



Case Studies

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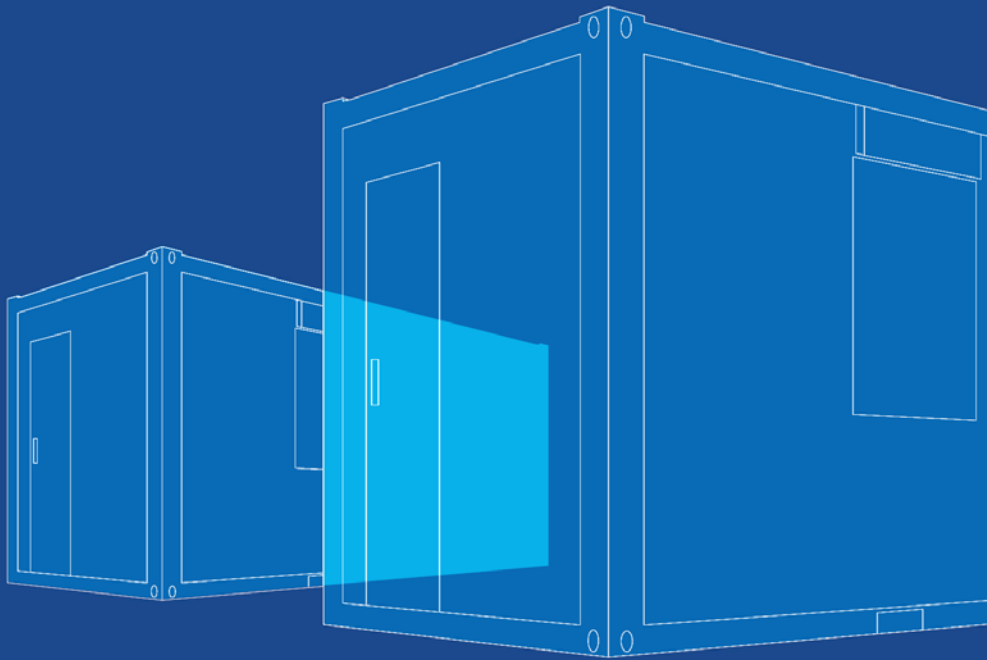
Besides, ARK has done many business in other countries and regions around the globe, such as Ontario in Canada, Dubai in UAE, Nigeria, Ghana, Niger, Noumea, Mauritania, Colombia, Argentina, Peru, Afghanistan, Australia, PNG, Singapore, Siberia in Russia, Germany, Belgium and so on;

Headquatered in Shanghai, by now we have authorized agents respectively in South Africa, Saudi Arabia, Afghanistan, Colombia, Argentina, Canada, Germany and Chile providing services locally; and we've set up subsidiaries in Singapore, Australia and Papua New Guinea. It's not the first time for us to do business in above areas.

Our Clients

- ☑ Energy Sector(Exxon Mobil)
- ☑ Industrial/Infrastructure Sector(CCC (Long-term Strategic Partner Relationship), McDonnell Dowell (Australia))
- ☑ Commercial Sector(Coca Cola)
- ☑ Municipal & Military(Red Cross)
- ☑ Entertainment & Sports(Shanghai Formula 1)
- ☑ Others(AO Smith)

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Petroleum and Mining

TURNKEY CASE STUDIES EPCC FOR FACILITIES PACKAGE OBC- RAM & STAROIL, Sudan

Ark provides modular building solutions for a wide variety of industries. We serve as your general contractor, offering an alternative to traditional construction methods and providing complete support on each project.

CLIENT NEED

Star Oil is a joint venture oil enterprise locally in Sudan, who wanted to build an OBC (Operations Base Camp) near her oil tank in Barassa in southern Sudan. This Facilities Package OBC camp aims to provide full camping services for Star Oil's staff on site permanently.

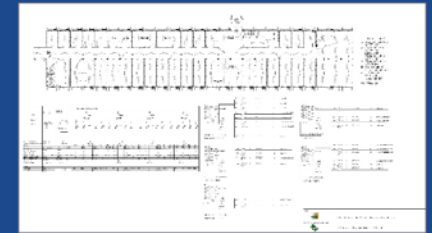


Ark turnkey Solutions

Ark team met with RAM Project Manager and Procurement Manager and Star Oil Project Manager to figure out what has been engineered for the whole OBC camp and what will be required to complete the construction of the camp, based on the concept that the construction of the camp needs to be timing & cost effectively.



Our engineering department had also designed the each and every aspect of this project, compliant with the client's engineering requirements.



