

**SPECIALIST IN BRIDGE  
BUILDING EQUIPMENT,  
HEAVY LIFTING AND  
TRANSPORTATION  
EQUIPMENT.**



**More info: [rkpro.eu](http://rkpro.eu)**



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## INTERNATIONAL PROJECT

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# 1 WHO IS

- ⦿ Background
- ⦿ Milestones

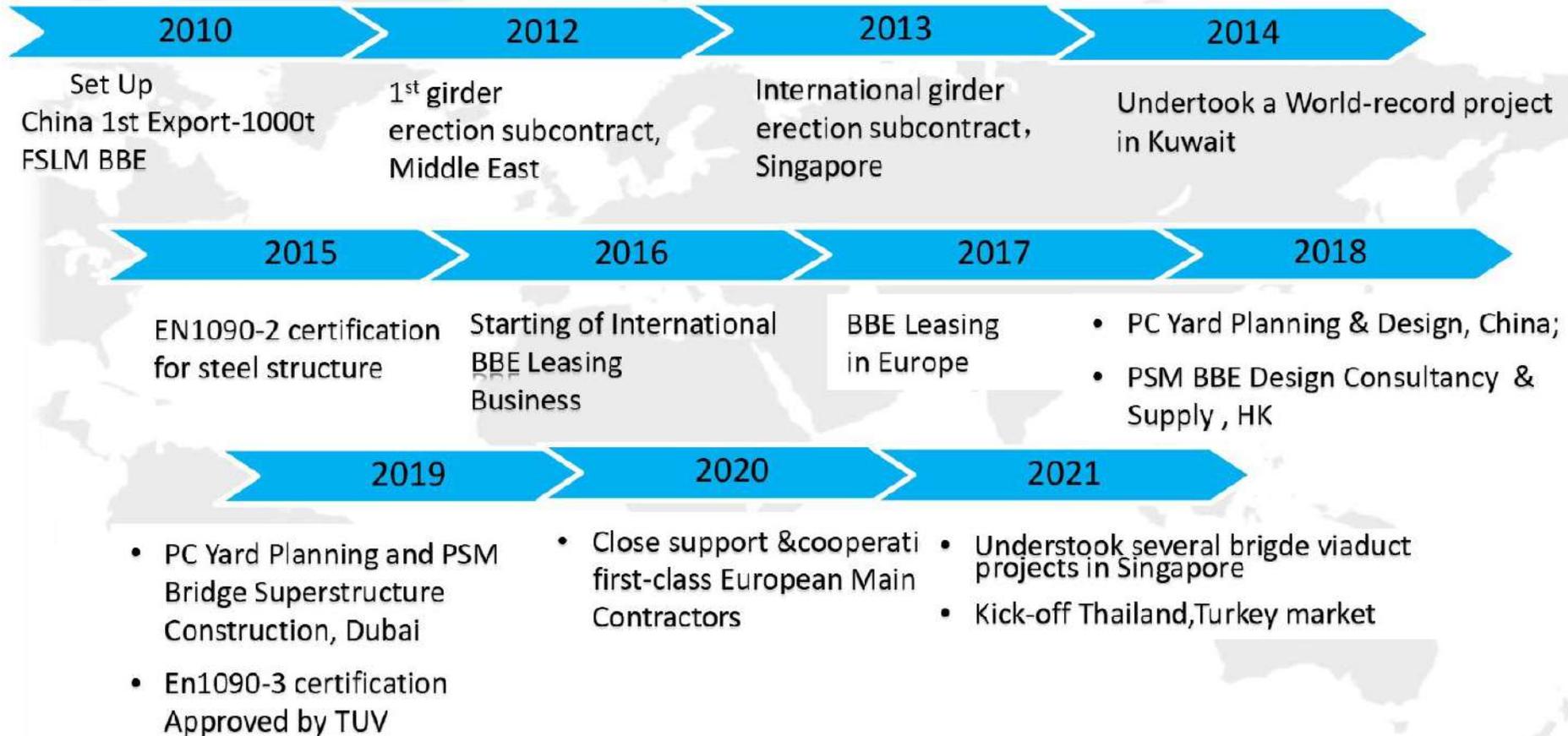


# Brief

- **Head Office Located in Hong Kong**
- **A Specialised Bridge Construction Services Provider offering engineering consultancy, construction equipment design & supply, equipment leasing, technical service and also subcontracting of bridge superstructure construction**
- **Focus on offering customized solutions for bridges, viaducts and elevated structures (say MRT/LRT) construction, as well as projects involving heavy lifting and transportation.**
- **Design conform to EURO Code, Manufactured in Mainland,China, ISO standard quality control,EN exc.2 or 3.**

# Milestones

## THE WAY: TO BE INTERNATIONAL BRIDGE CONSTRUCTION SOLUTION SPECIALIST



# 2 BUSINESS SCOPE

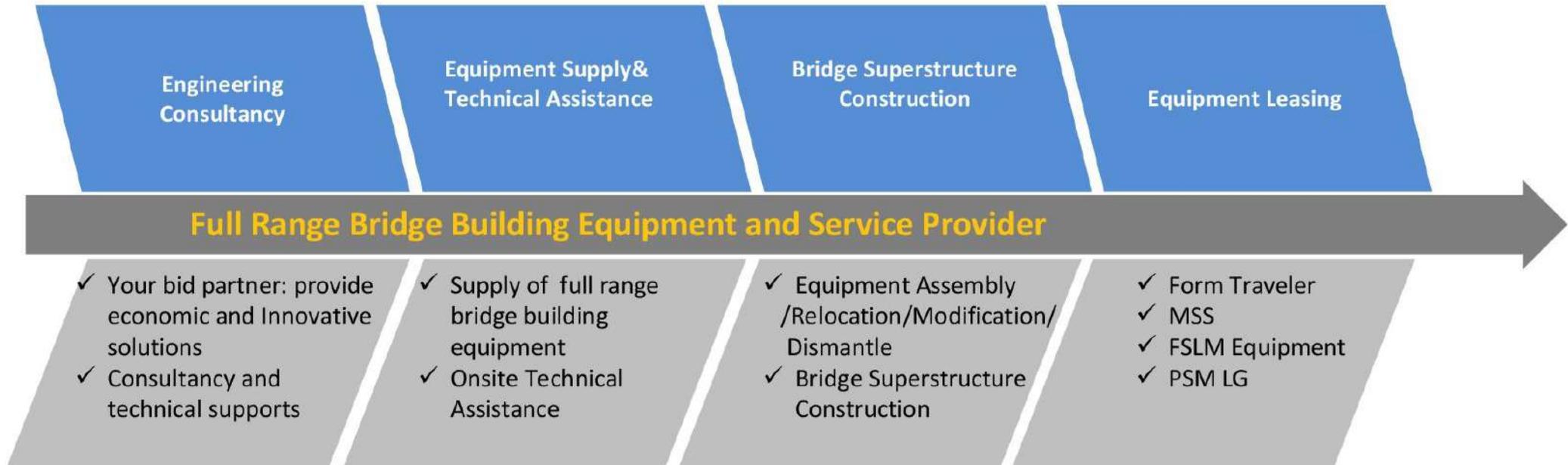
- ⦿ Business Scope
- ⦿ Major Equipment



# Business Scope

- **Professional Bridge Construction Services Provider**
- **Focus on International Market**

The services of solutions range from providing engineering consultancy, construction equipment design & supply, equipment leasing, technical assistance for equipment installation and operation, and also subcontracting of bridge superstructure construction as per each specific project and client's requirements.



