# 工业4.0时代下中国制造业的转型

The transformation of Chinese manufacturing industry in the Industry 4.0 era

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MiR



## "你在中国待了多久?"

"How long have you been in China?"



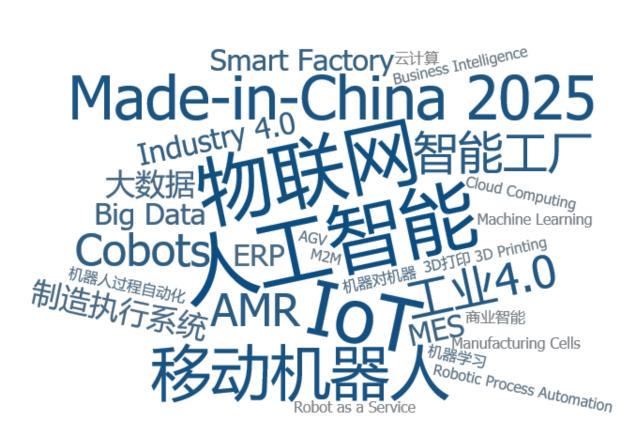
## 我在世界发展最蓬勃的经济体13年

#### 13 Years in the world's most dynamic economy

China	2006	2019		
比埃菲尔铁塔高的建筑物数量	5座	<b>47</b> 座		
Number of buildings taller than the Eiffel Tower	5 Towers	47 Towers		
地铁线路	6个城市, <b>22</b> 条线	31个城市,175条线		
Metro Lines	22 Metro lines in 6 Cities	175 Metro Lines in 31 Cities		
每日往返丹麦和中国的旅客(直航)	260位	934位		
Daily Travelers from Denmark to China (direct flights)	260 Passengers	934 Passengers		
产生十亿元GDP所需要的时间	<b>23</b> 分 <b>57</b> 秒	5分50秒		
Time needed to produce RMB 1 billion of GDP	23m 57s	5m 50s		
工业机器人的市场容量	约4亿美金	约 <b>40</b> 亿美金		
Market Size of Industrial Robots	404m USD	4,050m USD		



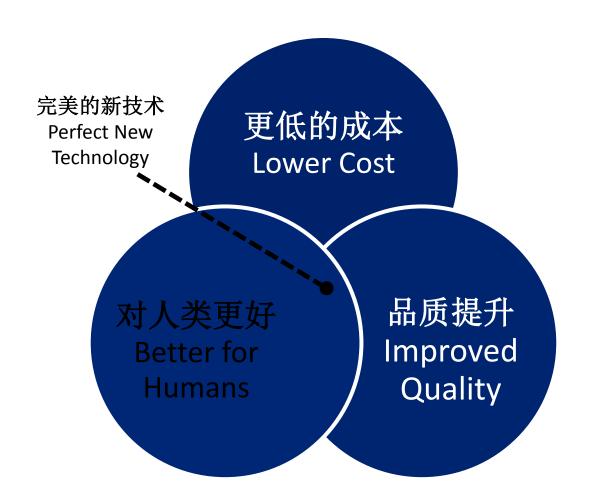
## 我们要讲点什么? What are we talking about?







## 重要性? Why is it important?











被替代 Replaced By





被替代 Replaced By





## 制造如何变得更智能?

How will Manufacturing become Smarter?

#### 传统的自动化 Traditional Automation

受控的环境 Controlled Environment

程序逻辑 Programmed Logic

完美的重复 Perfect Repeatability

高产量/低成本 High Volume / Low Cost

#### 智能制造 Smart Manufacturing

动态环境 Dynamic Environment

决策算法 Decision Making Algorithms

协作与灵活 Collaborative and Flexible

低产量/低成本 Low Volume / Low Cost



## 中国的独特优势 China's unique advantages

#### 优势 Strengths

- •全球制造的4种产品中有1种 是中国制造
- 改革开发40年

2)

- •公共和私营部门对中国制造 2025的坚定承诺
- 1 of 4 products made globally is Made in China<sup>1</sup>
- 40 Years of Successful Reform and Opening Up
- Strong commitment to MIC 2025 by both Public and Private sector.

#### 劣势 Weaknesses

- 依赖外国技术和需求
- 较少高端品牌
- Reliant on Foreign Technology and Demand
- Few High Level Brands

#### 机会 Opportunities

- 本土起家的技术
- •中国使用的5种计算机芯片, 有1种是中国制造
- •发展初期阶段,生产力水平 仅为西方国家的20%
- Home Grown Technologies
- Currently only 1 of 5 computer chips used in China is also Made in China<sup>2</sup>
- Still early in development stage, productivity level only 20% of western countries<sup>3</sup>

#### 威胁 Threats

- 如何确保创造新财富的公平分配
- 如何实现绿色制造
- How to ensure fair distribution of the new wealth being created
- How to realize Green Manufacturing

https://www.mckinsey.com/featured-insights/china/a-digital-upgrade-for-chinese-manufacturing

