

Risk Control Specialists – Subsea Cables

# Subsea Power Cables:

Lessons Learned      A Marine Warranty Surveyor's Perspective

7<sup>th</sup> November 2019

Capt. Chris Sturgeon

The historical insurers in marine markets are pulling capacity from their traditional hull markets and see cables as a possible opportunity. Less experienced insurers for cables might benefit from the guidance of relevant expertise.

Insurers might consider direct appointment of MWS.

How hard does the market have to be for insurers to support the MWS when push back from developers and contractors is prevalent, and increases the risk?

## Presentation

### Red Penguin & Penbridge Marine

#### Market influences

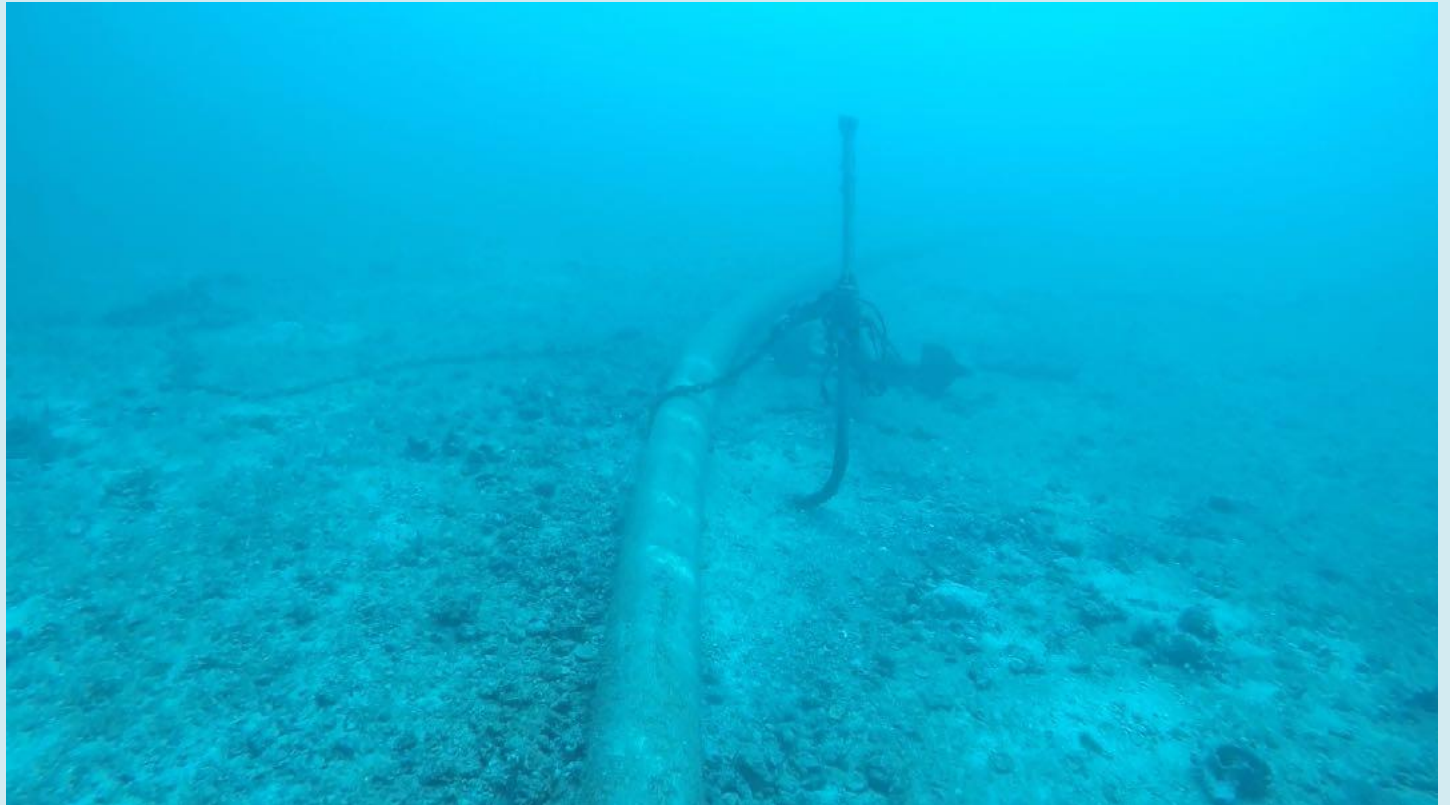
- The power cable market - context
- Losses
- Contributory causes?

