lau's favourite Hong Kong restaurants

20 May 2015

<http://www.scmp.com/magazines/48-hours/article/1798068/tate-dining-room-chef-vicky-lau-s-favourite-hong-kong-restaurants>



VIDEOS

6-seat van caught with 51 passengers on board in China

13 May 2015

<http://www.scmp.com/video/china/1795013/6-seat-van-caught-51-passengers-board-china>



LIFESTYLE

Sex and nudity rule at Cannes Film Festival - on screen and off

23 May 2015

<http://www.scmp.com/lifestyle/arts-entertainment/article/1806901/sex-and-nudity-rule-cannes-film-festival-screen-and>



COMMENT

Hong Kong's Democrats must pull themselves back from the edge

01 Jun 2015

<http://www.scmp.com/comment/insight-opinion/article/1812127/hong-kongs-democrats-must-pull-themselves-back-edge>



SPORT

Tiger Woods admits to 'brutal' sleepless nights amid break-up with...

06 May 2015

<http://www.scmp.com/sport/golf/article/1787433/tiger-woods-admits-brutal-sleepless-nights-amid-break-lindsey-vonn-and>



NEWS

'Stab them and poison them': Australian Islamic State bride calls for...

21 May 2015

<http://www.scmp.com/news/world/article/1806306/stab-them-and-poison-them-australian-islamic-state-bride-calls-killing>

Recommended by

(#)

PROMOTIONS (/PROMOTIONS)

Wine Circle invites you to a masterclass with Allen Meadows

[/promotion/1742074/wine-circle-invites-you-masterclass-allen-meadows](http://www.scmp.com/promotion/1742074/wine-circle-invites-you-masterclass-allen-meadows)

Wine Circle invites you to a

show.

Though Computex continues to attract big names like Intel, Microsoft and Ford, it comes at a time when Taiwan is fighting to maintain its tech edge in the face of intense competition from the mainland.

Taiwan in April lowered its growth forecast, blaming increased competition from the mainland in the technology industry.

The mainland has been forging ahead with the development of domestic smartphone brands and home-grown hardware, putting pressure on the export-driven technology hub. Industry observers say that Taiwan must innovate in the burgeoning Internet of Things (IoT) market - web-connected objects from watches to kitchen appliances - if it is to keep its position.

The IoT market is forecast to grow 19 per cent this year, according to US research firm IDC.

"In the years ahead, the Internet of Things will include millions of wearables for consumers as well as sensors and networks used in smart city roll-outs throughout the world," said Singapore-based tech blogger Alfred Siew.

David Liu, of the Taipei Computer Association, said this year's Computex would feature more mature products than previous years. While stand-alone smart products were on show previously, tech firms were now broadening their ambitions, Liu said.

"Many of the exhibitors demonstrated their smart home devices last year, like plugs, lights or locks, but those devices did not work as systems," he said.

"The latest products use an app and infrared sensors to come up with a total solution. So in the case of home security, say, users can now automatically receive images of any intruders into their home."

More than 1,000 Taiwanese firms would set out their stalls at Computex and be anxious not to lag behind in the nascent IoT market, said Siew, having struggled to compete in the mobile sector. "If they could offer managed services, software interfaces and data analytics to go with their traditional technical expertise in hardware, that could make their offerings even more interesting," Siew said.

Liu Meng-chun of Taiwanese think tank Chung-Hua Institution for Economic Research agrees the island needs to reinvent its tech identity. "Mass manufacturing is no longer a proper way. Taiwan companies should put to use their innovation if they hope to survive the challenges," he said. "It's no easy task, but they have no choice."

Agence France-Presse

[masterclass with Allen Meadows](#)
[\(/promotion/1742074/wine-circle-invites-you-masterclass-allen-meadows\)](#)

For unlimited access to:

SCMP.com
SCMP Tablet Edition
SCMP Mobile Edition
10-year news archive

Subscribe now

([https://customerservice.scmp.com/subscribe/digital?](https://customerservice.scmp.com/subscribe/digital?utm_source=scmp_pointer&utm_medium=bottom_pointer&utm_campaign=s)

Existing subscribers, [login here \(/user/login\)](#)
 utm_source=scmp_pointer&utm_medium=bottom_pointer&utm_campaign=s

FROM SCMP (LAST 24HRS)

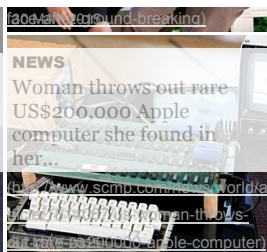


Woman meets man who received her dead brother's face after...

