KKIBS - CREEC JV COMPANY PROFILE

Specialized in IBS Method of Construction | M&E

A Group of Companies consists of Oversea Private Investors and Contractors, providing suitable Financing Module

KKIBS

ISO 9001 CERTIFICATION INTERCERT

REC 中国中铁

Revolutionary Solutions

Accepted By,

INTRODUCTION

KKIBS was established in the year of 1998 by our founders Dato' Andrew Liew and Dr. Iain Grey. Our group bought the Formula and the IP Design Rights for the Asia Pacific, Middle East and African Regions. Since than, through our R&D, we were able to refurbish the systems to meet the needs and criteria of our clients.

We have form a consortium which consist of Contractors / Investors from several countries, along with some local Contractors to meet the requirements. We are able to furnished any potential project with bank instruments and working capital through our associates and partners.

Our group is able to work on a JV basis with friendly party for any Construction and M&E project/s. We are also capable to JV with Land Owners for Mixed Development with our own funding.

From 1965 until now, our group have venture into different activities such as Manufacturing & Utilizing our IBS (Integrated Building System) to Design, Supply and Build any type of Residential and Commercial Buildings, along with M&E works. We are also into the following type of project/s:

- Renovation
- High Level Acoustic Sound Proof Room
- Coal, Solar & Waste Power Plant
- Sea Reclamation Works
- Sea & Air Port
- Sewerage & Water Treatment Plant
- Elevated Highway
- Normal Highway
- Underwater Tunnel

Currently we are focusing on Affordable Housing, in order to provide houses for the people.

Our Group was Awarded with the Asia Best Eco-Green Product Gold Award (Asia Golden Dragon Award 2013/2014). Manufacturer, CIDB G7, certified by SIRIM, BOMBA, and ISO. International Construction Award from Paris and Spain. IP Design and Carbon Offset. Green Construction Method.

A Europe & China Building System. Now we can offer you with Malaysia price.

INTRODUCTION

We are also into Trading any kind of China Building Materials & Machinery

KKIBS is the manufacturer arm for the following IBS Systems:

1. Integrated Concrete Form (ICF) Block / Panel for Low and High-Rise Building.
2. KK Block, for Low Rise, and permanent formwork for higher Building.
3. Half or Fully Casted RC / Fiber Mix / EPS Concrete Wall and Floor Panel for Low and High-Rise Building.

Our system has been accepted and done some projects for Authorities, Ministries and Private Developers.

KKIBS was awarded as the Asia Best Eco-Green Product Gold Award by Asia Golden Dragon Award.

Our systems has been fire tested by SIRIM for 1 – 2 hours and have been accepted by BOMBA to utilize as 2 hours Fire Rated Party Wall.

The IBS System is a Pre-Engineered Construction System which was invented to enhance the Quality, Reduction of Cost, and to reduce the Construction Time Frame. Therefore it works within the Engineering Practice with Endorsement or Proven Records, and it uses the BS Standard or other by Law as a guide line.

HISTORY & INTRODUCTION

These systems originated from the United Kingdom / USA, which after, was widely used in Germany, America and Australia.

ICF was first used during the World War 2 by the Germans in order to reduce the construction time of their Control Center. As it was hard for these countries to obtain foreign skill labor during those days, due to political and/or immigration issues. It was also difficult to hire local labor or contractors during those days as the cost were too high. Therefore the IBS system was developed.

Singapore has been utilizing these systems to expand additional room/s and lifts on their existing HDB Flats in order not to disrupt the daily operation of the Owners. For the new construction is utilizing PPVC system which is high pre finish product.

IBS was first introduced in Malaysia during 2008, by Ex Minister of Work. Which have officially announced that all Government projects, needs to utilize 70% contents of IBS and was supported by other Ministries and State Planner departments, but this was mainly emphasizing on the Industry Building System (IBS). This Industry Building system increases a minimum of 20% on the cost as compare to the Conventional Construction Method and Our System.

As time passed, the Government have tighten the Law for importing foreign labors. Therefore we are currently facing problems such as shortage of labors, increased in raw material price and the need of fast delivery. This created problems for many contractors in terms of cost. Which is why Our Group is introducing our IBS System in order to create solutions for such issues.

Our group have completed projects for KKLW, KEJORA, The Army, Felcra, and the Private Sectors.

We have venture to abroad countries. Whereby few of our proposals were submitted to their local VIPs, which in return provided opportunity response.

From our past experience, Malaysian tends prefers our KK BK system, which join up will become a concrete load / unload wall, but with our unique engineering design, we can utilize our system to design a house with or without the RC Column and Beam structure.

Future renovation, hacking, and additional walls is allowed as long as the engineering practice is complied and utilize.

As our ICF System is classified within the Polystyrene EPS Family henceforth some users does not understand and believes in their advantage due to lack of exposure. Even though said so many Abroad Graduated Trainees Personnel understands the benefits of the ICF System and widely welcomes our ICF Systems.

Our ICF Panel uses Fire Retardant Materials which certified and approved by SGS and it does not produce poison gas, black smoke as compare to the normal Polystyrene EPS.

CIDB G7 CERTIFICATE

PERAKUAN PENDAFTARAN

Adalah dengan ini diperakui bahawa kontraktor yang dinyatakan di bawah ini telah berdaftar dengan Lembaga mengikut Bahagian VI Akta Lembaga Pembangunan Industri Pembinaan Malaysia 1994. Pendaftaran ini adalah tertakluk kepada syarat-syarat yang telah ditetapkan bersama perakuan ini.

No. Pendaftaran	:	0120181205-WP020384
Nama Kontraktor	:	KKIBS SDN. BHD.
Alamat Berdaftar	:	568-9-9, KOMPLEKS MUTIARA 3 1/2 MILES, JALAN IPOH 51200 KUALA LUMPUR WILAYAH PERSEKUTUAN KUALA LUMPUR
Daerah	:	KUALA LUMPUR
Tarikh Mula Berdaftar	:	05/12/2018

GRED	KATEGORI	PENGKHUSUSAN
G7	B	B04 B13
G7	CE	CE21
G7	ME	M15

Tarikh Mula Berkuatkuasa : **05/10/2022**

Tarikh Habis Tempoh Perakuan : **27/09/2025**

STATUS: AKTIF

Ketua Eksekutif

Lembaga Pembangunan Industri Pembinaan Malaysia

Tarikh: 05/10/2022

SPKK CERTIFICATE

SIJIL PEROLEHAN KERJA KERAJAAN

Adalah disahkan syarikat/Firma ini adalah berdaftar dengan Lembaga Pembangunan Industri Pembinaan Malaysia dan tertakluk kepada syarat-syarat termaktub bersama sijil ini.

No. Pendaftaran	:	0120181205-WP020384
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Daerah	:	KUALA LUMPUR
Tarikh Mula Berdaftar	:	04/12/2018

GRED	KATEGORI	
G7	B	(Pembinaan Bangunan)
G7	CE	(Pembinaan Kejuruteraan Awam)
G7	ME	(Mekanikal dan Elektrikal)

PEGAWAI SYARIKAT YANG DITAULIAHKAN	NO. K/P
LIEW KWEK KEONG,DATO '	540630085377
MUHAMMAD SALIHIN DANIAL RAJUDIN	910429145433
M MOHD SIRAJ BIN N.M GHOUSE	541116045107

Tarikh Mula Berkuatkuasa :	20/03/2023
Tarikh Habis Tempoh Perakuan :	27/09/2025

Ketua Eksekutif
Lembaga Pembangunan Industri Pembinaan Malaysia
Tarikh: 20/03/2023

ISO CERTIFICATE

INTERCERT®

CERTIFICATE OF REGISTRATION

INTERCERT hereby certifies that the Quality Management System of

KKIBS SDN BHD (577248-V)

LEVEL 1, SKYPARK ONECITY, USJ 25, SUBANG JAYA 47650, SELANGOR, MALAYSIA

Has been successfully assessed as per the requirements of

ISO 9001:2015

For the scope of

PROVISION OF BUILDING CONSTRUCTION, ELECTRICAL ENGINEERING & CIVIL ENGINEERING WORKS.

Initial Certification Date	:	March 09, 2023
Certificate Issue Date	:	March 09, 2023
Surveillance Validity Date	:	March 08, 2024
Recertification Date	:	March 08, 2026

Registration Number: IC-QM-2303047

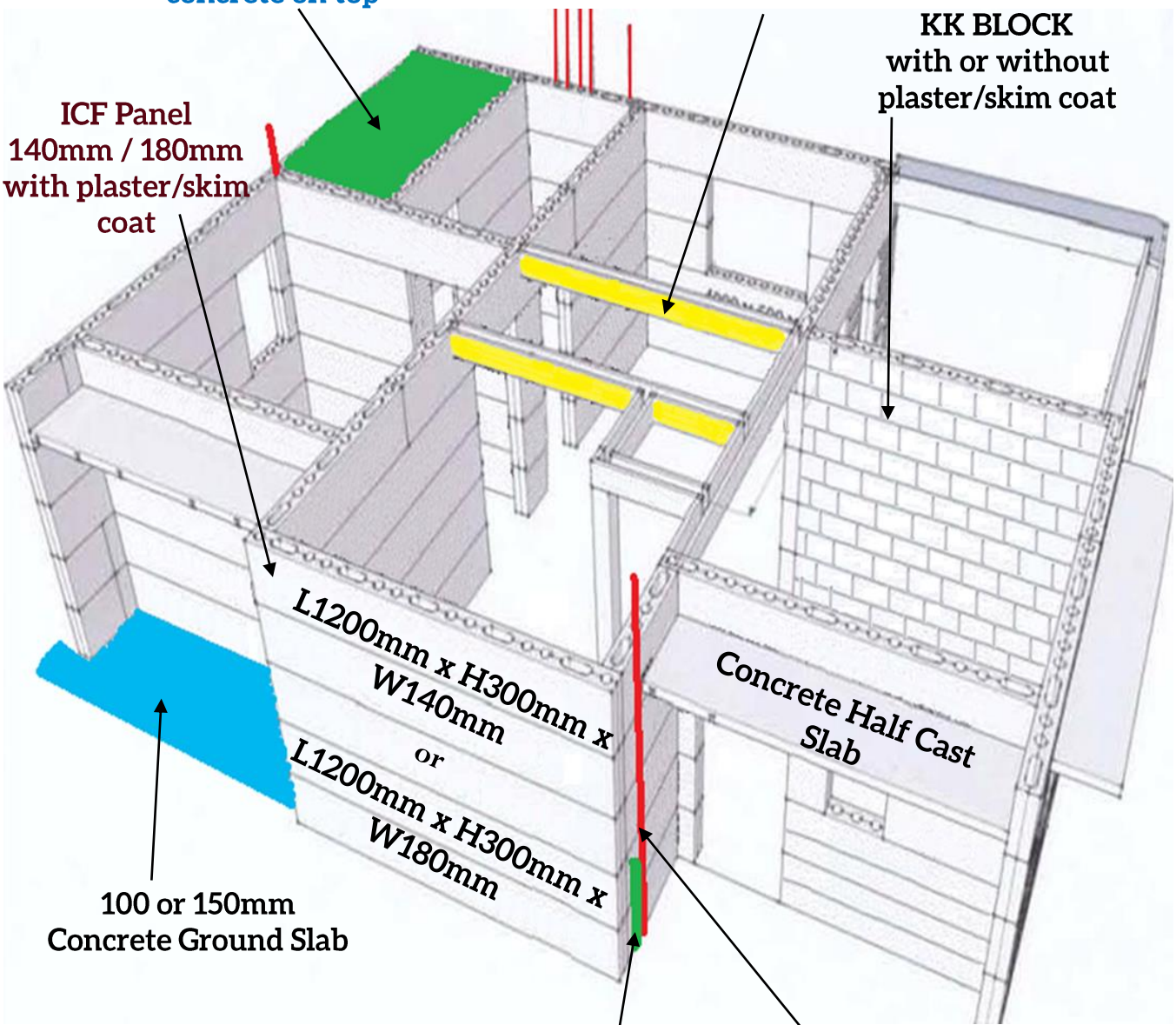
Issued on behalf of InterCert
Head - Certifications

INTERCERT REGISTERED

The validity of this certificate can be verified at **www.intercert.com** or through email at **info@intercert.com**. This certificate is the property of **INTERCERT INC**, 2001 Timberloch Place - Suite 500, The Woodlands, Texas 77380, United States and must be returned on request.

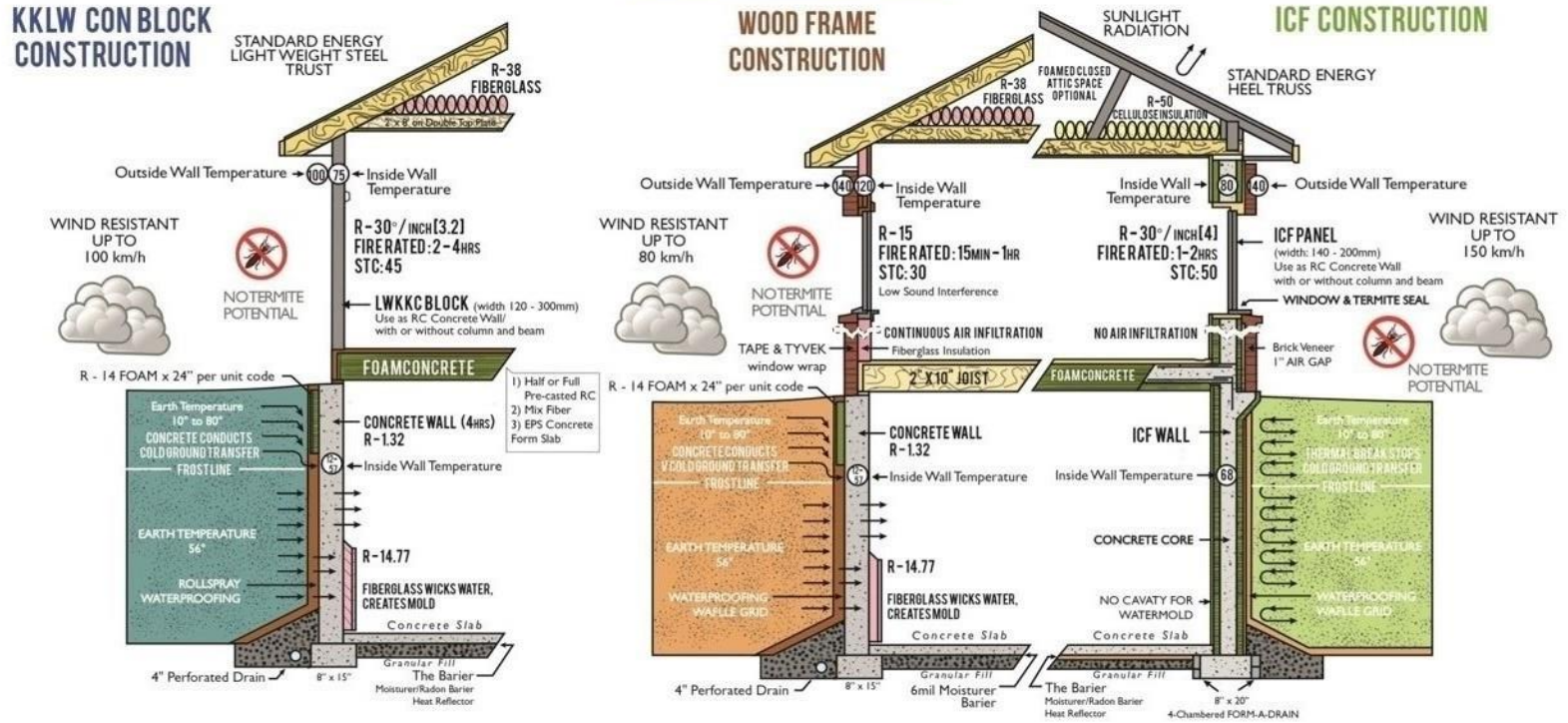
IBS SYSTEM

INTEGRATED BUILDING SYSTEM



KKIBS SDN BHD. (577248-V)
Tel: +603 79811119 (Hunting Line)
Cell: +6012 2828119 (Dato' Andrew Liew)

IBS VS TRADITIONAL



R VALUES CONVENTIONAL WALL

Basement Wall		House Wall	
8" Concrete:	0.64	Brick:	0.22
Air Film:	0.68	Air Gap:	0.82
Total R:	1.32	1/2' Sheath:	0.80
Fiberglass:	13.00	Fiberglass:	13.00
1/2 GYP BD:	0.45	1/2' GYP BD:	0.45
Total R:	**14.00**	Air Film:	0.68
		Total R:	15.00

ESTIMATED COST OF CONSTRUCTION

RM 50.00 to RM 100.00 per ft²

Subject to the spending power and design of each individual different house owner.

