伊莱特股份
IRAETA

# 风电锻件业务介绍

## Introduction Of Wind Power Forgings Business

'Forge Ahead
锻造未来 永不止步

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锻造未来 永不止步

Forge Ahead

# Company profile
# 公司介绍

伊莱特——为人类锻造更加安全、绿色与高效的未来工业。

伊莱特致力于向各类先进装备与高价值资产提供关键可靠部件，我们在锻造行业拥有半个世纪的坚定承诺，以及超过30年的国际市场服务经验。

我们在中国和西班牙的10个生产基地和2500余名员工，服务于清洁能源、化石能源、海洋工程、隧道掘进、水泥制造、金属矿山等不同市场的客户。

伊莱特高度聚焦于锻造行业，主要产品包括盘类、环类、筒体锻件，锻棒与锻轴，耐磨介质等，涵盖了从0.3公斤到350吨的各类大中小型锻件。我们能提供从原材料定制、锻造、热处理、高精度机加工、检测、复杂运输的整套解决方案。

我们拥有全球少数公司才具备的极限制造能力，可提供最大重量350吨的自由锻件，最大直径22米的整体无缝轧环，最大高度5米的锻轧式筒节，以及最大长度25米的径向锻棒。伊莱特在2022年制造出了直径15.7米，周长49.2米的整体无缝锻环，创造了吉尼斯世界纪录。

这些加工能力帮助我们推出一系列创新性产品，并将其成功应用于四代核电、日产万吨水泥回转窑、掘进直径16米盾构机、25MW漂浮式海上风机等超级装备中。

愿景：为人类锻造更加安全、绿色与高效的未来工业。
使命：成为全球高端装备锻件核心部件制造商。
价值观：诚实、谦逊、坚韧、拼搏。



Iraeta - We forge a safer, greener, and more efficient future

Iraeta delivers mission-critical forged components with exceptional reliability for advanced machinery and high-value assets. With over 50 years in forging and more than three decades serving global markets, we bring unmatched experience to every project.

Our 10 production facilities in China and Spain support customers in clean energy, oil and gas, marine engineering, tunnel boring, cement production, and metal mining.

As a forging specialist, Iraeta produces discs, rings, shells, bars, shafts, and wear-resistant grinding media–ranging from 0.3 kg to 350 tons. We deliver end-to-end solutions–from custom material preparation and forging to heat treatment, precision machining, rigorous testing, and global logistics.

Our extreme manufacturing capabilities–held by only a few companies worldwide–enable us to produce 350-ton open-die forgings, 22-meter seamless rings, 5-meter-tall rolled shells, and 25-meter-long forged bars. In 2022, Iraeta set a Guinness World Record by producing the world's largest seamless forged ring–15.7 meters in diameter and 49.2 meters in circumference.

These capabilities have enabled a range of innovations now deployed in large-scale applications–from fourth-generation nuclear power plants and cement rotary kilns with 10,000 tons/day output, to 16-meter shield tunneling machines and 25 MW floating offshore wind turbines.

Vision:Forge a safer, greener, and more efficient future for all.
Mission:To lead the world in critical forgings for advanced equipment.
Values:Honesty, Humility, Perseverance, Work.

# 发展历程

## Development

**2006年** 工厂投产；
In 2006, The factory was commissioned.

**2008年** 获得歌美飒GAMESA认证，风电法兰开始出口至欧洲；
In 2008, Passed the homologation by Gamesa and started exporting wind power flanges to Europe.

**2009年** 获得维斯塔斯VESTAS认证；参与国家能源局《风力发电机组环形锻件》标准的起草工作；山东省人民政府授予“全省先进民营企业”称号；
In 2009, Passed the homologation by Vestas;Participated in drafting Ring-type Forgings of Wind Turbine Generator System, which was led by the National Energy Administration;Awarded the title "Advanced Private Enterprises of Shandong Province".

**2011年** 风能装备事业部投产；获得西门子风电认证；
In 2011, Wind Power Equipment Business unit was put into production; Passed the homologation by Siemens.

**2012年** 获得GE风电认证；
In 2012, Passed the homologation by GE.

**2013年** 通过ISO/IEC17025实验室认证（iLac/CNAS国家认可实验室）；
In 2013, Passed the ISO/IEC17025 laboratory certification (iLac/CNAS National Recognized Testing Laboratory).

**2014年** 通过美国ABS、法国BV、挪威DNV GL、日本NK、韩国KR、意大利RINA等船级社认证；
In 2014, Passed the certification test of ABS, BV, DNV GL, NK, KR, RINA, and other classification societies.

**2015年** 与中科院金属所合作成立“李依依院士工作站”；
In 2015, Established the " Li Yiyi Academician Workstation" with the Institute of Metal Research, Chinese Academy of Sciences.

**2018年** 核能重装事业部16米轧环机投产；
In 2018, The 16-meter rolling machine in Nuclear and Heavy Equipment Business unit was put into production.

**2019年** 制造出四代核电用的直径15.8米全球超大锻环；收购西班牙伊莱特；
In 2019, Supplied 15.8m diameter austenitic stainless steel forging rings for Generation IV nuclear power; Acquired Iraeta Spain.

**2020年** 参与起草的《风力发电机组整锻塔架法兰制造技术规范》团体标准发布；
In 2020, The group standard of "Technical specification for Manufacturing wind Power flanges of Wind Turbine “drafted by the party was released.

**2021年** 为中国首台3500千焦海洋打桩锤提供替打环；荣获中国驰名商标；风电法兰荣获全国制造业单项冠军；国家级绿色工厂；
In 2021, Supplied the anvil ring forgings for the China first set 3,500 kJ marine pile hammer; Received the name of “well-known trademark” in China;Won the national championship in manufacturing flanges for the wind energy industry and national green factory.

**2022年** 最大的整体环轧钢环荣获吉尼斯世界纪录称号；海工装备事业部、核海新材料事业部投产；
In 2022, The Largest Seamless Rolled Steel Ring won the Guinness World Records title;The Offshore and Marine Equipment Business Unit and the Nuclear and the Offshore New Materials Business were put into production.

