

Offshore Vess & Rig Connections Asia

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The Marina Bay Sands,
Singapore

Trends in China's FPSO Operations & Newbuildings

Bob Li

GM, SeaHow Marine/Offshore Consulting
Editor in Chief, Int'l Ship & Offshore Media

Topics:

1. Overview on China's FPSO operations
2. Possible operators from 3 other types of companies
3. Overview on China's shipbuilding & offshore industry
4. China's FPSO building/converting players
5. What waves of opportunities are making in China
6. What we are doing

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一、中海油FPSO特点与现状

FPSO outline and present situation for CNOOC



中海油海上服役14艘FPSO
CNOOC FPSO Fleet

History of CNOOC FPSOs

Research started in 1974, a 25k dwt FSO “BIN HAI 621” was built in 1980 and abandoned in 1983, had not been deployed in field.

DWT varies from 50kdwt to 300kdwt, operation water depth covers 10+m to 310m.

Key Milestones of CNOOC FPSOs

1974, “BIN HAI 621” FSO,, FPSO research beginning.

1989, “BO HAI YOU YI” FPSO, the first domestic designed CNOOC FPSO.

2009, “HAI YANG SHI YOU 117” FPSO,, the largest FPSO in China (300k dwt).

CNOOC has three major technological innovations for FPSO, which applicable for both Chinese and other areas.

- 1 Shallow water effect for large floater.
2. FPSO Anti sea ice design.
3. Anti strong typhoon design

Future outlook of CNOOC FPSO's

Octagon FDPSO conceptual design

Semi-FDPSO conceptual design

10k DWT FPSO conceptual design

150k DWT FPSO conceptual design

FLNG conceptual design

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1. Portfolio

Jack-ups、drilling ships

Floating crane vessels

Core equipment

2. Entire industry chain

investment

design

mfg

logistics

install

Service

...

Chinese financiers eye global expansion

Financial leasing business booms in China

Banks

Investing companies

Industrial groups

Shipyards

Design companies

Privates

Chinese Leasing Industry in Shipping /Offshore

By the end of 2015, there are about 4,000 leasing companies in China.

The total asset of Chinese leasing industry \$ 615 Billion in 2015.

TOP 5 Shipping Lessors in China

	Shipping Portfolio			
	Assets Value		Vessels	DWT M
	RMB M	USD M		
 工银租赁 ICBC LEASING	50,000	7,692	309	400
 民生金融租赁 MINSHENG FINANCIAL LEASING	27,500	4,231	325	600
 交银租赁 BANK OF COMMUNICATIONS LEASING	19,000	2,923	173	-
招银金融租赁有限公司 CMB Financial Leasing Co.,LTD.	12,300	1,892	130	220
 国银租赁 CDB Leasing	10,100	1,554	45	-