R VALUES ICF WALL

Basement Wall		House Wall	
Effective R of			
10' ICF WALL:	R - 30°/ inch [4]	10' ICF WALL:	R - 30°/ inch [4]
		Brick:	0.22
		Air Gap:	0.81
		1/2' GYP BD:	0.44
		Air Film:	0.67
		Total R:	**34.00**

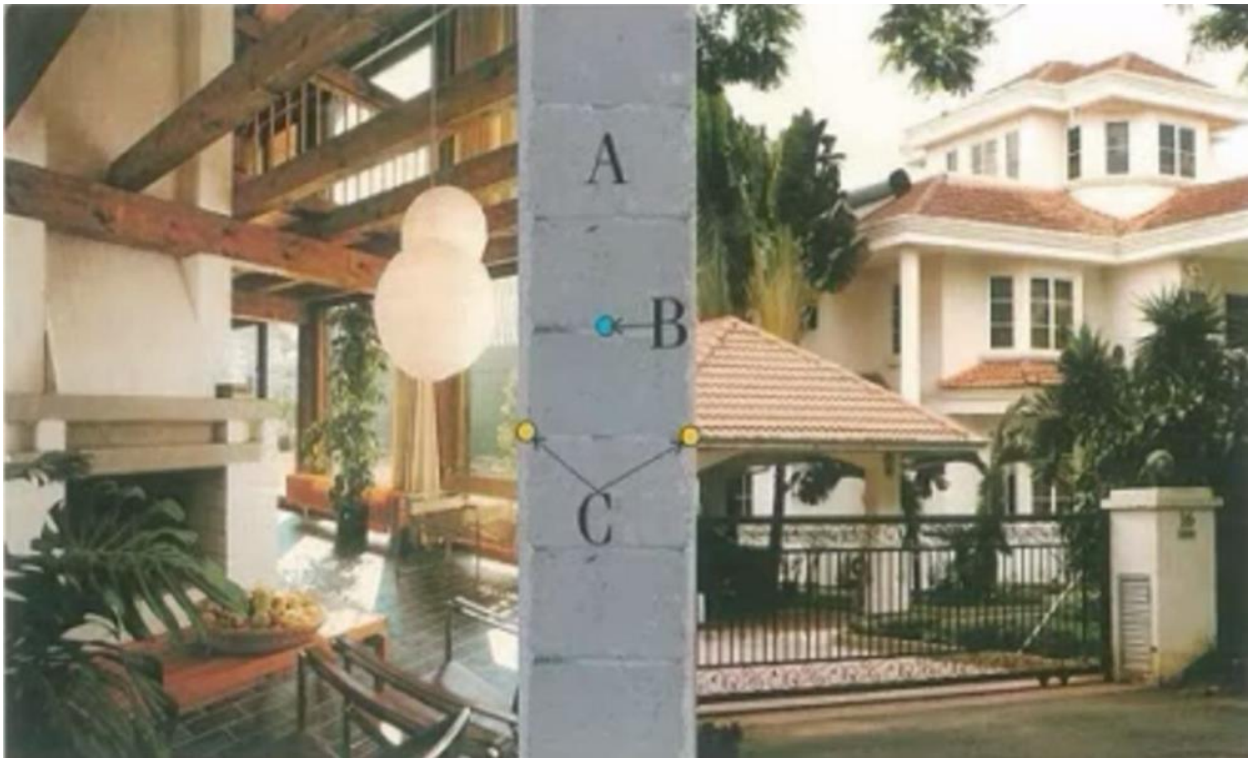
IBS SYSTEM

THE ELEMENTS OF THE WALL SYSTEM

A system designed to fulfil the market requirement of a strong, durable and cooling wall unit with excellent finishes in modern living.

Wall System is constructed with the following Three Elements:

A. **Bricks** - for basic structure.
B. **Polymerised adhesive** - as bonding agent.
C. **Skim Plaster / Coating** - for surface covering and finishes.



IBS SYSTEM

CONSTRUCTION METHOD

- Place the panel / block over the starter bars projecting from the slab / foundation.

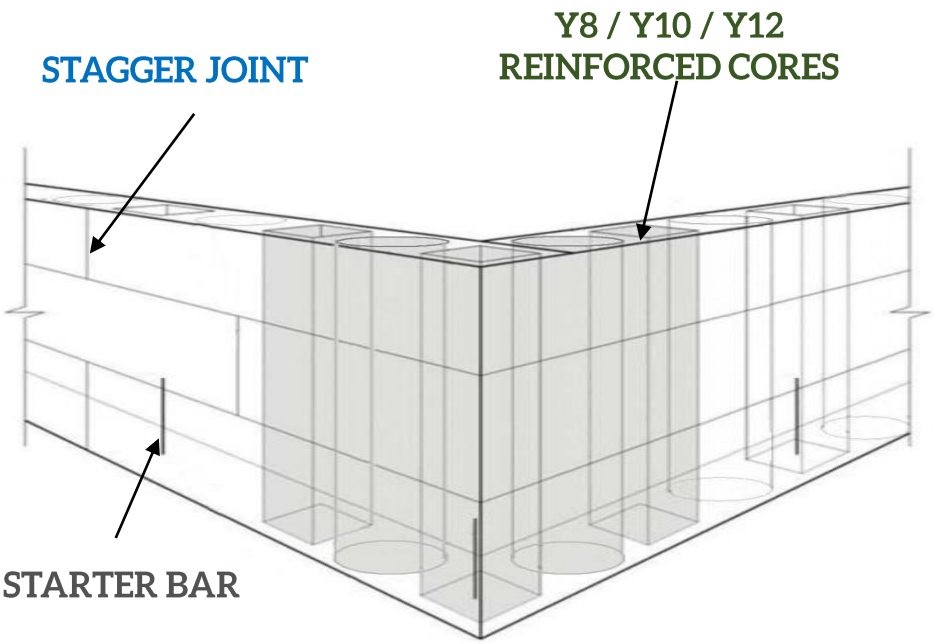
This procedure will only take a minutes.

- The panel / block remains there permanently providing permanent thermal, formwork and pre-cut, ready for adding reinforced steel down the core-holes followed by concrete infill.

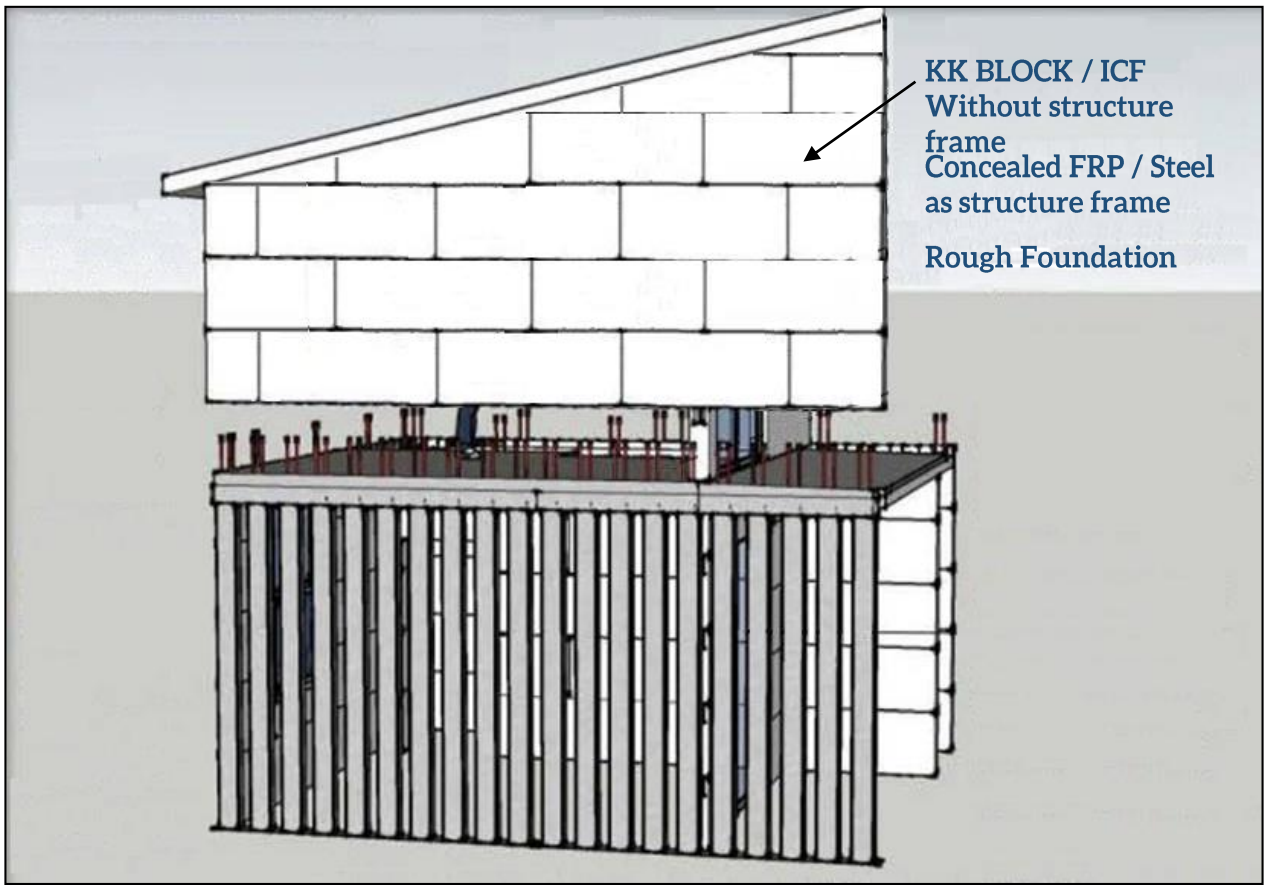
This procedure will only take a short time.

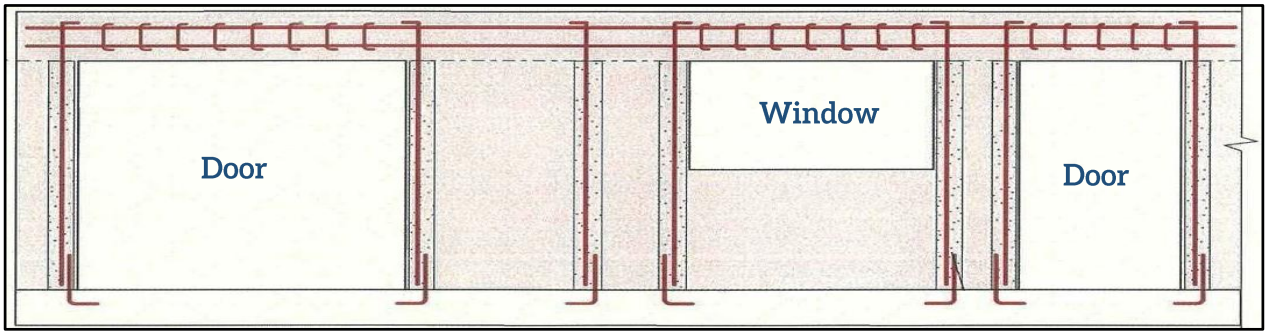
- Therefore by doing all the above you have just installed the wall, column and beam all together in a short period.

An average low cost house will be at lock up stage in a day. By giving it one day, painting can now be commenced.



IBS SYSTEM





ICF PANEL

INTEGRATED CONCRETE FORM – TECHNICAL DATA

Size – L1200 H300 W140 or make to order	Density – 14 to 40kg / m^3
Acoustic – 45dB	STC – 50
Thermal Conductivity (K-Factor) – 25°C / (hr.) (sqft) [0.263]	Thermal Resistance (R-Value) – 30°C / inch [4]
Water Vapour Permeance, max. Perm. – 3.5ng / Pa.s.m	Wind Velocity – 100km / hr.
Wall Compressive Strength – 0.25N / mm^2	Absorption by Volume, max - <3%
Half plaster / Skim coat – approve fibre-mesh	Multi column or shear wall system
Zone 2 Earth Quake with designed foundation	Guide line – BS476, 5628
30lbs / m^2 for residence house	55lbs / m^2 for commercial building
No issues on wall hacking for future renovations	With or Without RC Frame
Using different grades of concrete will associate along with the height of the building	Used as a permanent formwork for wall, column and beam
Per panel comes with 9 holes which is equivalent to 20 no. of clay bricks	Total weight with plaster on both side without the infill concrete in holes is 4.7kg
Total Weight with full plastering + Y12 steel bar + G25 concrete infill in each hole: ▪ 34kg x 2.94 = 99.96kg / m^2 ↝ Conventional method – brick wall, column and beam will ad 50% more.	Size and volume of Piling and RC frame can be reduce by 20%, if following the IBS C&S Engineer's method Following the specimen that satisfies the performance requirement specified by Sirim for 1 – 2 hours fire test and others or IBS Engineer Endorsement Can be build up to 30 storey by using the approved method

ICF PANEL

INTEGRATED CONCRETE FORM *– TECHNICAL DATA*

HOUSES OR ANY BUILDINGS

SINGLE STOREY

Our Engineers have confirmed that we are able to go with or without the RC column and roof beam, by inputting 4 no. of Y8 to every panel, and infill each hole with cement, quarry dust and KK1 concrete mix formula which is 1:8 or less.

DOUBLE STOREY

Same method is applied but, used as a multi column or shear wall system with 1 no. of Y8 in each hole, infill with cement, quarry dust and kk1 concrete mix and same goes for the floor beam (G18 – G25).

In order to maintain the level of STC, acoustic and thermo insulation, otherwise we can use the non-hole panel system (KKNO) with steel or FRP frame as structures and finished by plastering. This is cheaper and provides faster completion.

OTHER COMPONENTS

WINDOW AND DOOR

Clients are able to use the Normal type or even made to order. As to increasing the strength we would need to install 1 x Y8 across the top of window and connect it to the steel bar in the hole.

FLOOR SLAB

By using the cement board, half casted slab, full pre-casted, Mix Fibre or EPS Concrete Form Floor slab with cast in situ.

PARTY WALL

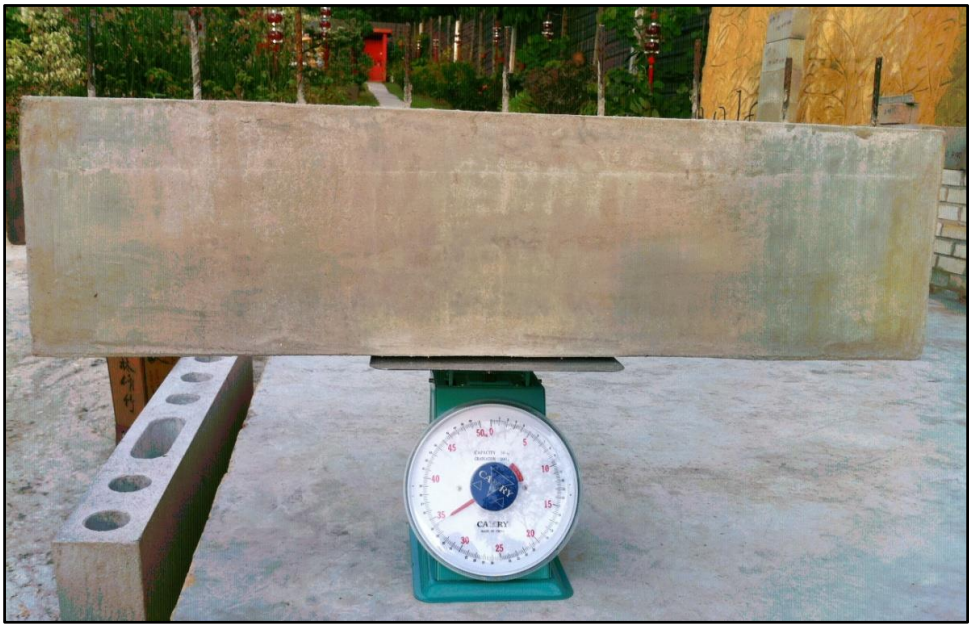
Plaster and infill with cement, quarry dust and KK1 mix concrete. This is for 1 or 2 hours rating.