**2023年** 向中国首座深远海浮式风电平台提供法兰；
In 2023，Supplied flanges for China's first deep-sea floating wind power platform.

**2025年** 超大装备核心部件事业部全球最大吨位自由锻液压机设备群投产；
In 2025，The Global Largest Tonnage Free-Forging Hydraulic Press Equipment Cluster of the Key Components of Mega Equipment Business unit was put into production.



# 加工能力

## Processing capacity

最大轧环尺寸

外径**22**米，高度**5**米

The largest rolled ring has an outside diameter of 22 meters and a height of 5 meters.

轧环生产线数量

**8**条

The number of ring rolling production lines is 8

目前年产量

**250000**吨法兰

Currently, the annual production is 250,000 tons of flanges.

# 设备能力

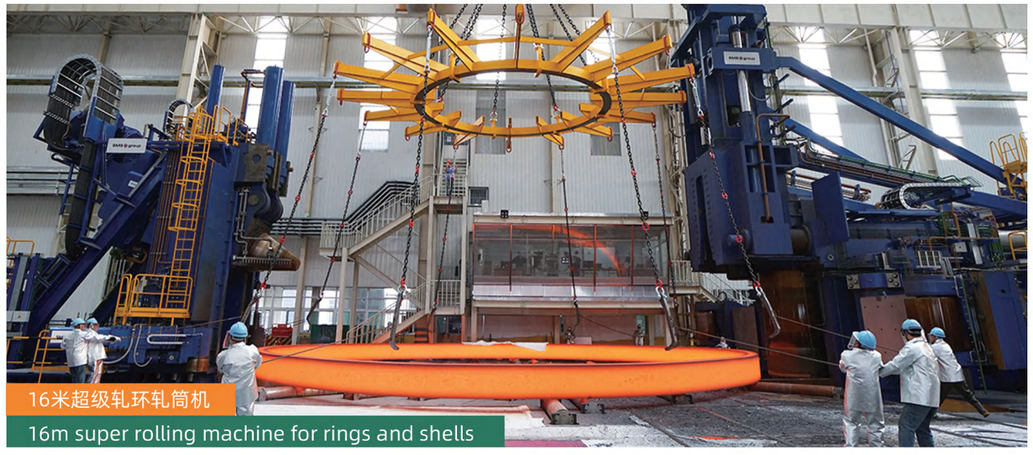
## Equipment capacity

500吨台车式加热炉

500 t car-type heating furnace


1.35万吨压力机

13,500t oil press machine



16米超级轧环轧筒机

16m super rolling machine for rings and shells

内径17.5米井式热处理炉

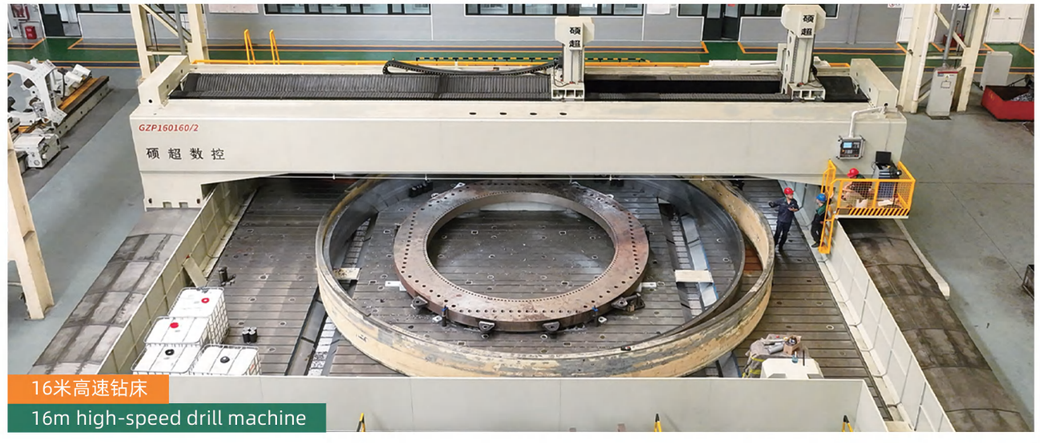
ID17.5 m bore type heat treatment furnace

