

# S. B. Submarine Systems

2021 Corporate Presentation



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LINKING THE WORLD  
LIGHTING THE FUTURE



# CORPORATE OVERVIEW



# Corporate Overview

## Who we are

**S. B. Submarine Systems Co., Ltd. (SBSS)** is Asia's leading provider of submarine cable installation and maintenance solutions.

Serving both fibre optic and power cable sectors, we are experts in telecommunications, power utility, oil and gas and renewables markets.

Established in 1995 at the maritime center of Shanghai, we have a long legacy of transforming global connectivity in this ever-changing era.



# Corporate Overview

## Highlights



### Track Record

Over 60,000km submarine cable installed and over 20,000km buried



### Cable Maintenance

Provided submarine cable maintenance services to the Yokohama Zone since 1997



### O&G

Stepped into the O&G market in 2003 and completed 30 projects in this sector across the globe



### Project Footprint

Engaged in over 120 subsea projects across the telecoms, power utility, O&G and renewables sectors



### Cable Burial

We buried submarine power cable to 6m below the seafloor on the Bangladesh Sandwip project



### Talents

SBSS has an onshore and offshore team of more than 140 personnel. Our Project Managers have a combined experience of more than 100 years in the submarine cable industry



### Deepwater Experience

Laid cable to a water depth of 9,720m within the Mariana trench in 2017 and 9,607m within the Izu Ogasawara trench in 2020



### High Voltage

We have been contracted by China Southern Grid 5 times over the past 10 years to conduct burial depth verification of their 500kV high-voltage power cable systems

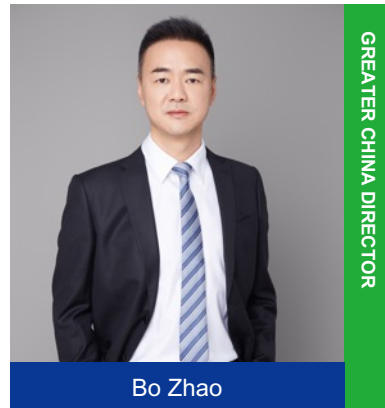
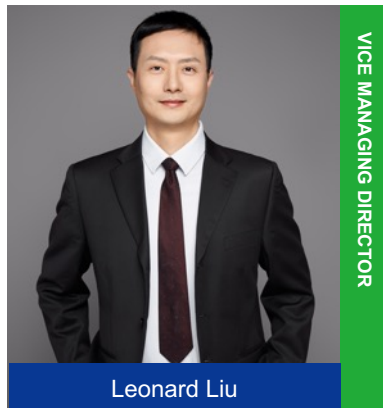


### Offshore Wind

Delivered numerous significant 220kV export cable installation and burial projects

# Corporate Overview

## Management Team





# Corporate Overview

## Business Sectors

### Telecommunications

Asia's leading submarine telecoms cable installation and maintenance service provider having installed over 60,000km since 1995 and having over 23 years maintenance experience in Yokohama Zone.

Our fibre optic cable installation footprint covers 38 international submarine communication systems.



### Power Utility

SBSS is highly experienced in power cable installation and burial with over 40 projects delivered since 2003.

We have a proven track record in creating effective solutions tailored to our customers' needs. This includes the bundled surface lay of three different size cables on the Jindo-Jeju Interconnector.



### Oil and Gas

SBSS stepped into the O&G market in 2003 with the first project delivered in Dong Fang 1-1 field in the South China Sea, since then we have completed 30 projects in the sector across the globe, including BP Tangguh Extension in Indonesia, Shell Cili-Padi in Malaysia, Qatar Barzan in the Middle East and various offshore O&G fields in China.



### Renewables

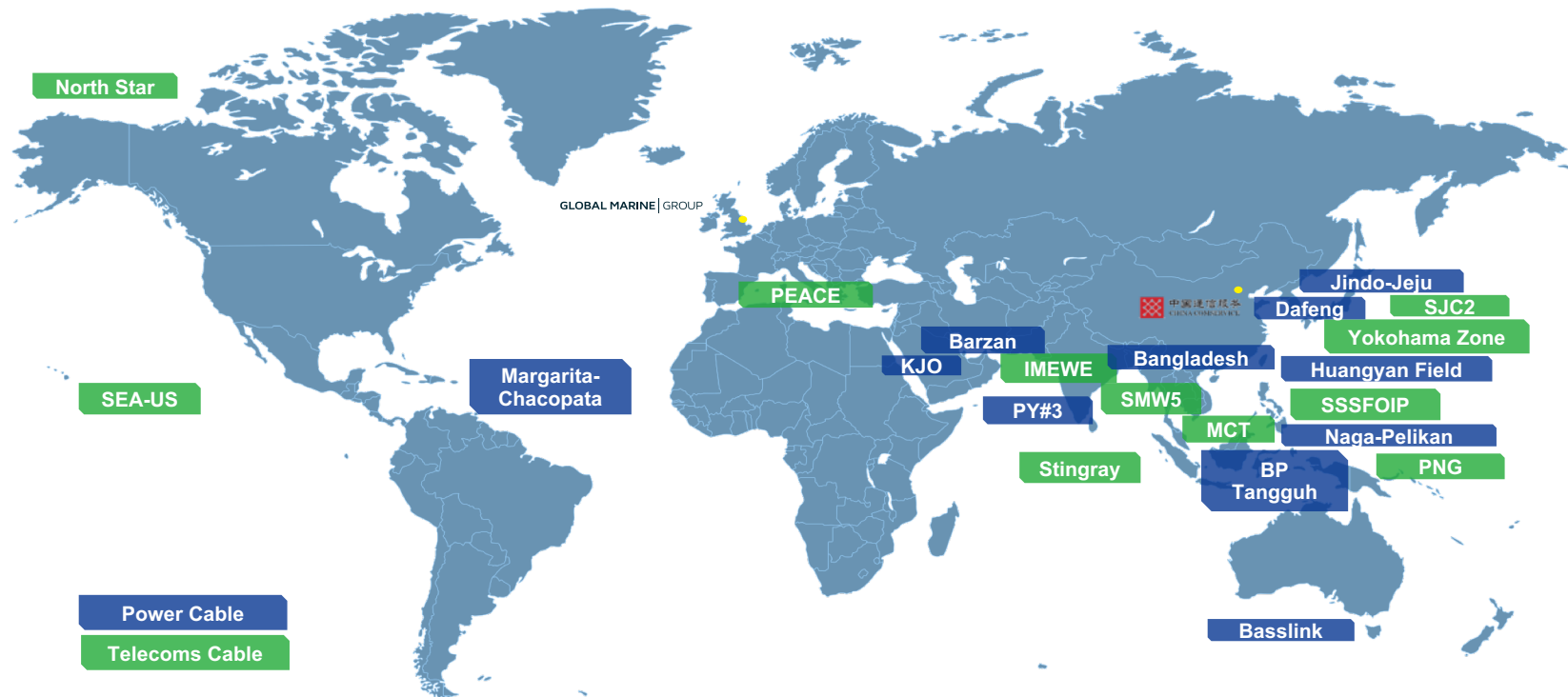
We officially moved into the offshore wind sector in 2017 and have delivered numerous 220kV export cable installation and burial projects since then. In early 2020, SBSS employed our Predator ROV on the Dongtai windfarm to conduct subsea inspection works, which is the first time that an ROV has been utilized in the Chinese offshore wind O&M sector.



# Corporate Overview

## Global Footprint

We have a global reach and have completed over 120 submarine cable projects across APAC, Middle East, Europe, US and Latin America.



