

Welcome!

Atkins hosting Taiwan Trade Delegation

9th June 2017



We don't just imagine, we have
the power to transform
potential into reality

我们不只是在想象，我们有能力将可能转化成现实

18,000 1938 Top 20

**Around 18,000*
people worldwide**

Our people operate in
over 150 locations
across four regions
全球18000名员工，分
布在全球四个区域，
150个城市

Established in 1938

We have over 75 years of
experience in delivering
projects that make a
difference
公司创建于1938年，具有75
年的项目成功经验，这些项目
改变了人们的生活

**Top 20 international
design firm**

We're recognized as one
of the top 20 international
design firms**
全球前20大设计咨询公司

Design Offshore substation platforms 海上升压站的设计

ATKINS



DONG
energy

Burbo Bank Extension 254MW
Photograph courtesy of Dong Energy

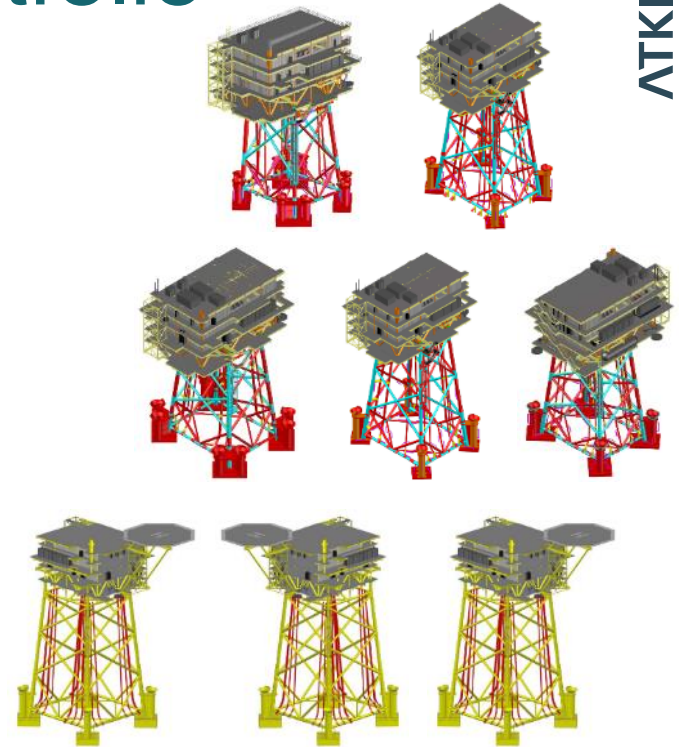
Atkins/DONG Energy Portfolio

ATKINS

- Eight substation platforms designed (jackets and topsides)
- Partnership approach
- Close collaboration
- Standardisation
- Identifying and implementing cost levers

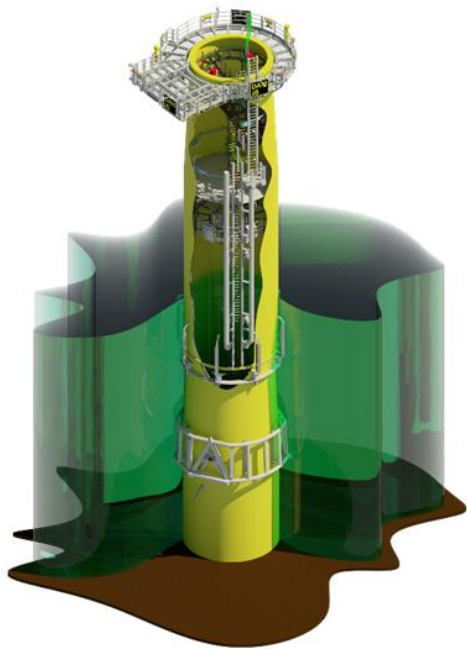
Key DE Drivers:

- Weight
- Ease of Fabrication
- Ease of Installation
- Commonality



DONG
energy

Design Monopile Wind Turbine Foundations 单桩基础的设计



- Dudgeon (Statoil, Statkraft, Masdar) 英国 Dudgeon海上风场项目
- Installed by Seaway Heavy Lifting
- 67 Monopiles 67个单桩基础
- Siemens 6MW Turbine 西门子6MW风机
- ~30m water depths 水深30米左右
- 1 Common Transition Piece一种形式的过渡段
- 1 CP System 一种形式的防腐措施