# Business Scope

## Major Equipment We Supply

### 1. Launching Equipment for Precast Bridge

- ◆ Precast Full Span Launchers
- ◆ Precast Segment Launching Gantries
- ◆ Beam Launchers
- ◆ Segment Lifters



### 2. Launching Equipment for Cast In Situ Bridges

- ◆ Form Travelers (FT)
- ◆ Movable Scaffold Systems (MS)



### 3. Heavy Transportation Equipment

(Loading capacity from 20tons~2500 tons)

- ◆ Transporters



### 4. Heavy Lifting Equipment

(Loading capacity from 10tons~1800 tons)

- ◆ Gantry Cranes
- ◆ Straddle Carriers



### 5. Formwork/Mould

# Major Equipment

## 1. Launching Equipment for Precast Bridge

- ◆ **Precast Full Span Launchers**
- ◆ Precast Segment Launching Gantries

Full Span  
Launcher- for HSR  
& Expressway



450t~1000t Single-girder erection



Min.  $\geq 1500\text{m}$  curve radius,  
Construction at Tunnel Portal



Special Trolley System

Beam Launchers  
for various I  
/T/U/Box beams



Applicable for HSR & Expressway



Comprehensive solution for rear/side/below feeding

# Major Equipment

## 1. Launching Equipment for Precast Bridge

- ◆ Precast Full Span Launchers
- ◆ Precast Segment Launching Gantries

TONNAGE RECORD  
13000t

Launcher and Lifter  
for building 1300t  
aqueduct



- Launcher and Lifter for building 1300t aqueduct Used in China South to North Water Diversion Project

11800T FSLM  
equipments



- Full set of 1800T FSLM equipments was broadcast on CCTV's "The pillar of a great power" program.

# Major Equipment

## 1. Launching Equipment for Precast Bridge

- ◆ Precast Full Span Launchers
- ◆ Precast Segment Launching Gantries

*LG exceeds conventional design limits in modern bridge construction!*

- ✓ *Applicable for varieties of critical conditions e.g. big sloop, small curve etc.*
- ✓ *Implementation of hinges on our underslung LG has made it possible to erect spans with a horizontal radius down to 75m.*



Overhead LG



Underslung LG, Hinge Connection



Combo LG



In-filled LG



DXP200 Derrick Crane, China



Derrick Crane, U.S.A



DXP180 Derrick Crane, Vietnam



DXP75 Derrick Crane, HK

# Major Equipment

## 2. Construction Equipment for Cast In Situ Bridges

- ◆ **Movable Scaffold Systems (MSS)**
- ◆ Form Travelers (FT)

Cast-in -Situ equipments MSS/FT was vastly used for Chinese HSR.

- Now mainly serves European and Southeast Asian markets sales, technical assistance and leasing services



# Major Equipment

## 3. Heavy Transportation Equipment

### ◆ Transporters

(Loading capacity from 20tons~2500 tons)

#### PURPOSE OF USE:

- Widely used for loading of precast bridge girders / segments, rebar cages, etc. at Precast Yard;
- Erection of precast bridge segments;
- Loading & Unloading structure parts at Shipyard, Steel Mill and other industries.



# Major Equipment

## 4. Heavy Lifting and Transportation Equipment

◆ **Straddle Carriers**

◆ Gantry Cranes

### PURPOSE OF USE:

- Widely used for loading of precast bridge girders / segments at Precast Yard; Steel cage lifting and loading
- Erection of precast bridge segments;
- Loading & Unloading parts at Shipyard, etc.



# Major Equipment

## 5. Formwork/Mould



# Major Equipment

## Others, Equipment Leasing

*Design conform to EURO Code  
High standard configuration*

Leasing option for kinds of  
Bridge Superstructure Construction Equipment:

- ◆ Leasing service for newly manufactured or second-hand equipment modification
- ◆ Second-hand Equipments Available:
  - ✓ FSLM Equipment (Set of 1800T SC/TP/LG)
  - ✓ PSM Launching Gantry (50m, 1000T)
  - ✓ Cast in situ Equipment (MSS/FT)
  - ✓ Gantry Cranes (Lifting Capacity 0t~180t)



# 3 INTERNATIONAL PROJECTS

⦿ Major Project Reference



# Major Projects

## Full Span Launching Method Equipment Supply and Service

SOUTH KOREA, HO NAM HIGH SPEED RAILWAY PROJECT, SECTION 2-4, 2010



# Major Projects

Assembled and commissioned the full set FSLM equipment quickest and erected the first span in Honam HSR project.



record: erected a set of 1000T gantry crane in 17 days!



# Major Projects

## Full Span Launching Method Equipment Supply and Service

KUWAIT, SHEIKH JABER AL-AHMAD AL-SABAH CAUSEWAY PROJECT



**Launching Gantry  
1800t Capacity**

**Year: 2014-2018**

### **designed and supplied:**

- 1 set of 1800T Launching Gantry
- 1 set of 1800T Transporter on Land
- 1 set of 1800T Transporter on deck
- 1 set of 1800T Straddle Carrier for PC yard
- 1 set of 1800T Straddle Carrier for jetty
- 16 ea gantry cranes for PC yard
- 1 set of 1100t Overhead Crane

incl. Site assembly and commissioning, Relocation and Dismantling.

Later in view of good performance and professional capacity, SDI is also awarded with the girder Erection(FSLM Equip. Operation) construction contract.

# Major Projects

Transporter #1 on Deck(TOD)  
1800t



Transporter#2 on Land(TOL)  
1800t



# Major Projects

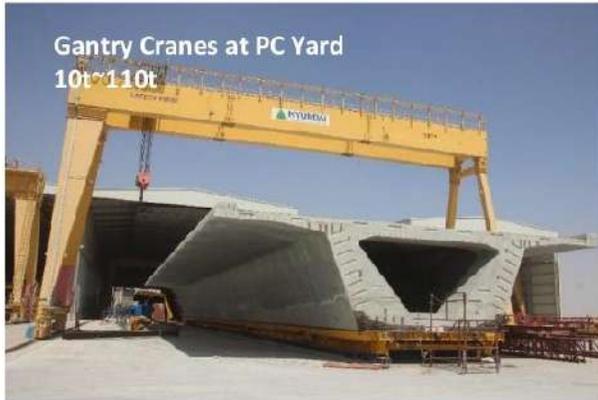
Straddle Carrier#1 at PC Yard  
900t\*2



Straddle Carrier#2 at Jetty  
900t\*2



Gantry Cranes at PC Yard  
10t~110t



Overhead Crane at Temporary Jetty  
1100T capacity



# Major Projects

## Accomplishments

Offshore Assembly of 1800t Launching Gantry and Transport



A Record of Erecting 4 PC Girders within 3 Days, while Design Requirement: 2 PC Girders / 2 Days



# Major Projects

## Segmental Launching Gantry Equipment Supply and Service

### SADR ELEVATED EXPRESSWAY BRIDGE PROJECT IN MIDDLE EAST

SOW:        Supply 4 sets 50m/1000T span by span Launching Gantries  
              Assembly of 4 sets launching gantries  
              Operation of 2 sets launching gantries