# Corporate Overview



## Customer Base

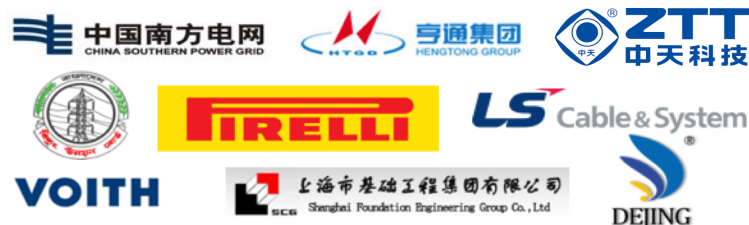
### Telecoms



### Oil and Gas

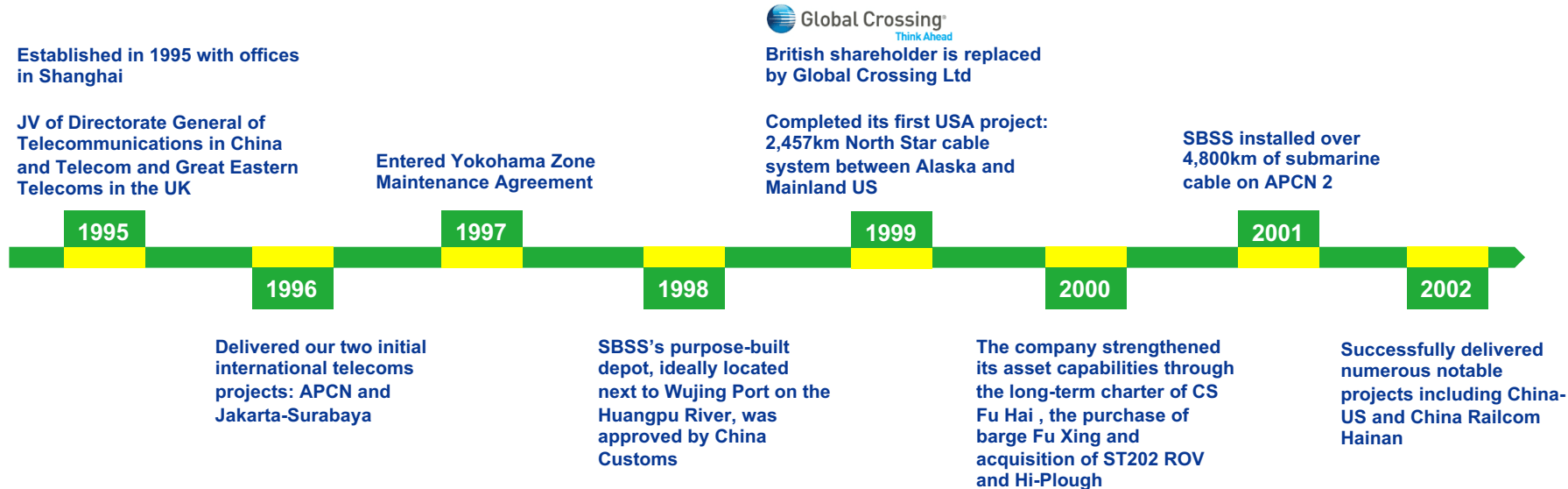


### Power Utility and Renewables



# Corporate Overview

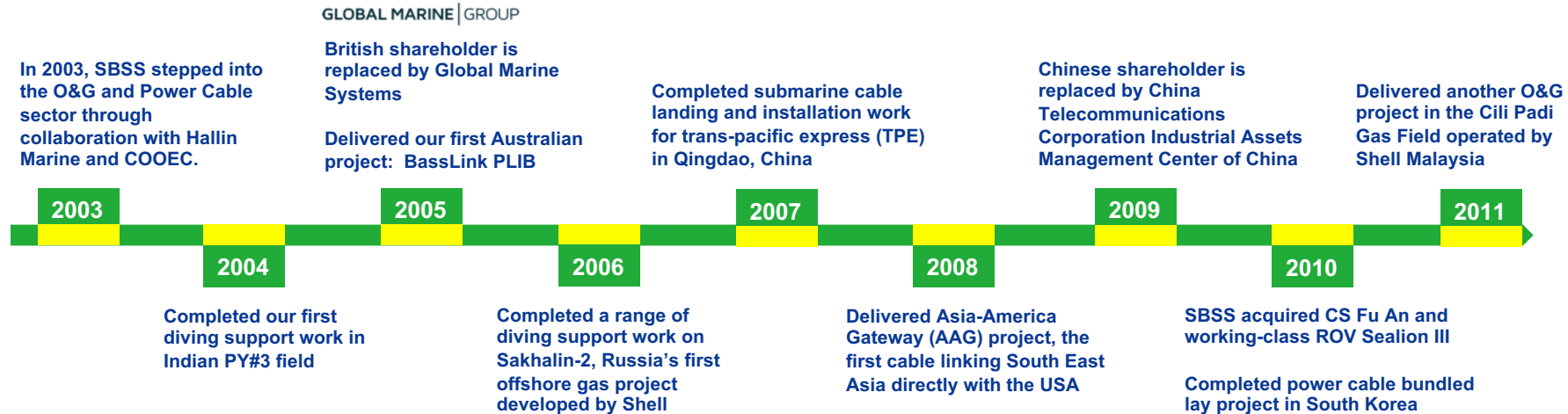
## Corporate Timeline





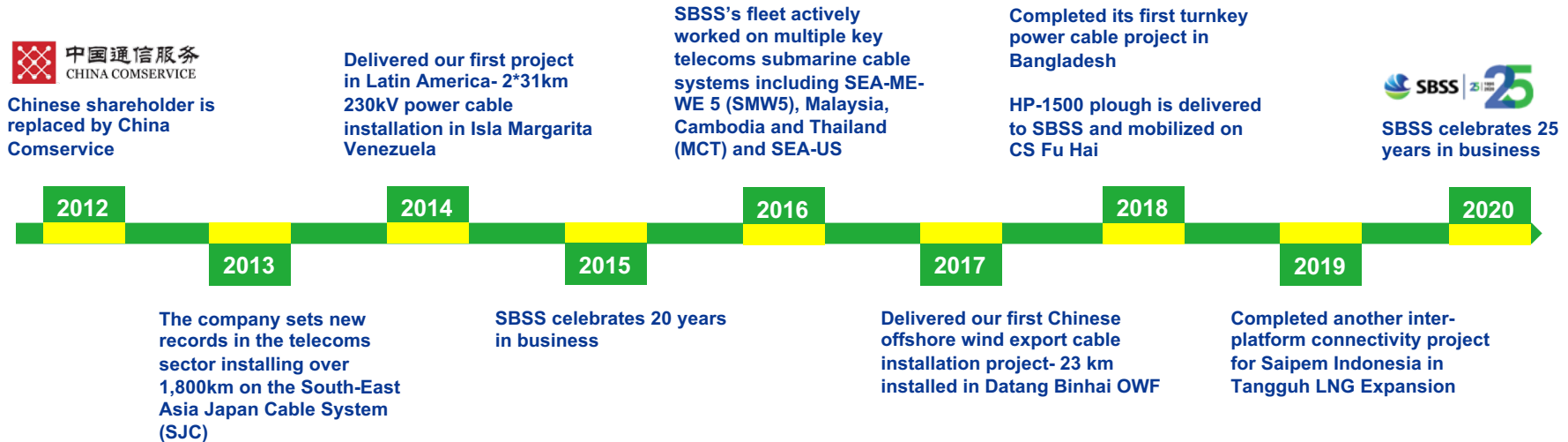
# Corporate Overview

## Corporate Timeline



# Corporate Overview





## Corporate Timeline



# ASSET DATASHEET



# Asset Datasheet

	<b>FU TAI</b>  cs Fu Tai is a DP-2 cable ship currently being converted to a bespoke telecom vessel that will work in the Asian submarine cable installation and cable maintenance markets. Equipped with a high powered Q1000 trenching ROV and a 70t active heave-compensated (AHC) crane.	<b>TRACK RECORD INCLUDES</b>  N/A
	<b>CS FU HAI</b>  High bollard pull, DP-2 vessel, specializing in submarine cable installation and maintenance. Equipped with both Sealion I trenching ROV and Hi-Plough onboard.	<b>TRACK RECORD INCLUDES</b>  <b>Power Cable</b> Wando-Jinsan Interconnector Hwawon-Anjwa Interconnector Cili-Padi O&G Field <b>Fibre Optic Cable</b> SJC2 SEA-US
	<b>BOLD MAVERICK</b>  High bollard pull, DP-2 vessel, specializing in submarine cable installation and maintenance. Equipped with both Sealion I trenching ROV and Hi-Plough onboard.	<b>TRACK RECORD INCLUDES</b>  <b>Power Cable</b> Jindo-Jeju Bundled Lay BP Tangguh LNG Expansion Total Sisi-Nubi <b>Fibre Optic Cable</b> Malaysia-Cambodia-Thailand SEA-ME-WE 5
	<b>FU YONG 6</b>  5,500t cable lay barge with grounding capability. Suitable for shallow-mid water power cable installation and maintenance works. Equipped with Longli jetting sledge.	<b>TRACK RECORD INCLUDES</b>  <b>Power Cable</b> Changle C Changle A Guoneng Dafeng Guangdong Xinliao

# Asset Datasheet



## Q1000

The respected QT1000 series ROV can operate in both free swimming and tracked mode.  
Total power: 1,000hp  
Product diameter: 0.5m(max)



## SEALION I

The respected ST200 series ROV can operate in both free swimming and tracked mode.

Depth rated: Up to 2,500m  
Burial depth: Up to 1.5m



## SEALION III

Sealion III is a purpose-designed 600 horse power cable trenching ROV.

Depth rated: Up to 2,500m  
Burial depth: Up to 3.0m



## PREDATOR

300m depth-rated observation class ROV. Developed to meet the demanding markets for rugged and reliable underwater viewing systems.



## HI-PLOUGH

Equipped with 3 share configurations. 2.2m passive share, 3m passive share and 3.25m injector share.

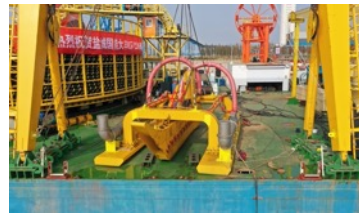
Depth rated: Up to 2,000m  
Burial depth: Up to 3.25m



## HP-1500

Equipped with 2 share configurations, 2.2m standard jetting share and 3.3m extension boot jetting share.

Depth rated: Up to 1,500m  
Burial depth: Up to 3.3m



## LONGLI SLEDGE

This jetting sledge is mobilized on the cable lay barge Fu Yong 6 and is capable of achieving a depth of up to 3.3m cable burial.



# Asset Datasheet



## WUJING DEPOT

SBSS owns and manages the only bonded commercial submarine cable depot in mainland China.

Located with easy access to the East China Sea, the Wujing depot has a telecoms cable storage capacity of 3,841m<sup>3</sup>. Telecoms cable is stored within 20 cable tanks, 18 of which are custom-bonded. On-site warehouses are available for the safe and covered storage of system plant such as repeaters and branching units.

Wujing offers SBSS's customers an ideal location to home their valuable spare system cable and plant.



## JOINTING AND ROV TRAINING SCHOOL

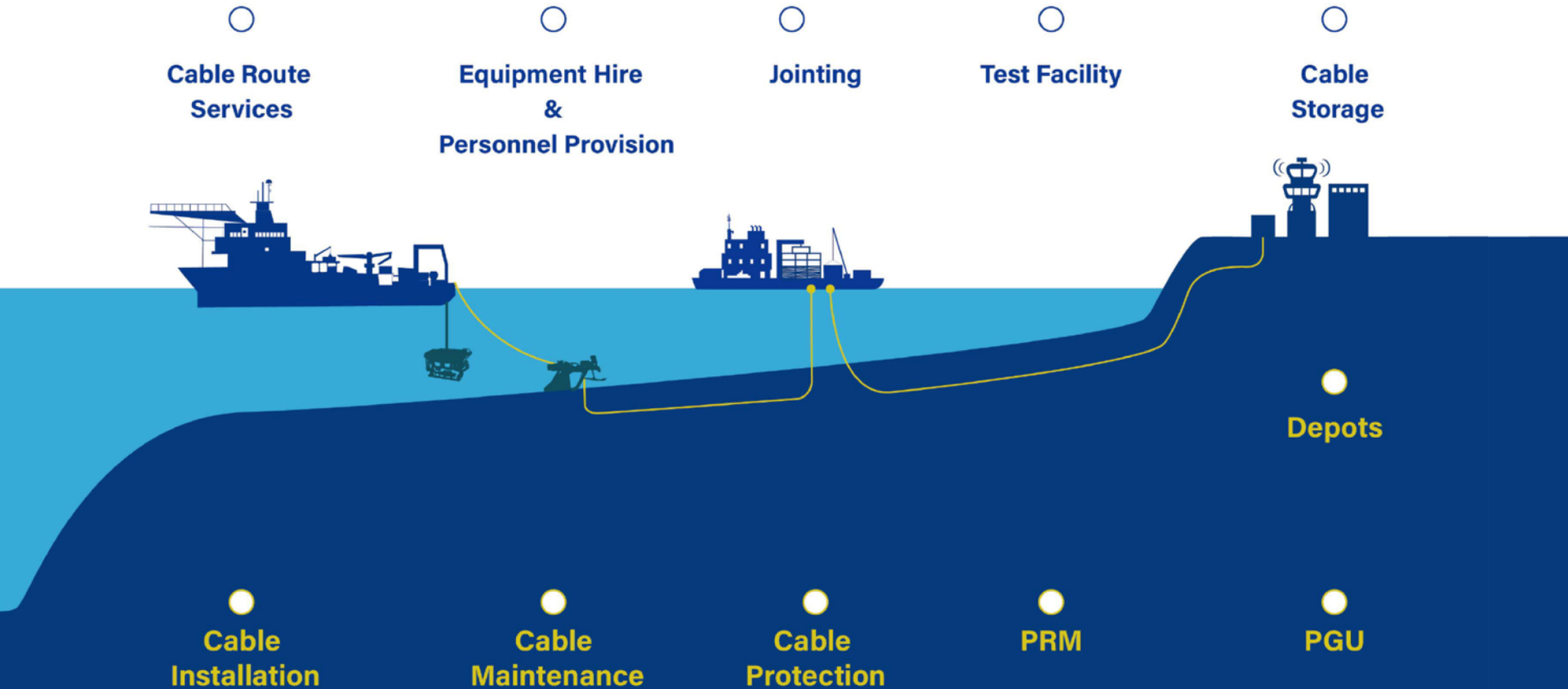
The cable jointing school is jointly invested in by SBSS and Global Marine Group, a founding member of the Universal Jointing Consortium. The school is able to provide a full range of training in cable jointing technology including the Universal Joint (UJ), Universal Quick Joint (UQJ) and Universal Coupling (UC).

Our commercial ROV pilot training courses include ROV professional knowledge, practical experience, simulator pilot training and small-scale ROV pilot training in the facility's experimental pool.

# TELECOMMUNICATIONS SERVICES



# Telecommunications Services





# Telecommunications Services

## Our Expertise



### **Pre-project Planning & Cable Installation**

*60,000km unprecedented track record*

- Permitting and route survey
- Pre-lay grapnel run (PLGR) and surface lay
- Shore-end landing and beach works
- Pre-laid shore end (PLSE)
- Cable and pipeline crossing
- Cable testing



### **Inspection and Protection**

*Cutting-edge assets deliver precision*

- Cable ploughing
- Trenching and post-lay inspection and burial (PLIB)
- Customized protection solution



### **Maintenance and Repair**

*Over 23 years' maintenance commitment in Yokohama Zone*

- Yokohama Zone maintenance authority since 1997
- Shallow water repairs
- Cable recovery and testing



### **Jointing and Cable storage**

*Dedicated jointing and storage facility*

- Experienced Universal Joint (UJ) and Universal Quick Joint (UQJ) team and training school
- Wujing cable depot with a total storage capacity of 3,841m<sup>3</sup>

# Telecommunications Services

## Our Competitiveness



### Integrated Services

Our installation expertise, combined with other supplementary services such as cable route survey, permitting, cable storage, project management, route clearance, trenching, jointing and cable testing, positions us as the ideal **Partner of Choice** for integrated installation and burial services.