Foundations Drawings
(We've calculated the foundations dimensions for all the respective blocks, with units' center-to-center distance and between-units distance counted);

Electrical Drawings (In accordance with the client's Electrical Engineering, we had given a proper and acceptable electrical solution for the camp supply);



Plumbing Drawings (In accordance with the client's plumbing needs, we had given a reasonable and best-suite plumbing resolution for this project, with all drains holes going down directly to the earth).



After finalizing the modular cabins for all the buildings on the camp, we turned to visit and finalize the vendors for the associated services and equipments in the prefab buildings of Ark for the OBC camp. There are 14 prefab buildings in total, and 9 pre-engineered steel structure buildings for the whole camp.

· **PREFAB BUILDINGS:**

Single Accommodation Building, Double Accommodation Building, VIP Accommodation Building, Administration Building, MOSQUE Building, Ablution Building, Laundry Building, Restaurant Building, Recreation Building, Clinic Building, Workshop/Warehouse/Laboratory/Guard Unit;



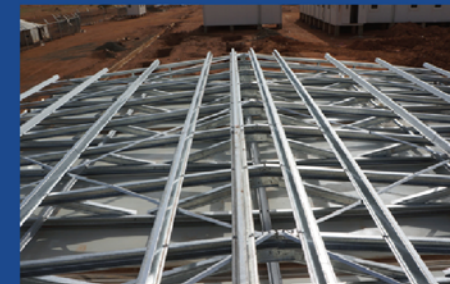
· **PRE-ENGINEERED STEEL STRUCTURES:**

Substation, High Voltage Tower, Workshop, Warehouse, Parking Area, 4 @ Guard Tower Building.



· **ASSOCIATED SERVICES AND EQUIPMENTS**

Roofing System, pitching roofs with gutters and eaves on both sides of the buildings;



· **ELECTRICAL SYSTEM,**
including the interior power cabling of the buildings and the power panel system to all rooms, and the power points etc;



· **PLUMBING SYSTEM**
including the inlet and outlet piping of the building itself.Sanitary Wares,
including shower sets, wash basins, toilets and water heaters;

· **GYM EQUIPMENTS,**
including 5-Station Integrated Training Machine, Treadmill, Upright Bike, Flat Press Bench, Weight Bars & Plates;toilets and water heaters;

· **LAUNDRY EQUIPMENTS,**
including ironing tables, ironing machine, washing & dryer machine etc.

· **CLINIC EQUIPMENTS**
including Bio Cabinets, Air Flow cabinets etc.;



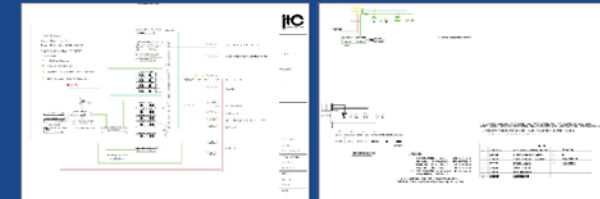
· **KITCHEN EQUIPMENTS,**
including the whole set cooking equipments etc.;



· **LOW CURRENT SYSTEMS& DEVICES**

Including MATV system devices, Structural Cabling devices, Telephone system devices, PAGA (public address) system devices, Fire Alarm system devices, and their configurations.

Regarding the 5 low current systems, we also got professional low current engineering from our sub vendors at this first stage, and then we provide readable low current drawings to the client according to the building floor plans & sizes.



All above had been based on the general supplying system of ark.
After or even before the shipments, since we' ve been in the process of subcontracting the installations of ark prefab buildings and associated services and equipments, ark had already begun organizing the site-installation team for each and every aspect of this job, including the low current systems as ark has got her own experienced installation team of prefab buildings.

PNG LNG Project

Client: MCJV(MacDonnell Dowell Australia & CCC);