#### Project Environment

- Phases
- Pressures
- Cable in context
- Risk Awareness

#### Lessons Learned

- Cause & effect
- Recent Experiences
- Summary



Anchoring Prohibited

## Services

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Project Assurance

Asset Management

Expert Services

Marine Warranty Survey (MWS)





## Risk Control Specialists – Subsea Cables

A new company

Formalising an informal working arrangement between

## Red Penguin and Cambridge Marine

Chris Sturgeon Master Mariner

Colin Campbell Master Mariner

Danny Wilson Master Mariner

Richard Goldring Principal Engineer

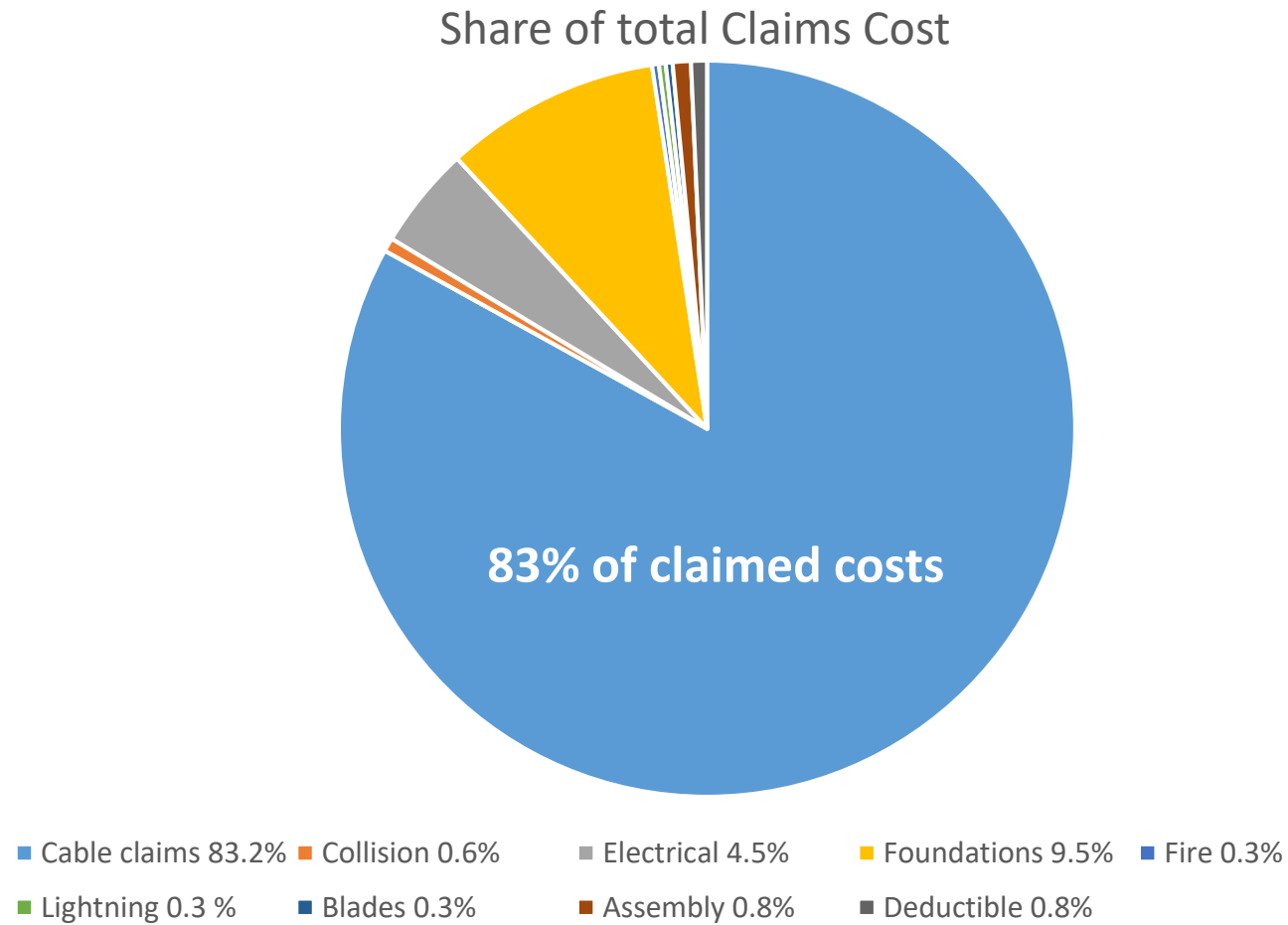
The same people

A different brand

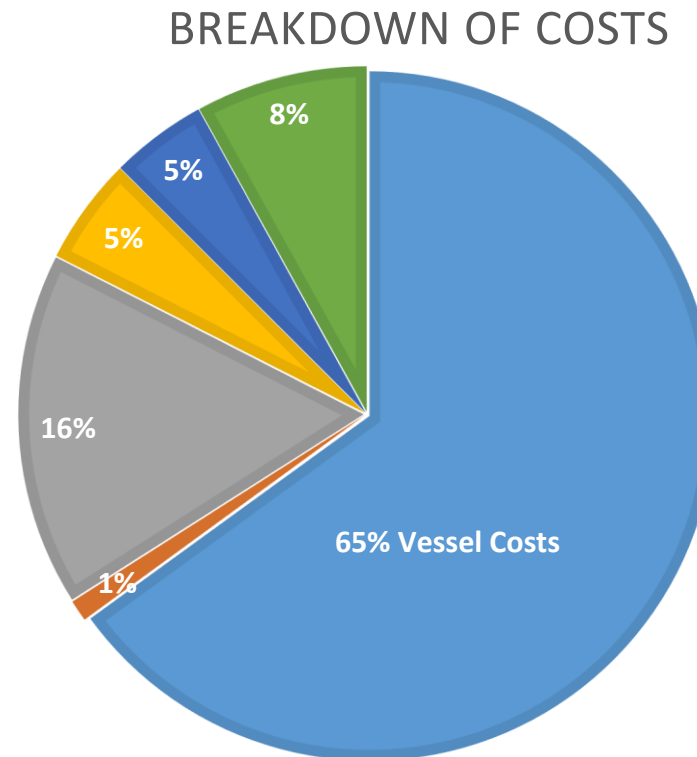
What could possibly go wrong?



# CAR Claims 2002 - 19



# CAR Claims 2002 - 19



- Vessel Charges = 65%
- Special Machinery (Third Party) = 1%
- Site Works (contractor labour) = 16.5%
- Materials = 5%

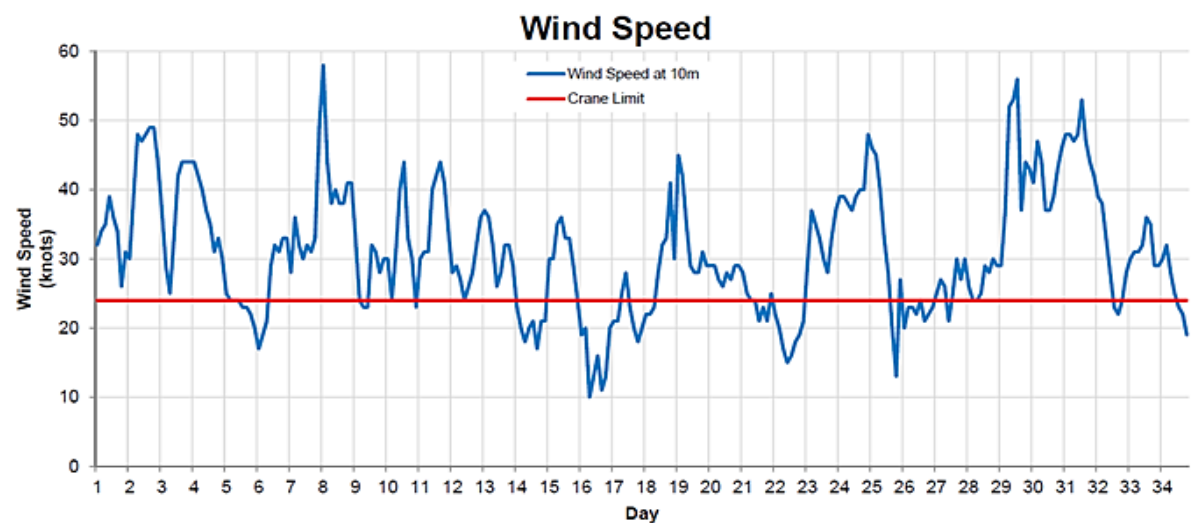
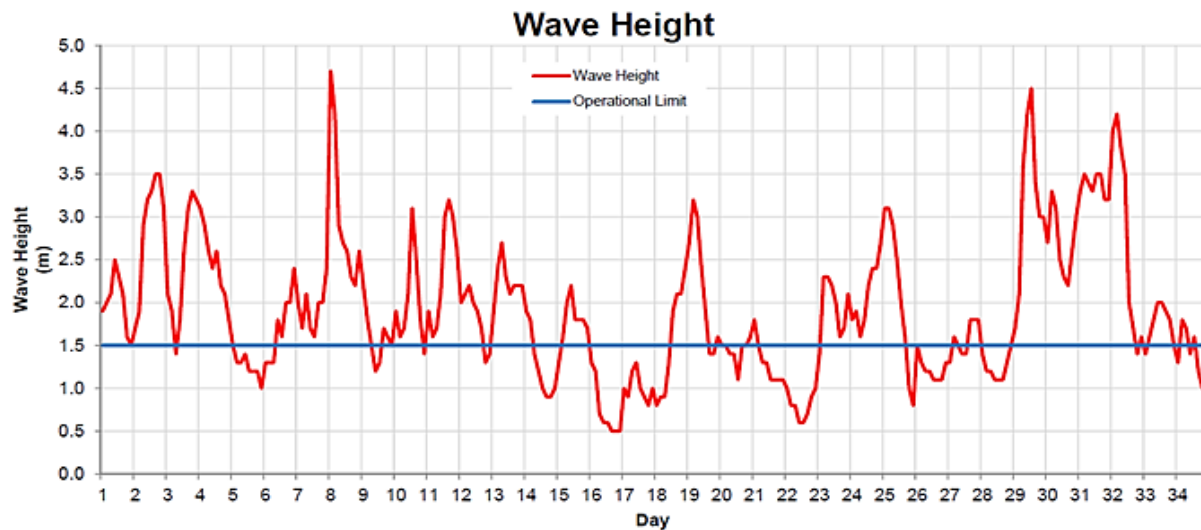


