Berlin 2025 Congress





WELCOME

to the 34th IPMA World Congress



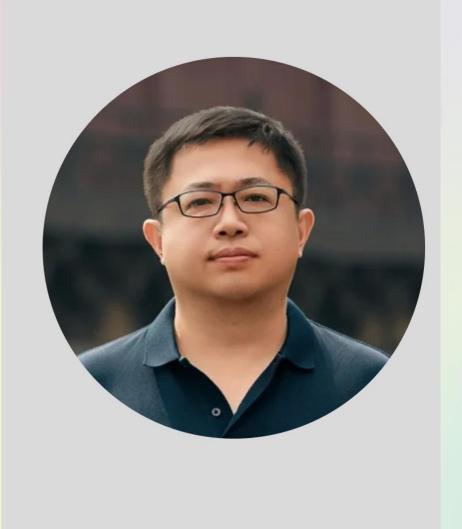
EMPOWERING INTERNATIONAL ENGINEERING CONSULTING THROUGH IPMA SIG

International Engineering Consulting (IEC)





——DR. LI TAO



DR. LI **TAO**

Director of the International Business Department at China International Engineering Consulting Corporation (CIECC)

Global Head of the IPMA SIG (Special Interest Group) on International Engineering Consulting.

Supervisor at the CIECC Postdoctoral Workstation and a **doctoral supervisor** at the CIECC Institute.

With 18 years of experience in international project consulting, he has delivered hundreds of end-to-end advisory services for global projects. As an economic expert, he advises bilateral and multilateral financial institutions as well as project investors and plays a key role in promoting the standardization of international engineering consulting.

His professional insight and impact are widely recognised in the industry.

Context

- 1. International Engineering Consulting SIG
- 2. Planned Activities of the SIG
- 3. Interaction between SIG and Project Management
- 4. Insights from Engineering Consulting Cases
- 5. Potential Areas for Future Collaboration

International Engineering Consulting SIG





1. International Engineering Consulting SIG

Vision

"To be the global leader in promoting excellence in engineering consulting through knowledge sharing, professional development, and fostering collaboration among international practitioners."

Mission

"To provide a platform for international engineering consultants to exchange ideas, best practices, and innovative solutions; to enhance the professional competence of its members; to focus on technical research, standard formulation and industry collaboration in the field of engineering consulting; and to advocate for the value of engineering consulting in global development projects."

1. International Engineering Consulting SIG

• Full Project Lifecycle Support: Engineering consulting is an essential component and enhancement within the project management ecosystem.



- **Enabling Sustainable Growth:** Professionalization, digitalization, and standardization in international engineering consulting can support certification and training, aligning with IPMA certification for sustainable development in broader and deeper fields.
- **Membership Growth Opportunities:** Collaboration with IPMA and PMRC ecosystem enables more engagement touchpoints throughout projects, creating opportunities for increased membership.

1. International Engineering Consulting SIG SIG Managing Team

Core Members



Yang Zhang (China)
Professor, PhD Supervisor, Hohai
University
President of IFSAM (2019−2021), Vice
President of IFEAMA (2019−2021),
BRICS Think Tank Council Member,
Global head of IPMA WATER SIG.



✓ Yanzi Shen (China)

Division Chief, CIECC

Certified Engineering Consultant, specializing in international engineering consulting, lifecycle project management, and ESG practice. Responsible for the daily management of the SIG.



Managing Director, Quantum Global Solutions
Over 30 years of international construction. Expertise in project management, contract administration, and dispute resolution. Recognized expert witness in arbitration and litigation.



Zenior Vice President, Surbana Jurong
Over 26 years of experience in
engineering consulting. Former senior
executive at MCC CERI and AECOM
Global, with international project and
risk management expertise across 40+
countries.



Christopher Fung (UK)
Foreign Legal Counsel, Anjie Broad
Law Firm
Scottish solicitor with over 15 years of legal experience. Specializes in data protection, EPC, and TMT.

> Secretariat & Liaison



PhD, Certified Engineering Consultant, Postdoctoral researcher focusing on international engineering risk management and digitalization.



Xiaojing Ma
Senior Business Manager, Focused on international cooperation and the Belt and Road engineering projects, with experience across nearly 30 countries in Asia, Africa, and Europe.

