



Deutsches Wirtschaftsbüro  
German Trade Office  
Taipei  
德國經濟辦事處



# GERMAN OFFSHORE WIND ENERGY DELEGATION TO TAIWAN 2017

2017年德國離岸風電訪台代表團

Business Delegation to Taiwan under the German Energy  
Solutions Initiative July 11th-14th 2017

推廣2017年德國能源解決方案—AHK商務訪台代表團：7月11日至14日

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## Imprint

Publisher  
German Trade Office Taipei| 德國經濟辦事處  
www.taiwan.ahk.de

Status  
Juli 2017

Cover Photo  
adrian\_ilie825| fotolia

Design  
Franziska Urban

Production  
Ying De Printing, Co., Ltd. | 英德迎刷事業有限公司



Deutsches Wirtschaftsbüro  
German Trade Office  
Taipei  
德國經濟辦事處

林百科  
處長  
德國經濟辦事處

透過摒棄核能並轉用可再生能源，德國於全球氣候保護中扮演著領導者。藉由此領域中日新月的科技發展，二氧化碳排放量大幅減少。因此，德國至2025年，達到45%可再生能源生產量之目標，已可預見其成功曙光。

德國風力發電佔可再生能源的11.9%，為可再生能源之主力。台灣預期至2025年達到20%之可再生能源生產量。基於台灣海峽之氣候與地理條件，離岸風力發電可被視作為台灣最有發展潛力的可再生能源之一。

能源轉型為一複雜議題，其為整個供應鏈帶來之改變，包含：能源產業重組、能源生產與多元物流。透過引進現有德國風力發電專業技術，能夠開啟台灣能源轉型之扉頁。與會之德國企業即為多元專業知識之最佳佐證。

德國聯邦經濟與能源部致力於與從事可再生能源出口技術之中小企業合作。我們期待透過此商務代表團，能夠拓展德國與台灣之間雙邊經貿聯結與當今之能源合作發展。

預祝大會順利。



Axel Limberg  
Executive Director  
German Trade Office Taipei

By turning away from nuclear energy towards renewable energy, Germany is playing a leading role in climate protection. Due to the continuous development of innovative technologies in this field, a significant reduction of CO2 emissions has been achieved. Thus, the set goal of a 45% renewable energy share until 2025 in the German energy mix is within reach.

As of now wind energy accounts for 11,9% of the core source of renewable energy in Germany. Taiwan has set the goal of reaching a 20% renewable energy share by 2025. For Offshore wind, one of the renewables seen as having most potential in Taiwan, it can resort to the best climate and geographical conditions in the Taiwan strait.

Energy transition is a complex topic which brings changes to the whole supply chain and includes the reorganization of the energy industry, energy generation and many logistical aspects. By making use of already existing German expertise offshore wind, yet very new to Taiwan, might soon become the starting point of Taiwan's very own "energy transition". The participating German expert companies are best examples of this variety of German expertise.

The Federal Ministry of Economic Affairs and Energy has been working effectively with small and medium-sized companies exporting technologies in renewable energies.

We are looking forward to extending the mutual economic ties and existing energy cooperations between Germany and Taiwan through this business trip.

I wish you an engaging and successful conference.

## 代表團簡介

許多國家藉由德國能源解決方案之協助進行能源轉型，提供環境友善能源給下一代。2030年台灣期望成為大中華地區離岸風力與產業中心。

德國於可再生能源產業中數十年經驗與專業技術，能夠協助台灣達成目標。此外，專業技術與經驗能使台灣與台灣企業得以更有效率的建立離岸風力產業，並減少對外部能源的依賴度。

為了交流專業知識並建立溝通平台，離岸風電研討會旨在為台灣與德國之間開啟未來新貿易發展扉頁。

因此，德國經濟辦事處與巴登符騰堡邦國際經濟與科技合作積極共同規劃離岸風力產業之商務訪台代表團。代表團訪台行程為德國聯邦經濟與能源部下轄德國能源外貿局之計畫。

除了今日研討會，代表團亦會與台灣各企業交流，期望未來雙方能有更緊密之合作發展。

## Introduction of the Delegation

The German Energy Solutions initiative assists various countries in carrying out their energy transmission process in order to reach and provide environmental-friendly energy for future generations. Taiwan's ambitions in relation to its climate goals is to become the center for offshore wind energy and industry for the Greater China Region within 2030.

