One Belt and Road Towards Win-Win Cooperation

Nepal Power Investment Summit (NPIS) 2018

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Overseas Market "New Route" The Four + Core Strengths Supply and Installation of
Materials & Equipment

Materials & Equipment Under the National Electrification Scheme (NES)

One Belt and Road Towards Win-Win Cooperation Nepal Power Investment Summit (NPIS) 2018

Competitive State-Owned Enterprises Half a Century of Overseas Development



1952 Hunan Construction Engineering Group ("HCEG") was founded in 1952 as a large state-owned enterprise with a turnover of 26 billion U.S. dollars in 2017.

500 00

HCEG won Top 500 Chinese Enterprises"

ENR China Contractor

HCEG won "Engineering Interprise Design 60"

7 For the 16th consecutive year, HCEG won 87 Luban Awards, the highest award for construction projects in China

1.2.1 Eight Business Areas



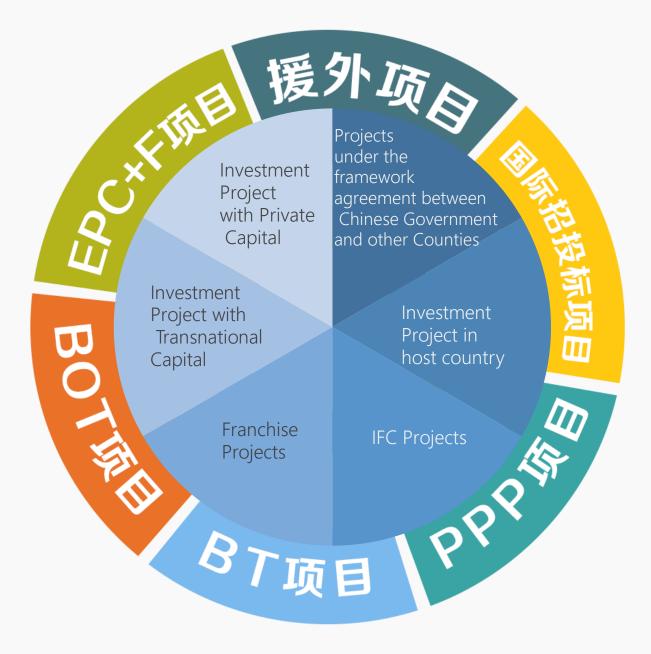
Business coverage of Housing Building, Roads, Bridges, Power Grids, Water Supply and Drainage, Water Conservancy, Environmental Protection, Equipment Installation and other fields.



1.2.3 Business Cooperation Model

Business Cooperation Model

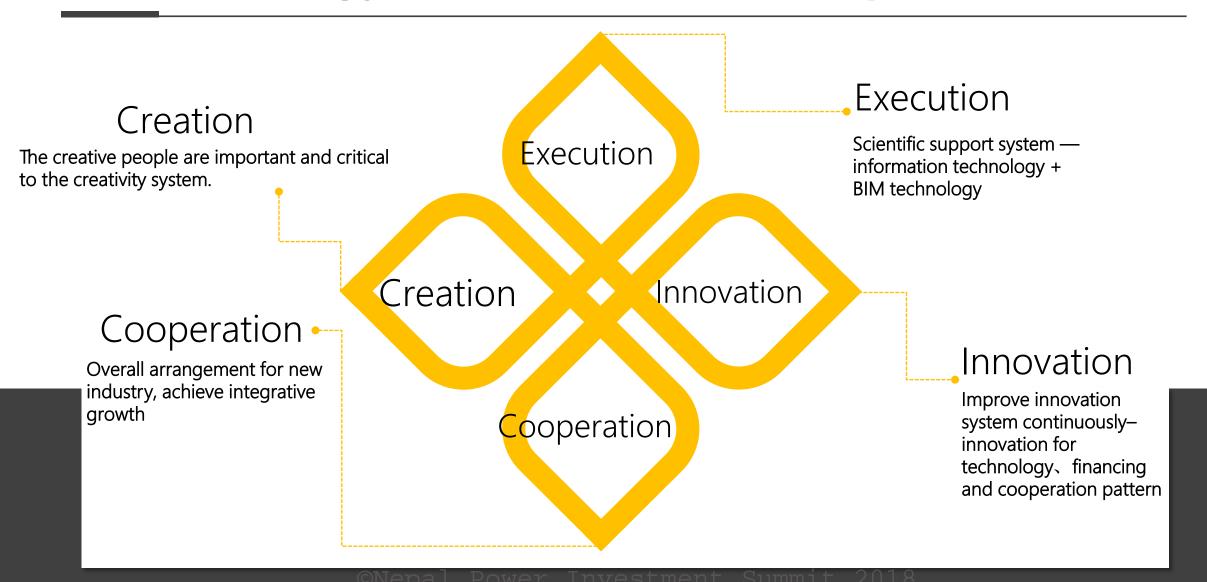
Business cooperation modes include six major categories of Foreign Aid Projects, International Bidding Projects, EPC + F Projects, BOT Projects, BT Projects and PPP Projects





