

电力推进系统集成业务

Diesel-Electirc Propulsion System Integration



市场定位【Marketing Definition】

最新一代新能源动力系统集成商及核心设备制造商
System integrator&core equipment manufacturer

企业宗旨【Corporate Purposes】

欧洲技术、德国品质、中国智造、服务全球
Technology from Europe, Manufacture in China

核心价值【Core Value】

顽强拼搏，让世界尽享卓越技术
Be devoted, be excellent

山西汾西重工有限责任公司
Shanxi Fenxi Heavy Industry Co., Ltd.

无锡赛思亿电气科技有限公司
Wuxi Silent Electric System (SES) Technology Co., Ltd.

ENTERPRISE PROFILE | 企业简介



山西汾西重工有限责任公司始建于1954年，隶属于世界500强——中国船舶重工集团有限公司，是国家水下装备、电机、煤炭装备大型骨干企业，船舶配套的优质供应商。公司技术中心为国家级企业技术中心。拥有无锡赛思亿、中船电机等多家控股公司直属单位。

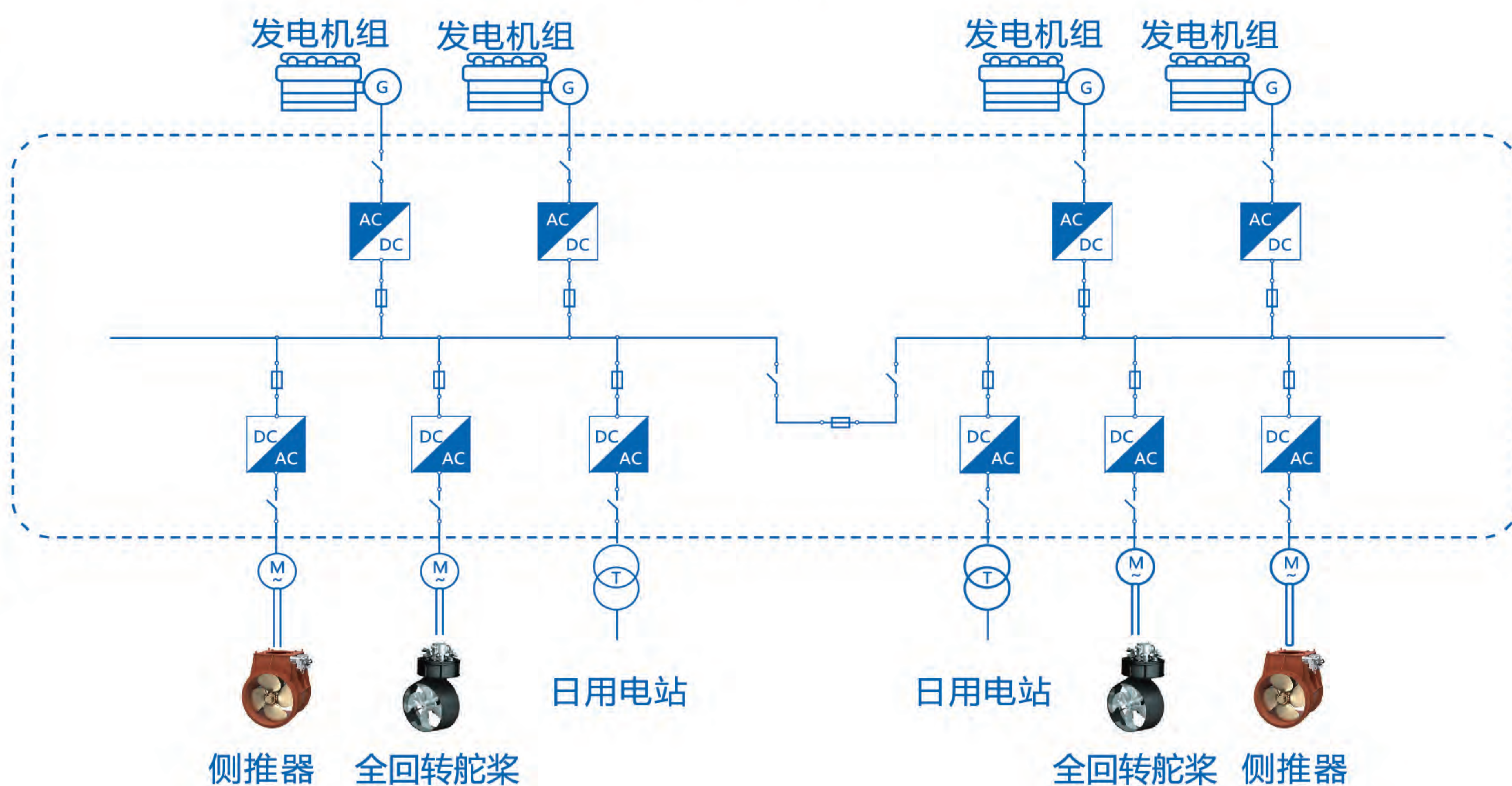
汾西重工及其下属的中船电机、无锡赛思亿在太原、无锡设有研发中心和制造基地，在马来西亚设有服务点，在英国剑桥设有联合实验室，形成最新一代新能源动力系统集成及核心设备制造的研发设计、设备制造、试验联调及后续服务全部可控的产业资源和项目团队。

Shanxi Fenxi Heavy Industry (SFHI), together with its subsidiary SES and CSIEM, owns R&D centres and manufacturing facilities in Taiyuan and Wuxi, China, an oversea support centre in Malaysia, and a co-R&D centre with Cambridge University in the UK, providing substantial support to research, design, production, and service of marine diesel-electric propulsion systems.

最新一代电力推进技术路线

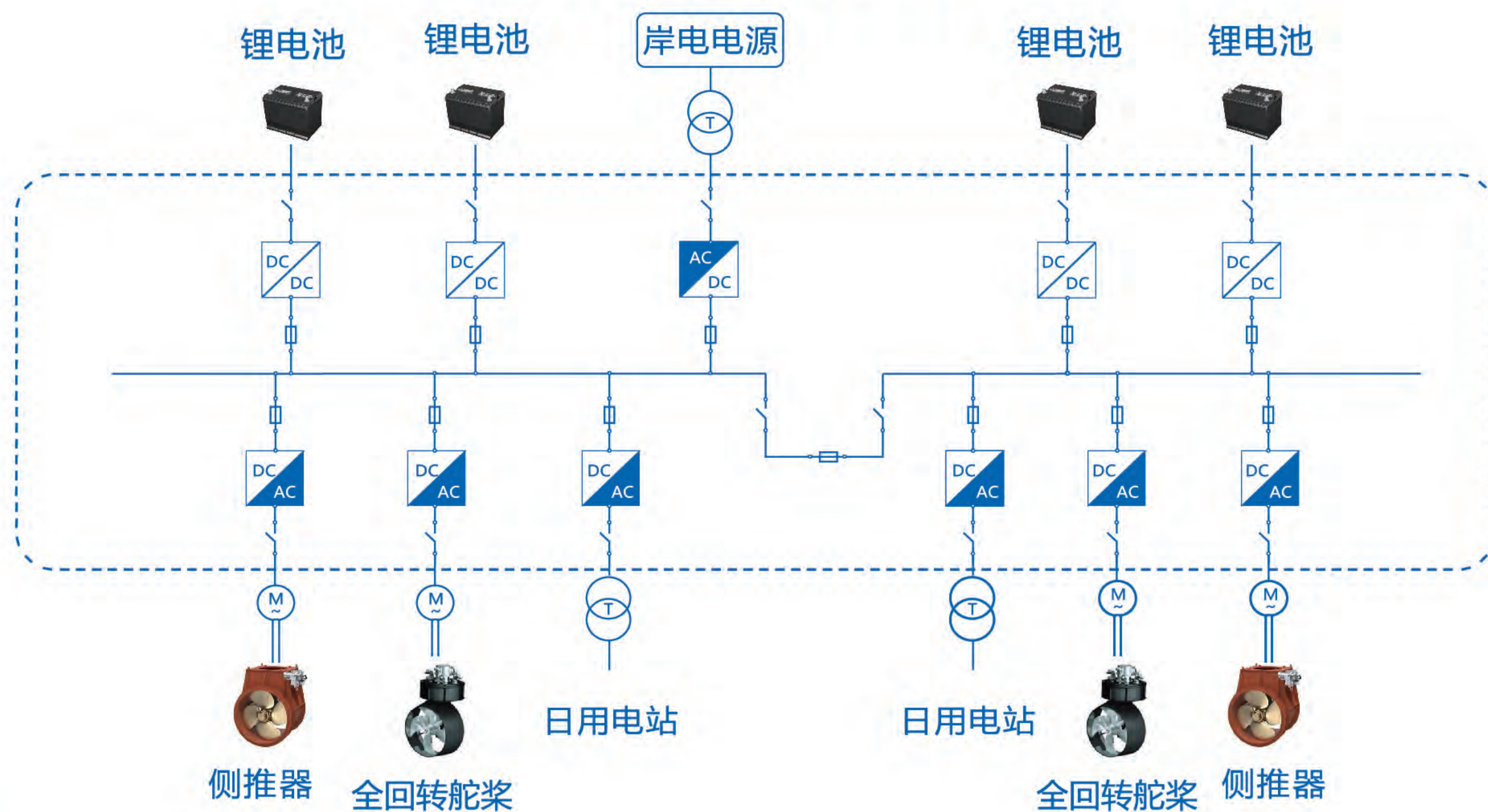
Innovative solution of diesel-electric propulsion system