Exxon Mobil

Location: Komo, PNG

Period: 11/2010---11/2011

Project Name: PNG LNG PROJECT Komo Airfield

Accommodations Facilities



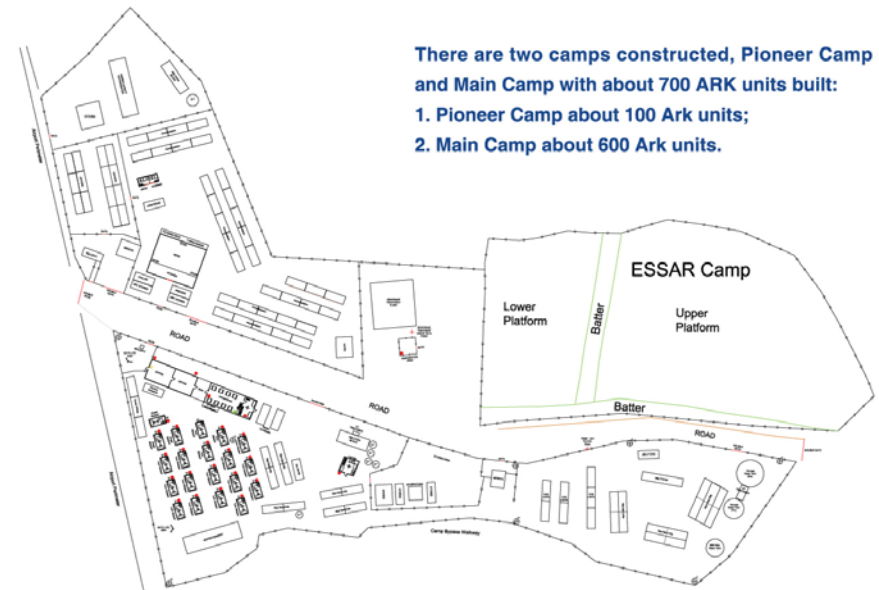
The PNG LNG Project is a 6.6 million tonne per annum (MTPA) integrated LNG project operated by Esso Highlands Limited, a subsidiary of Exxon Mobil Corporation. The gas will be sourced from the Hides, Angore and Juha gas fields and from associated gas in the Kutubu, Agogo, Moran and Gobe Main oil field.



The PNG LNG project which commenced early works operations back in 2010 is now in full swing with Ark Prefab being at the forefront of this unprecedented 15 billion USD project with partner OCS International. Ark Prefab's initial involvement in the PNG LNG project relates to the design, supply and construct of both the pioneer and main camps for the EPC5B contract for the Komo Airfield. Commissioned by partner OCS International in Nov 2011 to client MCJV (Macdows & CCC) on behalf of Esso Highlands (Exxon Mobil) the main

Komo Airfield camp, comprising of several multi-story accommodation blocks can facilitate over 1000 men and is over 15,000 sqm under roof. The accommodation blocks in the main camp include senior management, junior management and workers style accommodation. In addition, a kitchen/mess facility, medical facility, site office, machinery zone warehouse, gymnasium, laundry facility and numerous recreation facilities have been provided amongst other structures.

Commencement of the main camp's construction works started in April 2010 however due to several logistical delays with inland transporting hundreds of containers through the rugged highlands of PNG without a secure road network and ensuring peace and harmony with the local indigenous population along with being located in one of the most severe torrential rain regions on the globe certainly hampered a continuous flow on with the construction efforts. Not without its challenges the project which is now deemed a success by all involved provided Ark the opportunity to work with partner OCS International on several innovative product developments utilising the flat pack product to create large clear span spaces which were required in both the site office and mess facility along with a unique internal stair design for the accommodation blocks and the site office. The construction of the pioneer and main camps was undertaken by both ARK Prefab constructors, Australian expats supplied by partner OCS International and a selection of the local indigenous PNG people in the Komo region. The project provided invaluable experience to Ark Prefab engineers, electricians, plumbers and general contractors and also demonstrates our capability to provide large scale full turn key solutions to our clients in difficult regions.



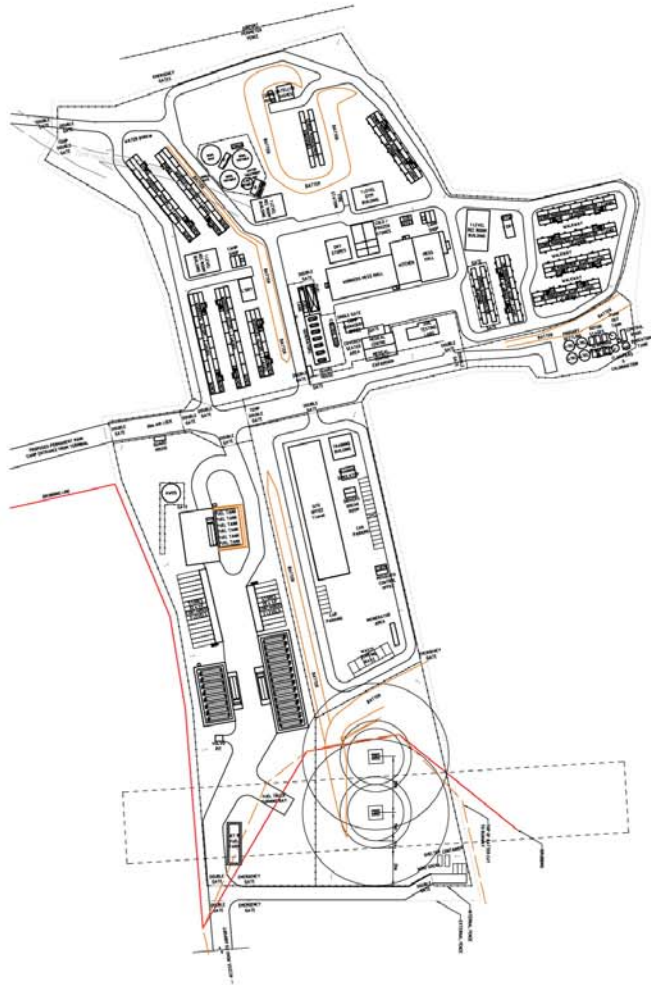
There are two camps constructed, Pioneer Camp and Main Camp with about 700 ARK units built:
 1. Pioneer Camp about 100 Ark units;
 2. Main Camp about 600 Ark units.

