

Marine Construction Guard – the Role of MWS

Yu-Ti Jhan

Director of Renewable Energy Department

OUTLINE

CR
Classification Society

1

Do you know **MWS**?
-6 TIPS to Control Marine Risk-

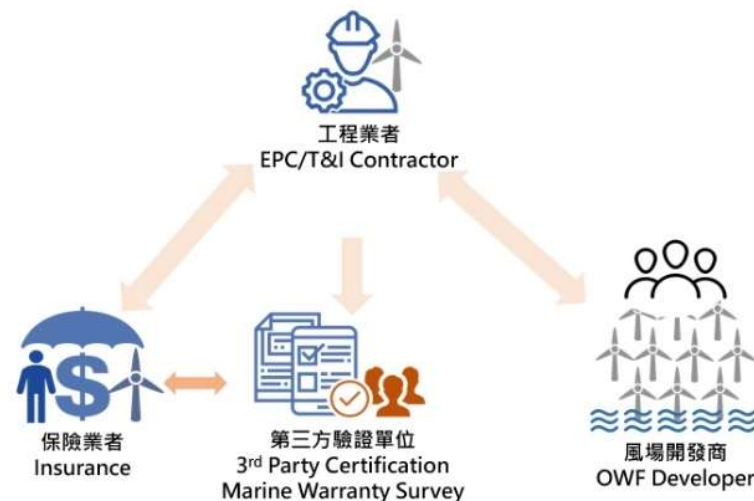
2

Do you know
CR?
*-Only one Ship Society
authorized
by TW government-*



What is MWS?

- 1 Marine Operation implies Nature High Risk
- 2 Following Insurance Policy, Protection to Stakeholders
- 3 MWS works between Parties, such as Owner (Rep.), Insurer, Contactor



Working Concept and Procedures

- 1 Validation of project conceptual design basis & criteria
- 2 Review & Approval of marine operations procedures
- 3 Attendance at marine hazard identification meetings
- 4 Inspection of marine operations equipment & vessels
- 5 On-site witness and issue Certificate of Approval (CoA)



Working Concept and Procedures

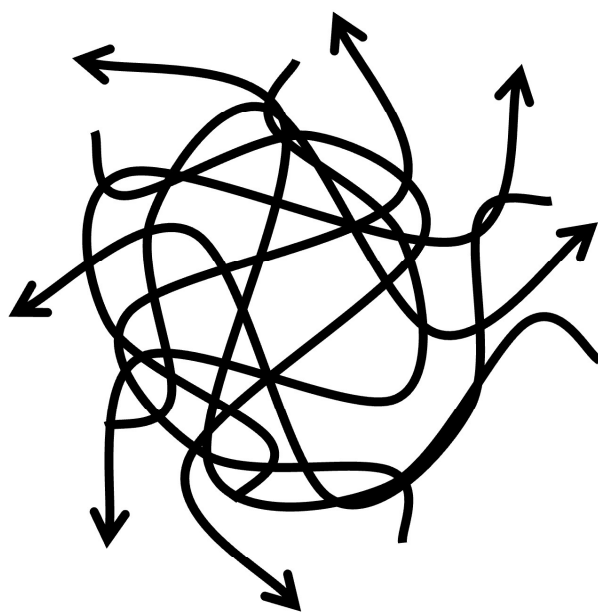
- 1 Load Out
- 2 Sailaway
- 3 Jack-up (CHALLENGES IN TW?)
- 4 FOU & WT Installation
- 5 Array & Export Cable Installation