Diesel electric solution



柴油机组电力推进方案

Battery solution

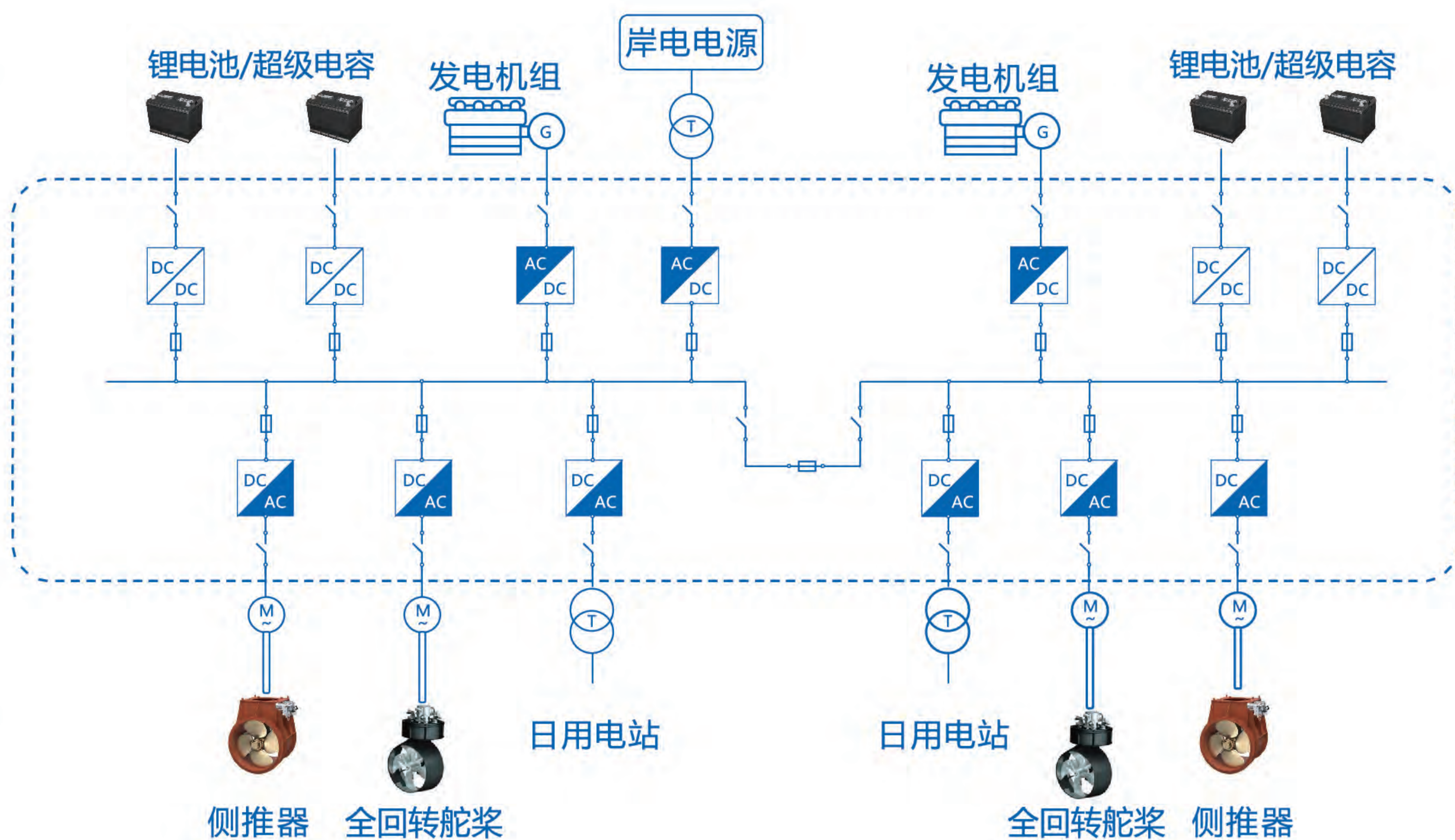


纯电池推进方案

最新一代电力推进技术路线

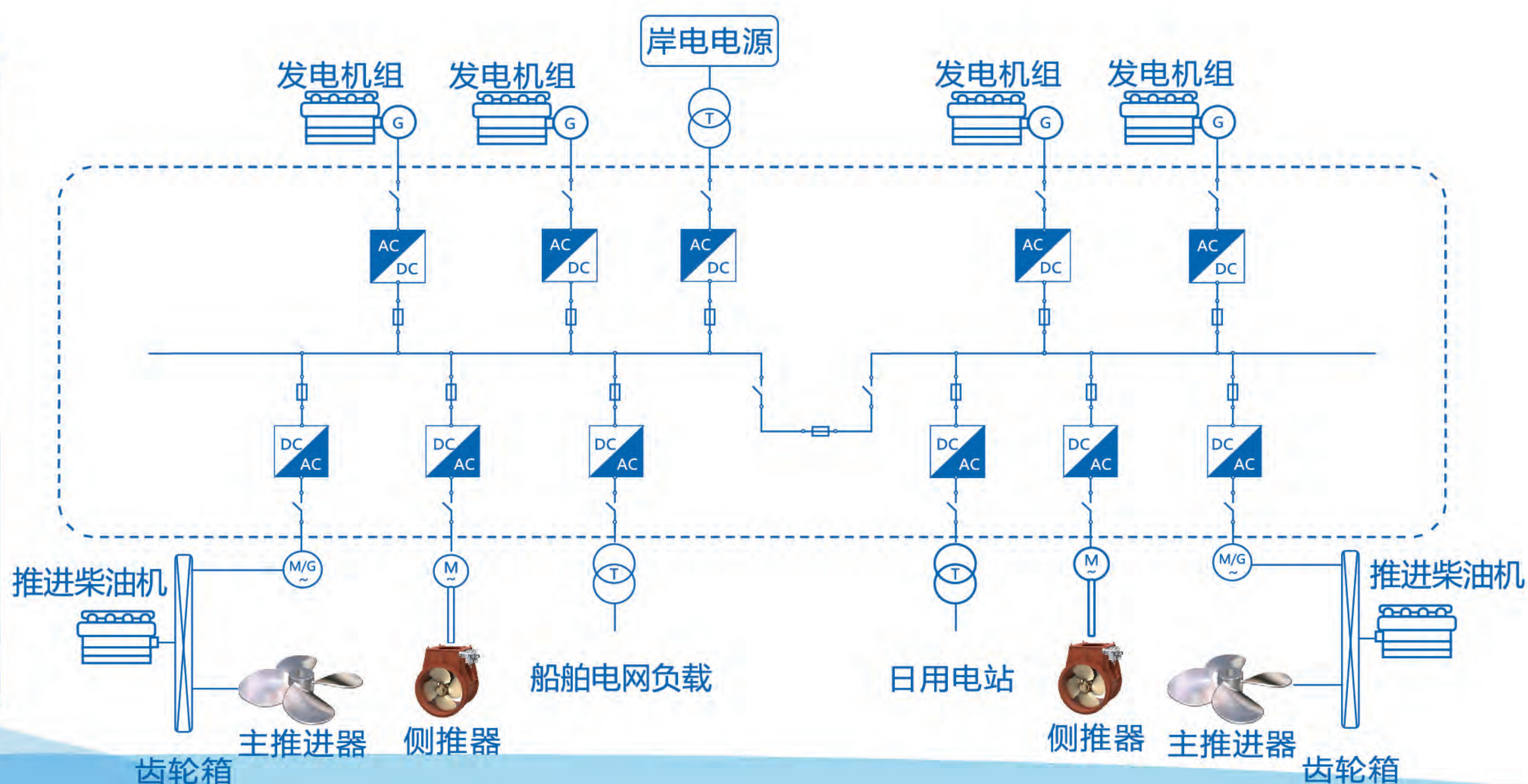
Innovative solution of diesel-electric propulsion system