Pioneer Camp:

As it was still in the beginning period, it was not so easy to extend the grounds in the Pioneer that most of the Ark buildings were done in one level, and the units were stacked onto the concrete foundations row to row. There are:

- 10 Senior Accommodation Units;
- 40 Junior Accommodation Units;
- 12 Mess/Kitchen Units;
- 20 Office Accommodation Units;
- 2 Laundry Units;
- 1 Guard House;
- 2 Medical Facilities Units;
- 2 Ablution Blocks;
- 3 Storage Units and others.





Main Camp:

As it progressed, most of the builders on site were getting more and more familiar with what they are doing, and the Ark accommodations buildings were built to what they should be like. Most of the Ark buildings are Double-Level blocks with stairways and over-roofs on top. There are:

- 2 Double-Level Senior Blocks(24-Unit Block);
- 3 Double-Level Junior Blocks(20-Unit Block);
- 1 Single-Level Junior Block(10-Unit Block with over-roof);
- 1 Management Laundry Block(4 units combined);
- 1 Management Recreation Block(18 units combined);
- 1 Mess/Kitchen Higher Block(42 units combined);
- 1 Laboratory Block(4 units combined);
- 1 Medical Facilities Block(9 units combined);
- 5 Double-Level Workers Blocks(32-Unit Block);
- 1 Workers Laundry Block(6 units combined);
- 1 Workers Recreation Block(14 units combined);
- 1 Workers Recreation & Camp Shopper Block(16 units combined);
- 1 Training Rooms Block(10 units combined);
- 1 Workers Mess/Kitchen(42-Unit Block);
- 1 Officers Block(84-Unit Block with over-roofs);

and there are some more Senior Villa Units built onto the row-to-row concrete foundations.

In addition, some other single ARK units are put somewhere else in the Airfield Zones for emergency or office usages, owing to the flexibility of these modular buildings.

"The Ark products are really good for camp solutions: they are easy to build, flexible in combination and what's most attractive is that they are modular in the structures; like in this camp, we've built two stories, one stories, most of them are with overroof and internal stairways, which is really convenient."—Cassius Ruka, Construction Supervisor, MCJV



✓ Siberia Project

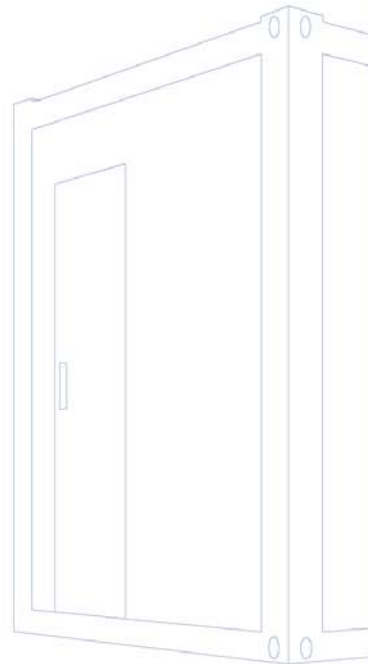
Client: **Globe CMS; KCA Detug**

Location: **Siberia, Russia**

Period: **06/2011---07/2011**

Project Name: **Accommodations for Globe CMS/BP Drilling Camp**

Globe CMS has been doing business with oil enterprises all over the world, like BP, EXXON, Shell, Chevron etc.; and Globe CMS has many other contracts in North Siberia, this project is one of these contracts for drilling oil wells for BP.



This project on this oilfield is to accommodate 78 persons on camp that work daily (24/7) in hard weather conditions(-50°C).

There were 80 Ark units supplied in total, including sleeping units, sanitary units, public office areas, senior areas, coffee rooms, board room and so on. And the building is a two-story block with both side external staircases and internal staircases; in addition, the block is overroofed with steel tiles and trusses.



We were reflected by Globe CMS that the Ark modular units are sustainable and environment-friendly to use; what's more important, the quality and responsibility were recognized by our workers' constant service and coordination between us. We've sent around 2 groups of workers over to assist the installations of the units.



