

CIMC RAFFLES

CIMC Raffles Presentation



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03 Main Business Sectors

CIMC Raffles Overview

Corporate Structure

CIMC Group 8 Industry sector

Airport Facilities	Offshore	Transportation Vehicles	Module Building
Energy& Chemical	Containers	Logistics	Finance



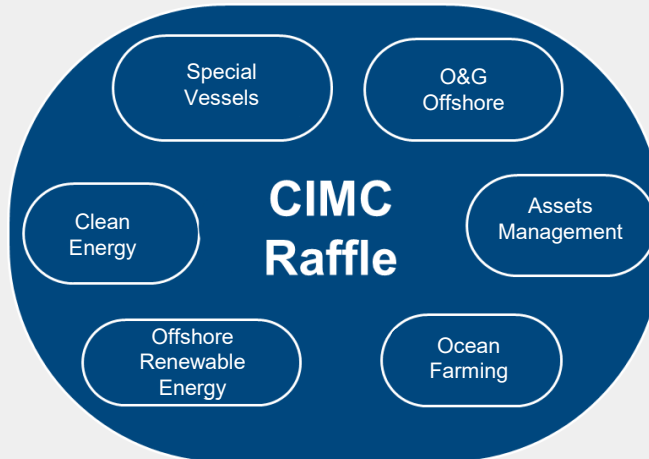
Company Overview

- CIMC Group 83.3% Yantai Government 16.7%

5 Offshore Engineering Center

3 Construction Base

6 Core Business Divisions



Capability and Products

Offshore Engineering

- Five engineering centers-Yantai, Shanghai, Shenzhen, Goteborg(Sweden), Brevik (Norway)
- Engineering team: > **1100 engineers**
- Provide creative offshore integration turn-key solution

Construction

- 3 Yards all in Yantai:** Yantai, Longkou, Haiyang
- Total area **1,700,000 m² (1,414,000+290,000)**
- 20,000 tons** gantry crane
- 18m** deep wharf
- 15 large projects can be carried out simultaneously
- Max manpower: **18,000** workers

Products and Services

- Drilling rig, Production unit & Module, Special Vessels, RORO, Ocean Aquaculture/Fish Farming, Marine tourism, Repair & Conversion ...

Headquarter of CIMC Raffles



5 Institute, 3 Fabrication base, 5 Overseas office

Engineering Capability – Synergy Between China and Europe

5 Engineering Center

1169 Engineers - Basic and Detail Engineer: 315; Production and Site Support Engineer: 854.

Synergy Between China And Europe

Full Life Cycle Design capability, Concept/FEED/Basic/Detail/Production Design, On-site technical support



Offshore Engineering Institute



Shanghai Engineering Center



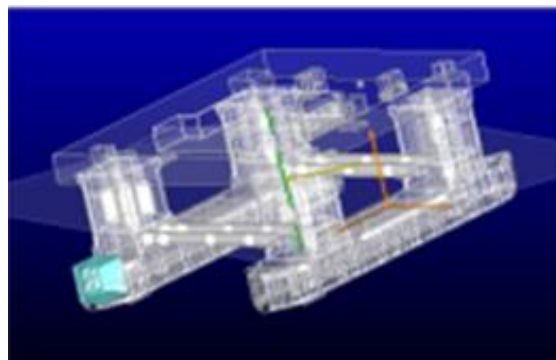
National Engineering Laboratory



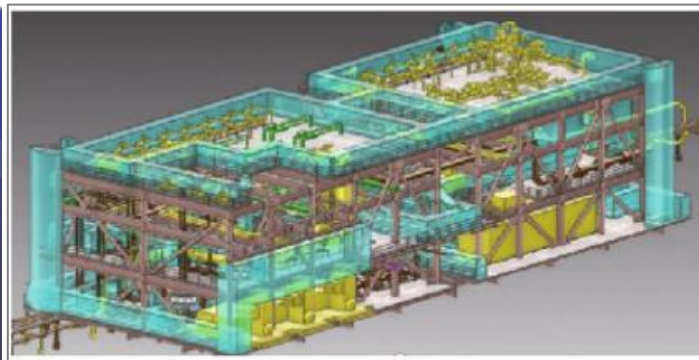
Sweden Basso Technology



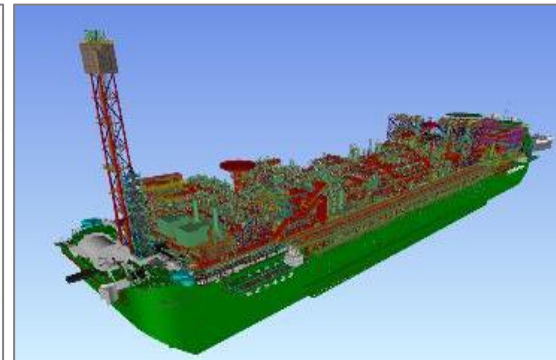
Norway Brevik Engineering



Basic Design



3D Module



Detail design



Production design

Construction Base

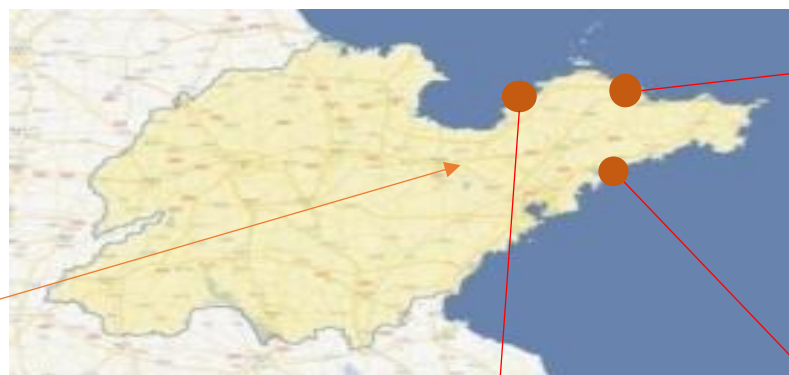
3 Construction Base

CIMC Raffles located in Yantai City, which nearby Beijing、Shanghai and Seoul;

3 Construction yards are located in Yantai City, Haiyang City and Longkou City;

Yard construction area is total of **1,414,00 m²**, with **4,538** meters of wharf, **380m x 115m x 14m** dry dock, **20,000** tons gantry crane, two semi-submersible barges and other facilities;

The annual steel structure construction capacity is **275,960**(offshore)/**330,960**(marine)tones/year. It has more than **4,000** professional person for construction management.



Yantai Base

Oil & Gas Offshore Construction & Assembly

- Area : 522,800m², and rented 200,000m²
- Quay Length: 3369 m
- Quay Depth: -18 m
- Crane: 20000T "Taisun" Crane, 1,300T Revolving Crane, 370T 、 300T Gantry Cranes
- Main Dry Dock: 380m x 115m x 14m