### State-of-the-art Assets

Our specialized submarine cable fleet is equipped with a range of cable installation, recovery, repair, trenching and burial equipment, allowing us the ability to provide versatile solutions from **shallow water to deep sea** and in most seabed conditions.



### Chinese Expertise

Strategically located in Shanghai, China and as a Joint Venture of **China Comservice**, our know-how in Chinese waters, from geographical understanding to securing necessary installation and repair permits, is unparalleled.



### Synergy with GMG

Together with our parent company Global Marine Group, we support the maintenance of nearly **400,000km** of globally installed telecoms cable.

# Telecommunications Services

## Telecoms Highlights

38

Our fibre optic cable installation footprint covers 38 international submarine communication systems.

1997

We have provided submarine cable maintenance services to the Yokohama Zone since 1997.

6620

In 2017, SBSS installed 6,620km of submarine fibre optic cable for the SEA-US system, which remains as the longest cable installation project in the company's history.

9720

We have laid cable to a water depth of 9,720m within the Mariana trench for the SEA-US submarine system in 2017 and 9,607m within the Izu Ogasawara trench for the BtoBE S2 in 2020.

# Telecommunications Services

## Track Record



### H2HE

Installation of 624km FO cable and PLIB of 25km

CS Fu Hai | China

2021



### SCIP Phase 1

Installation of 960km FO cable and burial of 380km

CS Fu Hai | Southeast Asia

2021



### SJC2 S2 Vietnam

Installation and burial of 450km FO cable

CS Fu Hai | Southeast Asia

2020



### SJC2 V1

Installation and burial of 420km FO cable

CS Fu Hai | Asia

2020

2020

### CDSCN

Installation of 736km FO cable and burial of 203km

Bold Maverick | Asia

### BtoBE V4

Surface lay of approximately 2,814km FO cable

Bold Maverick | Asia

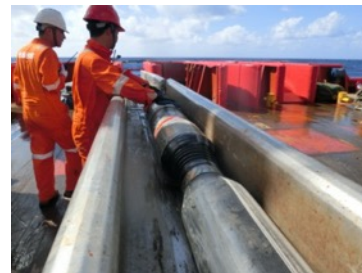
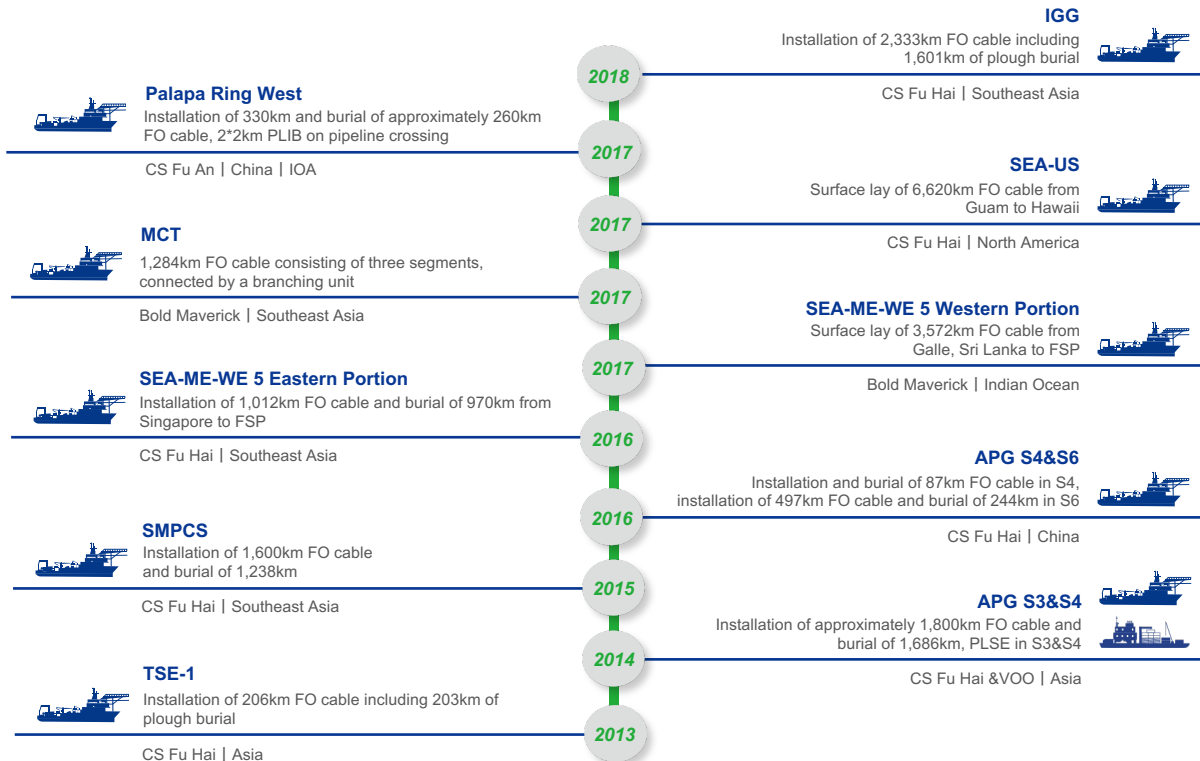
### BtoBE S2 Tuna Fishing Area

Surface lay of approximately 1,916km FO cable

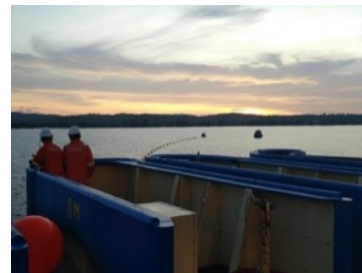
CS Fu Hai | Asia

# Telecommunications Services

## Track Record



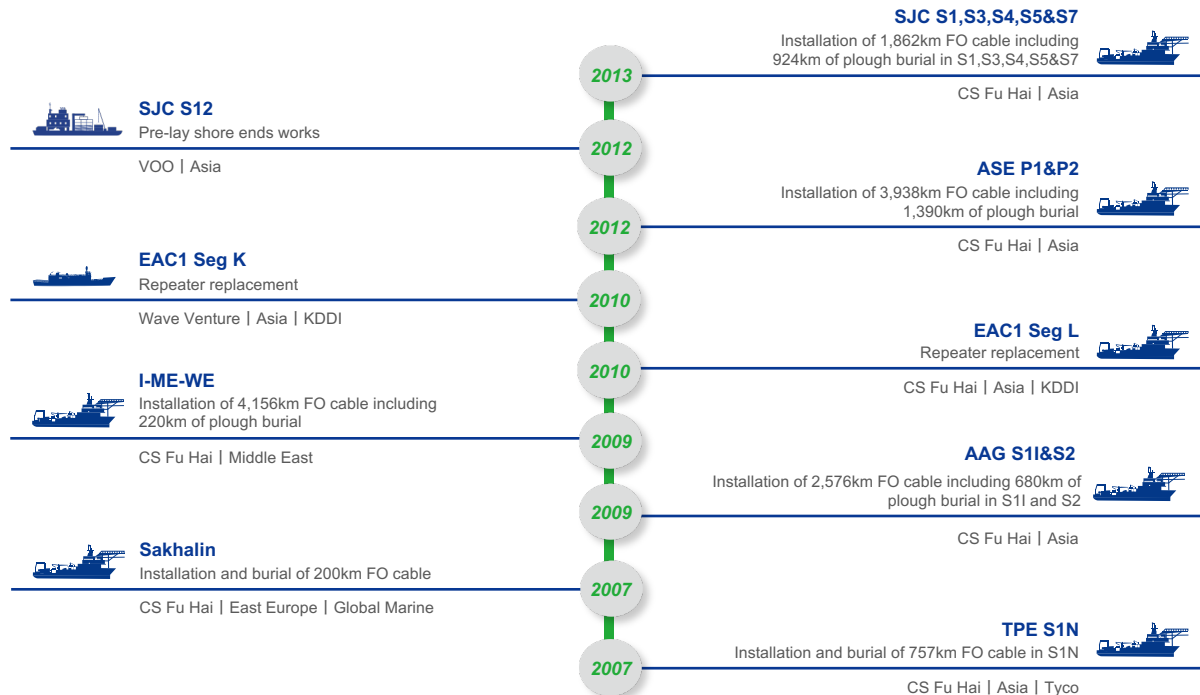
**SEA-US (2017)**



**MCT (2017)**

# Telecommunications Services

## Track Record



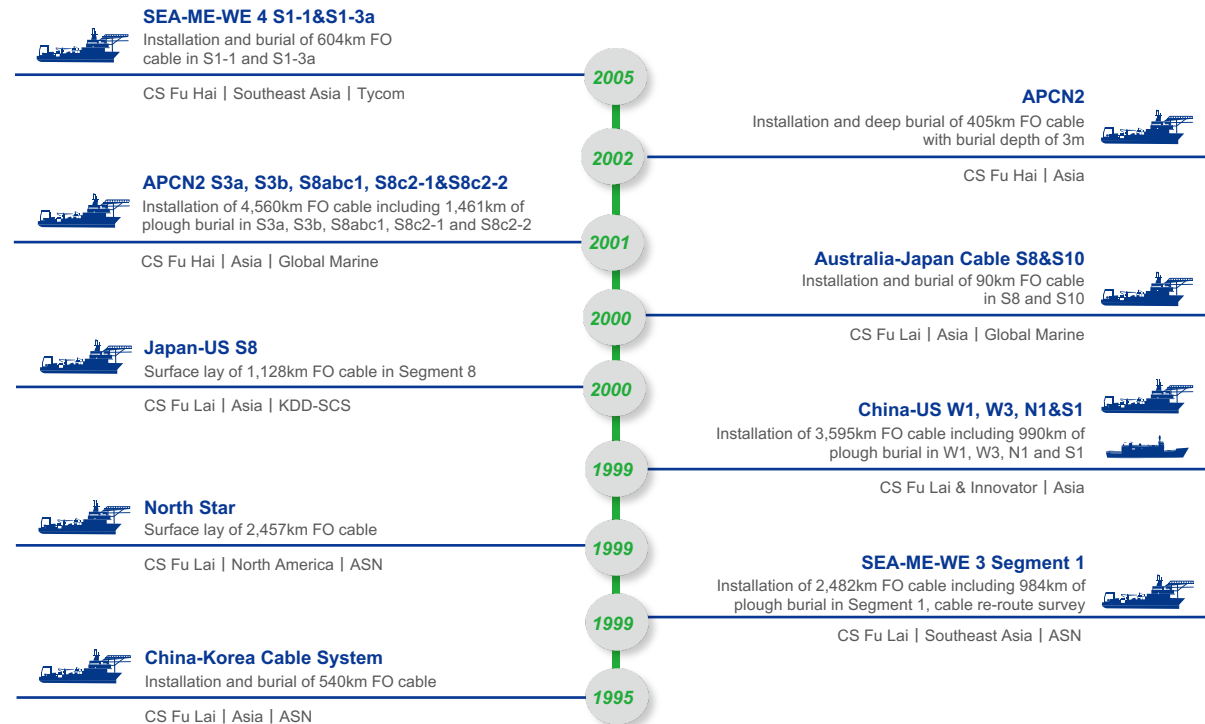
**SJC (2013)**



**I-ME-WE (2009)**

# Telecommunications Services

## Track Record



APCN2 (2001)



China-Korea (1995)

# Telecommunications Services

## Case Studies

### *PNG National Submarine Fibre Cable Network*

<b>Customer</b>	: HMN
<b>Vessel</b>	: CS Fu Hai
<b>Location</b>	: Papua New Guinean
<b>Activity</b>	: Surface lay of 1,873km FO cable
<b>Year</b>	: 2018

#### Overview

In 2018, SBSS was contracted by HMN to surface lay 1,873km FO cable in the PNG National Submarine Fibre Cable Network, a submarine system built and operated by PNG DataCo Limited, connecting 14 main cities in PNG. During the installation, SBSS successfully rescued 10 persons onboard the fishing boat MV Lousianne which showcased the company's corporate social responsibility.