✓ Niger Project

Client: **AREVA**

Location: **Niamey, Niger**

Period: **11/2010---12/2010**

Project Name: **Accommodations Facilities for AREVA**

AREVA, the global leading nuclear power industry, was building the Niger carbon-less nuclear power station. With high standards on safety, security, transparency and ethics, AREVA is also dedicated to its expertise and responsible continuously improvement.

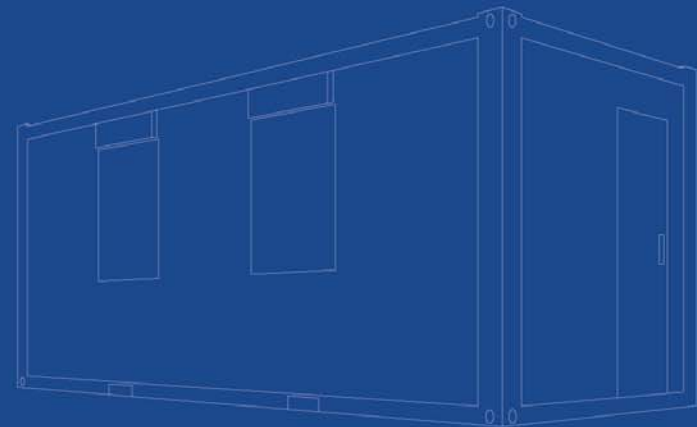
Ranked first in the global nuclear power industry, AREVA' s unique integrated offering to utilities covers every stage of

the fuel cycle, nuclear reactor design and construction, and related services. The group is also expanding in renewable energies – wind, solar, bioenergies, hydrogen and storage – to be one of the top three in this sector worldwide in 2012.

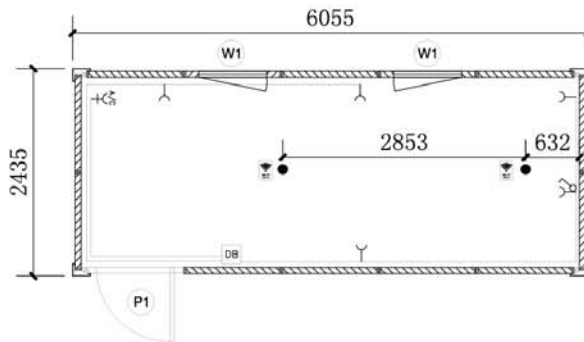
With these two major offers, AREVA' s 48,000 employees are helping to supply ever safer, cleaner and more economical energy to the greatest number of people.



ARK was the supplier of camp accommodation facilities for AREVA, in which we have supplied accommodation units, catering combined units, laundries, recreation units as one-stop modular solution for the 5000 square meters camp construction. All wirings were running exposedly, which made the wall panels system more flexible. Regarding the construction and operations, all the units were done strictly in accordance with global and local standards, in which way ARK's own staff benefited greatly from this project. By the way, ARK units are satisfyingly in compliance with AREVA's concept of being safer, cleaner and sustainable.

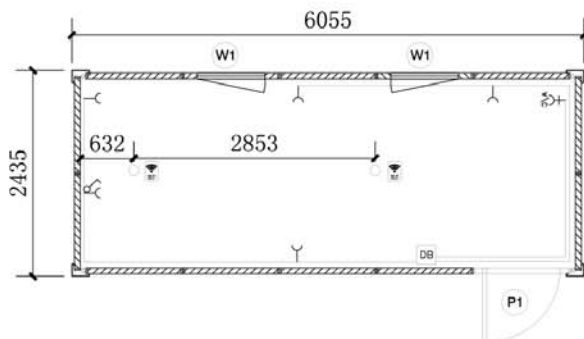


Argentina Project



Legend:

- W1 800 x 1100mm tilt&swing window
- P1 870 x 2040mm Alu door
- Wireless switch
- Lighting outlet position
- DB Lighting outlet position
- Y Socket outlet
- + A/C socket
- Switched socket outlet



Legend:

- W1 800 x 1100mm tilt&swing window
- P1 870 x 2040mm Alu door
- Wireless switch
- Lighting outlet position
- DB Lighting outlet position
- Y Socket outlet
- + A/C socket
- Switched socket outlet



Client: **ECOSAN**

Location: **Buenos Aires, Argentina**

Period: **9/2011---10/2011**

Project Name: **Accommodations for ECOSAN**

This project is for a local mining company in Buenos Aires, Argentina to expand their original camp. After sincere discussions & communications, ARK flatpack units were chosen.

There have been 468 ARK 20' flatpack accommodation units in total on this project since May this year. These workers' accommodation units were all configured with an internal sanitary room and covered with oak boards on the floor in which way the workers can truly feel they were at home instead of the monotonous mining surroundings. In each 20' unit, 1 single bed and 1 bunk bed were put for 3 persons together, the sanitary room shared with 1 toilet, 1 basin and 1 shower.