In order to achieve this, Germany is able to assist Taiwan in reaching their environmental goals through providing its decade long experience and expertise within the field of renewable energies. In addition, the expertise and experience provided will allow Taiwan and Taiwanese companies to establish an Offshore wind energy industry more efficiently, decreasing the dependence of external energy.

In order to exchange expertise and provide a platform for networking, the Offshore Wind Energy Conference aims to be the starting point for further engagement between Taiwanese and German businesses.

As such, the German Trade Office Taipei and Baden-Württemberg International are jointly organizing a business delegation focusing on the Offshore Wind Energy Industry in Taiwan. This delegation trip is part of the German Energy Export Initiative of the Federal Ministry for Economic Affairs and Energy.

In addition to today's conference, our delegation will be in contact with Taiwanese companies, seeking to establish ties for further mutual benefiting relationships between relevant stakeholders.



**Hagen Heesch**  
**Managing Partner**  
 經營合夥人  
 h.heesch@elbeone.com



**Bennet Möller**  
**Project Engineer**  
 專案工程師  
 b.moeller@elbeone.com

**ElbeOne GmbH**  
 Katharinenstrasse 4  
 20457 Hamburg  
 Germany/ 德國  
 Tel./ 電話:: +49 1739963697  
 www.elbeone.com



**COMPANY PROFILE**

We are an independent engineering company specialized in managing design, fabrication and installation processes of offshore wind farms as well as their certification and approval. With our professional expertise we streamline technical processes and interface management of projects resulting in maximum efficiency and ensuring cost-effective realization.

ElbeOne has gained a wealth of experiences in the international offshore wind industry due to close collaboration with renowned manufacturers, certification bodies and authorities for many years. For offshore wind projects, our specialists provide exclusive consulting and active support during design processes and the attainment of certification and approvals. With high level technical in-house expertise, we make a considerable contribution towards successful projects in compliance with all international codes, standards and requirements.

Our Managing Partner Dipl.-Ing. Hagen Heesch has worked for an international renowned classification agency and thereby gained a profound understanding of certification processes and viable approaches for approval. In total, he can draw up on more than 10 years of experiences in the offshore industry which enables ElbeOne to support on design, certification and permit processes and find feasible solutions for your offshore wind projects at any time.

**Our Services:**

- **Project management:** We offer rock-solid support.
- **EPCI projects:** We ensure efficient certification and approval.
- **Process development:** We provide customized and efficient processes.
- **Due Diligence:** We reduce technical & financial risks significantly.
- **Tendering:** We support you in choosing project partners and certification bodies.
- **Collateral clauses:** We consider more than the permit conditions.
- **Periodic Inspections:** We accompany you in operation.
- **Lifetime extension:** We help you with recertification.
- **Health and Safety:** We ensure compliance to local requirements.

**公司简介**

我們是獨立的工程企業，專門於離岸風電場的管理設計、製造與安裝過程，以及認證與核准。憑藉我們的專業知識，我們精簡技術過程與企劃的接口管理，以確保高效率和本地效益的實現。

ElbeOne因與多家知名廠商、認證機構與官方密切合作數年，在國際上已累積了豐富的離岸的風電產業的經驗。對於海上風力發電企劃，我們的專家在設計過程中提供專門的諮詢和支持，並獲得認證和批准。藉由高水準的技術與內部的專業知識，且符合所有國際規範、標準與要求，我們在企劃上完成了相當大的貢獻。

我們的管理夥伴Dipl.-Ing.Hagen Heesch曾任職於數間國際知名的分類機構，從而對於認證流程與可行方式有熟悉的了解。總結來說，他可以製定十多年的離岸發電工程計劃，使ElbeOne能夠隨時支援設計、認證和許可程序，為您的海上風電項目找到可行的解決方案。

我們的服務:

- 企劃管理: 提供堅實的支援。
- EPCI項目: 確保高效率的認證和批准。
- 流程開發: 提供客製化和高效率的開發。
- 信用調查: 降低技術和財務風險。
- 招標服務: 協助您選擇企劃合作夥伴和認證機構。
- 抵押條款: 不僅僅評估許可條件。
- 定期審查: 與您一同合作與執行。
- 延長使用時效: 我們幫助您重新認證。
- 健康與安全: 確保企劃符合當地要求





**Stefan Kansy**  
 Director New Projects Power  
 Generation  
 新發電專案總監  
 s.kansy@enbw.com



**Nikolaus Elze**  
 Director Technology  
 Generation Technology  
 技術發電技術總監  
 n.elze@enbw.com

**EnBW Energie Baden-  
 Württemberg AG**

Fischertwiete 1  
 20095 Hamburg  
 Germany/ 德國  
 Tel./ 電話: +49 40 533 268 -117  
 Fax +49 40 533 268 -200  
 www.enbw.com



**COMPANY PROFILE**

As an integrated energy company, EnBW operates in Germany along the entire energy industry value chain in four segments: Sales, Grids, Renewable Energies, Generation and Trading. As one of the largest energy supply companies in Germany, we supply electricity, gas, water and energy-related products and services to approximately 5.5 million customers with a workforce of 20,000 employees. Our installed power generation capacity amounts to some 14,000 MW – with a constantly increasing share of 3,000 MW originating from renewable sources.

EnBW is playing an important role in shaping the Energiewende and is resolutely and confidently implementing its EnBW 2020 strategy: increasing generation from renewable sources of energy, expanding the stable grids business and offering innovative products and services.

We have first hand experience with a rapidly changing energy market: stepping out of nuclear power within a short time period, decommissioning of nuclear power plants, driving de-carbonization, replacing the breaking-away conventional power generation capacities with renewable energies, overcoming supply chain shortages and transmission grid bottlenecks – issues we dealt with in the past and still address today.

Thus we developed expertise and excellence that is transferrable to other markets facing similar changes and challenges. EnBW's successful 'zero €'- bid in Germany's first auction round for offshore wind energy is a milestone for the market integration of offshore wind technology\* and has proven that renewable power generation can be profitable without government subsidy.

Thanks to our comprehensive and profound system competence to adjust to the new business environment of the Energiewende we remain excellently positioned. Our current activities are governed by the fostering of dialogue, the principle of partnership and a solution-based approach.

\*) bid price was 0€/kWh, thus building and operating the 900 MW scheme will not require any subsidy or guaranteed feed-in tariff, revenues will originate from merchant energy price only.

**公司简介**

作為綜合的能源公司，EnBW在德國與能源產業整體價值鏈中提供四大服務：銷售、電網、可再生能源、製造與貿易。作為德國最大能源供應商之一，EnBW提供電力、瓦斯、水以及其他能源相關產品與服務，約具550萬名客戶以及2萬名員工。EnBW已架設的發電裝置量為14,000 MW，其中3,000 MW來自於持續增加之可再生能源。

EnBW 在能源轉換政策中扮演重要角色，並且不遺餘力推動EnBW 2020 策略：提升可再生能源產量、拓展穩定電網業務，以及提供創新產品與服務。

在快速變遷的能源市場中，EnBW具前線實戰經驗：於短時間內摒棄核能、核電廠退役、推動減碳、以可再生能源取代傳統發電方式、克服供應鏈短缺與輸電網路瓶頸、訂定並不斷重新調整符合規範與許可之框架，隨著現代社會逐漸重視「以正確的方式生產電力」之議題—EnBW持續耕耘於處理這些議題。

EnBW所發展出之專長與卓越知識，亦可應用於其他同樣面臨相似轉變及挑戰之市場。於德國首次離岸風力發電招標中得標，可被視為EnBW「零歐元」成功之起點，也是未來離岸風力能源科技市場整合之里程碑，更證明可再生能源能在無政府補助之情況下獲利。