2. Planned Activities of the SIG

1. Collection of International Consulting Case Studies

Focus on investment decision-making, financing rules, and project management

2. Research & Promotion of International Consulting Standards

- Development of consulting methodologies
- Standard studies for international M&A
- Digital development of consulting product systems

3. Development of World-Class Industry Indicators

Key industries such as clean energy and smart transportation

3. Interaction between SIG and Project Management

Items	International Engineering Consulting	International Project Management	
Research Focus	Scientific decision-making (methodology) Whole-process management (concept-driven)	Individual Competence Baseline (ICB) Knowledge framework	
Key Stage	Entire project lifecycle – focus on early decision- making Project execution and delivery		
Outputs	Consulting reports, design proposals	Project delivered as required	
Core Value	Correct decision-making, technical feasibility, economic rationality	On-time delivery, cost & risk control, efficient resource use, team collaboration, project success	
Role Analogy	Consultant	Project Manager	

Conclusion

International engineering consulting and project management are like two wheels driving a project forward.

- •Success requires thorough consulting in the early stage and efficient management in later stages.
- •Their synergy ensures projects are delivered successfully.
- 👉 IEC SIG: Exploring the intersection and integration of the two fields to enhance global project performance.

CIECC FIDIC Award-Winning Projects

	Project	Award Year & Level	Key Technical Contributions
1	Shaanxi Hanjiang-to- Weihe River Water Diversion Project	2024 · Outstanding Award	Large-scale inter-basin water diversion (1.5 bn m³/year); overcame challenges of complex geology, eco-sensitivity, ultra-long deep-buried tunnels, high concrete arch dam, and high-head large-flow pump stations.
2	Purang Airport, Ali Prefecture, Tibet	2024 · Outstanding Award	→ One of the world's highest-altitude airports; addressed limited site options, harsh flight conditions, variable climate, poor clearance, and weak navigation signals.
3	Baihetan Hydropower Station, Jinsha River	2023 · Excellence Award	Installed capacity of 16,000 MW (world's 2nd largest); set 6 world records in electromechanical equipment, large underground caverns, ultra-high concrete dam, and special building materials.
4	Fuqing Nuclear Power Units 5 & 6	2023 · Merit Award	Two "Hualong One" 1,000 MW PWR units; China's independently developed advanced Gen-III nuclear technology, reaching international benchmarks in safety, reliability, and economy.
5	Tibet–Central China Power Grid Interconnection Project	2021 · Merit Award	▼ Tackled ultra-high altitude and large vertical drop in grid design; broke multiple construction and operation records; known as "Power Road on the Cloud."

F Chinese consulting contributes to global solutions for complex challenges.

——Vietnam Duyen Hai 2 Thermal Power Plant

Scale: 2 × 660MW supercritical coal-fired power generation units

Address: Tra Vinh Province, Vietnam

Investor: JANAKUSAS VIETNAM LIMITED

Financing/Insurance: The Export-Import Bank of China/China Export &

Credit Insurance Corporation

Consultant: China International Engineering Consulting Corporation

Project construction: From 2016.12.28 to 2021.12.23



——Vietnam Duyen Hai 2 Thermal Power Plant

Inspiration

- **Scientific decision-making:** including unit selection, environmental standards, economic calculation standards, etc.
- **Financing management system:** including international rules, construction of financing risk control system
- Whole process risk management
- Digital product accumulation

——A Hydropower Project in an African Country

Key features

- The largest hydropower project in the country by installed capacity
- Long pre-feasibility period with thoroughly evaluated technical solutions
- Our team's role: advisory for project financing



——A Hydropower Project in an African Country

Inspiration

- The importance of scientific decision-making
- The rationality of positioning the project as a peaking plant in the power grid (without a clear positioning, technical demonstration lacks any planning foundation)
- The demonstration logic for the layout of the key structures, installed capacity and annual utilization hours of the generating units (technical studies must follow rigorous logic and be systematically demonstrated; the technical and economic feasibility of project construction must be thoroughly investigated)
- The demonstration logic for engineering technology, economics and construction timing

-Serbia Vetropark Wind Farm

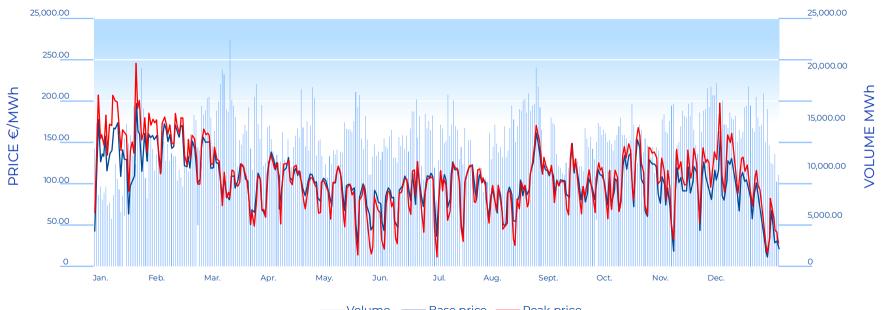
Scale: 300 MW wind-turbine complex

Location: Pančevo, Serbia

Investors: POWERCHINA RESOURCES LIMITED + CWP Europe (CWPE)

Financing/Insurance: Bank of China, etc. / China Export & Credit Insurance Corporation

Consultant: China International Engineering Consulting Corporation



——Serbia Vetropark Wind Farm

Inspiration

- Market-based competitive-trading rules + international engineering consulting
- Financing risk-prevention needs + international engineering consulting
- Digital product accumulation

5. Potential Areas for Future Collaboration

Research on international engineering-consulting standards.