#### Scope of Work

- Surface lay of 1,873km FO cable
- 4 direct and 1 indirect landings in PNG



#### Project Highlight

This was SBSS's first project in PNG and the first time of installing Hengtong FO cable with 3 branching units. The laying speed was closely monitored throughout the installation due to the uneven seafloor terrain. We achieved precise installation and ahead-of-time project delivery drawing from our extensive experience in telecoms sector.





# Telecommunications Services

## Case Studies

### Sorsogon-Samar Submarine Fiber Optical Interconnection Project (SSSFOIP)

**Customer** : HMN  
**Vessel** : CS Fu Hai  
**Location** : Philippines  
**Activity** : Surface lay of 21km FO cable  
**Year** : 2018



#### Overview

The Sorsogon-Samar Submarine Fiber Optical Interconnection Project (SSSFOIP) was developed by the National Grid Corporation of the Philippines (NGCP) and EPCed by Huawei Marine Networks (HMN). The SSSFOIP project was the first power grid project for HMN.

#### Key Challenges

The installation was successfully completed despite aggressively strong sea currents, particularly challenging when meeting the requirement for Uraduct application at the crossing points with 2 third party in-service cables. Following intense investigation and planning, SBSS implemented a carefully managed installation plan which ensured safe delivery of this difficult project.

#### Scope of Work

- Surface lay of 21km FO cable
- 2 direct cable landings in Philippines



## POWER UTILITY SERVICES



# Power Utility Services



**Cable  
Storage**



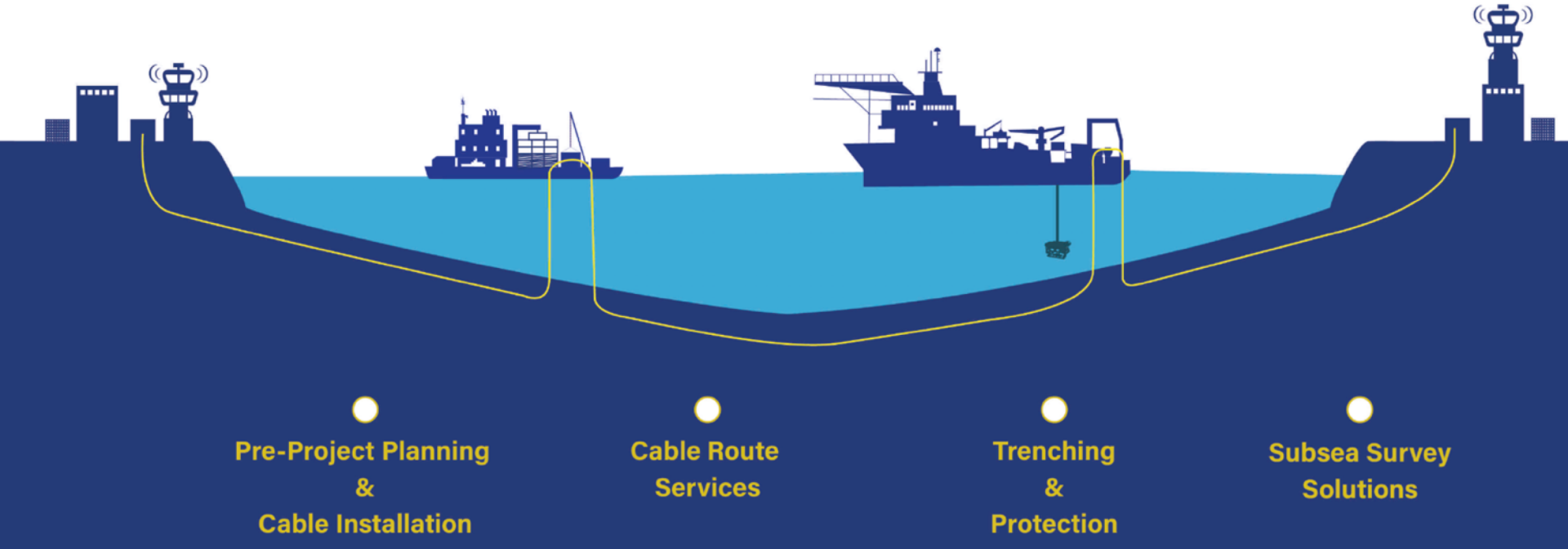
**Shore-end  
Landing**



**Specialist  
Cable Ships**



**Project  
Management**



**Pre-Project Planning  
&  
Cable Installation**



**Cable Route  
Services**



**Trenching  
&  
Protection**



**Subsea Survey  
Solutions**

# Power Utility Services

## Our Expertise



### **Pre-project Planning & Cable Installation**

Proven capabilities in delivering solutions for challenging projects

- Permitting and route survey
- Pre-lay grapnel run (PLGR) and surface lay
- Shore-end landing and beach works
- Cable and pipeline crossing
- Cable testing



### **Burial and Protection**

Cutting-edge assets deliver precision

- Simultaneously lay and burial of low to high voltage power cable
- Post-lay inspection and burial (PLIB)
- Customized protection solution (mattress, articulate pipe etc.)



### **Inspection and Repair**

10-Year Guardian of China Southern Grid's 500kV Power Cable

- ROV-supported burial inspection
- Shallow and deep water repair solutions
- Cable recovery and testing
- Other remedial works

# Power Utility Services

## Our Competitiveness



### Integrated Services

Our comprehensive set of services covers the **lifecycle** of submarine power cable from pre-project planning, route survey, PLGR, shore-end landing, cable installation, trenching to ROV-supported inspection and repair.



### Customized Solutions

We are capable to create **effective solutions** tailored to customers' needs. Such solutions include the bundled laying of three cables for the Jindo-Jeju Interconnector project and 6m burial for the Bangladesh Sandwip project.



### Chinese Expertise

Strategically located in Shanghai, China, we are geographically closed to Asian cable manufactures which enables us to offer a **“one-stop” solution** from cable transportation to installation in one package. This will not only significantly reduce the risk of cable damage by avoiding transpooling activities but also achieve substantial schedule and cost savings.

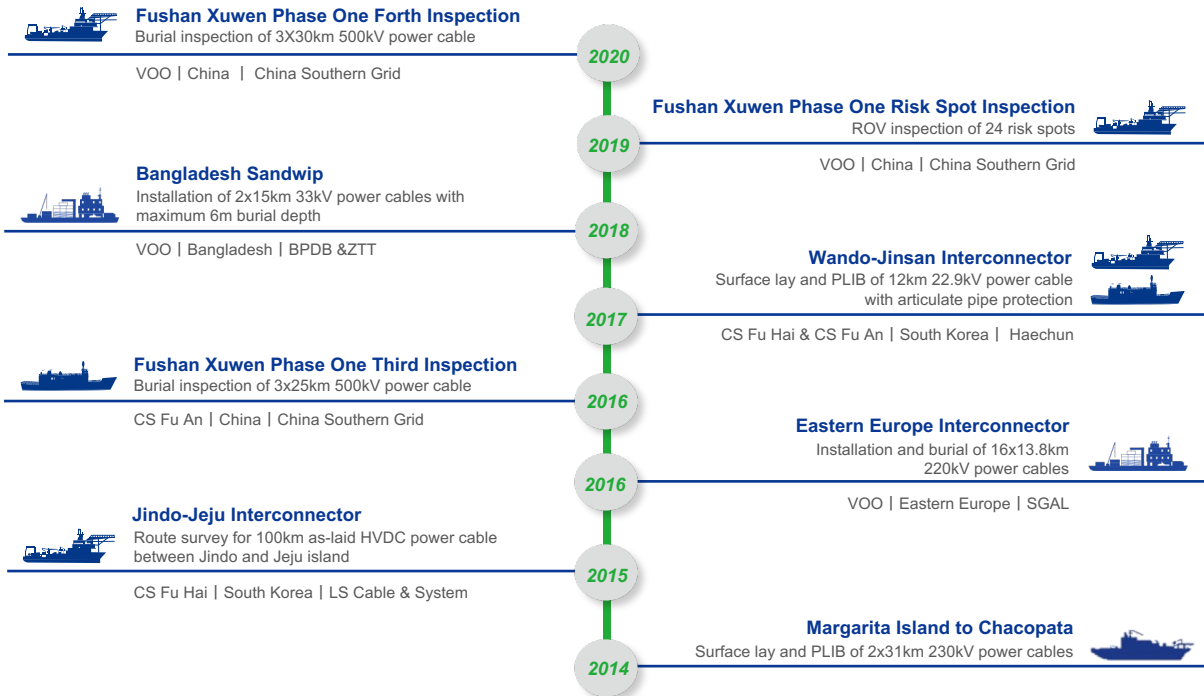


### Sealion III

Sealion III is a purposely-designed trenching ROV with 600 horse power and can bury cable **up to 3m** below seabed. Sealion III is equipped with the state-of-the-art **TSS 440 and 350 dual cable tracking systems**, which provides constant cable and pipe location data to enable burial accuracy.

# Power Utility Services

## Track Record



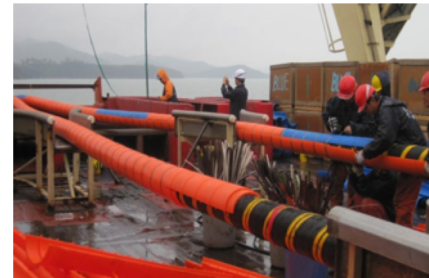
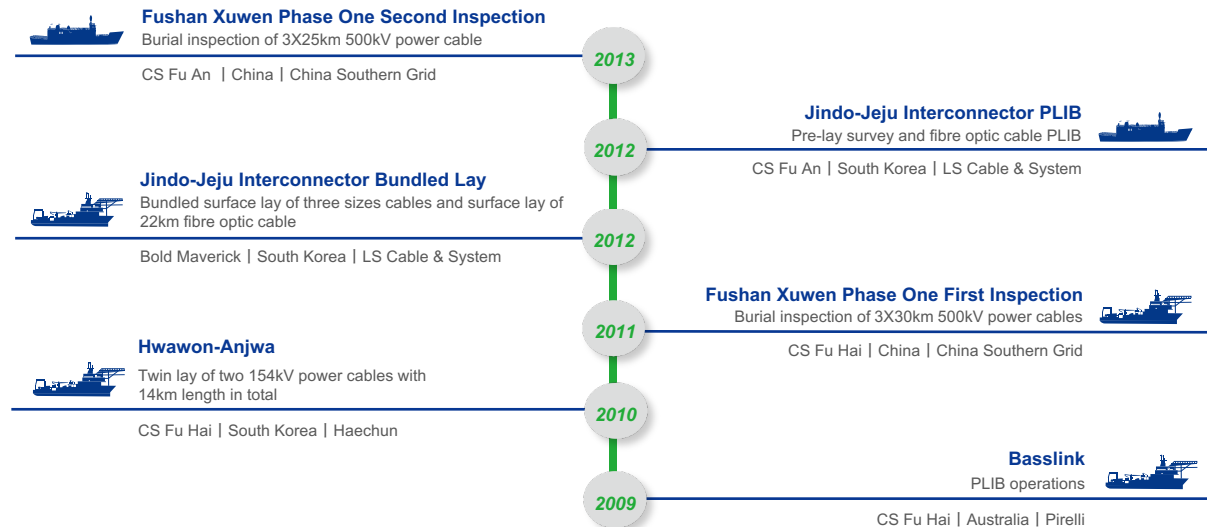
**Bangladesh Sandwip (2018)**



**Wando-Jinsan Interconnector (2017)**

# Power Utility Services

## Track Record



**Jindo-Jeju Interconnector Bundled Lay (2012)**



**Basslink (2009)**



# Power Utility Services

## Case Studies

### Bangladesh Sandwip

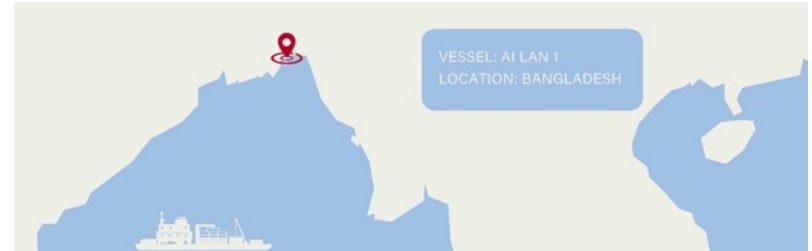
<b>Customer</b>	: Bangladesh Power Development Board
<b>Vessel</b>	: Ai Lan 1
<b>Location</b>	: Bangladesh
<b>Activity</b>	: Installation of 2x15km 33kV power cables with maximum 6m burial depth
<b>Year</b>	: 2018

#### Overview

SBSS, in consortium with cable manufacturer ZTT, was awarded by Bangladesh Power Development Board in 2017 to install two 15km 33kV power cables between Barabkunda and Sandwip islands in Bangladesh. This project was the first long distance submarine composite power cable project in Bangladesh.