6 TIPS to Control Marine Risk

● 適當因應對策，大幅降低風險

Proper countermeasures, Highly reduce risk

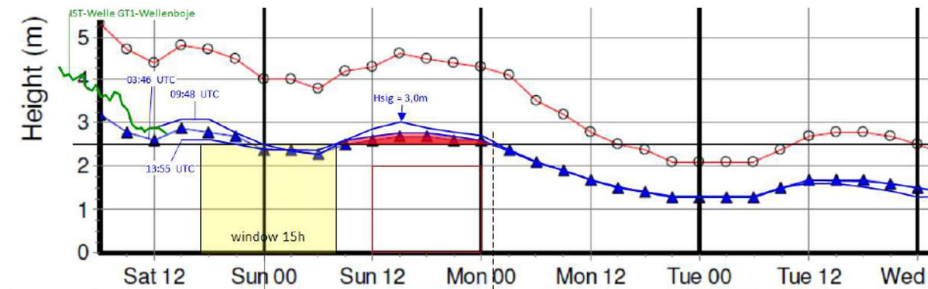
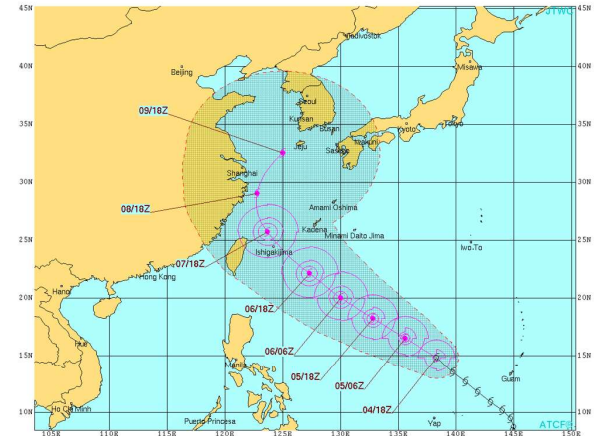




1.天氣狀況掌握 >>> 運用天氣預報

1. Realize weather >>> Use weather forecast

- 獨立氣象預報數量? 1? 2?
- 氣象師參與?
- 72hrs預測 / 12hrs更新
- 現場施工程序安排



Option 1:
Start TRD #10 critical as no 15h window forecasted

*) Jacking critical on Monday due to wave period $\geq 8s$

Option 2:
- 2 tripods need to be left ungrouted #17, #58

Option 3:
- Sailing back to baseport with 1 Tripod o/b, --> 2 Tripods on last Trip
- No Tripod stay ungrouted, in view of the forecasted Hsig = 5,2 on Friday it might be the best option

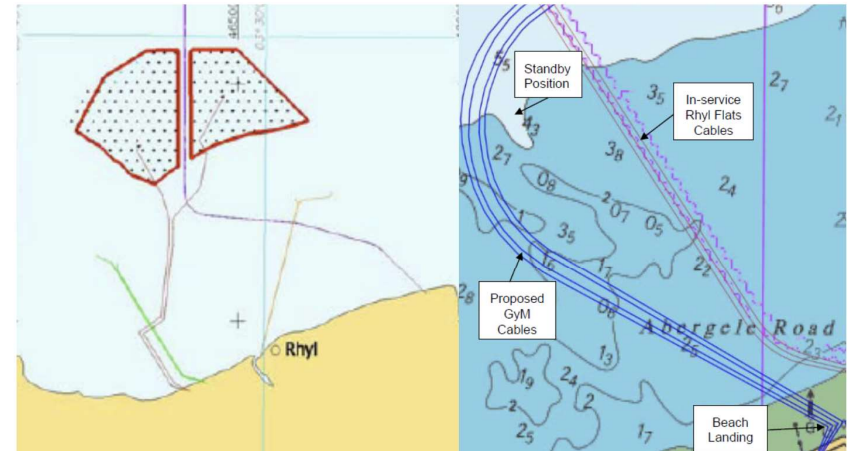
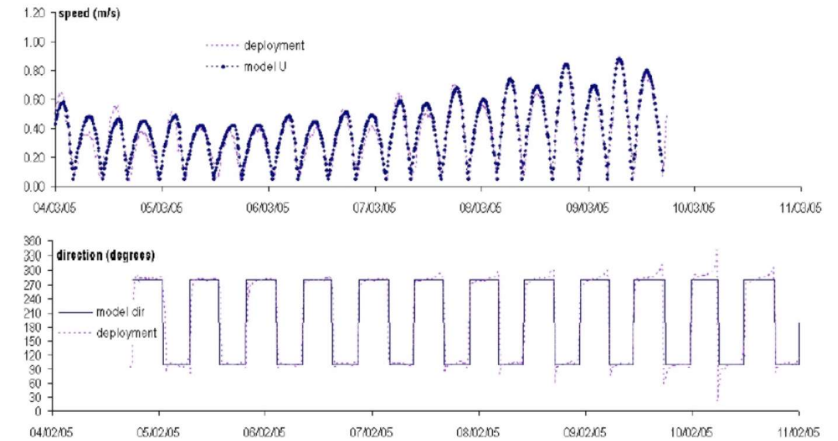
TRD #10	Pile Vibrating $\phi = 8hrs$	Hammering $\phi = 10,5hrs$	Grouting TRD #10 $\phi = 10hrs$	Reloc. & Jacking Loc. #17 $\phi = 12hrs$	TRD #17	Pile Vibrating $\phi = 8hrs$	Hammering $\phi = 10,5hrs$	Grouting TRD #10 $\phi = 10hrs$
TRD #10	Pile Vibrating	WoW = 16hrs	Hammering $\phi = 10,5hrs$	Grouting TRD #10 $\phi = 10hrs$	Reloc. & Jacking Loc. #17 $\phi = 12hrs$	TRD #17	Pile Vibrating $\phi = 8hrs$	Grouting TRD #10 $\phi = 10hrs$
TRD #10	Pile Vibrating $\phi = 8hrs$	Hammering $\phi = 10,5hrs$	Grouting TRD #10 $\phi = 10hrs$	Reloc. & Jacking Loc. #58 $\phi = 12hrs$	Grouting TRD #58 $\phi = 10hrs$			

