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地平線另一端的挑戰 中國製造 貳零貳伍

李孟純 & 沃夫岡·萊莫

福來貝格礦業資源卓越中心

Mengchun.lee@gkz-ev.de

15 May, 2019 | Wroclaw



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Challenge beyond the Horizon Made in China 2025

Meng-Chun Lee & Wolfgang Reimer

Geokompetenzzentrum Freiberg

Mengchun.lee@gkz-ev.de

15 May, 2019 | Wroclaw

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MADE IN CHINA 2025

Background

- Identified **weaknesses** in Chinese manufacturing
 - Innovation capability
 - Resource efficiency
 - Industrial structure
 - Information level
 - Quality and efficiency
 - Lack of core technologies and equipment ... etc.

- **Timing**
 - Technology revolution
 - Fast growing national economy/domestic demand
 - Restructuring of the international division of labour

MADE IN CHINA 2025 II

Aim

- Using three decades (2025/35/45) to build a manufacturing industry that has international competitiveness and moving up the value chain – **Manufacturing Superpower**
 - Self-sufficiency
 - Indigenous innovations
 - Leading manufacturing country

External challenges

- Re-industrialisation of the developed countries
- Competition from other developing countries

Key developing concepts



MADE IN CHINA 2025 III

Roadmap for the 1st three decade plan (MIC 2025)

- Top-bottom design
- The fixation on quantitative targets
- Generous funding from the central & regional governments

2020 年和 2025 年制造业主要指标

| 类别 | 指标 | 2013 年 | 2015 年 | 2020 年 | 2025 年 |
|------|-------------------------------|--------|--------|----------------------|----------------------|
| 创新能力 | 规模以上制造业研发经费内部支出占主营业务收入比重 (%) | 0.88 | 0.95 | 1.26 | 1.68 |
| | 规模以上制造业每亿元主营业务收入有效发明专利数 1 (件) | 0.36 | 0.44 | 0.70 | 1.10 |
| 质量效益 | 制造业质量竞争力指数 2 | 83.1 | 83.5 | 84.5 | 85.5 |
| | 制造业增加值率提高 | - | - | 比 2015 年提高 2 个百分点 | 比 2015 年提高 4 个百分点 |
| | 制造业全员劳动生产率增速 (%) | - | - | 7.5 左右 (“十三五”期间年均增速) | 6.5 左右 (“十四五”期间年均增速) |
| 两化融合 | 宽带普及率 3 (%) | 37 | 50 | 70 | 82 |
| | 数字化研发设计工具普及率 4 (%) | 52 | 58 | 72 | 84 |
| | 关键工序数控化率 5 (%) | 27 | 33 | 50 | 64 |
| 绿色发展 | 规模以上单位工业增加值能耗下降幅度 | - | - | 比 2015 年下降 1 8% | 比 2015 年下降 3 4% |
| | 单位工业增加值二氧化碳排放量下降幅度 | - | - | 比 2015 年下降 2 2% | 比 2015 年下降 4 0% |

MADE IN CHINA 2025 IV

Nine Strategic tasks

- Encourage innovation
- Promote the use of integrated, digital, technology-focused manufacturing
- Strengthen the overall industrial base
- Improve product quality and build global Chinese brand names
- Enforce green manufacturing methods
- Re-structure industries
- Improve service-oriented manufacturing and manufacturing-service industries
- Globalise Chinese manufacturing industries
- **Ten priority sectors:** (semi-official) roadmap “MIC 2025 Green Paper”
 - Integrated circuits and new generation information technology
 - High-end manufacturing control machinery and robotics
 - Aviation and aerospace equipment
 - Advanced marine equipment and high-tech vessels
 - Advanced rail and equipment
 - Low and new energy vehicles
 - Power equipment and technology
 - Agricultural machinery and technology
 - New materials
 - Biopharmaceuticals and high-end medical equipment