Year:        2011-2013



# Major Projects

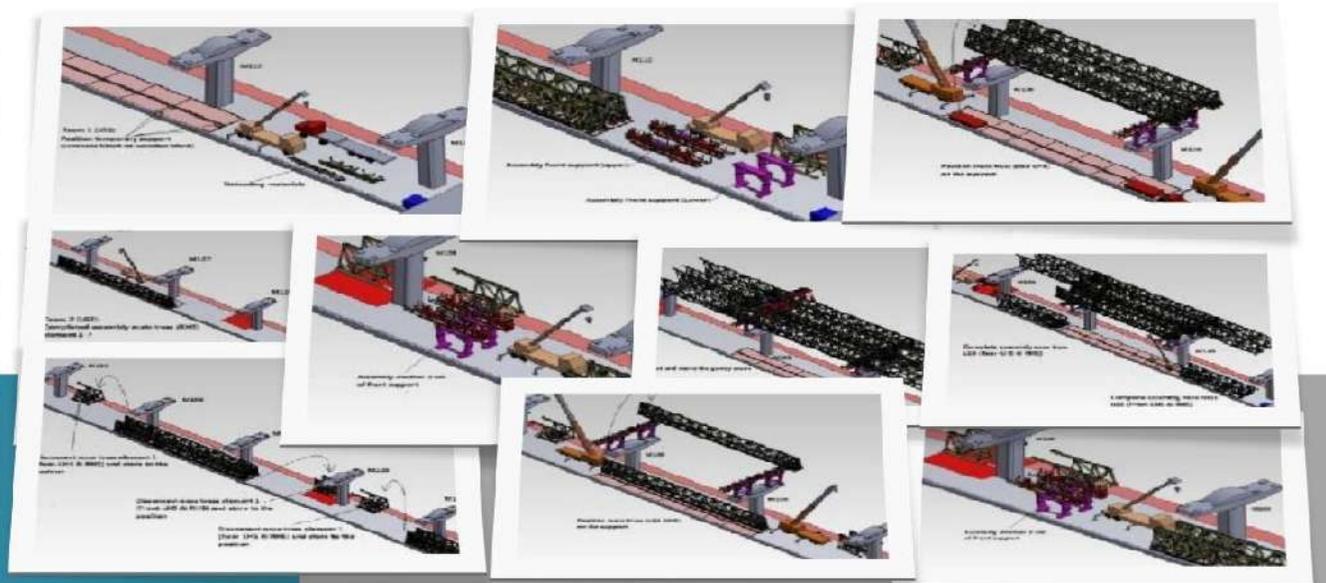
## Technical Challenges Overcome

**Max longitudinal slope 6%, Max. horizontal slope 5.2%,  
Combined with Tightest curve radius of 380m.**



# Major Projects

## Efficient Assembly Despite of Limited Area



- Every two launching gantries were assembled at each end of the bridge.
- On the east end, the two launching gantries had to be assembled around the piers and within 4 piers' length. On the west end, the two launching gantries had to be assembled one after another in an area of 80m\*39m. Planning work was hugely increased due to insufficient assembly area.

# Major Projects

record: erected 1 span within 28 hrs



## A team of over 60 persons finished task in Middle East

- Project manager, foremen, engineers, safety officers and 60 riggers
- Assembling and commissioning of 4 sets 50m/1000t launching gantries
- Skilled operation of 2 sets 50m/1000t launching gantries
  - 110 spans (50m, PSM) were erected in 7 months

# Major Projects

## Segmental Launching Gantry Equipment Supply and Service

SINGAPORE MRT C1688 BID

Client: Shanghai Tunnel E&C Singapore

Jobs: Assembly, Relocation, Operation and Dismantling of  
2 sets of DP500 launching gantries

Year: 2014-2015



# Major Projects



Assembly

Relocation with time limit



Erection Operation

Singapore was awarded the Operational Contract for construction of the C1688 MRT, including assembly, relocation and dismantling.

# Major Projects



LG erected double deck spans with different levels



LG erected double and triple deck spans



LG erected 3 levels deck in station area, incl. segments, I beams, and T beams

completed erection of over 200 spans and multiple relocations of the launching gantries with no major accidents or reportable accidents.

# Major Projects

## Segmental Launching Gantry Equipment Supply and Service

### TAIWAN HIGHWAY BRIDGE PROJECTS

Client: Continental E&C

Jobs: Supply 3 sets of Combo Launching Gantries

Year: 2010



# Major Projects

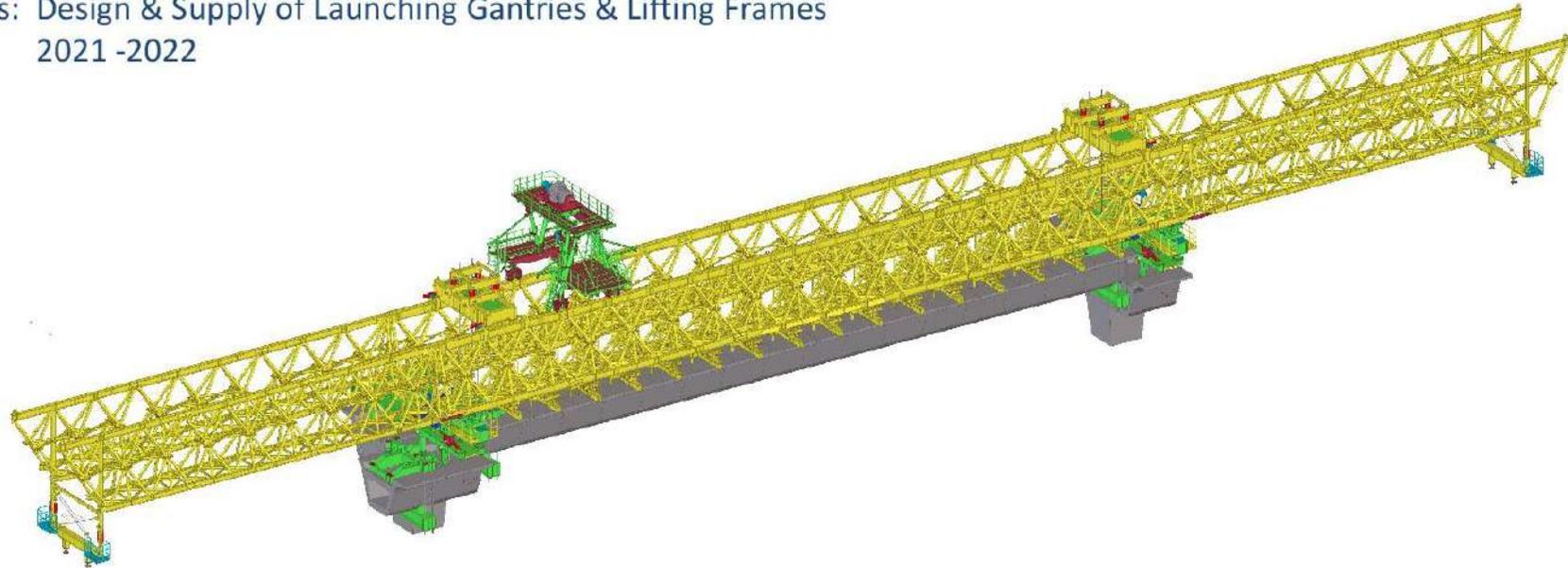
## Segmental Launching Gantry Equipment Supply and Service

J109, Jurong Region Line MRT

Client: DAEWOO-YONGNAM J.V.

