### 企业使命 OUR MISSION

帮助客户卓越,成就奋斗者梦想!

To make our customers more outstanding and achieve the dreams of the strivers!

### 企业愿景 OUR VISION

创造全球最领先的新能源装备,帮助我们的客户更卓越!

Create the world's most leading new energy equipment to make our customers more outstanding!

### 核心价值观 CORE VALUES

精诚合作共享双赢求真务实开放创新

Collaboration, win-win sharing, pragmatism, and open innovation.





#### 深圳市赢合科技股份有限公司

惠州市仲恺高新区东江科技园惠泽大道301号 T: 0752-7388333 W: www.yhwins.com

#### SHENZHEN YINGHE TECHNOLOGY CO., LTD.

No. 301, Huize Avenue, Dongjiang Science and Technology Park, Zhongkai High-tech Zone, Huizhou City, Guangdong Province, China T: 0752-7388333 W: www.yhwins.com







新质智高质发展





18年 行业经验

Industry experience



2015年 锂电设备领域首批上市企业

The first IPO of Lithium-ion battery equipment manufacturing in China



制造基地

Manufacturing bases



200亿

Production capacity



61000m<sup>2</sup>

厂房面积 Plant area



牵头制定行业标准

Take the lead in formulating Industry standards



2500+

**Authorized patents** 

专利



190+ 发明专利

Invention patents

# 公司概况 COMPANY OVERVIEW

赢合科技创建于2006年,2015年成功上市,成为锂电装备行业首批上市企业。产品应用于动力、储能及消费类电池等多个领 域,是目前全球少数能够提供锂电池智能化数字工厂解决方案的企业之一

公司在全球设立了10家子公司、4大制造基地,年产能可达200亿,产品远销海外多个国家和地区; 秉承"帮助客户卓越"的企 业使命,围绕客户持续搭建与完善全球多中心的本土化服务体系,为设备提供全生命周期管理,为客户持续提供最优的智能装备解

Founded in 2006, Yinghe Technology was successfully listed in 2015, becoming one of the first listed companies in the lithium-ion equipment industry. As our products apply to multiple fields such as power, energy storage and customer batterise. Our company is one of a select few worldwide that is able to provide intelligent digital factory

Powered by 10 subsidiaries and 4 production bases worldwide, our annual capacity is up to 20 billion RMB, and our products had been sold to countries and regions globally. Following the corporate mission of "Making our clients more excellent", we continue to build and improve the global multi-center localized service system to our clients,

决方案和最敏捷的本土服务。

面向新能源全球化浪潮,赢合科技将在上海电气的引领下,加快建设成为世界一流的锂电装备智造方案解决商,以极致智造助 推中国装备力量迈向世界一流,共担绿色发展使命,共创 "0" 碳未来!

provide full life-cycle management of equipment, and continue to provide clients with the best intelligent equipment solutions and the most agile local services.

Facing the wave of new energy globalization, Yinghe Technology will accelerate the construction of a world-class lithium battery equipment intelligent manufacturing solution provider by the leading of Shanghai Electric, and promote China's equipment force to the world's first-class level with the ultimate intelligent manufacturing. We also share the mission of green development and create a zero-carbon future!

# 2006 2009 2011 2015 2016

2006年6月, 赢合 科技成立,公司定 位于自动化设备的 开发、生产和销售

In June 2006, Yinghe Technology was founded, focusing on the research & development production, and sales of automatic equipment.

2009年12月,被授予 "国家高新技术企业"

2009年2月,推出 "全自动制片机系 列",凭借优越的性 能迅速成为市场新宠

In December 2009, Yinghe was awarded the title of "National High-tech Enterprise" In December 2010, Yinghe officially launched the GEM IPO plan.

In February 2009, the Fullautomatic Cell Sheet Forming Machine Series was launched, which became a new hot sell in the market due to its superior performance.

 $\overline{2010}$   $\overline{2014}$ 

2014年11月, 获"国 家火炬计划重点高新技 术企业" 2010 12月,正式

> 2012年10月,推出全 国领先的全自动圆柱制 片卷绕一体机,填补国 内空白;

2013年12月,组装 线、注液机等后段设备 投入市场,形成了完整 的设备生产线

In November 2014, Yinghe was awarded the "Key High-tech Enterprise of National Torch Plan".

