

Exploration and Analysis of Joint Order Training Mode for International Engineering Management Talents based on the Situation of Fujian Province of China

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Abstract: The international engineering enterprises in China have an unceasingly growth in international engineering business. The international engineering enterprises in Fujian province of China have been strengthening their international engineering business in Belt and Road, but they have encountered the bottleneck of the shortage of international engineering management talents. Based on the situation of Fujian province, the paper puts forward the training mode of joint order between school and enterprise for international engineering management talents, expounds the connotation of the training mode of joint order between school and enterprise, and puts forward the curriculum design scheme for training talents. The successful cases in China are given, which point out the direction of mutual achievement between international engineering enterprises and international engineering management talents in Fujian province of China.

Keywords: International Engineering Management, Belt and Road, School-enterprise Alliance, Order Form, Training Mode.

1. China's International Engineering Enterprises and the "the Belt and Road"

The proposal of the great strategic blueprint of the "the Belt and Road" has brought great opportunities for Chinese enterprises to "go global" to undertake international projects. According to the statistical bulletin, in 2020, China's foreign contracted project business overcame the adverse impact of the COVID-19 and maintained steady development on the whole. A total of 255.54 billion US dollars in new contracts were signed in 184 countries and regions worldwide throughout the year, achieving a turnover of 155.94 billion US dollars. In 2020, there was an increase in the number of newly signed major projects for external contracting, with 904 projects with a new contract amount of over 50 million US dollars, an increase of 10 compared to the previous year, including 514 projects with a value of over 100 million US dollars, an increase of 8 compared to the previous year. It is worth noting that the market for China's foreign contracted engineering business is relatively concentrated, with Asia and Africa accounting for over 80% of the business. Among them, the business of countries along the "the Belt and Road" accounted for more than half. In 2020, Chinese enterprises signed new contracts for foreign contracted projects in 61 countries along the "the Belt and Road" worth US \$141.46 billion, and completed a turnover of US \$91.12 billion, accounting for 55.4% and 58.4% of the total amount of the same period respectively [1].

With the implementation of the "the Belt and Road" strategy, infrastructure projects in countries and regions along the Belt and Road have been contracted out, providing unprecedented development opportunities for Chinese enterprises to undertake large-scale "going global" construction business. Compared with developed countries, the number of Chinese enterprises undertaking the "the Belt and Road" international engineering projects is still small, and the overall international competitiveness is weak. An important reason is the lack of international engineering

management talents. Although the contracting of the "the Belt and Road" international engineering projects has covered many countries and regions along the line, there are still geopolitical changes, compatibility of technical standards and systems and other constraints. In particular, the number and quality of project management talents cannot meet the needs of enterprises, which has become the core bottleneck restricting enterprises from undertaking international projects. From the root of talent shortage, the international engineering management talents trained by colleges and universities are seriously disconnected from the market, which is difficult to match the rapid implementation of the "the Belt and Road" strategy, and cannot keep up with the rapid pace of enterprises undertaking the "the Belt and Road" project. How to cultivate international engineering management talents, solve the bottleneck of the quantity and quality of international engineering management talents, and enhance China's competitiveness in the international engineering market has become a problem that university educators need to solve.

2. Fujian International Engineering Enterprises and the "the Belt and Road"

Fujian, as one of the earliest provinces in China to open up to the outside world, has long been at the forefront of foreign contracted projects. In recent years, Fujian has accelerated the implementation of the "going global" development strategy, encouraged enterprises, based in Fujian, accelerated the layout of countries along the "the Belt and Road", made full use of the "two markets" and "two resources", and constantly strengthened, optimized and expanded to serve the economic development of the province. In this process, Fujian enterprises have made beneficial explorations and achieved certain results in recent years, and Fujian Construction Engineering Group Co., Ltd. (hereinafter referred to as "Fujian Construction Engineering") is a representative of them.