STAIRCASE

Use pre-casted half or full concrete, steel with or without concrete protection or zing coated, FRP

ICF PANEL

***INTEGRATED CONCRETE FORM** – WEIGHT DIFFERENCES*



ICF WALL PANEL – L1200 x W140 x H300 (9 Holes / Panel) :

Total Weight with plaster on both sides w/o infill concrete in holes :

4.7KG x 2.94 = **13.82KG / m²**

Total Weight with plaster on both sides with infill concrete in holes :

34KG x 2.94 = **99.96KG / m²**

BRICK WALL WITH PLASTER – 19mm (Following Specs) :

Assuming Cement Sand 1800KG / m²

19mm x 1m x 1m x 1800 = 34 x 2 sides = 68KG / m²

50 No. of Bricks / m² at 2.2KG each

2.2 x 50 = 110 + 68KG = **178KG / m²**

Therefore our ICF Panel is **78.02KG / m²** lighter

IBS SYSTEM

FACTORY / STORAGE

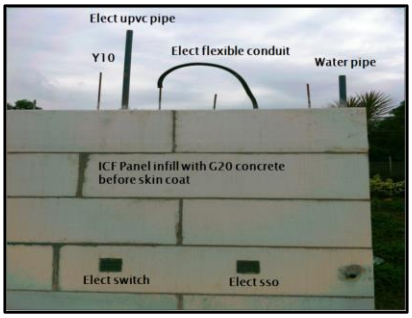
FOUNDATION / FLOOR SLAB

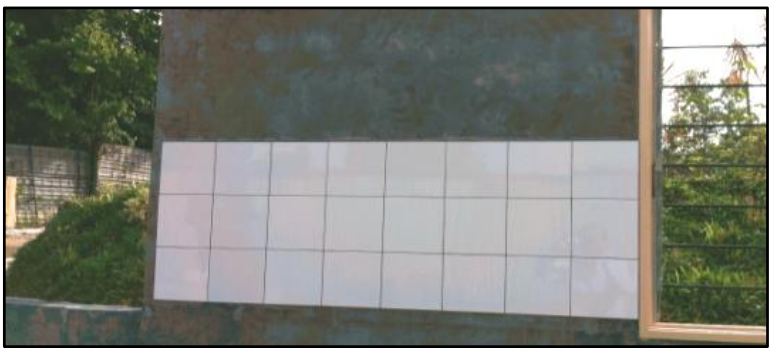
ICF PANEL

WALL PANEL

ICF PANEL

INTEGRATED CONCRETE FORM PANEL





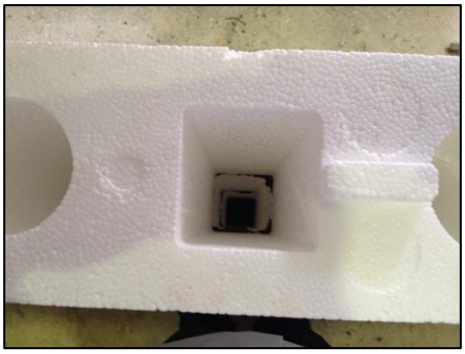
ICF PANEL

INTEGRATED CONCRETE FORM PANEL

ICF PANEL

INTEGRATED CONCRETE FORM PANEL










ICF PANEL

AUTO GATE



OUTDOOR CABINET / POST BOX




RENOVATION




KK BLOCK

TECHNICAL DATA

Density – 800 to 1400kg / m^3	Acoustic – 40dB
STC – 45	Thermal Conductivity (K-Factor) – 23°C / (hr.) (sqft) [0.21]
Thermal Resistance (R-Value) – 30°C / inch [3.2]	Water Vapour Permeance, max. Perm. – 2ng / Pa.s.m
Wind Velocity – 100km / hr.	Wall Compressive Strength – 0.23N / mm^2
Absorption by Volume, max - <1.8%	Half plaster and/or Skim coat
Multi column or shear wall system	Zone 2 Earth Quake with designed foundation
With or Without RC Frame	Can be build up to 30 storey by using the approved method
Specimen satisfies performance requirement specified by Sirim 2 hours fire test Guide line – BS476, 5628 No issues on wall hacking for future renovations Using different grades of concrete will associate along with the height of the building Used as a permanent formwork for wall, column and beam	Size: L390 W120 H190mm (0.0741m^2)

HOUSES OR ANY BUILDINGS

SINGLE STOREY

Our engineers have confirmed, that we are able to go with or without RC column and roof beam, by inputting suitable steel bar in the Block, which then we will infill the suitable concrete mix formula.

DOUBLE STOREY

Same method is applied but, used with or without RC column with suitable steel bar, infill with suitable mix formula.

OTHER COMPONENTS

WINDOW AND DOOR

Clients are able to use the Normal type or even made to order. As to increasing the strength we would need to install 1 x Y8 across the top of window and connect it to the steel bar in the hole.

FLOOR SLAB

By using the cement board, half casted slab, full pre-casted, Mix Fibre or EPS Concrete Form Floor slab with cast in situ.

PARTY WALL

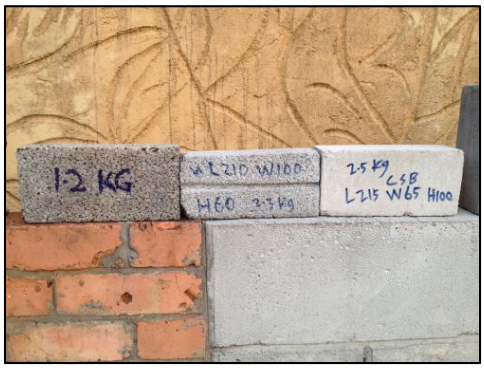
Plaster and infill with cement, quarry dust and KK1 mix concrete. This is for 1 or 2 hours rating.

STAIRCASE

Use pre-casted half or full concrete, steel with or without concrete protection or zing coated, FRP

KK BLOCK

LIGHT WEIGHT CONCRETE BLOCK



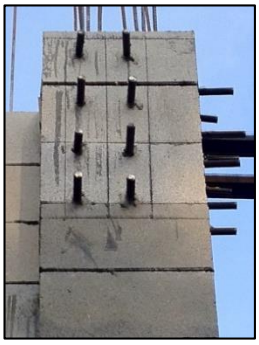


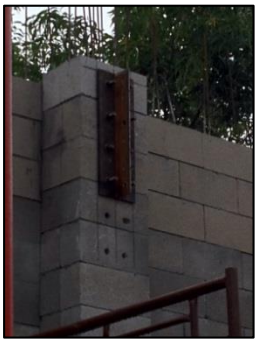










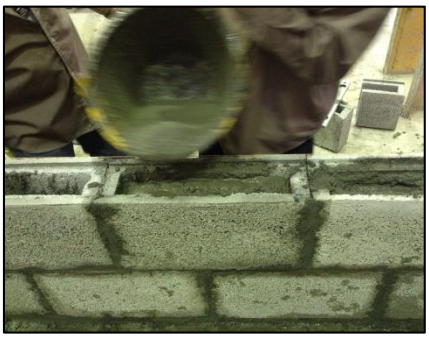



KK BLOCK

LIGHT WEIGHT CONCRETE BLOCK














KK BLOCK

LIGHT WEIGHT CONCRETE BLOCK













KK BLOCK

LIGHT WEIGHT CONCRETE BLOCK

















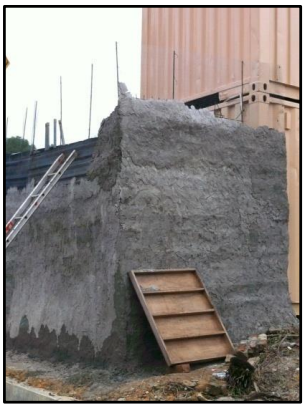


FACTORY / STORAGE


IBS SYSTEM

CCPW – CHEMICAL CEMENT PLASTER WALL



BENEFITS OF OUR IBS SYSTEM

1. It acts as a permanent formwork to increase the green scores and the above mentioned subjects.

2. As mentioned above by using our system, clients are able to reduce the cost as compare to the conventional construction cost.

3. Our systems are able to reduce the labour needed, which relates to reducing the social issues between management and workers.

4. Completion time is reduced by 30% as compare with the conventional construction method.

5. No termite treatment is needed on our floor slab or wall, but it is still better to apply a layer on the surface of the floor slab before installing any wood panel or furniture at any new development area as double precautions.

6. Existing building:
   - ICF PANEL – Due to lightweight, acoustic, thermo and STC are better. It is also very easy to utilize and can be added as an additional floor on any of the existing old building / roof OR

   - Used on renovation for any existing old building, C&S Engineer no hectares to check or questioning the old As-Built-Drawing and Record

7. As for M&E Services, less wall hacking is needed due to the design

8. Design for, with or without skim coating and half plaster, OR to:
   - Apply transparent paint to maintain the surface/ finishing in order to have the old type of castle / stone block house looks.

IBS SYSTEM

WHY USE IBS?

In order to gain the benefits such as cost saving and to increase the green score

- Less preliminary, hence faster completion - 30%
- Less management, due to fewer workers needed
- Less pilling, RC frame - 20%
- Less electricity, such as air conditioning - 40% due to higher thermo insulation -11 degree (Tested in Abu Dhabi)
- Less material such temporary support, machinery, wood, nail and other construction related material
- Less hacking on wall needed for M&E services
- Less maintenance, due to better water resistance and pre-engineering system
- No wall cracking, due to applying skim coat or half plastering
- Better finishing due to pre-align engineering wall system with less column and beam
- Green product with better GBI score. Less wastage - 80%
- Lower down the cash purchases of other small materials
- Less dispute over Sub-Standards
- Less use of steel members

PAST REFERENCE

SPNB MELAKA – 1,000 ft²

Single Storey House – Completed in 18 days, (Average of 6 Workers)

SINGLE STOREY BUNGALOW
'CENGAL' TYPE

SINGLE STOREY BUNGALOW
'CENGAL' TYPE

FRONT EXTERIOR VIEW

FRONT EXTERIOR VIEW 2

'CENGAL' TYPE
GROUND FLOOR PLAN
SCALE 1:100

1000 SQFT
14m X 7.5m
3+1 BEDROOM

PAST REFERENCE

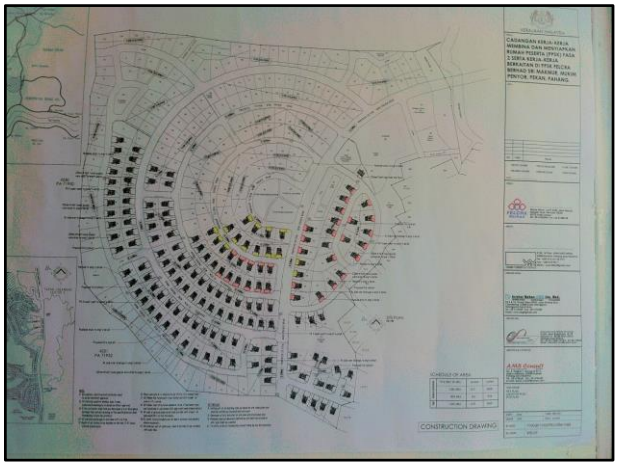
FELCRA PEKAN

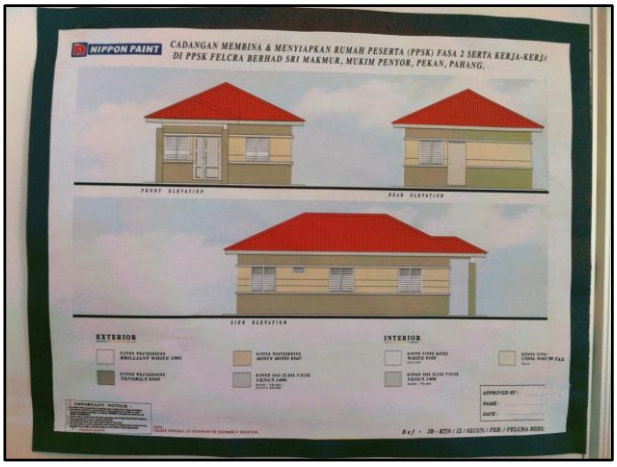
Single Storey House – Completed in 18 days (Average of 6 Workers)

33' x 20' = 660ft²

Incl. Car Porch = 740ft²

Incl. Apron = 850ft²



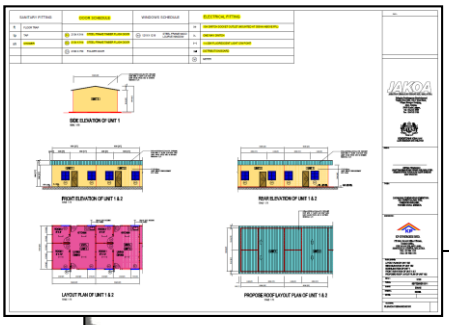


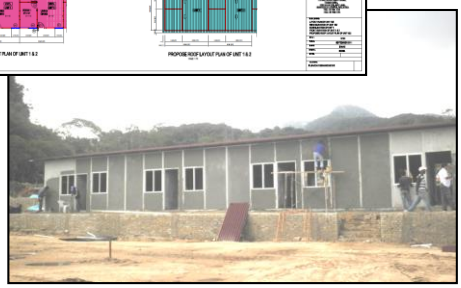
PAST REFERENCE

KKLW ORANG ASLI CAMERON

Single Storey Long House 7 Units (400ft²)

Completed in 15 days (Average of 13 Workers)





OUG PRIVATE – L150' x W35'

Single Storey Office

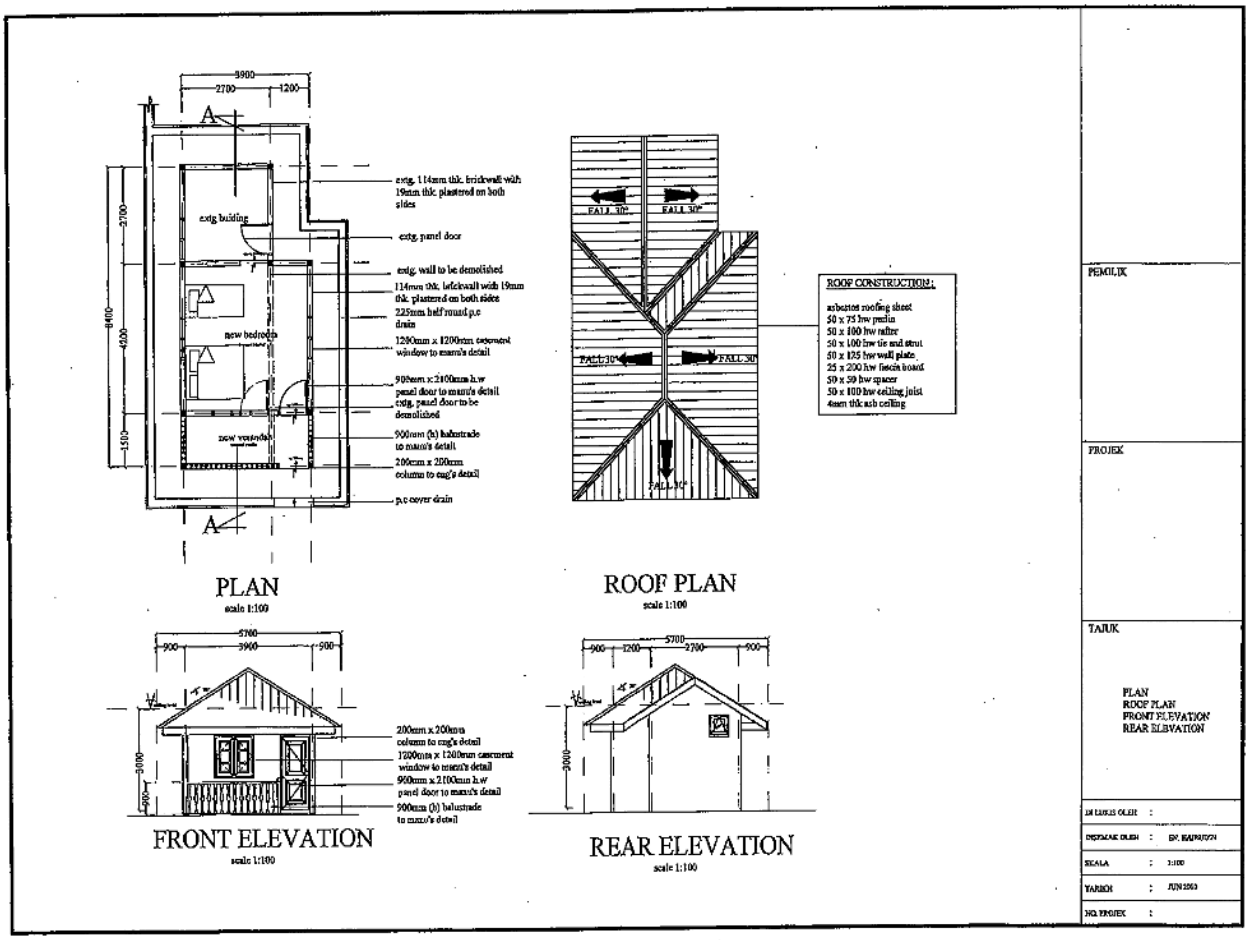
Completed in 12 days (Average of 8 Workers)

PAST REFERENCE

KEJORA JB CHALET – *450ft²*

Single Storey,

Completed in 8 days (Average of 6 Workers)



PAST REFERENCE

2,160 UNITS OF ARMY HOUSES PERAK

1,000 ft² / 1,200 ft² / 1,500 ft² / 1,800 ft²

PAST REFERENCE

TERENGGANU, BUNGALOW (MEDIUM – HIGH END)

2 & Half Storey Height

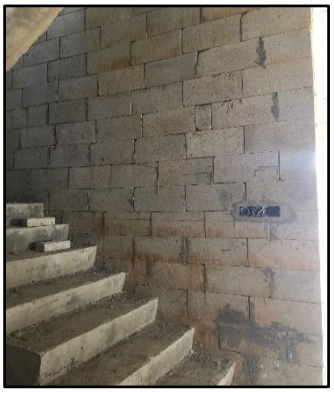











PAST REFERENCE

TERENGGANU, BUNGALOW (MEDIUM – HIGH END)

2 & Half Storey Height

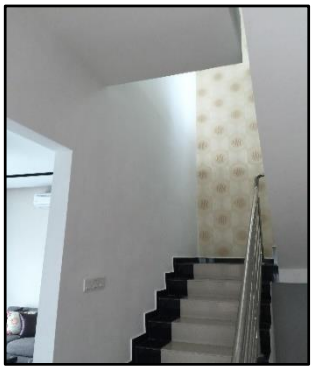












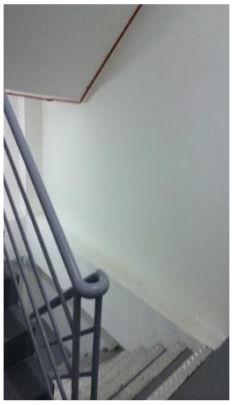
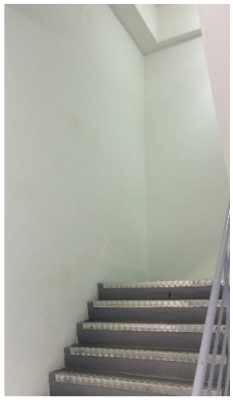