# CAR Claims - Cables

- Average claim cost: EUR 2,500,000
- Inter-array cable damage: EUR 1,500,000 – 10,000,000
- Export cable damage: EUR 8,500,000 – 30,000,000
- 57 of the last 60 construction projects have experienced cable claims
- Vessel costs a major contributor (EUR 80,000 – 170,000 p/day)



# Offshore – Standby / WoW

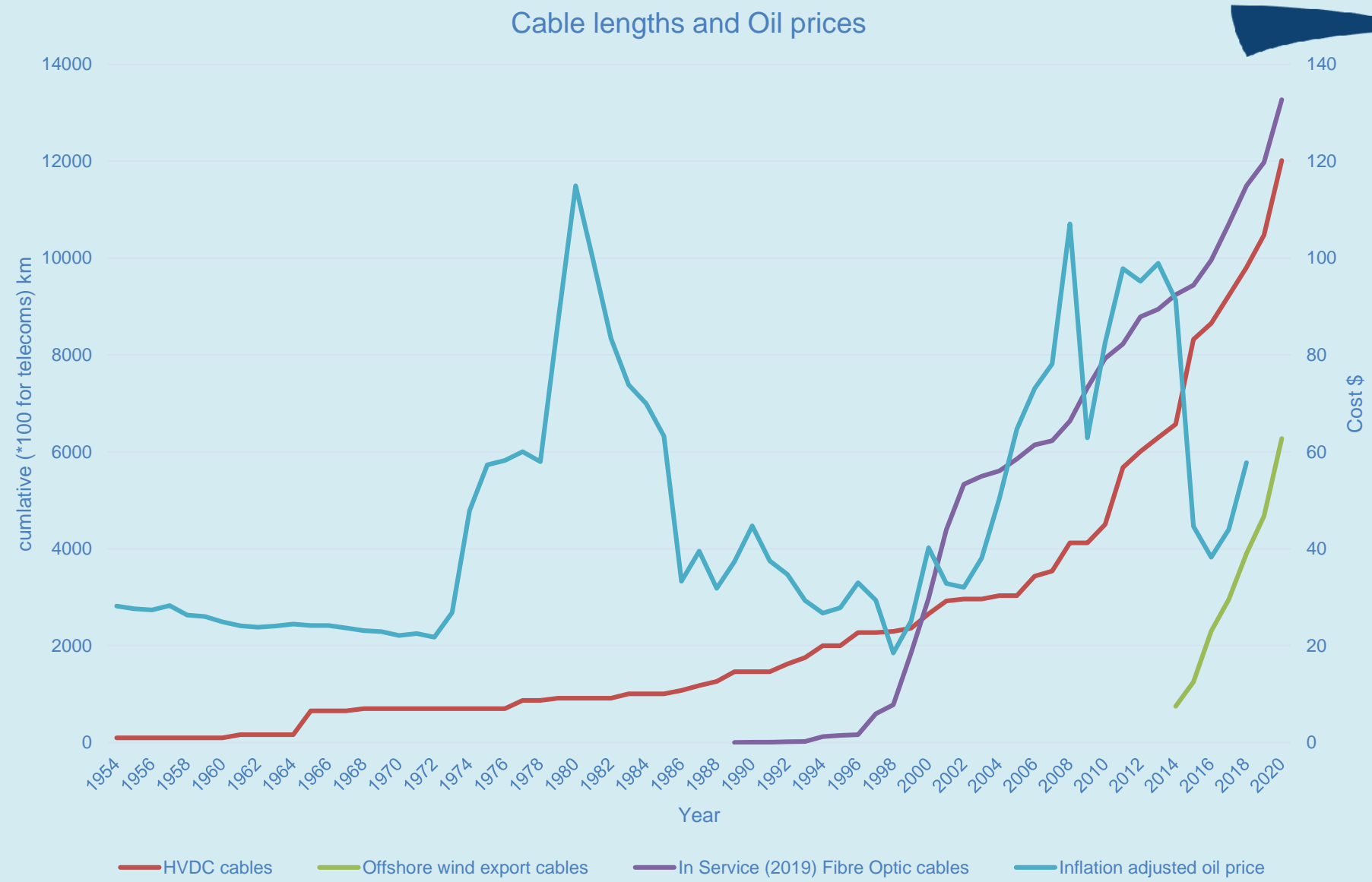