In October 2012, China's

leading Full-automatic Cvlindrical Cell Sheet Forming & Winding Integrated Machine was launched, which filled up the blank of domestic market. In December 2013, the Assembly Line and Injection Equipment were launched

on the market, forming a complete equipment production line.

2015年5月,在深交所创 业板上市,股票代码:

2015年8月,业内首 条锂电池整线设备投 入运营

300457

In May 2015, Yinghe was listed on Shenzhen Stock Exchange GEM, with the stock code: 300457.

In August 2015, the industry's first Entire Lithium-ion Cell Production Line was put into operation.

2018

2016年12月,全资收购雅 康精密机械有限公司

2016年10月,国内首条镍 氢电池整线设备下线 2018年5月 推出行业首台三 工位切叠一体机

In December 2016, Yinghe wholly acquired Areconn Precision Machinery Co., Ltd.

In October 2016, China's first Entire Line of Nickel-Metal Hydride Cell Equipment was launched. In May 2018, industry's first 3station Cutting & Stacking Integrated Machine was

launched.

+2019 +2020 +2021

2019年11月 加入上海 电气,迈向高质量发展 新阶段

2019年6月,推出行 业首台5mm蓝牙分 切机

In November 2019, Yinghe became a member of Shanghai Electric and entered a new stage of high-quality development.

In June 2019, Industry's first 5mm width Bluetooth Slitting Machine was launched.

2020年与行业Top10企业 达成100%合作, 荣获多家 全球头部客户授予的核心供 应商、战略供应商

2020年5月,推出行业首 台1.6m宽幅双层涂布机 2020年7月,推出行业首 台45ppm圆柱卷绕一体 机,赶超日韩

In 2020, Yinghe achieved cooperation with 100% Top 10 enterprises of the industry, and was awarded as a core supplier and strategic supplier by multiple global top customers.

In May 2020, Yinghe launched the industry's first 1.6m width Double Laver Coating Machine. In July 2020, Yinghe Jaunched industry's first 45PPM Cylindrical and surpassing Winding Integrated Machine, catching up with the technology of Japan and Korea. 2022

连续2年,销售订单超百亿。 2022年,东江产业园全面投产 2022年10月,牵头制定锂离子 电池极片涂布机、锂离子电芯 叠片机的行业标准

2022年8月, 行业首推4680激 光卷绕一体机 2022年10月, 行业首推 21700激光卷绕一体机

Sales Orders Exceeded 10 Billion For 2 Consecutive Years. Since 2022, Dongjiang Industrial Park has been fully put into operation.

In October 2022, Yinghe took the lead in benchmarking the standards for lithium-ion electrode slice coating machine and lithium cell stacking machine

In August 2022, Yinghe unveiled industry's first 4680 Cylindrical Cell Winding Machine integrated with laser notching. In October 2022, Yinghe unveiled industry's first 21700 Cylindrical Cell Winding Machine integrated

with laser notching.

+2023

完工产值超百亿,公司董事会和 领导班子换届工作圆满完成, 启动73战略,全面建设世界一流 企业

2023年12月,推出行 业首台20ppm4695激光切卷 绕一体机;

2023年12月,推出行业领先的湿 法全固态电池涂布机。

In 2023, the output value of the Yinghe exceeded 10 billion(RMB), and the board of directors and the leadership transition of the corporation were successfully completed. Yinghe also initiated the "73 strategy" to comprehensively build a world-class enterprise.

In December 2023, the industry's first 20ppm 4695Laser notching and winding intergrated machine. In December 2023, were launched the industry-leading all-solid-state batteries coating machine by wet process were launched



### 产业布局 INDUSTRIAL LAYOUT





锂电前段生产设备 涂布机、辊压机、分条机

- Pre-process production equipment of Lithium battery
-Coating machine, Calendering Machine,
Slitting machine



锂电中段生产设备 方形卷绕机、激光切、

激光切卷绕一体机、激光清洗

-Mid-process production equipment of Lithium battery
 -Square winding machine, laser notching, laser
 notching and winding integrated machine, laser
 cleaning machine

- Laser notching and winding intergrated machine



锂电中段生产设备 模切机、叠片机、切叠一体机

圆柱、铝壳、短刀组装线、注液机

-Middle-process production equipment of Lithium battery
 -Notching machine, stacking machine, notching and stacking
 integrated machine, Cutting and stacking integrated equipment,
 cylinder, Aluminum shell, short blade assembly line, injection machine



圆柱卷绕机 4680激光切卷绕一体机

Button cell卷绕机

-Cylindrical Winding Machine -4680 laser notching and winding integrated machine -Button cell winding machine



国内客户: CATL、BYD、国轩、亿纬锂能、中创新航、蜂巢、欣旺达、孚能、ATL等;

国外客户:LG新能源、三星、本田、松下、德国大众、德国宝马、ACC、ENOVIX、AESC等。

with one-stop intelligent production lines solutions of lithium battery.