PAST REFERENCE

KEPONG, FACTORY / OFFICE

4 Storey Height Building

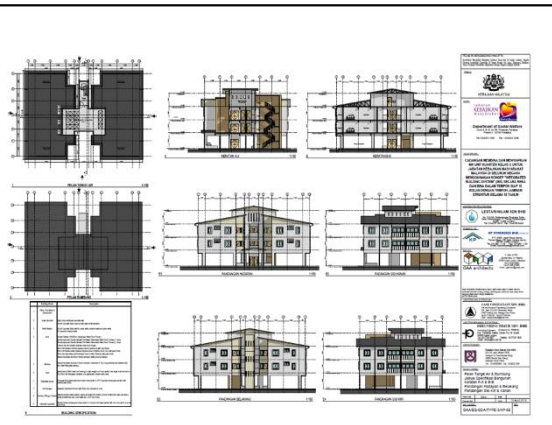
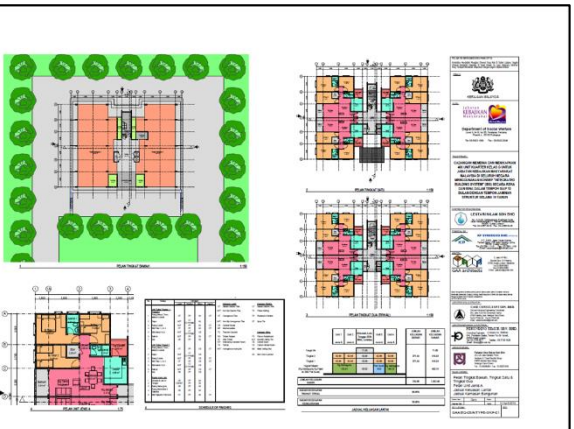



WALK UP APARTMENT

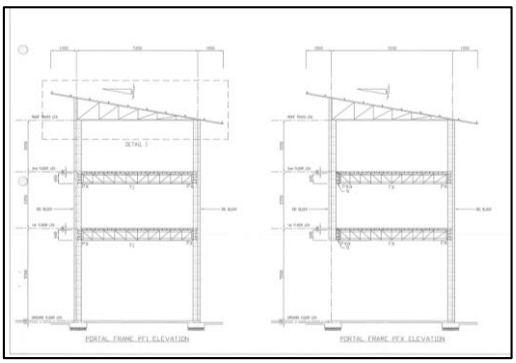
G + 4 Storey – 1,000 to 1,300 ft²



PAST REFERENCE

KKIBS OFFICE



PAST REFERENCE

KKIBS OFFICE

4 storey high building specs:

- Install 2' x 2' ground beam on hard ground
- Using KK BLOCK and ICF PANEL for wall, column and floor beam
- Using extra heavy steel beam mount on the KK BLOCK with none column for distance of 25'
- Using 20' long heavy steel frame mount on the KK BLOCK as external cantilever roof cover
- Using cement board as permanent formwork with minimum steel scaffolding as temporary support for casting the floor slab
- Using light weight truss with roof cover
- 1,625 ft2 per floor, completion up to 2nd floor slab is 20 days

ICF PANEL

- 17' height acoustic wall with steel door
- 15' height fencing wall
- Cantilever wall & beam at the height of 13' to 17'
- A permanent formwork for 4' high wall on top of the door & window, connected to the floor beam, with 3" thick of floor slab on the top. (cast in situ)
- Wall to hang hose reel, air con. fan coil unit & condenser, cloth hanger and bracket
- External table & post box
- Temperature testing wall
- Car park 3' height protection wall
- 17' height load shearing wall to hold the RC landing of staircase for 1st flooR

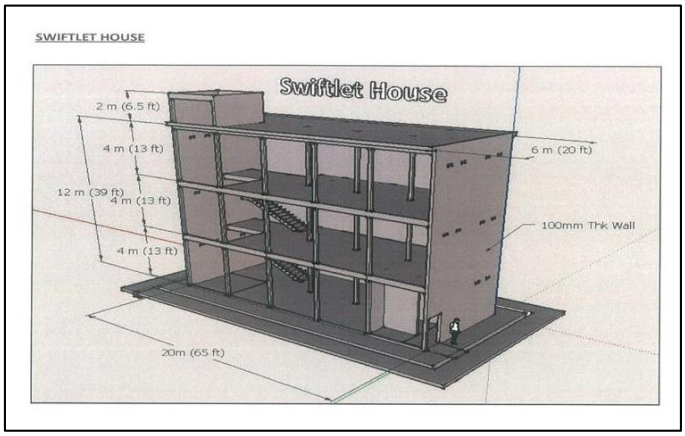
KK BLOCK

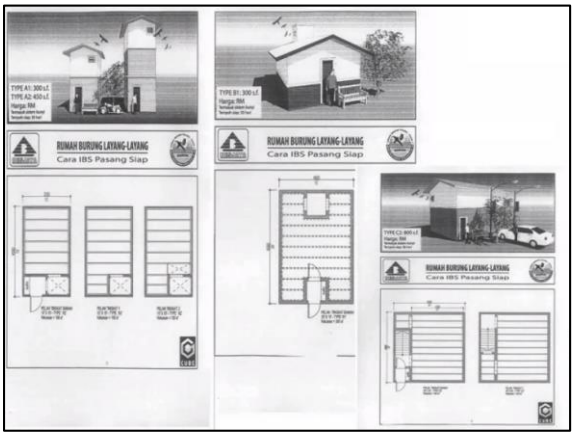
- Load Shearing wall for 4 storey office building. Total height is 45' from ground finish level
- Column to hold 25' to 30' long steel structure, beam for 1st and 2nd floor slab
- Column to hold 20' long steel cantilever roof cover
- Load shearing wall to hold the RC staircase from ground to 3rd floor
- Load shearing wall to hold steel structure lift to 3rd floor

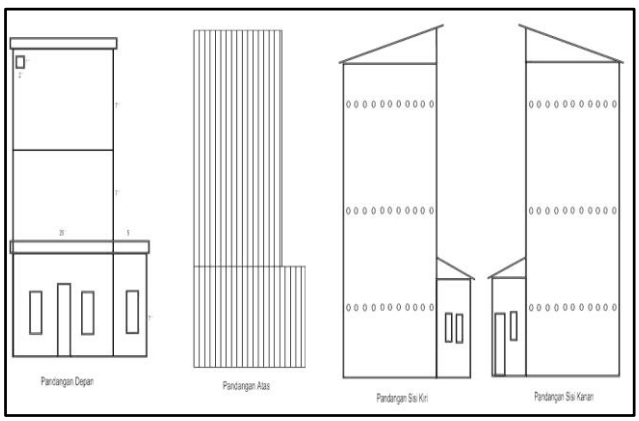
•**Total construction period is 22 days for constructing up to 2nd floor slab plus staircase, with an average of 8 workers*

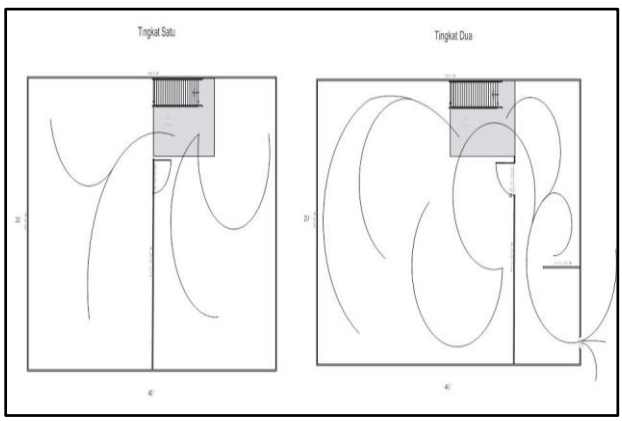
PAST REFERENCE

BIRD HOUSE PAHANG









ESTIMATED SUPPLY PRICE

Subjects to discount quantity, also subject to increase or reduce depending on the price of the raw materials. JV Pricing to be discussed.

ICF PANEL

- SELLING PRICE – RM50.00 / m^2
- 0.36m^2 / panel
- Plus chemical 18 liters RM120 / drum for mixing with 5 bags of cement
- Uses half plaster mix 1:6 – Est. RM9 for both side
- Infill 1:8 mix (10m^2) – Using cement and quarry dust, RM1 / m^2 (single story)
- Transportation
  - 10 ton lorry will be able to carry 600pcs

DOUBLE STOREY HOUSE

- 2 story house – 1 x Y8 steel bar + G25 concrete is required for every hole and connect to the A8 BRC in rough foundation

SINGLE STOREY HOUSE

- Install 4 x Y8 + mass concrete for each panel
- Finish as multi column system

KK BLOCK

- SELLING PRICE – RM2.50 to RM3.00 / block (Depending on Volume)
- 0.0741m^2 / block – 14 no. / m^2
- Transportation cost at RM1,700 / 40 footer trailer, can carry 4,000 pcs. of blocks
- 1 x Y8 steel bar is required for every 3 pcs. of blocks and connect to A7 BRC in rough foundation
- Mass concrete 1:8 mix, infill inside the hole at RM1.00 / m^2, uses cement & quarry dust
- 1 x Y8 on top of window connects to Y8 in hole
- Finish as a RC shear wall (Single story)

IBS SYSTEM

KK BLOCK

Establishment of machines would cost RM2 million and will be able to establish within 3 months if there are additional stocks of machines, otherwise an additional of 2 months or less might be needed.

We need 2,000 ft^2 for the machine, other cover are is subject to the storage capacity, and the normal total will be 4,000 ft^2

ICF

Machines would cost RM3.5 million. All we need is 3 month in order for the set-up, if we have additional stocks of machines. Otherwise it would take us additional of 2months.

We need 5,000 ft^2 for the machine and as for other cover area is subject to the storage capacity. The normal will be 8,000 ft^2

ADDITIONAL INFORMATION

The factory will be using names such as:

- KKIBS ICF (Country / Person name) F1 CO., LTD.
- KKIBS KK BLOCK (Country name) F1 CO., LTD.

By using this names, we will be able to carry and/or explain the strong foundation and project references from KKIBS, therefore the factory owner will not need to spend extra time to build the project reference and advertisement.

SUMMARY

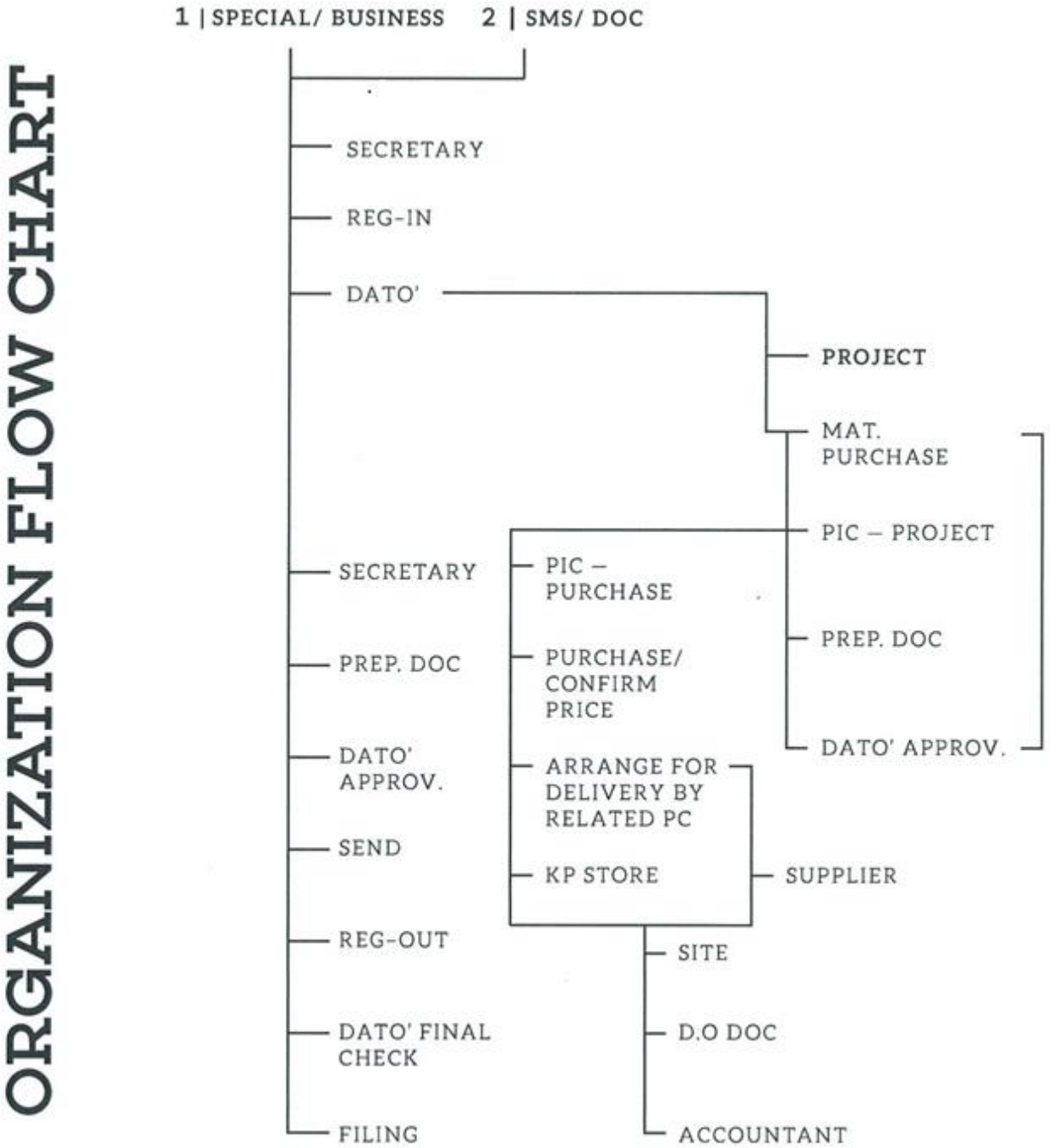
As the world is becoming Eco-Friendly Environmentally (Green) aware. We at KKIBS thrives to assist clients on Reducing Cost, to Eliminate the issues on shortage of labors and to Increase their green scores. Therefore our IBS will provide the best solution. In Malaysia there are only a few companies that are manufacturers, system providers and contractor with necessary government licenses. Here in KKIBS and related company, we have a rich history since 1965.

We encourage you to give yourself an opportunity to explore the Latest Construction Method.

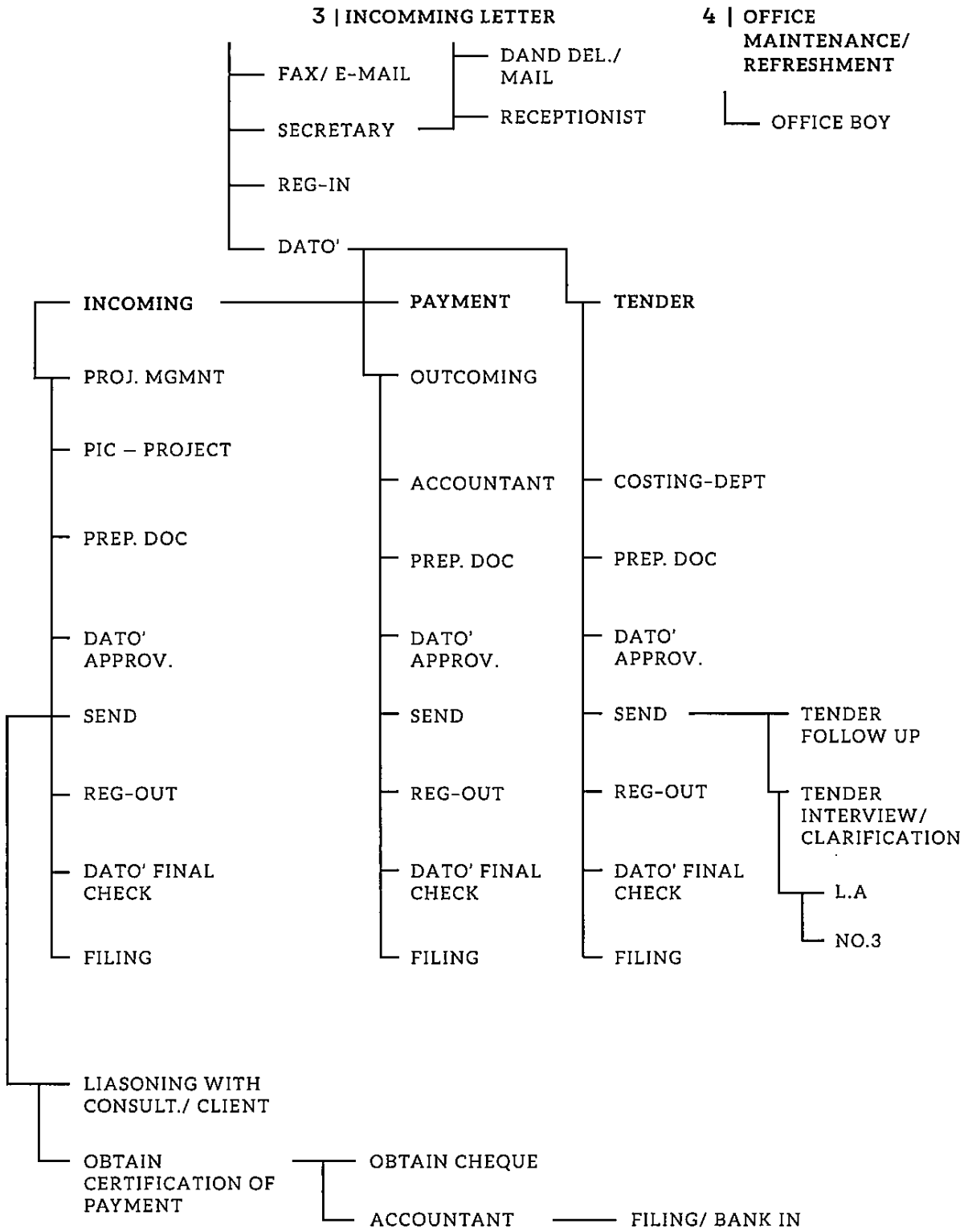
These Systems will provide you with a House that has better Quality, and benefits.

