



# 走中国特色工业互联网道路

Take the Road of Industrial Internet  
with Chinese Characteristics

中国航天科工集团有限公司 高红卫  
CHINA AEROSPACE SCIENCE & INDUSTRY CORP. LTD.  
Gao Hongwei

2018.5.27

## 经过200多年工业革命的洗礼，人类先后经历了：

After more than 200 years of industrial revolution, mankind has experienced:



### 蒸汽机革命

Steam engine  
revolution

### 内燃机革命

Internal-combustion  
engine revolution

### 无线电与 电子技术革命

Radio and electronic  
technology  
revolution

### 军事技术革命 和太空技术革命

Military technology  
revolution and space  
technology revolution



## 半导体和 集成电路产业革命

Semiconductor and  
integrated circuit  
industry revolution

## 大型计算机、个人电脑 和个人通信的技术革命

Large computer,  
personal computer and  
personal communication  
technology revolution

## 互联网革命和 移动互联网革命

Internet revolution  
and mobile internet  
revolution

## 全球消费方式 与生产方式 两大社会领域革命

Social revolutions in  
global consumption  
mode and  
production mode

## 工业文明时代逐渐淡出历史，信息文明时代逐渐拉开大幕。

The industrial civilization era has gradually faded out of history, the information civilization era has gradually opened up the curtain.

### 个人消费 方式变革

Change of personal  
consumption mode

### 各类电子商务平台

Various e-commerce  
platforms

### 公共消费 方式变革

Change of public  
consumption mode

### 各类公共服务平台

Various public  
service platforms

### 制造类 生产方式变革

Change of  
manufacturing  
production mode

### 各类工业 互联网平台

Various industrial  
internet platforms

### 非制造类 生产方式变革

Change of non-  
manufacturing  
production mode

### 非制造类生产 方式变革的平台 (尚在孕育之中)

Platform for change of  
non-manufacturing  
production mode  
( Being produced )

**如果发展中国家长期采用追赶战略，  
那么永远只能跟在发达国家后面亦步亦趋，  
难以将发展的主动权掌握在自己手上。**

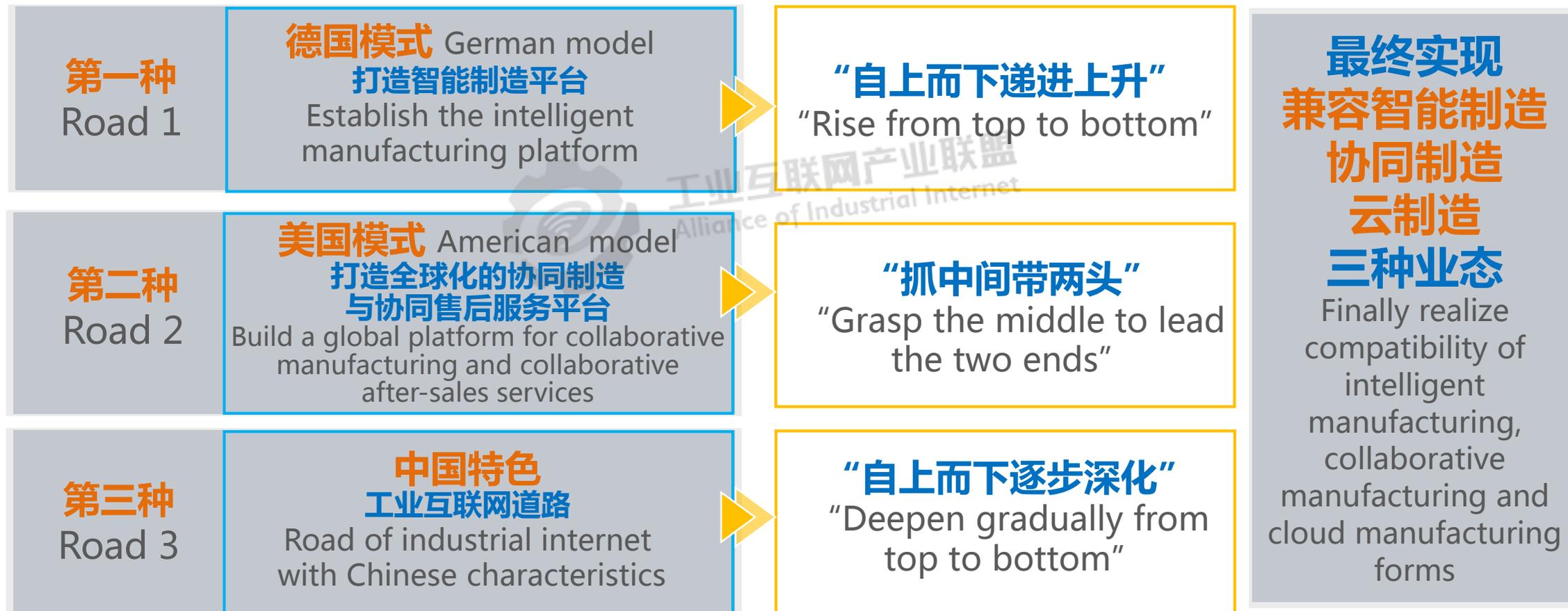
If the developing countries adopt the catch-up strategy for a long time, they will always follow the developed countries, and will not be able to take the initiative of development on their own hands.