Jobs: Design & Supply of Launching Gantries & Lifting Frames

Year: 2021 -2022



# Major Projects

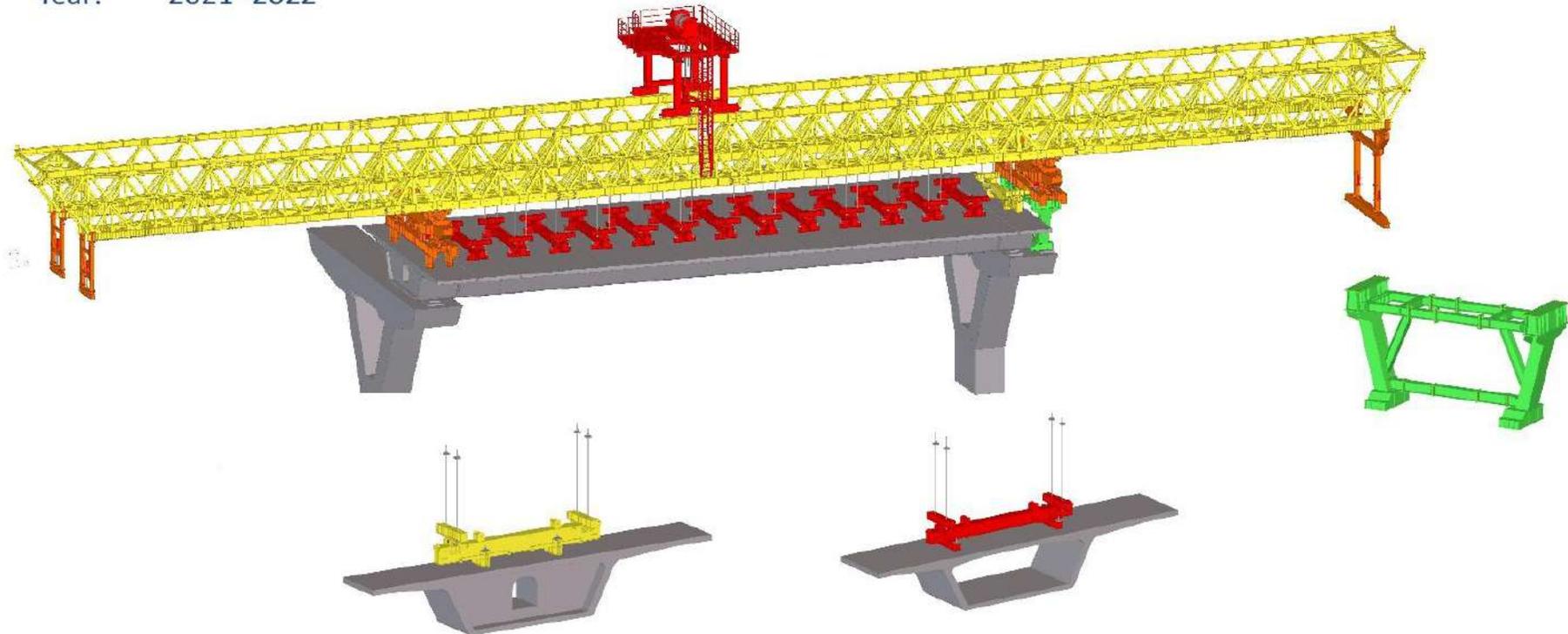
## Segmental Launching Gantry Equipment Supply and Service

Design&Construction of Viaduct on Highway Route No.82, Thailand

Client: AlpiSEA

Jobs: Design & Supply 4sets of Launching Gantries

Year: 2021 -2022



# Major Projects

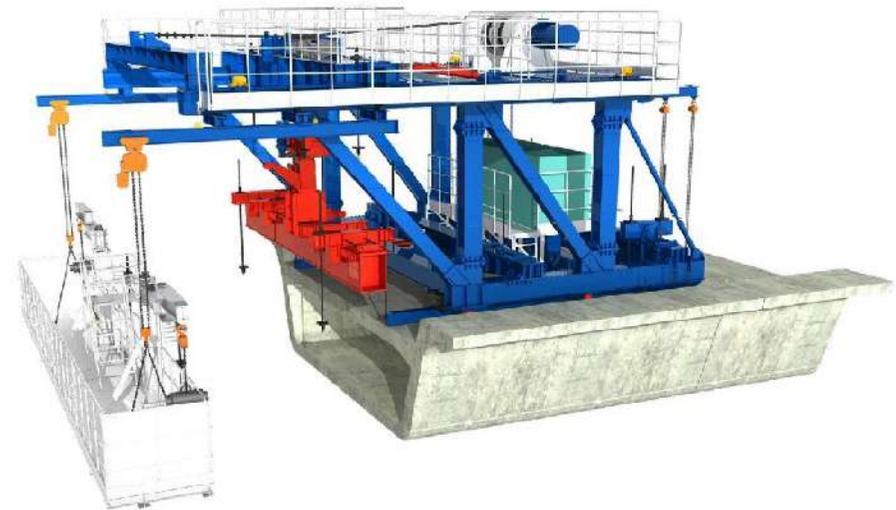
## Segmental Lifter Equipment Supply and Service

J107, J103 Jurong Region Line MRT

Client: Freyssinet (J103), Acreworks(J107)

Jobs: Design & Supply Lifting Frames/Segment Lifters

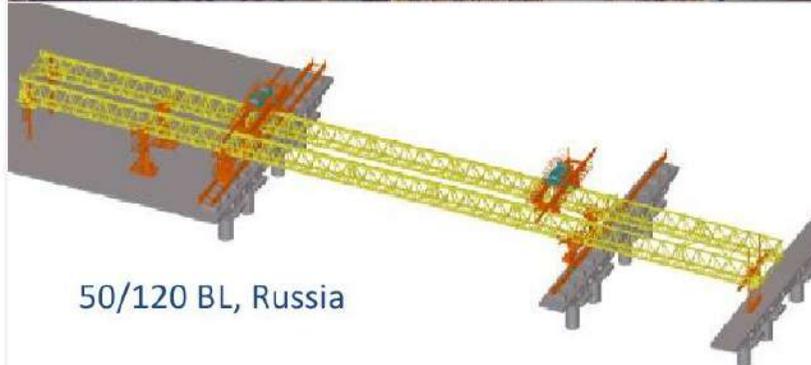
Year: 2021 - 2022



# Major Projects

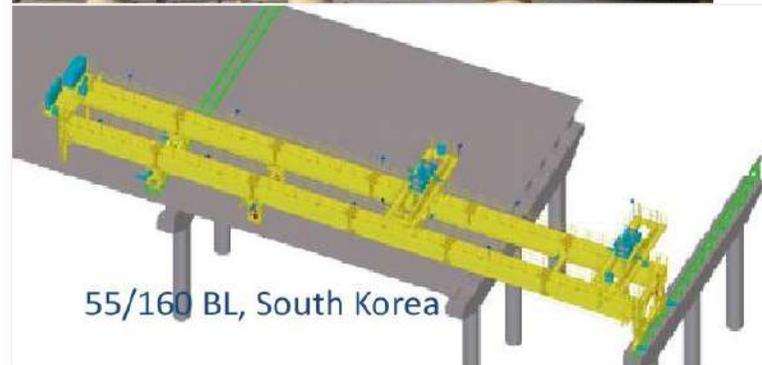
## Beam Launchers Design and Supply

- Steel Bridge,  
Russia, 2012



50/120 BL, Russia

- Daegu Station,  
South Korea, 2013



55/160 BL, South Korea

# Major Projects

## Beam Launchers Design and Supply

- Mombasa Road Bridge, Kenya, 2020

Client: VSL

Jobs: Design&Supply Beam Launcher and Transporter, Onsite Technical Assistance Services

Year: 2020 -2021



# Major Projects

## Straddle Carriers Design and Supply

- TAIWAN MASS TRANSIT SYSTEM PROJECT, 2013
- TAIWAN XIBIN EXPRESSWAY VIADUCT PROJECT, 2014
- TAIWAN LINEAR COAL BUNKER CONSTRUCTION PROJECT, 2016