Please do not hesitate to contact us, if there are any further enquiries, or please refer to our website We would like to invite you to visit our IBS Exhibition at our office.

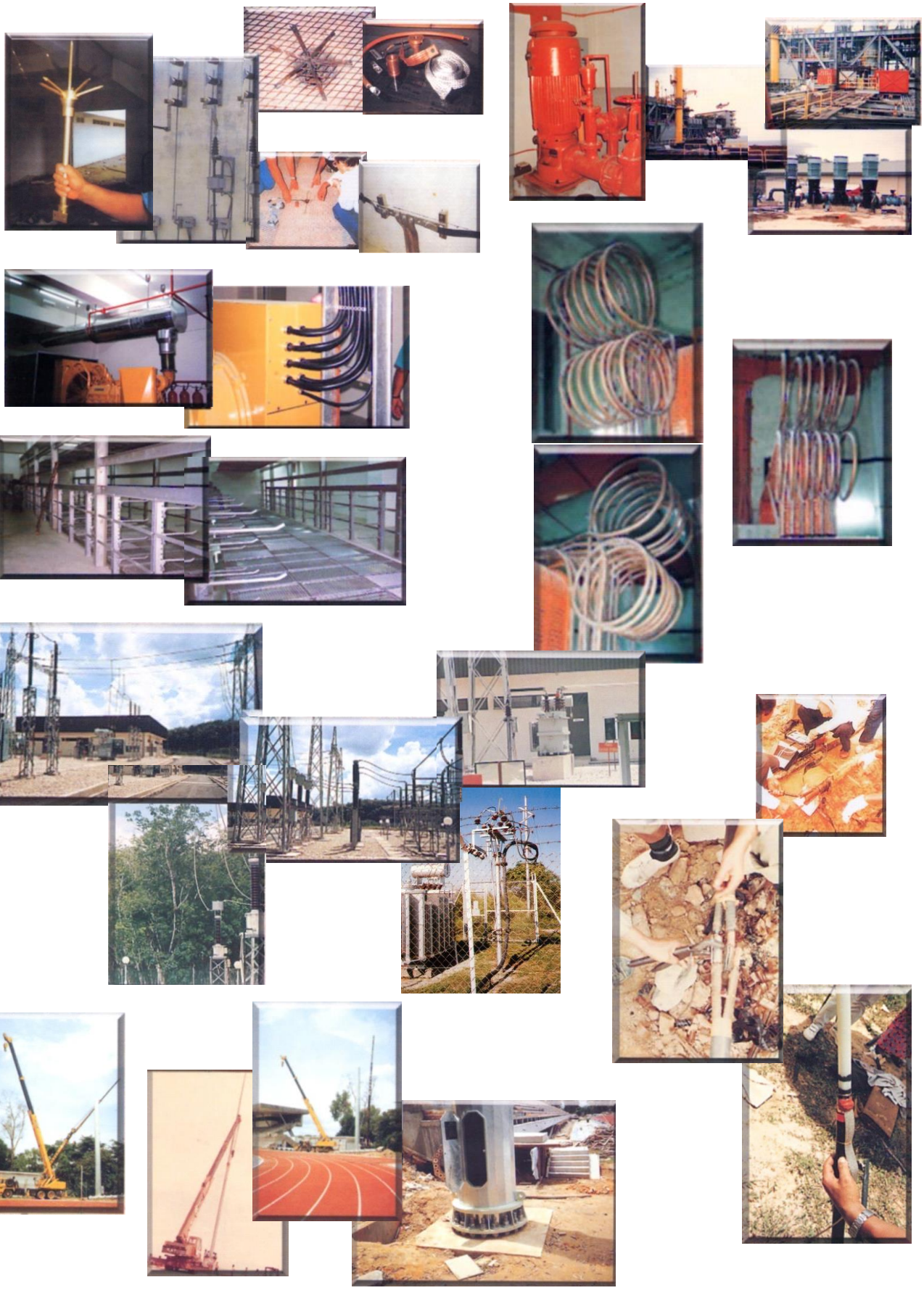
ORGANIZATION FLOW CHART



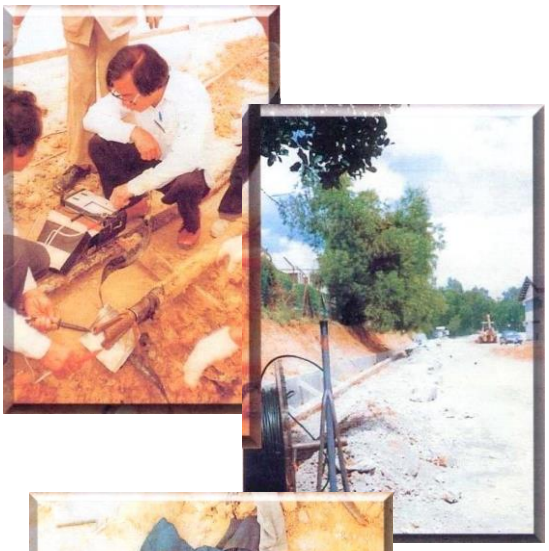
ORGANIZATION FLOW CHART

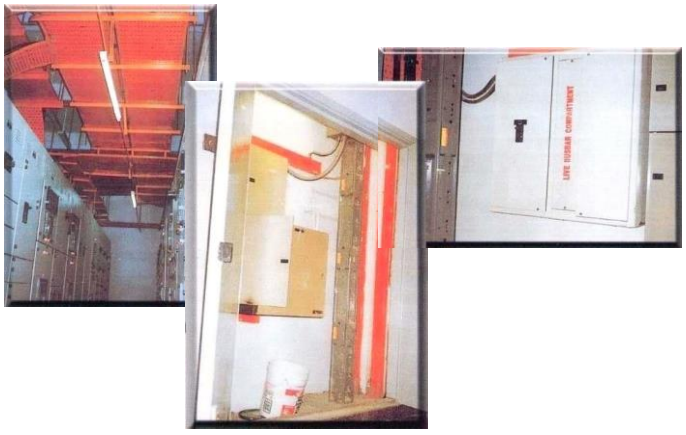


TECHNICAL



TECHNICAL





GROUP PROJECTS

PROPOSED DEVELOPMENT OF 2 BLOCKS OF CONDOMINIUM (BLOCK 1-36 FLR & 2-37 FLR) CONSIST OF 400 UNITS WITH 4 ½ FLOOR CAR PARK AND 1 FLOOR RESIDENT FACILITIES AT JALAN TRAVES, KUALA LUMPUR

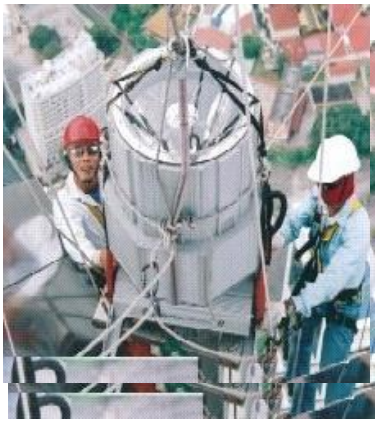
PACKAGE 3A – THE MAIN HALL & RESOURCE CENTER/ ADMINISTRATION BUILDING AT TRONOH, PERAK DARUL EHSAN FOR UNIVERSITI TECHNOLOGY PETRONAS

GROUP PROJECTS

INSTALLATION OF SPECIAL EXTERNAL LIGHT FITTINGS AT KLCC TWIN TOWER FOR PETRONAS





INSTALLATION OF HIGHMASTS AND ELECTRONIC SCOREBOARD FOR MAJLIS PERBANDARAN PETALING JAYA





GROUP PROJECTS

SUPPLY AND INSTALLATION OF STANDBY GENERATOR & MEDIUM VOLTAGE POWER SYSTEM FOR MAIN BUILDING WORKS FOR 1 BLOCK SHOPPING COMPLEX 2, 3, 4 AND HOTEL WITH 2 BASEMENT CAR PARK AND LANDSCAPING WITH RECREATION AT JALAN PJU 7/2 & 7/3, JALAN DAMANSARA, SELANGOR DARUL EHSAN





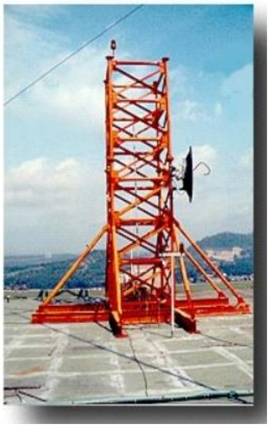

PROPOSED 16 UNITS SEMI-D HOUSES AND 1 UNIT BUNGALOW AT MUKIM PETALING, WILAYAH PERSEKUTUAN KUALA LUMPUR





GROUP PROJECTS

INSTALLATION OF 200 FT TOWER AND OTHER RELATED WORKS WITH TESTING AND COMMISSIONING OF MAST STRUCTURE




PROPOSED 160 UNITS PPSK PHASE 2 SINGLE STOREY HOUSES AT PPSK FELCRA BERHAD SRI MAKMUR, JK. PENYOR, PEKAN, PAHANG FOR BUILDING WORKS, EXTERNAL WORKS, EXTERNAL MECHANICAL & ELECTRICAL SERVICES


6 NASIONAL

BH

FELCRA bina rumah generasi kedua

» Anak peneroka hanya bayar kediaman PPSK RM200 sebulan

RM26 JUTA kos keseluruhan projek PPSK Kampung Sri Makmur

160 UNIT rumah disediakan



GROUP PROJECTS

PROJECT DETAILS:

Project	:	Common Construction Access And Pavement Roads Within The RAPID Site (Package 20C1) For Refinery And Petrochemicals Integrated Development (Rapid)
Contract Amount	:	RM98,572,580.00 / RM52,723,931.40
Construction Period	:	May 2015 to Present (On going)
Client	:	WCT Construction Sdn. Bhd. / Kelana Mekar Sdn. Bhd.
Scope of Work	:	Road Works

PROJECT DETAILS:

Project	:	Proposed Pavement Rehabilitation and Associated Works at KM205.80 to KM202.15 Northbound Along Ayer Keroh to Simpang Ampat, Section S2, North-South Expressway
Contract Amount	:	RM7,603,799.20
Construction Period	:	April 2017 to January 2018
Client	:	Edgenta PROPEL Berhad
Scope of Work	:	Road Works

PROJECT DETAILS:

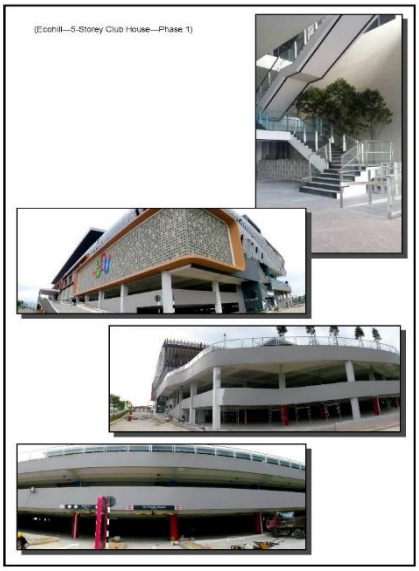
Project	:	Construction Works for Civil Works of Package (Area 3) Rapid Project
Contract Amount	:	RM988,815.50
Construction Period	:	March 2016 to August 2017
Client	:	Petrovietnam Engineering (M) Sdn. Bhd.
Scope of Work	:	Road Works

PROJECT DETAILS:

Project	:	Rapid Petronas Package 3—Civil Works For Area 2, Package 3—Road Works (Phase 1 & 2)
Contract Amount	:	Phase 1—RM4,719,288.22 Phase 2—RM5,930,711.78
Construction Period	:	Phase 1—October 2015 to December 2016 Phase 2—January 2017 to March 2018
Client	:	Keller (M) Sdn. Bhd.
Scope of Work	:	Road Works

PROJECT DETAILS:

Project	:	(Ecohill—5-Storey Club House—Phase 1) Cadangan Membina 1 Blok Rumah Kelab Swasta 5 Tingkat (Fasa 1) Yang mengandungi 2 Tingkat Tempat Letak Kereta, 1 Tingkat Pejabat Pengurusan dan Kemudahan Fasiliti, 1 Tingkat Pejabat, 1 Tingkat Restoran Di atas Lot PT 41668, Mukim Semenyih, Daerah Hulu Langat, Selangor Darul Ehsan untuk Tetuan Setia Ecohill Sdn Bhd) Contract No : SEH/BLD-16/C144
Contract Amount	:	RM39,570,934.25
Construction Period	:	March 2016 to August 2018
Client	:	Setia Ecohill Sdn Bhd



PROJECT DETAILS:

Project	:	Package 16B: Provision of Basic and Detailed Engineering, Procurement, Construction & Comissioning of Rapid Raw Water Treatment Plant for Rapid Project at Pengerang, Johor —Supply and Lay Premix Works
Contract Amount	:	RM501,700.00
Construction Period	:	March 2017 to July 2017
Client	:	Loh & Loh Constructions Sdn. Bhd.
Scope of Work	:	Road Works

PROJECT DETAILS:

Project	:	Proposed Design, Construction and Completion of the Comercial Office Buildings and External Works at Lot 205, Precinct 2, Putrajaya—External Works
Contract Amount	:	RM91,441.70
Construction Period	:	February 2017 to June 2017
Client	:	WCT Construction Sdn. Bhd.
Scope of Work	:	Road Works

KKIBS – CREEC JV

Founded in 1952, China Railway Eryuan Engineering Group Co. Ltd (CREEC) is one of the largest comprehensive engineering survey and design companies in China, with headquarter in Chengdu, a subsidiary of World Top 500 Corporation-China Railway Group Limited. CREEC has been twice awarded the top prize of National Award for Progress in Science and Technology.

CREEC is one of the first eight corporations granted "Class A Comprehensive Qualification of Engineering Design", holding top national-level qualification certificates and overseas operation license of Class A survey, design, consulting, supervision and environmental assessment, and also the only corporation possessing qualifications of investment and projects establishing assessment of railway and urban rail transit certified by the National Committee of Development and Reform. The Company has more than 20 certificates including Certificate of Quality Management System, Occupational Health and Safety Assessment Series, water-soil conservation, geological disaster management, setting 43 professions including alignment, track, geology, subgrade, bridge, tunnel, station, telecommunication, machinery, structure, building, water supply, drainage, heat, ventilation, environmental protection, electrical power, electrification, cost estimation, aerial survey and financing.

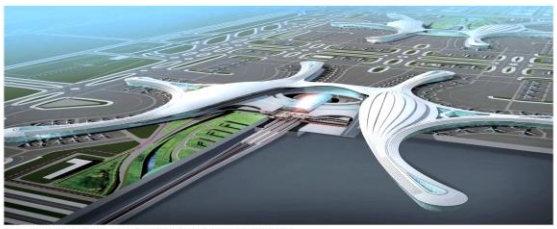
CREEC currently has over 6000 employees, including 43 experts enjoying special government allowance of the State Council, 15 engineering survey and design masters above provincial level, over 200 famous experts in various industries. CREEC has 23 wholly-owned subsidiaries and 13 joint-venture subsidiaries, 18 design and research institutes, 21 domestic operation institutions, and 30 overseas operation institutions. Keeping serving global transportation and municipal construction as the mission, focusing on main business of transportation infrastructure construction and powered by technological innovation, CREEC is making the greatest efforts to become an "internally superior and externally well-known international engineering corporation" with the capability of integrating the whole process of engineering construction.

The first straddle monorail in China - Jiaochangkou-Xinshancun line in Chongqing was awarded Top 10 Construction Technology Achievements in China.

Chongqing-Lichuan Railway was awarded Excellent Project Award by International Federation of Consulting Engineers in 2015.

Guiyang-Guangzhou Railway was awarded Excellent Project Award by International Federation of Consulting Engineers in 2016.