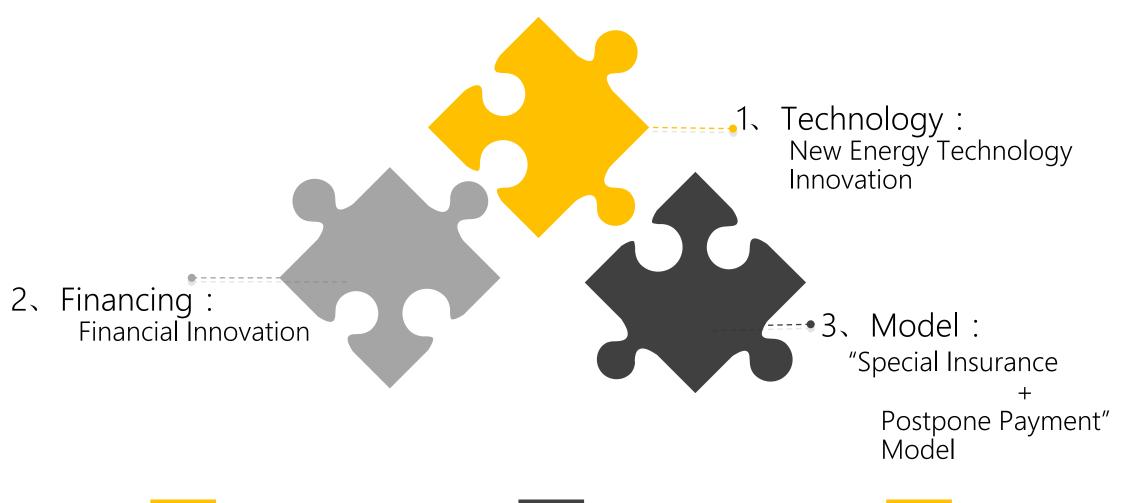


2.0 The Strategy of Sustainable Development



2.1 Innovation:

Improve innovation system continuously– innovation for technology、 financing and cooperation pattern



2.Changde-Zhangjiajie Expressway





1.Liuyanghe Bridge in North Huoxing Road



5.Hengyang-Zaomupu Highway Project of Hunan Province





7.Huashishan Tunnel of Baoji-Tianshui Expressway Section of Lianyungan – Khorgas State Expressway

6.Kunluo Road





8.Quansan Expressway

9. Hunan Avenue in Shannan District of Tibet



/The Road Projects of



Project Introduction:

01 Improvement and Rehabilitation of Priority RoadProject-C11(53.44KM) is located in Sri Lanka. It costs USD 69.95 million with construction duration of 30 months.

02 Improvement and Rehabilitation of Priority Road Project-C12(8KM) is located in Sri Lanka. It costs USD 13.88 million with construction duration of 12 months.

03 Upgrading and Reconstruction of Road of PRP3 Project in Sri Lanka is located in Sri Lanka. It costs USD 34.35 million with construction duration of 24 months.

项目简介:

- 01 斯里兰卡第二期优先道路工程C11(53.44KM)位于斯里兰卡,造价6995万美元,工期30个月。
- 02 斯里兰卡第二期优先道路工程C12(8KM)该项目位于斯里兰卡,造价1388万美元,工期12个月。
- 02 斯里兰卡PRP3重点公路升级改造项目位于斯里兰卡,造价3435万美元,工期24个月。





/The Road Projects of Tanzania

/坦桑尼亚公路项目



Project Introduction:

01 Upgrading of Tarakea-Rongai-Kamwanga Road (32km) Project is located in Tanzania. It costs USD 12.87 million with construction duration of 36 months.

01 坦桑尼亚塔拉基亚--容该--卡姆旺加32公里道路位于坦桑尼亚,造价1287万美元,工期36个月。

02 Upgrading of Sumbawanga-Namanyere-Mpanda Road to Bitumen Standard, Package 2 Kanazi-Kizi-Kibaoni Section(76.6km) is located in Tanzania. It costs USD 75.88 million with construction duration of 36 months.