2.施工場址了解 >>> 詳細調查為基本原則

2.Realize operation site >>> Detail investigation

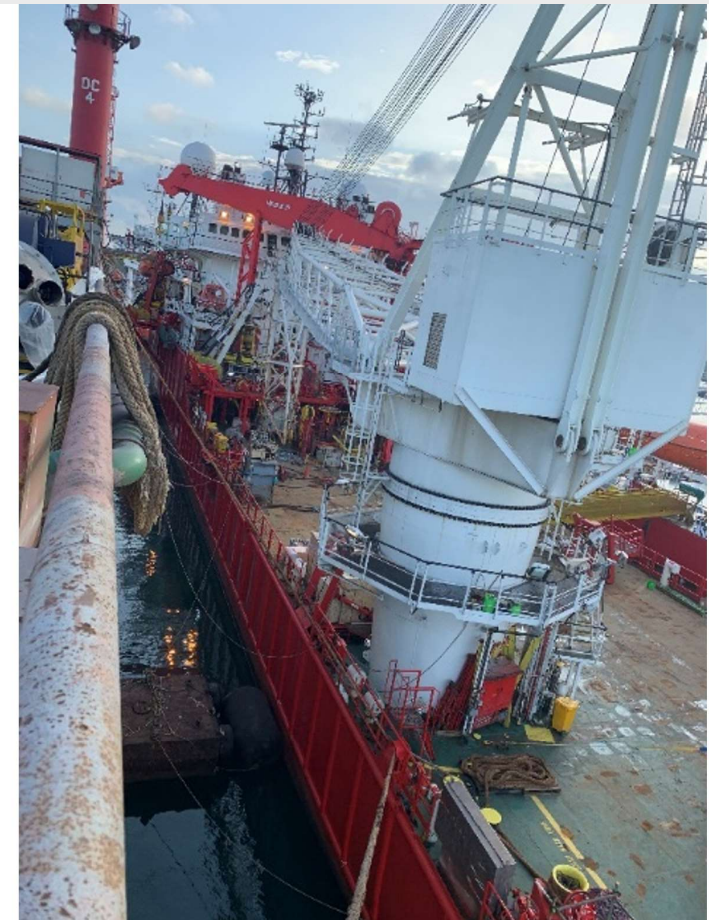
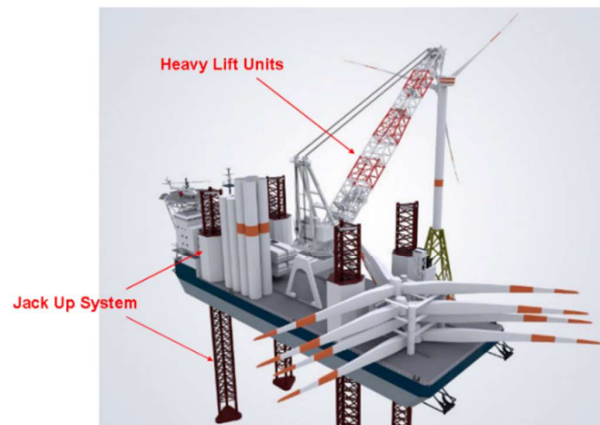
- 港腹碼頭動線
- 風浪流與潮差
- 海床及地質