**必须根据本国国情和时代潮流大趋势作出科学判断，  
走出一条与发达国家殊途同归的发展之路！**

We must make scientific judgement according to our national conditions and the trend of the times, and take a road of development different from that of developed countries but reaching the same goal.

## 在工业互联网领域，有三条道路可供选择：

In the field of industrial internet, there are three optional roads:



## 航天云网从设立之初就确定了如下发展路径

CASICloud has determined the following development path from the beginning of its establishment

**搭建工业领域的云平台，从打造云制造产业集群生态起步，先把分散在全国各个角落市场主体的资源配置与业务流程优化工作放在中心地位，从省钱、赚钱、生钱三个层次逐步递进，配合中国工业企业的逐步转型，沿着“自上而下逐步深化”的路径，最终实现从云制造到协同制造、从协同制造到智能制造的逆袭，实现与德国模式、美国模式殊途同归的目标。**



Establish the industrial cloud platform, and starting from building the cloud manufacturing industry cluster ecosystem, first take the resources allocation and business process optimization of the markets scattered in every corner of the country as the central work, then progress gradually from “save money” to “get money” and to “make money”, and with the transformation of China's industrial enterprises and following the path of “deepen gradually from top to bottom”, finally achieve the reverse development from cloud manufacturing to collaborative manufacturing and then to intelligent manufacturing, accomplishing the same goal in a different path from the German and American models.

## 航天云网采用INDICS+CMSS搭配， 构建和涵养以工业互联网为基础的云制造产业集群生态。

Integrating INDICS (Industrial Internet Cloud Space) with CMSS (Cloud Manufacturing Support System), the CASICloud establishes and nourishes a cloud manufacturing industry cluster ecosystem based on the industrial internet.

### 三种现代制造形态

Three modern manufacturing forms

**兼容智能制造、协同制造和云制造**

Intelligent manufacturing, collaborative manufacturing and cloud manufacturing

### 商业驱动力

Commercial driver

**3M**

**省钱** to save money  
**赚钱** to get money  
**生钱** to make money

### 商业逻辑

Commercial logic

**促进技术创新、商业模式创新和管理创新关联互动**

Promote the interaction among technology innovation, business model innovation and management innovation

**推动  
企业转型  
产业升级**

Promote the enterprise transformation and industrial upgrading

工业互联网产业联盟  
Alliance of Industrial Internet

## CMSS Cloud Manufacturing Support System

**一脑一舱两室** One brain, one cab,  
two work rooms

### 工业品营销与采购全流程服务支持系统

Service and support system for the whole process of industrial products marketing and purchase

### 制造能力与生产性服务外协与协外全流程服务支持系统

Service and support system for the whole process of manufacturing capability and productive service outsourcing and outsourcer assisting

### 企业间协同制造全流程支持系统

Support system for the whole process of inter-enterprise collaborative manufacturing

### 项目级和企业级智能制造全流程支持系统

Support system for the whole process of project and enterprise-level intelligent manufacturing

工业互联网产业联盟  
Alliance of Industrial Internet



**企业大脑**

Enterprise brain

**企业驾驶舱**

Enterprise driver's cab

**云端业务工作室**

Cloud business work room

**云端应用工作室**

Cloud application work room

- **航天云网** On the CASICloud  
**注册企业近165万户**  
Registered nearly 1.65 million enterprises  
**发布协作与采购需求超过13万条**  
Issued over 130 thousand pieces of cooperation and purchase demands  
**金额近4000亿元**  
Amounted to about 400 billion Yuan
- **协作与采购** Cooperation and purchase  
**成交近76000笔**  
Concluded nearly 76000 transactions  
**共计1920亿元**  
Totaled 192 billion Yuan  
**50%以上业务规模小于2.25万元**  
Over 50% of the transactions are less than 22.5 thousand Yuan  
**80%业务规模小于100万元**  
80% of the transactions are less than 1 million Yuan
- **设备接入** Equipment access  
**近80万台设备接入云平台**  
Nearly 800 thousand sets of equipment are linked to the cloud platform  
**近20万台设备在线**  
Approximately 200 thousand sets on line

**目前，航天云网APP总数为1526个，可提供各类工业服务和解决方案。**

At present there are 1526 APPs on CASICloud, providing various industrial services and solutions.



## 样本企业 数据 Data of sample enterprises



**160余万个注册用户**

Over 1.6 million registered users

**总经营规模约10万亿元**

Total operation scale of 10 thousand billion Yuan

**平均经营规模625万元**

Average operation scale of 6.25 million Yuan



**85% 以上  
属于小微企业**

Over 85% of the users are small-sized enterprises and micro-enterprises



**1万多家企业  
云端协作配套成功**

Over 10 thousand enterprises gained successful cooperation on the cloud

**平均每家企业7单**

Each enterprise concluded 7 transactions on average

## 云端配套 Cooperation on the cloud



**发展壮大**

Develop continuously

**小型企业每年成交360笔以上**

Small-sized enterprise/Annually conclude 360 transactions or above

**平均每天成交1单以上**

1 or more transactions for each day on average

**85%**

**50%**

**设备开工率**

Equipment operating rate



**30%**

**增加收入**

Income increase



谢谢！  
Thank you!