02 坦桑尼亚松巴万加-姆潘达76.6公里道路项目位于坦桑尼亚,造价7588万美元, 工期36个月。



The terminal, parking building and viaduct of the second phase of Xi'ning Caojiaobao Airport

en se

Chenzhou Beihu Airport







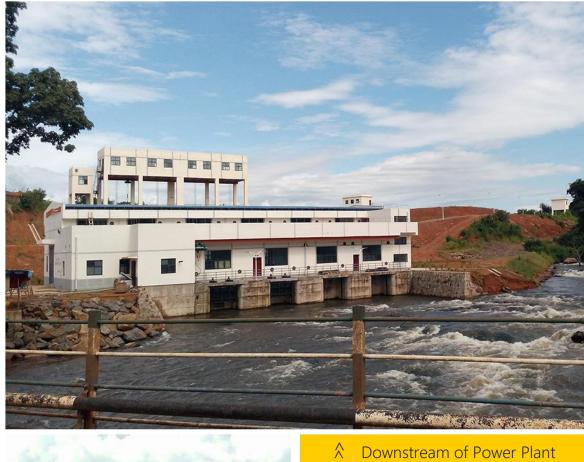
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Charlotte

Station

Hydropower

Port-Lol Station oko Hydropower





The front of open channel intake Pressure Forebay >>

<< Open Channel Intake Hoist Room

Management Room of Makalie Hydropower Station







Power Plant Diesel Engine Room







To Achieve :

stereoscopic reuse in the space+ save land source+ output the environmentally friendly clean energy



Songshan Lake Project of Huawei

Inner Mongolia





Innovation Park of Middle and Small-sized Enterprises t Summit 2018





Using clean incineration disposal treatment process, the high temperature flue gas produced by incineration could generate power by steam generated from the waste heat boiler.

To achieve :

Save land resource+ volume reduction+ harmless thoroughly+ High degree recycling

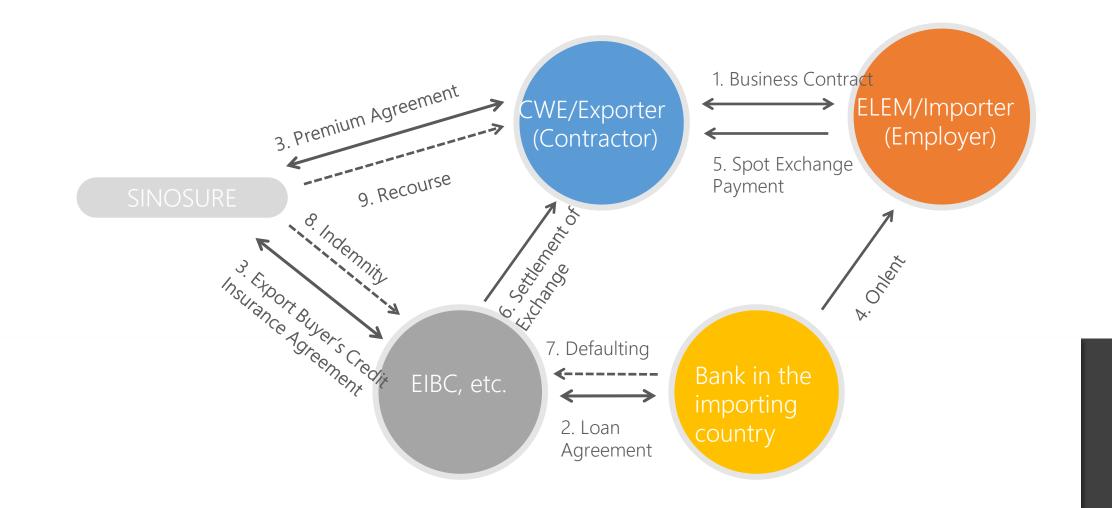
Financial Innovation

Chinese Government Concessional Loan and Preferential Export Buyer's Credit, Export Buyer's Credit, Seller's Credit on Exports. develop towards to investment bank business by means of issuing a new bond, M&A, and etc., and implement "investment bank "model; by means of VC, and PE, rely on Shanghai Financial Center and unite fund company to contribute capital flows to each other, build a domestic global procurement capital platform and realize "fund" model; realize "public company" model in Hong Kong, and form a exchange platform and capital platform for domestic and overseas' resources of company