臺中港離岸風電整體規劃圖



3.船機狀況確認 >>> 工欲善其事，必先利其器 3.ship/equipment condition >>> Check before using

- 各國船機法定規定與證書確認
- 業者應實際確認分包者狀況
- 特殊船機應特別注意
- 操作人員熟悉度確認

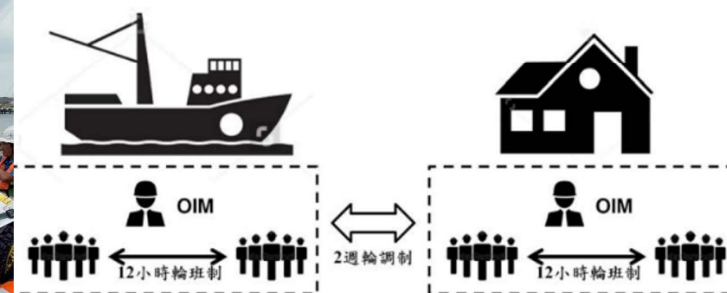
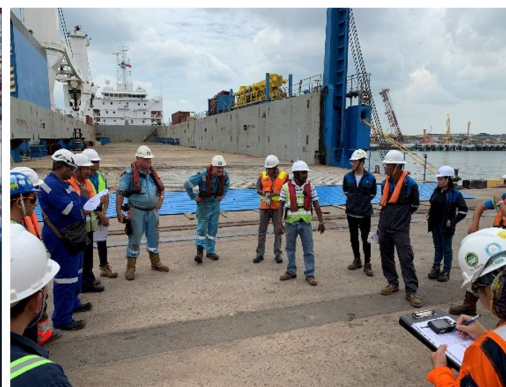
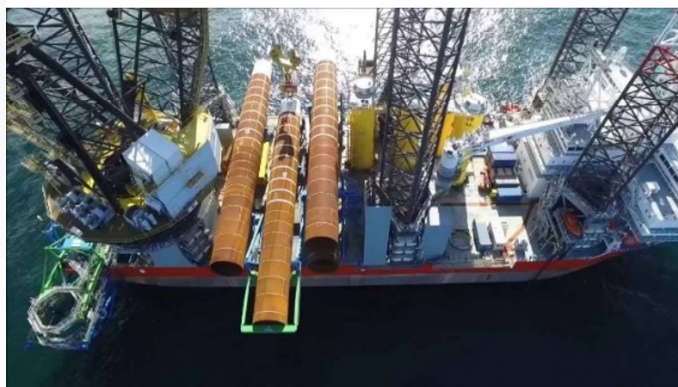


4.(船隊)溝通與協調 >>> 組織明確及施工預演

4.(Fleet) communication & coordination

>>> Clear organization & operation rehearsal

- 組織架構與對應職責定義明確
- 現場聯繫與通報流程
- 施工預演相當重要!!
- 預演應包含應急計畫



5.人員安全為基本條件 >>> 透過訓練提升勞安意識

5. Safety is basic >>> training to improve Safety consciousness

- 各國法定規定與執照確認
- GWO為國際認可風能安全訓練機構
- 人員安全證照取得可提升勞安意識與現場業者要求
- 事故率降低避免冗長訴訟



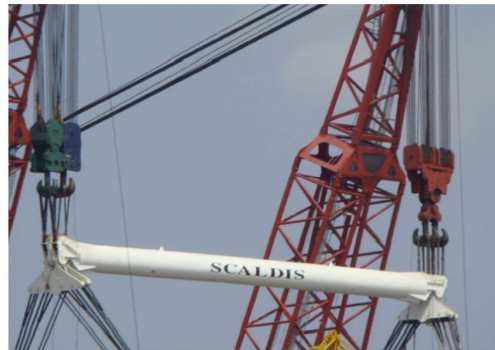
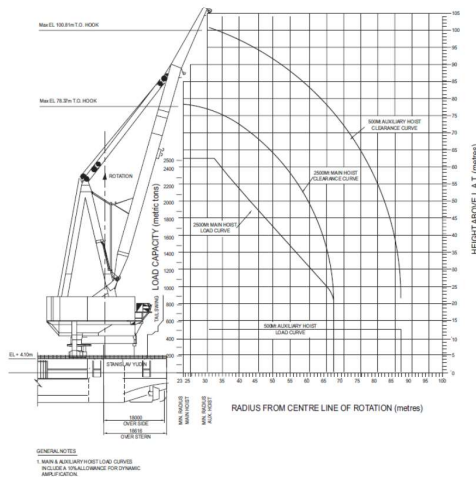
- First Aid
- Manual Handling
- Fire Awareness
- Working at Heights
- Sea Survival
- HUET* (Helicopter Underwater Escape Training) *NON-GWO ITEM