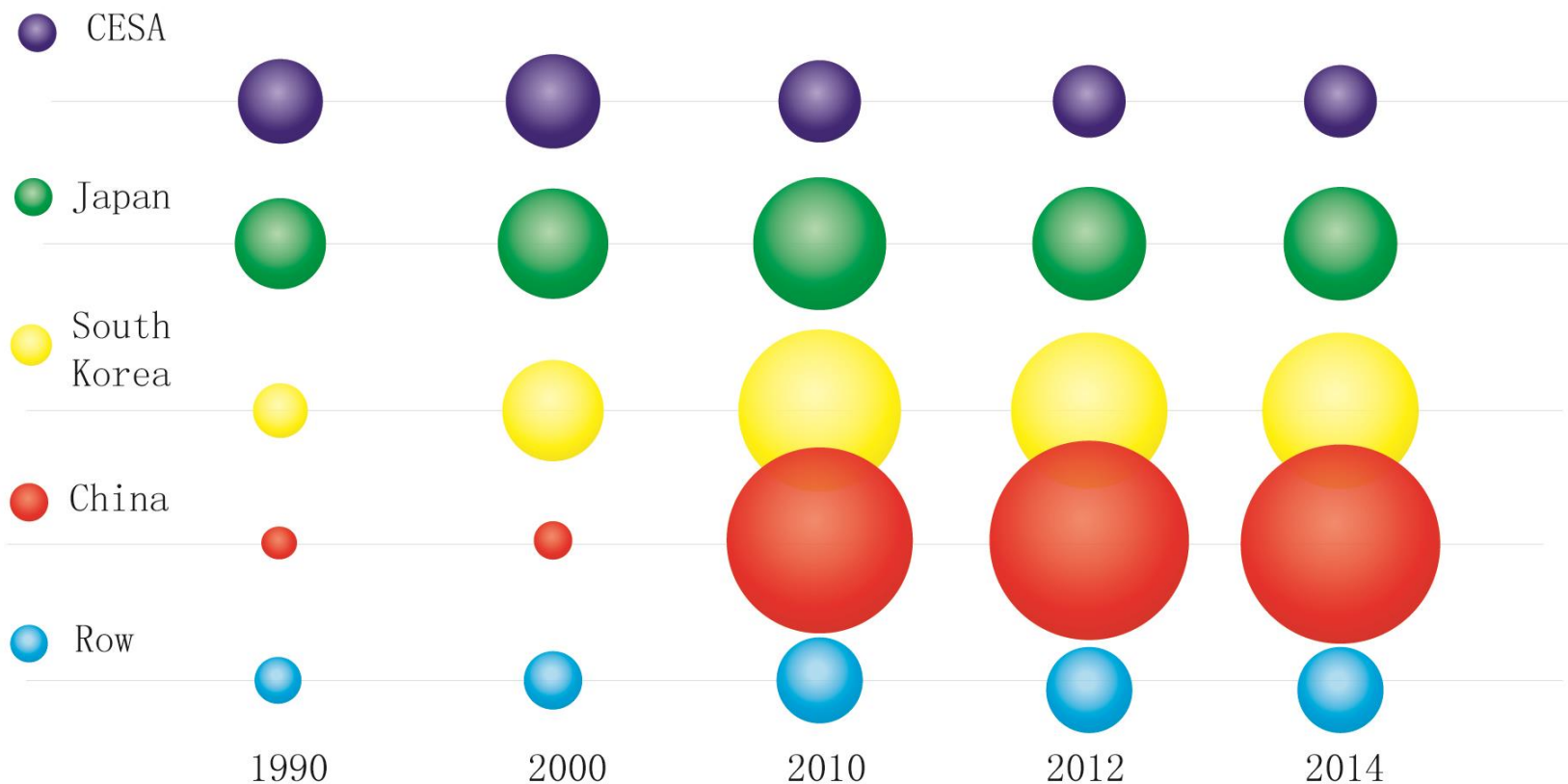
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Global Shipbuilding Capacity by Country and Region

Massive Capacities built up

(Production in CGT)



Sources: CESA & Seahow Consulting

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Line-ups – Main Types of Products 机遇 – 主要海工产品类型

“Big Haigong” –Big Offshore projects

Offshore drilling and production Units 海上钻探和生产活动

• **Semi-submersible** 半潜式钻井平台 • **Jack-ups** 自升式钻井平台 •
FPSO & FSO 浮式生产储存和卸载船与浮式储存和卸载船 • **FLNG** 浮式液化天然气生产储卸装置 • **LNG-FSRU** 浮式液化天然气储存及再气化装置

20+ Chinese builders

“Small Haigong”- –Small Offshore projects

Offshore support vessels 海工辅助船舶

• **AHTS & PSVs** 锚作拖船和平台供应船 • **Geophysical vessels** 物探船 •
Rescue vessel, lift boats etc 打捞船、救生艇 • **Installation and Construction vessels** 安装和施工船 • **Maintenance and Supply vessels** 维护和供应船 • **Crew Transport vessels** 船员运输船

100+ Chinese builders

Challenges :

Few orders;

Tough terms;

Insufficient investments or funding support;

Rising labour costs;

Weak in-house design team;

Shortage of experienced engineers and workers;

Lack of systematic management and HSE concept;

Low production efficiency;

Poor network for international sourcing and sales;

.