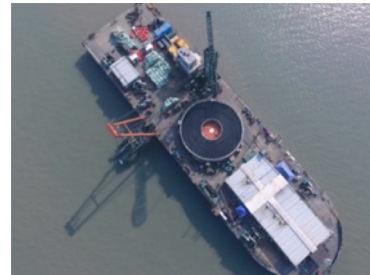
#### Scope of Work

- Installation of 2 x 15km 33kV power cables
- Cable burial up to 6m water depth
- Cable landing



#### Key Challenges

In partnership with ZTT, SBSS successfully delivered this turnkey project and overcame the operational difficulties of a lack of local resources, deep cable burial depth and a significantly long, 2.4km landing distance.





# Power Utility Services

## Case Studies

### *Jindo-Jeju Interconnector Bundled Cable Lay*

<b>Customer</b>	: LS Cable & System
<b>Vessel</b>	: Bold Maverick
<b>Location</b>	: South Korea
<b>Activity</b>	: Bundled surface lay of three various sized submarine cables and an additional surface lay of 22km fibre optic cable
<b>Year</b>	: 2012

#### Overview

SBSS were contracted by LS Cable & System for the installation of power and FO cable in Jindo, South Korea. Bold Maverick, SBSS's DP2 multi-purpose vessel, completed the bundled surface lay of two power cables and one FO cable in Pole 1 totaling 15km in length and 22km FO cable in Pole 2.

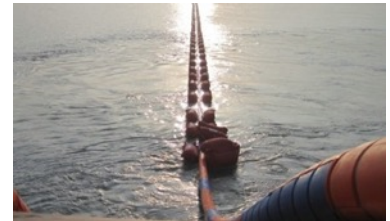
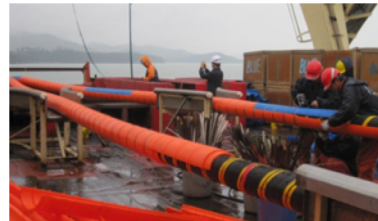
#### Scope of Work

- Cable loading at Donghae Port, South Korea
- Bundled surface lay of three sizes of cable including two power cables and one FO cable, surface lay of 22km FO cable
- Supply and installation of cable protection system
- Shore end landing at Jindo



#### Technical Highlight

The installation involved the bundling and simultaneous lay of three different sized cables which were fed from two separate cable tanks onboard Bold Maverick. Two power cable engines were perfectly synchronized for the installation work with the three cables passing through an onboard bundling machine before being laid over a bespoke stern chute.



# Power Utility Services

## Case Studies

### Wando Jinsan Power Cable Installation and PLIB

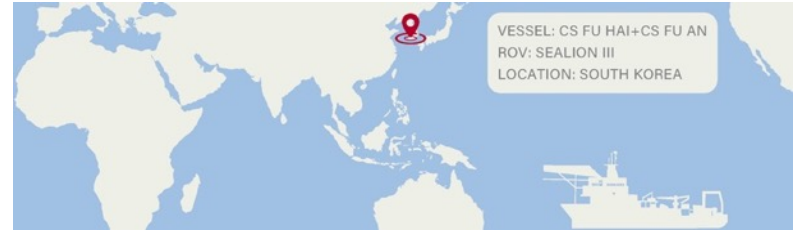
<b>Customer</b>	: Haechun
<b>Vessel</b>	: CS Fu Hai & CS Fu An   Burial Tool: Sealion III
<b>Location</b>	: South Korea
<b>Activity</b>	: Surface lay and PLIB of 12km 22.9kV power cable
<b>Year</b>	: 2017

#### Overview

In 2017, SBSS, in collaboration with Haechun, deployed both DP2 multi-purpose vessel CS Fu Hai and DP1 cable maintenance vessel CS Fu An for the power cable surface lay and PLIB operation connecting Wando and Jinsan in South Korea.

#### Scope of Work

- Cable loading in South Korea
- Surface lay of 12 km of 22.9kV power cable
- The installation of Articulated Pipe cable protection
- Shore end landings
- PLIB operation



#### Project Highlights

For the purpose of cable protection, our client requested that articulated pipe be applied to the entire cable length of 12km of power cable. During the surface lay, the demanding articulated pipe installation procedure was carefully followed, ensuring a constant cable lead. Consideration was also given to ensuring that there was sufficient slack to enable effective post lay burial by ROV.



# Power Utility Services

## Case Studies

### *Jindo-Jeju Interconnector PLIB*

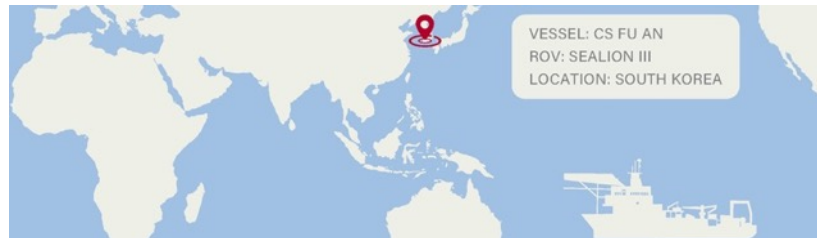
**Customer** : LS Cable & System  
**Vessel** : CS Fu An | Burial Tool: Sealion III  
**Location** : South Korea  
**Activity** : Pre-lay survey and fibre optic cable PLIB  
**Year** : 2012

#### Overview

Following the successful delivery of Jindo bundled lay project, SBSS were contracted by LS Cable yet again for the FO cable PLIB between Jindo and Jeju island, South Korea. DP1 cable ship CS Fu An equipped with jet trenching ROV Sealion III completed the pre-lay survey and PLIB work in just one month.

#### Scope of Work

- FO cable PLIB
- Pre-lay survey utilizing Sealion III



#### Technical Highlights

During the PLIB operation, SBSS's subsea team overcame various technical challenges including hard seabed conditions and the large power cable diameter. Through innovative ROV modification and superb offshore work SBSS successfully delivered the project on time.



# Power Utility Services

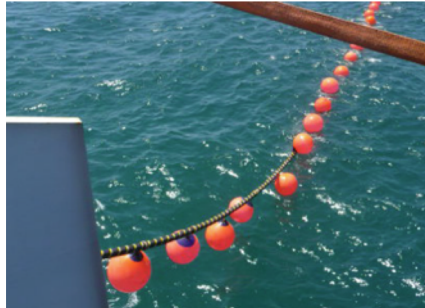
## Case Studies

### *Margarita Island to Chacopata Power Cable Installation and PLIB*

<b>Customer</b>	: LS Cable & System
<b>Vessel</b>	: CS Sovereign   Burial Tool: Atlas
<b>Location</b>	: Venezuela
<b>Activity</b>	: Surface lay and PLIB of 2 x 31km 230kV power cables
<b>Year</b>	: 2014

#### Overview

In 2014, SBSS was contracted by LS Cable & System to install a power cable system linking Margarita Island with the Venezuelan mainland. C.S. Sovereign, a DP2 cable installation vessel owned by the Global Marine Group, was chartered by SBSS to perform the work.



#### Scope of Work

- Direct shore end installation
- Surface lay of 30km AC 230KV XLPE power cable
- Surface lay of 30km AC 230KV XLPE power cable with integrated fibre optic cable
- Post lay inspection & burial of the two laid power cables plus two additional power cables previously laid
- Burial distance of some 60km
- Seamless shore end installation

# OIL AND GAS SERVICES

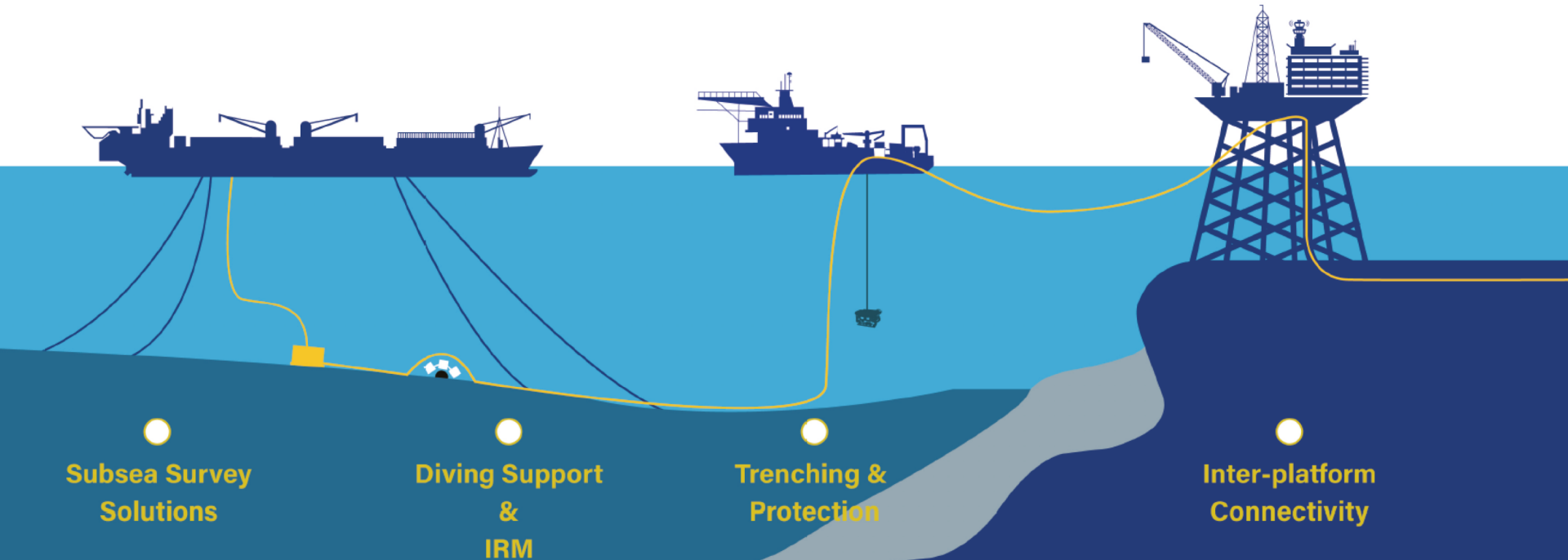


# Oil and Gas Services

○  
**Project  
Engineering**

○  
**Specialist  
Cable Ships**

○  
**Project  
Management**





# Oil and Gas Services

## Our Expertise



**Subsea Cable and Flexible Pipe Installation**  
Proven track record with BP, Shell and CNOOC

- Desktop study and route survey
- Inter-platform and shore-to-platform cable installation
- Flexible pipe installation and J-tube works
- Shore-end landing and beach works
- Cable and pipeline crossings
- Cable testing



**Burial and Protection**  
Cutting-edge assets deliver precision

- Inter-platform and shore-to-platform cable burial
- Post-lay inspection and burial (PLIB)
- Pipeline trenching
- Customized protection solution (mattress, articulate pipe etc.)