# Key Issues

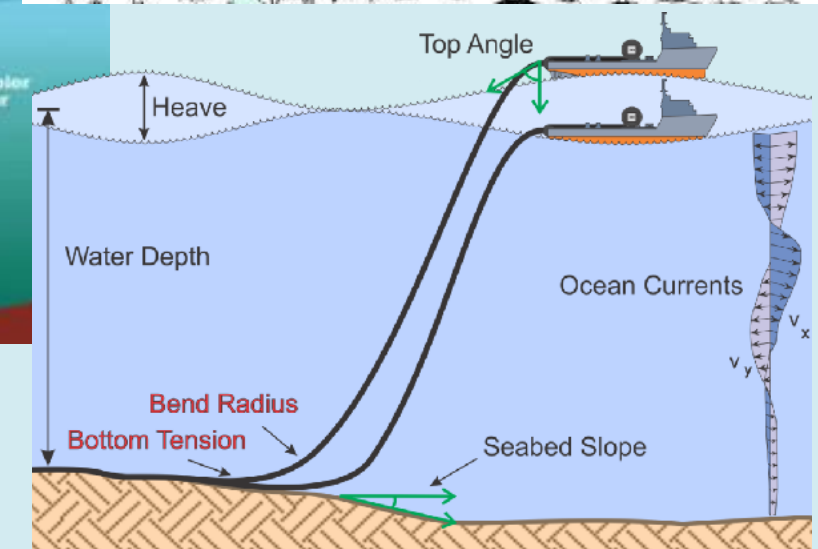
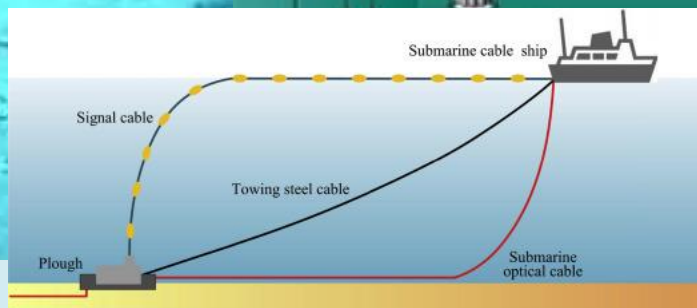
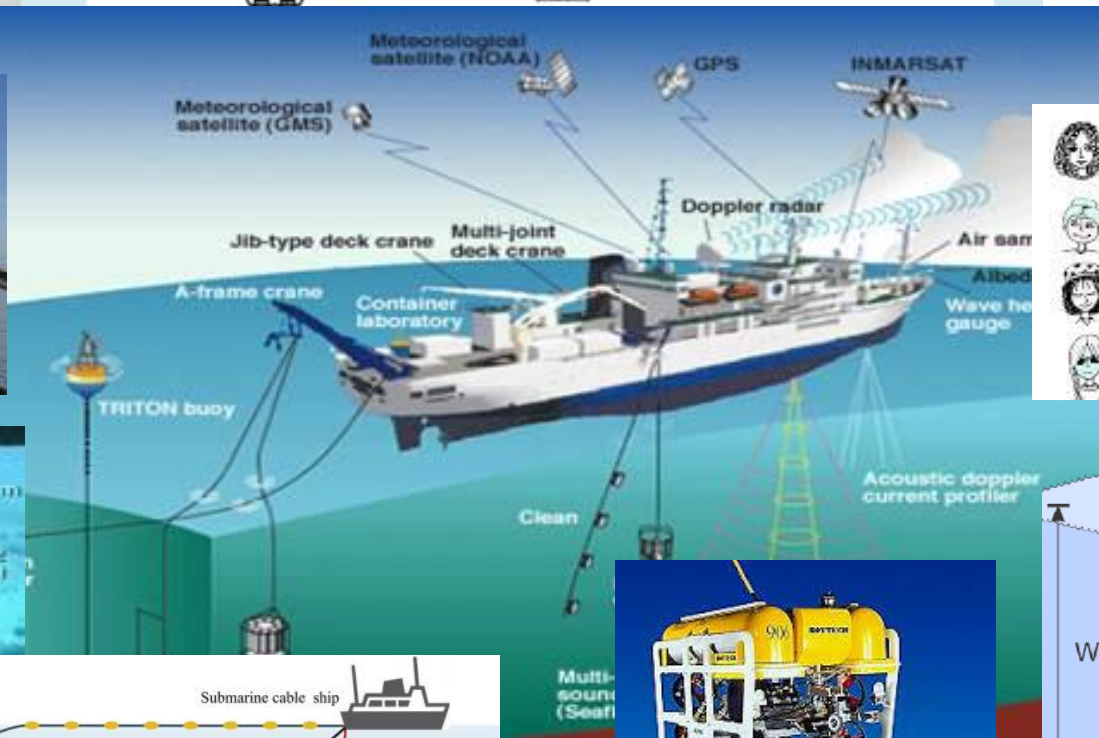
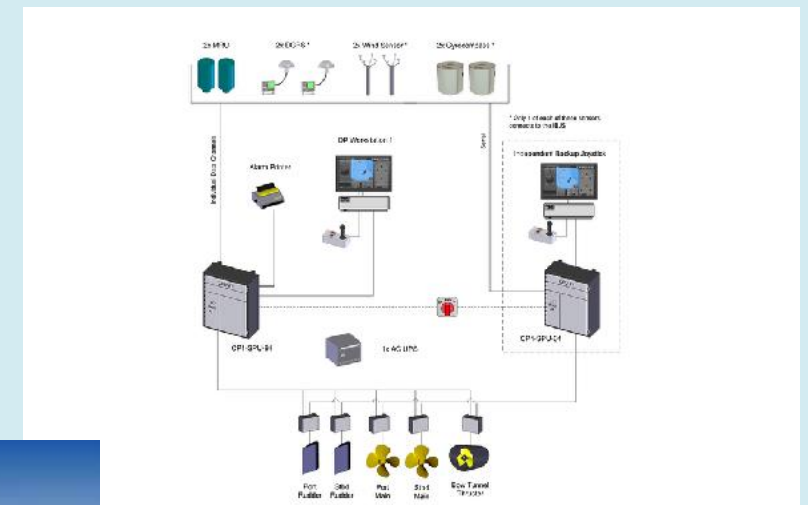
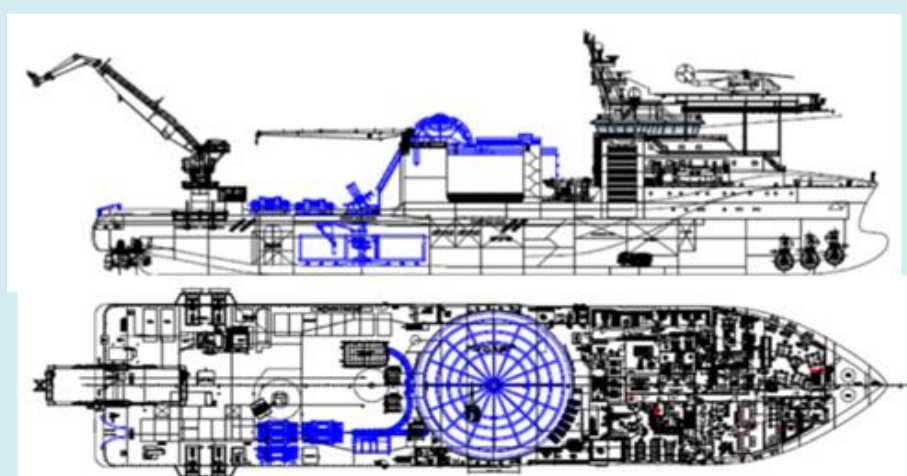