Electric hybrid solution (Diesel electric/Battery)



柴油机组与电池混合动力方案

Shaft hybrid solution (Diesel mechanical/electric)



主机与柴油机组混合动力方案

电力推进系统实船业绩

References of innovative diesel-electric propulsion system



泰和海洋科技集团

“沈括”号SWATH型深远海科学调查作业船

Tehe Ocean Techonlogy Group Limited

“SHEN KUO” SWATH research vessel



浙江海洋大学

“浙渔科2”号渔业资源调查船

Zhenjiang Ocean University

“Zheyuke 2” research vessel for fishery resources



蓬莱映华海运有限公司

蓬长线纯电池客船

Penglai Yinghua Shipping Co., Ltd.

Peng Long Line Battery Ferry



重庆东江实业有限公司

“美维凯悦”节能环保示范内河豪华游轮

Victoria Cruises

“Victoria Sabrina” eco-friendly luxury cruise

电力推进系统实船业绩

References of innovative diesel-electric propulsion system



江苏蓝德海洋工程有限公司
华电稳强风电安装作业平台

Jiangsu Land Offshore Engineering Co., Ltd.
"Huadian Wenqiang" self-elevating
offshore wind power working platform



上海雄程海洋工程股份有限公司
“雄程天威1”号风电运维船

Shanghai Xiongcheng Ocean
Engineering Company Limited
"Xiongcheng Tianwei 1" wind turbine maintenance vessel



Peter Dohle Schiffahrts-KG
12000TEU 集装箱船

Peter Dohle Schiffahrts-KG
12000TEU Container Vessels



上海盛融国际游船有限公司
“扬子江”轮游船

Shanghai Shengrong International
Yacht Co., Ltd.
"Yangtze River" cruise ship

国内外应用业绩约70条船舶

The references in China and international market

名称 Name	交付时间 Year	船厂 Shipyard	船东 Shipping Company
Sedco 706 Driling rig	2005	Korean shipyard	TransOcean Deep Sea Driling Inc.
Sedco 702 Driling rig	2005	Korean shipyard	TransOcean Deep Sea Driling Inc.
60m mega yacht	2006	——	France owner
Offshore Driling Vessel	2006	Korean shipyard	TransOcean Deep Sea Driling Inc.
propulsion systems on-board of River cruise vessel	2007	——	German owners
Offshore Driling Vessel	2007	Korean shipyard	TransOcean Deep Sea Driling Inc.
4×85m Mega Yacht	2008	——	European owners
140+Mega Yacht	2008	——	Lurssen Yachts(Germany)
RCV Vikin Legend	2009	SET Tangermunde	Viking River Cruises
RCV Vikin Presitige	2011	Neptun Werft Tostock	Viking River Cruises
Viking Skadi	2012	Neptun Werft Rostock	Viking River Cruises
RCV Viking Idun	2012	Neptun Werft Rostock	Viking River Cruises
RCV Viking Odin	2012	Neptun Werft Rostock	Viking River Cruises
RCV Viking Freya	2012	Neptun Werft Rostock	Viking River Cruises
RCV Viking Njord	2012	Neptun Werft Rostock	Viking River Cruises
RCV Viking Embla	2012	Neptun Werft Rostock	Viking River Cruises
RCV Viking Aegir	2012	Neptun Werft Rostock	Viking River Cruises
RCV Viking Bragi	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Tor	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Var	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Forseti	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Rinda	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Jarl	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Atla	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Baldur	2013	Neptun Werft Rostock	Viking River Cruises
RCV Viking Magni	2013	Neptun Werft Rostock	Viking River Cruises
150kW轴带发电系统 150kW shaft generator system	2014	长航凤凰 CSC Pheonix	中外运长航 SINOTRANS&CSC
RCV Viking Hermod	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Buri	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Heimdai	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Delling	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Lif	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Gullveig	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Kvasir	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Idi	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Ingwi	2014	Meyer Werft Papenburg	Viking River Cruises
RCV Viking Eistla	2014	Meyer Werft Papenburg	Viking River Cruises
RCV Viking Bestla	2014	Meyer Werft Papenburg	Viking River Cruises
RCV Viking Alsvin	2014	Meyer Werft Papenburg	Viking River Cruises
RCV Viking Kara	2014	Neptun Werft Rostock	Viking River Cruises
RCV Viking Hlin	2014	Neptun Werft Rostock	Viking River Cruises

国内外应用业绩约70条船舶

The references in China and international market

名称 Name	交付时间 Year	船厂 Shipyard	船东 Shipping Company
RCV Viking Mani	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Eir	2015	Neptun Werft Rostock	Viking River Cruises
NB 787 M.S.Y White Pearl	2015	Nobiskrug Gmbh	——
RCV Viking Nerthu	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Lofn	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Vidar	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Modi	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Gefjon	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Ve	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Mimir	2015	Neptun Werft Rostock	Viking River Cruises
RCV Viking Vili	2015	Neptun Werft Rostock	Viking River Cruises
Viking Vilhjalm	2016	Neptun Werft Rostock	Viking River Cruises
Viking Kadlin	2016	Neptun Werft Rostock	Viking River Cruises
Viking Rolf	2016	Neptun Werft Rostock	Viking River Cruises
Viking Tialfi	2016	Neptun Werft Rostock	Viking River Cruises
Viking Alruna	2016	Neptun Werft Rostock	Viking River Cruises
Viking Egil	2016	Neptun Werft Rostock	Viking River Cruises
“浙渔科2”号渔业资源调查船 “Zheyuke 2” research vessel for fishery resources	2016	和泰船舶修造有限公司 Hetai Shipyard	浙江海洋大学 Zhejiang Ocean University
Crystal Bach	2017	MV-Werften	Crystal Cruises
Crystal Mahler	2017	MV-Werften	Crystal Cruises
Crystal Ravel	2017	MV-Werften	Crystal Cruises
Crystal Debussy	2017	MV-Werften	Crystal Cruises
OCEAN ANGEL号6300t沥青船 “Ocean Angel” 6300t chemical vessels	2017	浙江振兴船业 Zhejiang Zhenxing Shipyard	——
批量豪华游艇电力推进系统 Series hybrid power (diesel/battery) yacht	2017 起陆续交付	船东自有船厂 Owner's Shipyard	私人船东 Private owner
“沈括”号SWATH型深远海 科学调查作业船 “SHEN KUO” SWATH research vessel	2018	浙江天时造船有限公司 Zhejiang Tianshi Ship yard	上海彩虹鱼科考船科技服 务有限公司 Shanghai Rainbow fish scientific service Ltd.
“美维凯悦”节能环保示范 内河豪华游轮 “Victoria Sabrina” eco-friendly luxury cruise	2018	重庆川东船舶重工有限 责任公司 ChongQing ChuanDong ShipBuilding Industry Co., LTD	重庆东江实业有限公司 Victoria Cruises
华电稳强风电安装作业平台 “Huadian Wenqiang” self- elevating offshore wind power working platform	2018	南通润邦海洋工程装备 有限公司 Nantong Rainbow Offshore & Engineering Equipments Co., Ltd.	江苏蓝德海洋工程有限公司 Jiangsu Land Offshore Engineering Co., Ltd.