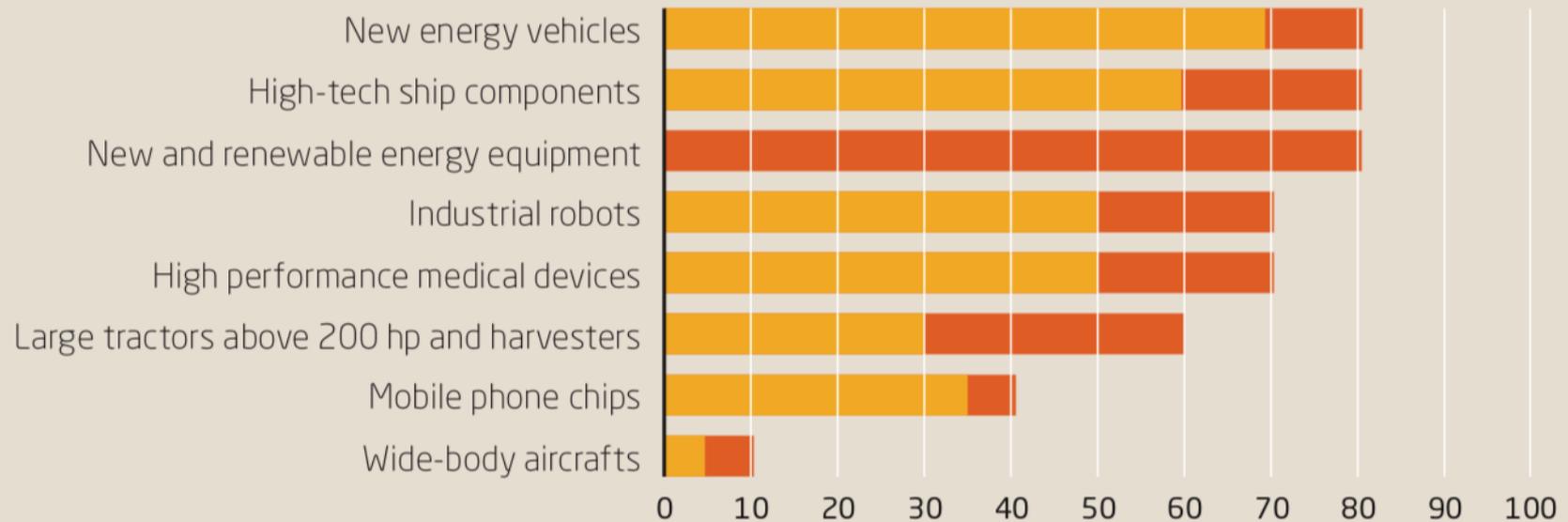
MADE IN CHINA 2025 V

Ten priority sectors: (semi-official) roadmap “MIC 2025 Green Paper”

Made in China 2025 aims at substitution

Semi-official targets for the domestic market share of Chinese products (in per cent)

■ 2020 ■ 2025



Evaluation of MIC 2025

Advantages

- Massive mobilisation capacity
- Forward-looking long-term strategic planning
 - Presidency ~~two five years terms~~ ∞
 - Single party
- Large state funding
- Policy innovation through experiment
 - pilot projects/cities, innovation centres
- Rush of local government to emerging industries