Research on international investment and financing rules.

Development of an international engineering consulting case library.

International engineering-consulting collaboration to advance the profession.

Joint delivery of international engineering consultant training and certification with IPMA and PMRC.

Global institutional experts collaborate to advance the development and progress of international engineering consulting SIGs.

Thank You

Empowering international Engineering Consulting through IPMA SIG

Insights on the Approaches of International Engineering Consulting





2025.09.07





CONTENTS

- I. Company Overview
- II. Research Background
- III. CIECCHK' s Business Practice
- IV. Our New Insights







I. Company Overview

CIECC Profile



CIECC Overview

- Founded in 1982, CIECC initially focused on evaluating technical proposals, process flows, and economic benefits of newly proposed large and medium-sized infrastructure projects under the entrustment of the Chinese government.
- After over 40 years of exploration and development, it has become a national leading think tank and the largest comprehensive engineering consulting institution in China, with services covering all sectors of the national economy and society, witnessing the planning and implementation of most key construction projects and development plans since China's reform and opening-up.







✓ Practicing standards: Speak Bravely, plan wisely, decide carefully





- ✓ Scientific Quality in Engineering Practice
- ✓ Five Development Concepts in CIECC's Work









- We have served over 20,000 clients, including national ministries, local governments, large enterprises, and financial institutions, and completed 150,000 consulting projects involving investments exceeding RMB 200 trillion.
- The Company's growth comes from its high-quality talent team and rich expert resources. It now owns 5,000 employees, including more than 1,200 consulting professionals, 95% of whom hold master's degree or higher. Leveraging experts from various sectors, CIECC has established a cross-industry, multidisciplinary and comprehensive expert team comprising 54,000 specialists across all industries, including 21,000 frequently consulted experts.





China International Engineering Consulting Corporation (Hong Kong) Limited was founded in 1998. Its main businesses include investment and financing feasibility consulting, investment & M&A consulting, full-process consulting from an investment and financing perspective, digital risk management & control consulting, ESG management consulting, and industrial development research consulting for key countries/regions.



CIECCHK focuses on operating more market-oriented and expand its international business and it has steadily advanced the transformation of its three core business platforms:

- "International Investment and Financing Consulting Platform"
- "Overseas Industrial Research Platform"
- "International ESG Management Consulting Platform"



CIECCHK Profile







A. In-depth Alignment Between the Three Platforms of the Hong Kong Company and Hong Kong's Strategic Position

The World's Second-Largest Foreign Exchange Trading Market A Hub Connecting the Chinese Mainland and Global Markets

A Key Hub in the Fields of Green Finance and ESG

B. Establishing the Hong Kong Company: A Result of Historical Accumulation and the Choice of the Times

C. With Hong Kong as the Hub, Radiating to the Ten ASEAN Countries and Global Markets

The Hong Kong Company will give full play to <u>Hong Kong's regional advantages</u> and deeply align with <u>the "Belt and Road"</u> <u>Initiative</u>. Through the coordinated development of its three platforms, the company will evolve from a simple platform-based organization into <u>an international enterprise that integrates end-to-end investment and financing consulting, capital operations, and localized execution capabilities.</u>







Strategic Alignment of the "Three Platforms"

Group-oriented Development

Regional Layout

Digitalized Operation

Market-oriented Mechanism

Platform-based Management

We will build an International Investment And Financing Consulting Platform, a Domestic And Overseas Industrial

Consulting Platform, and an International ESG Management Consulting Platform, and actively enhance the international influence and leadership in the "Five Capabilities Building"

International Investment And Financing Consulting Platform

- Fund Management-Oriented End-to-End Consulting Business
- CIEC-Characteristic Investment, M&A and Investment Banking Consulting Business
- End-to-End Digital Risk Management for International Projects



Overseas Industrial Consulting Platform

- Systematic Country-Specific Industry Research
- Specialized Research on Key Industries

International ESG Management Consulting Platform

- Carbon Asset Development and Trading: Reflecting International Rules and Social Responsibility
- ESG Rating: Driving Management Consulting and High-Standard International Financing