In order to promote the development of Fujian enterprises

abroad, the Fujian Provincial Government

signed a cooperation framework agreement with the National Development and Reform Commission of China in March 2016, establishing a mechanism for promoting international production capacity and equipment manufacturing cooperation between the commission and the province, and clearly supporting Fujian's "going global" enterprises to carry out international production capacity cooperation in countries along the 21st century "Maritime Silk Road". In promoting the docking and integration with countries along the "the Belt and Road", Fujian Construction Engineering Group, with the support of the coordination mechanism of the Commission and the province, and relying on Kenya, aims at the African market, actively carries out international production capacity cooperation layout, leads provincial enterprises to "go global" development, and seeks new advantages in participating in international competition. At present, Fujian Construction Engineering has expanded its market to more than 20 countries, continuously achieving new breakthroughs in international engineering business, and overseas market profits account for over 60%. As a typical example of Fujian province's "going global" enterprise, its subsidiary China Wuyi has achieved significant results in deepening overseas business and promoting international production capacity cooperation. China Wuyi has many years of experience in engineering contracting in Kenya, building over 1200 kilometers of high-grade highways, a number of airports, hospitals, and Sino African friendly primary school projects, establishing the excellent brand of "CHINAWUYI". It has not only been selected as one of the top 250 largest contractors in the world for 28 consecutive years, but also listed as one of the "Top 50 Most Innovative Enterprises Going Global" by the Ministry of Commerce of China, and has been awarded honors such as "Top 100 Chinese Enterprises Recommended to Africa in 2013" and "China International Contractors Association 2013-2014 Growth Enterprise". In 2016, China Wuyi Xin undertook 11 international engineering contracting projects with a contract amount of ¥2.869 billion yuan, covering regions such as Kenya, Ethiopia, Equatorial Guinea, Timor Leste, the Philippines, and Papua New Guinea. In recent years, it has won multiple projects in Kenya, Papua New Guinea, and Uganda, and successfully entered the Australian market. China Wuyi has been selected as one of the top 250 international contractors in the ENR list for 28 consecutive years (ranked 129th in 2021) [2]. While going global, Fujian Construction Engineering also actively promotes Fujian enterprises to join forces and go global. Fujian Enterprise Africa Investment Co., Ltd., led by Fujian Construction Engineering Group and jointly established with provincial state-owned enterprises such as Investment Group, Energy Group, Metallurgical Group, and Transportation Group, has emerged and settled in Kenya to conduct business. At the same time, its subsidiary China Wuyi also drives the export of more than 50 brands of building materials, equipment, and production materials from large enterprises such as Xiamen Engineering Group, Sangang Group, Nanlv Group, Longgong Group, Fuyao Glass Group, and Southeast Machinery Group. China Wuyi is also building the "Kenya Wuyi Sea Silk Road Cross border E-commerce Logistics Park" as one of the leading projects in the planned development of the "China Kenya (East Africa) Economic and Trade Cooperation Zone". It includes the construction of an e-commerce warehousing and building materials logistics base, a tempered glass factory,

an aluminum alloy production center, an industrial Mombasa base, an enterprise incubator, a "one-stop" service center for bonded zones/free trade zones, an exhibition center, hotels, sewage treatment plants, substations, supporting apartments, and other projects to drive international production capacity cooperation and provide a better platform for Fujian and even domestic enterprises to "go global". In the East African market centered on Kenya and the Southeast Asian market centered on the Philippines, China Wuyi has completed over 3100 kilometers of roads and more than 2 million square meters of housing construction projects, with international project contracts exceeding ¥23 billion yuan. Built landmark buildings such as Kenya Financial Research School, University of Nairobi, Tobamoyare Highway, Zemen Bank, Amhara Bank, and Zhongwu Asia Pacific Plaza, and won 4 Luban Awards (China's highest engineering quality award) for Overseas Engineering and 2 International Quality Engineering Awards. In Africa, 'CHINA WU YI' has become synonymous with highquality engineering. In the process of globalization, China Wuyi actively integrates the business, channel and mechanism advantages of SMEs and promotes the construction of a global supply chain integrated service system integrating business flow, logistics, information flow and capital flow based on the "Internet plus" enabling the "the Belt and Road" and the credit, resource and risk control advantages of state-owned enterprises. The COLOHO Building Materials and Home Furnishings Exhibition and Sales Center in Kenya is leading the new development direction of the building materials and home furnishings industry in Kenya.