Design Jacket Wind Turbine Foundations 导管架基础的设计



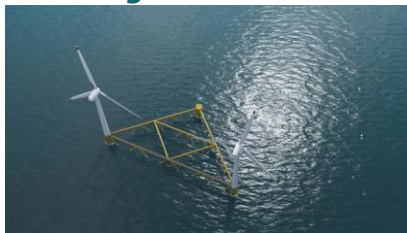
- Beatrice (SSE, CIP, SDIC) 英国 Beatrice海上风场项目
- 84 Jackets 84架导管架基础
- Installed by Seaway Heavy Lifting
- Siemens 7MW Turbine 西门子7MW风机
- Up to 55m water depths 水深超过55米
- 4 Legged 四角导管架

Floating Projects

Floating offshore wind Our capabilities

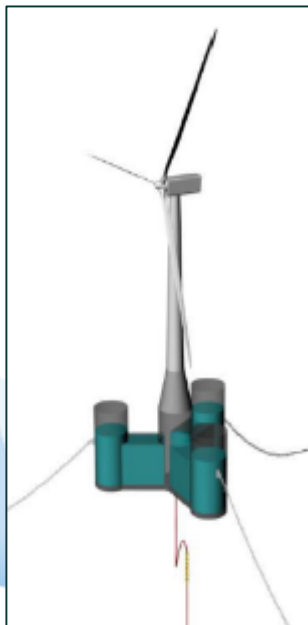
Atkins provide technical services from concept development and design services through to integrity management and decommissioning:

- Independent design
- Developer services
- Full life-cycle care
- Full suite of technical services, including:
 - Naval architecture
 - Structural
 - Electrical
 - Environmental
 - Geotechnical
 - Infrastructure
- Owner's engineer