**160ton Straddle Carrier  
At PC Yard**



**160ton Straddle Carrier  
At Handling Yard**



**180ton Straddle Carrier  
For Segment Erection**

# Major Projects

## Straddle Carriers Supply and Services

TEMBURONG BRIDGE PACKAGE CC2 PROJECT IN BRUNEI, 2016

Client: Daelim E&C

Jobs: Design&Supply 900T Straddle Carrier, Onsite Technical Assistance Services



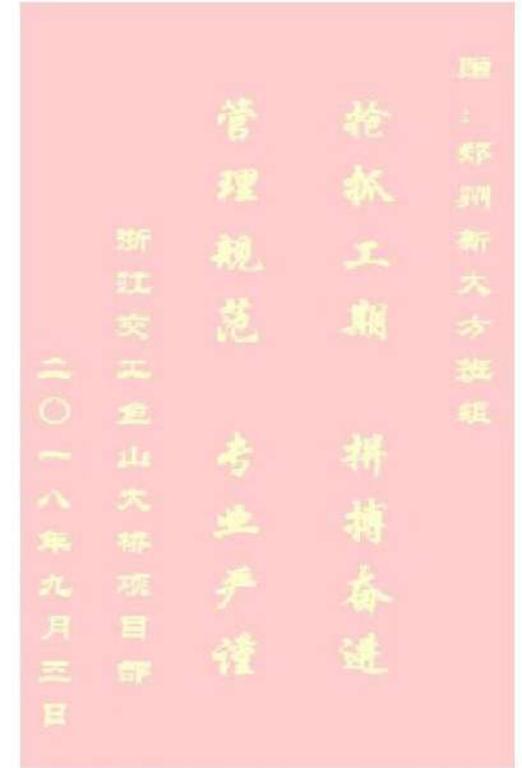
# Major Projects

## Girder Erection Subcontracting

YU SHAN BAY BRIDGE, 2017

organized a team of over 100 persons to erect the girders.

professionalism and cooperative manner is highly appreciated by the client.



# Major Projects

## Design Consultancy and Equipment Supply

TSEUNG KWAN O INTERCHANGE, HONG KONG, 2018/2019

provided design consultancy and supply of the bridge building equipment  
Design was approved smoothly by ICE and QA/QC approved HOKLAS, Hong Kong.



### Features of Tseung Kwan O Interchange:

- Construction Equipment has to be assembled on the barge in sea area.
- Min. Curve Radius is only 40m

# Major Projects

## Design Consultancy and Equipment Supply

TSEUNG KWAN O INTERCHANGE, HONG KONG, 2018/2019

Erection Equipment under Operation



## Design Consultancy and Equipment Supply

TSEUNG KWAN O INTERCHANGE, HONG KONG, 2018/2019

Erection Equipment under Operation



## Design Consultancy and Equipment Supply

TSEUNG KWAN O INTERCHANGE, HONG KONG, 2018/2019



Erection Equipment under Operation



# Major Projects

## Design Review and Calculation

Fanling North Development Area, Phase 1: Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang), Hong Kong, 2022

Client: CRCC – Paul Y. Joint Venture

Jobs: PSM LG Design Review & Calculation

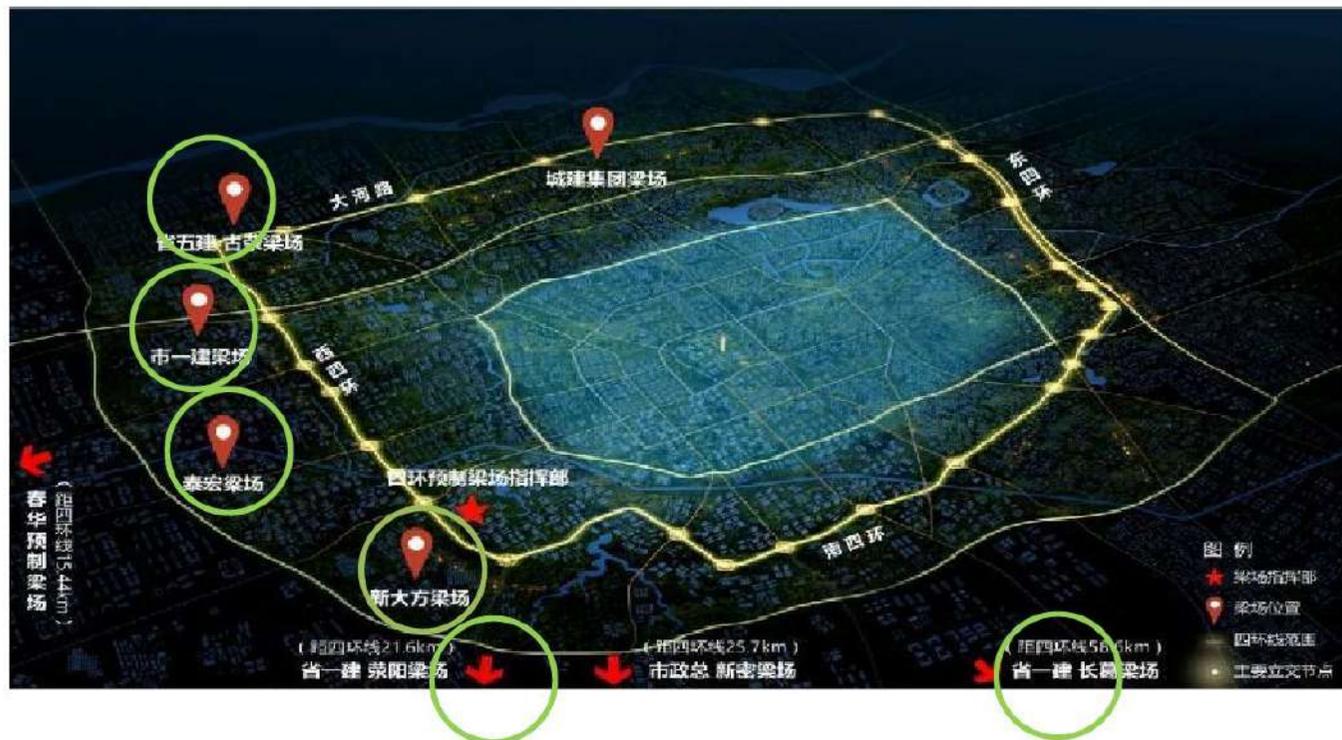
- The PSM LG designed and supplied by other supplier(NDF), but failed to pass approval of ICE, causing serious delay to Main Contractor.
- **Finally after selection, Main Contractor CRCC- Paul Y JV consulted SDI for help;**
- **With efforts of SDI design team, the design review & calculation worked out by SDI was approved by ICE successfully in Hong Kong within expected period.**

# Major Projects

## PC Yard Design, Equipment Supply AND Segment Erection

THE 4<sup>TH</sup> RING BRIDGE, ZHENGZHOU, CHINA, 2018

- provides design for 5 segment casting yard as sub-consultancy.
- serves as consultancy to the contractors on girder erection technique.



# Major Projects

## PC Yard Design, Equipment Supply AND Segment Erection

THE 4<sup>TH</sup> RING BRIDGE, ZHENGZHOU, CHINA, 2018



Production Line



Segment Moulds

# Major Projects

## PC Yard Design and PSM Bridge Superstructure Construction

R1013/2D-Improvement of Al Shindagha Corridor Phase 2D, Dubai, 2019-2021



PC Yard

### Provided:

- PC Yard Design and Fabrication
- Bridge Superstructure Erection by PSM LG
- Equipment Design&Supply:
  - 11nos PC Yard Gantry Cranes
  - 16 Nos of pC Yard Moulds
  - 2 sets of PSM SDI50/90 Launching Gantry, also Pierhead Installation Auxiliary Device&Shoring System

# Major Projects

## PC Yard Design and PSM Bridge Superstructure Construction

R1013/2D-Improvement of Al Shindagha Corridor Phase 2D, Dubai, 2019-2021

Gantry Cranes on Service  
(15t/20t/100t/160t)