国内外应用业绩约70条船舶

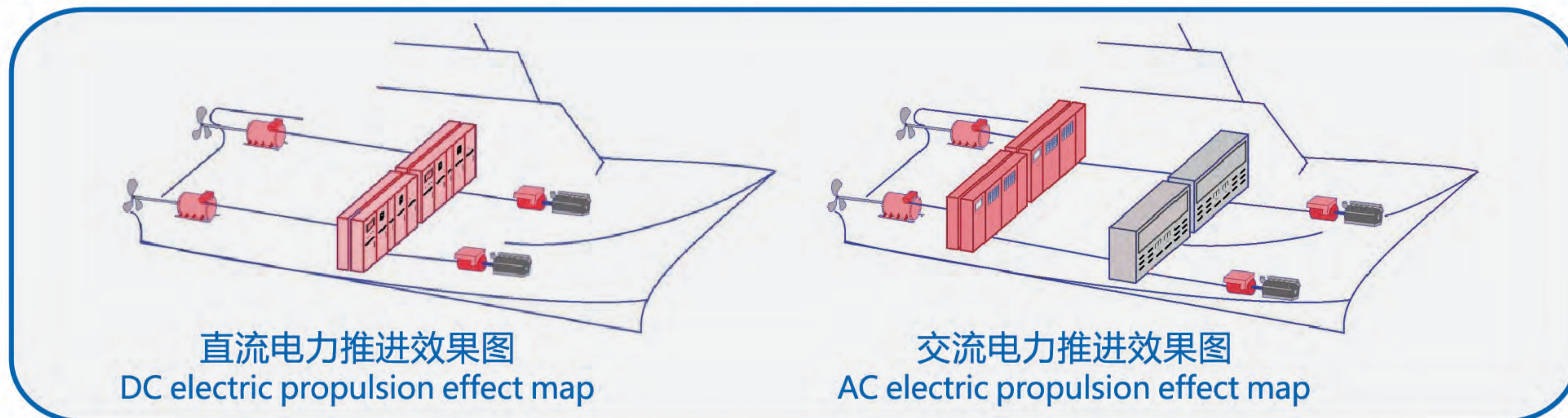
The references in China and international market

名称 Name	交付时间 Year	船厂 Shipyard	船东 Shipping Company
“雄程天威1”号风电运维维船 “Xiongcheng Tianwei 1” wind turbine maintenace vessel	2018	江苏大洋海洋装备有限公司 DAYANG Offshore Equipment Co.,Ltd.	上海雄程海洋工程股份有限公司 Shanghai Xiongcheng Ocean Engineering Company Limited
亨通3号海上风电作业平台 Hengtong No. 3 offshore wind power operation platform	2019	南通润邦海洋工程装备有限公司 Nantong Rainbow Offshore & Engineering Equipments Co., Ltd.	江苏蓝德海洋工程有限公司 Jiangsu Land Offshore Engineering Co., Ltd.
深海装备综合试验船 Deep sea equipment comprehensive experimental ship	2019	渤海船舶重工有限责任公司 Bohai Shipbuilding Heavy Industry Co., Ltd	中国船舶重工集团公司第七六〇研究所 China Shipbuilding Industry Corporation
12500吨散货船 12500DWT General Cargo Ship	2019	芜湖造船厂 Wuhu Shipyard Co., Ltd	珠海港股份有限公司 Zhuhai Port Co.,Ltd.
6000吨散货船 6000DWT General Cargo Ship	2019	浙江新乐造船股份有限公司 Ningbo Xinle Shipbuilding Group Co., Ltd	Nova Marine Carriers
12000TEU Container Vessels	2019	——	Peter Dohle Schiffahrts-KG
广州海事通船艇24m珠江游船 Guangzhou MARINE-EXPERT 24m Pearl River Cruise	2019	海事通(肇庆)西江船厂有限公司 MARINE-EXPERT (ZHAOQING) XIJIANG SHIPYARD CO., LTD.	海事通(肇庆)西江船厂有限公司 MARINE-EXPERT (ZHAOQING) XIJIANG SHIPYARD CO., LTD.
“扬子江”轮游船 “Yangtze River” cruise ship	2020	无锡东方船研高性能船艇工程有限公司 Wuxi Dongfang High-Performance-Ship Engineering Co., Ltd.	上海盛融国际游船有限公司 Shanghai Shengrong International Yacht Co., Ltd.
3000DWT货船 3000DWT General Gargo Ship	2020	——	——
姑苏舫2号游船 Gusu Fang 2 cruise ship	2020	南通神龙游船有限公司 Nantong Shenlong Cruises Ltd.	——
20000T散货船 20000T General Gargo Ship	2020	浙江诚达船业有限公司 Zhejiang ChengDa ship industry company	广东南峰船务有限公司 Guangdong Nanfeng Group Co., Ltd.

核心产业链

Core supply chain

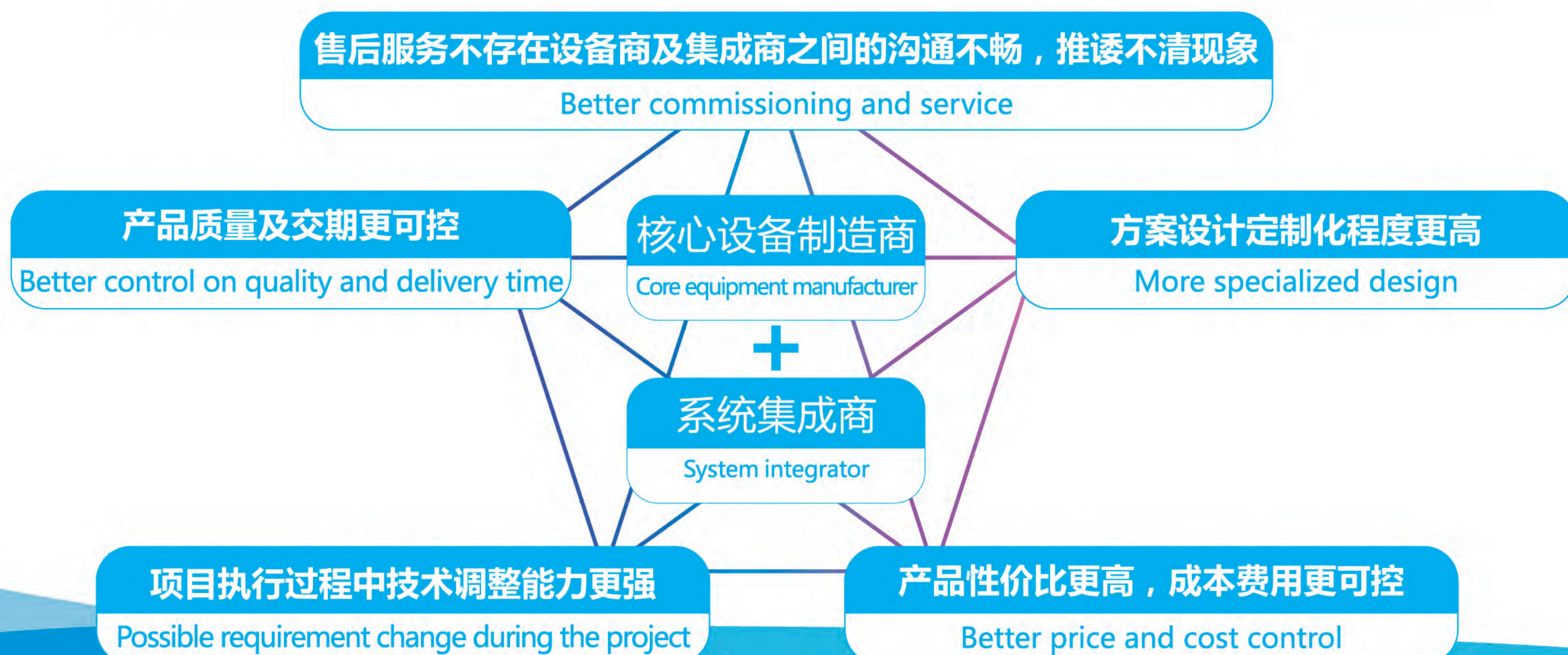
目前是中国唯一一家拥有电力推进系统全产业链生产制造能力和系统集成能力的供货商。
Currently, our company is the only supplier in China that has the capability of manufacturing and integrating the whole industry chain of the electric propulsion system.