Fujian's construction industry has a large number of enterprises with strong strength, but facing the prominent difficulties of shrinking domestic construction market and intensifying industrial competition, it is urgent to grasp the construction opportunities of the "the Belt and Road" and the core area of the Maritime Silk Road, and actively expand the international engineering market. It is reported that in recent years, Fujian Province's foreign contracted projects have achieved an annual turnover of over one billion US dollars, ranking around 20th among all provinces and cities in China; We also sign contracts worth over a billion dollars annually. Among them, Fujian enterprises completed project contracting in countries along the "the Belt and Road", accounting for about half of the total turnover [3].

Fujian's construction industry has a special situation in the province. It has a different industrial structure and industry situation from Jiangsu and other provinces with strong construction industry. Its geographical location, opening up situation, industrial policies and market opportunities are unique. Therefore, under the background of the "the Belt and Road", vigorously developing overseas contracting projects has unique advantages and paths. The number and professional quality of international project management talents is a hot issue of concern in the industry. Under the background of the "the Belt and Road", how should the teaching reform be carried out for the training of international engineering management talents in engineering management specialty based on the special situation of Fujian Province? Up to now, there is no relevant literature or project initiation and research on the subject. It is necessary to carry out detailed research and in-depth discussion according to the actual situation of Fujian Province, lay the foundation for the improvement of the number of international engineering management talents and professional quality of the

engineering enterprises in Fujian Province "going to sea" or preparing to "go to sea", provide organizational preparation and mobilization, and provide a booster and accelerator for Fujian Province to improve industrial competitiveness, optimize industrial structure, drive material exports, trade promotion and increase the scale of foreign investment by vigorously expanding foreign engineering contracting under the "the Belt and Road" background.

3. School Enterprise Joint Order Training Model for International Engineering Management Talent Based on the Situation in Fujian Province

The rapid development of international engineering enterprises in overseas markets in Fujian Province has brought about a new problem of talent shortage. For example, every year China Wuyi recruits 150-200 fresh graduates from major universities to fill the talent gap in various fields of the company. The turnover rate of these fresh graduates within 3-5 years remains high. From the root of talent mismatch, the main reason is that the international engineering management talents cultivated by Fujian's colleges and universities are seriously disconnected from the market, which makes it difficult to match the rapid implementation of the "the Belt and Road" strategy, and cannot keep up with the rapid pace of enterprises undertaking the "the Belt and Road" project. In order to solve the contradiction of talent cultivation matching the needs of enterprises, the training mode of international engineering management talents in Fujian universities needs to be adjusted. The order based talent training mode needs to be widely applied and promoted, introducing international engineering enterprises in Fujian Province with demand. The school enterprise joint order based training will significantly increase the professional knowledge, experience, and skills of international engineering frontline operations, accelerate students' adaptation to the real working environment and complex socio-economic and legal reality of international engineering, no longer mainly stay in theoretical frameworks and textbook knowledge, enhance frontline practical skills, significantly shorten the growth time of graduates, accelerate the growth rate of international engineering management talents, and enable Fujian Province's international engineering enterprises and international engineering management talents to achieve mutual success and mutual achievement. It is a shortcut for international engineering enterprises and related universities in Fujian Province to form strong alliances and accelerate talent cultivation.