ESP/PSP/CSP/SSP Moulds

# Major Projects

## PC Yard Design and PSM Bridge Superstructure Construction

R1013/2D-Improvement of Al Shindagha Corridor Phase 2D, Dubai, 2019-2021



### Precast Segment Erection Construction by LG and Team supplied

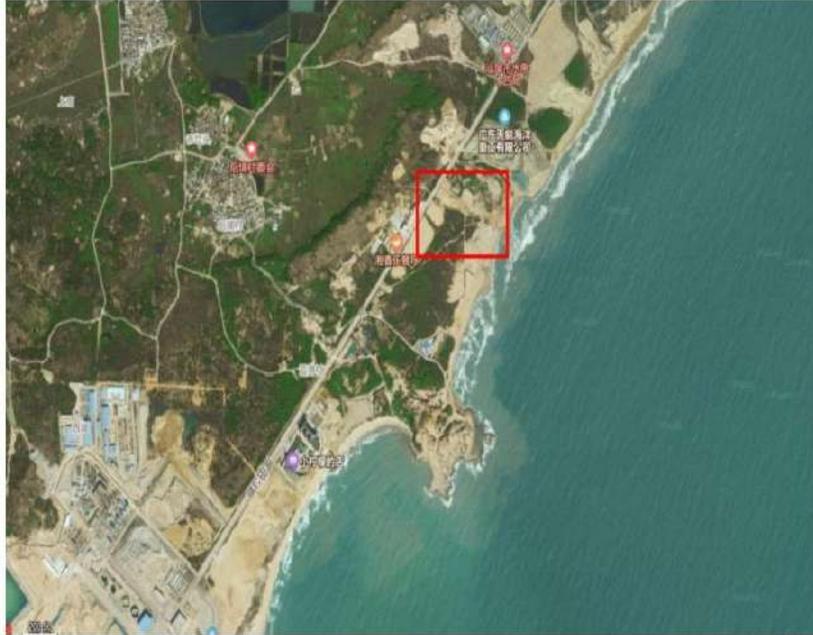
- Launching Gantries, also Shoring System/Pierhead Installation Auxiliary Device

- Despite the Covid-19, our experienced construction team are contributing to this significant project without any delay.

# Major Projects

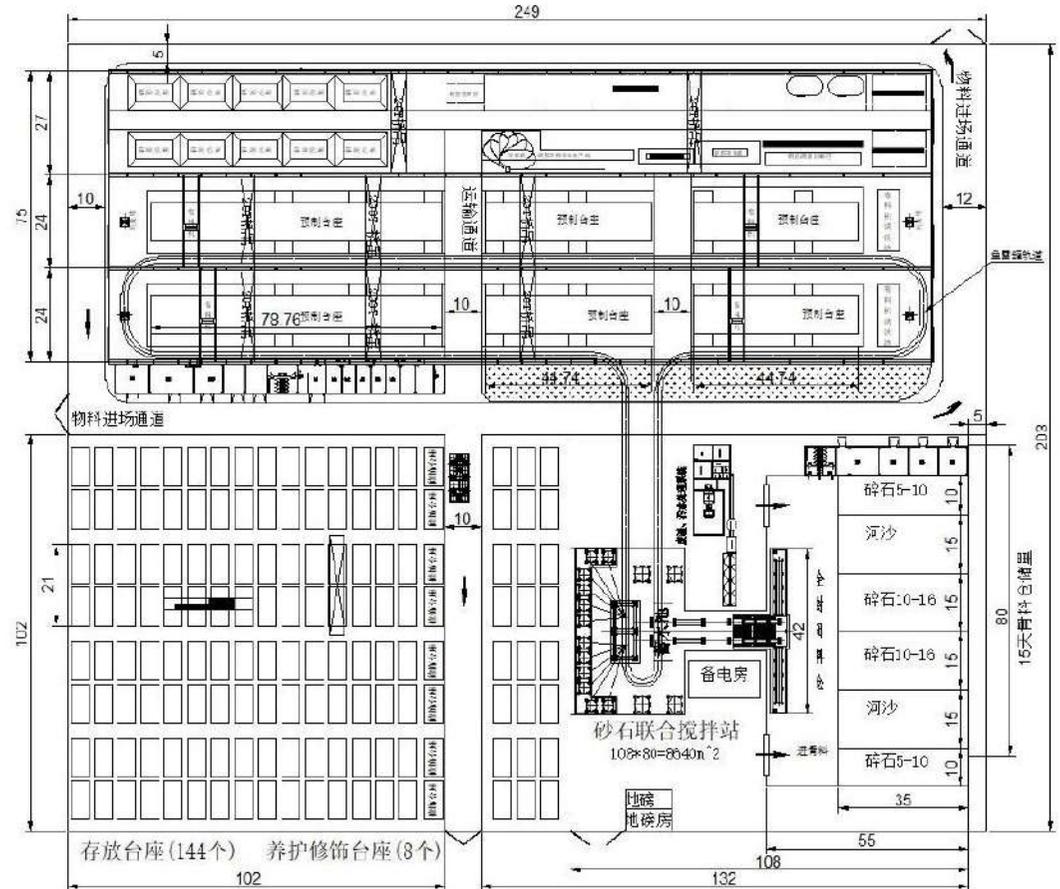
## Precast Yard Equipment Supply & Technical Services

Basic Pipe Production line , Floating Wind Turbine, China, 2021



### Precast Yard Production Line

Provided with Production Equipment,  
Informationized Management Platform Set-up,  
and Technical Service

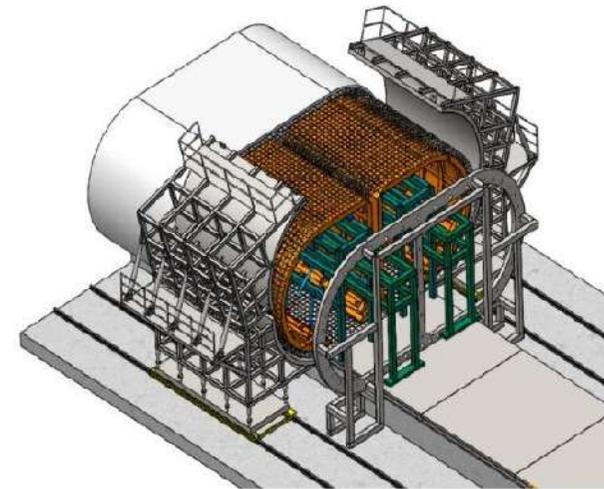
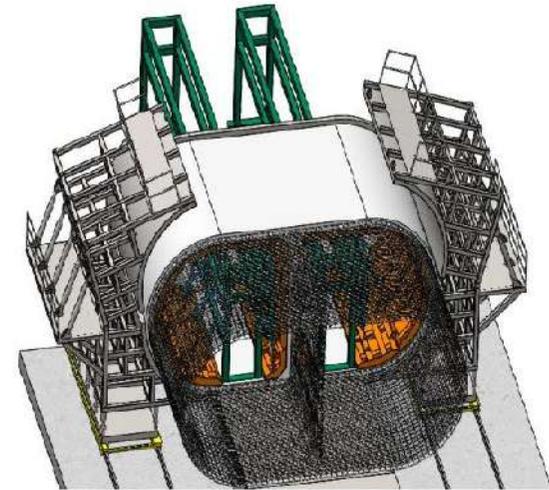
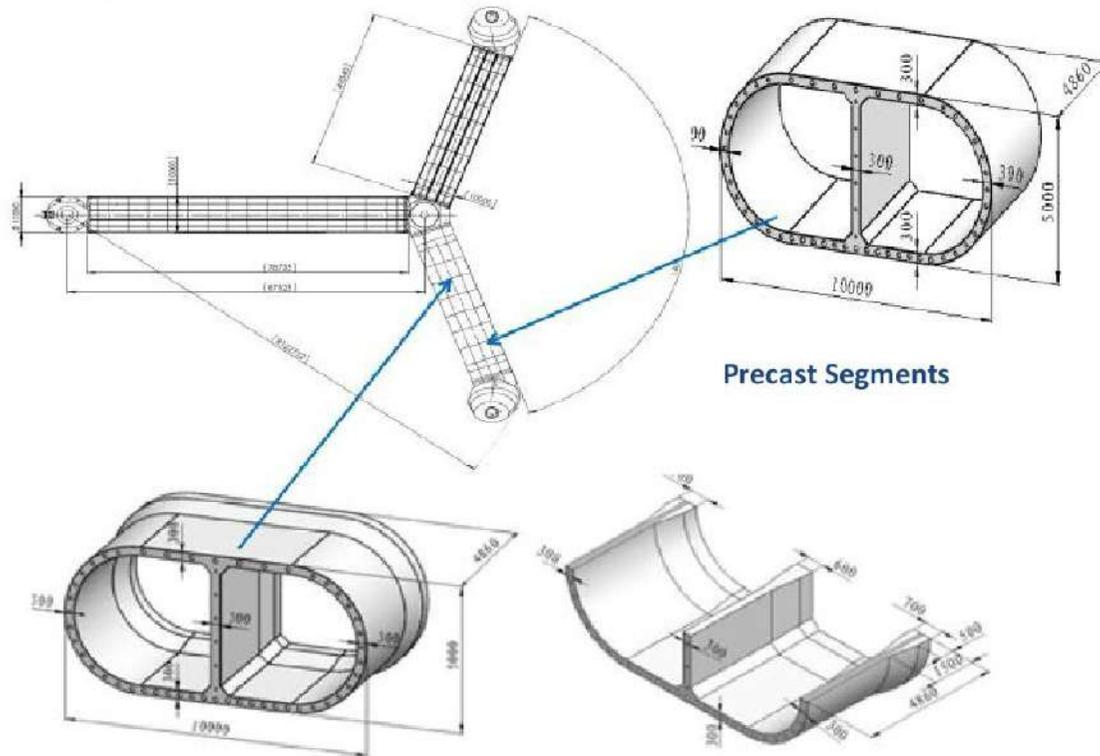