The watchdog issued 3 batches of “white lists ” in 2014/15



符合《船舶行业规范条件》企业名单（第一批）（公告 2014年第62号）

【发布时间：2014年09月29日】 【来源：装备工业司】 【字体：大 中 小】

中华人民共和国工业和信息化部

公 告

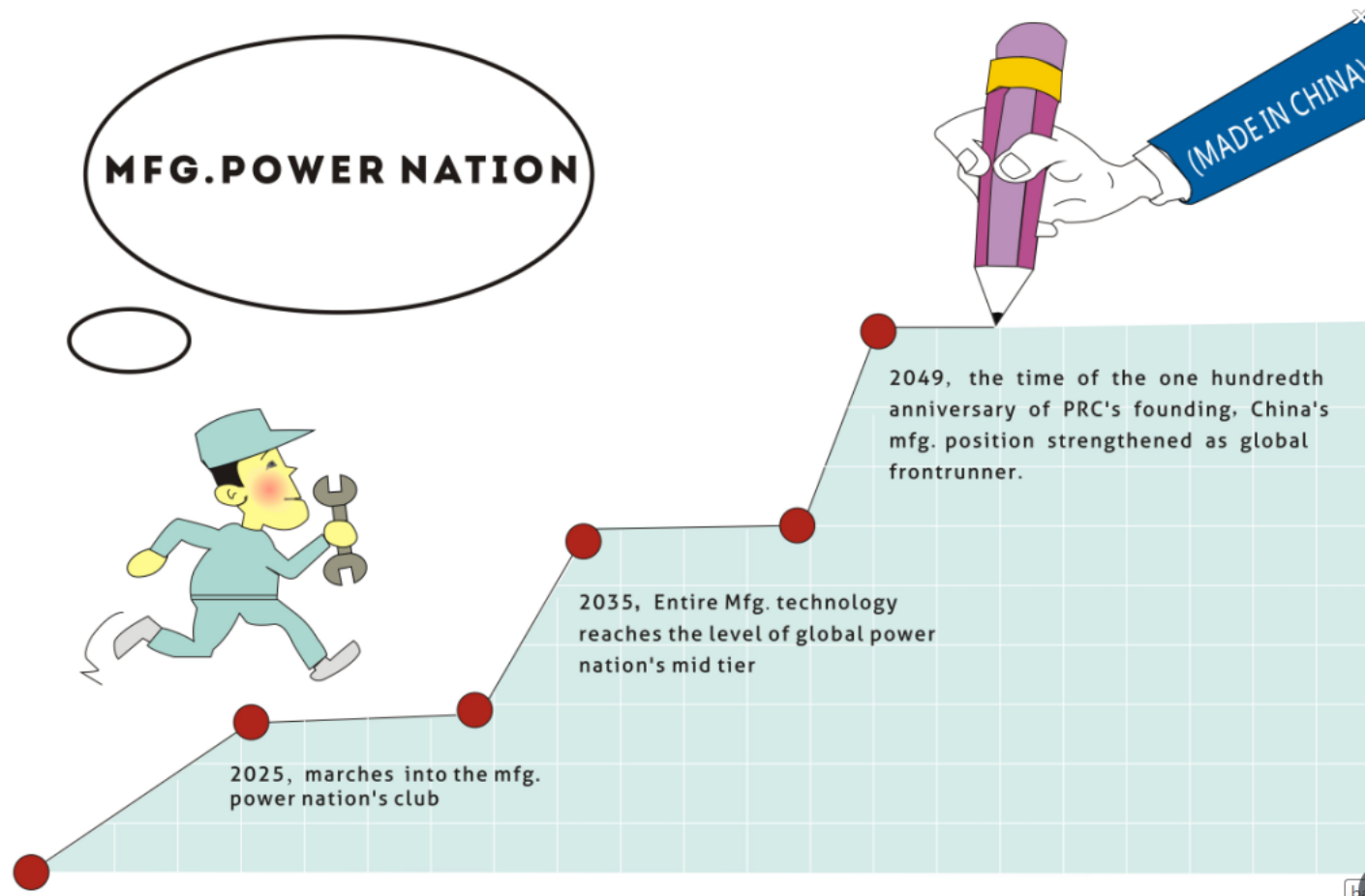
2014年第62号

按照《船舶行业规范条件》，根据企业申报，经省级船舶工业行业主管部门和中央企业集团（公司）初审，中国船舶工业行业协会和中国船级社组织专家评审和现场核查，网上公示和审核等程序，现将符合《船舶行业规范条件》的企业名单（第一批）予以公告。

附件：符合《船舶行业规范条件》企业名单（第一批）.pdf

工业和信息化部

2014年9月28日



China's State Council has unveiled a ten-year national plan, Made in China 2025, designed to transform China from a manufacturing giant into a world manufacturing power.