6. 施工技術項目確認 >>> 獨立第三方驗證

6. Verify technical items >>> independent 3rd party

- 技術確認範疇: 組織架構, HSE, 氣象預報, 壓載, 船舶穩度, 船機強度, 繫泊, 自升, 吊裝, 電纜安裝.....
- 海事保證鑑定, Marine Warranty Survey (MWS)



Policy Title	HRPAK - Notice of Privacy Practices Policy
Policy Number	CRCSA - 0001 Effective Date
Purpose	To provide guidelines regarding Privacy Practices
Regulation	Health Insurance Portability and Accountability Act of 1996
Reference	

Policy
It shall be the policy of Butler County that each client or client's representative will be provided with a Notice of Privacy Practices at the time of the first date of service delivery with the client.

Purpose
1. At the time of the client's first date of service delivery they will be provided with the Notice of Privacy Practices. Upon request, a copy of the Notice of Privacy Practices will be provided to the client.

2. The client will have the opportunity to ask questions and discuss the Notice of Privacy Practices. Any questions that cannot be answered will be referred to the Privacy Officer.

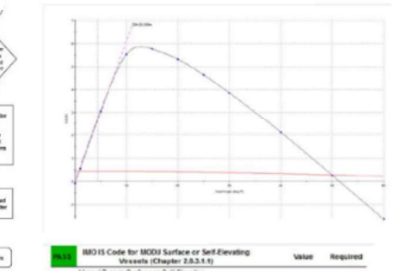
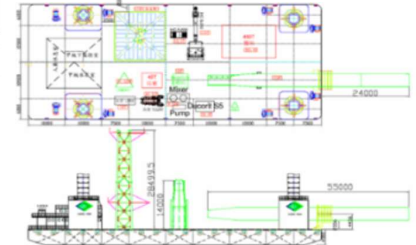
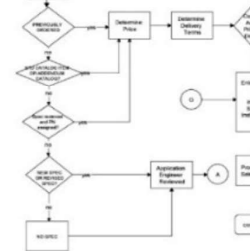
3. The Notice of Privacy Practices will be posted on the County's web-site and placed in prominent locations throughout the County.

4. The Privacy Officer shall periodically review and revise the Notice of Privacy Practices as required by changes of state or federal law, technology, or informational policy changes in the County.

5. The client or client's representative will initial or sign the Notice of Privacy Practices as an acknowledgment of the information and a copy of the acknowledged Notice will be placed in the client's record.

6. In the event that a client or client's representative refuses or otherwise does not sign an acknowledgment of the receipt of the Notice of Privacy Practices, the refusal, the reasons for the refusal, and the date and time shall be documented in the written acknowledgment will be documented and placed in the client's record.

7. The client or client's representative will be informed of changes to the Notice of Privacy Practices on a timely basis in the manner required by federal or state law.



OUTLINE

CR
Classification Society

1

Do you know MWS?
-6 TIPS to Control Marine Risk-

2

Do you know
CR?
*-Only one Ship Society
authorized
by TW government-*

CR Classification Society



Founded in 1951, 70 years experience in ship survey.



A foundation organized by shipping community in Taiwan.



Headquarters in Taipei. Branches in Kaohsiung, Japan, China, Singapore, Hong Kong and South Africa.



The only one Classification Society authorized by R.O.C government.