Evaluation of MIC 2025 II

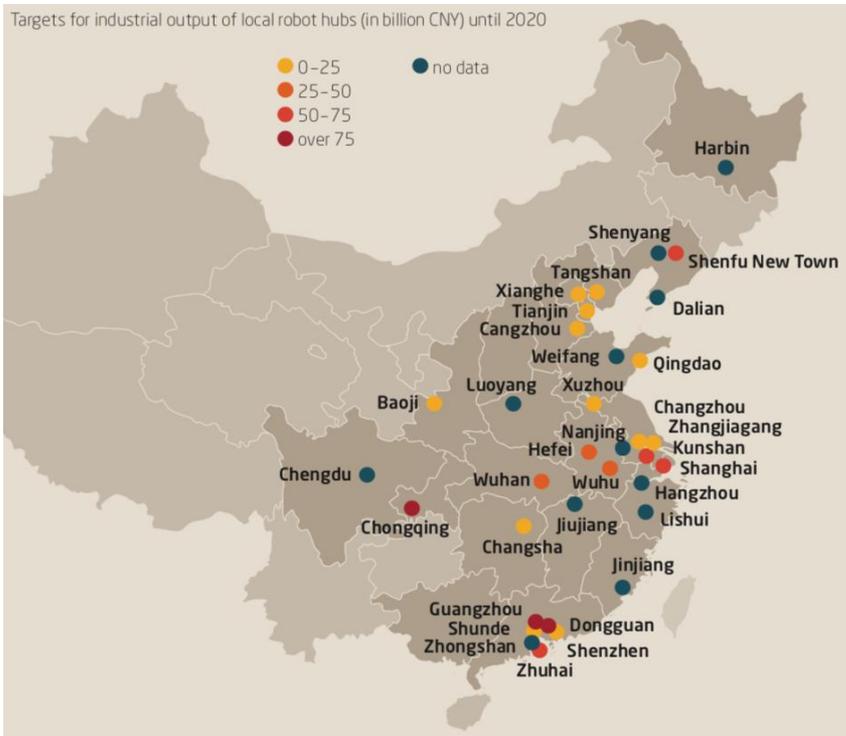
Policy weaknesses

- Missing the specific needs of enterprises
- Missing management & gradual change
- Inefficient allocation of funds – Personal contacts
- Duplication of effort by local government
 - Overinvestment/overcapacity of low-value solutions
→ Price decline & shrinking margin → Affect global market

Unfavourable economic condition

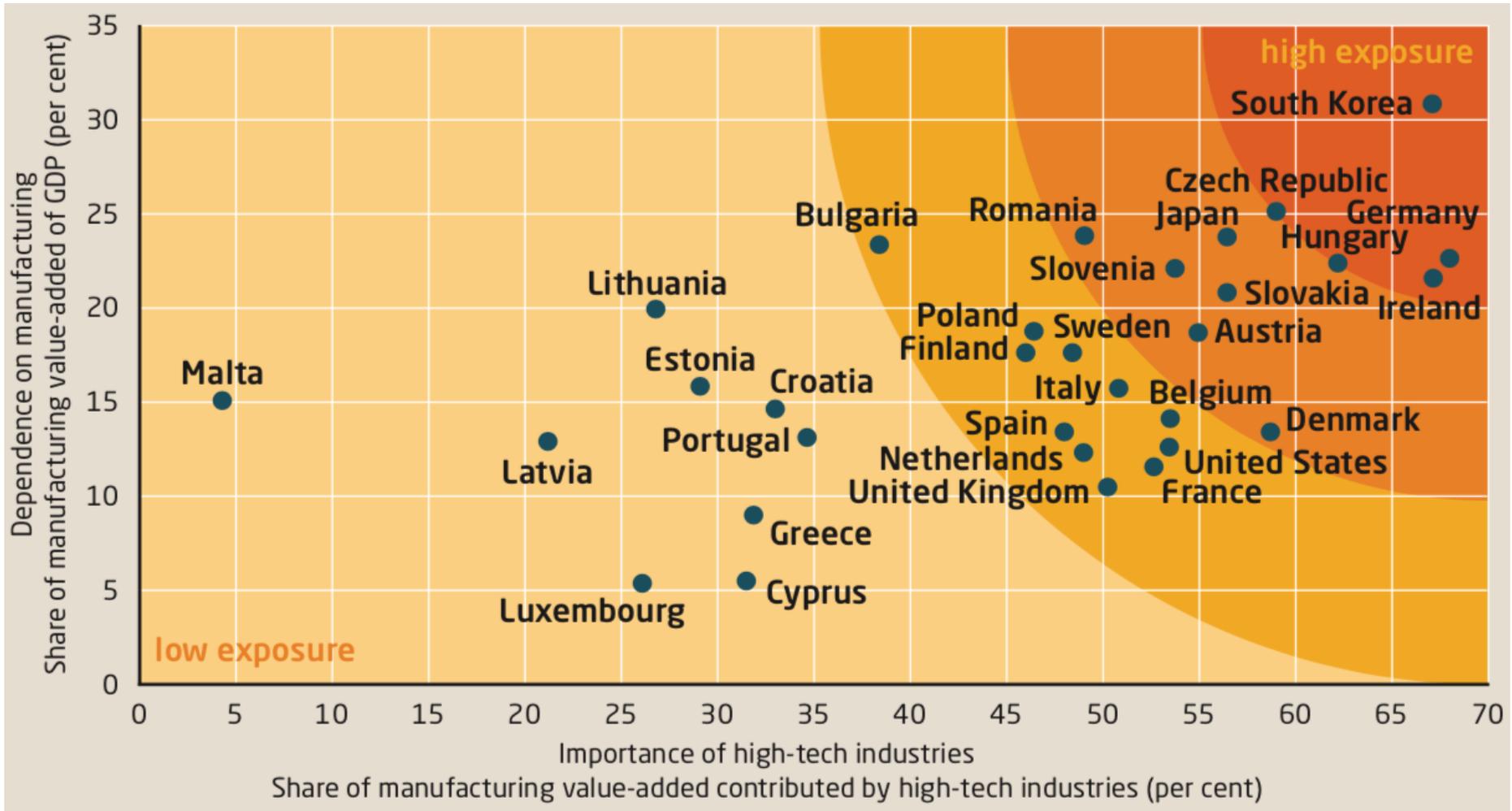
- Domestic economic slowdown
- Shortage of skilled workers
- Impending lay-off due to automation