Commercial Sector

South Africa Office

Client: UFUDU

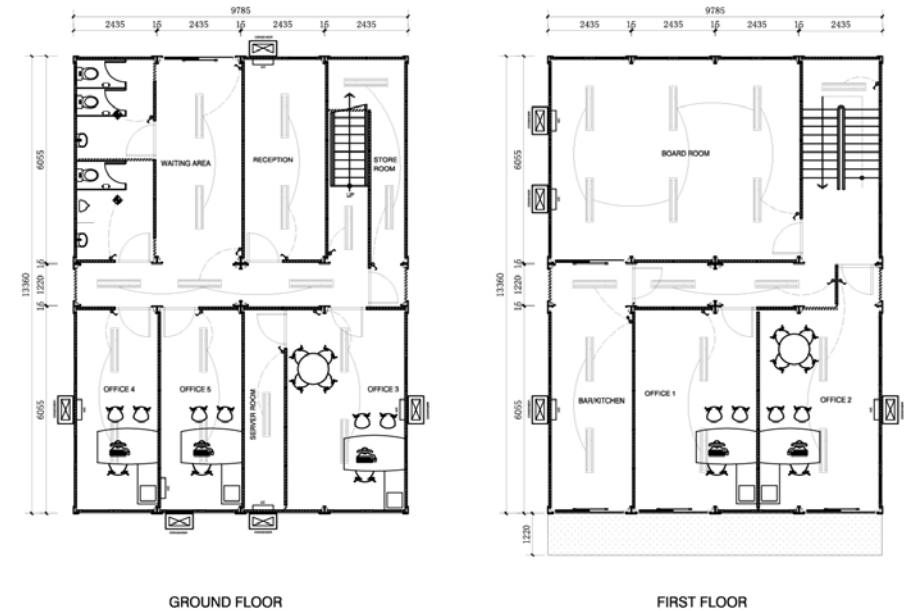
Location: Johannesburg

Period: 9/2010---10/2010

Project Name: 2 Floor Office Building for UFUDU



This project is for the office building of ARK's agent in Johannesburg, South Africa, aimed to build up an office building featured by good environment, convenient accessibility, multifunction and popularity. It plans 124 m² in area shaped as a north-south rectangle. The building is a double-story with balcony and overroofs.



General Layout:

In order to make the building harmonious with the surroundings, this project starts with an overall perspective and bases on reasonable evacuation principle, matched with proper function areas. Based on the confirmed drawing, this building was meant to be built as a rectangle double-story. Terrain situation was carefully considered during prefabrication so that perfect space solutions could be come up with. Within the building, both room spaces and public areas were reasonably allocated which indicated ARK units' merits on space solutions. And the partitioned private office rooms gave the officers a true feeling of possession. In addition, all the units were painted green in accordance with the surroundings.



Function Areas:

Various function areas were clearly laid out on the plans, which made the officers convenient to deal with their own matter and to fix problems. The whole building appeared comfortable. And it's facing the south, sunk with sunlight and absorbing fresh air, making the best use of the space.

Convenient Traffic:

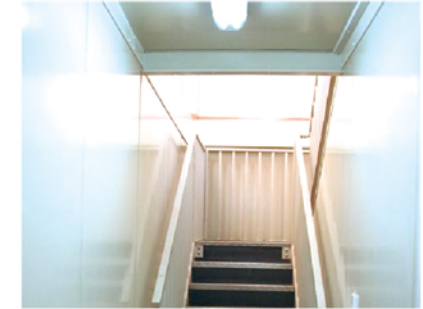
Around the building the ways for both the vehicles and people were reasonably designed. Vehicle ways run a circle outside the office block, with the parking areas around. And the emergency exits were considerably designed so there would be a full cover of fire protection.

Cost Saving:

Under the certain budget, Ark units on this project saved not only the costs, but also the space.

Landscape Plans:

Both man-made and natural landscapes were planned around the building with decent matching effect.



Building Structure:

The color of the building frames was carefully considered in order to properly match with local environment. All the units were painted green in frames and white in walls, which made the units seem vibrant. People would feel fresh seeing the simplified trims. What's more, the two stories had their own features with similar structures. And the overroofs were not only water proofing, but good-looking.

Internal Plans:

The offices are planned on both stories facilitating different departments. Glass sliding doors were used for the entrances in which way the offices can get enough sunshine and it feels wider. On the first level are reception room and offices, on the second level are managers' offices and drinking rooms.

The air flows freely inside the building. And proper options of the doors and windows make it bright enough between each and every function areas, especially the window openings which are really practical.