Domestic customers: CATL, BYD, Gotion, EVE, CALB, SVOLT, SUNWODA, FARASIS, ATL, etc.

Overseas customers:LG Energy Solution, Samsung, Honda, Panasonic, Germany Volkswagen, Germany BMW, ACC, ENOVIX, AESC etc.



# 涂布、辊分系列

COATING, CALENDERING & SLITTING MACHINE SERIES

COATING, CALENDERING & SLITTING MACHINE SERIES

#### $\blacktriangleright \blacktriangleright \blacktriangleright$

#### 双层挤压式涂布机

辊面宽度: Max. 1.6m 涂布速度: Max. 120m/min

#### Double-layer squeeze coating machine

Roller surface width: Max. 1.6m Coating speed: Max. 120m/min



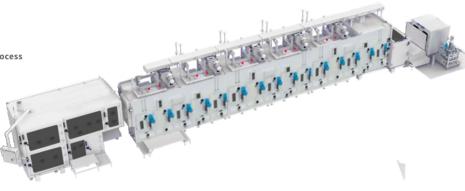
#### 湿法固态电池涂布机

涂布宽度: 250mm 涂布速度: Max. 10m/min

#### Solid-state batteries coating machine by wet process

Coating Width:250mm

Coating Speed:Max.15m/min



#### 

#### 双层Super-E涂布机

辊面宽度: Max. 1.6m

涂布速度: Max. 120m/min

布局升级: A/B涂布面一体机头设计-高效洁净控制、高效人机工程

结构紧凑: E型全新片路设计-整机长度节约30%以上

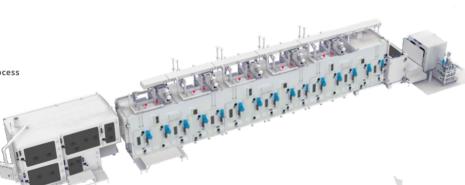
#### Double layer Super-E Coating Machine

Roller surface width: max.1.6m

Coating speed:max.120m/min

Layout upgrading: A/B coating side integrated head design

Compact structure: E-type new path design
- save more than 30% of the whole length of the machine



#### $\blacktriangleright \blacktriangleright \blacktriangleright$

#### 干法搅拌

料筒规格: 674mm 生产效率: Max.100L/h

Dry mixing

Cylinder specifications: 674mm
Production efficiency: Max. 100L/h



#### $\blacktriangleright \blacktriangleright \blacktriangleright$

#### 辊压分切一体机

辊压规格: Max. 1.5m

高速在线擦辊技术(120m/min)

#### Calendering and slitting integrated machine

Roller spec: Max. 1.5m High-speed non-stop

roller cleaning technology(120m/min)



#### $\blacktriangleright \blacktriangleright \blacktriangleright$

#### 干法电极辊压机

机械速度: Max.50m/min

厚度精度: +2μm

Dry Electrode Calendering machine Mechanical speed: Max.50m/min

Thickness accuracy: +2 μ m



# 方形卷绕&激光系列

SQUARE WINDING & LASER SERIES



#### 444

#### 方形动力激光卷绕一体机

效率: 6PPM(极片长16m) 线速度: Max. 3000mm/s

Laser and winding Integrated Machine for Prismatic Battery

Efficiency: 6PPM (electrode length 16m) Linear speed: Max. 3000mm/s



#### 444

#### 激光裁切一体机

效率: Max. 300PPM 高效除尘,切割品质好!

Laser notching and slitting integrated machine
Max. 300PPM, efficient dust removal,

good cutting quality!