由於全面且深遠之系統性專業，EnBW能夠優異調適因能源轉型而開創的新商務環境。EnBW目前以持續交流、合作關係原則與管理解決方案為主要目標。

\*)得標價為0歐元/kWh，因此900MW計畫之建造與運作，不需要任何補助或保證電力收購，收入僅源自商業能源電價。



**Karl Peter Schleich**  
Head of Business  
Development East Asia  
東亞業務拓展首長  
karl-peter.schleich@fichtner.de

**Fichtner GmbH & Co. KG**  
Sarweystrasse 3  
70191 Stuttgart  
Germany/ 德國  
Tel./ 電話: +49 711 8995 0  
www.fichtner.de

**FICHTNER**

### 公司简介

成立於1992年，Fichtner從專注於區域之工程辦公室，發展成為德國領先的獨立諮詢工程師公司，現在已為國際中頂尖企業。Fichtner團隊、旗下分公司與附屬公司於全球員工人數已超過1500人。

自1980年代，Fichtner一直於風力能源發展中扮演活躍的角色。身為工程師，Fichtner為德國首位針對風場提供諮詢服務，並協助開發中國家擴展裝置量。Fichtner進一步向德國研發部制定首項風能計劃，隨後訂定EEG可再生能源法。現今Fichtner提供優質工程師團隊與具備海陸風能領域中具專業知識之諮詢顧問。

於項目管理、風機發電技術、評估風力資源、佈纜系統、（海上）土木與結構工程、基座、建築與水利結構……等方面，工程顧問皆具有豐富經驗，使Fichtner能夠為海上與離岸作業提供專業技術服務。

因理解當地能源供應市場、關稅結構與許可證申請程序，Fichtner的專家亦熟悉德國、國際投資者與開發銀行所面臨之挑戰。身為業主工程師，從初始計畫項目到風場試營運，Fichtner皆能提供客戶技術與商務領域之服務。身為貸款人工程師，Fichtner盡職調查報告，並監督項目之實行與試營運。

### COMPANY PROFILE

Established in 1922, Fichtner has evolved from an at first regionally focused engineering office into Germany's leading independent firm of consulting engineers, and it is now among the front-runners internationally. The Fichtner Group with its subsidiaries and associated companies has a staff strength of more than 1500 worldwide.

Fichtner has been playing an active role in the success story of wind energy since the 1980s. As owner's engineer Fichtner rendered consultancy services for the first wind farms in Germany and assisted in capacity expansion in developing countries. Fichtner further advised the German Research and Development Ministry on its first wind energy programme, from which later the EEG Renewable Energy Sources Act was developed.

Today the Fichtner Group offers a network of highly qualified engineers and consultants with expertise in all aspects of onshore and offshore wind energy. Its engineering consultants are experienced in project management, wind turbine technology, wind resource assessment, cabling systems, (maritime) civil and structural engineering, foundation, construction and hydraulic structures and allows Fichtner to provide the entire bandwidth of specialist disciplines for on- and offshore projects as owner's and lender's engineer.

Fichtner's experts are equally conversant with the challenges of German and international investors and development banks as they are with local energy supply markets, tariff structures and permit application procedures.

As owner's engineer, Fichtner assists its clients in all technical and commercial aspects, from initial project idea up to wind farm commissioning. As lender's engineer, Fichtner prepares due diligence reports and monitors project realization and commissioning.



**Joerg Moeller**  
**Managing Director**  
 董事總經理  
 moeller.joerg@ims-nord.de



**Carsten Engel**  
**Director Offshore Engineering**  
 海上工程總監  
 engel.carsten@ims-nord.de

**Dr. Moeller GmbH/ IMS Nord**  
 Herwigstrasse 10  
 27572 Bremerhaven  
 Germany/ 德國  
 Tel./ 電話:: +49 471 70057 38  
 Fax./: +49 471 70057 39  
 www.ims-nord.de



**COMPANY PROFILE**

Dr. Moeller GmbH / IMS Nord, established in 1997, performs as an independent production and logistics oriented consulting company. Throughout the years, the company has gained comprehensive expertise in multiple national and international projects from the following business areas:

**Marine Engineering**

Dr. Moeller GmbH / IMS Nord started 20 years ago with its roots in the shipbuilding industry and has comprehensive experience in layout, planning and construction of seagoing vessels as well as the planning and erection of shipyards. The company has further experience in navigation, vessel operation and shipping.