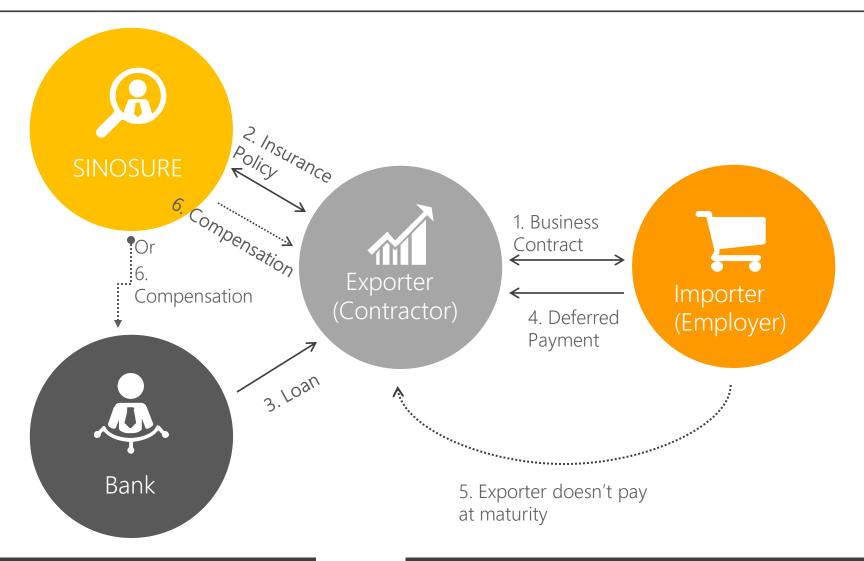
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Accommodation of Funds-Project with Export Buyer's Credit -



Financing Process for Seller's Credit on Exports Project





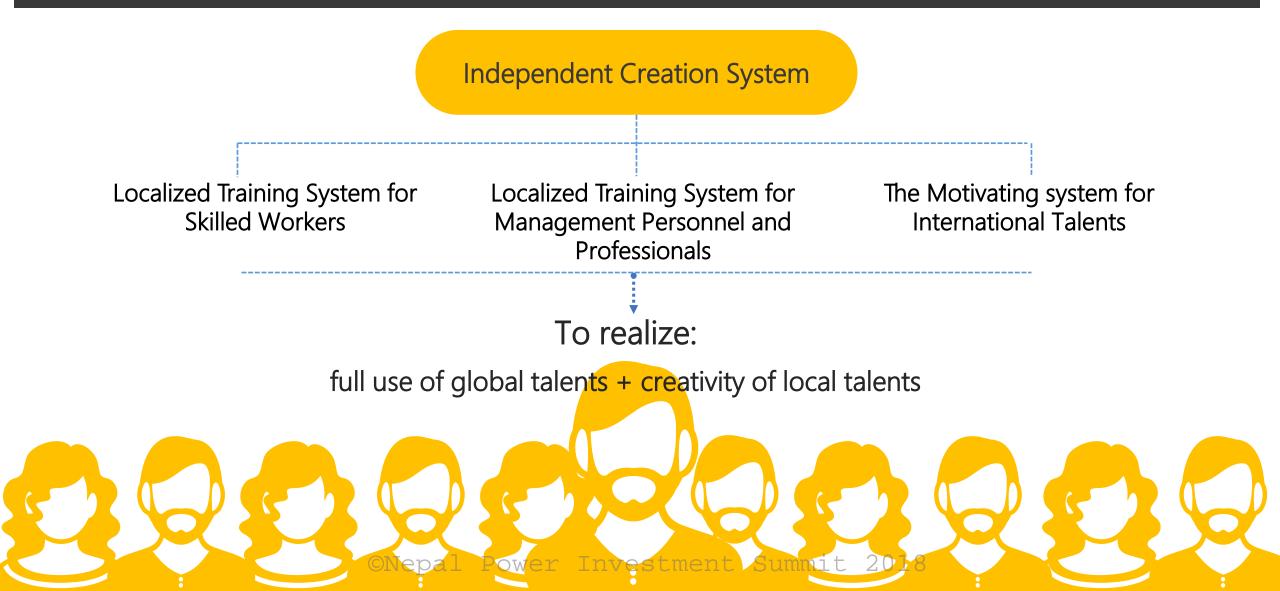
" Special Insurance

Postpone Payment" Model

The Model aims at the small and medium size investment of private sources

To Achieve : Extension of payment in two years , the owner will pay once the project is completed.

2.2 Creation: The creative people are important and critical to the creativity system



2.3 Execution: Scientific support system — information technology + BIM technology

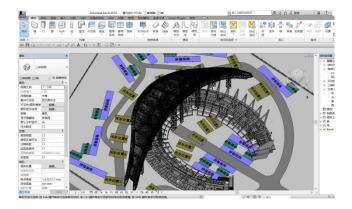
Collaborative office management system + Integrate Project Management System

To integrate and optimize the date from different system to achieve worldwide information sharing, reduce management cost, and improve the company's executive ability and customer satisfaction.