16米热处理水槽

16m Heat Treatment Tank

16米双柱立式车床

16m double-column vertical lathe

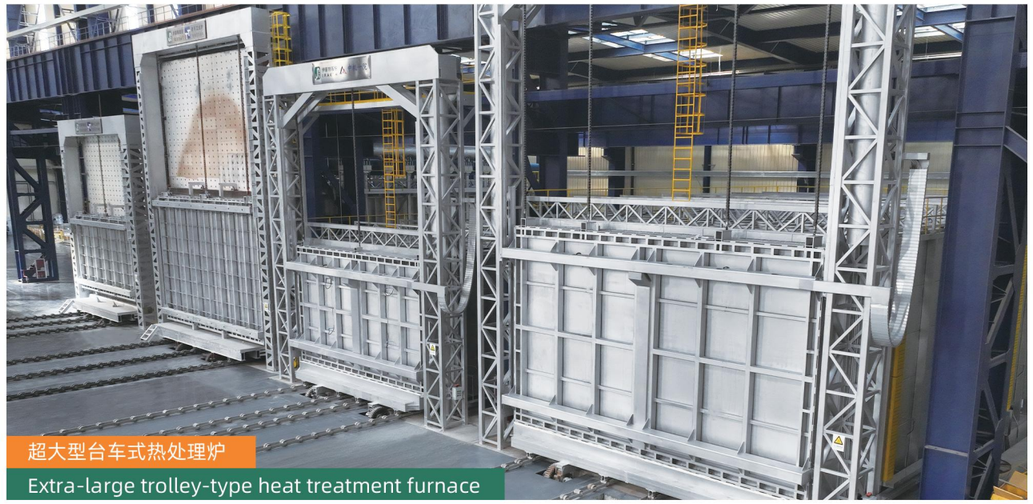



16米高速钻床

16m high-speed drill machine

# 超大装备

## Extra Large Equipment

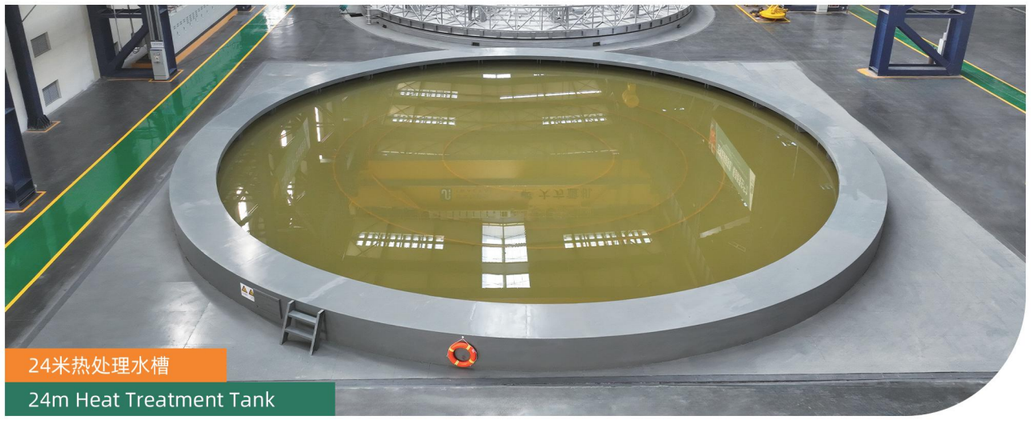


超大型台车式热处理炉

Extra-large trolley-type heat treatment furnace

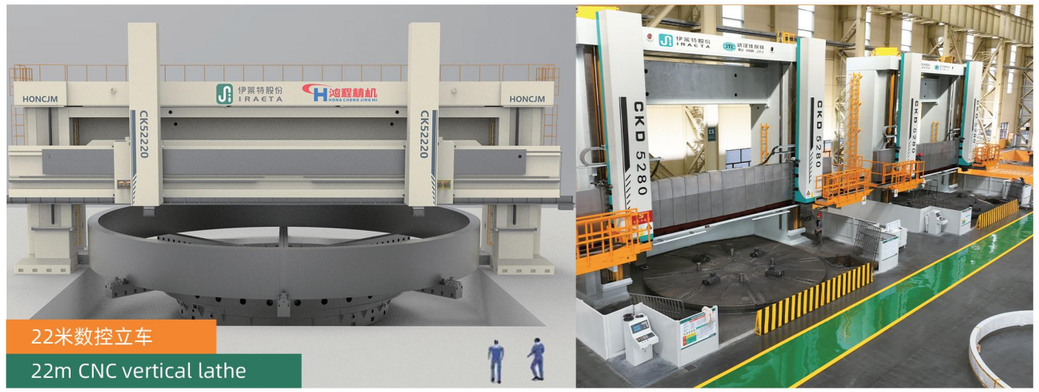

22米井式热处理炉

22mbore type heat treatment furnace



24米热处理水槽

24m Heat Treatment Tank

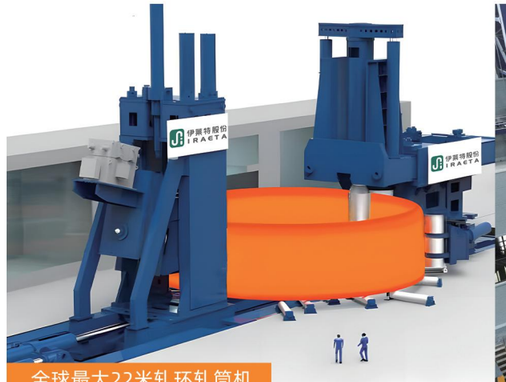



22米数控立车

22m CNC vertical lathe


全球最大2.2万吨压机

The world's largest 22,000t oil press machine




全球最大22米轧环轧筒机

The world's largest 22m ring rolling mill

# 资质及客户

## Qualifications and clients

TÜVRheinland ISO 9001 · nqa ISO 14001 Registered · nqa ISO 45001 Registered · IAC-MRA CNAS

TÜVRheinland ISO 14064 · SGS ISO/TS 14067:2018 · CQM ISO 50001 · TPG Administered by PRI

ABS · Bureau Veritas · CQC · DNV·GL Business Assurance

ClassNK · KR Korean Register · RINA · Lloyd's Register

CPR · CE EN1090 · 経済産業省 Ministry of Economy, Trade and Industry · JSW

ReNew 10+ GW Journey · adani · SBM Offshore · Mitsui & Co. Steel

国家电投 SPIC · 运达股份 WINDEY · 華潤 China Resources · 中国电建 POWERCHINA

SANY · REG · 青島港 Qingdao Port

NIPPON STEEL · 国家能源集团 CHN ENERGY · 中国三峡 China Three Gorges Corporation · 中国华能 China Huaneng

中国华电集团公司 China Huadian Corporation · 中广核 CGN · SIEMENS Gamesa Renewable Energy · Vestas

GE · GOLDWIND · MingYang Smart Energy 明阳智能 · ENVISION

上海电气 Shanghai Electric · 国 · NORDEX · haizea wind

CS WIND · WELCON · WINDAR renovables · 天顺风能 Titan Wind

大金重工 Dajin Heavy Industry · 天能重工 · TSP 泰胜风能 · Haili

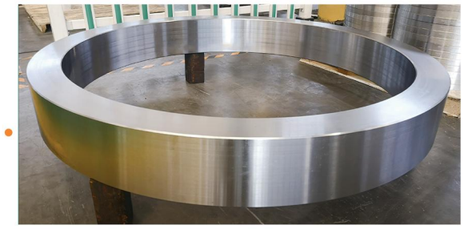
DEC · CSIC · 中国中车 CRRC · 中国交建 China Communications Construction

中国铁建 · China State Construction · CSSC

注：以上内容无先后顺序

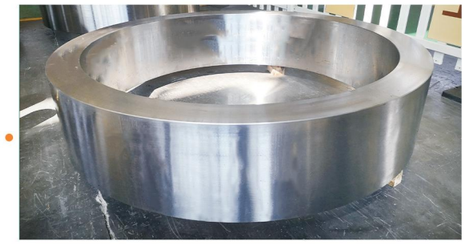
Note: The content mentioned above has no paticular order