Haiyang Base

Oil&Gas Modules, Offshore Wind

- Area: 480,500m²
- Quay Length: 446m
- Crane: 700T、400T、250T gantry cranes



Longkou Base

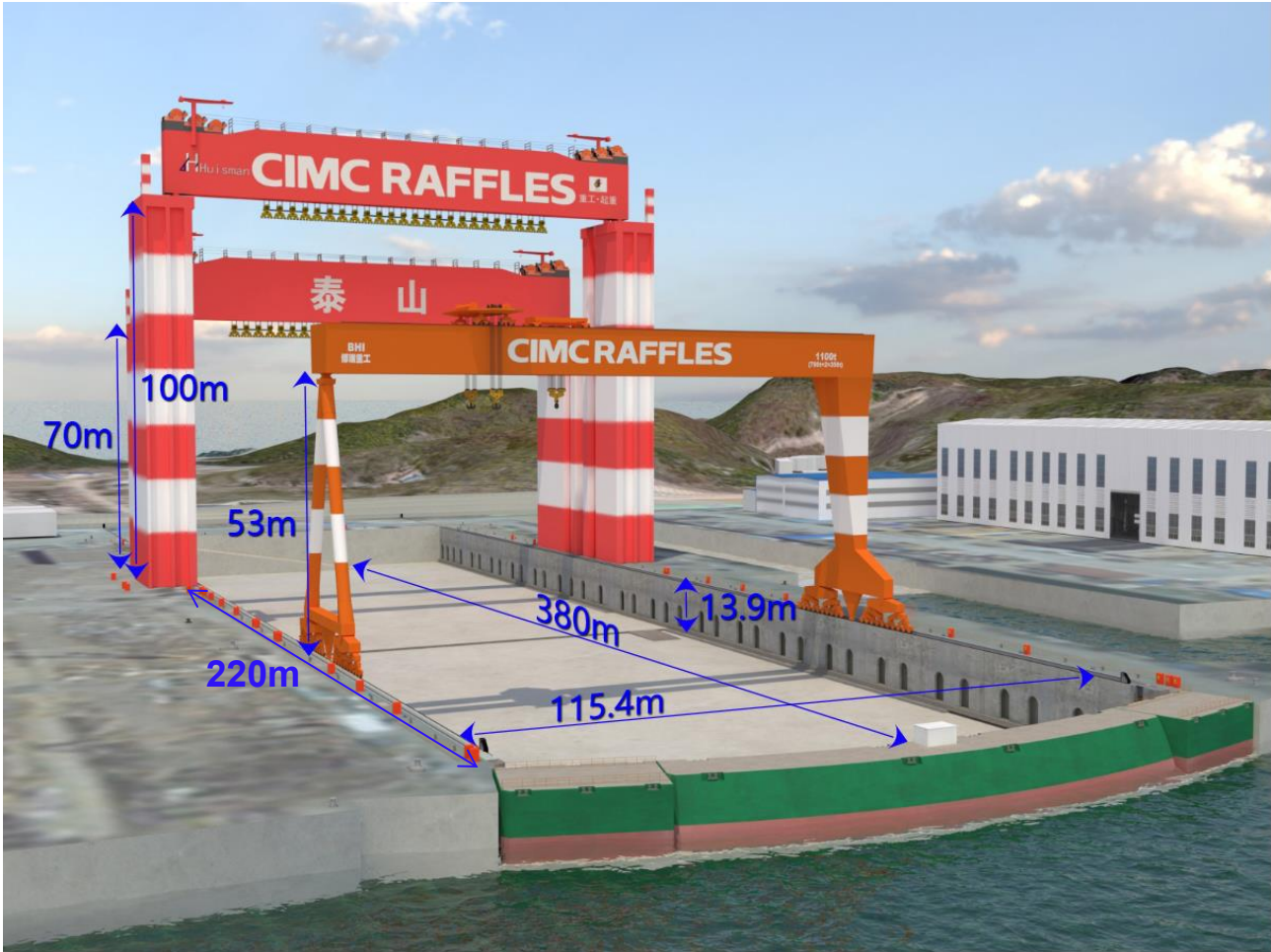
RORO, PCC&PCTC, Ocean farm



- Area: : 410,700m², and rented 90,000m²
- Quay Length: 723m
- Crane: 600T 、 , 250T gantry cranes

Dry Dock with Taisun Crane 20,000T

- Main purpose : Module & interface structure erection



Item	Dimensions L*W*H	Water depth
Dock	380m*115m*14m	9.4m

Item	Lifting Weight	Lifting Height	Span
Taisun Crane	20,000T	113m	120m

Item	Lifting Weight	Lifting Height	Span
Crane	1100T	66m	115m

Dry dock can provide 1500KW power supply, 172m³/h fresh water, 6.5 Bar compress air, Oxygen, carbon dioxide, etc.



Barge Name	Dimension (L*B*D)	Launching Capacity
TAIRUI	111m*79m*9m	25000 t
DEFU 2#	111m*67m*8m	25000 t

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What We Do Overview

CIMC Raffles has accumulated rich experience in offshore engineering technology and performance, and is a global mainstream supplier of drilling platforms and production platforms.

Drilling Rig



Production Unit



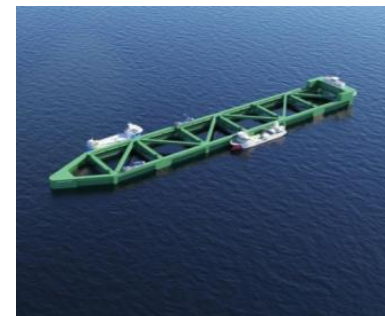
Special Vessel



Offshore Wind



Ocean Farming



Ocean Tourist



Track Records

O&G Offshore



Semi-sub Rig (12 sets))

- Semi-sub Drilling Rig 12 sets

Jack-up Rig (17sets)

- 300ft Series(13 sets)
- 400ft Series(4 Sets)

FPSO/FPU/FSO (15 sets)

- FPSO(11 sets,4 Under Construction)
- FPU(1 Under Construction)
- FSO (2 Sets)
- FPU Hull and Mating(1 set)

LNG(1 set)

- FLNG(1 set Under Construction)

MOPU (3 sets)

- HYSY 162 EPC
- HYSY 165 EPC
- Pemex Gas Plant

Special Vessel



Construction Vessel (11 sets)

- Pipe lay Vessel (2 ships)
- Semi-sub Accommodation Lifting Vessel(3 sets)
- Accommodation Barge(2 ships)
- Semi-sub Heavy lifting Vessel(2 ships)
- Stone Dumping Vessel(1 ship)
- Subsea Rock Installation Vessel (SRIV) 1 ship under construction

RORO Vessel (25 sets)

- RORO Vessel(6 ships,2 under construction)
- PCTC /PCC Vessel(19 ships,6 under construction)

Other Special Vessel (22 sets)

- Yacht Carrier(2 ships)
- OSV (11 ships)
- Super Yacht(5 ships)
- Ferry(4 ships)

Offshore Wind



Turbine Installation Vessel (7 sets)

- Dejian WTIV (1200tons)
- 3060 series WTIV (2200tons)
- Van Oord WTIV (3000 tons)
- Havfram WTIV(2sets,3000 tons, Under Construction)
- CRCC WTIV(2000 tons)
- Hua xia WTIV (1500tons)

HVAC Substation (7 sets)

- 500MW HVAC (3 sets)
- 400MW HVAC (3 sets)
- 300MW HVAC (1 set)

HVDC Substation (1 set)

- Qingzhou 5、7 HVDC Substation

Jacket Foundation (65 sets)

- Jacket (65 sets)

Ocean Farming



Ocean Farming Cage (11 sets)

- Jinghai Series (8 sets)
- Changjing No.1 Cage
- Genghai No.1 Cage
- Guobao No.1 Cage

Ocean Farming Vessel (1 set)

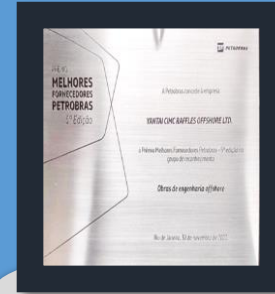
- Nordlaks (1 set)

Ocean Farming Platform (25 sets)

- Jackup Platform(24 sets)
- Semi-submersible Platform(1 set)

Commendations of Achievement

12 pcs National Award
7 pcs provincial Award
24 pcs commendatory letter
270 pcs patents