# Major Projects

## Precast Yard Equipment Supply & Technical Services

Basic Pipe Production line , Floating Wind Turbine, China, 2021

### Floating Wind Turbine Basic Pipe



Mould Scheme

# Major Projects

## Bridge Building Equipment Leasing

- FT Rental, A94 Isentalautobahn-K41/2, Rimbachtalbrucke, Germany, 2016
- MSS Rental, Railroad bridge near Nosice, Slovakia, 2017
- FT Rental Express Road S2 - Southern Bypass of Warsaw, Poland, 2018



*All Steel structures are produced according to EN-1090 at SDI CE-Approved workshop*

# Major Projects

## Steel Structure Manufacturing, Taiwan and South Korea

TAIWAN HIGHWAY BRIDGE PROJECTS

SOUTH KOREA, HO NAM HIGH SPEED RAILWAY PROJECT, SECTION 2-3



- 4 ea for Far Eastern E&C, Taiwan, 2010

Including  
Supervision for assembly  
Supervision for commissioning



- 1 ea for VSL Korea, 2010

# Major Projects

## Steel Structure Manufacturing, Slovakia

Underslung MSS, BRIDGE 205, SLOVAKIA, 2015

according to the **EN 1090 execution class 2** at CE certified workshop of SDI in 2015.



# Major Projects

## Steel Structure Manufacturing, Slovakia

Form Traveler, Road 6 project, Israel 2019

MSS Strut, Werntalbridge, Germany, 2019

according to the **EN 1090 execution class 2** at CE certified workshop of SDI in 2019.



# 4 INSIGHTS CAPACITY

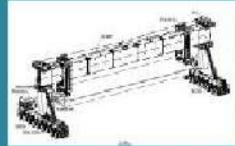
- ⦿ Design
- ⦿ Manufacturing
- ⦿ QA/QC
- ⦿ Site Services



# Design Capacity

## The brains

Over 100 Experience  
Engineers



Structural



Mechanical



Hydraulic



Electrical

5 Locations



中国



挪威



斯洛伐克



马来西亚



英国

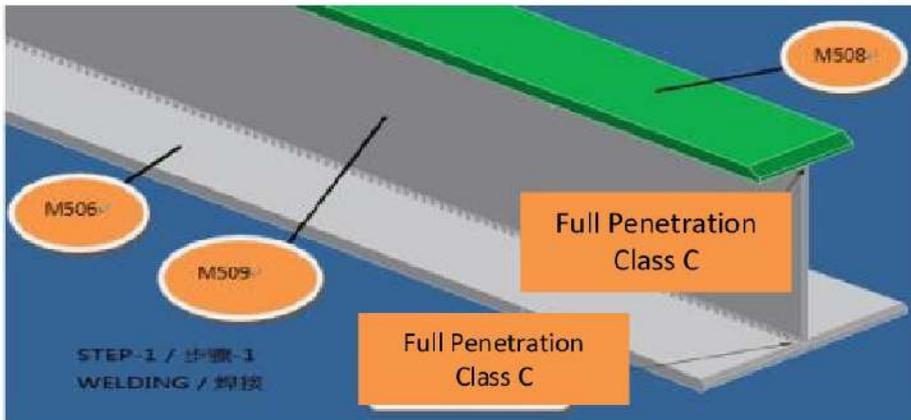
Loyal Experienced and Multi- disciplinary engineers enable

- Design conform to EURO Code
- Always has advance and innovative technology in its field
- To provide reliable and economic solution to clients from their bid stage to final construction phase

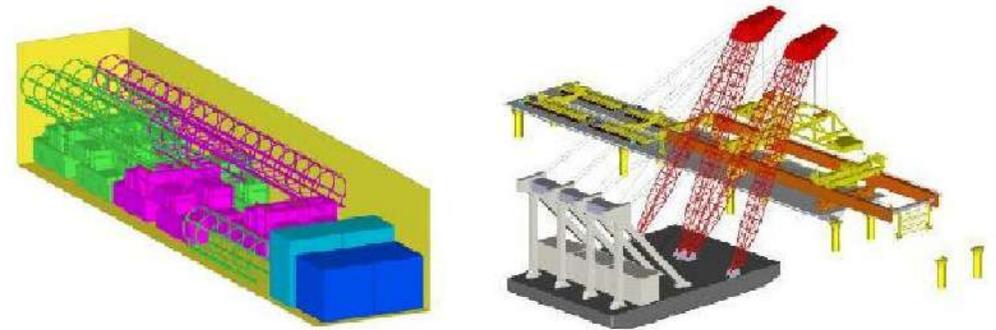
# Design Capacity

## Design & Tech are everywhere

3-D Design Model and Prior instructions on manufacture method to reduce possible errors.



3-D Design Models help with loading, site assembly and operation



# Manufacture Capacity

## Plant 1

### SDI -YuanYang

The Yuanyang Factory was built-up in 2019

- Equipped with advanced and specialised Steel Structure Manufacturing ,machine, equipment and facilities.
- Managed by SDI fabrication Team and under strict QA/QC
- Started operation in 2020, and successfully undertake the fabrication works of Bridge building equipments for SDI &STK project HK, Singapore and several Europe countries.

Annual steel processing capacity:  
over 15,000 tons

Workshop Area: 90,000M2, includes 3  
steel structure shops, 3 machining shops,  
2 final assembly shops.