# Products and services
# 产品与服务



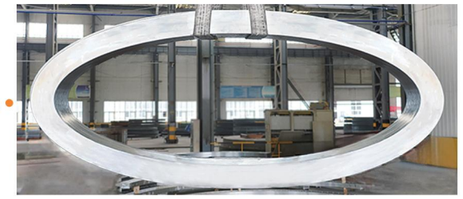
## 齿轮箱锻件
GEARBOXE FORGINGS

## 偏航锻件
YAW RINGS



## 变桨锻件
PITCH RINGS

## 塔筒法兰
TOWER FLANGES



## 塔筒门框
TOWER DOORFRAMES

## 塔筒底法兰
## 桩法兰
BOTTOM FLANGES
MP FLANGES

# 产品展示

## Product display

中船海装25MW

CSSC 25MW

明阳16.7MW

MYSE 16.7MW

东方电气18MW

DEC 18MW

金风16MW

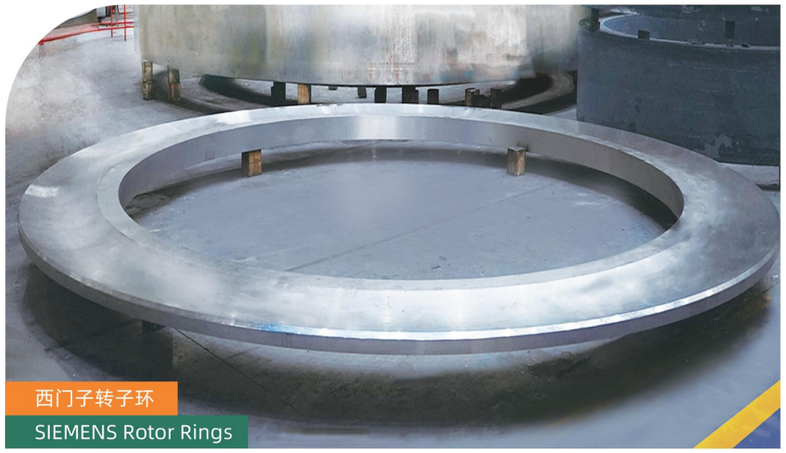
Goldwind 16MW

上海电气16MW

SEC 16MW

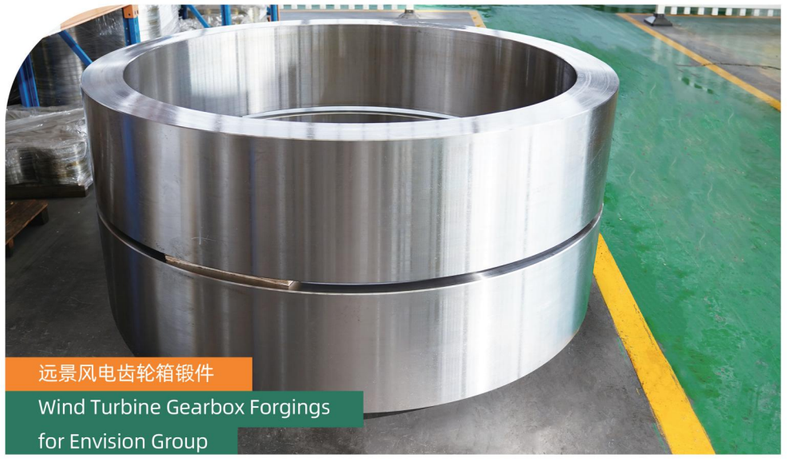
西门子歌美飒11MW

SGRE 11MW



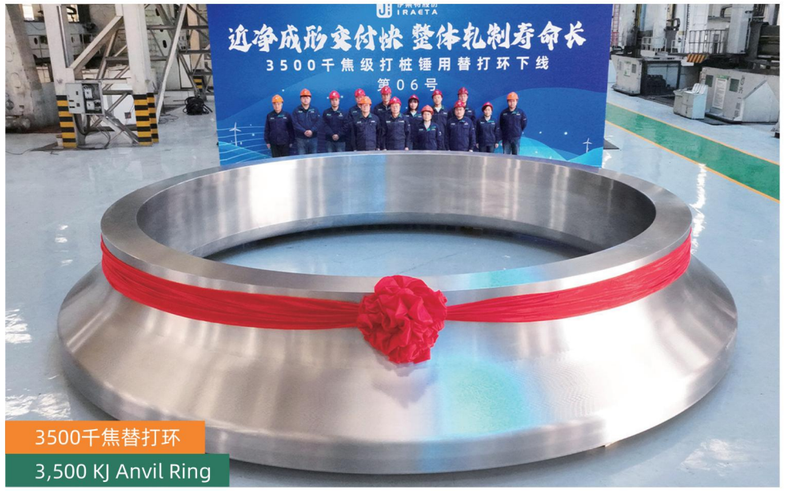
西门子转子环

SIEMENS Rotor Rings



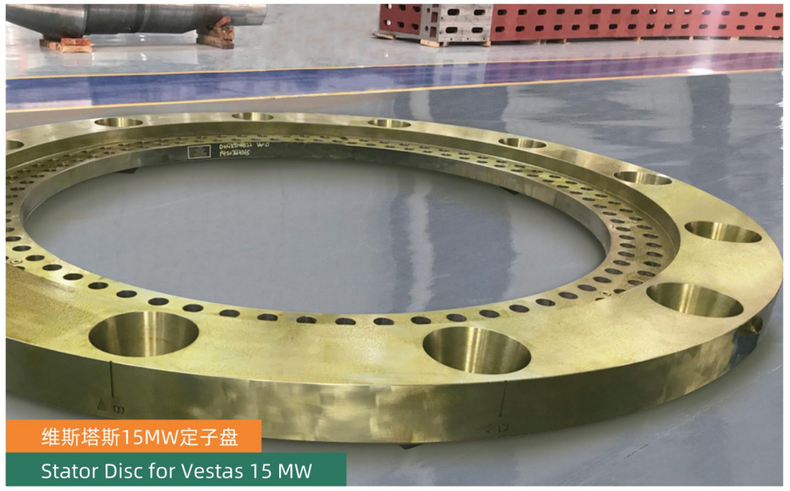
远景风电齿轮箱锻件

Wind Turbine Gearbox Forgings for Envision Group




3500千焦替打环

3,500 KJ Anvil Ring



维斯塔斯15MW定子盘

Stator Disc for Vestas 15 MW

东方电气10MW风电门框

DEC 10MW Wind Power Doorframes

中国首台浮式风机法兰

China's First Floating Wind Turbine Flange

# 品质保障

## Quality assurance

我们的产品经过中国合格评定国家认可委员会（CNAS）认可的实验室严格检测，确保每一项性能指标均达到国际标准。CNAS认可证书不仅是我们产品品质的权威证明，也是我们对客户承诺的体现。我们承诺，将持续以高标准要求自己，不断优化产品，提升服务，以赢得您的信任和满意。选择我们的产品，您将享受到由CNAS认可的品质保障，体验到真正的安心与放心。

ISO/IEC 17025：2017

Our products have been rigorously tested by laboratories accredited by the China National Accreditation Service for Conformity Assessment (CNAS), ensuring that every performance indicator meets international standards. The CNAS accreditation certificate is not only an authoritative proof of the quality of our products but also a reflection of our commitment to our customers. We promise to continuously set high standards for ourselves, constantly optimize our products, and improve our services to win your trust and satisfaction. By choosing our products, you will benefit from quality assurance recognized by CNAS, giving you true peace of mind and confidence.


# 智慧低碳的循环经济

## Smart low-carbon circular economy

低碳冶炼

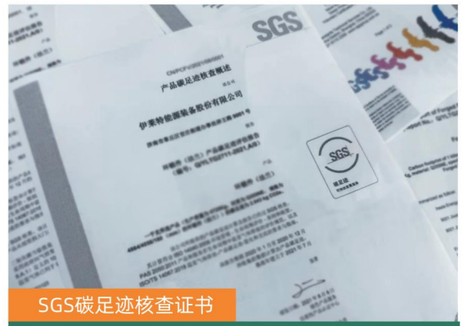
Low-carbon Smelting

材料热送

Material Hot Delivery

屋顶光伏

Rooftop Photovoltaic




SGS碳足迹核查证书

SGS Carbon Footprint Verification Certificate

伊莱特采用“智慧低碳的循环经济”模式。通过回收利用原有产业的下脚料，重新制备核电、海洋工程等领域所需的先进材料。在生产过程中，通过使用屋顶光伏、600摄氏度材料热送和金属构筑成形等一系列绿色锻造技术，最大限度地降低了能源消耗和碳排放。该项目使我们拥有了原材料制备、锻造、热处理、机加工、物流发运于一体的全流程产业链格局。

SGS ISO/TS 14067:2018