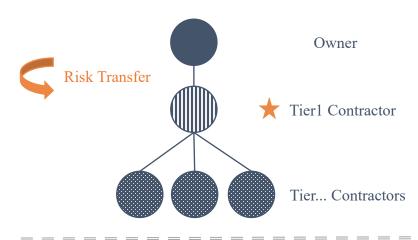


II. Research Background

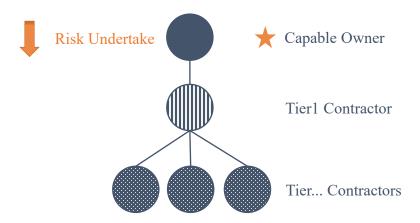




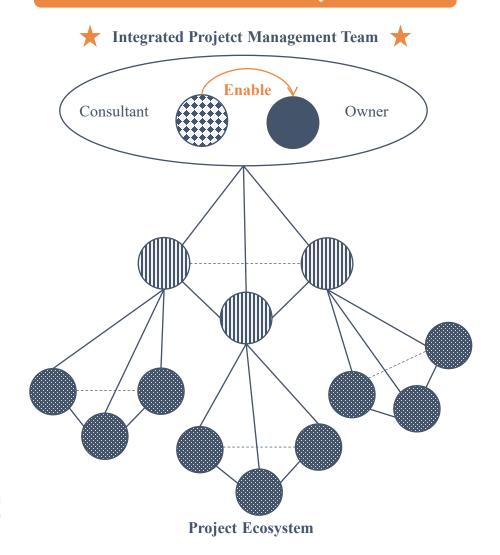
Traditional Delivery Model



Capable Owner Model

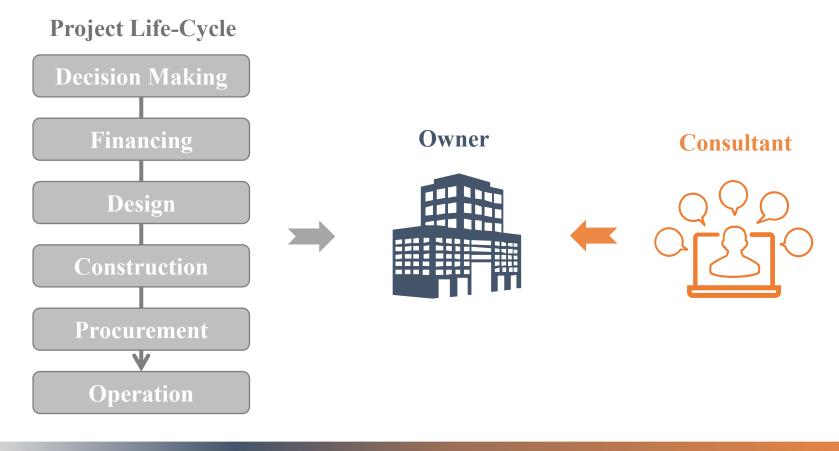


Owner-Driven Delivery Model









Initial Stage

Growth Stage

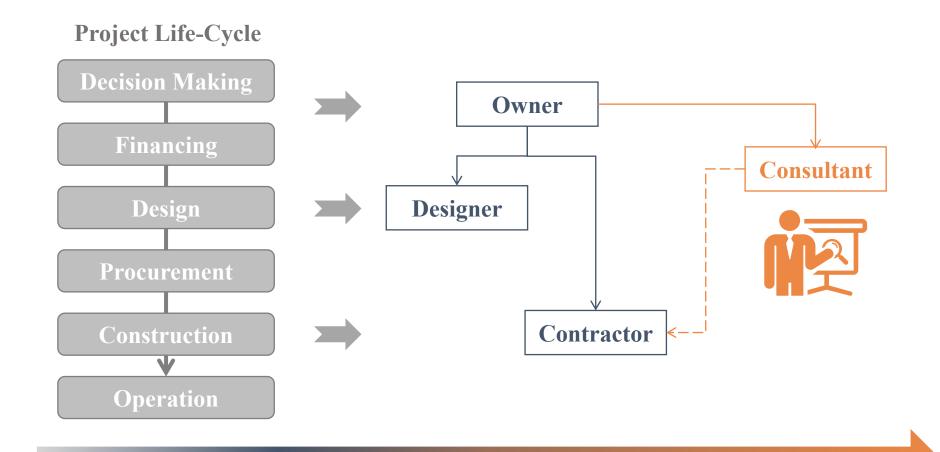
Diversification and Integration Stage

Characteristic

- Project Scale: relatively small and simple
- Project Owner: undertake all the work
- Consultant: individuals hired by owner