● 红色部分为公司产业链覆盖【The equipments marked in red are covered by SFHI's supply chain】



作为具有关键设备全产业链制造能力的系统集成商，将为用户带来以下优势
As a system integrator and equipment manufacturer, the following advantages will be brought to the user.





E-MS

独家买断全套德国E-MS公司最新一代电力推进技术，并获得E-MS公司品牌及业绩的独家使用权。

E-MS是全球最新一代电力推进技术的引领者，直流组网电力推进应用船舶数量及累计总功率皆为世界第一。

The technology was transferred from E-MS (E-Powered Marine Solutions GmbH&Co.KG) in Germany, including the state-of-the-art diesel-electric propulsion system integration technology based on E-MS international references.

E-MS is the world-leading company in the area of the latest generation (common DC-bus) diesel-electric propulsion system with the most references.

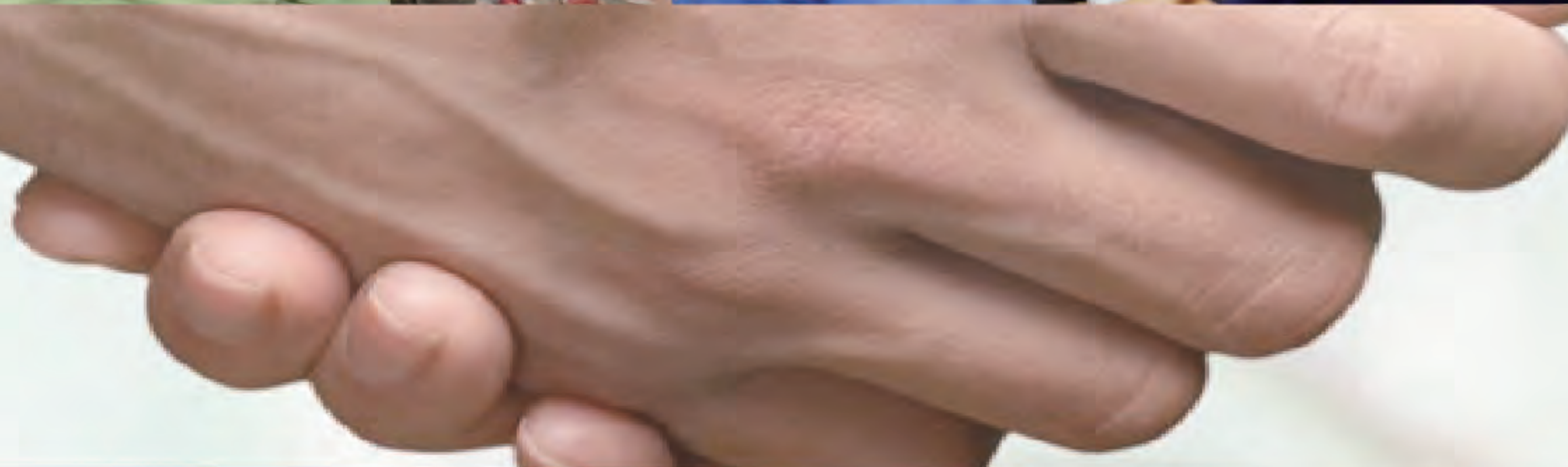


剑桥大学 Cambridge University

核心技术团队来自英国剑桥大学，并且具有大量海外船舶电力推进研发及项目执行经验。

公司与剑桥大学电力电子应用实验室充分合作，推出针对船舶电力推进的前沿技术解决方案。

The technical team is founded by the PhDs from Cambridge University. Meanwhile, SFHI is working with the Power Electronics Application Lab of Cambridge University, in the area of cutting-edge diesel electric propulsion technology.

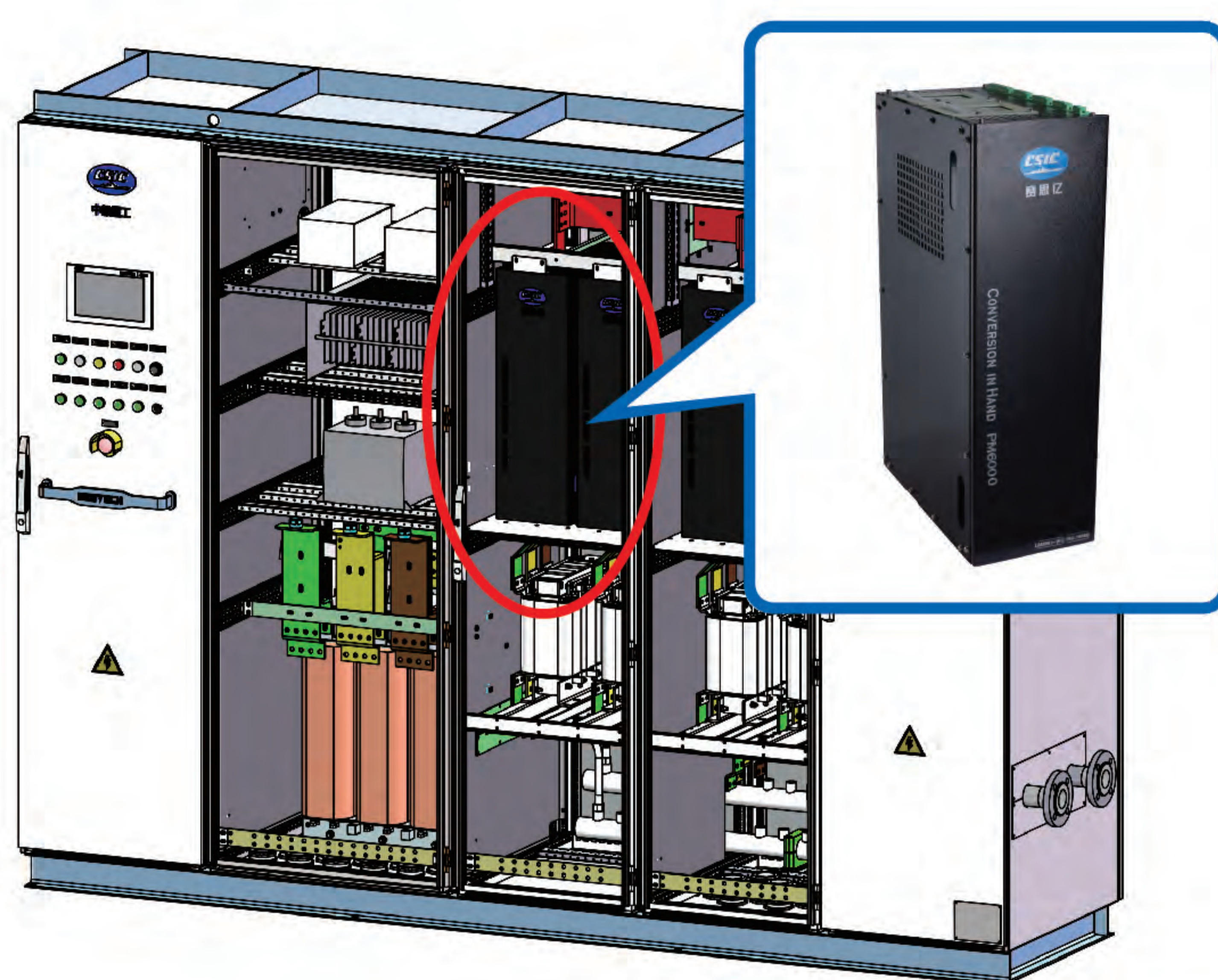


核心产业链

Core supply chain

中国、法国、意大利三大船级社型式认可的标准变频器模块，具有自主知识产权船舶变频器已实现多条实船应用。

Power converters have the type approval and many products approval of CCS, BV and RINA.