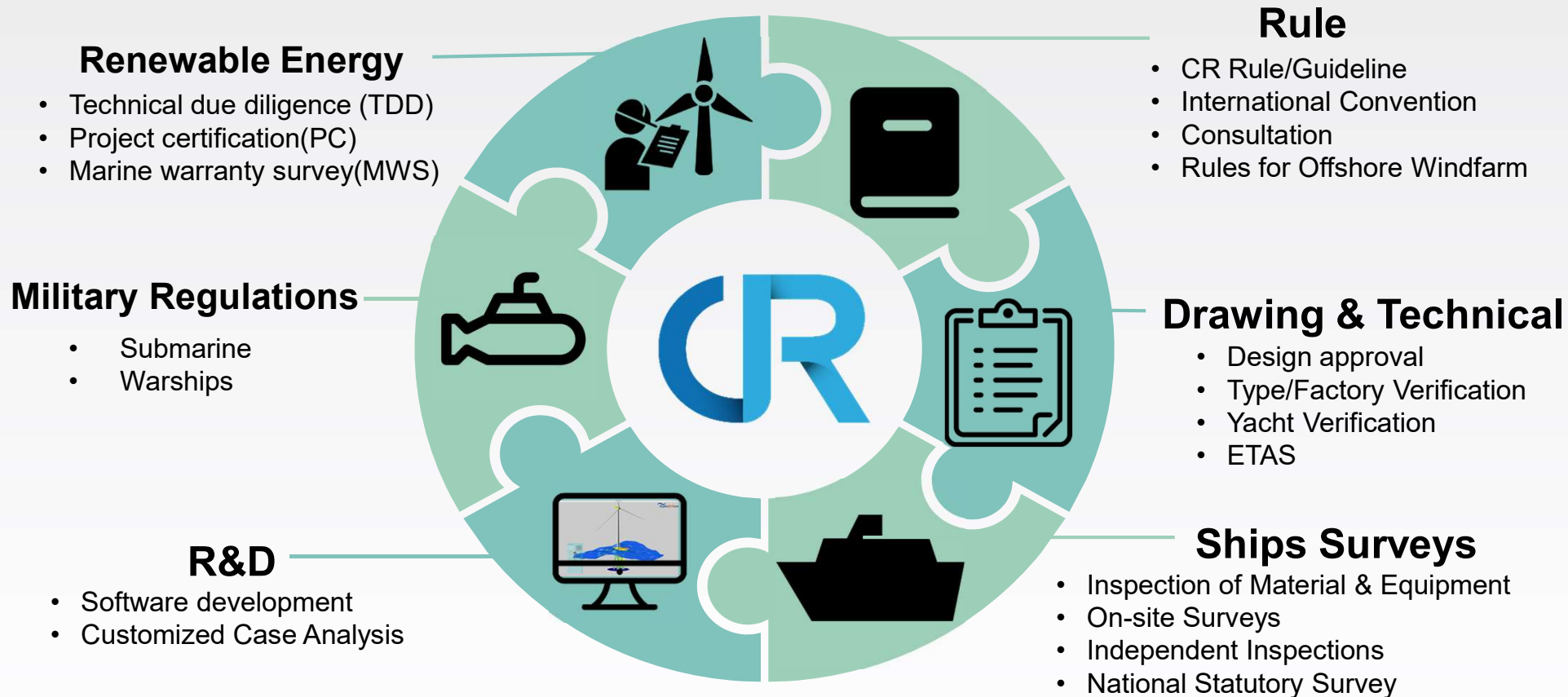


CR is also authorized by Panama, Belize...