Growth Stage

Characteristic

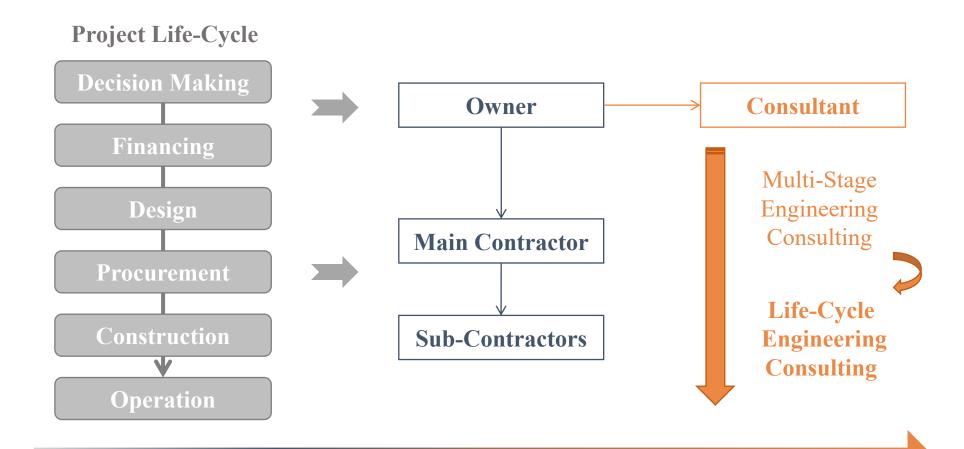
- Project: specialization to solve complexity
- Delivery Method: Design-Bid-Build

• Consultant: specialized consulting firm provide construction management services to the owner

Growth Stage







Characteristic

• Delivery Method: integrated Engineering-Procurement-Contruction (EPC) Diversification and Integration Stage

• Consultant: enabling owner to manage the project effectively; from multi-stages to life-cycle consultant.





What's Our Next Step?







Let's take the new energy industry as an example









III. CIECCHK's Business Practice









Dual-Carbon Goals: Accelerating the Transition

Global dual-carbon (carbon peaking and carbon neutrality) goals are the main force driving changes to the energy mix, and new energy is the key part of reducing carbon emissions.



Technological Innovation: Boosting Efficiency

PV and Wind power tech advances are cutting costs and raising energy conversion rates. Energy storage progress also enhances energy density and safety for new energy use.



Capital Surge:
Driving Robust Expansion

The new energy sector is heating up day by day, attracting a multitude of investors. Among them are many well - known enterprises and giants, such as AWCA, Masdar.







Chinese investors doing business in international new energy investment face linked problems that cover everything from pre-investment planning to post-operation management. These problems not only make overseas projects more costly and uncertain, but also weaken the competitiveness of Chinese investors and cause them to miss out on numerous investment opportunities in the new energy market.

Market and Project Judgment Challenges

Financing and Risk Hedging Issues **Inefficient Cross-Border Decision-Making**

Inadequate ESG Compliance Capabilities

Deficiencies in Full-Cycle Project Management

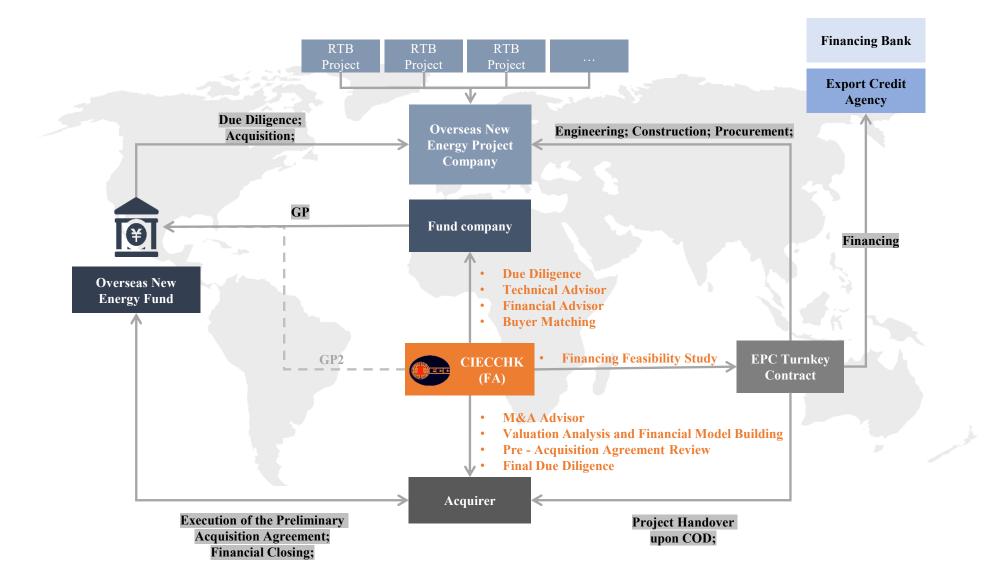
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Global Renewable Energy Project Synergy Initiative (GRSI)