船用变频器

Converters for marine application

功率范围：100kW~5000kW



中国船级社形式认可

The type approval of CCS



法国船级社形式认可

The type approval of RINA



意大利船级社形式认可

The type approval of BV

核心产业链

Core supply chain

核心功率模块包括水冷及风冷系列，变频器功率覆盖100kW~5000kW，可满足船舶电力推进、船舶混合动力等不同应用的实际使用要求，覆盖海工、科考、运输等多个领域。

Power converters includes water-cooled and air-cooled series. The inverter power covers 100kW~5000kW, which can meet the practical requirements of different applications such as ship electric propulsion and ship hybrid power, covering many fields such as offshore engineering, scientific research and transportation.



LM4018-AC



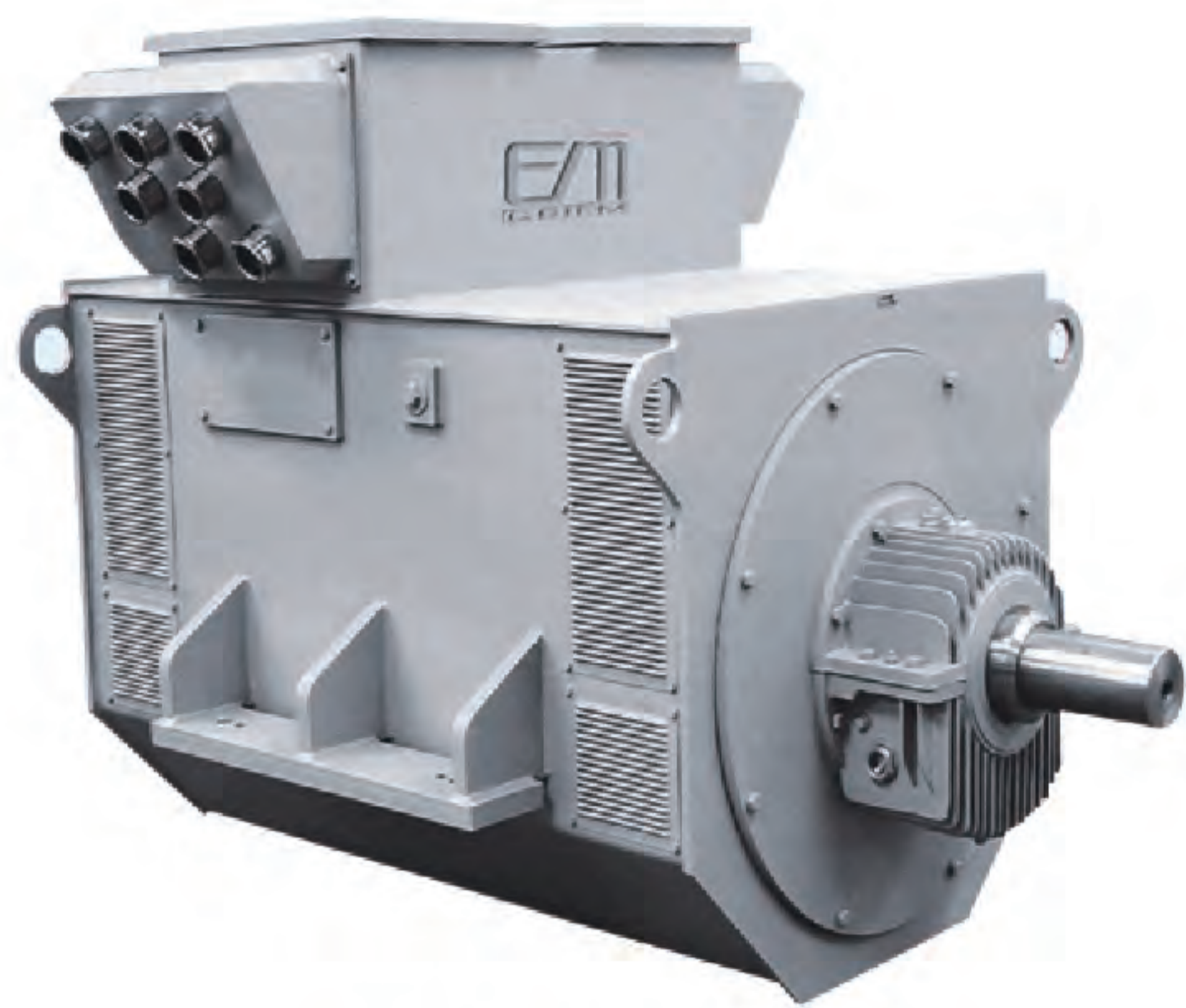
LM4035-AC



LM6081-WC

核心产业链

Core supply chain



船舶发电机

Generators for marine application

功率范围：10kW—8.8MW



船舶电动机

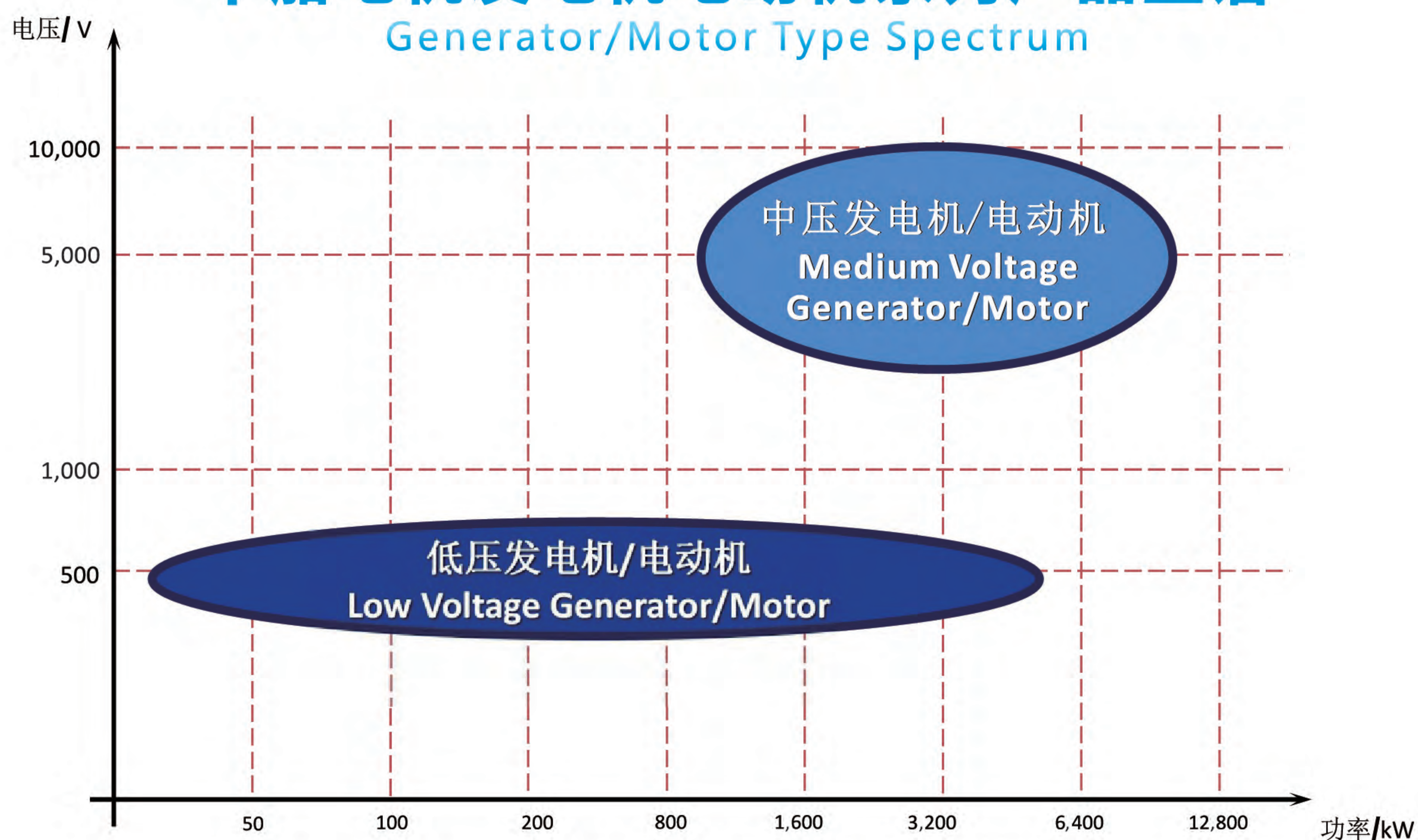
Motors for marine application

功率范围：10kW—12MW

市场占有率领先，装备我国主要军用舰船以及大量高端船舶，具有全球各大船级社认证。
Leading market share in marine electrical machines including generators and propulsion motors.
Generators and motors have products approval by the major marine classification.