**Diving Support and IRM Operations**  
Customized and cost-effective solutions

- ROV-supported inspection, repair and maintenance (IRM) works
- DP2 vessels supporting saturation diving operations

# Oil and Gas Services

## Our Competitiveness



### Track Record

SBSS stepped into the O&G market in 2003 with the first project delivered in the Dong Fang 1-1 field, since then we have completed **30 projects** in this sector across the globe, including BP Tangguh Extension in Indonesia, Shell Cili-Padi in Malaysia, Qatar Barzan in the Middle East and various offshore O&G fields in China.



### QHSE Standards

Keeping a high standard in Quality, Health, Safety and Environment (QHSE) management is at the heart of our day-to-day operation. Our project delivery in **Tangguh Extension** field for Saipem and BP as the end user in 2019, is exemplary of our commitment in pursuit of outstanding QHSE performance.



### Chinese Expertise

Strategically located in Shanghai, China, we are geographically closed to Asian cable manufactures which enables us to offer a **“one-stop” solution** from cable transportation to installation in one package. This will not only significantly reduce the risk of cable damage by avoiding transpooling activities but also achieve substantial schedule and cost savings.



### Sealion III

Sealion III is a purposely-designed trenching ROV with 600 horse power and can bury cable **up to 3m** below seabed. Sealion III is equipped with the state-of-the-art **TSS 440 and 350 dual cable tracking systems**, which provides constant cable and pipe location data to enable burial accuracy.

# Oil and Gas Services

## Track Record

### BP Tangguh LNG Expansion

16.5km of inter-platform connectivity and 41.2km export cable installation and burial, including HDD cable landing

Bold Maverick | Indonesia | Saipem

### Huangyan O&G Field

52.4km of 35kV inter-platform connectivity including post-lay burial operations

Bold Maverick | China | COOEC

### Panyu and Liwan O&G Field

Pipeline trenching and free span correction through ROV supported grouting

Bold Maverick | China | COOEC

### Naga-Pelikan

50km of inter-platform connectivity including post-lay burial operations

Bold Maverick | Indonesia | Swiber

### Wenchang O&G Field

19.3km of 35kV inter-platform connectivity

Bold Maverick | China | COOEC

### Enping O&G Field

46.5km of 35kV inter-platform connectivity

Bold Maverick | China | COOEC

### Huangyan O&G Field

Installation of mattress protection

Bold Maverick | China | COOEC

### Qatar Barzan

6 segments of inter-platform connectivity

Bold Maverick | Qatar | Subtech



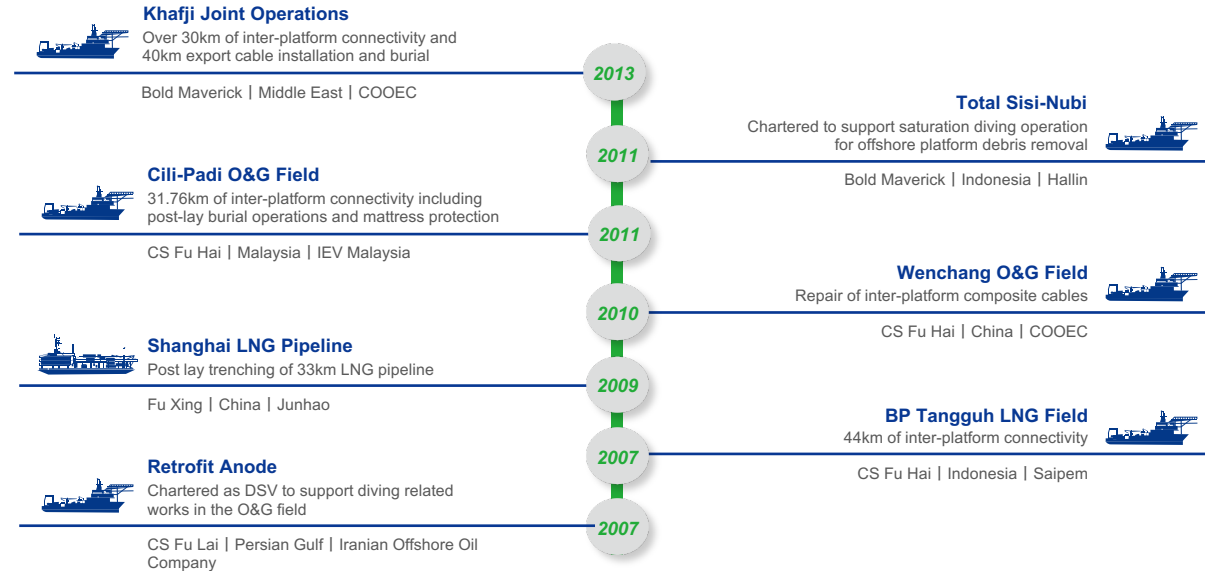
**BP Tangguh LNG Expansion (2019)**



**Qatar Barzan (2013)**

# Oil and Gas Services

## Track Record



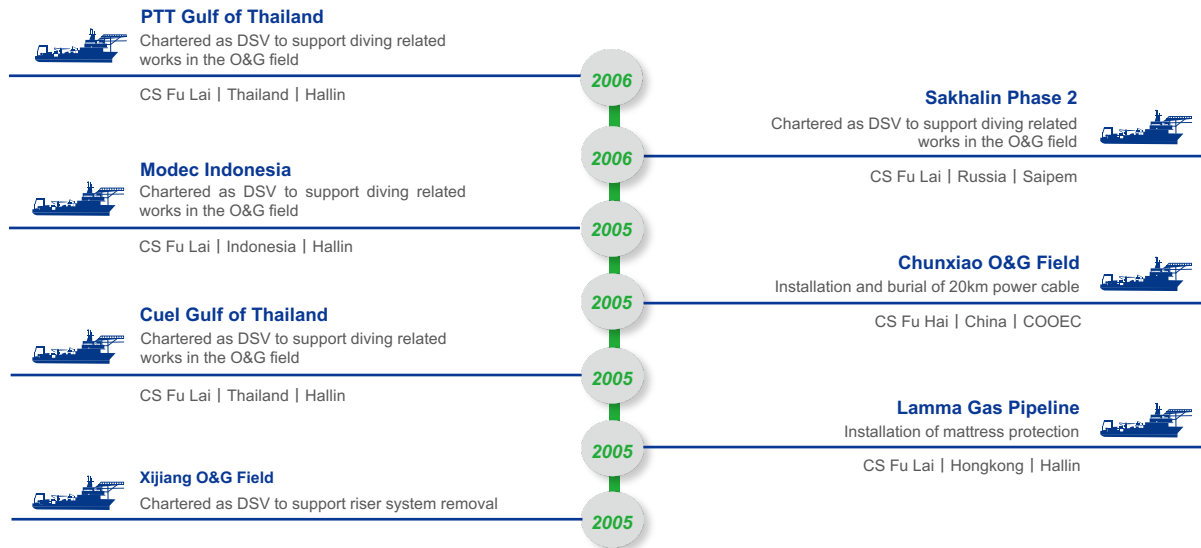
**Cili-Padi O&G Field (2011)**



**Wenchang O&G Field (2010)**

# Oil and Gas Services

## Track Record



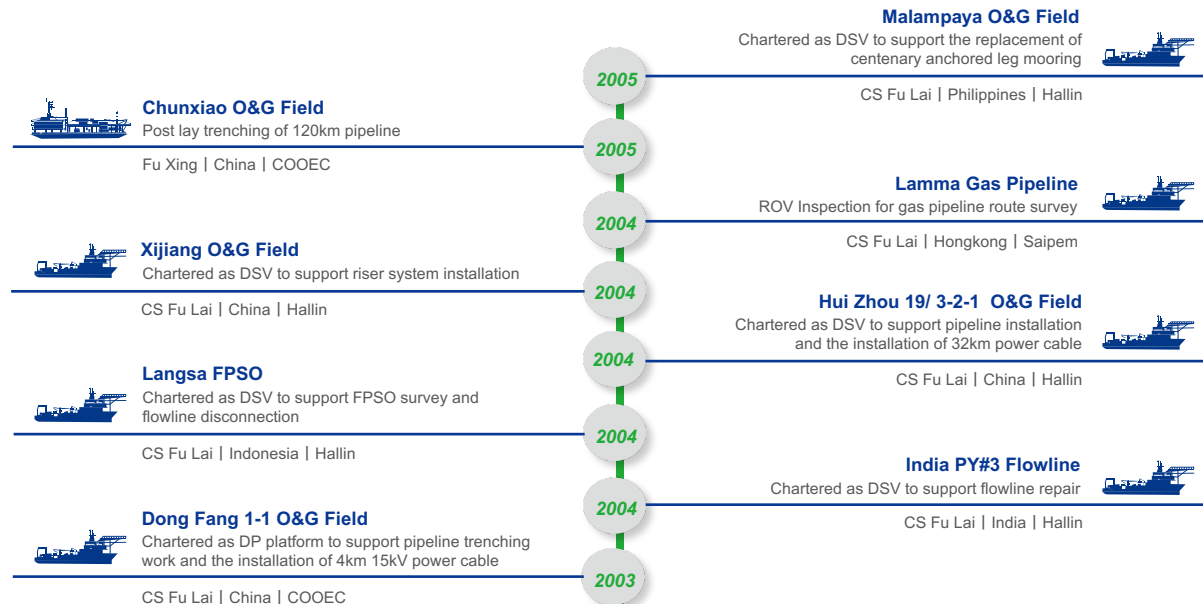
**Sakhalin Phase 2 (2006)**



**Chunxiao O&G Field (2005)**

# Oil and Gas Services

## Track Record



Hui Zhou 19/ 3-2-1 O&G Field (2004)



Dong Fang 1-1 O&G Field (2003)



# Oil and Gas Services

## Case Studies

### *BP Tangguh LNG Expansion*

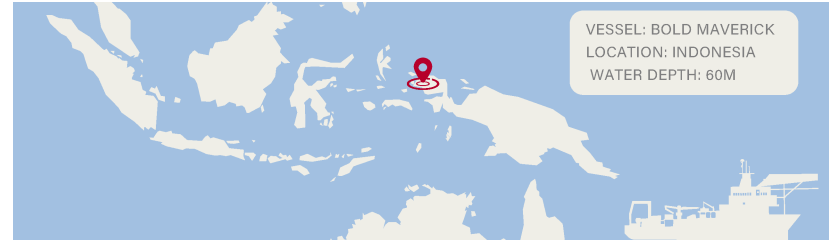
<b>Customer</b>	: Saipem
<b>Vessel</b>	: Bold Maverick
<b>Location</b>	: Indonesia
<b>Activity</b>	: 16.5km of inter-platform connectivity and 41.2km export cable installation and burial , including HDD cable landing
<b>Year</b>	: 2019

#### Overview

In September 2017, SBSS was awarded by Saipem a contract to install 3 composite cables for the Tangguh LNG Expansion Project operated by BP Berau. This was the second project awarded to SBSS by Saipem following the installation and burial of 44km composite cable for Tangguh LNG back in 2007.

#### Technical Highlight

The O&G industry is renowned for its high QHSE management standards as well as the requirement for meeting as-planned project delivery. SBSS not only successfully passed the series of strict QHSE audits but also overcame multiple operational challenges including cable ploughing in strong surface currents and in close proximity to in-service pipelines. Substantial engineering work, a complicated permit application procedure in Indonesia and the threat of local infectious diseases also challenged our team. SBSS again proved our reliability as a trusted long-standing service provider to Saipem.