IRAETA adopts a "smart low-carbon circular economy" model. By recycling and reusing the leftover materials from existing industries, advanced materials required for fields such as nuclear power and ocean engineering are re-prepared. In the production process, a series of green forging technologies such as rooftop photovoltaic, 600°C material hot delivery, and metal construction forming are used to minimize energy consumption and carbon emissions. This project has given us an integrated industrial chain layout that includes raw material preparation, forging, heat treatment, machining, and logistics distribution.

# 绿色循环产业链

## Green recycling industry chain

废钢预热水平加料电炉
Scrap Preheating Parallel Feeding Electric Furnace

废 钢
Scrap Steel

锻造产业下脚料
Forging Industry Scraps

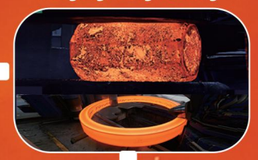
加热炉
Heating Furnace

包 装
Package

LF精炼炉精炼
LF Refining Furnace For Refining

VD(VOD)精炼
VOD Refinement

锻压/轧环
Forging/Ring Rolling



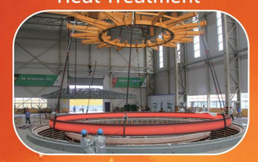
高端优质锻件
High-end And High-Quality Forgings

保护气氛电渣炉
Protection Electroslag Remelting Furnace

常压浇注
Normal Pressure Casting

VC真空浇注
VC Vacuum Casting

热处理
Heat Treatment



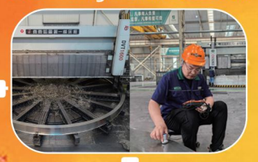
水电
Hydropower

核电
Nuclear Power

风电
Wind Power

热 送
Hot Delivery

机加工/探伤
Machining/Flaw Detection



高端装备
Sophisticated Equipment

高端炼化
Sophisticated Refining

光热电站
CSP Station

# 全球布局

## Global layout


我们的产品足迹遍布全球各地风场，远销欧美、日韩、东南亚等50余个国家和地区。我们的全球服务经验超20年，是40余家世界500强的认证供应商。

集团在中国、西班牙、美国、巴西、阿根廷、印度、土耳其、南非等多个国家拥有工厂和服务网络，能为全球风电主机企业、总包方提供从塔筒、法兰到偏航变桨系统的各类风电部件本地化解决方案。

Our products have a global presence in wind farms, with sales reaching over 50 countries and regions, including Europe, America, Japan, Korea, and Southeast Asia. We have more than 20 years of experience in global services and are a certified supplier for more than 40 Fortune 500 companies.

The group has factories and service networks in various countries such as China, Spain, the United States, Brazil, Argentina, India, Turkey, and South Africa, capable of providing localized solutions for a variety of wind power components ranging from tower sections, flanges to yaw and pitch systems for global wind turbine manufacturers and general contractors.