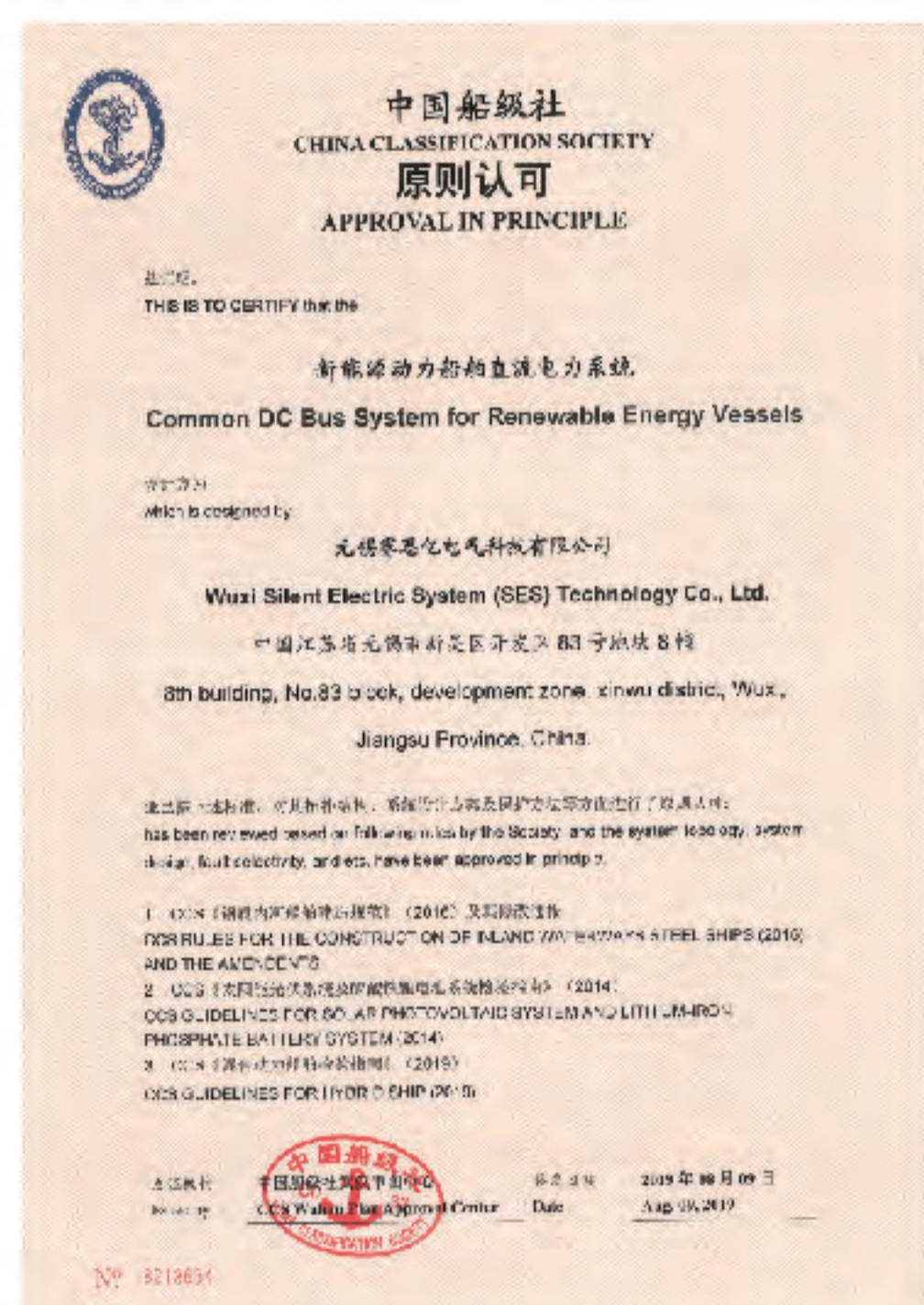
中船电机发电机电动机系列产品型谱

Generator/Motor Type Spectrum

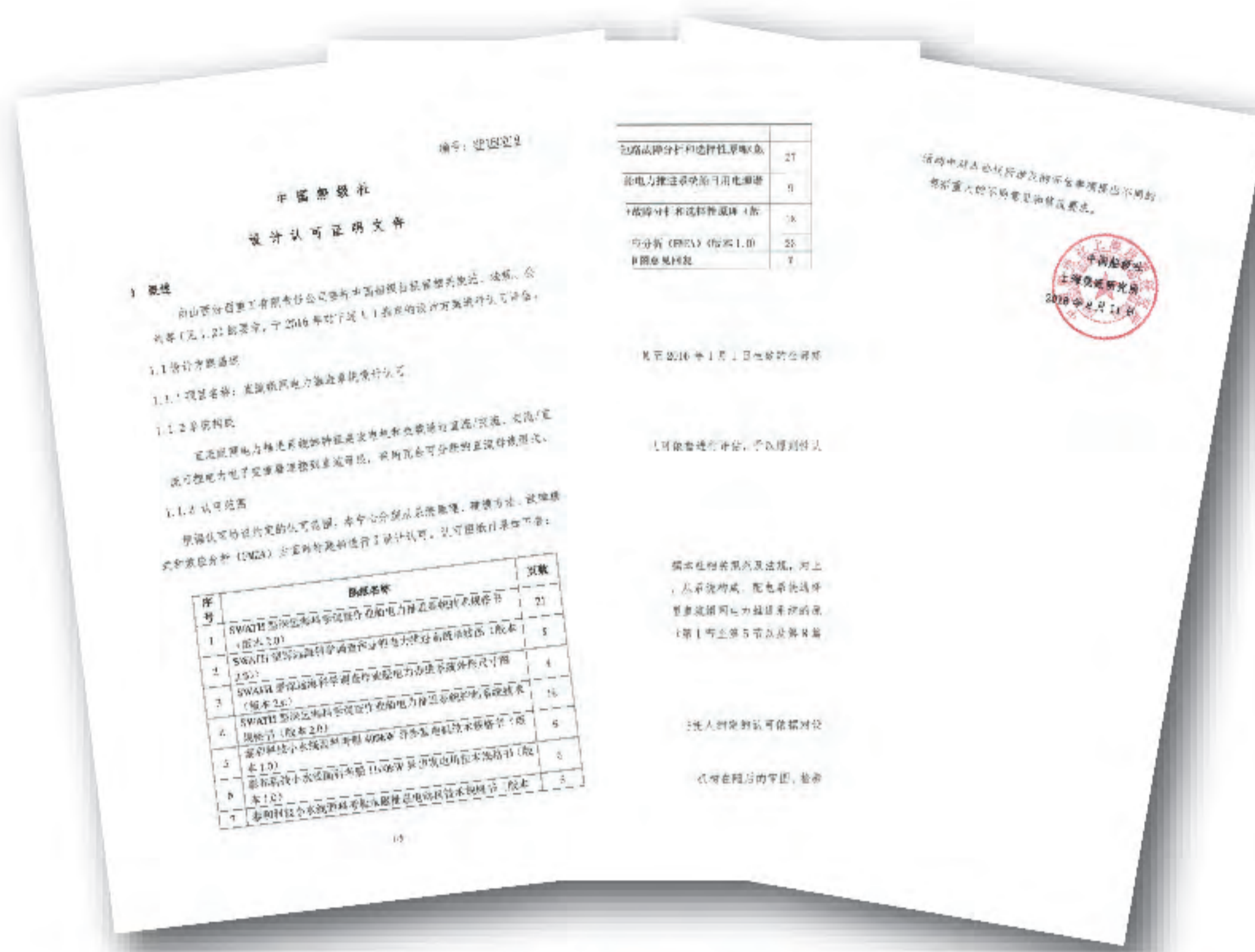


资质介绍

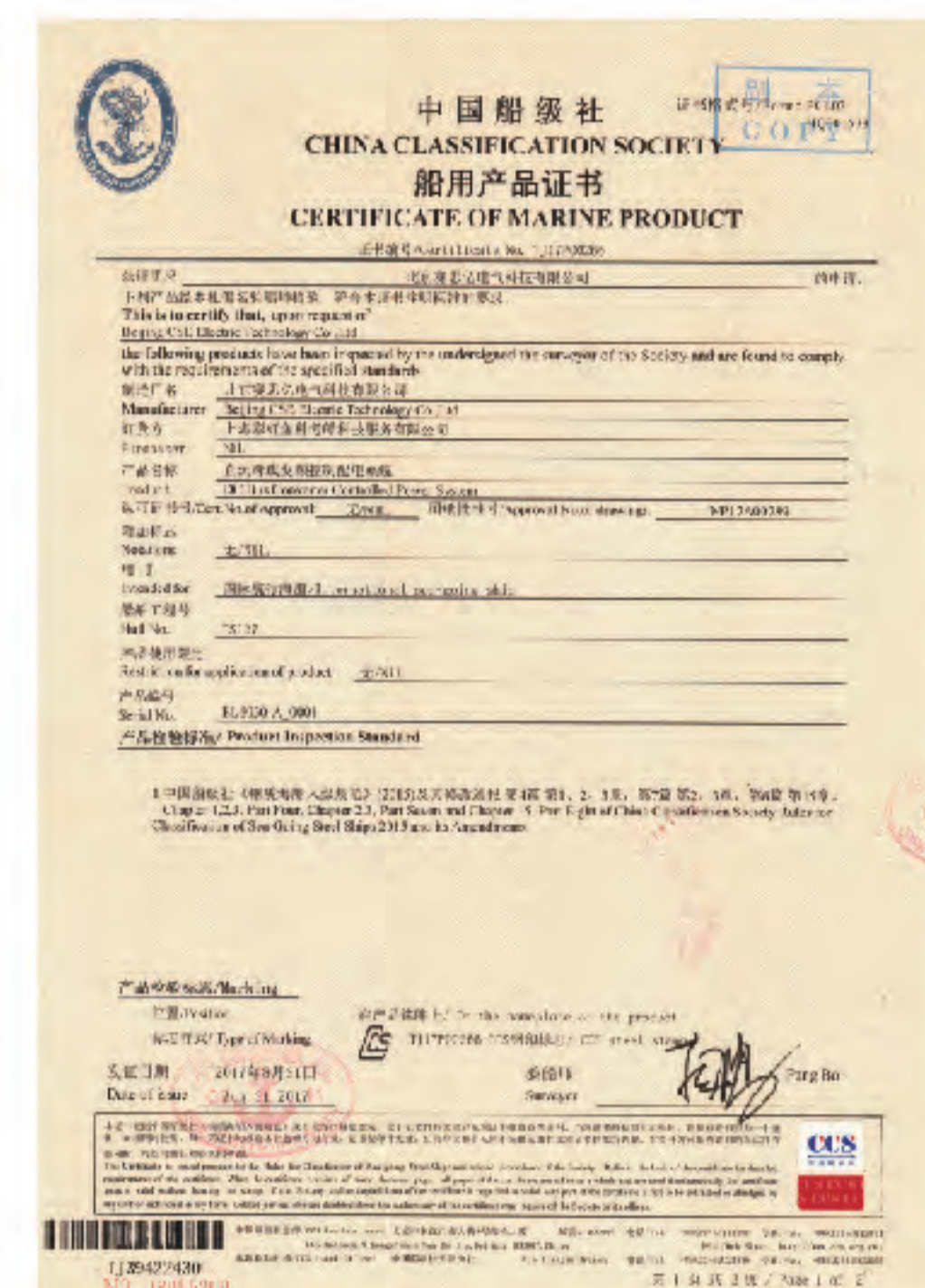
Qualification



中国船级社新能源动力船舶
直流电力系统原则认可



中国船级社直流组网电力推进