Our Customers & Partners

CIMC RAFFLES

 中国石化			 PETROBRAS				 Woodside Energy
 POR EL RESCATE DE LA SOBERANÍA		 a bp and Eni company					
Golar LNG 			 海洋石油工程股份有限公司	 中海油能源发展股份有限公司			
	 NORWEGIAN CRUISE SHIPS AS					 国家电投	 三峡新能源
 中国华能 CHINA HUANENG	 中广核	 国家能源集团 CHN ENERGY		 山东能源集团 SHANDONG ENERGY GROUP	 中国能建 ENERGY CHINA	 中国电建	 中国铁建
 山东海洋集团有限公司 SHANDONG MARINE GROUP LTD.	 博强重工 BOQIANG	 华夏金融租赁有限公司 HUAXIA FINANCIAL LEASING CO., LTD.		 工银租赁	 中国信保		
						 KONGSBERG	
 BLACK & VEATCH	 WARTSILÄ	 中船动力(集团)有限公司 CSSC POWER GROUP CORPORATION LIMITED		 1924 OCEAN UNIVERSITY OF CHINA	 1928 TSINGHUA UNIVERSITY	 1108 SHANGHAI JIAO TONG UNIVERSITY	 1949 DALIAN UNIVERSITY OF TECHNOLOGY

Oil & Gas

Vessel

Clean Energy

Class

Financing Institution
&
Vender

Technical Cooperation

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O&G Offshore



Clean Energy



Ocean Farming



Smart City

Drilling Rigs – Global Leading EPC Capability on Semi-sub

North Sea Series



Norsok

4 UNITS

Ice Class Series



Norsok

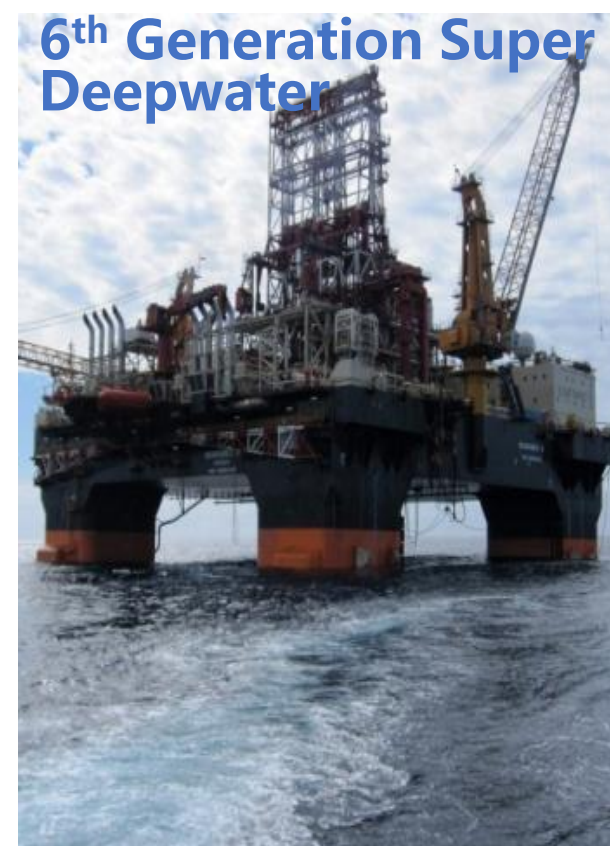
3 UNITS

7th Generation Super Deepwater

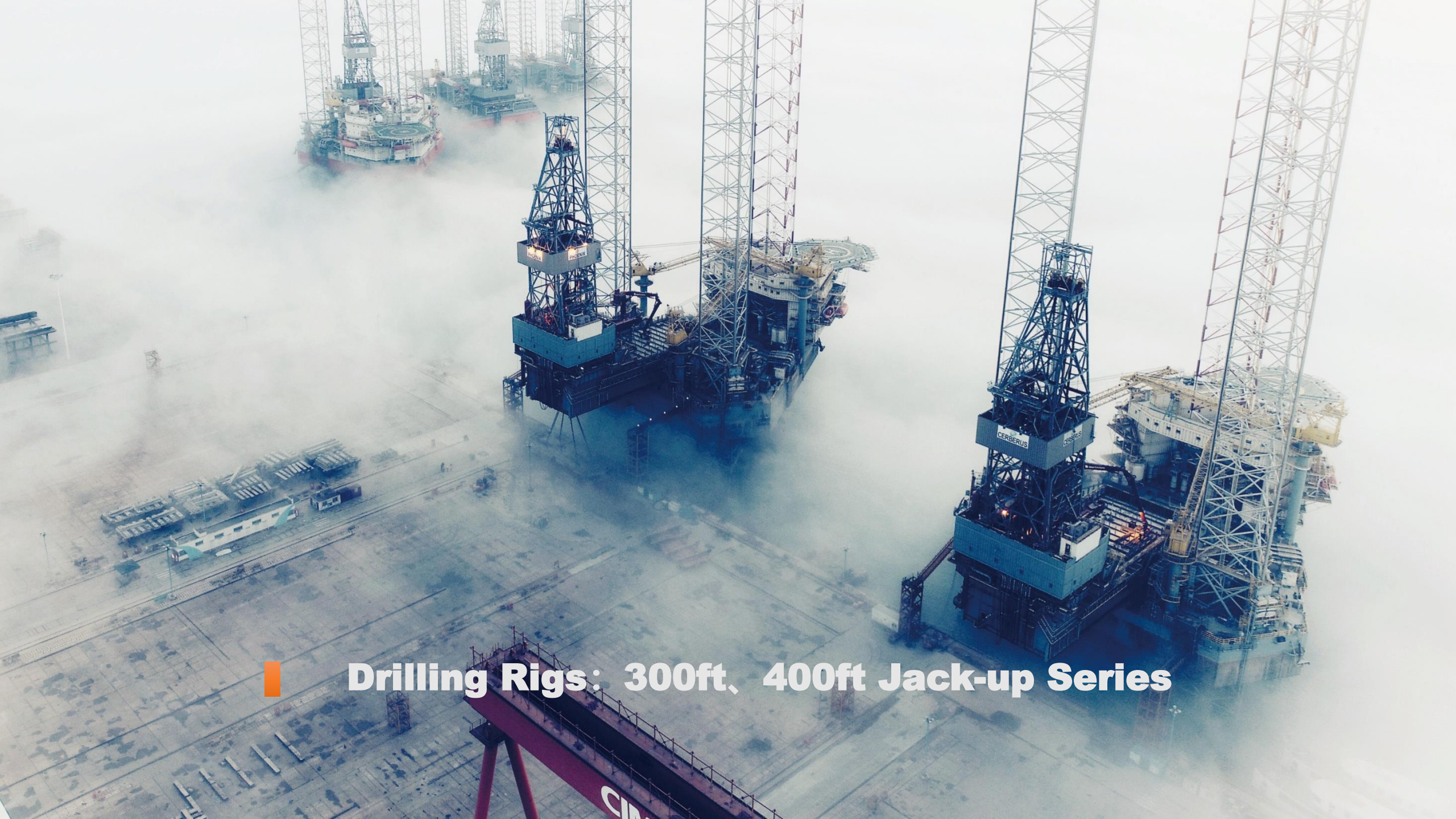


2 UNITS

6th Generation Super Deepwater



1 UNIT



Drilling Rigs: 300ft、400ft Jack-up Series

Production Unit - FPSO

Petrobras P71 FPSO Hull



P80/83 FPSO Hull



Petrobras P78 FPSO Hull & LQ



Sevan SSP
FPSO Hull (3)



Mero 3 FPSO



Shell Penguin FPSO



Production Unit - FPSO

迄今为止

单体最大、规模最大的EPC项目 - P84&P85

The largest EPC project on a single scale FPSO - P84&P85

主参数 Main Particulars:

总长 Length **345.3米**

型宽 Breadth **64.8米**

型深 Depth **31.5米**

日处理能力 Daily Capacity **225,000桶**

储存能力 Storage Capacity **2,500,000桶**

P-84 & P-85项目是继P-71、P-78、P-80、P-83项目之后，中集来福士参与建造的又两座巴西国家石油公司FPSO(浮式生产储油卸油装置)项目，是目前中集来福士承接的单体最大、规模最大的EPC项目，也是目前国内船厂承接最大的FPSO项目。P-84将服务于巴西ATAPU油田，P-85将服务于巴西SÉPIA油田。

P-84 & P-85 projects are another Petrobras FPSO that CIMC Raffles has built in following P-71、P-78、P-80、P-83, which are the largest single EPC projects awarded by CIMC Raffles at present, and also the largest FPSO undertaken by domestic shipyards, P-84 will operate in the ATAPU Field of Brazil, P-85 will operate in SÉPIA field of Brazil.