Hexicon Multi-turbine platform

Pre-FEED, FEED, Detailed Design & Owner's Engineer



Kincardine

FEED, Detailed Design & Owner's Engineer

Windfloat

Design, fabrication and Installation

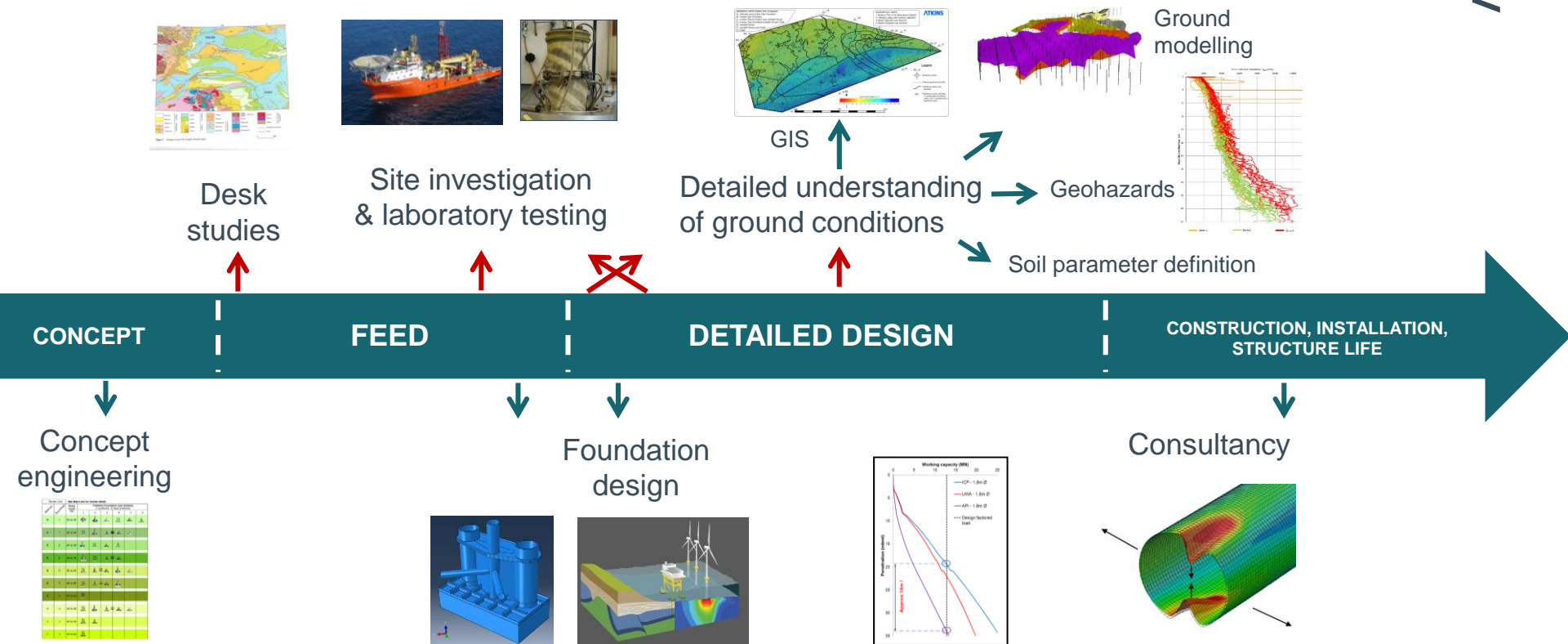


Hywind Installation Challenge

Atkins Spar Transport Frame (ASTV)

Contains sensitive information

Geotechnical Involvement



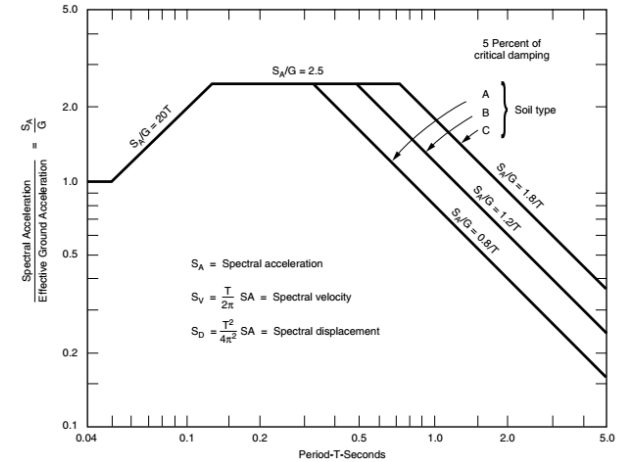
Jacket Seismic Design

Project Scope

Seismic design of offshore jacket structures has been undertaken extensively in the oil and gas industry, principally in Indonesia and the USA

Lessons Learnt

- Importance of suitable seismic risk assessment in seismically active areas
- Importance of ductility in the structural design
- Linear spectral and transient non-linear analysis available
- Important area of interaction with geotechnical engineering
- Particular soil risks include liquefaction

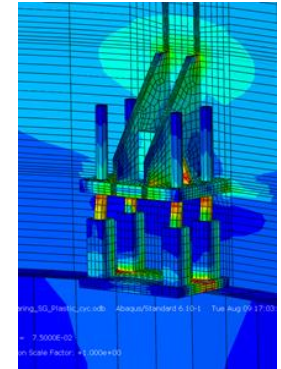
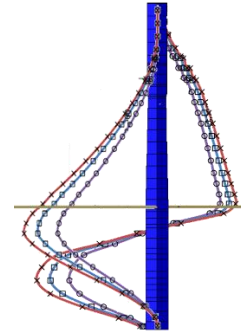
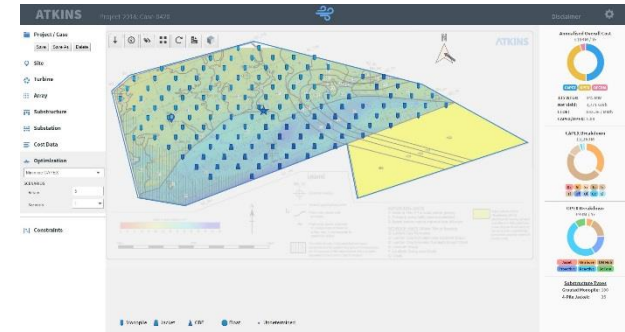


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What can Atkins offer Taiwan?

- Windfarm layout optimisation
- Geotechnical support
- Concept, FEED and detailed design of offshore substations and WTG foundations, both fixed and floating
- Ports and harbour assessment and design
- Asset integrity management of existing assets



Thank you 谢谢

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If you'd like to find out more visit: 更多信息请访问公司网站:
www.atkinsglobal.com/energy

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