**Offshore Wind Energy**

Dr. Moeller GmbH / IMS Nord has deep knowledge in planning, construction, storage, loadout, transportation and installation of foundation structures, piles and substations. We provide consultancy for the implementation of serial production facilities for foundations and large diameter tubulars and can support in all questions along the logistics chain including implementation of integrated solutions for multiple usage in serial applications as well as one-of-a-kind solutions.

**Mechanical Engineering**

Dr. Moeller GmbH / IMS Nord provides services in the planning and optimization of production facilities, analyzing and optimizing of material and work flow as well as the design of specialized production tools.

**Information Technology**

Dr. Moeller GmbH / IMS Nord develops dedicated solutions for production and logistics planning as well as documentation and material flow-oriented simulation applications.

The team of Dr. Moeller GmbH / IMS Nord consists of highly qualified specialists with educational backgrounds in shipbuilding, mechanical and transportation engineering, nautical science and information technology. Project-specific trainings – for instance for offshore works – are added on a case by case basis.

We are able to handle full engineering packages in the relevant fields and provide our services generally worldwide.

**公司简介**

Dr. Moeller GmbH / IMS Nord 成立於1997年，著重於獨立生產與物流導向之諮詢服務。多年來，公司從以下商務領域獲得了多個國家與國際項目計畫之豐富專業經驗：

**海上工程：**

二十年前Dr. Moeller GmbH / IMS Nord起始於造船業，於海運船隻及造船廠規劃、建造方面具豐富經歷。此外，於航海與船舶營運與航運更有深刻心得。

**離岸風力發電：**

Dr. Moeller GmbH / IMS Nord在基座結構、管線與變電所之之規劃、建造、倉儲、裝卸、運輸與安裝……方面擁有豐富的知識。提供基礎設施與大直徑管道生產設備之諮詢服務，並在物流鏈中整合多用途集成解決方案，以及獨特解決方案。

**機械工程：**

Dr. Moeller GmbH / IMS Nord提供規劃與優化生產設備、分析與優化工作流程及專業生產設備之設計，

**資訊技術：**

Dr. Moeller GmbH / IMS Nord為生產、物流規劃及檔案與材料流程導向模擬應用上，開發專門的解決方案。

Dr. Moeller GmbH / IMS Nord團隊由具備造船、機械、運輸工程、航海科學與資訊科技……等方面教育背景之頂尖專家所組成。特定企劃之培訓，例如：離岸工程，為視情況增加。

Dr. Moeller GmbH / IMS Nord能夠在相關領域處理完整工程項目，並在全球內提供服務。





## Udo Habermann Senior Sales Manager

高級銷售經理

udo.habermann@noske-kaeser.com

info@noske-kaeser.com

## Noske-Kaeser GmbH

Ruwoldtweg 12

22309 Hamburg

Germany/ 德國

Tel./ 電話: +49 (0)40 / 8544-0

Fax: +49 (0)40 / 8544-2380

www.noske-kaeser.com



### 公司簡介

Noske-Kaeser 為工程領域之領導企業，涉足空調、通風、冷卻、管線以及消防，同時也提供核生化（CBRN）防護，提供系統解決方案與零組件。

海軍、商船、郵輪、渡輪以及遊艇、海上船隻／變電所，與全球專用車皆配有Noske-Kaeser科技。

Noske-Kaeser業務重點之一為替離岸風力發電廠之變電廠提供空調、冷卻與消防系統。

一百三十五年前創立於德國，Noske-Kaeser如今為其客戶提供全球服務網，並且在許多國家協助銷售。目前於漢堡總部有160位專家，於杜拜、印度、馬來西亞、紐西蘭與土耳其皆設有辦事處。

大部分員工皆為經驗豐富之工程師，提供客製化解決方案。

Noske-Kaeser工廠提供客製化解決方案，如：組合式空調箱、冷卻器、特殊風扇、冷卻設備、消防設備……等。

Noske-Kaeser受全球客戶高度重視。

### COMPANY PROFILE

Noske-Kaeser is a leading group for engineering and provides system solutions and components in the fields of air conditioning, ventilation, refrigeration, piping and firefighting as well as CBRN protection.