系统设计认可证明文件



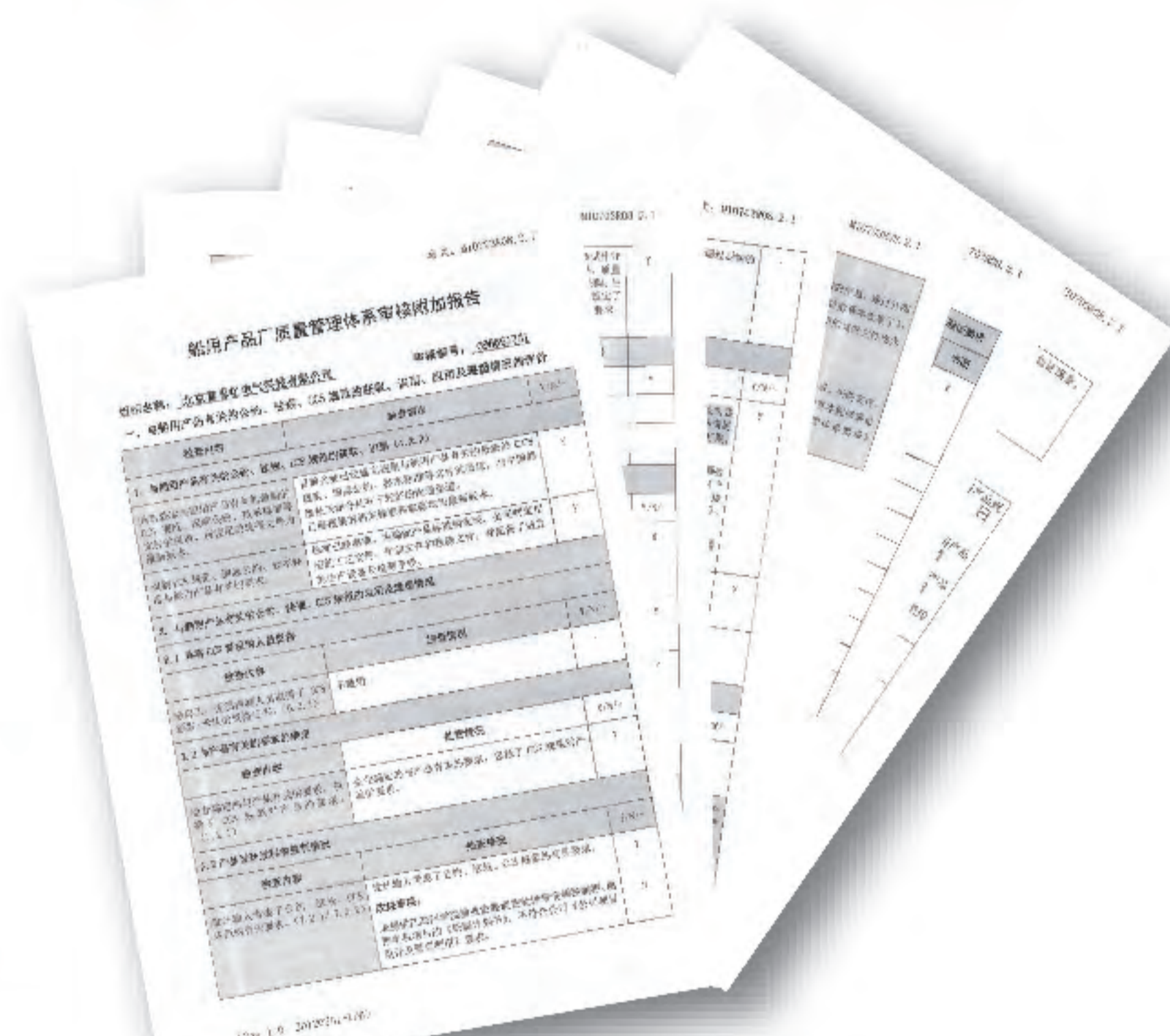
中国船级社直流组网
电力推进系统首船产品证书



中国船级社
质量管理体系证书



中国船级社
船舶变频器型式认可



中国船级社
船用产品厂认可



法国船级社
船用设备工厂认可



发明专利36项



国内外实船产品证书



江苏省无锡市新吴区星洲商务园4栋6层

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