BIM technology carries out detailed design

To optimize design, new process, new material, and development and application of new equipment, improve the utilization of resources, reduce consume and discharge, and enhance the ability to live with the environment harmoniously



Multi-specialty application:

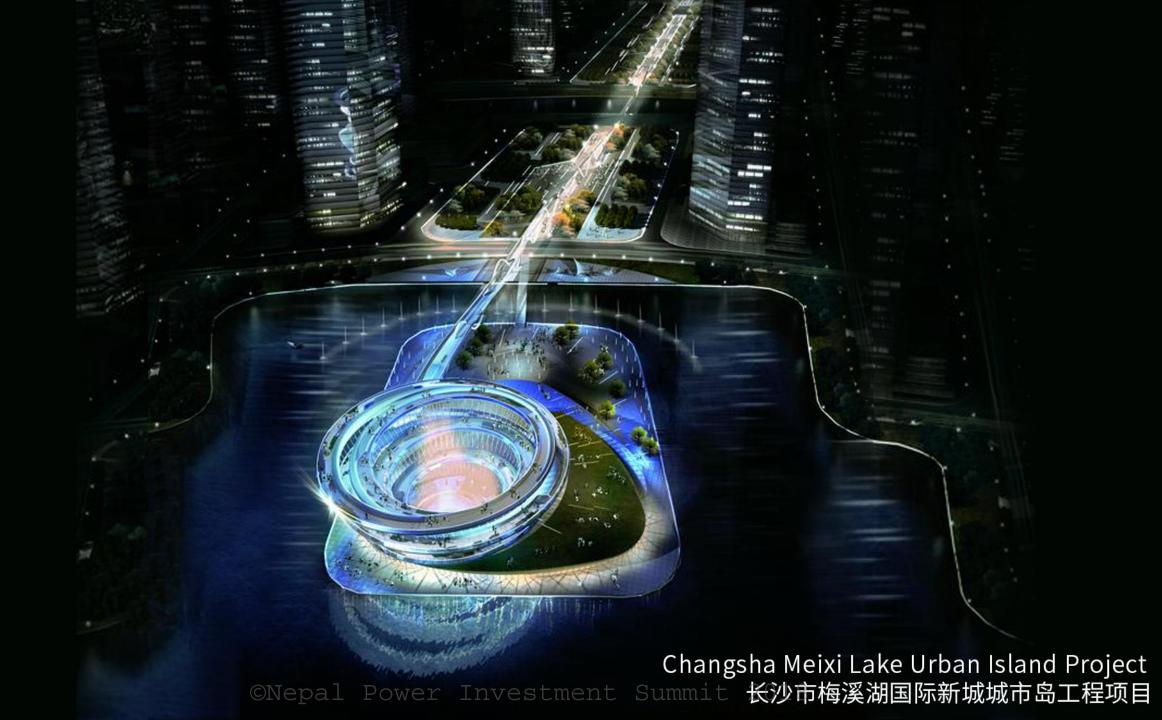
Covering the fields of civil engineering, electromechanics, industrial installation, bridge & tunnel, municipal engineering, pipe galleries, intelligent buildings, etc. (The picture is: BIM technology of The China-aided Competitive Wrestling Field Project in Senegal.)



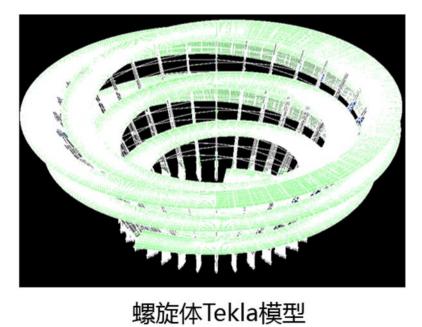
Technical System:

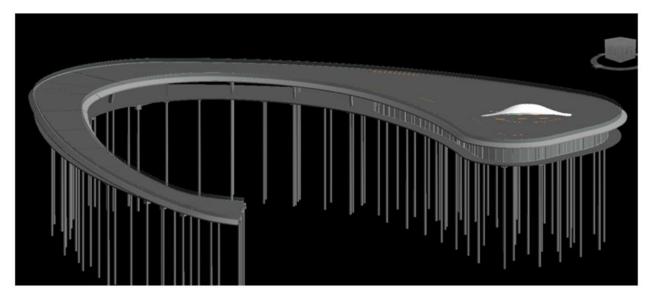
Preparation of *Hunan Construction Engineering BIM Construction Guide*; Establish 8 categories, more than 16,000 ethnic of "Hunan Construction Engineering Library", which could meet 90% project Help New Field develop : Have rich experience of pipe gallery and application of photovoltaic industry (the photo is HCEG Pipe Gallery Industrial Park)