Naval and merchant vessels, cruise liners and ferries as well as yachts, offshore vessels / substations and special purpose vehicles worldwide, are equipped with Noske-Kaeser technology.

Our focal points are the Air-conditioning, Refrigeration and Fire Fighting systems for Transformer station in Offshore Wind Farms.

Established in Germany 135 years ago Noske-Kaeser now operates a global service network for its customers and offers sales support in numerous countries all over the world. The company currently employs a staff of 160 experts in its headquarter in Hamburg and in its offices in Dubai, India, Malaysia, New Zealand and Turkey.

The majority of the staff creating customized solutions are experienced engineers. In our own workshop, we produce customized solution like Air Handling Units, Chiller, special Fans, Provision Cooling Sets, Fire Fighting Equipment.

Noske-Kaeser is highly regarded by its world-renowned customer base.



**Patrik Passon**  
**Managing Director**  
 董事總經理  
 patrik.passon@owecs.eu  
 info@owecs.eu

**OWECs GmbH & Co. KG**

Beckstrasse 33  
 30457 Hannover  
 Germany/ 德國  
 Tel./ 電話: +49 (0)160 9800 6094  
 www.owecs.eu



**公司簡介**

OWECs 有限公司致力於離岸風力發電計畫，提供頂尖的工程與諮詢服務。充分利用離岸風電專業知識是為顧客提供成本優化與可靠解決方案的關鍵。OWECs 自2002年以來，持續參與多項工業與學術研究計畫，憑藉對於離岸風力發電渦輪結構的深厚了解，包含環境條件、負載量與設計程序，得以提供客戶領導市場的離岸風力發電專業技術。

OWECs為公營事業單位、風力渦輪製造商與基座設計提供工程與顧問服務。OWECs專精於海上風力發電事業，並且囊括如丹麥、法國、英國、德國、荷蘭、比利時、美國與台灣等國的離岸風力發電計畫，其中超過15個完整風場計畫案以及20個風場早期規劃案。

**服務項目**

以直接或輔助的方式提供客戶計畫諮詢，包含設計、評估、優化、執行與獨立的第二方意見。主要的服務範圍包括：

- 協調與支援：
- 設計過程與企業界面管理 | 計畫申請文件 | 投標處理/評估 | 風險評估 | 雇主工程師與客戶代表
- 細節與架構設計：
- 風塔與地基設計 | 地基型式評估/選擇 | 基本設計 | 處理參數與背景資料 | 負荷量計算與整體模型建造
- 訓練與研發：
- 會議與工作坊 | 設計工具研發

**OWECs 優勢：**

- 減少成本與風險 | 豐富的離岸風力發電經驗 | 整體思考與全方位分析 | 頂尖技術知識 | 實際專家指派 | 先進設備 | 高度彈性

**COMPANY PROFILE**

OWECs GmbH & Co. KG is dedicated to offer cutting-edge engineering and consultancy services for your offshore wind projects. A key to cost-optimized and reliable solutions is the adequate utilization of offshore wind specific expertise. OWECs offers unprecedented offshore wind expertise in our key service areas based on continuous experiences from industrial and academic projects since 2002 and an integral understanding of offshore wind turbine structures including environmental conditions, loads and design processes.

OWECs provided engineering and consultancy services to utility companies, project developers, wind turbine manufacturers & foundation designers. Our project experiences are indeed offshore wind specific, rather than from external fields of technology, and comprise offshore wind projects in e.g. Denmark, France, UK, Germany, The Netherlands, Belgium, USA and Taiwan with over 15 detailed designs and 20 early stage designs.