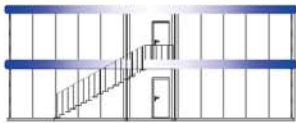
Belgium Project

Client: **YPRADO**

Location: **Waregem, Belgium**

Period: **12/2010**

Project Name: **2 Floor Office Building for YPRADO**



ELEVATION D



ELEVATION B



ELEVATION A



ELEVATION C

In December 2010, ARK supplied modular units for building one two-story office block for a well-known Waregem, Belgium enterprise that is in service for a window & door manufacturer, in which walkways, reception room, office rooms, ablution cabins were contained. There were 8' x 20' cabins and 8' x 16' cabins, which have been combined in ARK standard modular solution. Mineral wool insulation is used in this project with high U-value.

All the technical specifications are in accordance with CE standard. The size of container house includes 16ft, 20ft. The panels are 100mm thick. All the doors and windows are famous brand with high quality.



We were feedbacked with cost-saving but enough space provision by the client.



Germany project

Client: **TRUMP**

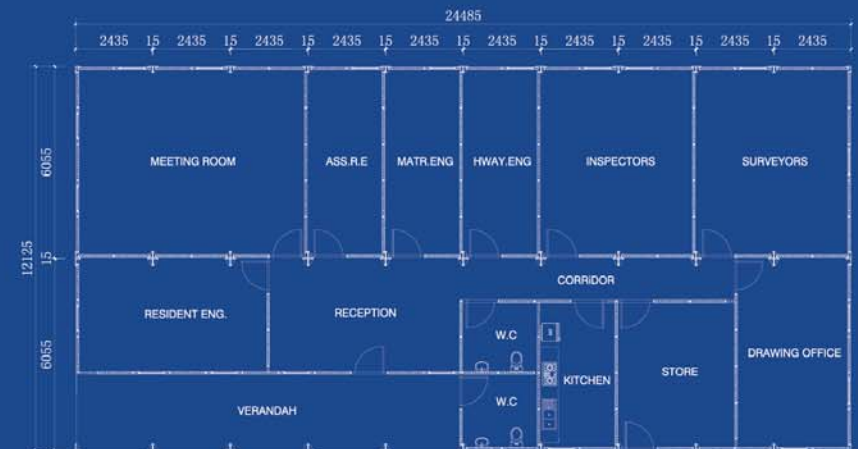
Location: **Munich, Germany**

Period: **12/2009**

Project Name: **Laboratories for TRUMP**



In 2009, ARK cooperated with a famous computer company based in Munich, Germany. We supplied 500 square meters in area modular units to be functioned as offices and laboratories. Due to the highly cold environment, we adapted the special insulation-PU for each cabin, helping the temperature inside the rooms to be kept at the degree of 20000 BTU air conditioner. All the specifications are in accordance with European standard and furthermore German standard. Not only was the insulation, our traditional flexible combination way of modular units was also highly performed and welcomed by the client.



Due to our high-quality products and considerate after-sale service, they have become one of our most loyal customers and continued to use our products as they are growing. Demonstrated through this project in Germany, exactly in Europe, Ark has become a world-class modular house supplier and ARK products are up to the world's most stringent standard.



Construction Industry

Hong Kong Project



The client on this project is a local construction company in Hong Kong who also built these containers, in which Ark has supplied eighteen 30' office containers.

These office containers were designed as a double-level block with overroofs, 10 units on the first level and 8 on the second level.

White milky wood boards were used internally for the containers so that the officers working inside would truly feel it's an office, and patterned aluminium sheets instead of PVC blankets were used on the balcony which were actually the top of the outside 2 units on the second level.