FIHI Forging Industry S.L.(FIHI)位于西班牙北部的巴斯克地区。FIHI拥有60多年的锻造生产经验，在欧洲风电法兰市场占有重要的市场地位，拥有德国西马克轧钢机、8米热处理炉、8米机床等一系列先进设备。

通过联动中国工厂产能与西班牙工厂服务响应速度，可以使伊莱特在国际市场更好的服务客户。FIHI是伊莱特产业全球布局、服务全球客户的重要组成部分，也是进一步扩大在国际风电市场知名度的重要力量。

FIHI Forging Industry S.L.（FIHI) is located in the Basque Country of Northern Spain. FIHI has more than 60 years of experience in forging production, and holds an important market position in the European wind turbine flange market. It has a series of advanced equipment such as SMS rolling mill, 8-meter heat treatment furnace and 8-meter machine tool.

By linking the production capacity of Chinese factory with the rapid service response of the Spanish factory, Iraeta can better serve customers in the international market. FIHI is an important part of Iraeta's global layout and service to global customers, as well as an important force to further expand its popularity in the international wind power market.

# Partial large megawatt wind power performance
# 大兆瓦部分风电业绩

| 项目名称/Project Name | 机型/Modle |
|---|---|
| 东营样机项目<br>Dongying Prototype Project | 中船海装/CSSC<br>25 MW |
| 东营样机项目<br>Dongying Prototype Project | 中车株洲/CRRC<br>20 MW |
| 明阳巴斯夫项目<br>Mingyang BASF Project | 明阳/MYSE<br>16.7 MW |
| 东营样机项目<br>Dongying Prototype Project | 运达/WINDEY<br>16 MW |
| 山东能源渤中G场址海上项目<br>Shandong Energy Bozhong G Site Offshore Project | 上海电气/SEC<br>12.6 MW |
| 中船海装大连庄河海上项目<br>The CSSC Dalian Zhuanghe Offshore Project | 中船海装/CSSC<br>10 MW |
| 三峡平潭外海海上项目<br>Sanxia Pingtan Offshore Project | 金风/Goldwind<br>16 MW |
| 明阳海南临高海上项目<br>Mingyang Hainan Lingao Offshore Project | 明阳/MYSE<br>14 MW |
| 明阳汕头海上项目<br>Mingyang Shantou Offshore Project | 明阳/MYSE<br>12 MW |
| 明阳青洲四海上项目<br>Mingyang Qingzhou Four Seas Offshore Project | 明阳/MYSE<br>11 MW |
| 联合动力东营海上项目<br>United Power Dongying Offshore Project | 联合动力/United Power<br>10 MW |



| 项目名称/Project Name | 机型/Modle |
|---|---|
| 三峡漳浦二期项目<br>Sanxia Zhangpu Phase II Project | 金风/Goldwind<br>16 MW |
| 华润连江外海项目<br>CR Power Lianjiang Offshore Project | 东方电气/DEC<br>18 MW |
| 中广核惠州港口二期<br>CGN Huizhou Port Phase II | 远景/Envision Energy<br>14 MW |
| 样机项目<br>Prototype Project | 上海电气/SEC<br>16 MW |
| 三峡兴化湾海上项目<br>The Three Gorges Xinghua Bay Offshore Project | 东方电气/DEC<br>10 MW |
| 样机项目<br>Prototype project | 中船海装/CSSC<br>18 MW |
| 广投广西防城港项目<br>Guangtou Guangxi Fangchenggang Project | 远景/Envision Energy<br>10 MW |
| Dominion Project | 西门子歌美飒/SGRE<br>14 MW |
| Nordseecluster-A Project | 维斯塔斯/Vestas<br>15 MW |
| SGRE Hailong PJ | 西门子歌美飒/SGRE<br>14 MW |
| Baltic Power Project | 维斯塔斯/Vestas<br>15 MW |
| Vineyard Wind Offshore Project | 通用电气/GE<br>14 MW |
| Thor Offshore Wind Farm Project | 西门子歌美飒/SGRE<br>14 MW |
| Moray West Offshore Wind project | 西门子歌美飒/SGRE<br>14 MW |

# Offshore wind power performance
# 海上风电业绩


# 国内部分海上风电业绩

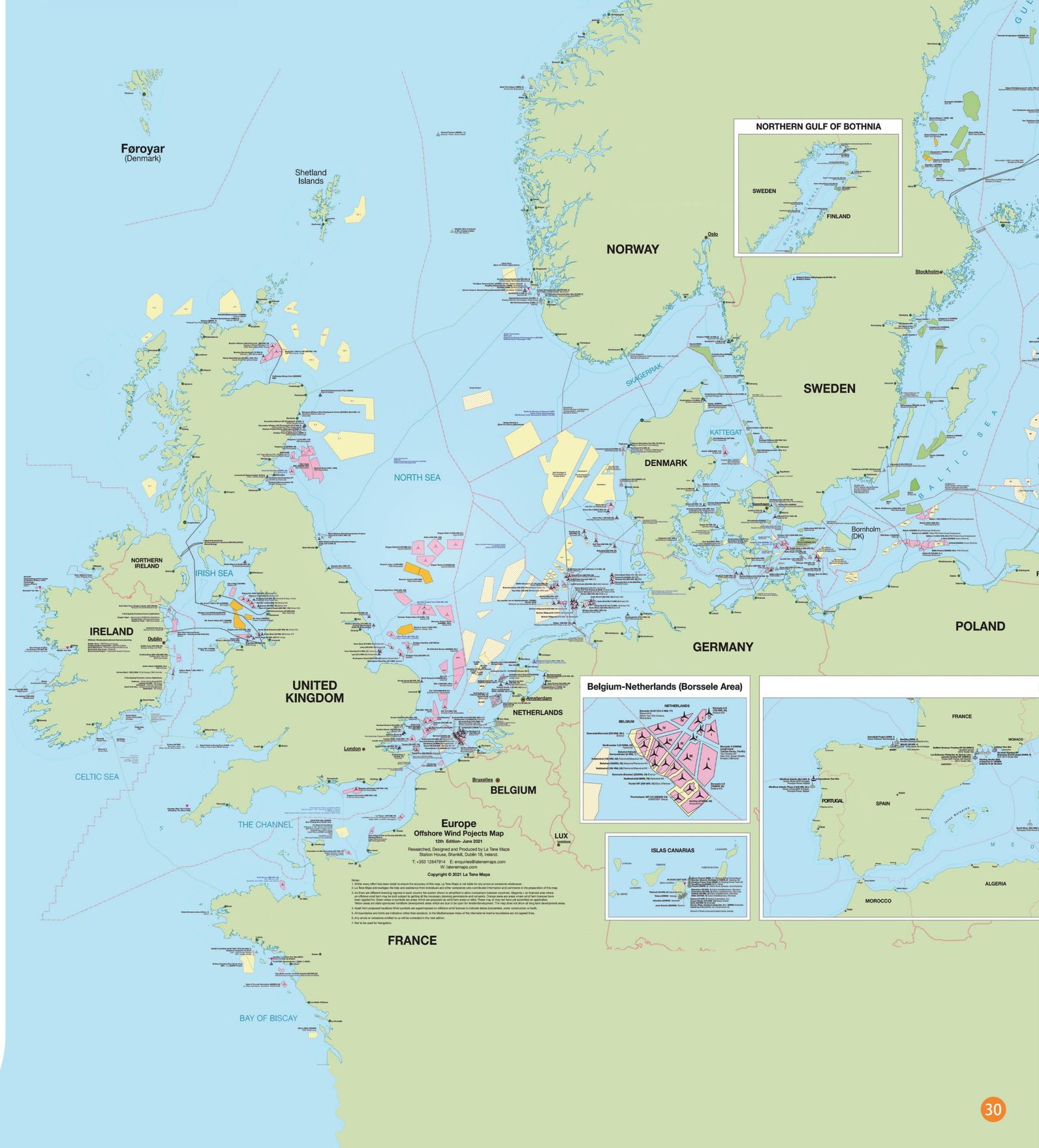
## Partial performance of domestic offshore wind power