The plan will be followed by another two plans in order to transform China into a leading manufacturing power by the year 2049, which marks the 100th anniversary of the founding of the People's Republic of China

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Growing Together –Lighthouse Projects 中国造船及海工行业共同发展 – 里程碑项目



‘Offshore Oil 981’ CN00C ‘海洋石油981’ 中石油

Shanghai Waigaoqiao Shipbuilding 上海外高桥船厂

3,000-meter-deep water drilling rig
深水钻井平台，第六代超深水半潜式钻井设备



‘LNG ’ CLNG ‘天然液化气船’ 中国液化天然气

Hudong-Zhonghua Shipbuilding 沪东中华船厂

Hudong is becoming worldwide LNG carriers building base 我们的客
户沪东船厂正在成为世界天然液化气船建造基地

Western Isles Development Project (WIDP) – SEVAN 400 Based FPSO Unit



Exmar – Caribbean FLNG Project

M L P C O

First operational FLNG worldwide-to-be

Client: Exmar Marine NV (for Pacific Rubiales Energy)

System: Floating LNG Liquefaction, Regasification and Storage Unit

Location: Tulu Coast, Colombia

Contract Awarded: April, 2012

Work Scope: Engineering, procurement, construction, transportation, installation and commissioning and start-up







Topics:

5. What waves of opportunities are making in China

5400MT!

UPPER HULL OF SEMI-SUBMERSIBLE RIG



KOREX SPB NO.1 OWNED BY CJ SMART CARGO 由 CJ 思锐物流 代理 KOREX SPB NO.1 自卸甲板驳船

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5400吨半潜式海上平台

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海工能源装备
OFFSHORE & ENERGY ENGINEERING
上海市虹口区杨树浦路248号上海南丰国际大厦27F
27F, Shanghai Ruiteng International Tower, No. 248,
Yangshupu Road, Hongkou District, Shanghai, 200082, China.
Mail: epc@cjsmartcargo.com

青岛市城阳区海尔路61号天安国际商务中心18楼
18F, Tianbao International Ginza,
61# Haier Road, Qingdao 266101, China.
Mail: epc@cjsmartcargo.com

EPC 工程物流
EPC ENGINEERING
Mail: epc@cjsmartcargo.com
租船中心
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海工物流的海运设计 (2)

- 根据货物特点选择合适船型：
重心高度，要求稳性，甲板强度
- 装卸码头情况调查：吃水，
码头高度，允许靠泊能力，
吊装能力，潮汐情况
- 积载和绑扎加固方案设计
- 航线设计
- 应急方案



Equipments	Name	Quantity	Capacity	Remark
SELF PROPELLED WIDE	SPB No. 1	1	15,220 DWT	L : 152.50m x B : 40.00m x D : 9.00m
DECK CARRIER	SPB No. 2	1	15,220 DWT	L : 152.50m x B : 40.00m x D : 9.00m
Sub Total		2		
TUG BOAT	KOREX CHAMP	1	3,600PS	L : 152.50m x B : 40.00m x D : 9.00m
	TONGUN NO. 5	1	1,200PS	L : 152.50m x B : 40.00m x D : 9.00m
Sub Total		2		
BARGE	KOREX 5001	1	3,000 DWT	L : 65.25m x B : 18.00m x D : 4.00m
	KOREX CHAMP-B	1	6,000 DWT	L : 79.40m x B : 25.00m x D : 5.00m
	KOREX 20001	1	12,000 DWT	L : 92.50m x B : 36.00m x D : 5.80m
	KOREX 20002	1	12,000 DWT	L : 92.50m x B : 36.00m x D : 5.80m
Sub Total		4		

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September 2013 -- The Silk Road Economic Belt concept was introduced by Chinese President Xi Jinping during his visit to Kazakhstan. In a speech delivered at Nazarbayev University, Xi suggested that China and Central Asia cooperate to build a Silk Road Economic Belt. It was the first time the Chinese leadership mentioned the strategic vision.