Evaluation of MIC 2025 III



CNY:EUR = 8:1
Source: MERICS (2016)

Level of exposure to MIC 2025



Challenges for other industrial countries

- **State-driven foreign direct investment (FDI)**
 - Acquiring cutting-edge technology
 - Generating large-scale technology transfer
 - Hollowing out of the technological leadership in industrial countries
- **Increasing Chinese market access restrictions**
- **Exclusion from the Chinese local subsidy schemes**
- **Cyber security ... etc.**

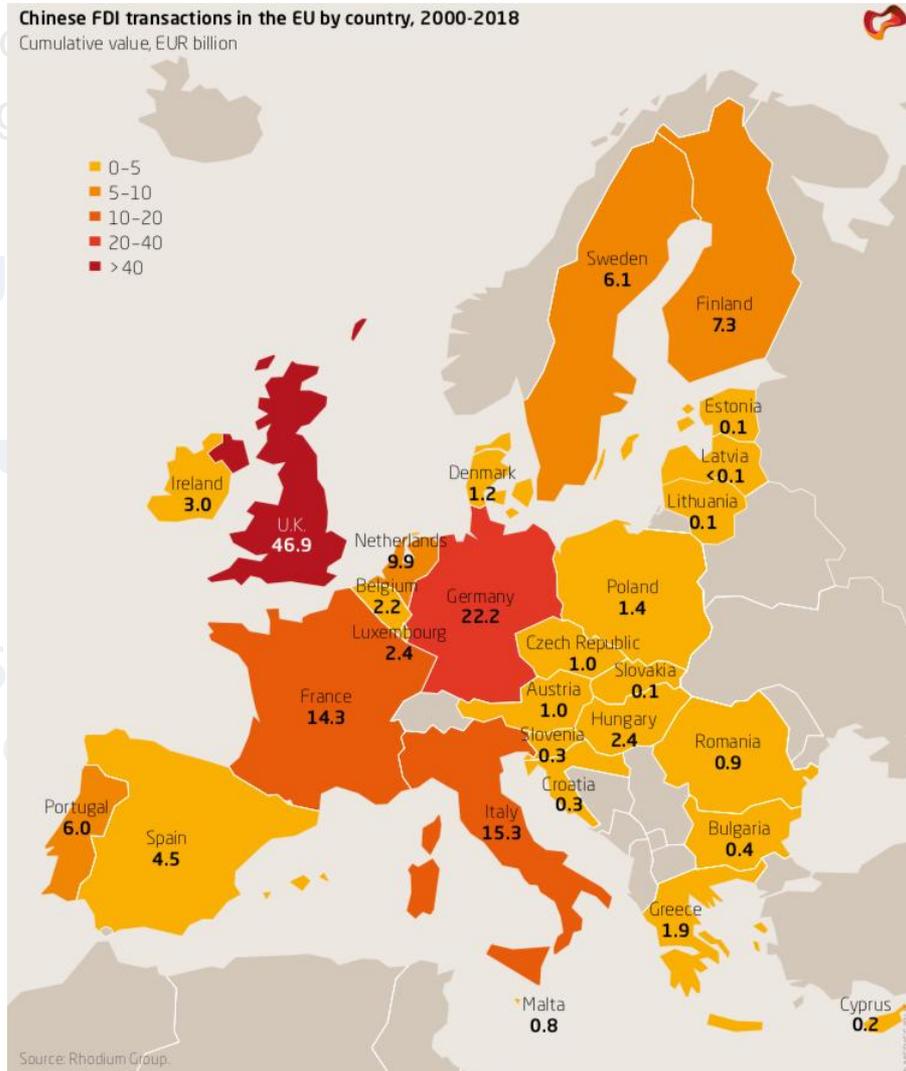
If MIC 2025 succeeds, other industrial countries would experience **lower GDP growth rate, job losses & lower industrial output**