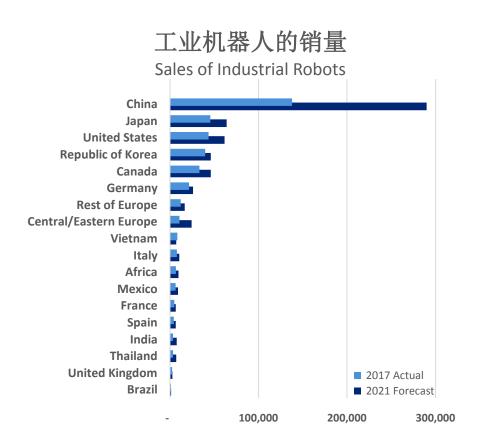
The Transformation and Upgrading of the Chinese Manufacturing Industry: Based on "German Industry 4.0" (Zhang et al. 2016)

https://www.mckinsey.com/featured-insights/employment-and-growth/capturing-chinas-5-trillion-productivity-opportunity

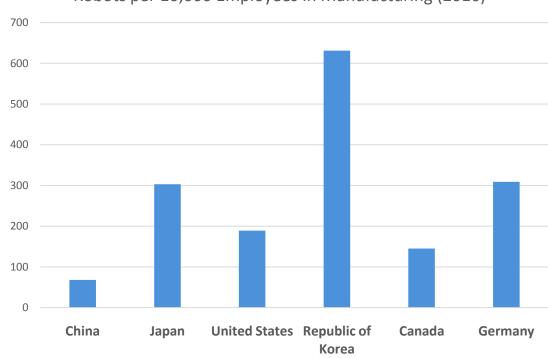


### 在机器人领域,中国已经处于领先地位,其增长潜力最大

In Robotics China is Already Leading, Yet has the highest growth potential



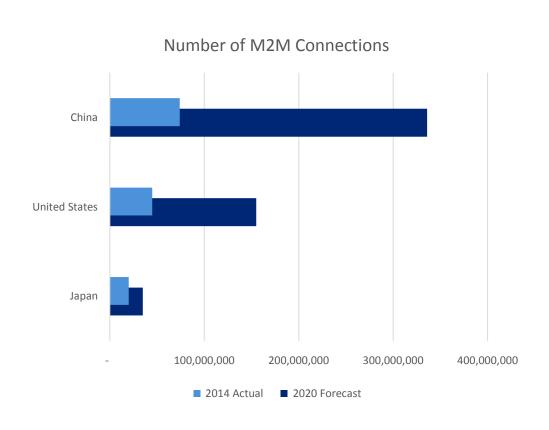
#### 每10000名制造业员工配备机器人的数量 Robots per 10,000 Employees in Manufacturing (2016)





## 相同的情景, 也在物联网领域体现

#### Similar story in Internet of Things



- ▶全球范围内每3组机器与机器连接,其中1组在 中国
- ▶到2030年,中国的物联网市场预计将比GDP的增长快4倍
- ▶ 1 of 3 Machine to Machine (M2M) connections world wide is in China.
- ▶ IoT Market in China expected to grow 4x Faster than GDP until 2030.

https://www.business-sweden.se/contentassets/12018cf5fd6f4757aa0638f7065e8a83/iot-market-in-china.pdf



## 乐观,但也有很多问题

#### Optimism, but also many questions

麦肯锡对企业高管调查: McKinsey Survey of Business Executives:	China	United States	Germany	Japan
因为工业 <b>4.0</b> ,我的企业将更加具有竞争力 My company will be more competitive with Industry 4.0	76%	57%	50%	54%
为工业 <b>4.0</b> ,我的企业已经准备妥当 My company is prepared for Industry 4.0	<b>57</b> %	71%	68%	36%



## MIR自主移动机器人 2 Minute Introduction to MiR Robots

用户关心 **Customer Concerns** 

Low TCO and quick ROI

低总体拥有成本和快速投资回报

Low volume High Mix operations

多元少批量运营模式

Dynamic Routing between Manufacturing Cells 制造单元之间的动态路径

High reliability, Low down time 高可靠性,低停机时间

Easy maintenance by in-house staff 内部员工易于维护

Safe and intuitive Human-Robot interaction 安全、直观的人机交互

Fast project implementation 快速的项目实施

Avoiding technology that will soon become obsolete 避免很快就会过时的技术

MiR价值主张 MiR's Value Proposition

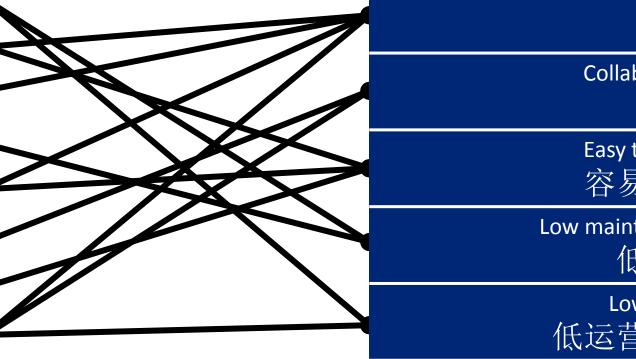
> Flexible 灵活

Collaborative 协作

Easy to setup 容易设置

Low maintenance 低维护

Low Op-Ex 低运营成本





## 欢迎来到智能的内部物流世界

Welcome to Smart Internal Logistics



- ▶微信扫码获取MiR更多视频和案例
- Scan QR Code for more videos and case stories of the MiR Robot





# Thank You!