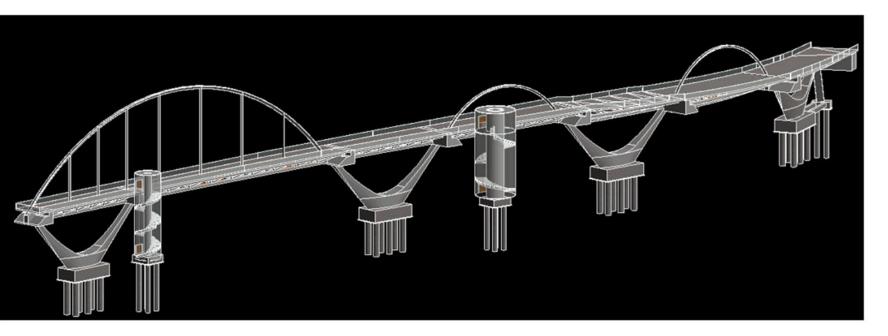


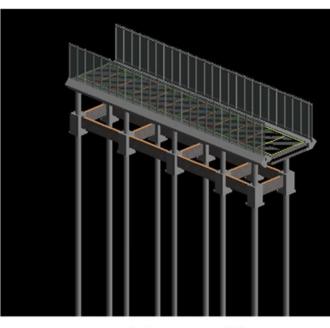






服务中心Revit模型





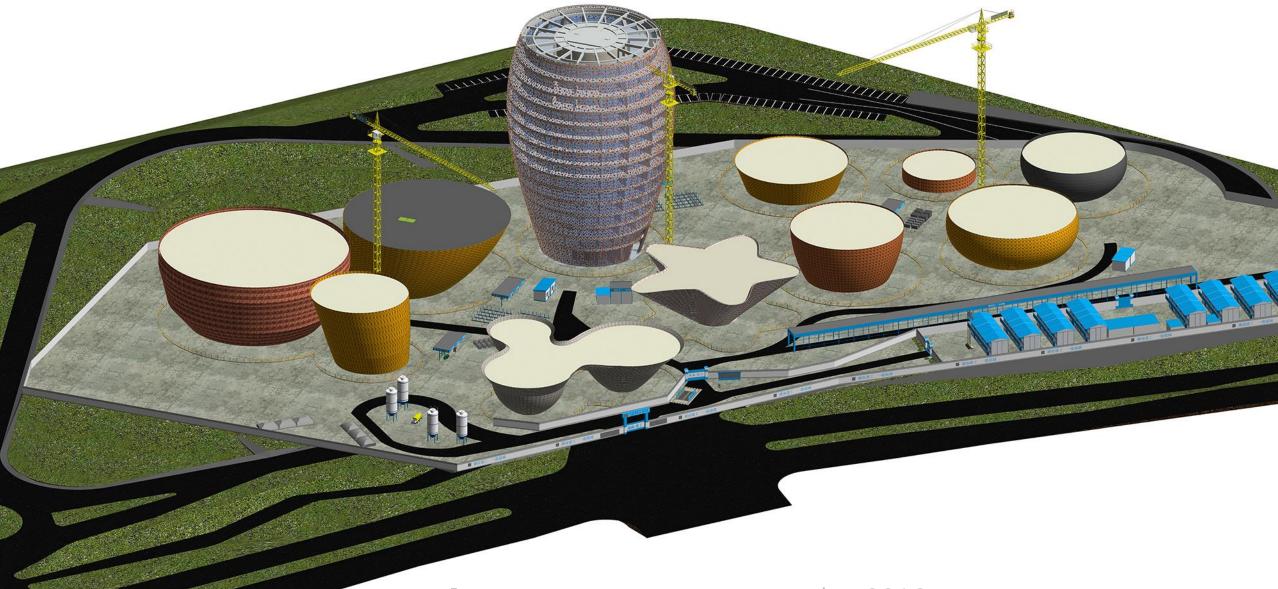
人行天桥Revit模型ver Investment Summit 2018

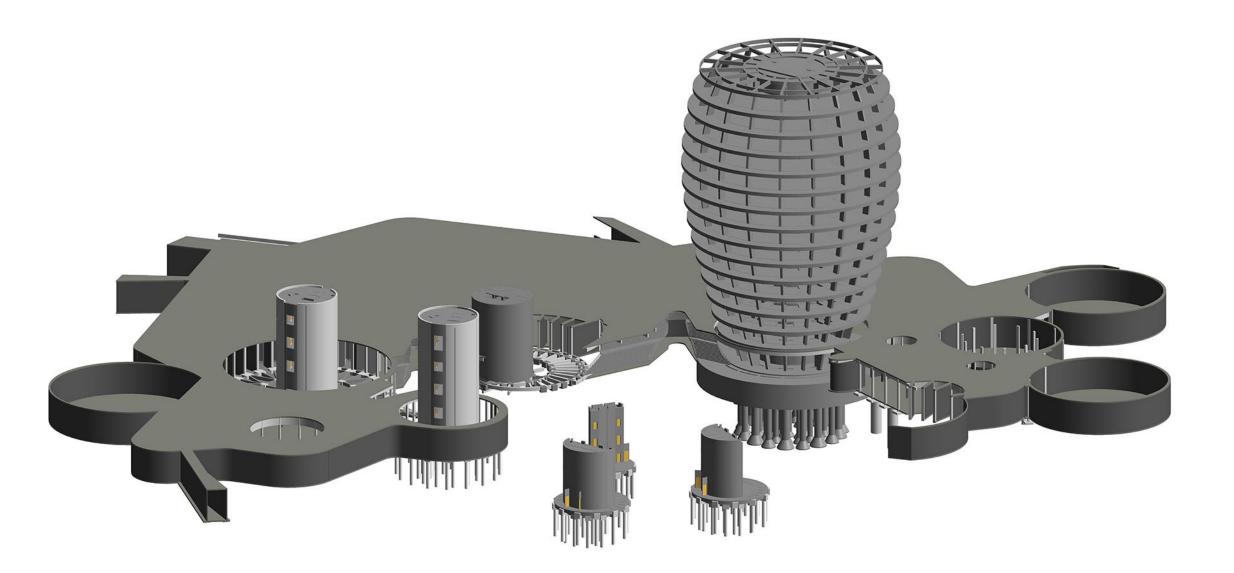
入岛桥Revit模型

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World ceramic art city project 世界陶瓷艺术城工程项目





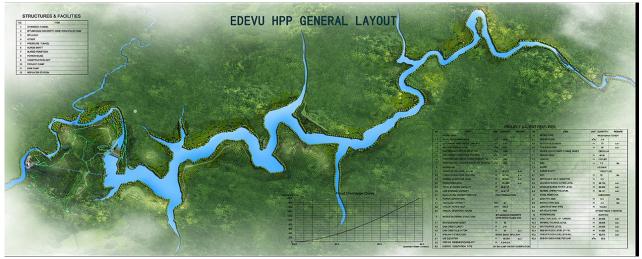
2.4 Cooperation:

Overall arrangement for new industry, achieve integrative growth



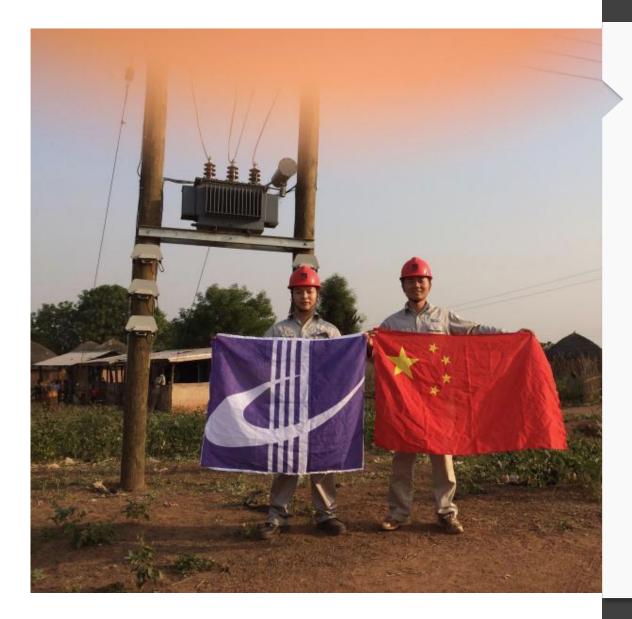
Start to undertake investment projects with the model of BOT, PPP and franchise, and stick to diversified development of engineering service mode, extend to international investment and financing projects, which are at the top of industry chain of construction industry.





ALL DESCRIPTION OF

International Cooperation Supply and Installation of Materials & Equipment Under the National Electrification Scheme (NES)



3.1 Project Profile

Content:

- The transmission line project from the main power grid to the 419 northern villages power grid. Include: 34.5KV and 11.5KV high-tension line from main power grid to villages and 2187 km transformer to villages.
- Contracting Mode: EPC+F (Engineering, Procurement, General Contract Plus Financing)
- □ Contract Price: 120 million US dollars
- □ Financing Method: Export Buyer's Credit
- Financing Line: 85% of the Contract Price, totally 102 million US dollars



Project Management

Optimized the technical management - Fully study the climatic conditions and market capabilities in Ghana and formulate a scientific, low-cost and efficient technical solution.