Fund-Oriented Development Model





Phase 1 – Corporate Investment Decision-Making Phase 2 - Development and M&A

Phase 3 - Project Financing

Phase 4 - Construction and Operation Phase

Phase 5 - Transaction and Exit



Strategic Consulting

Resource Integration

SPV Agreement

Consulting

Pre-Acquisition

Agreement Consulting

EPC Contract

Consulting

Negotiation Support

Financing Scheme Design

Sinosure Insurance Consulting

Financing Feasibility Study

ESG management

Capital Management Consulting

LTA

Confirmation of Guarantee Release Conditions

End-to-End Risk
Management and Control

Due Diligence

Project Valuation

Buyer Matching

Contract Negotiation and Delivery

Market and Country Research

Investment Feasibility Study

Market/Technology/Finance /Legal Due Diligence

Project Valuation

Risk Quantification

End-to-End Investment and Financing Consulting Consultant

Core Advantages of CIECCHK

- Extensive enterprise and financial institution resources: With long-term experience in reviewing for major financial institutions, it understands their risk preferences and needs well, helping secure the best financing terms and cost optimization for clients
- Industry-leading frontline professional team: can efficiently formulate transaction implementation plans to boost efficiency. It also helps enterprises cut management/operation costs and provides quality professional outsourcing services.
- Strong domestic and international communication capabilities: Familiar with the concepts and transaction practices of domestic/foreign institutions, it safeguards clients' interests and reaches negotiation agreements efficiently





International Investment and Financing Consulting Platform









IV. Our New Insights







Fund-Oriented Life-Cycle Egineering Consulting Model

Engineering Consultant

integrated

all requirements

Contractor

Owner

EPC + Financing

Insurance company

Merger and Acquisition

Commerical Bank

Design-Bid-Build

Iransactions nappen i. Engineer-Procurement-Contruction

signatufe-cycle onsultant ted ments

Fund is the test Multilateral Development Banks

Greenfield Investment

Sponsor

Design-Build-Opertion

Public Private Partnership

Funds

Designer

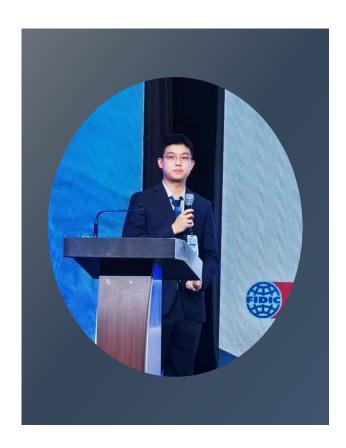
Brownfield Investment

Decision Making Financing Design **Procurement Construction Operation**









Energy Investment Director, CIECCHK
Registered Consulting Engineer (Investment)

Yuheng Deng

Bachelor's degree in Energy and Power Engineering, Xi'an Jiaotong University
Master's degree in Mechanical Engineering, Northeastern University, USA.

With years of extensive experience in strategic consulting, M&A consulting and related industries, he excels in international project M&A consulting, technical due diligence and risk assessment.

His projects span new energy, petrochemicals, infrastructure and other sectors, and he has led multiple large-scale cross-border new energy M&A transactions, boasting. strong comprehensive execution capabilities in cross-industry and cross-border projects

He has also completed **hundreds of** overseas country and industry research initiatives, providing key support for the strategic decision-making and risk control of clients

His professional insight and impact are widely recognised in the industry

Thank you for your time.

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(+86) 13716978735(WeChat)

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EMPOWERING INTERNATIONAL ENGINEERING CONSULTING THROUGH IPMA SIG

Khadija EL KHEBIR



• KHADIJA EL KHEBIR

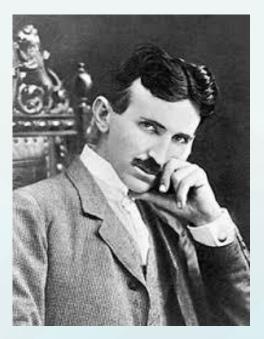
- Associate Director, Quantum
 Global Solutions France
- 15 years' experience in Oil & Gas,
 Nuclear and Infrastructure sectors
- Chartered Member of the Institution of Mechanical Engineers
- Member of the Chartered Institute of Arbitrators