北京地铁8号线二期工程 Beijing Metro Line 8 (Phase II)

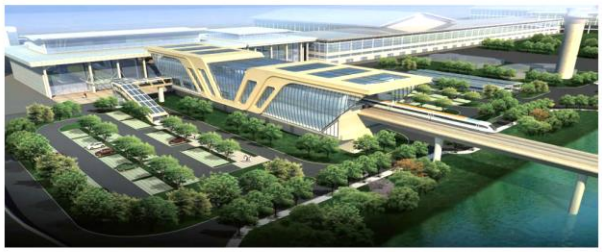


成都18号线天府国际机场站——我国城市轨道交通市域快线设计的标杆之作
Tianfu International Airport Station on Chengdu Rail Line 18 – the model project of urban fast rail transit lines in China.

KKIBS – CREEC JV

贵阳1号线——攻克了“山地城市、长大坡道、岩溶发育”技术特点和难点
Guiyang Metro Line 1 – overcome technology difficulties featured "mountainous city, long and steep grade and developed Karst"

长沙2号线穿越湘江段工程——我国地铁工程设计穿越大江大河的最具代表性的项目，解决了诸多国内罕见难题
Changsha Metro Line 2 crossing Xiangjiang River – the most typical project of metro line crossing large river in China, which solved many rare technology challenges.



长沙磁悬浮：具有独特的城市生态环境、城市文化、城市形象、城市风格特色和吸引力的快速交通道路景观
Changsha Maglev: Changsha Maglev Project has unique urban ecological environment, city culture, image, style and attractive landscaping for the fast transit line.

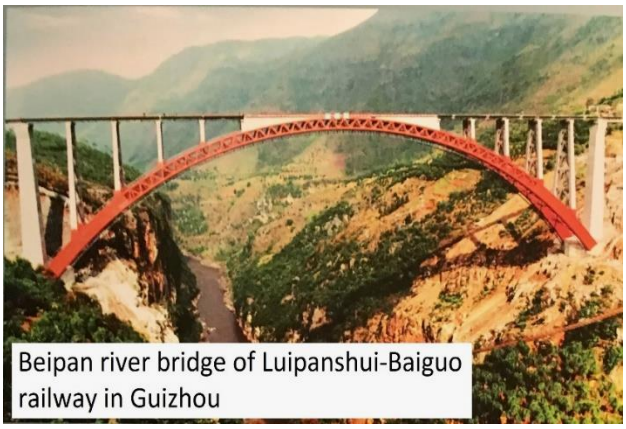
四川省绵阳至遂宁高速公路 Mianyang-Suining Highway in Sichuan Province

900T Bridging Machine

法国贷款大邑县市政基础设施灾后重建项目，采用DB总承包模式，在国内灾后建设和利用外资领域尚属首次。
Post-Disaster Construction Project of Dayi County Municipal Infrastructure with French Loan is executed under the mode of DB Contract, which is the first for post-disaster reconstruction project using foreign loans.

都江堰市老成阿公路灵岩山隧道工程，获2011年度中国铁道工程建设协会火车头优质工程奖。
Lingyanshan Tunnel on Chengda-Aba road in Dujiangyan is granted the Locomotive Award for Excellent Project by China Association of Railway Engineering Construction in 2011.

"China railway No. 111" shield machine for Nanning subway



Beipan river bridge of Luipanshui-Baiguo railway in Guizhou

KKIBS – CREEC JV

Suspended Monorail

KKIBS – CREEC JV

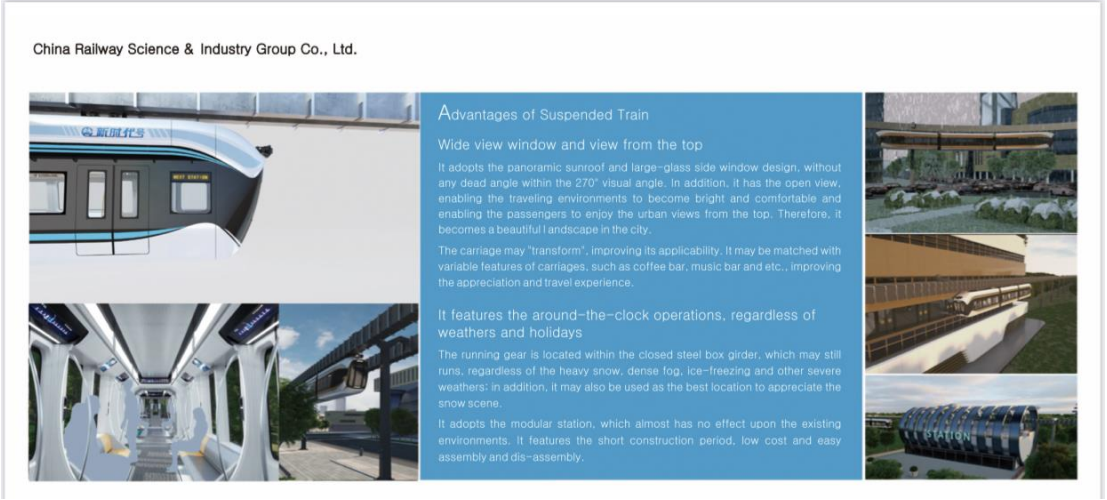
Suspended Monorail

KKIBS – CREEC JV

Suspended Monorail

KKIBS – CREEC JV

Suspended Monorail



KKIBS – CREEC JV

Suspended Monorail

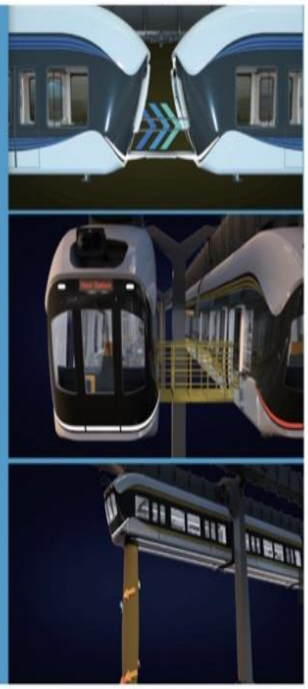
It has multiple safety guarantees and you may feel at ease upon ride

It adopts the rubber wheel, with less operation noise.
The bogie is placed inside the guideway girder, which ensures that it is not easy for the vehicle to be derailed and that it is safe and reliable.
It adopts the independent right-of-way, which will not affect the social pedestrians and motor vehicles.

It adopts the unmanned system and is equipped with the automatic train control (ATC) system, automatic train operation (ATO) system, automatic train protection (ATP) system, and automatic train supervision (ATS) system, ensuring that the line operation is safe and reliable.

Multi-functional efficient combined rescue

The longitudinal, transverse and vertical rescues are separately arranged as per the variable emergency conditions. The passenger may either be quickly transferred to another train via the end escape door or side cab apron, or slid to the ground via the vertical escape slide.



It is the best choice for the small-and-medium-capacity urban rail transit, which features less engineering construction land occupation, shorter construction period and lower cost

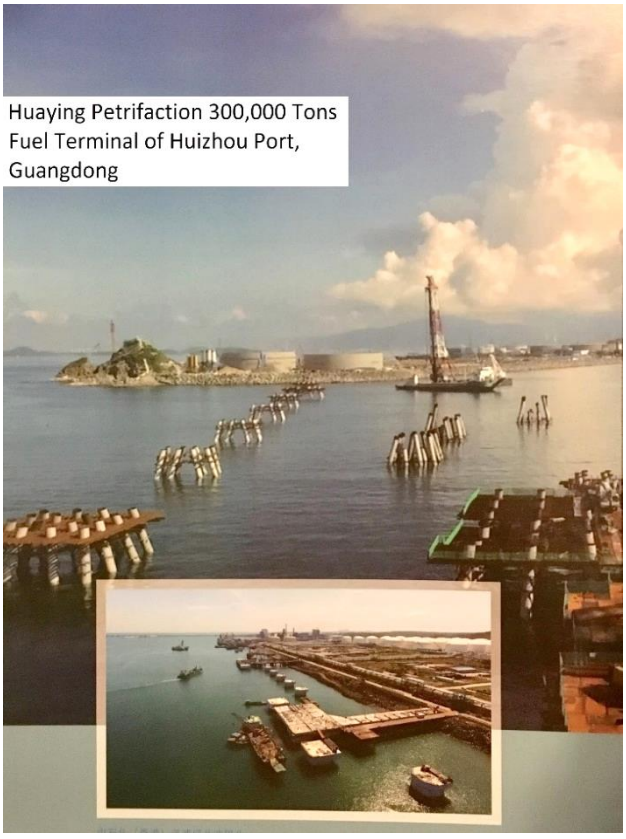
The comprehensive cost of Suspended monorail transit system is 1/8-1/6 of the subway cost, and its guideway girders, turnouts and piers may be pre-fabricated by the factory and then transported to the site for assembly, which only requires the cast-on-site foundation. Therefore, the construction is very easy. The bridge almost adopts the steel structures and the cross-sectional size is small. In addition, the line and station may be designed along one side of the road or the middle green belt, which features the less land occupation, less relocation, shorter construction period and lower cost.

The line expansion is convenient and the cost is low

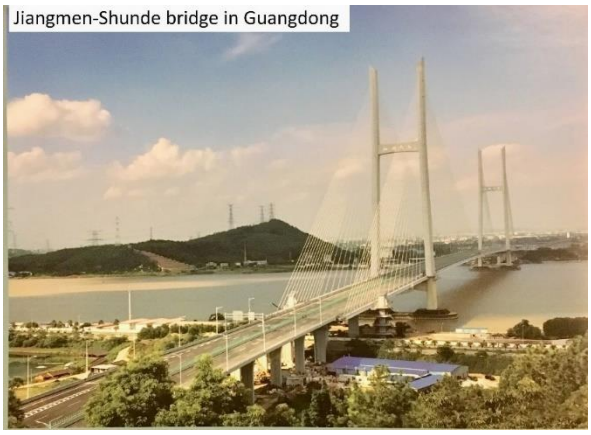
The piers and guideway girders may be reused and the dis-assembly is also convenient. With the urban development and travel demands, it may be extended, relocated or disassembled from time to time, without any waste of resources.

KKIBS – CREEC JV

"China Railway ganghangqi No. 1"



Huaying Petrifaction 300,000 Tons Fuel Terminal of Huizhou Port, Guangdong



Jiangmen-Shunde bridge in Guangdong

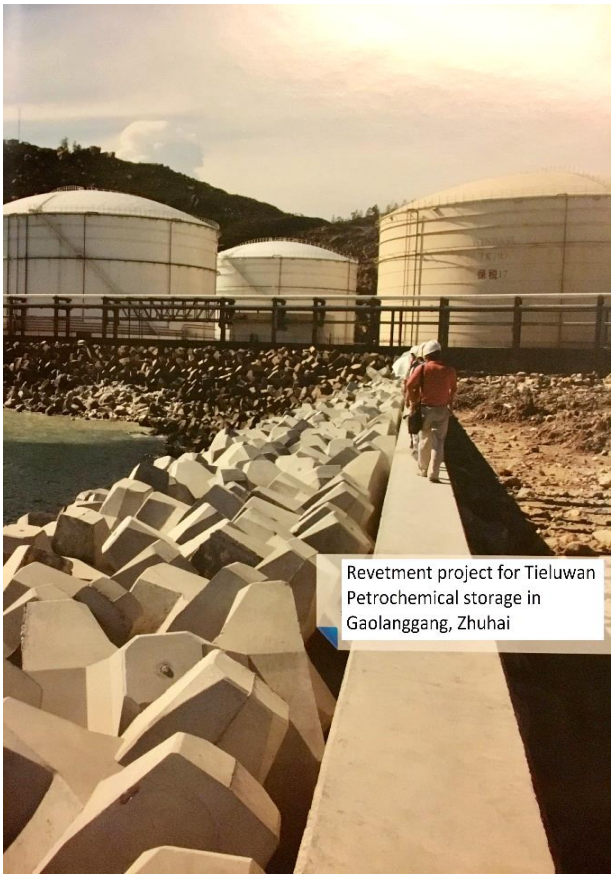
Hainan Wenchang Qinglan Port wharf

Land formation engineering of Beihai LNG, Guanxi

Xinhe Terminal in Gaolangang, Zhuhai

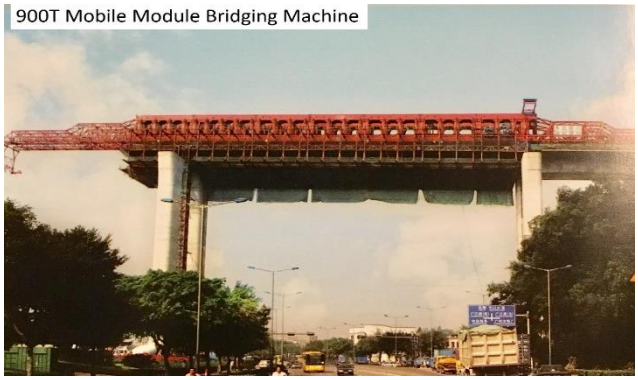
100,000-ton general terminal engineering in Dafeng Port, Jiangsu

KKIBS – CREEC JV

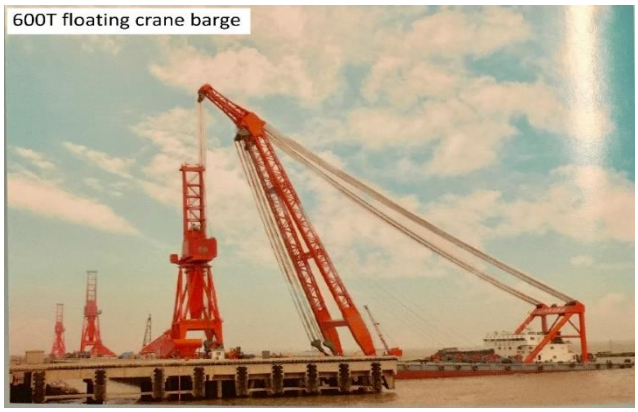


KKIBS – CREEC JV


Floating reef blasting barge

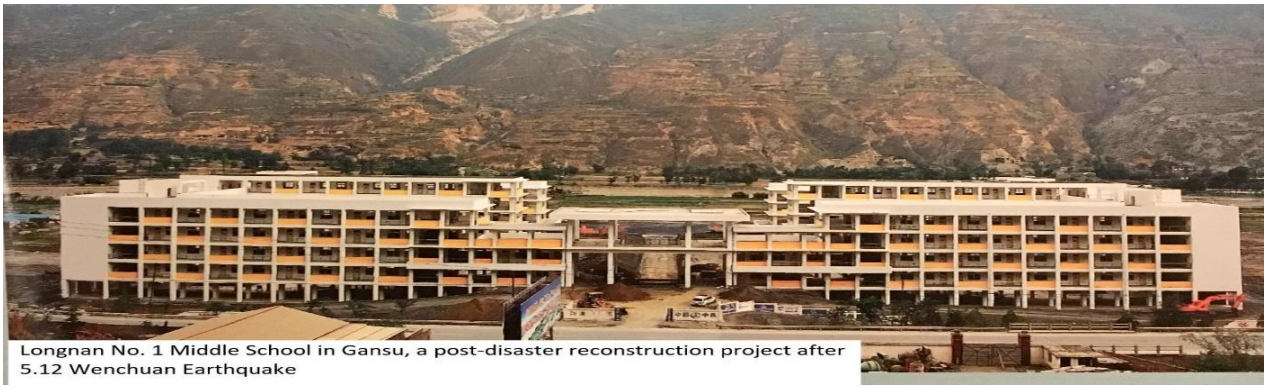

900T Mobile Module Bridging Machine


18m3 grab dredger


600T floating crane barge


Guanlan department building in Shenzhen


Department building for employees of Jinan Railway Bureau, Qingdao


Longnan No. 1 Middle School in Gansu, a post-disaster reconstruction project after 5.12 Wenchuan Earthquake

KKIBS – CREEC JV

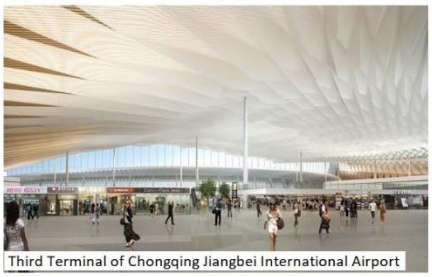
1000 BED - CENTRAL HOSPITAL IN CHINA RAILWAY TOWN

1000 BED - SECOND CENTRAL HOSPITAL IN BEIJING,

GROUP PROJECTS

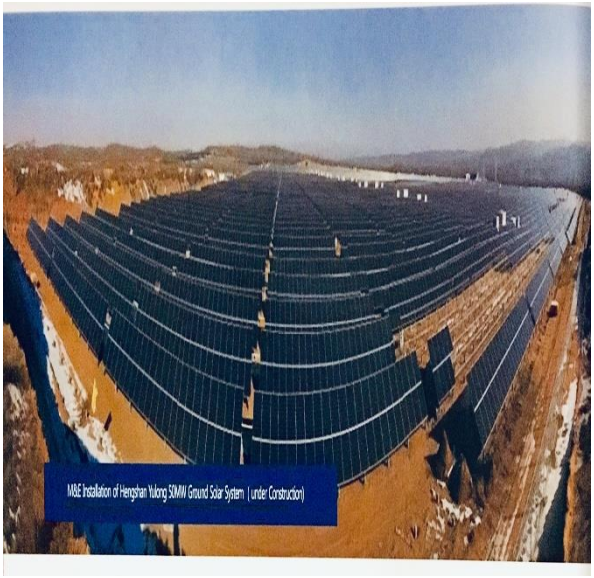

New International Airport Project in Freetown, Sierra Leone


Airport East Terminal Chongqing North Station


Third Terminal of Chongqing Jiangbei International Airport


Shuanglu Airport Station of Chengdu


Baoji No.2 Power Plant


M&E Installation of Hengshan Yulong 50MW Ground Solar System (under Construction)

GROUP PROJECTS

1、The Second Likeng Domestic Waste Incineration Power Plant covers an area of 70,790 square meters Guangdong province China. It processes an average of 2,000 tons of waste per day, 3 incinerators with a production capacity of 750 tons/day and a total installed capacity of 50 Megawatts.