#### 444

#### 3C制卷一体机

机械速度: 恒线速≥600mm/s

效率: > 21PPM/min 优率: 99.5%

3C winding integrated machine

Machinical speed: Constant line speed≥600mm/s Efficiency: ½1PPM Yield rate: 99.5%



#### 444

#### 多工位激光清洗机

效率: 9-15PPM(整片) 合格率: ≥99%

Multi-station laser cleaning machine

Efficiency: 9-15PPM(Whole piece)



#### 444

#### 激光模切机

线速度: Max. 120m/min 极片厚度规格: 60-250µm Laser Notching machine

Linear speed: Max. 120m/min Electrode thickness Specification: 60-250  $\mu$  m



#### 444

#### 激光划线/打孔设备

间距精度: ±0.1mm 效率:双激光≥25min 合格率: ≥99.5%

Laser scribing/Drilling equipment

Spacing accuracy: ±0.1mm Efficiency: Dual laser≥25min Pass rate: ≥99.5%

# 圆柱卷绕系列

CYLINDRICAL WINDING SERIES

## 切叠系列

NOTCHING & STACKING MACHINE SERIES





#### 444

#### 46系列激光切卷绕一体机

全球独家开发&量产,20PPM 良率≥99.8%,24小时不停机!

46 series laser notching and winding integrated machine The first exclusive global launch&mass production, 20PPM, with a yield rate of 99.8% without shutdown for 24 hours!



#### 超高速多工位切叠一体机 0.39s/p

兼容三、四工位

整机一片仅需0.1S!

Ultra-high-speed multi-station notching and stacking machine- 0.39s/p Compatible with three or four workstaions Only 0.1s for one piece



#### 444

#### 21700高速卷绕机

全球独家开发,40PPM, 良率≥99.8%,24小时不停机!

21700 high-speed winding machine

Global exclusive development, 40PPM, with a yield rate of 99.8% without shutdown for 24 hours!



#### 444

#### 激光切叠一体机 0.39s/p

一片仅需 0.13S!

Laser notching and Stacking Integrated Machine - 0.39s/p

Only 0.13s per piece



#### 444

#### Button cell卷绕机

国内独家首发 15PPM, 良率≥99.5%

Button cell winding machine

Domestic exclusive initial launch, 15PPM, with a yield rate of 99.5%!



◀◀◀
切叠一体机(590系列) 0.6s/p 兼容三、四工位

一片仅需0.15S

Notching and Stacking Integrated Machine (590) - 0.6s/p
Compatible with three or four workstaions
Only 0.15s for one piece

### 组装线系列

**ASSEMBLY LINE SERIES** 

### 铝壳电池自动组装线 **Automatic Aluminum Shell Battery Assembly Line** ≥24PPM ① 电芯热压机 ④ 连接片激光焊接合芯机 Connector laser welding X-Ray检测包覆预焊一体机 ⑤ 包膜入壳机 X-Ray detector of JR and pre-welding integrated machine Mylar wrapping and can insertion ③ 超声波焊接机 ⑥ 顶盖预焊满焊机 Top cover pre-welding and full-welding 下沉式极简短刀电芯装配线 Highly Integrated Sunken Short Blade Cell Assembly Line ≥24PPM Harman Harman Hara 1111 ① 极耳预焊机 ④ 入壳预焊机 ⑦ 一次氦检机 Inserting & nre-welding machine 1st leak test ② 负极极耳激光焊接机 ⑤ 正极极耳激光焊&正极预焊机 ⑧密封钉焊接机(三工段)

③ 包Mylar机

#### 圆柱电池自动组装线 Automatic Cylindrical Cell Assembly Line



⑥ 烘烤/注液

Baking / Filling

⑦密封钉焊接机

Plug welding Machine

Cathode tab laser welding

⑥ 顶盖周边焊接机

& Cathode pre-welding machine

- Anode cover sealing welding machine
- ⑤ 氦检机 Leak test

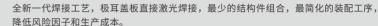
组装线优势

#### Advantages of Assembly Line



#### 工艺先进性

#### ADVANCED PROCESS



- -A new generation of welding process
- -Tab cover with laser welding
- -The least structural component assembly
- -The most simplified assembly process
- -Reduce risk factors and production costs

#### 效率先进性 **ADVANCED EFFICIENCY**

⑦ 一次氦检机

1st leak test



整线效率24PPM(52148100),各工序联动有序,机器人完美配合完成极芯装配。

- -Whole line efficiency: 24PPM
- -Orderly linkage of each process
  -The manipulators cooperate perfectly to complete the pole core assembly