Engineering Consulting sector in EUROPE







Engineering Consulting sector in europe



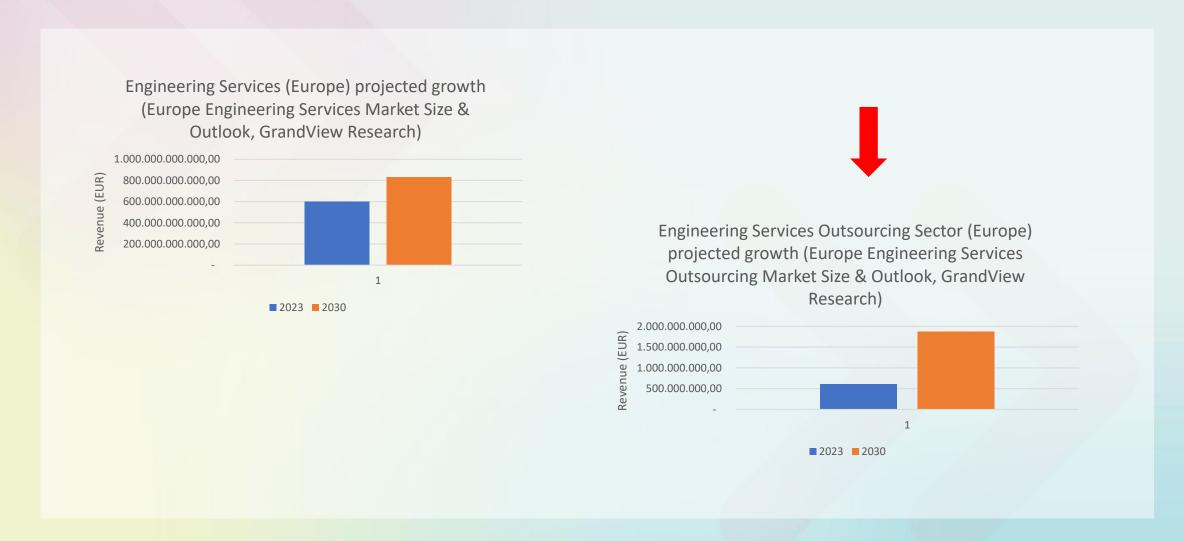






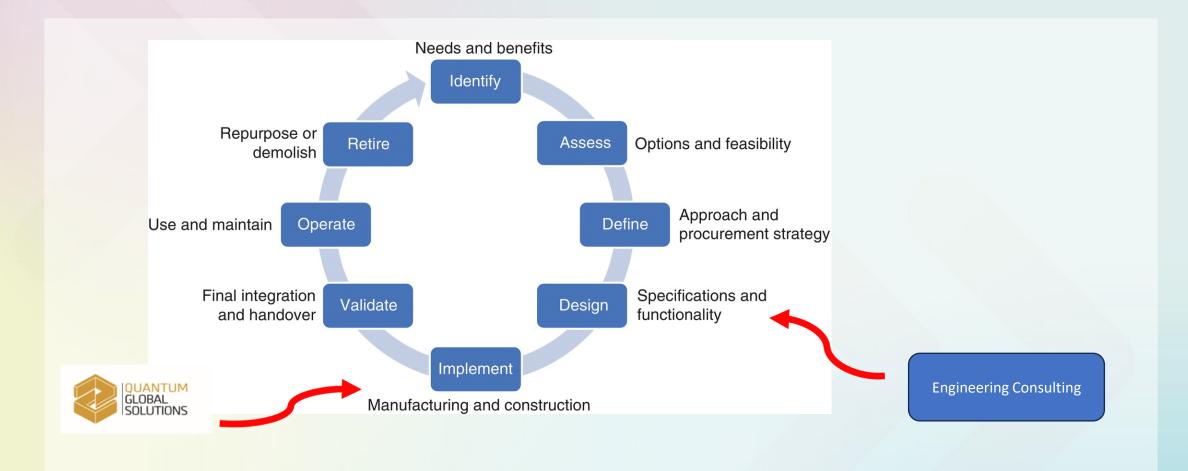


Engineering Consulting sector in europe





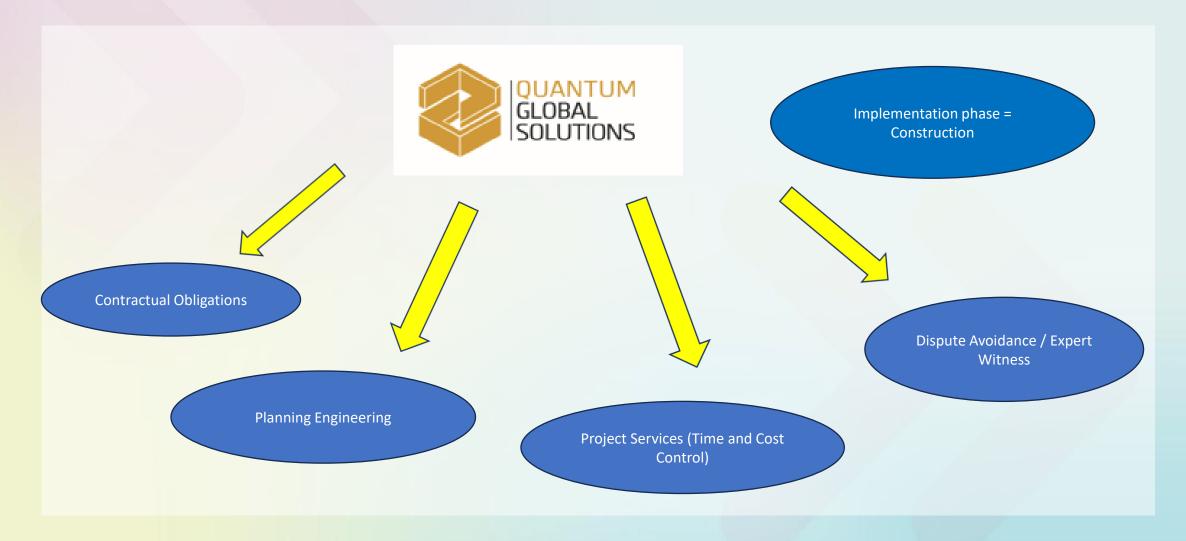
Engineering consulting / project management