2. Guigang Waste Incineration Power Plant in Guangxi, China, has a daily waste treatment of 900 tons and an installed capacity of 18MW.

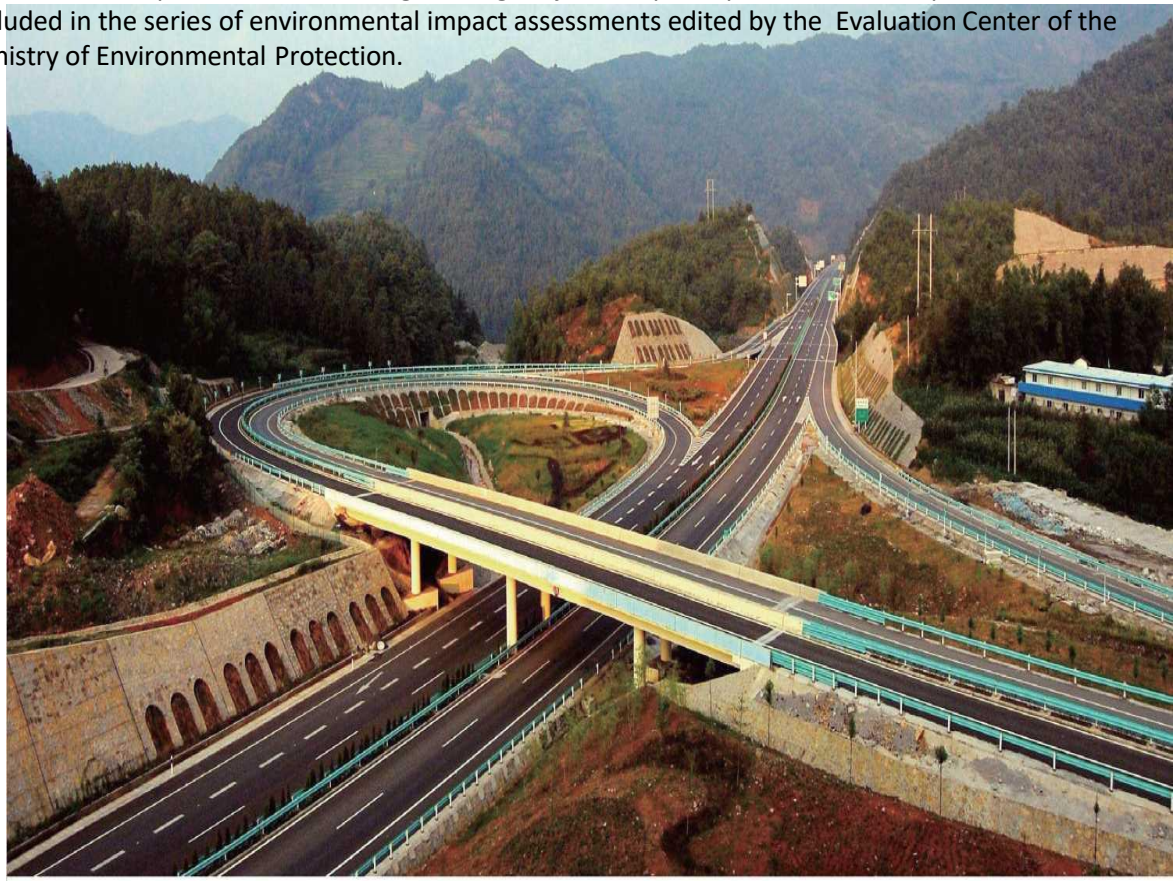
GROUP PROJECTS

ENVIRONMENTAL ENGINEERING AND WATER SUPPLY & DRAINAGE

The consulting business mainly includes construction project environmental impact assessment, soil and water conservation plan preparation, land reclamation plan preparation, social stability risk assessment, environmental protection monitoring and supervision, environmental protection acceptance survey report preparation, water resources demonstration, etc., covering railways, urban rail transit, Highway, municipal construction, airport construction and other fields.

Presided over the completion of a large number of national key and environmental protection difficulties such as Chengdu-Lanzhou Railway, Chengdu-Chongqing Passenger Dedicated Line, Guiyang-Guangzhou Passenger Dedicated Line, Lhasa-Nyingchi Railway, Chengdu-Mianle Intercity Railway, Chengdu Tianfu International Airport, Chengdu Metro, Shenzhen Metro, etc. The project was approved by the Ministry of Environmental Protection and the Ministry of Water Resources, which laid the foundation for the smooth start of the project. The Chengdu- Lanzhou Railway Environmental Impact Assessment Report won the first prize of Excellent Consultation Achievement Award of China Railway Society, and the environmental impact report of the newly built Daocheng Yading Airport The book won the first prize of Sichuan Engineering Consulting Association for Outstanding Consulting Achievement.
CREEC presided over the completion of planning environmental impact assessments for urban rail transit construction projects in Chengdu, Jinan, Shenzhen, and Guiyang, as well as planning environmental impact assessments for inland river ports such as Suining City, Meishan City, Panzhihua City, and Leibo County.

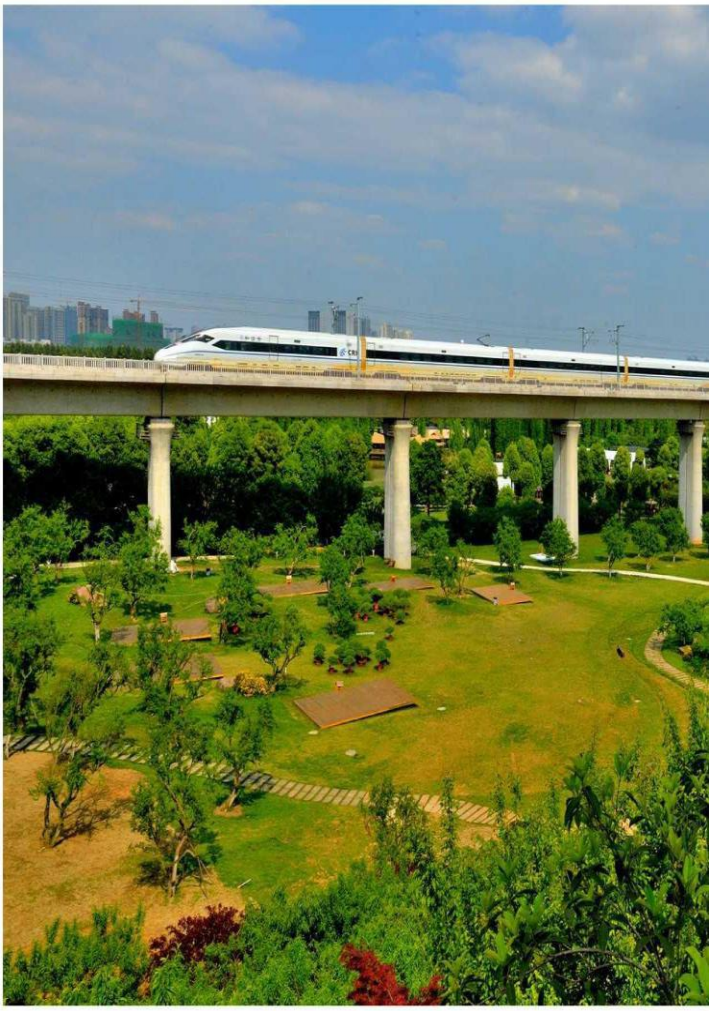
The related content of “Evaluation of Major Environmental Impact Factors and Environmental Protection Measures for Airports and Related Engineering Projects” participated in the compilation has been included in the series of environmental impact assessments edited by the Evaluation Center of the Ministry of Environmental Protection.



中西部第一条高速公路——成渝高速公路（重庆段）环境影响评价

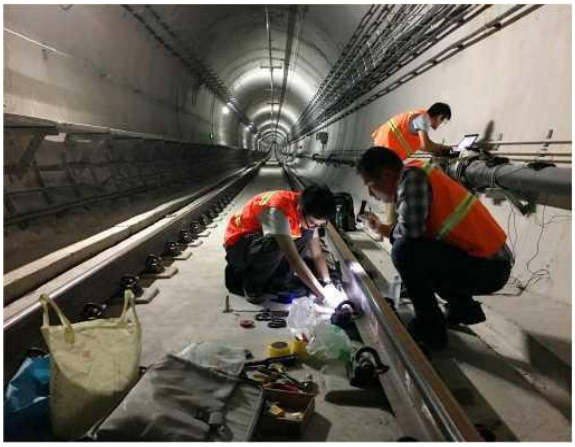
GROUP PROJECTS

Soil and water conservation and environmental impact assessment



GROUP PROJECTS

Soil and water conservation and environmental impact assessment



ENVIRONMENTAL ENGINEERING AND WATER SUPPLY & DRAINAGE

Chengdu East Railway Station Water Supply and Drainage Project

The business mainly includes water supply and drainage engineering, noise control engineering, landscape greening engineering, road engineering, etc., covering railways, urban rail transit, highways, municipal facilities and other fields. CREEC has a long history in water supply and drainage engineering, and has made great contributions to railway transportation, safety, and improvement and improvement of the living standards of employees along the railway. As early as the 1980s, it began to enter the field of municipal water supply and drainage engineering. Especially in recent years, it has achieved rapid development. Its business has expanded to emerging areas such as watershed management, sponge cities, and refuge squares. It has successively contracted EPC for various municipal projects in Shanghai, Guangdong, Sichuan, Jiangxi and other places.

GROUP PROJECTS

River ecology and landscape reconstruction

GROUP PROJECTS

River ecology and landscape reconstruction

GROUP PROJECTS

River ecology and landscape reconstruction

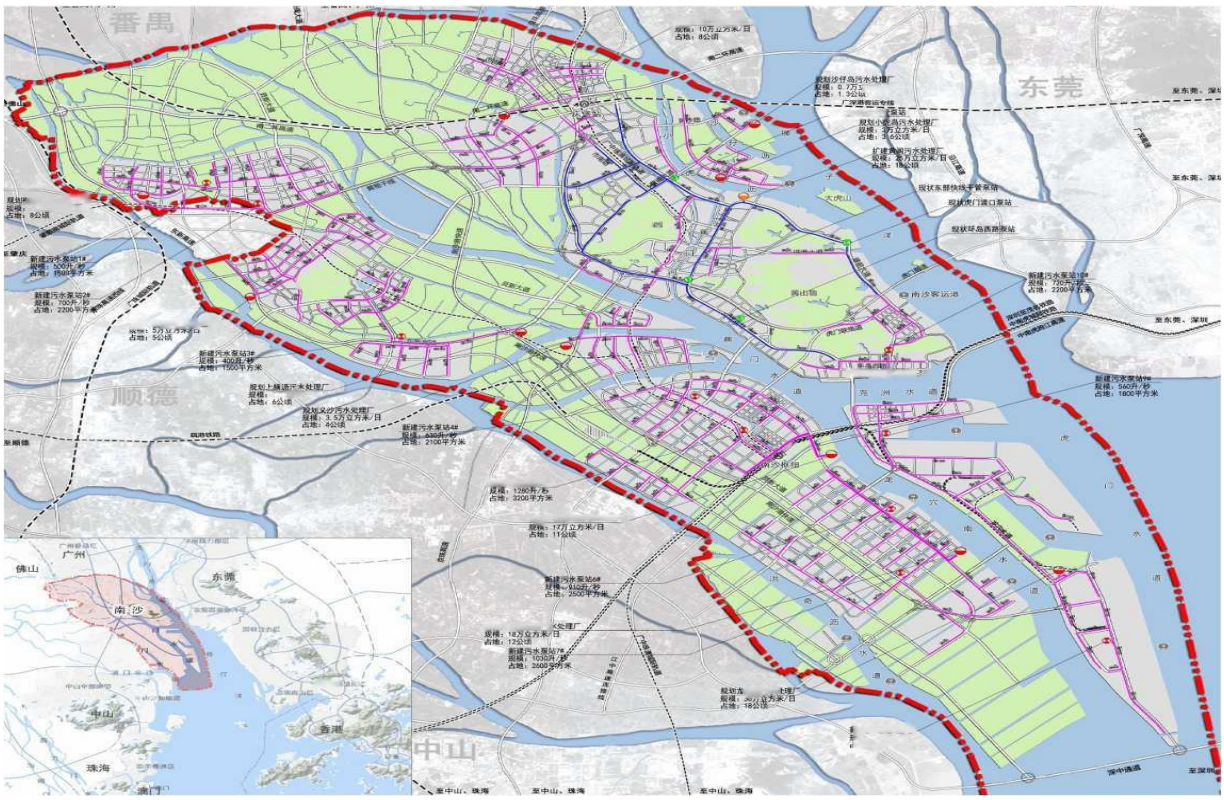
老挝琅勃拉邦生态特区建设项目

GROUP PROJECTS

Water supply project

Sewage treatment project

GROUP PROJECTS



GROUP PROJECTS

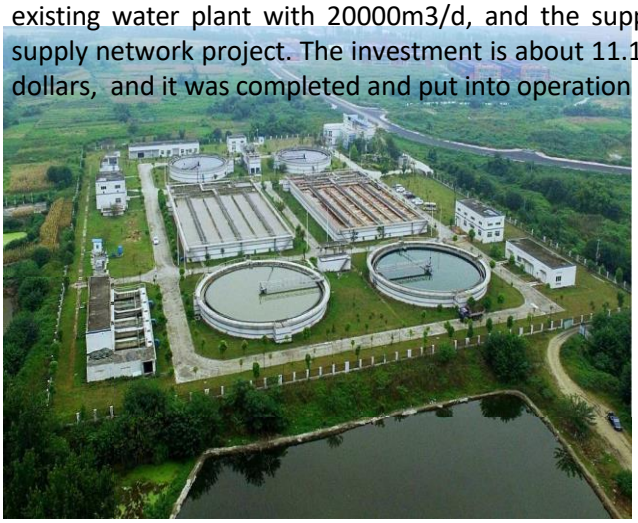
ENVIRONMENTAL ENGINEERING AND WATER SUPPLY & DRAINAGE

EPC

The CREEC began to undertake the design and construction general contracting of environmental protection projects in 2010, and successively undertook the Sichuan Dayi municipal infrastructure project loaned by the French Bank, the French Development Agency loaned the Sichuan Guanghan municipal infrastructure project, and the French Development Agency loaned the Sichuan Luojiang municipal infrastructure project. Jiangxi Ganzhou Shuixi Industrial Wastewater Treatment Plant, Jiangxi Ganzhou Xinfeng Industrial Wastewater Treatment Plant Jiangxi Ganzhou Xingguo Industrial Wastewater Treatment Plant, Chongqing Wulong Wastewate Treatment Plant Phase II Expansion Project, Panzhihua City Bingcaogang, Dadukou, Xiaoshaba Upgrading and renovation projects for three sewage treatment plants, including municipal roads, water plants, rainwater and sewage pipeline collection, sewage treatment plants, river embarkment improvements, etc.

French Development Agency
Emergency Concessional Loan
Sichuan Urban Infrastructure
Guanghan City Project

The project is located in Guanghan City, Chengdu. The project includes the new Luonan Wastewater Treatment Plant with a scale of 100000m3/d, the expansion of the Sanxingdui Water Supply Plant with a scale of 100000 m3/d, the transformation of an existing water plant with 20000m3/d, and the supporting water supply network project. The investment is about 11.14 million U.S. dollars, and it was completed and put into operation in 2012.