(1) Overview of the School Enterprise Joint Order Training Model for International Engineering Management Talents Based on the Situation in Fujian Province

International engineering enterprises with a large shortage of international engineering management talents in Fujian Province can choose well-known universities in the province that offer undergraduate engineering management majors to explore the school enterprise joint order training mode. It is

recommended to choose the "3+1" education system, which means that the first three years will be trained by universities, and the fourth year will be jointly trained by universities and enterprises. The order based training will cultivate a group of outstanding college students with strong adaptability, high foreign language proficiency, determination to engage in overseas business, overseas engineering vision, and strong engineering practical ability (excluding the options of postgraduate entrance examination and civil service examination in their senior year in advance). After graduation, they will be directly selected to participate in overseas engineering projects of enterprises for training and development. Students can lock in their employment units in advance, and senior students will no longer worry about employment. Enterprises can lock in professional talents in advance to avoid talent loss caused by the inability of newly recruited graduates to adapt to overseas work environments, and expand their talent advantages in overseas engineering competition. The international program under the "3+1" education system should not only focus on simple pre departure training, but also strengthen the concept of international, comprehensive, and open talent cultivation.

(2) The connotation of the school enterprise joint order cultivation model

This model selects a group of third year undergraduate students majoring in engineering management who are interested in engaging in international engineering projects, signs employment intention letters, and specifically establishes an international engineering talent class. In the fourth year, designated courses are added to strengthen students' specific abilities and equip them with certain theoretical knowledge and skills in international engineering projects. After graduation, students are given priority to work in overseas engineering projects. For those who are temporarily unsuitable for overseas work, priority is given to training in domestic key and difficult projects.

As an important strategic reserve for international talents, students in the International Engineering Talent Class strive to cultivate them into backbone talents in international engineering project management within 3-5 years. At the same time, the cooperating international engineering enterprises in Fujian Province provide tuition fees, accommodation fees, and training fees for the fourth year of college for the contracted students, and establish international talent scholarships for the enterprises to reward students with excellent academic performance. At the same time, students who are unwilling to comply with work arrangements after graduation shall pay double the penalty to the employer (the penalty amount is the total amount of tuition fees, accommodation fees, training fees, international talent scholarships, etc. provided by Fujian International Engineering Enterprise for contracted students).

(3) Setting plan of talent training course for school enterprise joint order training mode

The recommended curriculum system for senior students consists of the following 10 courses and a series of lectures, including 20 credits for theoretical courses and 2 credits for corporate practice, totaling 22 credits. The curriculum system is set as follows:

Table 1. Curriculum System

Serial number	Course Name	credit	Course Content Introduction
1	Business English	3	This course is based on the background of international engineering project personnel going abroad to undertake the construction of a project, and systematically strengthens students' English listening and speaking abilities and engineering terminology. From the dispatch of engineering management and technical personnel by the company to the country where the project is implemented to the completion of the project, the main scenarios include international travel, construction preparation, goods procurement, progress and quality management, environmental protection, on-site communication with consulting engineers, project payment, project claims, completion acceptance, and mutual banquets between the owner and the contractor.
2	Engineering English	3	This course combines the needs of engineering management personnel to undertake engineering projects abroad, focusing on engineering terminology and strengthening students' ability to analyze and apply engineering English literature. The teaching content includes: (1) Learn various English engineering standards to improve students' ability to understand and interpret engineering standards in English; (2) Study English engineering literature, familiarize oneself with professional vocabulary of construction projects, and understand common sentence structures and grammar in professional foreign languages; Can basically understand foreign language materials in this major and related majors, and can consult foreign language materials. Mastering translation skills mainly refers to the issues that should be paid attention to when translating scientific and technological English; Master the grammar characteristics of civil engineering major. Emphasize the cultivation of students' professional English reading and translation abilities. (3) Combining overseas engineering project examples, by analyzing English engineering materials, students will become familiar with the vocabulary, terminology, drafting standards, and drafting specifications used in construction drawings for engineering projects; Train students in the ability to analyze engineering drawings in accordance with engineering standards.
3	Professional English	3	According to professional requirements and based on the students' professional background, a professional English course will be conducted using 900 sentences of traffic engineering English as the main textbook. In addition, it is also required to master the general language used in the data collection process and list the names of various professional materials, master the formulation of technical standards and the introduction and promotion of Chinese standards in the design standard discussion process, master the design scheme, work arrangement, schedule, etc. in the design scheme discussion process, and master the consultation outline review meeting, consultation opinions, consultation Q&A, etc. in the design consultation discussion process.
4	International customs and etiquette	2	This course aims to familiarize students with cultural etiquette knowledge related to international work and daily life communication based on the main distribution areas of overseas markets for enterprises (especially the Belt and Road and Africa regions), understand the basic principles of international communication, and regulate their behavior through practical exercises to meet the requirements of modern etiquette and cultivate cross-cultural communication skills. Teaching arrangement: The folk customs section is mainly taught in class, supplemented by classroom discussions; Arrange reading reports on the overview of each country, and students collect information on different topics, read literature, and conduct discussion classes; The etiquette section combines classroom lectures with simulated exercises, with a focus on practice; Invite leaders with overseas experience from the International Affairs Office of the school to give themed lectures to students; Invite international students from the destination region to engage in cultural exchange and discussion with the students, and summarize their exchange experiences in the form of an English report.
5	General International laws and regulations	1	Regional legal content, involving labor law, tax law, and other related matters
6	Introduction and Trend Analysis of International Construction Market	1	Classification of the international construction market; Characteristics of construction markets in different regions; Construction market opportunities brought by the "the Belt and Road"; Risks in the international construction market.
7	International Engineering project management	2	The content and characteristics of international engineering project management; Feasibility study of international engineering projects (requirement analysis); International engineering project planning and control (schedule control, cost control, quality control). International engineering project contract management; International engineering project information management.
8	Analysis of International Engineering Bidding Methods and Techniques	1	International engineering bidding methods; Composition of international engineering bidding documents; International engineering bidding documents; International engineering bidding quotation and bidding skills.

9	International Business Negotiation	2	This course introduces students to the basic characteristics, procedures, and skills of international engineering negotiation and interpretation, and cultivates and improves their skills in international engineering conference negotiation and interpretation.
10	Interpretation and Application of FIDIC Contract Terms in Chinese	1	FIDIC Contract Conditions and Classification; FIDIC General Terms and Conditions of Contract; Special terms of FIDIC contract.
	Interpretation and Application of FIDIC Contract Terms in English	1	Introduction to FIDIC Contract Conditions; International project schedule management under FIDIC contract conditions (1); International project schedule management under FIDIC contract conditions (2); The inspection and pricing clause in the FIDIC contract conditions; The price adjustment clause in the FIDIC contract conditions; Payment terms in FIDIC contract conditions (1); Payment terms in FIDIC contract conditions (2); Claims, disputes, and arbitration;
11	Enterprise Practice	2	Students implement a dual mentor system, equipped with school mentors and corporate mentors, to jointly provide practical guidance to students in their corporate practices. At the end of the first semester of the second academic year (winter vacation), intern for one month; At the end of the second semester of the second academic year (summer vacation), interned for 2 months and completed the topic selection for graduation thesis.
12	Lecture Series	0	Introduction to Modern Rail Transit (2 times) Enterprise Series Courses (Professional) (3 times) Interpretation of the Belt and Road Strategy (once) Religious Culture (1 time) General Knowledge of Western Politics (2 times) Special Topic on China Pakistan Economic Corridor (1 session) Engineering Ethics (3 times)

(4) Successful domestic cases

Some well-known international engineering companies and related universities in China have taken the lead in order based joint training of talents between schools and enterprises.