Production Unit - FPU

Congo FPU



Lingshui Hull and Mating



Production Unit - MOPU

HYSY 165



HYSY 162



Pemex Gas Plant



Production Unit - FLNG

Golar FLNG

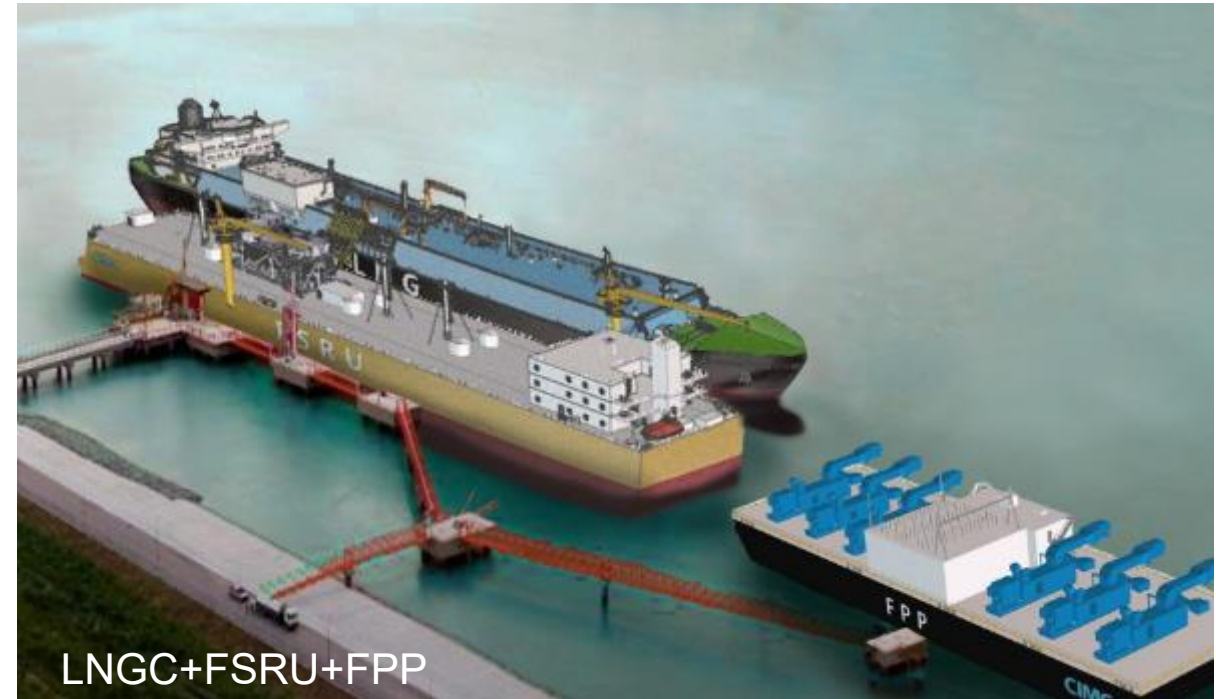


FSRU/FPP UNITs- Innovation

- 2016: 24000m³ FSRU AIP by ABS&BV
- 2018: 26000m³ LNG FSRU AIP by BV
- 2018: 60MW/13000m³ FSRP by BV
- 2018: 140 MW Gas Engine FPP
- 2022: Type-C Tank FLNG Design

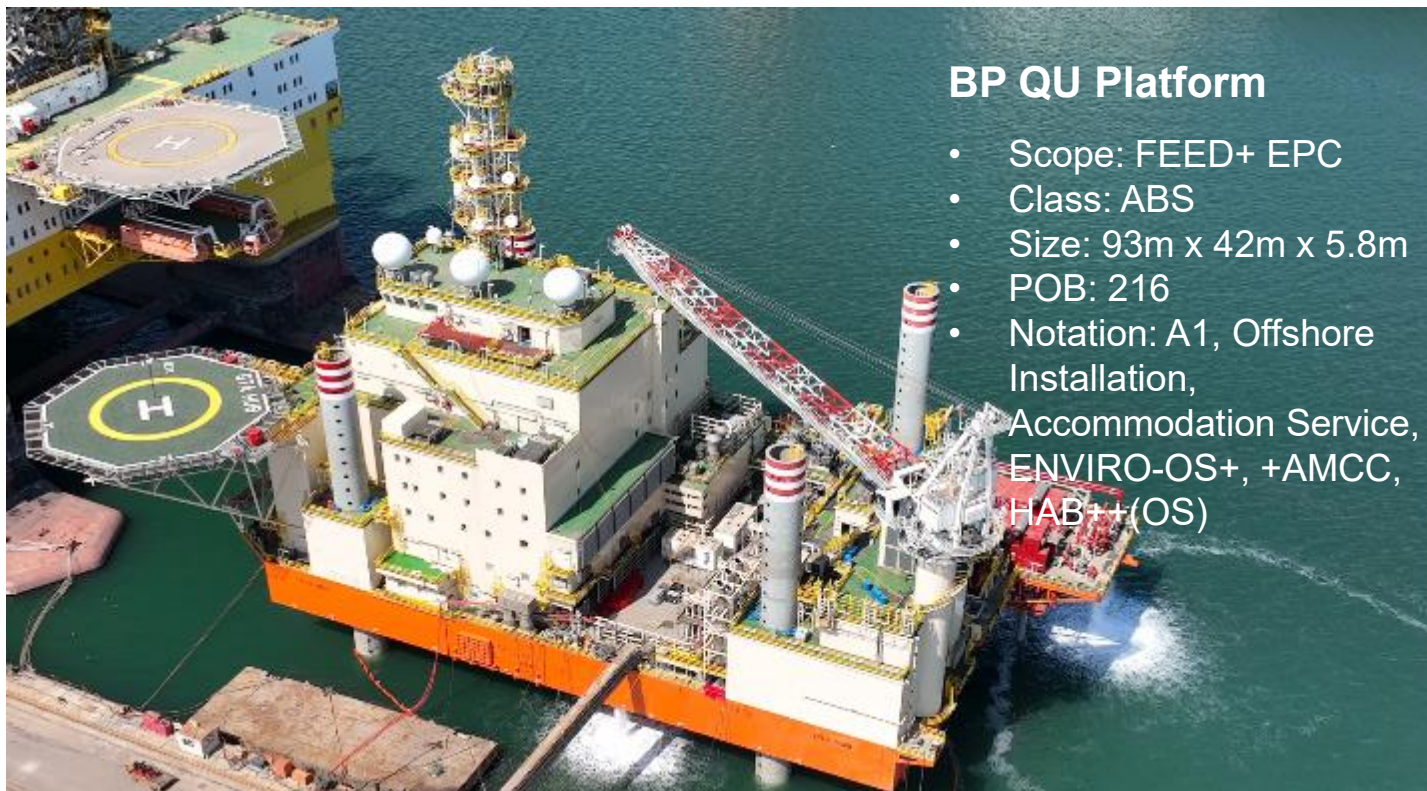


26000m³ FSRU



LNGC+FSRU+FPP

High-End Special Vessels



BP QU Platform

- Scope: FEED+ EPC
- Class: ABS
- Size: 93m x 42m x 5.8m
- POB: 216
- Notation: A1, Offshore Installation, Accommodation Service, ENVIRO-OS+, +AMCC, HAB++(OS)