- Deskillling of cable manufacture
- Deteriorating QA in cable factories
- Inadequate forward planning
- Year round marine operations
- Lack of installation skills
- Market forces affecting long term investment
- Poor performance of MWS
- Undiminished loss record

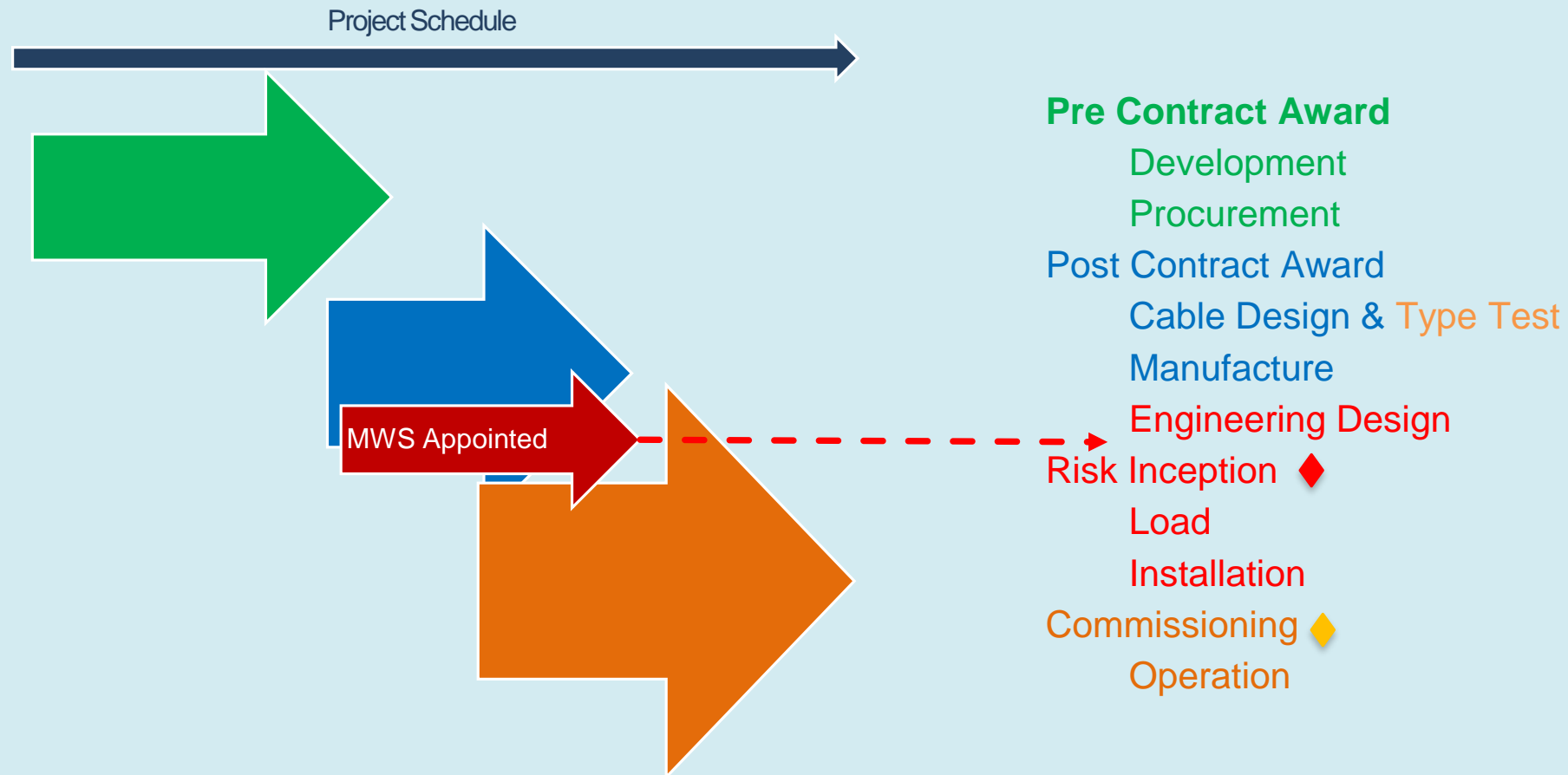
# Market in context







## MWS SoW Key risk points in a project



# Role of MWS



## Insurers' Expectation

- Joint Rig Committee (JRC) Code of Conduct for MWS JRC2010/010
- Fundamental objective of the MWS is to reduce risk .....to an acceptable level in accordance with best industry practice
- Acting as an independent third party reviewer
- Possessing relevant skills and experience
- Noting insurers' interests
- Reviewing the project arrangements, suitability and monitoring compliance
- Provide written approval (CoA) & make recommendations (Assured to comply with)

## Some Assureds' Expectations

- Low cost
- Augment / replace internal risk control
- An unwanted necessity (but it ticks a box)
- Typically engaged on a Consultancy contract
- Expect to have some control over MWS's work and impact
- Engage as late as possible to defer the cost



Type approval test (TAT), QC/QA, experience, consistency

24 hour monitoring?

Cable manufacturers make cable:

Control of loading, transportation and installing cable ensures the continued viability and efficiency of the production line...

If the manufacturer does not load, ship or install cable:

Are the project contract responsibilities clear?

How is transfer of risk managed?