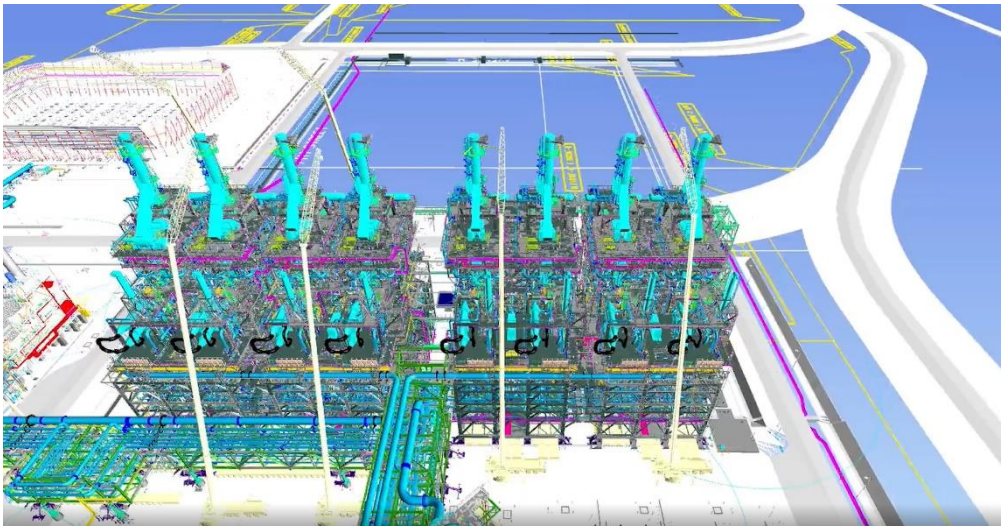


GROUP PROJECTS

REFINARY

GROUP PROJECTS

REFINARY



GROUP PROJECTS

REFINARY

GROUP PROJECTS

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GROUP PROJECTS

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GROUP PROJECTS

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GROUP PROJECTS

REFINARY

KKIBS BUSINESS PARTNERS JV

- MIDDLE EAST
- GERMANY CONSULTANT / PARTNER (ENERGY / WASTE / GAS & SOLAR PLANT)
- IBS MANUFACTURER
- CHINA
- G7 CONTRACTOR

SOLAR





DISTRIBUTED SOLAR SYSTEM

- Qinghai Delingha 80MWp ground-connected photovoltaic power station project
- Qinghai Golmud 50MWp Large Ground Grid-connected Photovoltaic Power Plant Project
- 15MWp photovoltaic agricultural greenhouse project
- Guangdong Shun'an Hui Hefei Yaxing Glass 3MWp Project
- DeLV ZhiCai 2.05MWp Golden Solar Photovoltaic Power Demonstration Project

DECENTRALIZED WIND SYSTEM

- Concept: Decentralized wind power projects refers to wind power projects that are located near the center of the power load and are not used for large-scale long-distance transmission of electricity. The generated electricity is connected to the power grid and is locally consumed.
- Features: nearby access, local consumption, small investment scale, short construction period, stable income
- Significance: wind energy utilization Improvement, wind power layout optimization, and industrial development promotion.

SOLAR

Applications & Advantages of using the COMET

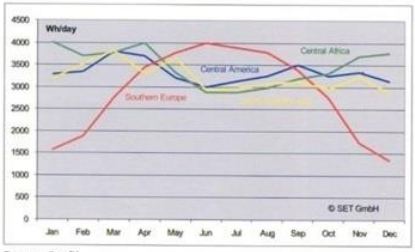
The COMET is a compact, lightweight, modular and easily transportable electricity generating set operated on solar energy.
This makes the COMET extremely appropriate not only for areas and regions without access to electricity, but also as a valuable tool in crisis areas that require a rapid and effective response in terms of rescue work, medical services, repairs and construction. Possible applications range from stationary power supply for camps, schools, hospitals and small villages to remote area telecommunication and research facilities.

Additional applications include the supply of cathodic corrosion protection systems, food- and medicament cooling units, desalinating plants, power supply to submersible and/or surface pumps for irrigation and livestock purposes and, if combined with filtration and UV disinfection sets, the supply of clean drinking water.

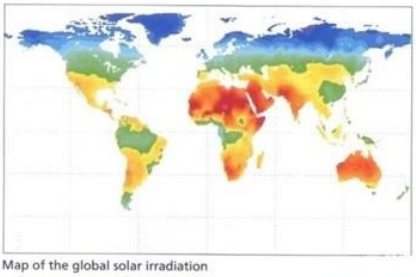
The COMET:

- √ effectively improves living conditions in unelectrified settlements and/or disaster areas
- √ requires only a small platform (1.5 x 2 m) and can resist wind speeds of up to 120 km/h
- √ is stand-alone and does not require any additional support infrastructure
- √ can be assembled and operational within a few hours
- √ can be disassembled, packed, stored or transported to another place at any time
- √ complies with German quality standards and is thoroughly tested prior to delivery
- √ is supplied with detailed assembly and operation instructions

The COMET can be supplied as a DC (Direct Current) and/or an AC (Alternating Current) system. Up to four units can be connected in parallel and be optionally coupled to a wind generator, a diesel generator set or, if required, to the local utility grid. The system can be delivered for all standard voltage networks.



Energy-Profil



Map of the global solar irradiation

Energy Consideration

The graph shows the average energy data of a 1 kW COMET power supply for applications in the sun belt of our earth. In Central Africa for the month of April this means a monthly average value of 4000 Wh per day. The energy yield essentially depends on location and season. For the supply to consumers at night as well as for the temporary storage for times with low solar irradiation the surplus of energy is stored in the system battery which has a capacity of 7000 Wh. Approx. 5600 Wh of the total capacity can be used at a recommended Depth of Discharge (DoD) of 80%. For example: 20 energy saving lamps with a power of 11 Watt consume in 8 hours about 1800 Wh.

Transport & Installation

In packed condition the COMET container can be transported by pickup trucks, trailers and helicopters to even the most inaccessible regions, can be assembled by unspecialized personnel and be operational within a few hours.

The container serves as both transport container for all the required system components and as cabinet for the battery and for the system electronics during operation.

- √ The COMET is easily assembled. No expensive specialists are required, which significantly reduces installation costs
- √ The operation of the COMET is virtually maintenance-free. Periodic wiping of solar module surface is advised and overall preventative service is greatly simplified
- √ No technical operating personnel are required, although a dedicated supervisor is recommended
- √ Thanks to an optimal system design and the use of high-quality material and components a long operating life can be guaranteed

System electronics and the maintenance-free battery are factory-mounted in the COMET container and already connected. Once on site, the frame and the solar modules are removed from the container, mounted on the container roof and connected to the system electronics.

The solar modules are equipped with cables & plugs and must be connected to the system electronics in simple plug-and-play fashion by means of watertight plugs.

All metal components are made of aluminium or stainless steel in order to maximise life expectancy and to guarantee a long operating life even under extreme weather conditions. The tare weight ensures a safe upright position on a level surface or platform.

Only if exposed to extreme wind conditions (> 120 km/h) should the COMET be anchored to the ground.

SOLAR

Technical Data

Type	Order-Number	Short Description	Technical Data/Equipment:
COMET 230V, 50Hz	C1-230-50	AC power supply system for standard consumer circuits	-Solar generator: 14 modules type RSM 75 (1050 Wp) -Battery: 24V, 288Ah, 6VBiV4138 (6.9 kWh) -Charge controller: 1 CDC 1000 COMET -Inverter: 1 MASS SINE 24/1500 230V, 50Hz
COMET 120V, 60Hz	C1-120-60	AC power supply system for standard consumer circuits	-Solar generator: 14 modules type RSM 75 (1050 Wp) -Battery: 24V, 288Ah, 6VBiV4138 (6.9 kWh) -Charge controller: 1 CDC 1000 COMET -Inverter: 1 MASS SINE 24/1000 120V, 60Hz
COMET 24 V (DC)	C1-24 (+,-) + positive grounding - negative grounding	24V DC power supply system for cathodic corrosion protection (CCP) and telecommunication applications	-Solar generator: 14 modules type RSM 75 (1050 Wp) -Battery: 24V, 288Ah, 6VBiV4138 (6.9 kWh) -Charge controller: 1 CDC 1000 COMET -DC/DC converter: 1DC/DC 24/24 100W
COMET 48 V (DC)	C1-48 (+,-) + positive grounding - negative grounding	48 V DC power supply system for cathodic corrosion protection (CCP) and telecommunication applications	-Solar generator: 14 modules type RSM 75 (1050 Wp) -Battery: 24V, 288Ah, 6VBiV4138 (6.9 kWh) -Charge controller: 1 CDC 1000 COMET -DC/DC converter: 1 DC/DC 24/48 100W
COMET-WPS	C1-WPS-1	This system is designed exceptionally as water pump system. With an assumed solar irradiation of "5kWh/m²x d" the system pumps about 90m³ at a well-head of 2m and about 1.5 m³ /day at a 120m well-head.	-Solar generator: 14 modules type RSM 75 (1050 Wp) -Inverter: Solartronic SA1500 -Pump type: SP_A_
COMET power supply & small water pump system	C1-230-50 +WPS2 C1-120-60 +WPS2	System 1 or 2 with the additional option to switch over 6 modules to the pump system. If no water is required, the modules can be used again to charge the batteries. With an assumed solar irradiation of "5kWh/m²x d" the system pumps about 35 m³ /day at a well-head of 5m and about 2.5 m³ /day at a 40m well-head.	-Solar generator: 6 modules type RSM 75 (450 Wp) -Inverter:: Solartronic SA400 -Pump type: SP_A
MRPS10	C1-MRPS10	Multi-range power supply. Additive charging unit.	-Input voltage: 90 V to 300 V (AC) -Output voltage: max. 28.8 V (DC) -Charge current: max. 10 A
Wind generator	C1-WG-AC 240	Wind generator as adapted and additional power supply	-Power: 240 W -Nominal power at: 9 m/s -Cut-in wind speed: 3 m/s -Survival wind speed: 60 m/s -Rotor diameter: 1.65m -Number of blades: 3
Pole	C1-PC-WG-AC 240	Wind generator pole and connection structure	-Pole height: 4.2 m -Pole diameter: 70 mm
Trailer	C1-TT-1A-1T	Transport trailer for the COMET	-Total weight: 1000 kg -Weight: 150 kg -Axis: 1 axis -Wheels: 2 units 185 R14
Tripod	C1-TP-1T	COMET loading equipment	-Construction: Tripod with hold ropes at the bottom -Total height: 3.5 m -Dumping height: 1.2 m (suitable for all pick-up trucks) -Chain tackle: max. load 1000 kg -Hand load at 1 t: 35 kg
Tool	C1-T-1	Transport and loading tool	-Frame: Aluminium frame (0.95 x 1.48 m); 9 kg -Ropes: Steel-ropes with hook (3 kg) -Max. load: 1000 kg at a tilt angle of 45°
UV-C aggregate	UV16-AG	The aggregate can disinfect up to 30 m³ per day of bacteriologically contaminated raw water which can then be used as potable water. This means the device can treat 1.3 m³/h at a water transmission of 90%/1cm with a UV-C radiation dose of 400 J/m².	-Max. water capacity: 30 m³ per day -Total power: 60 W (including magnetic valve) -UV-C aggregate: Dulcodes 16PI ¾" -Max. water pressure: 10 bars
Water supply system	C1-WSS-1	Water supply system for potable water.	-Pre-filter: Avanti WF and RF; impurities > 90 µm are trapped -De-ironing filter: ERF 1 Oxidising and filtering of iron and manganese -Max. water quantity: 1 m³ per hour -UV-C aggregate. C1-UV16-AG
Cooling units	C1-COU-FL C1-COU-TL	Cooling box with DC compressor. FL: front loading; TL: top loading	-Cooling box: SET-CB_1 -Volume: 150 l -Dimensions: (W x H x L) 750 x 700 x 800 mm -Insulation: 100mm -Compressor: BD50F

Accessories

MRPS 10 - Multi-range power supply: Electronic device for an additional charging of the battery.
The MRPS10 was developed with a multi-range input and can be coupled with the various utility grids and/or motor-generators.
The unit can be pre-mounted and electrically pre-connected to the system.

Wind Generator:
Additional power supply which was designed for a parallel operation with the COMET. This is an ideal combination for sites with reasonable wind speeds.
The wind generator can be used to additionally charge the battery during the night and in case of an insufficient solar irradiation.

Transport Trailer:
Trailer with maintenance-free axis with rubber shock absorber and overrunning brake with ball and socket joints.

Pole:
The pole for the wind generator can be fastened by means of the connection structure at the COMET container. Both can be dismantled and transported.

Tripod:
Tripod and chain tackle for loading and unloading purposes. The tripod can be dismantled and stored inside the COMET container.
A pick-up truck or a trailer can drive backwards below the tripod.
The tripod can also be applied as a holder construction for submersible pumps.
For this purpose the equipment can be used alternatively at 1/3 and 2/3 of the max. height.

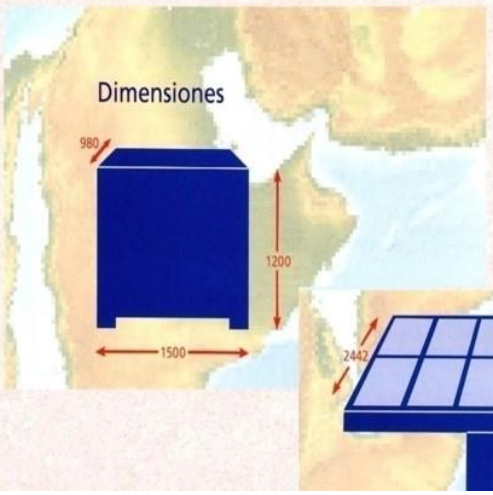
Tool:
Transport and loading aid with steel ropes and hook.
This tool is necessary in combination with the tripod and for the COMET transport by helicopters.

Submersible Pumps:
The pumps are specially designed for water supply and irrigation purposes and are entirely made of stainless steel. The type of the pump depends on the depth of the well and the required amount of water and must be individually chosen.

UV-C Aggregate:
For prefiltered water.
Aggregate as an open frame construction, complete with magnetic valve, water flow adjuster and scavenging circuit.
The system can be additionally equipped with a multi-purpose and uninterruptible power supply.
The aggregate can be integrated in the COMET container or be used separately.

Water Supply System:
This equipment is a combination of a de-ironing filter and the UV aggregate (see UV16-AG) and must be applied when the content of iron and manganese is too high. Additionally, this unit is equipped with various rough and microfilters.

Cooling Box:
The cooling box is adapted to the COMET container and can be integrated when the solar modules have been removed for installation. This is very comfortable in cases of first and second aid applications or for small and remote hospitals. In all other cases the box can be placed e.g. in rooms being close to the COMET.



TURBINE

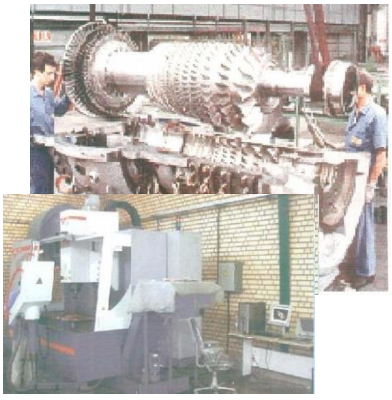
TURBIE TYPE AND PRODUCT RANGE

- GE - FRAME 3-9, LM
- SIEMENS - WESTINGHOUSE
- ABB
- RUSTON – ALL TYPES
- SOLAR – MARS, TAURUS, CENTAUR & SATURN
- ROLLS – ROYCE
- SULZER

AS WELL AS

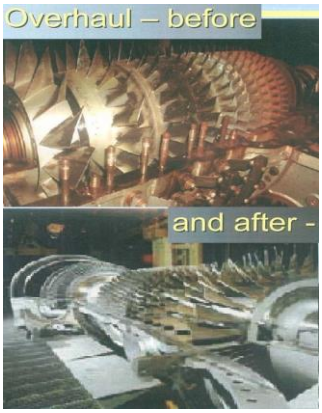
- STEAM TURBINES
- BOILERS
- OIL AND DIESEL ENGINES
- TURBO COMPRESSORS AND ROTATING EQUIPMENT
- COMBINED CYCLE POWER PLANTS
- INCINERATION PLANTS
- GUARANTEED SERVICE & AVAILABILITY WITH SENIOR TURBINE EXPERTS, LOWER COST, RELIABLE AND EFFICIENT
- ROTOR OVERHAULS, BALANCING, LASER TECHNOLOGY
- CD – BORESCOPE INSPECTION, FREQUENZ, ANALYSES, ELECTRONIC VALVES.

SCOPE OF SERVICES



- HYDRAULIC PRESSURE TESTING, X-RAY, ULTRASONIC, NDT
- COMPLIANCE WITH ISO, API, ASME, TUV AND VDI
- CNC AND FULL MACHINE SHOP CAPABILITY, IN-HOUSE MANUFACTURING
- TURBINE RE-BLADING, RE-ENGINEERING AND UPGRADING
- MODIFICATION AND EFFICIENCY IMPROVEMENT TECHNOLOGY AND KNOW HOW TRANSFER
- WELDING, REPAIRS OF ROTORS / HOT PARTS AND COMPONENTS
- IMPROVING OF TURBINE COATINGS

SPARE PARTS SUPPLY



- ORIGINAL OEM PARTS
- QUALITY AND PRICE COMPETITIVE COMPARED OEM FROM THE FACTORY
- DELIVERY AND ACCESS TO THE INVENTORY OF OUR TYPE OF TURBINE SPARE ENGINES, PACKAGES AND PARTS.
- OVERHAUL PARTS LIKE : NOZZELS SEGMENTS, COMBUSTION LINERS, SHAFTS, COMSUMABLES KITS, GEARS, TIP SHOES
- SECOND HAND, NEW AND OVERHAULED POWER PLANTS
- RECONDITIONED AND REVERSE ENGINEERED PARTS

TECHNICAL TRAINING

- FOR OPERATIONS, MODIFICATION, UPGRADING
- MAINTENANCE, OVERHAUL, REPAIR OF MACHINERY AND EQUIPMENT
- THEORY WITH PRACTICAL EXPERIENCE
- CLASSROOM, PC OR SIMULATION IN GERMAN TRAINING CENTER
- ON-SITE OR AT WORK SHOP CENTER

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