| 项目名称/ Project Name | 装机容量/ Installed Capacity | 机型/ Modle |
|---|---|---|
| 华能玉环2号项目<br>Huaneng Yuhuan No. 2 Project | 504 MW | 上海电气/SEC<br>16MW |
| 华润连江外海项目<br>CR Power Lianjiang Offshore Project | 700 MW | 东方电气/DEC<br>18MW |
| 中广核惠州港口二期<br>CGN Huizhou Port Phase II | 1000 MW | 远景/Envision Energy<br>14MW |
| 国华渤中I场址海上项目<br>Guohua Bohai Central I Site Offshore Project | 500 MW | 金风/Goldwind<br>8.5MW |
| 龙源海南CZ8海上风电项目<br>Longyuan Hainan CZ8 Offshore Wind Power Project | 500 MW | 明阳/MYSE<br>10MW |
| 国电浙江象山海上项目<br>Guodian Zhejiang Xiangshan Offshore Project | 504 MW | 运达/Winde Energy<br>9MW |
| 山东能源渤中A海上项目<br>Shandong Energy Bohai Central A Offshore Project | 500 MW | 海装/CSSC<br>8.35MW |
| 华能勒门海上项目<br>Huaneng Lemen Offshore Project | 594 MW | 上海电气/SEC<br>11MW |
| 三峡漳浦二期项目<br>Three Gorges Zhangpu Phase II Project | 400 MW | 金风/Goldwind<br>16MW |
| 大唐勒门增容海上项目<br>Datang Lemen Expansion Offshore Project | 354 MW | 上海电气/SEC<br>13MW |
| 大唐海南儋州CZ3海上项目<br>Datang Hainan Danzhou CZ3 Offshore Project | 600 MW | 东方电气/DEC<br>10MW |
| 粤电阳江青洲一二海上项目<br>GEG Yangjiang Qingzhou I and II Offshore Project | 1000 MW | 明阳/MYSE<br>11MW |
| 国电投徐闻增容项目<br>State Power Investment Xuwen Expansion Project | 300 MW | 明阳/MYSE<br>12MW |
| 华能海南临高海上项目<br>Huaneng Hainan Lingao Offshore Project | 600 MW | 明阳/MYSE<br>10MW |
| 国电投神泉二增容项目<br>State Power Investment Shenquan II Expansion Project | 502 MW | 上海电气/SEC<br>11MW |
| 华电海坛海峡项目<br>Huadian Haitan Strait Project | 300 MW | 明阳/MYSE<br>7MW |
| 三峡牟平BDB6#海上项目<br>Three Gorges Mouping BDB6# Offshore Project | 300 MW | 金风/Goldwind<br>9MW |

# 国外部分海上风电业绩

## Partial performance of international offshore wind power

| 项目名称/ Project Name | 国家/ Country | 装机容量/ Installed Capacity | 机型/ Model |
|---|---|---|---|
| East Anglia 3（R4） | 英国 UK | 1400 MW | 西门子歌美飒/SGRE 14MW |
| Baltic Power Project | 波兰 PL | 1200 MW | 维斯塔斯/Vestas 15MW |
| Dominion Project | 美国 USA | 1000 MW | 西门子歌美飒/SGRE 14MW |
| Hornsea 3 | 丹麦 DK | 2.9 GW | 西门子歌美飒/SGRE 7MW |
| Ishikari | 日本 JPN | 112 MW | 西门子歌美飒/SGRE 8MW |
| HKZ-SGRE 11MW | 荷兰 NL | 1500 MW | 西门子歌美飒/SGRE 11MW |
| Inch Cape | 英国 UK | 1080 MW | 维斯塔斯/Vestas 15MW |
| Vesterhav Project | 北海 NS | 344 MW | 西门子歌美飒/SGRE 8MW |
| Vineyard Wind Offshore Project | 美国 USA | 800 MW | 通用电气/GE 14MW |
| Moray West Offshore Wind Project | 英国 UK | 882 MW | 西门子歌美飒/SGRE 14MW |
| SGRE Sofia PJ | 英国 UK | 1400 MW | 西门子歌美飒/SGRE 14MW |
| Les Îles d'Yeu et de Noirmoutier (NOY) | 法国 FR | 496 MW | 西门子歌美飒/SGRE 8MW |
| Nordseecluster-A Project | 德国 GER | 660 MW | 维斯塔斯/Vestas 15MW |
| Thor Offshore Wind Farm Project | 丹麦 DK | 1000 MW | 西门子歌美飒/SGRE 14MW |