#### Scope of Work

- Transportation & Installation of 16.5km composite cable from the WDA to ROA platforms operating to a maximum water depth of 60m
- T&I of 28.8 km composite cable from the WDA platform to ORF (onshore)
- T&I of 12.3 km composite cable from the ROA platform to ORF (onshore)
- Shore-end landing, HDD, ploughing and J-tube pull-in



# Oil and Gas Services

## Case Studies

## Wenchang / Huangyan / Enping / Liwan / Panyu Offshore O&G Fields

**Customer** : COOEC  
**Vessel** : Bold Maverick + CS Fu An  
**Location** : China  
**Year** : 2014

Enping

46.5km of 35kV inter-platform connectivity

Huangyan

52.4km of 35kV inter-platform connectivity, PLIB and mattress protection

Wenchang

19.3km of 35kV inter-platform connectivity

Panyu

Pipeline trenching and free span correction through ROV supported grouting

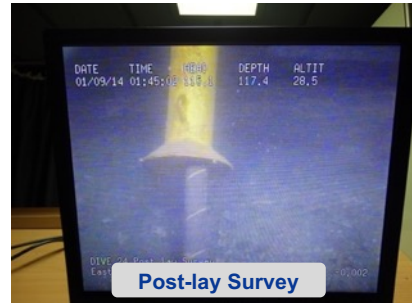
Liwan

Pipeline trenching and free span correction through ROV supported grouting

### Overview

In 2014, SBSS was contracted by COOEC, a wholly subsidiary of CNOOC, to conduct a series of inter-platform cable installation and a wider range of subsea support works for its 5 major offshore O&G fields in the East and South China Seas. The fields were Wenchang, Huangyan, Enping, Liwan and Panyu.

The ahead-of-schedule delivery of the projects reinforced SBSS's reputation and capability as a solution-leading marine service provider.



# Oil and Gas Services

## Case Studies

### *Qatar Barzan Inter-platform Cable Connection*

<b>Customer</b>	: Subtech
<b>Vessel</b>	: Bold Maverick I Burial Tool: Sealion I
<b>Location</b>	: Middle East
<b>Activity</b>	: 6 segments of inter-platform connectivity
<b>Year</b>	: 2013

#### Overview

The Barzan Gas Project was a vital project to sustain and fuel major infrastructural projects in Qatar. The \$10.3bn project was implemented by RasGas, a joint venture (JV) of Qatar Gas and ExxonMobil.

In 2013, SBSS was awarded by Subtech Group (a subsidiary of James Fisher and one of the key marine contractors in the Middle East), a contract to support the cable inter-connectivity of 6 platforms.

#### Key Challenges

The tight installation schedule and short vessel mobilization window were the key challenges that SBSS faced. Supported by skilled onshore and offshore staff and experienced in-house project managers, SBSS effectively mobilized Bold Maverick to Abu Dhabi within one month of contract signature.



#### Scope of Work

- Installation of over 100km of inter-platform fibre optic and power cables
- ROV-support subsea works
- J-tube pull-in and cable protection application



# Oil and Gas Services

## Case Studies

### *Cili-Padi O&G Field Inter-platform Connectivity*

<b>Customer</b>	: IEV Malaysia
<b>Vessel</b>	: CS Fu Hai I Burial Tool: Sealion II
<b>Location</b>	: Malaysia
<b>Activity of</b>	: Over 30km of inter-platform connectivity and 40km export cable installation and burial
<b>Year</b>	: 2013

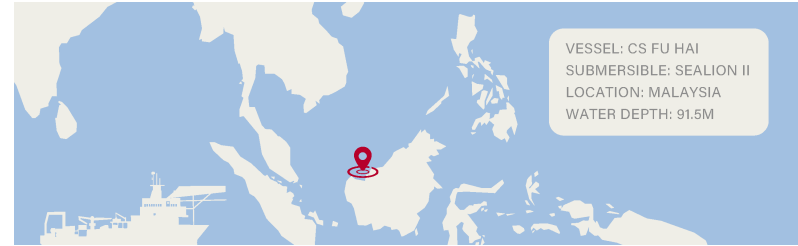
#### Overview

In 2011, SBSS was contracted by IEV to install a 31.76km power cable between the platforms F23R-A and CDPR-A (Cili-Padi) situated in Sarawak Malaysia. The Cili Padi field is operated by Shell Malaysia. This power cable is vital to oil production and is critical for the power supply and remote monitoring of the Cili Padi platform.

#### Project Highlight

The project required precision cable laying along a given route and the work was fulfilled by SBSS's highly maneuverable DP2 cable lay vessel CS Fu Hai with 200hp work class ROV onboard.

Thorough pre-op audits were conducted by the client and the high management standards of SBSS's vessel, crew and project team were recognized allowing us to meet the uncompromising demands of QHSE.



#### Scope of Work

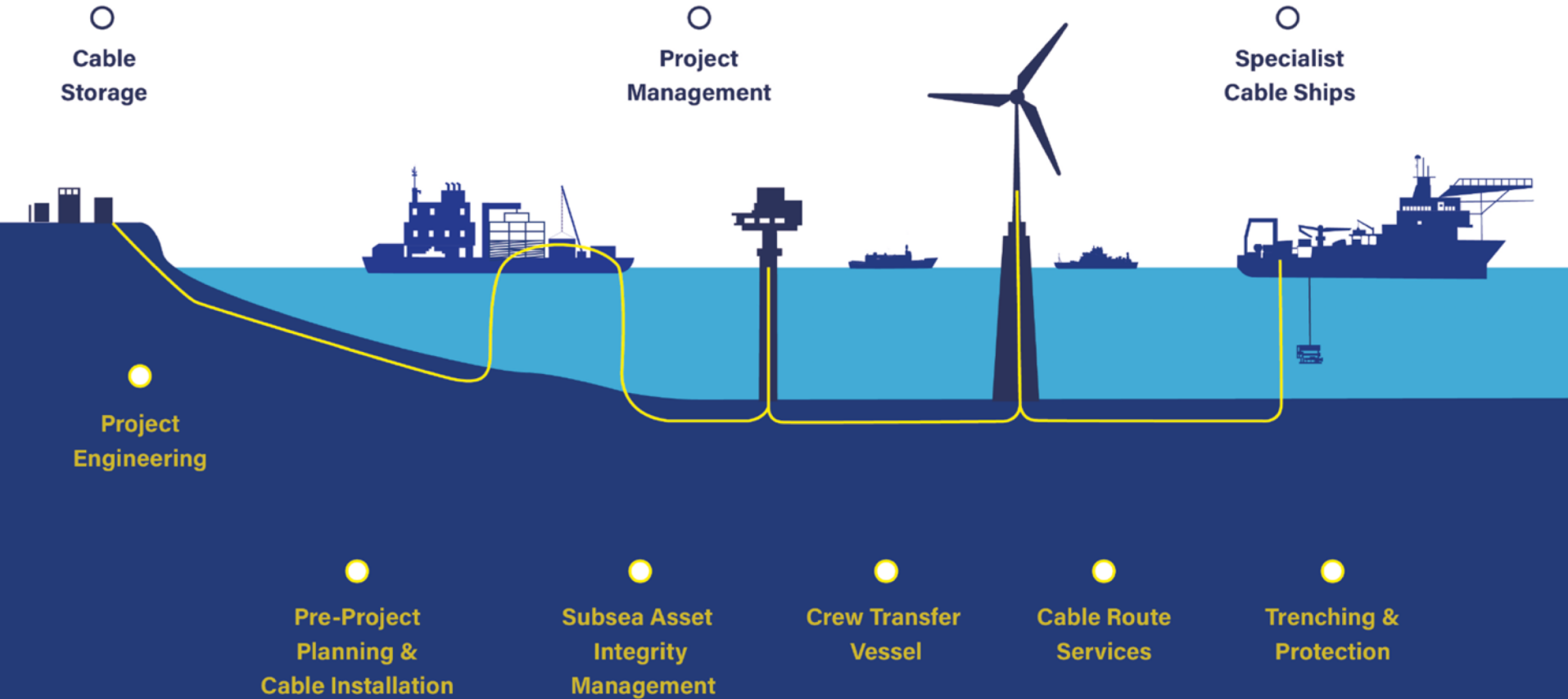
- T&I of 31.76 km of power cable connecting platform F23R-A and CDPR-A in maximum water depth of 91.5m
- J-tube pull-in and concrete mattress installation
- Post-lay burial utilizing Sealion II ROV



# RENEWABLES SERVICES



# Renewables Services





# Renewables Services

## Our Expertise



### **Pre-project Planning & Cable Installation**

60,000km unprecedented track record

- Installation of export and inter-array cable
- Shore-end landing and beach works
- J-tube pull-in, cable termination and testing



### **Burial and Protection**

Cutting-edge assets deliver precision

- Trenching and post-lay inspection and burial (PLIB)
- ROV-supported burial inspection
- Customized protection solution (sandbag, mattress, cable protection system)



### **Subsea Asset Integrity Management**

Complete services portfolio and bespoke solution

- ROV-supported subsea asset inspection (cable, foundation, substation)
- Inspection and analysis of cable burial depth
- Scheduled and unscheduled maintenance

# Renewables Services

## Our Competitiveness



### Track Record

SBSS is highly experienced in power cable installation and burial with over 40 projects delivered across the power utility, O&G and offshore wind sectors since 2003. We officially stepped into the offshore wind sector in 2017 and have delivered **numerous 220kV export cable installation and burial projects.**



### Integrated Services

Our comprehensive set of services covers the **lifecycle** of submarine power cable from pre-project planning, route survey, PLGR, shore-end landing, cable installation, trenching to ROV-supported inspection and repair.



### Post-lay Burial

The **post-lay burial (PLB)** services that SBSS offer fundamentally changes the way cable lay and burial is conducted within the Chinese offshore wind market. As offshore installation windows are very much limited by the weather, the combination of surface lay and PLB substantially reduce the main lay time and offers a **significantly safer solution** to renewable cable installations during the Typhoon season.

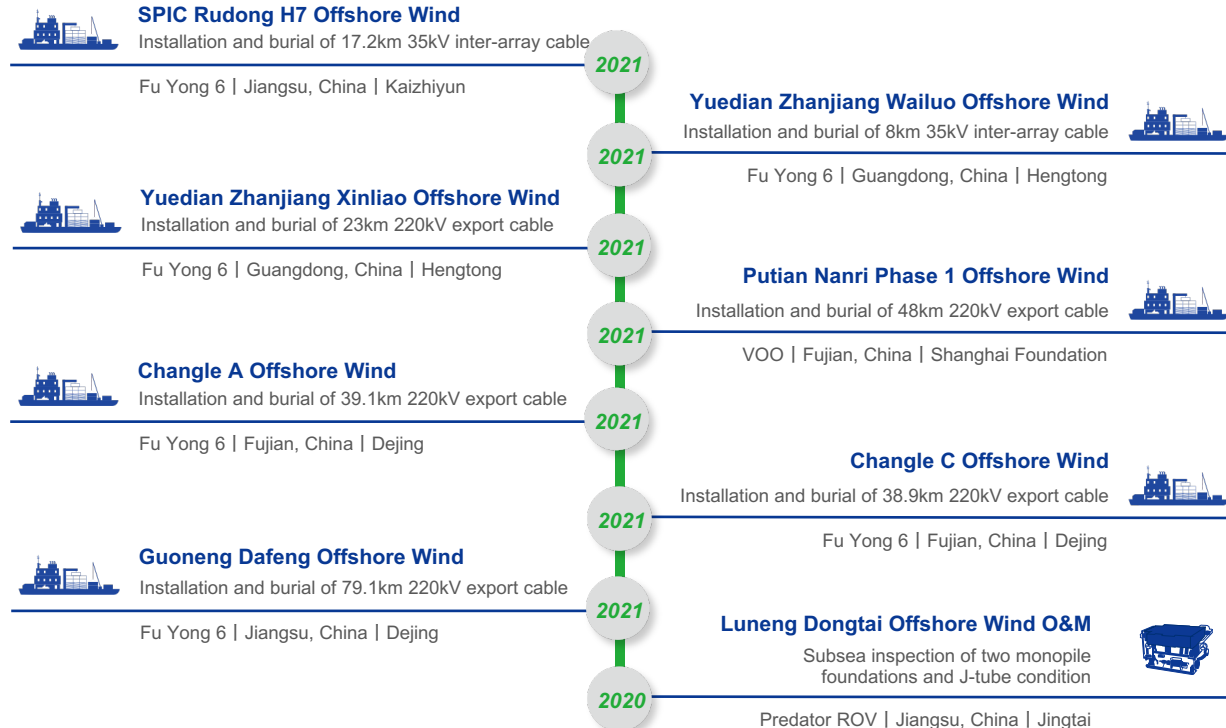


### Synergy with CWind

We work closely with our sister company **CWind**, a British-based offshore wind turnkey solution provider with experience in almost 50 European offshore wind farm and supporting 12 GW of power generated by the offshore wind sector, to ensure that **our solutions are best practice solutions.**

# Renewables Services

## Track Record



Changle C Offshore Wind (2021)



Guoneng Dafeng Offshore Wind (2021)

# Renewables Services

## Case Studies

### Changle C Offshore Wind 220kV Export Cable Installation

**Customer** : Dejing  
**Asset** : Fu Yong 6  
**Location** : Fujian, China  
**Workscope** : Installation of 38.9km export cable  
**Year** : 2021

#### Project Highlight

Installation of the 38.9km length of Changle-C export cable, with burial to 3 metres is now complete.