VanOord Stone Dumping Vessel



SSCV



Y-type Yacht Carrier



Ultra Deep-water PLV



SSAV

RORO Vessel

PCC/PCTC RORO Vessel



Wallenius 5,800 LM series MegaRoRo vessel



7000 CEU PCTC



Wallenius 6500 CEU PCC



2,700LM RORO



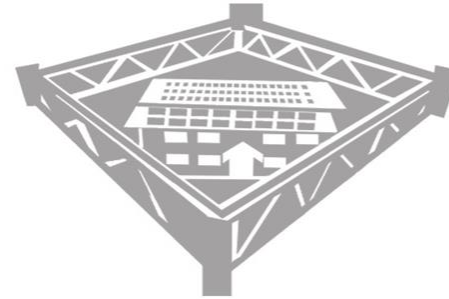
3,300LM RORO



O&G Offshore



Clean Energy



Ocean Farming



Smart City

Offshore Wind Equipment

Successfully Installation 1st Offshore Wind Turbine In Shandong

Yantai "Dejian" 2021



- Lifting: 1200 t
- Deck Area: 2800m²

CIMC Raffles 100% independent design 20MW WTIV

3060 Series WTIV



- Lifting: 2200t
- Deck Area: 4800m²

Huaxia Economy WTIV with Zhenhua Crane

Huaxia WTIV
(Under Construction)



- Lifting: 1500t
- Deck Area : 4600m²

Offshore Wind Equipment

The Latest Battery Hybrid Drive Train Technology Designed



- Lifting: 3000 t
- Deck Area: 5800m²

Green Methanol Powered 20MW WTIV



- Lifting: 3000t
- Deck Area : 7000m²

CRCC WTIV



- Lifting: 2000t
- Deck Area: 5000m²

O&G Platform Used in Offshore Wind



Service Operation Vessel (SOV) -Innovation



- Diameter: 70.50*17.00*7.10m
- Draft:4.7 m
- Accommodation: 60 POB
- Dynamic Positioning: DP2
- Max sustainable days: 30d
- Hybrid battery propulsion and prepared for methanol fuel

Power substations and Jackets Foundation fabrication

Haiyang Base is the largest jacket construction base in North China, Annual Production Capacity: 108sets or 150,000 t per year.



HVAC/HVDC Substation Design

Traditional

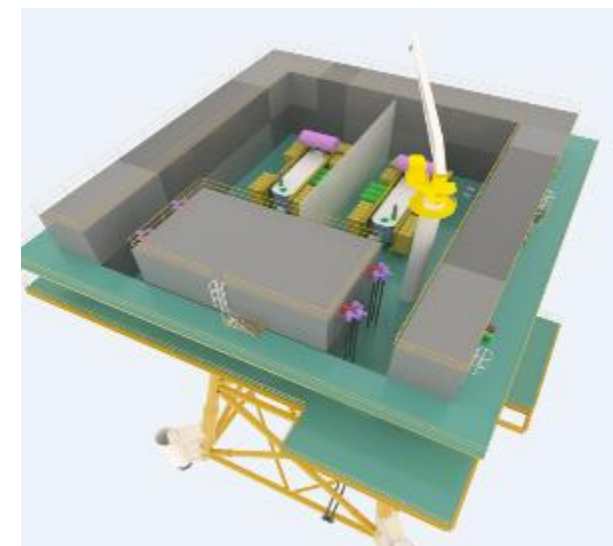


Delivered
300-500MW HVAC

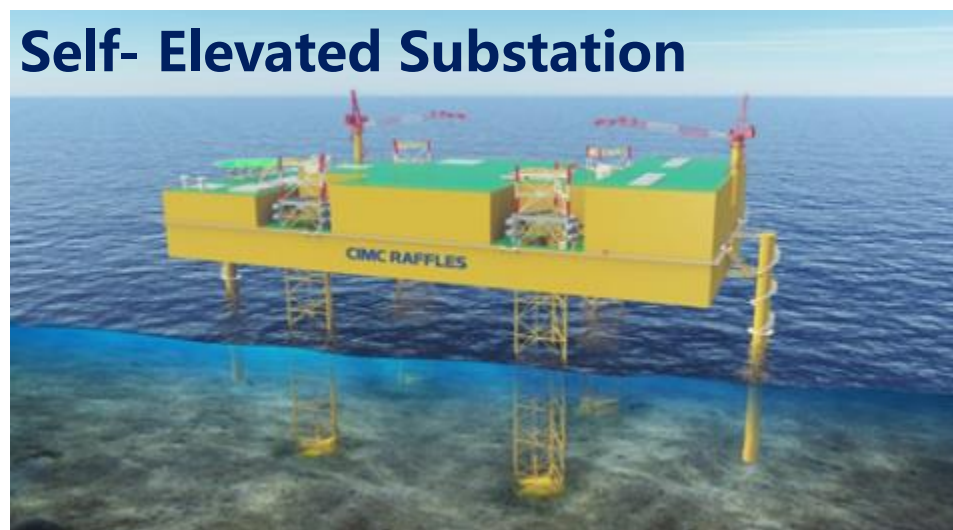
Innovation

Modularize HVAC Substation

- Weight - 20%
- Delivery time - 25%
- Cost -10%



Self- Elevated Substation



Offshore Wind: Sino-Europe Floating Wind Turbine Design



Lilla Bommen 2
404 23 Gothenburg, Sweden
Phone: +46 31 855 800
www.basstech.se
mail@basstech.se

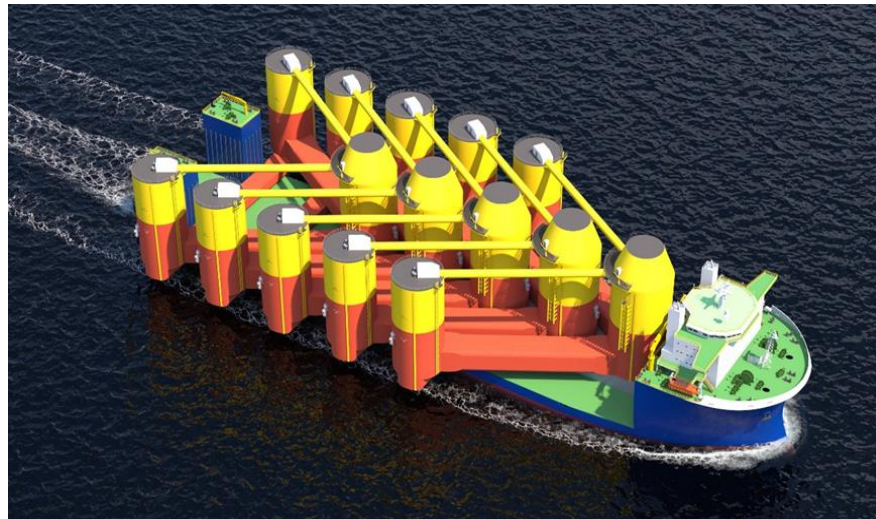
"D-FLOATER" Series Intercontinental production capacity cooperation

Lower Cost batch manufacturing

- Suitable for automatic manufacturing
- The main structure is composed of four modules.
- No need for large dry docks
- Take up less construction space than other designs