# Manufacture Capacity

## Plant 2 At Tianjin

- Long Term cooperation relationship with competitive fabrication cost has been reached after years cooperation.
- Now is undertaing partial steel structure fabrication works Project in Singapore and Thailand, under QA/QC

<b>Fabrication Capacity</b> (for bridge equip.)	Month	2,500tons
	Annual	30,000tons
<b>Workshop Area</b> (160,000m <sup>2</sup> )	Steel structure shops	160,000m <sup>2</sup>



## Sample Steel Production Reference



- *Main Steel Structural Of FormTraveller*
- *Form Traveller, Israel*



- *Main Steel Structural Of Launching Gantry*  
*TKO Project, HK, 2019*

# Manufacture Capacity

## Plant 3 Rented Workshop

### Huibon

<b>Fabrication Capacity</b> (for bridge equip.)	Month	1,000tons
	Annual	12,000tons
<b>Workshop Area</b> (86,580m <sup>2</sup> )	Steel structure shop 1	15,000m <sup>2</sup>
	Open Area	29,000m <sup>2</sup>

## Sample Steel Production Reference



- *Main Steel Structure of Lifting Frames*  
AL Bustan Street South Project, Qatar, 2018  
TKO Project, Hong Kong



- *Main Steel Structural Of Combo PSM LG*
- *No.1 Widening Project Bid C910, Taiwan*

# Manufacture Capacity

## Other Cooperative Plants At Henan

### Steel Structure Manufacturing

Partial Under Fabrication Management and  
ALL Under QA/QC



- Main Steel Structural Of **SDI1000t FSLM Launcher & Station Crane**  
**Honam HRS, South Korea, 2010**



- Main Steel Structural Of **SDI 1800t SC**  
**Kuwait Causeway Project, 2015**

## Sample Steel Production Reference



- Main Steel Structural Of Under slung **MSS**
- 1set for **Korea HSR, 2010**
- 4 sets for **Expressway of Taiwan, 2011**



- Main Steel Structural Of **Form Travellers**
- **Greece, Crete Project, 2016**

# Manufacture Capacity

## Other Cooperative Plants At Henan

- Steel Structure Manufacturing,  
Under QA/QC
- Full Trial Assembly, Functional or Load Test  
before EXW as per client requests;



# Quality Control

Sandblasting as per degree SA2.5  
Minimum Thickness of dry film-125µm standard



**Fragile parts** well packed ensure no damages  
during long-sea voyage



# Site Services Capacity

Purchasing increasing sophisticated and technically complex bridge construction equipment presents a challenge and a risk. We can help to reduce these worries by providing :

- **Engineering Consultancy** (bridge construction & equipment solution, etc.)
- **Onsite services** (Equipment assembly, modification, operation, dismantling, maintenance and/or Supervision)
- **Subcontracting for girder erection** (Construction of Bridge Superstructure)



# Site Services Capacity

## Site Service Capacity-the Pool

Capacitor to Organize over 150 experienced and skilled site service technicians and professional workers

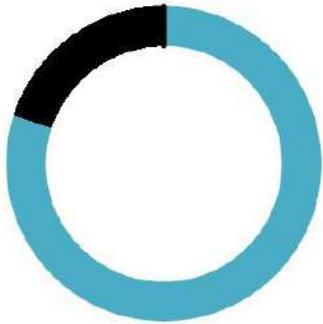
Working over 100 sets bridge building equipment

Working over 50 assembly, operation subcontracts



# Site Services Capacity

## Experienced International Team



Over 80% key site staff of SDI are as experienced as shown

**14+**

Over 14 years experience in Bridge building equipment supply, assembly, operation and construction

**100+**

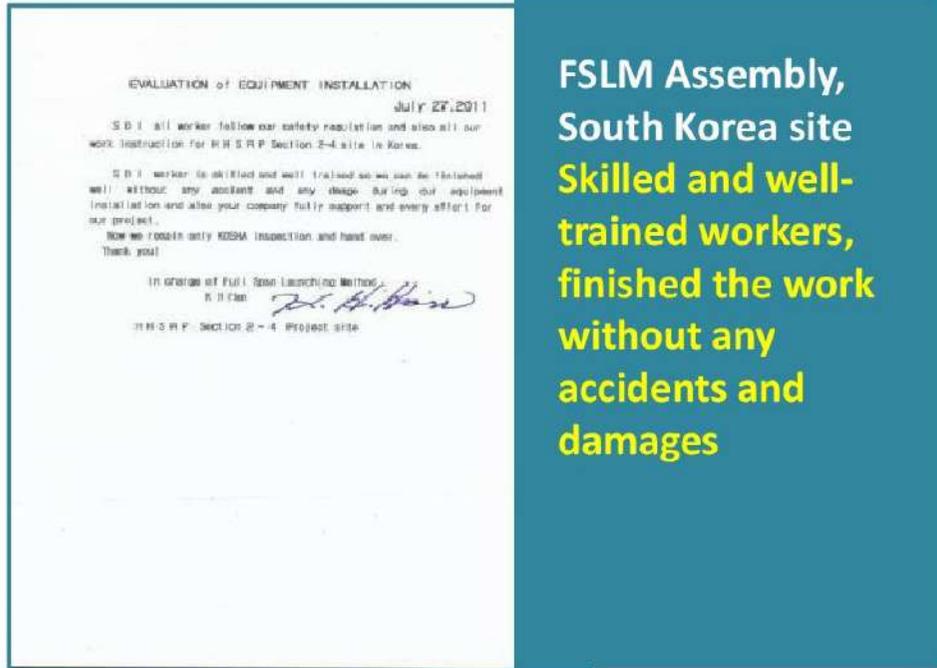
Over 200 Bridge equipment's supervision, assembly and operation

**15+**

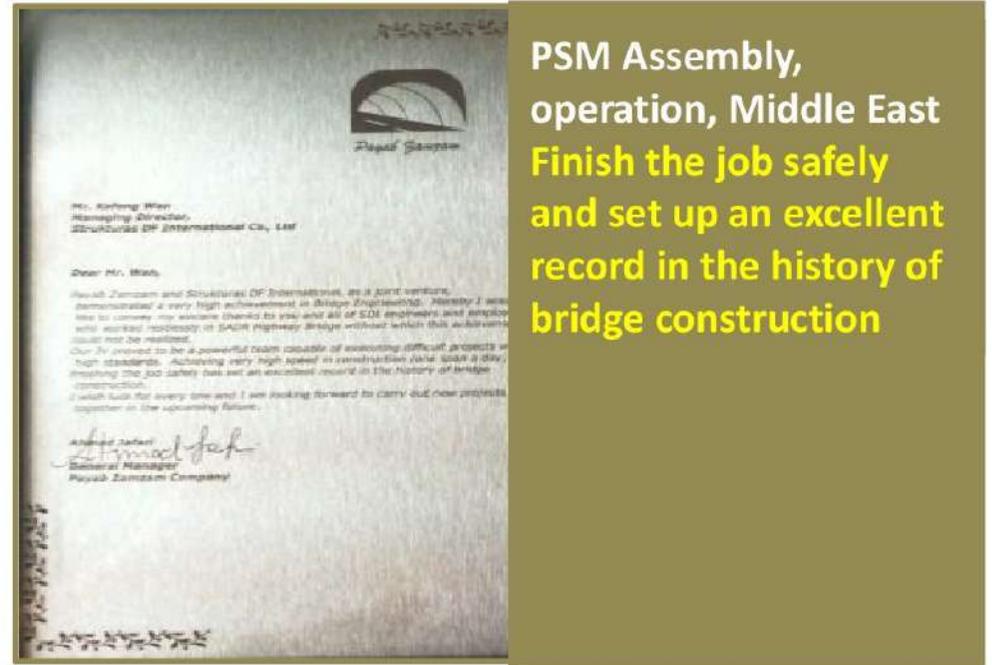
Over 15 countries around the world  
The team ever assisted client with bridge building equipment

# Site Services Capacity

## Site Service Capacity



## Praise from the clients



Our girder erection team also ever highly praised by client in Singapore LRT project  
And the world-record Kuwait Causeway Project