1) China Railway Group Limited ---Lanzhou Jiaotong University "3+1" International Engineering Talent Order based Joint Training

In order to effectively promote the implementation of the national "the Belt and Road" development strategy and the "China High Speed Railway Going Global" strategy, and further strengthen the cultivation of innovative and international talents, in May 2017, China Railway Group Limited signed a school enterprise cooperation training agreement with Lanzhou Jiaotong University, adopted the "3+1" training mode, and opened the "China Railway International Engineering Class", that is, the first three years were trained by the school, and the fourth academic year was trained by the school and China Railway Group Limited. China Railway Group Limited provides tuition, accommodation, and training fees for contracted students for the fourth academic year. On the basis of completing the school's prescribed courses in the fourth academic year, contracted students can add additional courses according to the needs of the enterprise. School teachers, enterprise teachers, and external experts will jointly teach students. After graduating from undergraduate studies, students will directly work at China Railway Group Limited. Through 3-5 years, cultivate international engineering students into key management talents for international engineering projects. Lanzhou Jiaotong University will increase its efforts in curriculum design, teaching methods, life services, student management, and other aspects to achieve high-quality completion of joint training tasks. On May 4, 2017, the "3+1"

International Engineering Talent Order based Joint Training and Recruitment Fair between China Railway Group Limited and Lanzhou Jiaotong University was held in the school gymnasium. 18 engineering bureaus under China Railway Group Limited conducted on-site recruitment, and ultimately 34 students from the 2018 cohort, majoring in civil engineering, transportation, mechanical and electrical engineering, economic management, foreign languages, etc., successfully signed targeted employment agreements and will enter China Railway International Class for study [4].

2) Chongqing Jiaotong University cultivates overseas engineering talents serving the "the Belt and Road" [5]

The 'Zhongjiaoqiao Ferry International Engineering Class' is another reform and practice of the undergraduate talent training model at Chongqing Jiaotong University. With the continuous promotion of major national strategies, the rapid development of China's overseas engineering business has encountered the bottleneck of a shortage of international engineering talents. As a university with distinct characteristics in the transportation industry, Chongqing Jiaotong University has actively explored the model of school enterprise collaboration in education, increased efforts in talent cultivation for overseas transportation infrastructure construction, and carried out effective reform practices in talent cultivation serving national strategies.

a) "Short term+long-term" school enterprise collaborative education

What should we do if the traditional talent cultivation system of universities is not suitable for the demand of international engineering talents, and the knowledge structure and ability literacy of students are not suitable for complex and diverse overseas projects? Chongqing Jiaotong University is exploring the deepening of school enterprise

collaboration in education by introducing backbone enterprises that have undertaken a large number of major overseas projects, and building a high-quality, composite, international engineering talent training model. The school cooperates with enterprises such as China Communications Construction Corporation, China Railway Group, and China Railway Construction Corporation to establish "overseas classes", and selects and forms order based classes in majors such as civil engineering, port and shipping, transportation, and management to jointly develop the senior year special curriculum plan. The short-term training model of "overseas classes" has a short cycle, flexible course settings, and can adapt to the urgent needs of international engineering talents in different enterprises. On the basis of accumulating experience in "overseas classes", Chongqing Jiaotong University and China Communications Construction Group jointly established the "Zhongjiaodao Bridge Ferry International Engineering Class". The 'International Engineering Class' adopts a long-term training model that focuses on the long-term development needs of enterprises and systematically cultivates high-quality composite international transportation and civil engineering talents. CCCC (China Communications Construction Corporation) Group is fully involved in the development of talent training programs, student selection, classroom teaching, and group learning activities. The group's overseas project experts and front-line technical personnel will return to China specifically to teach and hold lectures for students. Internship and practical activities will also be directly completed in CCCC Group's corresponding projects. The construction environment of overseas projects is complex, and the construction and management modes differ significantly from domestic engineering projects. "Overseas classes" and "international engineering classes" are new explorations for schools to actively introduce enterprises with overseas engineering project backgrounds to deeply participate in talent cultivation, despite limited educational resources.

b) Building a knowledge system of "Transportation Civil Engineering+Project Management+International Literacy"