#### 布局先进性

#### ADVANCED LAYOUT



物流线外挂式布局,整线长宽50x9m,操作简单维护方便,洁净厂房空间节省15%。

- -The wall-type layout of conveyor line
- -The length of whole line 50\*9m
- -Easy operation and convenient maintenance
- -Save 15% of clean plant space

#### 环境先进性

#### ADVANCED ENVIRONMENT



导入洁净室设计经验,机台整体采用垂直单向流设计,局部隔离负压洁净控制,保证极 芯装配工序环境清洁,可达千级洁净度。

- -Clean room design
- -Vertical one-way flow design of the whole machine
- -Control the cleanliness by partly isolation and negative pressure
- -Clean environment of assembly process, up to thousand level cleanliness

#### 模块先进性

#### ADVANCED MODULE



模块化设计保证设备高稳定性,可快速响应客户各种非标需求,风险低。

- -Modular design ensuring high stability of equipment
- -Quickly respond to customers' various non-standard requirements of non-standard parts

#### 兼容先进性

#### ADVANCED COMPATIBILITY

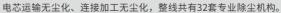


尺寸上兼容U型方壳、T型方壳以及刀片方壳等多种规格电池,尺寸适应范围广,工艺兼 容能力强。整线共有53个品质检测点。

- -The size compatible with U-shape, T-shape and blade prismatic cell, etc.
- -Wide range of size adaptation
- -Strong compatibility of process
- -53 quality detection points of whole line

#### 粉尘控制先进性

#### ADVANCED DUST CONTROL

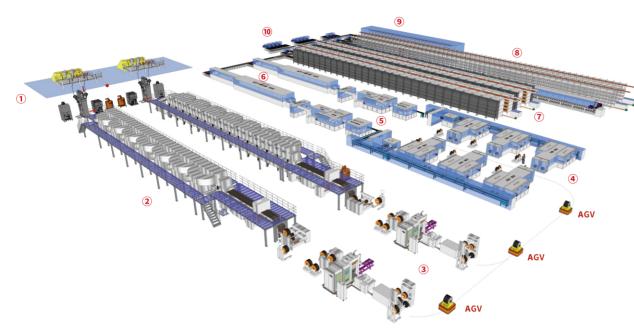


- -Dust-free cell transportation
- -Dust-free connection process
- -32 sets of professional dust-removal mechanism



# 整线解决方案

#### WHOLE LINE SOLUTION



- ①粉料、制浆系统 Powders, Slurry System
- ②涂布设备 Coating Machine
- ③ 辊压/分切 Calendering/Slitting
- ④ 切叠/切卷 Notching &stacking / Cutting & Rolling
- ⑤ 组装线

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- ⑥干燥/注液 Drying/Injection
- ⑦ 化成/分容
- ⑧ 高温/常温静置
- High temperature/normal temperature soaking
- ⑨注液/封口
- ⑩ 包膜/检测 Wrapping / Testing

#### 优势 ADVANTAGES

更好品质,更高效率, 更低成本, 更加安全

Better quality, higher efficiency, lower cost, safer

整线产品、物料、设备可追溯,品质可控---配套MES 整线设备直通率达95%---设备合格率高,稼动率高 节省用电30%---设备低能耗设计(能量回馈、蒸汽应用等) 节省人员60%---新工艺、整线Layout、物流优化 安全保护措施---专用载具、无金属粉尘设计 整线成本低,付款方式灵活---资金优势

Traceability and quality control of the whole line of products, materials and

- equipment supporting MES.
   Straight-through rate of the whole line of equipment reaches 95%—high qualification rate of equipment, high rate of operation. - 30% power saving - low energy consumption design of equipment (energy feedback,
- steam application, etc.) - Saving 60% of personnel - new technology, whole line layout, logistics optimisation.
  - Safety measures - special carrier, metal dust-free design.
- Low line cost and flexible payment options financial advantages.

#### 实力

STRENGTH

2014年提出整线解决方案并完成交付;

目前有40余条整线合作的实践经验。

In 2014, we proposed the whole line solution and completed the delivery, and now we have more than 40 whole line co-operation practice experience.