Client: Intrafor HongKong

Location: Hong Kong

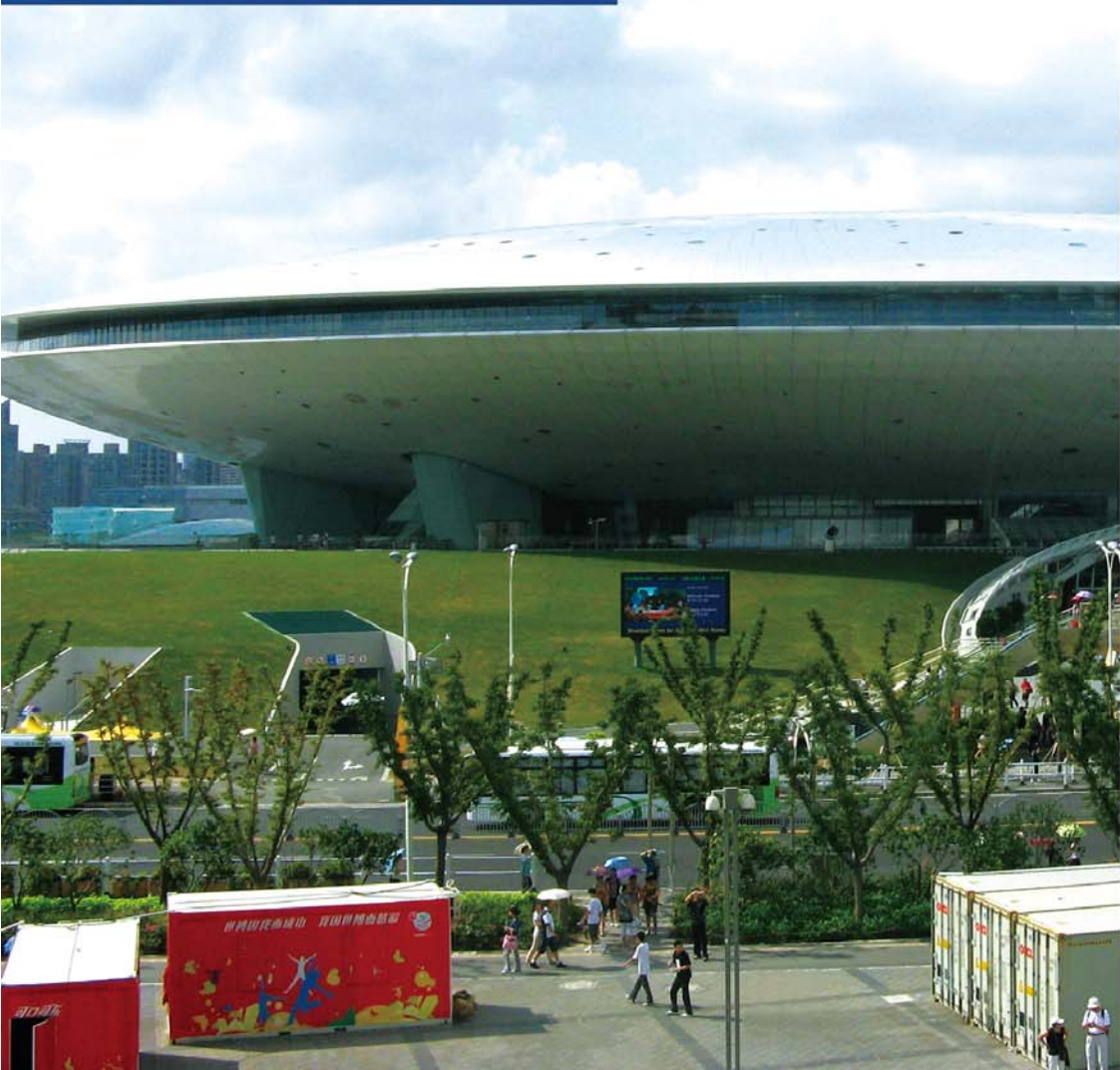
Period: 11/2010---12/2010

Project Name: Offices for Intrafor HK



Municipal Construction

Client: **Shanghai Expo Bureau**
Location: **Shanghai Expo Park**
Period: **3/2010---5/2010**



World Expo

As the leading supplier of modular buildings, ARK was the official supplier of modular houses for 2010 World Expo Shanghai. ARK modular units have been used as various houses all over the expo areas such as construction workshops, pavilions warehouses, temporary ticketing rooms, marketing rooms and even guard houses during the periods of Expo preparation, Expo pavilions construction, Expo durations and Expo pavilions dismantle.



There were 700 ARK modular units used for Expo from preparing period to ending days within three years, which could also show World Expo Shanghai 2010 is environmentally as these units have never generated any construction rubbish but provided recyclable temporary building solutions, and was highly thought of by Shanghai Expo Bureau and consulates and contractors from the attending nations. Beforehand, German contractor for building Germany Pavilion thought it was impossible to find modular buildings for the site offices in China, but they were surprised to see Shanghai Expo Bureau used ARK modular units. Then they had a deep investigation on ARK units and decided to purchase the ARK units which saved the transportation costs from Europe to a large extent.

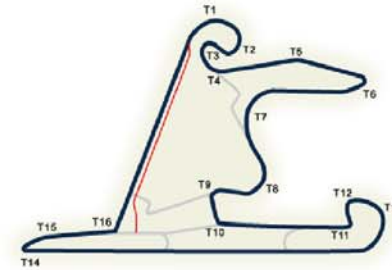


F1 Shanghai Game



Client: Shanghai F1 Organization

Location: Jiading, Shanghai



Shanghai

The city of Shanghai offers a great Formula 1 international circuit. Ark has been providing various container houses for organizing committee of F1 Shanghai.