**Our services**

We add value to your projects either directly or in a supporting capacity by providing designs, assessments, optimizations, processing capacities and independent second opinions. Our key service areas comprise:

- Coordination and Support:
- Design Process & Interface Management | Technical Project Documentation | Tender Processes/Evaluation | Technical Due Diligence | Owner's Engineer & Client Representative
- Detailed and Conceptual Design:
- Tower & Foundation Designs | Foundation Type Evaluation/Selection | Design Basis | Site Parameters and Background Data | Load Calculations & Integrated Modelling
- Training and Development:
- Seminars & Workshops | R&D including Design Tool Development

**OWECs services will strengthen your projects with:**

- Strong focus on cost & risk reduction | Extensive offshore wind experience | Integral thinking and holistic approaches | Cutting-edge technical know-how | Assignment of the actual experts | State-of-the-art tools | High degree of flexibility



**Henning H. Bioernsen**  
Independent Consultant  
獨立顧問  
henning.bioernsen@gmx.net

**Henning H. Bioernsen**  
**OWEN Bremen**

Contrescarpe 117a  
28195 Bremen  
Germany/ 德國  
Tel./ 電話: +49 176 2325 7648

**OWEN Offshore Wind Engineers**

## 公司簡介

OWEN BREMEN 團隊由精於離岸風力發電的製造與安裝的資深工程師所組成。提供風場設計、焊接工程師，至離岸風力發電的製造與安裝工程師的教育訓練。主要目標為打造高效率的風場設備，並確保製造和安裝設計工程順利，以符合製造商和安裝人員預算和時間成本，OWEN BREMEN 將提早進行計畫項目，並將經驗與合作夥伴共享，透過專業的培訓、審查、延伸、再培訓……等等與客戶攜手合作。多年以來OWEN BREMEN 致力於離岸風力發電，自2003年起便參與德國離岸風力發電廠的興建安。自2011年開始，OWEN BREMEN 多數工作夥伴於德國港務單位擔任要職，致力於離岸風電廠和塔樓的建造。OWEN BREMEN 團隊由總經理、副總經理、技術部門首長、生產總監、生產總監計畫負責人與焊接工程師等組成。各項專業經驗結合將有利避免工程與製造初期或運輸與安裝過程中的缺失。與OWEN BREMEN 一同打造離案風場興建計畫，掌握來自歐洲與德國的第一手實務知識。

## COMPANY PROFILE

We are a group of senior engineers, well educated in Fabrication and Installation of Offshore Wind Foundations like Monopile, Transition Pieces, triple structures, tripods, jackets. Our educations are spreading from design engineer to welding engineer and Fabrication and Installation Head engineer. Our main focus is to establish efficient and successful working fabrication Plants for your product. This involves us even in basic and detailed Engineering to secure a fabrication and installation friendly design to bring the fabricator and the Installer in the position to do a good job within budget and time schedule. Therefore, we like to start early in the projects to introduce our experience early into the project as a favor for all stakeholders. Our targets we are reaching together with our partners in a proven way of setup, training, check, extend, check, training etc. etc. We all are in the Offshore Wind Business since years, starting with the first steps of the very young industry in Germany in 2003 with the first foundation requests for Offshore Wind farms. From 2011 most of us have been working in responsible positions in a German shipyard to be transferred to a plant for construction of Offshore Wind Foundations and Towers. The positions have been from managing director, general manager, head of technical departments, head of production, head of production planning, chief welding engineer, etc etc. This combined experience will give you the favor to be able to avoid as much as possible the failures we made in our first steps in Engineering and Fabrication as well as in Transport and Installation. Going with us in planning, establishing and startup of your new to be-build plants will integrate the actual knowledge in Europe and in Germany from the very first moment.



**Alex Gauntt**  
**Business Development Manager**  
 業務拓展經理  
[soc@siemoffshore.com](mailto:soc@siemoffshore.com)



**Marcel Vegt**  
**Procurement Manager**  
 採購經理  
[soc@siemoffshore.com](mailto:soc@siemoffshore.com)

**Siem Offshore Contractors GmbH**  
 Bavinkstrasse 23  
 26789 Leer  
 Germany/德國  
 Tel./ 電話: +49 491 91243-0  
 Fax: +49 491 91243-133  
[www.siemoffshorecontractors.com](http://www.siemoffshorecontractors.com)



**COMPANY PROFILE**

Siem Offshore Contractors GmbH (SOC) is a global leader in the offshore wind sector specialising in submarine cable installation, and we have completed work on a large number of European offshore wind farms for the majority of leading developers. With the world's most advanced offshore wind cable installation ships the Siem Duo: consisting of the Cable Lay Vessel Siem Aimery and Installation Support Vessel Siem Moxie which are specifically designed and built for safe and reliable offshore operations in rough seas, we have consistently set new standards for working in adverse weather.