#### 设备

#### **EQUIPMENT**

专业打造行业对口MES系统、实现人机料法环各生产要素的信息交互,实现自动化、智能化生产和 管控;整体规划在各工序间嵌入物流线、物流车、机械手、堆垛机、机器人等、实现生产过程无缝 对接,提高生产率;从各种形态的原材料-极片-芯包-电芯半成品-电芯成品,都设计相应的夹具、载具、 料框进行保护性周转,提高产品品质。

We are professional in creating industry-counterpart MES system, realising information interaction among all production elements of man, machine, material, method and environment to achieve automation, intelligent production and control. The overall plan is to embed logistics lines, logistics vehicles, manipulators, stacking mechines, robots and so on to achieve seamless production processes and improve productivity. To improve the quality of products, the corresponding fixtures, carriers and material frames are all designed to protect the circulation of various forms of raw materials — electrode — core pack — cell semi-finished products — cell finished products.

#### 交付

**DELIVERY** 

短产线建设周期,采用3+1模式;

不同团队阶梯式推进,专业、快速、高效;

120天内完成产线的规划、评审、安装调试。

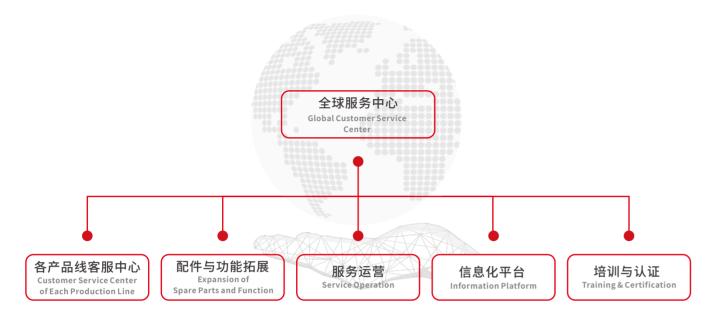
The construction cycle of short production line adopts 3+1 mode;

Different teams step forward professionally, fast and efficiently;

Complete the planning, evaluation, installation and commissioning of the production line within 120 days.



### 客户服务 **CUSTOMER SERVICE**





#### 服务全球 装备世界

全球多中心化服务体系 定位全球,及时服务

Global multicenter service system

World-oriented and timely service



#### 全球服务认证体系

bal Service Certification System

全球培训与认证体系搭建

标准化培训,国际化认证

Building a global training and certification system Standardized training and international certification



#### 信息化平台

设备信息化,服务信息化

全球服务尽在掌握

Equipment and service informatization Mastering Global Services



#### 全生命周期管理 Full Lifecycle Management

设备全生命周期维保,功能拓展

配件全生命周期管理

Full lifecycle maintenance and functional expansion

Full lifecycle management of accessories



#### 服务基因

Service Principle 服务流程项目责任制

建立以客户为中心的文化

超越客户预期

Project responsibility system of service process
Establish a customer-oriented culture to

surpasses customer expectations



### 大数据分析

服务模型化,服务质量数据化

大数据分析,精准服务

Service modeling, service quality digitalization Big data analysis and precise services



## 企业文化核心理念

#### **CORE CONCEPTS OF OUR CULTURE**

企业使命 Our Mission

帮助客户卓越,成就奋斗者梦想!

To make our customers more outstanding and achieve the dreams of the strivers!

企业愿景 **Our Vision** 

创造全球最领先的新能源装备,帮助我们的客户更卓越!

核心价值观

**Core Values** 

精诚合作 共享双赢 求真务实 开放创新 Collaboration, win-win sharing, pragmatism, and open innovation.

企业精神 **Our Spirit** 

不断自我批判,永远追求卓越

Continuous optimization, always striving for excellence.

企业定位 **Our Positioning**  全球化锂电智能装备解决方案服务商

A global lithium battery intelligent equipment solution service provider.

经营理念 **Business Philosophy**  研发全球领先的技术,生产卓越品质的产品,打造强大的服务能力。

Create cutting-edge technology, produce superior products, and build an unrivalled service capacity.

Create the world's most leading new energy equipment to make our customers more outstanding!

管理理念

Management Philosophy

务实、简单、高效、有序

Pragmatic, simple, efficient and well-organized.

人才理念 Talent Philosophy 任人唯贤, 贡献为先

Appoint people on their merits and contribute first.

研发理念 **R&D Philosophy** 

要么不做,要做就做世界第一

Either do nothing or be the world's best.