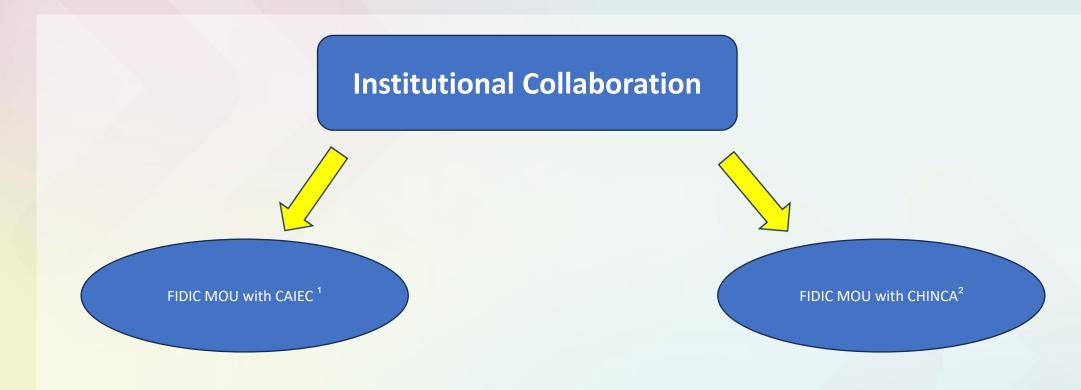
"Project Life Cycle", CIOB, Code of Practice for Project Management for the Built Environment, Sixth Edition, 2022



Engineering consulting / project management







- ¹ China Association of International Engineering Consultants
- ² China International Contractors Association





China–Europe Business & Logistics Cooperation Park



> Energy & Mobility Infrastructure

- Renewables, smart grids, transit systems—all sectors where European firms and Chinese partners have complementary strengths.
- Example: hydrogen and PV projects, metro systems in China and Europe

Outsourcing & Specialized Services

 With Europe's outsourcing market forecast to grow rapidly, Chinese engineering firms could offer cost-effective, specialized design or prototyping services (e.g., in aerospace, healthcare) to European clients



Digital Engineering & Software Tools

- Demand for engineering software is accelerating
- => In France, the demand will grow from USD 2.18 billion in 2023 to USD 7.58 billion by 2030
- Chinese tech firms could partner to develop or supply digital platforms (BIM, IoT, predictive maintenance) that enhance Franco-Chinese joint ventures.

SMEs & Regional Collaboration

- Regional industrial hubs focusing on manufacturing, precision engineering, and automation
- Strategic cooperation with Chinese SMEs can target customized solutions for these sectors, combining European domain knowledge with Chinese scale.

Public-Private R&D and Innovation

 Chinese investors and European academic institutions may co-invest in R&D for smart infrastructure, AI-driven engineering methodologies, or clean energy



OPPORTUNITY FOR COOPERATION

Opportunity Area	European Context	Chinese Cooperation Potential
Institutional Knowledge Sharing	FIDIC networks, cross-training, standards	Via MoUs with CAIEC, CHINCA
Belt & Road-Infrastructure Thinking	Logistics, digital infrastructure	Through CIECC policy consulting and project design
Project Delivery & Design	EU Green Deal projects, infrastructure rebuilding	Joint execution and financing, co-design initiatives
Energy & Power Engineering	Renewables, grid modernization, nuclear consult.	NWEPDI–Fichtner, CIECC hydropower/nuclear projects
Mobility & Sustainability Projects	EMS, rail, energy transition	Italian cooperative plan (electric mobility, etc.)
SME & SME Tech Exchange	Innovation across EU SMEs	CENTI platform facilitating China–EU tech transfer