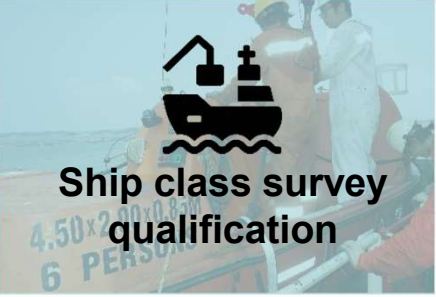
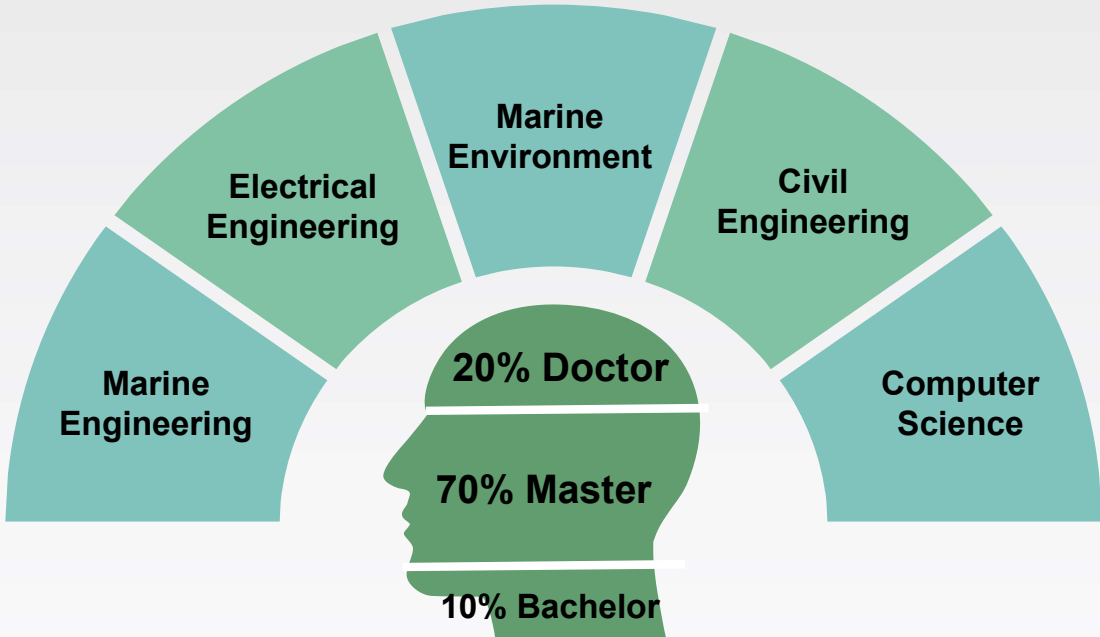


Recognized by US Coast Guard in 2004 to perform ship survey.

CR Services



CR Technical Team



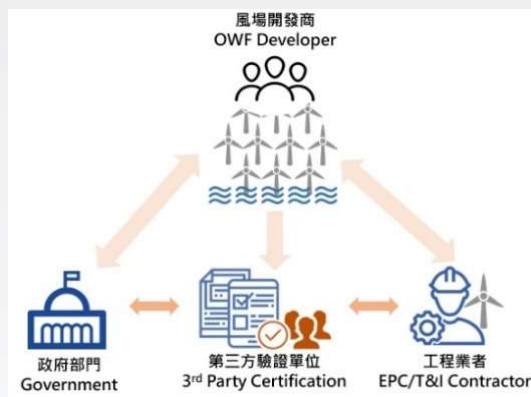
Renewable Energy Services



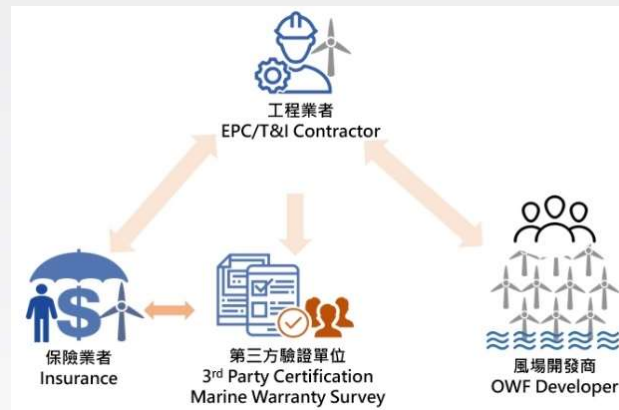
- 1. Project Certification**
- 2. Marine Warranty Survey**
- 3. Technical Due Diligence**