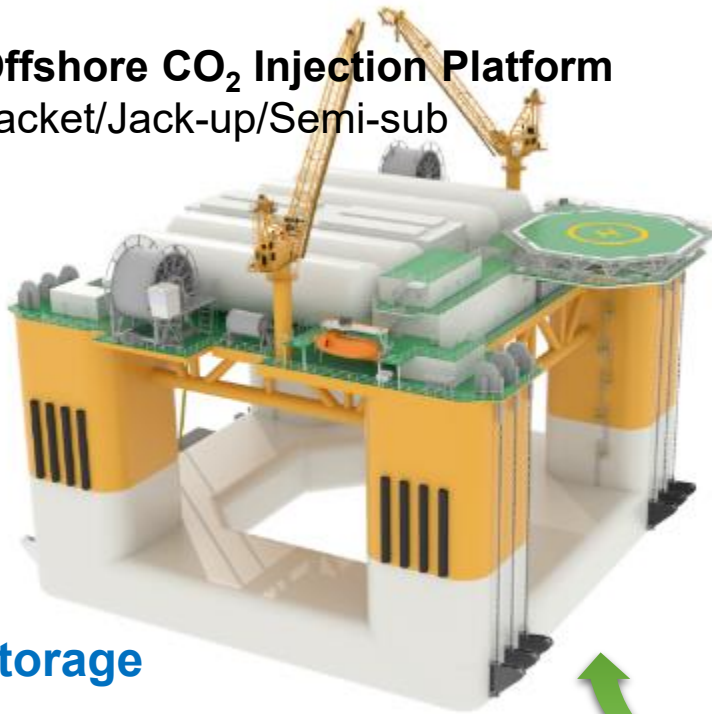
Efficient Transport:

- One ship can take multiple foundations once time



Renewable Energy Development--Innovation

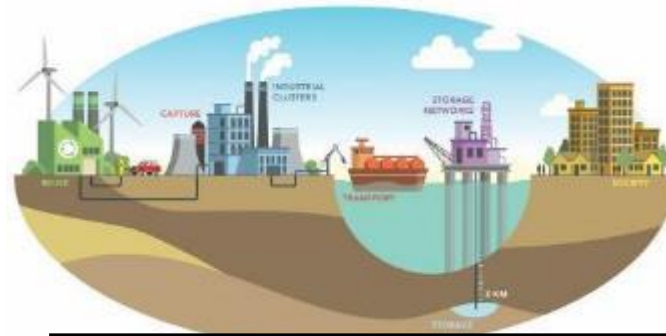
Offshore CO₂ Injection Platform
Jacket/Jack-up/Semi-sub



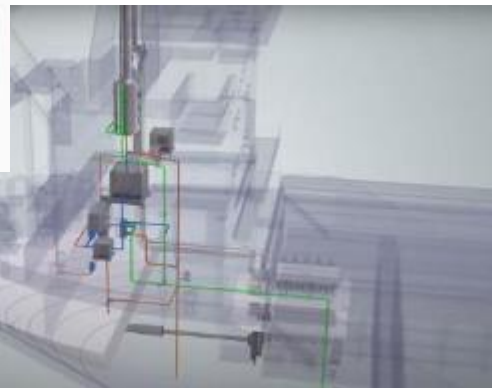
Storage

Utilization

Hydrogen&Methanol
Production Platform



Capture



Modular Carbon Capture Solution

Container type

- Pre-build in factory
- On-site assembly
- Reduce time 30%
- Reduce area 70%
- Applicable to offshore and onshore

Transportation



10K-80k m³ LCO₂ Carrier

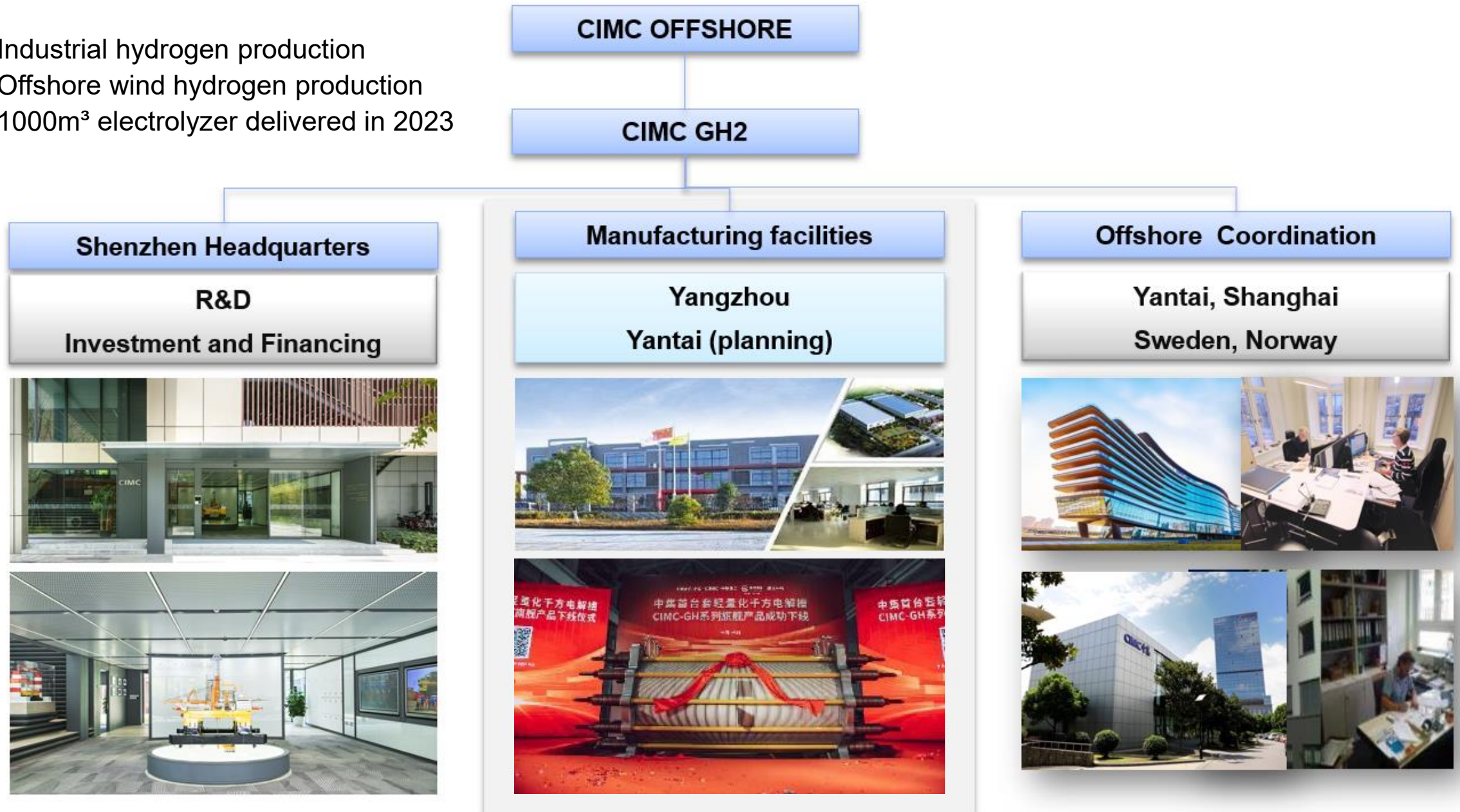
10K-50k m³ LCO₂ Carrier

- Type-C Tank
- Tank Pressure: 18Bar
- Storage Temperature: -35°C
- Dynamic Position: DP2
- Power: LNG Dual Fuel, Green Methanol Design Ready

CCUS

Hydrogen Energy: CIMC GH2 Technology Co.