# 漂浮式海上风电业绩

## Floating offshore wind power performance

"三峡引领号"是中国首台漂浮式海上风电试验样机，也是国际上机位水深最浅、抗台风等级最高、所受风电机组载荷最大、设计难度最大的漂浮式海上风电平台结构，该项目装机容量5.5兆瓦，位于广东阳江海上风电场。

"Sanxia Pilot No.1" is China's first floating offshore wind power prototype, and it is also the floating offshore wind power platform structure with the shallowest water depth, the highest typhoon resistance level, the largest wind turbine load, and the greatest design difficulty in the international community. The project has a single unit with an installed capacity of 5.5 megawatts and is located in the Yangjiang offshore wind farm in Guangdong.

“三峡引领号”

"Sanxia Pilot No.1 "

"海装扶摇号"是中国首台深远海浮式风电装备，其装机容量为6.2兆瓦，位于广东湛江海上风电场；"海装扶摇号"浮式风电装备的诞生填补了中国深远海浮式风电装备的空白，成为进军深远海能源开发领域的重要装备。

"Haizhuang Fuyao" is China's first deep-sea floating wind power equipment, with an installed capacity of 6.2 megawatts, located in the offshore wind farm of Zhanjiang, Guangdong; the birth of "Haizhuang Fuyao" floating wind power equipment has filled the gap in China's deep-sea floating wind power equipment, becoming an important equipment for advancing into the field of deep-sea energy development.

“海装扶摇号”

"Haizhuang Fuyao "

"海油观澜号"是中国首座深远海浮式风电平台，装机容量达到7.25兆瓦,位于距海南文昌136公里的海域；"海油观澜号"的成功并网发电标志着中国深远海风电关键技术取得重大进展，海上油气开发进入“绿电时代”。

"Haiyou Guanlan" is China's first deep-sea floating wind power platform, with an installed capacity of 7.25 megawatts, located in the maritime area 136 kilometers away from Wenchang, Hainan; the successful grid connection and power generation of the "Haiyou Guanlan" marks a significant advancement in the key technologies of China's deep-sea wind power, marking the offshore oil and gas development has entered the "green electricity era".

“海油观澜号”

"Haiyou Guanlan "



“国能共享号”

"Guoneng Gongxiang "

"国能共享号"是全球首个漂浮式风渔融合项目,该项目装机容量为4兆瓦,位于福建省莆田市秀屿区南日岛水域;"国能共享号"不仅代表了深远海浮式风电与养殖一体化设计的创新实践，还推动了海洋经济向深远海的融合发展，形成了"绿色能源+蓝色粮仓"的新模式。

"Guoneng Gongxiang " is the world's first floating wind-fishery integration project, with an installed capacity of 4 megawatts, located in the waters of Nanri Island, Xiuyu District, Putian City, Fujian Province. "Guoneng Gongxiang " not only represents an innovative practice in the integrated design of deep-sea floating wind power and integrated aquaculture but also promotes the integrated development of the marine economy towards the deep sea, forming a new model of "green energy + blue granary".

Provence Grand Large（PGL）项目是全球首个采用张力腿式漂浮基础（TLP）的海上风电项目，该项目装机容量为25MW，位于法国马赛港以西大约40公里处；PGL项目是全球海上风电技术发展的重要里程碑。

Provence Grand Large (PGL) project is the first offshore wind power project in the world to utilize a Tension Leg Platform (TLP) floating foundation. With an installed capacity of 25MW, it is situated approximately 40 kilometers west of the Port of Marseille in France; the PGL project represents a significant milestone in the advancement of global offshore wind power technology.

Provence Grand Large

Hywind Tampen项目是全球首个为海上石油和天然气平台提供动力的漂浮式风电场，该项目装机容量95兆瓦，位于挪威北海；Hywind Tampen项目不仅是世界上最大的漂浮式海上风电场，而且对于进一步发展漂浮式海上风电技术、降低未来漂浮式海上风电场的成本具有重要意义。

Hywind Tampen project is the world's first floating wind farm providing power to offshore oil and gas platforms, with an installed capacity of 95 megawatts located in the North Sea of Norway; the Hywind Tampen project is not only the world's largest floating offshore wind farm, but also of great significance for the further development of floating offshore wind technology and reducing the cost of future floating offshore wind farms.

Hywind Tampen

# Quality assurance
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离岸136KM、水深120M！伊莱特向首座深远海浮式风电平台提供法兰
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NEAR-NET-SHAPE FORMING WITH FAST DELIVERY AND LONG OVERALL ROLLING LIFE——IRAETA'S NO. 06 3500 KJ CLASS PILE HAMMER REPLACEMENT RING SUCCESSFULLY ROLLED OFF THE PRODUCTION LINE

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SEVENTY-ONE EXTRA-LARGE “HULA HOOPS” TO BE USED IN WORLD'S FIRST ZERO-SUBSIDY OFFSHORE WIND FARM

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| | | |
|---|---|---|
| **济南国际机场 Jinan Airport** | | 驾车40分钟/ 40 mins drive |
| **青岛 Qingdao** | | 高铁2小时30分钟/ 2 hours 30 mins by train |
| **北京 Beijing** | | 高铁2小时30分钟/ 2 hours 30 mins by train |
| **上海 Shanghai** | | 高铁4小时10分钟/ 4 hours 10 mins by train |
| | | 飞机1小时50分钟/ 1 hour 50 mins by plane |

| 周边主要港口/ Major Surrounding Ports | |
|---|---|
| 距章丘港：30公里 | To Zhangqiu Port: 30km |
| 距青岛港：300公里 | To Qingdao Port: 300km |
| 距潍坊港：200公里 | To Weifang Port: 200km |
| 距日照港：300公里 | To Rizhao Port: 300km |