Renewable Energy Services

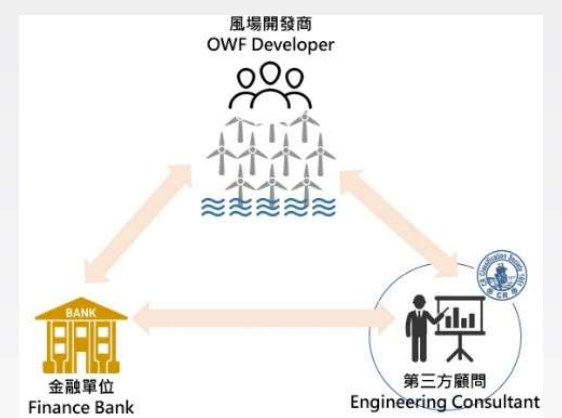
1. Project Certification



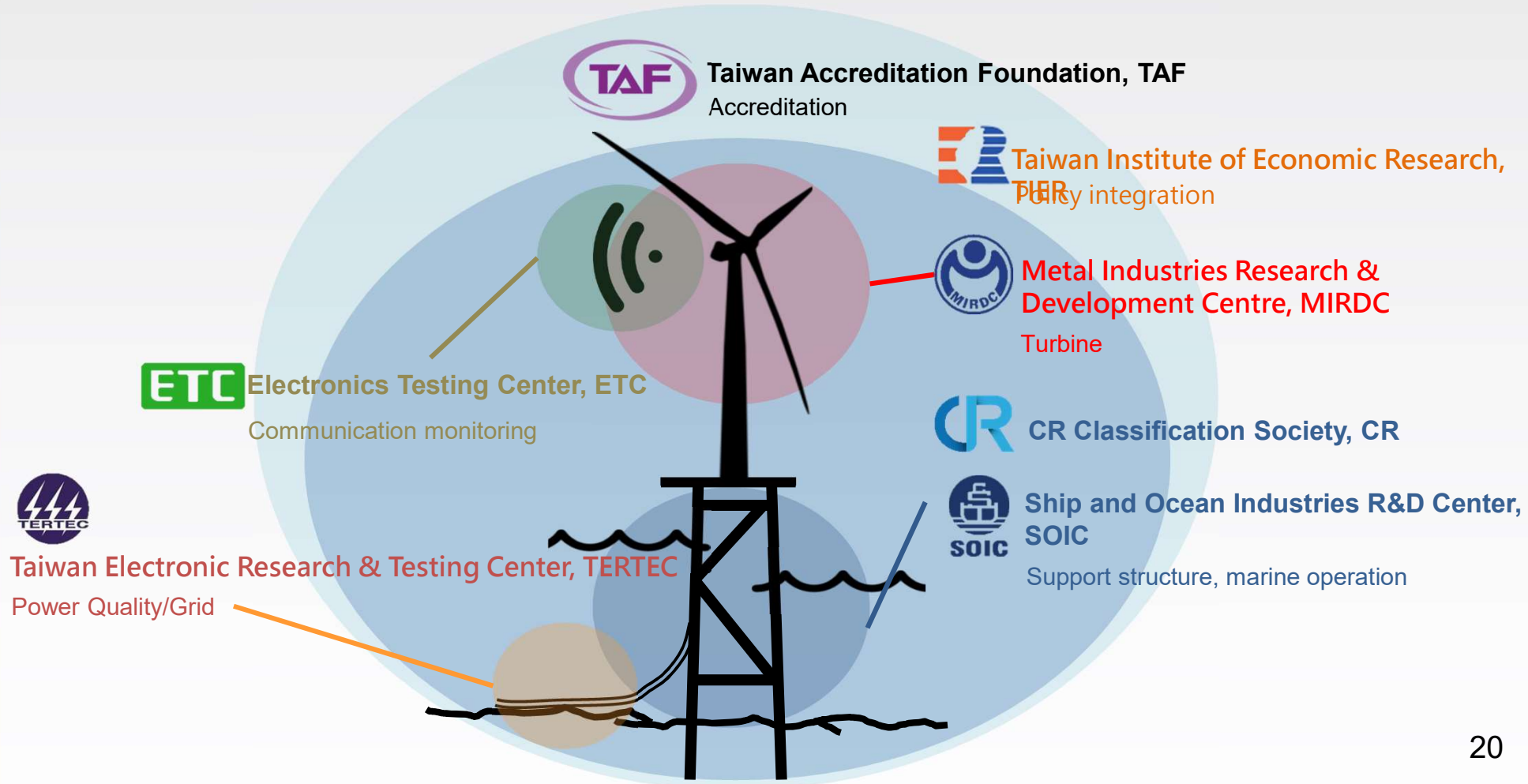
2. Marine Warranty Survey



3. Technical Due Diligence



3rd Certification Team in BSMI



LOC/CR, Good Local Partner for Maritime & Renewable Service

- 1 Experienced Surveyors in LOC/CR
- 2 Rapid response for Taiwan market
- 3 No communication gap for on-site work
- 4 Independent and Good relationship with All parties in TW



Q & A