Through the Norwegian Stock Exchange listed Siem Offshore (SIOFF.OL), we have access to a large in-house fleet of over 45 high-end construction and operational support vessels ranging from construction support to anchor handlers, so our Siem Duo is backed up by our fleet of service vessels that provide inspection, maintenance and repair services as well as a mobile emergency cable repair spread that can be mobilised onto one of our fleet at a moment's notice. We are leading the way with the use of 'Walk-to-Work' heave compensated gangway systems during cable installation as well as operational phases to safely increase project operability.

Most recently we entered the floating offshore wind market through an equity participation in Ideol, whereby we provide full installation services using our in-house engineering, project management and vessel capabilities.

Siem Offshore Contractors is a globally recognised and present in Germany, the United Kingdom, the Netherlands, the USA, Canada, Brazil, Ghana and Australia.

**公司简介**

Siem Offshore Contractors GmbH (SOC) 為全球離岸風電領域之領導者，專長為以全球最先進之離岸風電纜線裝置船進行海底電纜之安裝：由電纜鋪置船Siem Aimery 與裝置支援船Siem Moxie 組成Siem Duo 雙船組合。此乃基於二十餘年支內部電纜安裝經驗所專門設計，旨於因應提供海嘯海域之嚴苛安全可靠海上作業需求，同時最大限度地減少天氣延誤，並制訂冬季工作標準。

SOC 成為2011 年挪威證券交易所上市之Siem Offshore (SIOFF) 集團之一部分，擁有大型水上運輸船隻，包含超過45艘高端工程船與安裝支援船，從支援安裝船到拖錨船，Siem Duo雙船服務提供檢查、保養以及維修服務，同時還有可在短時間內通知之移動式緊急機動電纜維修網→此外，SOC於安裝電纜期間使用Walk-to-Work 起重補償通道系統，以安全提高天氣不理想時操作上之可行性。

最近，SOC通過參與Ideol的股權進入了浮動離岸風電市場，通過內部工程、項目管理和船舶載量提供全面安裝服務。

Siem Offshore Contractors GmbH為全球業界首屈一指之領導企業，辦公室分布於德國、英國與荷蘭，集團辦公室則分布在美國、加拿大、巴西、迦納與澳洲。



## PROJECT COORDINATION | 項目協調

TAIWAN | 臺灣



**Ms. Linda Blechert** | 白佩玲

GTO Taipei  
Manager Project Affairs | 專案經理

Tel.: +886-2-8758-5804  
E-Mail: [blechert.linda@taiwan.ahk.de](mailto:blechert.linda@taiwan.ahk.de)  
[www.taiwan.ahk.de](http://www.taiwan.ahk.de)

GERMANY | 德國



**Ms. Daniela Bendel**

BWi  
Department Branches, Technologies,  
Innovation  
Energy and environment

Tel.: +49 (0) 711 22787-934  
Fax: +49 (0) 711 22787-22  
E-Mail: [daniela.bendel@bw-i.de](mailto:daniela.bendel@bw-i.de)  
[www.bw-i.de](http://www.bw-i.de)

This project is organized by the German Trade Office Taipei, Baden-Württemberg International and OAV- Ostasiatischen Verein.  
本項目由德國商會北京代表處與巴登符騰堡州國際經濟與科技合作協會和亞太商業協會共同主辦。



**German Trade Office Taipei**  
International Trade Bldg.  
19F-9, No. 333, Keelung Rd., Sec. 1  
Taipei 11012, Taiwan  
Tel.: +886-2-8758-5800  
Fax: +886-2-8758-5833  
[info\(a\)taiwan.ahk.de](mailto:info(a)taiwan.ahk.de)



**Baden-Württemberg International**  
Gesellschaft für internationale wirtschaftliche und wissenschaftliche Zusammenarbeit mbH  
巴登符騰堡州國際經濟與科技合作協會



Supported by:



on the basis of a decision  
by the German Bundestag