- Industrial hydrogen production
- Offshore wind hydrogen production
- 1000m³ electrolyzer delivered in 2023



Comprehensive utilize offshore Resource

Fix to float



Wind and Aquaculture



Comprehensive





O&G Offshore



Clean Energy



Ocean Farming



Smart City

Deepwater Intelligent Farming Cage

Water Depth: $\geq 30\text{M}$



Water Depth: 15M-30M



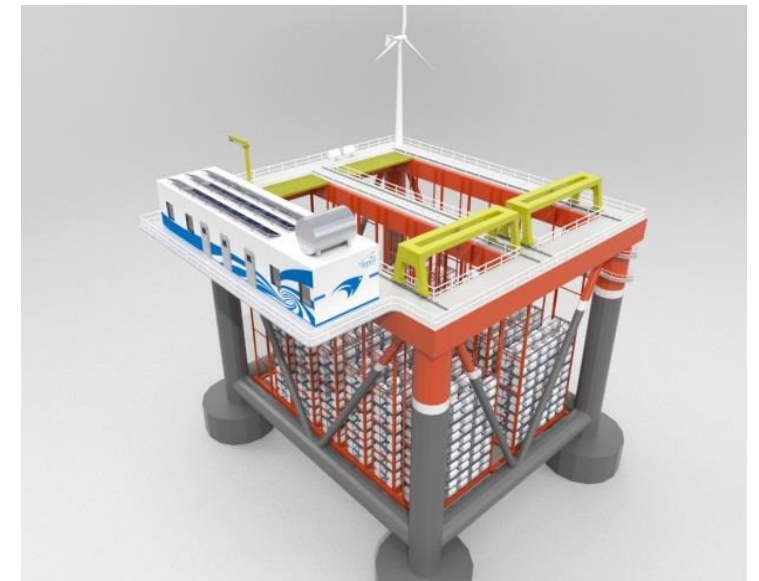
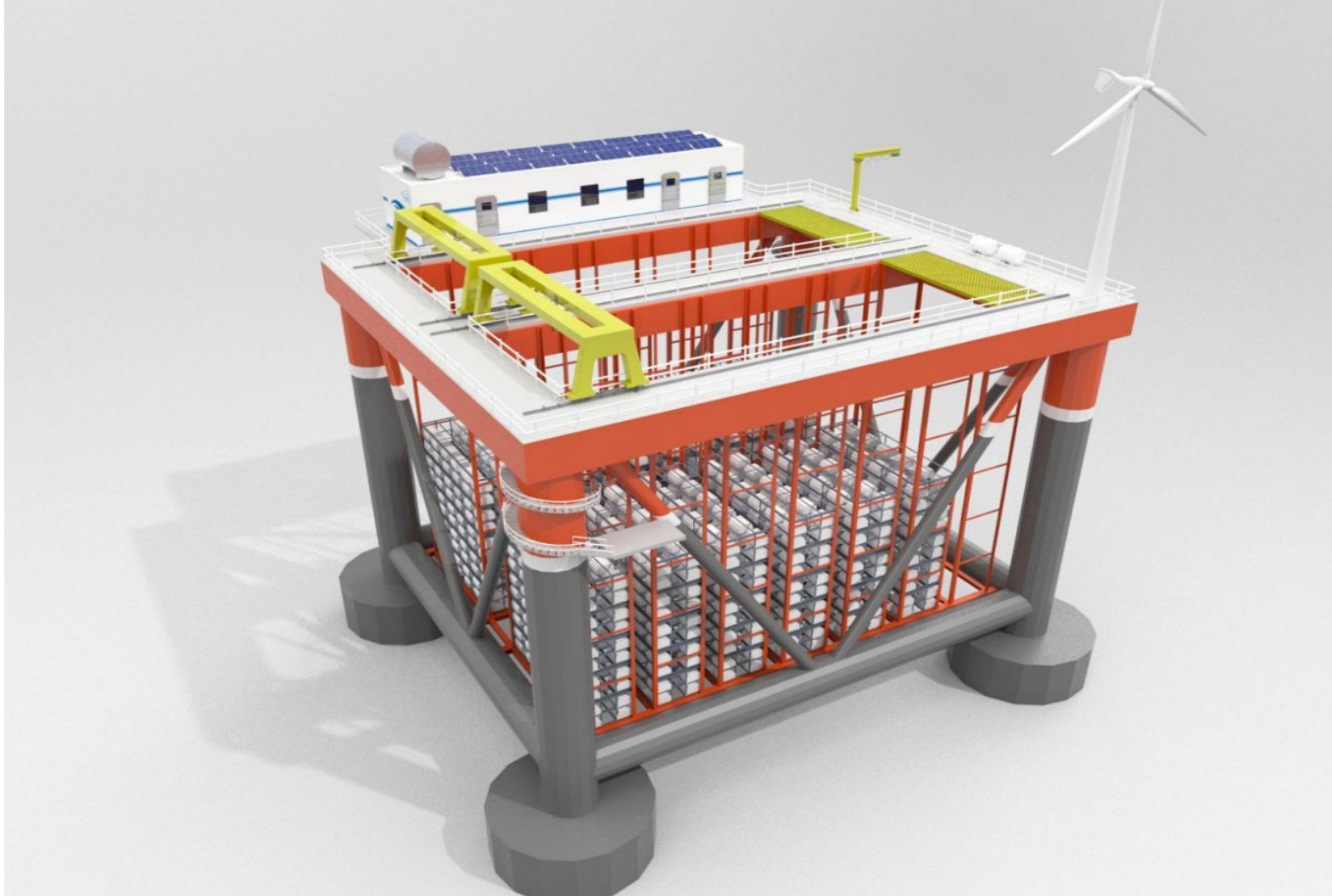
Water Depth: 15M-20M