March 28, 2015 -- The National Development and Reform Commission, Ministry of Foreign Affairs and Ministry of Commerce jointly released an action plan on the principles, framework, and cooperation priorities and mechanisms in the Belt and Road Initiative after President Xi Jinping highlighted the strategy the same day while addressing the opening ceremony of the 2015 annual conference of the Boao Forum for Asia (BFA) in the coastal town of China's southernmost island province of Hainan.

China's Globalization

Nation's 13th Five-Year Plan (2016-2020).

China has drafted five-year plans since 1953 to map strategies for overall economic and social development, setting growth targets and defining development policies.

Major industry targets:

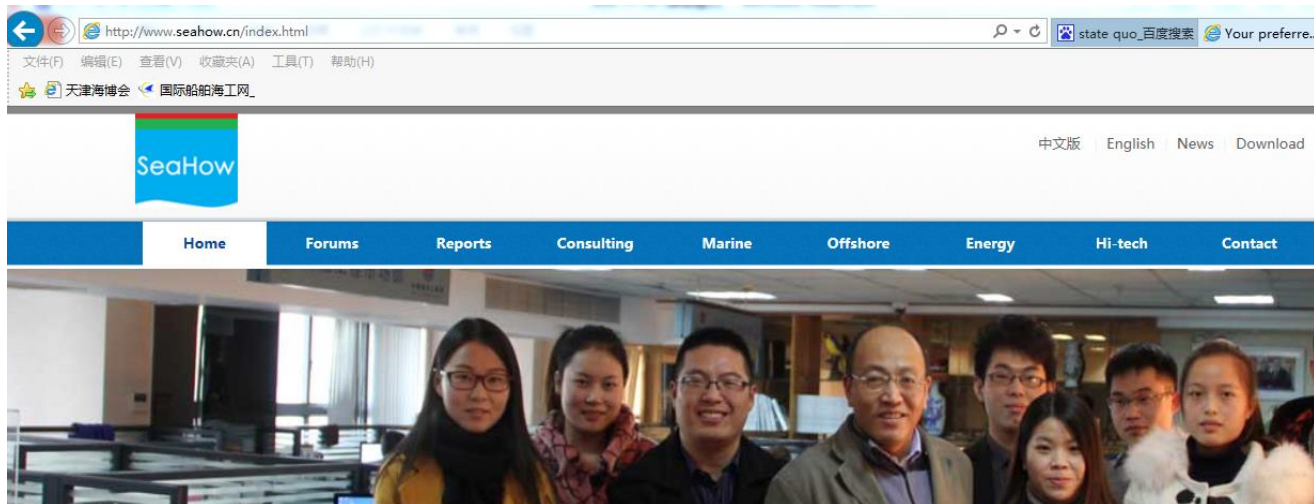
Shipbuilding output 40-50% in global market share

High end sector 30-35%

Key supply localization 30%

Topics:

6. What we are doing



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Industry Analysis 行业分析
Market Survey 市场调查
Media Coverage 媒体报道
Event Organization 论坛组织
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2013 Report on China's Shipbuilding and Offshore Industries:

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2013 CHINA OFFSHORE INDUSTRY RESEARCH REPORT 中国海洋工程行业研究报告

2013





Report on 2015-2016
China's Shipbuilding and Offshore Industries:
What waves of opportunity are making ?



Presented by SeaHow Consulting and Int'l Ship & Offshore Media in Shanghai



中国和全球造船工业发展
2015-2016研究报告

Report on China & Global Shipbuilding Industries 2015-16



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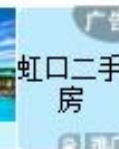
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Theme: Better understanding & developing 13th Five Year Plan's opportunities of National Ocean Development Strategy

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Thank you for your attention.

Contact:

Bob Li 李保坤

Email: bob.li@seahow.cn or shlbk@vip.sina.com

Cell Phone: +86 13916102625

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