<http://www.scmp.com/news/world/asia/article/1814281/made-china-smart-revolution-blueprint>

rhetoric over South China Sea

<http://www.scmp.com/news/china/diplomacy/defence/article/1814339/us-china-stone-down-rhetoric-over-south-china-sea>



MULTIMEDIA



25 May 2015

FROM SCMP



19 May 2015

(http://www.scmp.com/video/hong-kong/1808448/home-cooking-susan-jung-pan-fried-meat-buns-filled-pork-and-chives)



22 May 2015

(http://www.scmp.com/news/china/society/article/1802970/crotch-bomb-scene-anti-japan-war-drama-blasted-chinese-online)



01 Jun 2015

(http://www.scmp.com/video/china/1806714/chinas-economic-weakness-hits-factories)



06 May 2015

(http://www.scmp.com/news/hong-kong/politics/article/1814189/beijings-reform-package-hong-kong-insult-us-scholar-larry)



31 May 2015

(http://www.scmp.com/video/asia/1787413/north-korean-forces-practice-wiping-out-us-and-their-allies-video)



29 May 2015

(http://www.scmp.com/news/asia/article/1814201/nervous-japanese-warned-next-big-one-day-after-powerful-quake-shook-nation)



01 Jun 2015

(http://www.scmp.com/video/technology/1812043/turkish-terminator-turtle-gets-3d-printed-titanium-jaw)



28 May 2015

(http://www.scmp.com/news/hong-kong/education-community/article/1814376/eviction-looms-again-international-montessori)



31 May 2015

(http://www.scmp.com/video/world/1811081/world-soccer-rocked-after-fifa-graft-arrests)

(http://www.scmp.com/news/china/society/article/1813367/all-eyes-beijing-china-worlds-largest-tobacco-consumer-bans)

Recommended by

(#)

Comments

Content limited to 1500 characters, remaining: 1500

Post comment

MOST RECOMMENDED (/NEWS/CHINA/ECONOMY/ARTICLE/1814281/MADE-CHINA-SMART-REVOLUTION-BLUEPRINT?COMME

3

ALL COMMENTS (/NEWS/CHINA/ECONOMY/ARTICLE/1814281/MADE-CHINA-SMART-REVOLUTION-BLUEPRINT?COMM... JRT

shuike

shuike

Jun 1st 2015

5:13pm

@dunndavid: You may well be right. But looking back through Google/Wiki for the past 20-30 years, there's a lot of derisive articles/letters on China's ambitions/plans – many even predicting China's doom. Well the reality is that China did not get to be No.2 in the economic scale with stupid untenable plans.

dunndavid

dunndavid

Jun 1st 2015

7:13am

"To be sure, China is catching up, and has even become a technological leader in some industrial areas such as high-speed rail" We shall see how smart this "investment" ends up being. High-speed rail lines lose money worldwide. HSR requires lots of investment in maintenance, which China is notoriously bad at carrying out. So many of these projects have been authorized out of the need for economic stimulus, rather than consideration of return on investment. Time will tell how well this has worked out financially.

5568ff8e-5710-4222-a1ff-04cc0a320968

iilovehongkong@*****

Jun 1st 2015

6:31am

ah the best technology stolen from the naive west, congrats on your great leap forward

IN CASE YOU MISSED IT

How home schooling helps me
and my daughter bond, by author
of Mama, a new book

**China Consumer
Electronics Show
disappoints some**
(/video/china/1809081/ch
ina-consumer-electronics-
show-disappoints-some)

(/magazines/post-
magazine/article/1810166/atta
chment-parenting-explored-
mama-antonella-gambotto-
burke)

How home schooling

How home schooling helps me
and my daughter bond, by author
of Mama, a new book

(/magazines/48-
hours/article/1810020/top-5-
films-watch-hong-kong-week-
may-28-june-3)

**Top 5 films to watch
in Hong Kong this**

**Street lights powered
by solar and wind
energy to light up
Barcelona**
(/video/technology/18100

39/street-lights-powered-
solar-and-wind-energy-
light-barcelona)

How home schooling helps me
and my daughter bond, by author
of Mama, a new book

(/lifestyle/families/article/18084
63/hong-kong-celebrated-
english-language-books-
children)

**Hong Kong
celebrated in**

How home schooling helps me
and my daughter bond, by author
of Mama, a new book

(/magazines/48-
hours/article/1802955/five-
hong-kong-restaurants-grow-
their-own-produce)

**Five Hong Kong
restaurants that grow**