Challenges for other industrial countries

- **State-driven foreign direct investment (FDI)**

- Acquiring
- Generating
- Hollowing

- Increasing
- Exclusion
- Cyber security



Potential impact on raw material sector

- China's National Mineral Resource Plan 2016/20
 - Upgrade and re-structure mining industry
 - Nations and enterprises co-establish a **strategic reserve system** combining mineral products with deposit sites
 - **Strategic/critical minerals (2016)** – Macro-control, monitored and early warning mechanism
 - Energy minerals: Oil, natural gas, shale gas, coal, coalbed methane, uranium
 - Metallic minerals: Iron, chromium, copper, aluminium, gold, nickel, tungsten, tin, molybdenum, niobium, cobalt, lithium, rare earth, zirconium
 - Non-metallic minerals: Phosphorus, potassium salt, crystalline graphite, fluorite

Potential impact on raw material sector

- Prohibit foreign investment (2018 Revision)
 - Exploration & mining: Tungsten, molybdenum, tin, antimony, fluorite
 - Exploration, mining & processing: Rare earth & radioactive minerals
- Opened after 2018 revision
 - Exploration & mining: Specific coking coal types & anthracite, natural graphite
 - Metallurgy: REEs, tungsten
- Encouraged FI (2017)
 - Developing new techniques for exploiting tailing
 - Techniques for rehabilitation
 - Exploration, mining & processing: Potash, chromium etc.

Opportunities

For European business

- Large business opportunities → policy induced demands
- New funding sources → careful with potential tech. drain
- Influencing Chinas standardisation processes [Source: MERICS \(2016\)](#)

For raw materials sector

- Opening for international cooperation
 - Less restrict market access for foreign investors
 - Encouraging foreign investors to participate in advanced technology development and application projects
- Establishing mining service or cooperation platforms/forums along the Belt and Road Initiative
 - Promoting policy dialogue, experience exchange, capacity building, technology cooperation, co-lab and vocational training, ex. China-ASEAN mining information platform

Chinese officials argue that Made in China 2025 is **in line with World Trade Organization (WTO) rules**, since the plan is technically open to foreign participation, transparent, and defined by “instructive” rather than mandatory targets.

American officials and many foreign companies **see the initiative as predatory**, and rail against the Made in China 2025 plan because of long-standing grievances against the Chinese government for alleged intellectual property (IP) theft, coerced (or nearly coerced) technology transfer, and China’s stubbornly protectionist market. Made in China 2025 stands at the heart of the trade war between the U.S. and China, while also quickly **becoming a symbol of growing nationalism within China**.

The European Union Chamber of Commerce in China indicates that China should be cautioned against stoking tensions with international trade partners through the implementation of **a carefully orchestrated industrial strategy**. This includes through policy tools such as subsidies, continued support for inefficient SOEs, limiting market access for foreign business, and state-backed acquisitions of companies from the EU and elsewhere. The broad set of policy tools that are being employed to facilitate CM2025’s development are **highly problematic**.

Latest trends

- **The heart of the trade war – Withdraw MIC 2025?**
 - Beijing drops contentious ‘MIC 2025’ slogan, but policy remains – 05.03.2019 WSJ
- **Olive branch – China foreign investment law?**
 - The new law aims to create a more level playing field between domestic and foreign businesses.
 - A kind of sweeping set of intentions rather than a specific, enforceable set of rules – 14.03.2019 BBC

Conclusion

- MIC 2025 – A challenge to all the industrial countries
- MIC 2025 does not only affect high-tech industries but also the industries along the value chains
 - As a key player in the raw material sector, China's movements have huge impacts on the market
- **Is there counter-policies to minimise the impacts?**
- **Is there pro-active actions that industries can take?**
- Existing/potential resource security measures?
- Existing/potential intellectual property security measures?

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Thank you!

Questions are welcome