Delivery Of CIMC-Designed Farming Cage



Seafood Farming Cage--Innovation



The most largest deep water salmon farming vessel delivered to Norway



Aker Biomarine Atlantic Krill Transport Vessel



Self-designed "Ocean Farm #1" --Innovation

CIMC RAFFLES

- Demension: 280x60x10
- Farm Capacity: 180000m³
- Water Depth: over 40m





O&G Offshore



Clean Energy



Ocean Farming



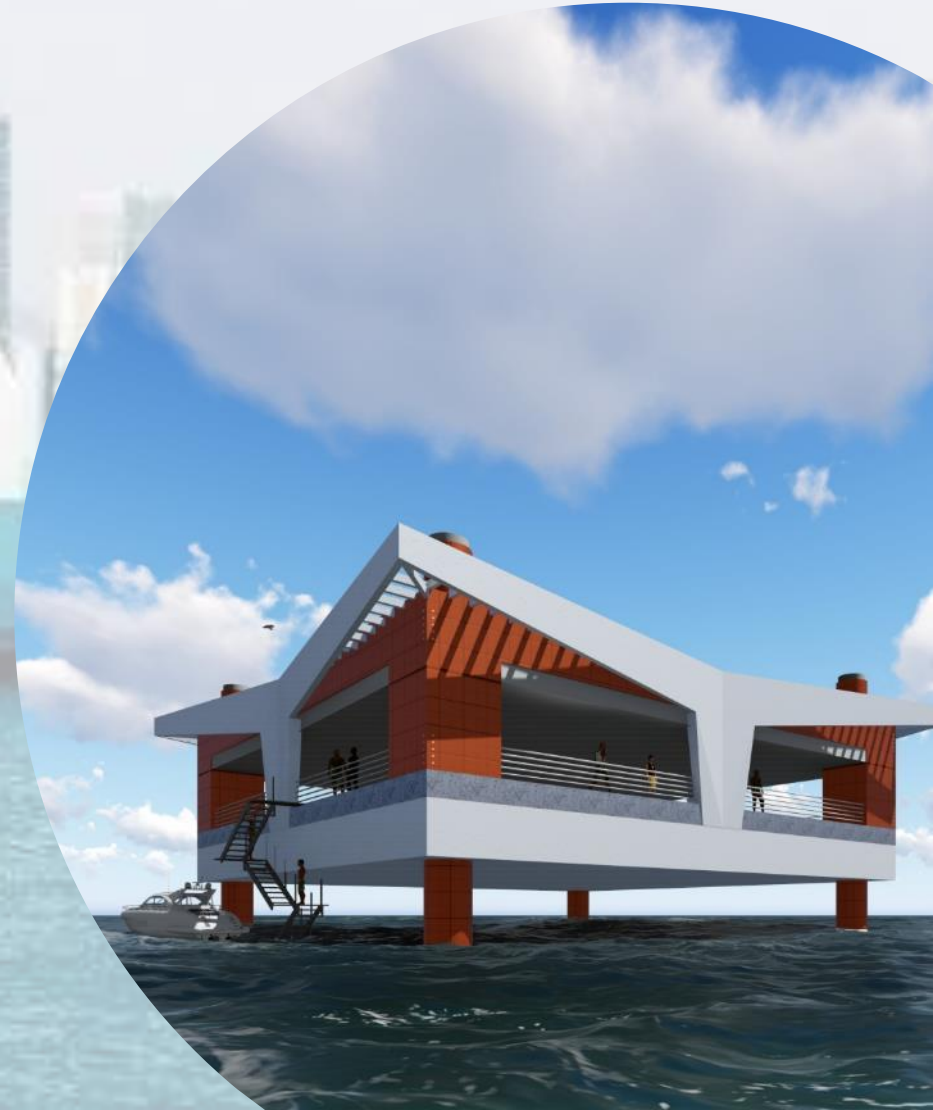
Smart City

Luxury Yacht/Cruise

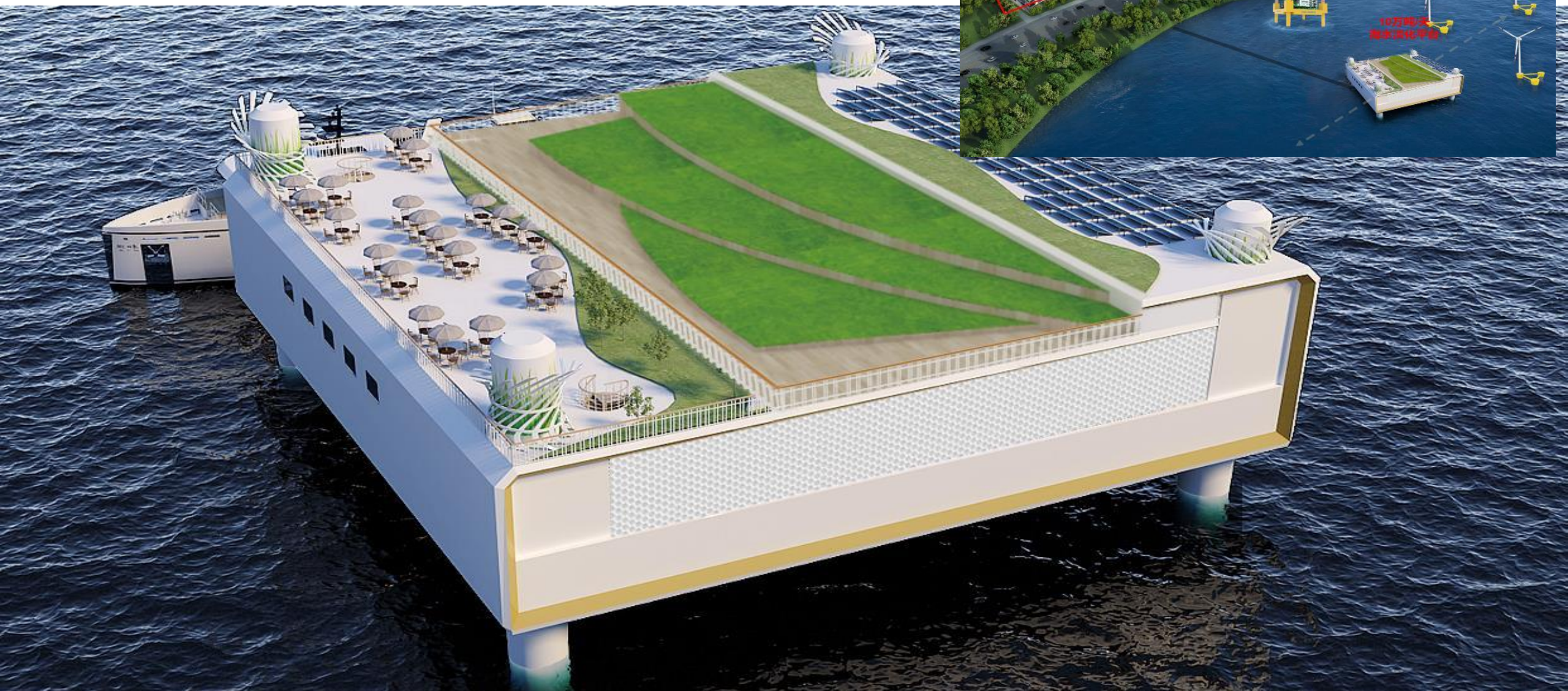




Offshore Kitchen Platform



Offshore Desalination Platform--Innovation



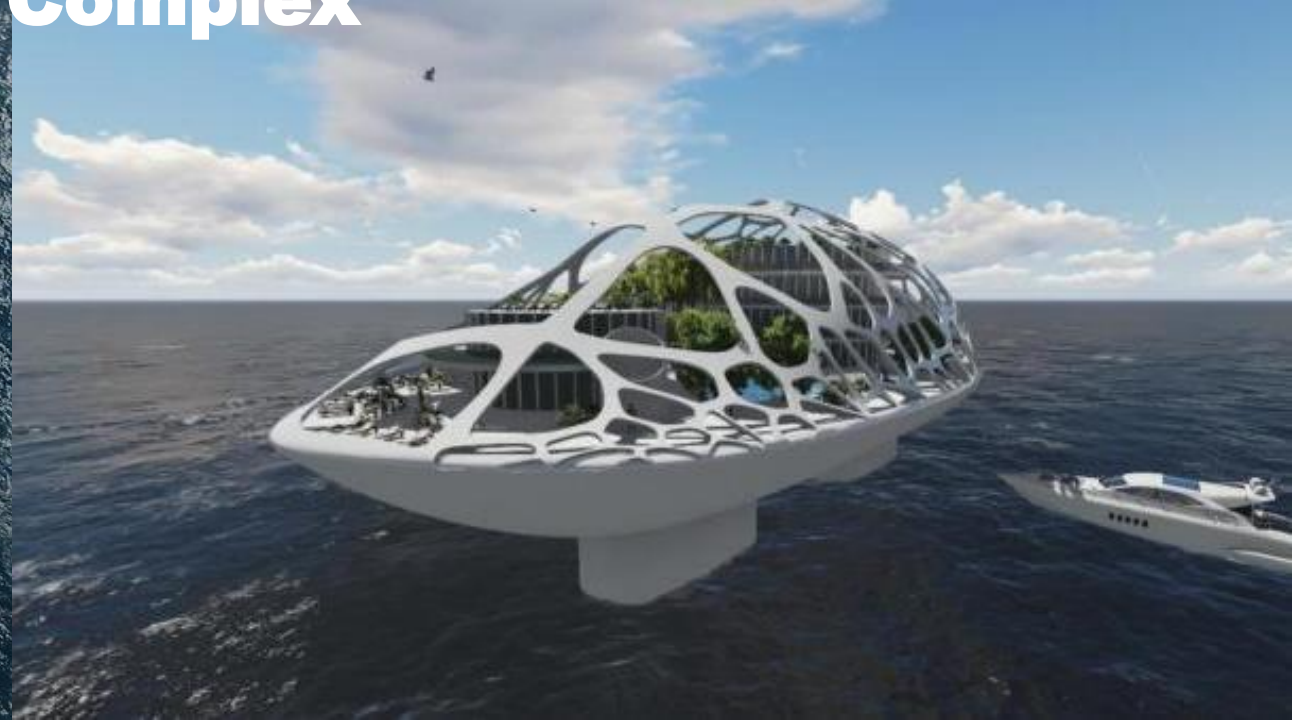
Offshore Hotel--Innovation



CIMC 



Smart Complex



Thanks