How can Chinese technology, Chinese standards and Chinese management go global with the help of the "the Belt and Road"? Chongqing Jiaotong University has established a curriculum system of "Transportation Civil Engineering+Project Management+International Literacy" based on industry development needs. In order to adapt to the complex and diverse overseas transportation construction projects, the school strengthens the foundation of "civil engineering" and covers various transportation fields such as highways, railways, and airports. In terms of transportation and civil engineering, the school has added professional courses such as "Engineering Environment and Sustainability", "Integration of Chinese and Foreign Construction Standards", and "Discussion on Major Domestic and Foreign Engineering Projects"; In terms of the entire project management process, courses such as "International Engineering General Contracting Model", "International Engineering Management", and "FIDIC Construction Contract Conditions" have been added. The school has also added courses such as "Foreign Etiquette and Cross Cultural Communication", "International Business English Writing", and "English Speaking" to enhance students' international literacy, focusing on the application of engineering English and cross-cultural communication. Through disciplinary

adjustments and professional training, more graduates can adapt to overseas engineering and internationalization of overseas engineering management.

c) Establish a training path of "TBC+Project Department+Design Institute"

In order to improve students' engineering abilities and promote their integration into enterprises and overseas projects as soon as possible, Chongqing Jiaotong University has created a "TBC+Project Department+Design Institute" training mode together with enterprises. Through TBC (Training Before Career) lectures by overseas project experts, students can gain an early understanding of typical overseas engineering experiences and development trends; Through the experience of the engineering project department, students can receive real job training; By simulating the design institute model, cultivate students' teamwork awareness and ability.

After nearly 10 years of reform and practice, the "Overseas Class" and "International Engineering Class" have become the "brand classes" for talent cultivation both inside and outside the prestigious universities of Chongqing Jiaotong University. The number of central enterprises participating in school enterprise collaborative education has increased from China Communications Construction Corporation (CCCC) which pioneered the "overseas class" to China Railway and China Railway Construction Corporation (CRCC). The professional settings have also expanded from civil engineering and port and shipping to more than 10 majors including transportation, management, surveying, and safety. In the past 10 years, Chongqing Jiaotong University has provided more than 3500 international engineering talents to enterprises. Among them, the first graduate Zhan Hong has served as the project manager of the \$8 billion Saudi Arabian Port Project, the 2013 graduate Chen Haibo has become the chief engineer of the Brigig Cable stayed Bridge Project in Morocco, and the 2016 graduate Zhu Jun has become a technical backbone of the De Iran high speed railway project. Employers generally reflect that these graduates have strong abilities and are quick to get started. After 3 to 5 years of training, they can become the backbone of overseas projects.

4. Conclusion

China's international engineering enterprises are deeply committed to the "the Belt and Road", and Fujian's international engineering enterprises are adept at giving full play to their own advantages in the international construction market around the "the Belt and Road", but they encounter the bottleneck of the shortage of international engineering management talents. The school enterprise joint order training model for international engineering management talents based on the situation in Fujian Province leverages the advantages of universities and enterprises, and the strong alliance continuously delivers composite talents that can adapt well to the complex international engineering project operating environment for international engineering enterprises in Fujian Province. It expands the talent advantage of enterprises in overseas engineering competition, enabling international engineering enterprises and international engineering management talents in Fujian Province to achieve mutual success, which is a shortcut for a win-win situation for international engineering enterprises and international engineering management talents in Fujian Province in the current environment.

References

- [1] 2020 Statistical Bulletin of China's Foreign Contracted Projects by the Ministry of Commerce.
- [2] Annual financial reports of China Wuyi Industrial Co., Ltd. (000797) as a listed company.
- [3] Official website of Fujian Provincial Department of Commerce: Statistical data on foreign engineering contracting in the province over the years.
- [4] <https://news.lzjtu.edu.cn/info/1002/1180.htm>.
- [5] <http://www.mnw.cn/edu/liuxue/1982589-2.html>.