For the first time in the company's 26 year history, SBSS performed the full work scope. Shore end civil ops, cable landing and offshore installation.

The 258mm diameter, 132kg/m, 220kV power cable was pulled some 1.7km to the beach manhole over three successive tides.



# Renewables Services

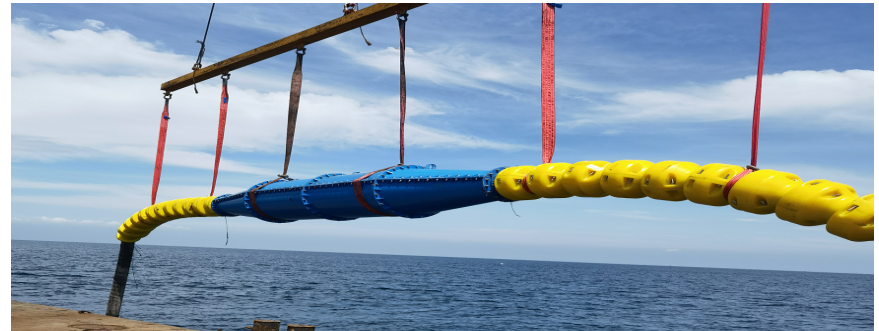
## Case Studies

### Guoneng Dafeng Offshore Wind 220kV Export Cable Installation

**Customer** : Dejing  
**Asset** : Fu Yong 6  
**Location** : Fujian, China  
**Workscope** : Installation of 79.1km export cable  
**Year** : 2021

#### Project Highlight

The project consisted of the installation of two segments of export cable, 79.1km length in total, connecting the Dafeng H5#-1 to H5#-2 offshore substations and H5#-2 offshore substation to the onshore substation. SBSS's Greater China team overcame multiple challenges along the way including the very long-distance shore-end landing, a complicated cable route on site and orchestrating the overall project. The successful delivery evidences a critical step forward in the overall Dafeng H5 grid connection which is targeted for completion before the year-end 2021.



# Renewables Services

## Case Studies

### *Luneng Dongtai Offshore Wind Subsea Inspection*

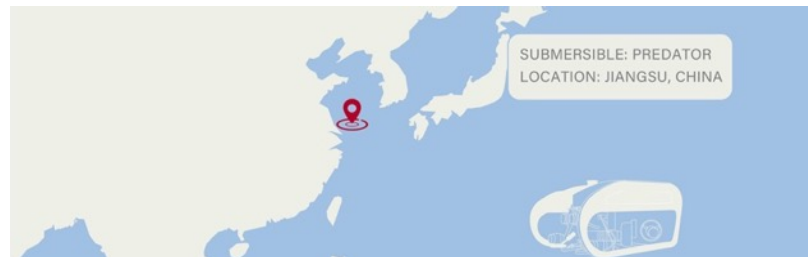
<b>Customer</b>	: Jiangsu Jingtai
<b>Asset</b>	: Predator
<b>Location</b>	: Jiangsu, China
<b>Activity</b>	: Subsea inspection of two monopile foundations and J-tube condition
<b>Year</b>	: 2020

#### Overview

In 2020, SBSS was contracted by Jiangsu Jingtai to conduct the subsea inspection of two monopile foundations and J-tube condition in the Dongtai offshore wind farm, which was developed and operated by Luneng, Jiangsu.

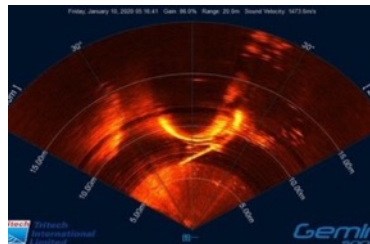
#### Project Highlight

SBSS mobilized the owned and operated inspection class ROV “Predator” for this important work. This ground breaking project marked a turning point in the Chinese offshore wind O&M sector as it was the first occasion in which such technology was utilised. Our successful project delivery demonstrated the feasibility of this methodology and its added-value to customers when compared to conventional inspection delivered by divers.



#### Asset

Predator, a 300m depth-rated inspection class ROV, has been developed to meet the demanding need for rugged and reliable underwater viewing systems. The ROV features a color-zoom camera and Tritech sonar, which is widely utilized in subsea inspection, research and survey work.





# Renewables Services

## Case Studies

### *Longyuan Dafeng Offshore Wind Export Cable Installation*

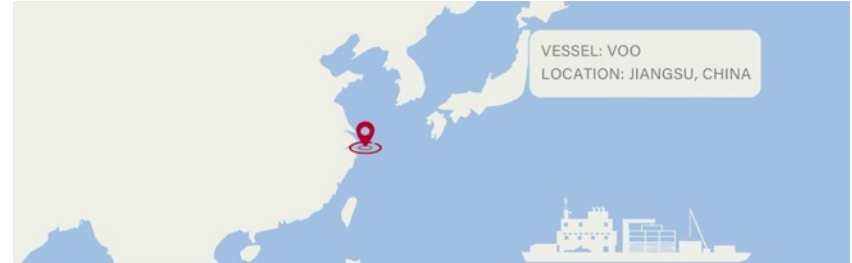
Customer	: Shanghai Foundation
Vessel	: VOO
Location	: Jiangsu, China
Activity	: Installation and burial of 19.5km 220kV export cable
Year	: 2019

#### Overview

In 2019, SBSS was contracted by the Shanghai Foundation to install 19.5km of 220kV export cable in the Dafeng offshore wind farm, which was developed and operated by Longyuan, Jiangsu.

#### Scope of Work

- Transportation & Installation of 1 x 19.5 km 220kV export cable
- Shore-end landing and J-tube pull-in to offshore sub-station
- Export cable burial to 3m below the seafloor



#### Value Added

By bringing our extensive deep water cable installation experience to bear, SBSS achieved precise cable laying, exacting cable burial and ahead-of-time project delivery for this shallow water project during the testing East China Sea winter season.

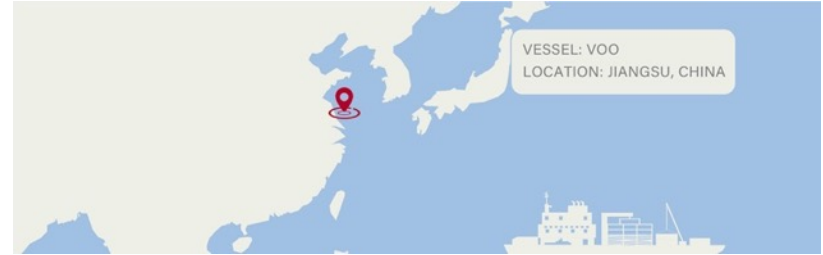


# Renewables Services

## Case Studies

### *Datang Binhai Offshore Wind Export Cable Installation*

Customer	: Shanghai Foundation
Vessel	: VOO
Location	: Jiangsu, China
Activity	: Installation and burial of 23km 220kV export cable
Year	: 2017



#### Overview

In 2017, SBSS was contracted by the Shanghai Foundation to install 23km of 220kV export cable out to the Binhai offshore wind farm, which was developed and operated by Datang.

#### Scope of Work

- Transportation & Installation of 1 x 23 km 220kV export cable
- Shore-end landing and J-tube pull-in
- Export cable burial to 3m below the seafloor

#### Value Added

Exceptional SBSS attention to detail and experienced project management ensured seamless communication among various parties including the developer, local authorities and suppliers. SBSS is proud to have delivered this project to a satisfied customer.



# Renewables Services

## Case Studies

### *Power cable installation for the Voith Tidal Current Turbine*

<b>Customer</b>	<b>: Voith</b>
<b>Vessel</b>	<b>: CS Fu Hai</b>
<b>Location</b>	<b>: South Korea</b>
<b>Activity</b>	<b>: Installation of 3.5km 11kV power cable for tidal current turbine system</b>
<b>Year</b>	<b>: 2010</b>



#### Overview

In the winter of 2010, SBSS mobilized CS Fu Hai to South Korea and successfully delivered the first tidal turbine cable lay project in the Korean peninsula.

#### Project Highlight

Despite challenging strong surface currents, SBSS's experienced offshore team positioned the termination box precisely on the seabed within the Jangjuk Channel



## QHSE COMMITMENT



**SBSS is certified to ISO 9001, ISO 14001 and ISO 45001.**



# QHSE Commitment

## Safety Moment

SBSS take offshore safety seriously and within our internal procedures is a requirement that our offshore staff regularly submit Safety Observation Cards (SOS cards) reporting on both unsafe or safe performance practices that they witness onboard.

Through the implementation of our SOS card procedure, not only are unsafe practices reported on and corrected in a timely manner, but also the information can be shared within our fleet as "Lessons Learned".

We are proud of the safety culture engendered in S.B. Submarine Systems. We constantly strive to improve our safety record. When the job is done our crews must return home safe to their families.



SBSS Captain of CS Fu Hai submitted the 1000th SOS card.



# QHSE Commitment

## COVID-19 Response

The safety and wellbeing of our office staff and our offshore crew has always been at the core of our business and is the number one priority for us during the COVID-19 pandemic period. Measures have been taken to limit the potential risk and reinforce our commitment to QHSE.

For our offshore operations, we have increased the health and safety standards across our fleet with measures that include regulated crew shift policy, strict hygiene procedures, sufficient protective equipment provision and a daily health condition report regime.



**Strict health check onboard Bold Maverick**

PEOPLE | CSR | LATEST NEWS



中国扶贫基金会  
CHINA PEOPLE'S AID FOUNDATION  
CPAF

# Our People

People power the future.

SBSS's Project Managers have a combined experience in managing submarine cable projects of more than one hundred years.

Our senior offshore staff have worked in the submarine cable business for decades and possess a wealth of operational experience in the sector.

Our onshore technical solution team and fleet operation people are former cable ship Captains, Senior Engineers, Senior Cable Engineers and Senior Subsea Engineers who have a practical understanding of our business and the specialism of cable installation & cable burial.



# Corporate Social Responsibility

## Papua New Guinea Rescue

On the 18th December 2018, one of our cable lay vessels, CS Fu Hai, rescued ten stranded seafarers in Milne Bay province in Papua New Guinea.

The sea conditions during the rescue were harsh but our offshore team successfully recovered the crew of MV Lousianne, who had been adrift for 36 hours, and subsequently towed their vessel to Port Moresby.



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LINKING THE WORLD  
LIGHTING THE FUTURE

A thin, horizontal, light green arc is positioned below the tagline.