1.In the area of desertification and high resistance of northern Ghana, used the matrix grounding method.

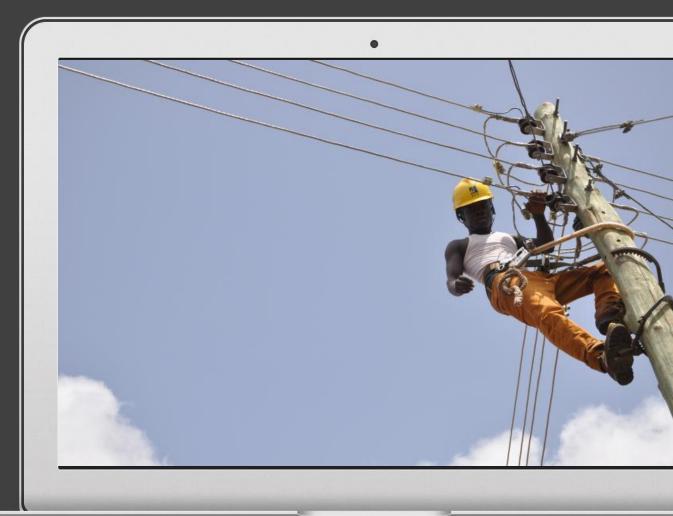
2.For the high temperature and humidity weather environment in northern Ghana, used the oil-immersed transformer

3.In order to save resources and reduce copper consumption, used aluminum alloy cable as a the main material of the low voltage distribution of the project

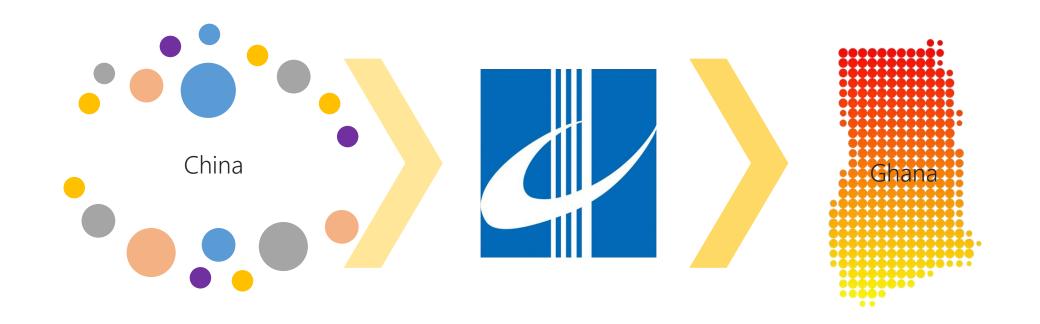
4.Innovated the crossing method of the four sides insulator separate wiring , introduced the latest extension board method, changing into T-connection method

5.In order to improve the construction speed and production quality, adopted the unified standard pole guy modular prefabrication

Achievement : The project has completed the construction of 419 villages within the scope of the contract, and has over fulfilled the 4 villages and the old line reconstruction project .



Centralized Purchasing Management of Mechanical& Electrical Equipment



As for the mechanical and electrical equipment, we used the China's own brand products. The equipments were procured by the headquarter of HCEG to ensure its brand and quality.

3.3 Innovation Management



Scientific Localization Management



□ In addition to the main mechanical and electrical equipment, the material and equipments were procured in the local market, such as the poles.

Cooperated with a number of local enterprises in terms of the surface cleaning , earthworks and transport subcontracting.

\checkmark

Scientific Localization Management

□ 95% of local employees were employed in the project

A total of 25 key management personnel and technicians of HCEG were stationed at this project. The remaining nearly 1,000 workers were recruited and trained by HCEG.



Fully integrated into the local community, effectively promoted the development of local industries, created jobs, improved the technical level of local workers. Meanwhile, provided an effective protection for the project's follow-up management and maintenance.



3.4 Benefit and Project Evaluation





Ensured the electricity for the vast majority of people in northern Ghana and greatly improved the local economic development and people's living conditions.



Ghanaian government highly appraised and trusted HCEG, and expressed his willingness to hand over the power grid and transformation line project of Ghana's entire rural districts to HCEG.



At present, HCEG is implementing the Northern, Eastern and Volta Regions Electrification Programme in Ghana.

Conclusion

Finally, let me wish HCEG greater achievements in its cooperation with Nepal, and wish this Summit a complete success. Thank you!



THANKS

January 24th 2018

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