Mind  
Minimum  
Bend Radius  
(MBR)



## Damage during loading



### Joint in load port ?

- Factory jointers
- Low risk operations
- Delay

### Leave in stow and joint at sea ?

- Field jointers
- Higher risk operations
- Contract issues?
- Delay
- Weather risk



# Transportation





- Planning, planning & planning
- Risk control
- Experience & competence
- Tests and trials
- Contingency planning
- Operations
- Implement plans and procedures
- Manage change
- Identify root cause of incidents



### Failed Shore End Landing - HVDC Interconnector:

- Investigation of cause
- Cost of rectification engineering & planning - 8 months
- Delay > 6 months - ship time, support vessels
- Weather impact
- Consents and permits impact
- Negotiation, dispute resolution
- Schedule delay
- Complete installation works
- Additional rock protection and trenching



**Claim:** Circa EUR 10,000,000

**Damage:** 132kV Export Cable and submarine joint

**Cause:**

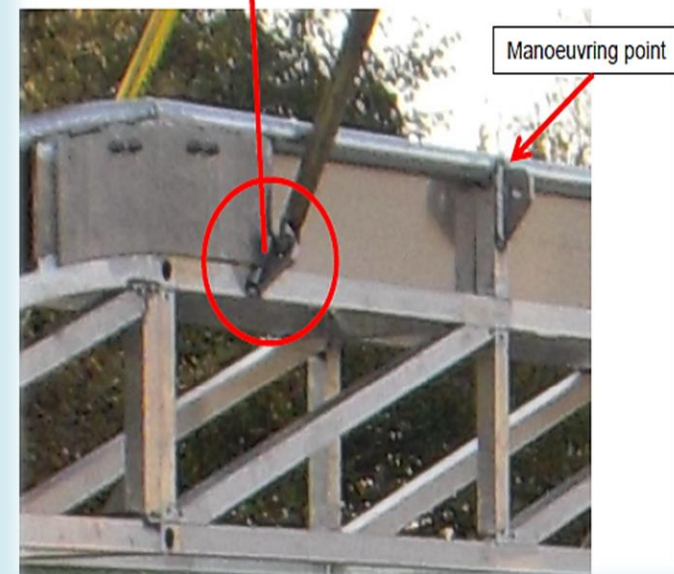
Lifting frame was incorrectly hooked up to manoeuvring points and not lifting points

Manoeuvring points failed dropping the cable and frame

**Lessons Learned:**

Operators were not familiar with the frame and its safe operation

The lifting points were not clearly colour coded, which is good practice



**Claim:** Circa EUR 10,000,000

**Cause:**

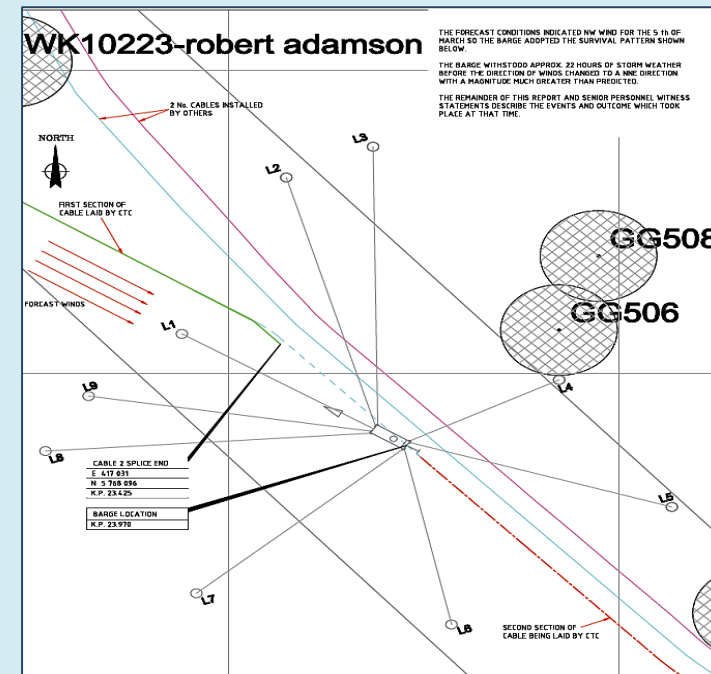
Small weather front which was un-forecast came through the area giving unexpected direction and wind speed. The barge was in survival position, but was not able to survive the almost-beam-on winds and swells from this unexpected system

**Damage:**

Significant damage to Export cable & Plough

**Lesson Learned:**

MWS provided strong recommendations to consider seeking shelter, Barge Master decided to continue





- Appoint a MWS with relevant & extensive experience; it's a false economy to go cheap
- Get MWS involved earlier in the project schedule; at least from engineering design review
- Let the MWS do their job; it can help everyone!
- Don't sweat the small stuff; there's lots of it...
- Confirm project teams' understanding of distinction between contract requirements and policy conditions
- Communication: It's good to talk – be frank
- Plan for the worst: It costs less at the desk.

# Thoughts



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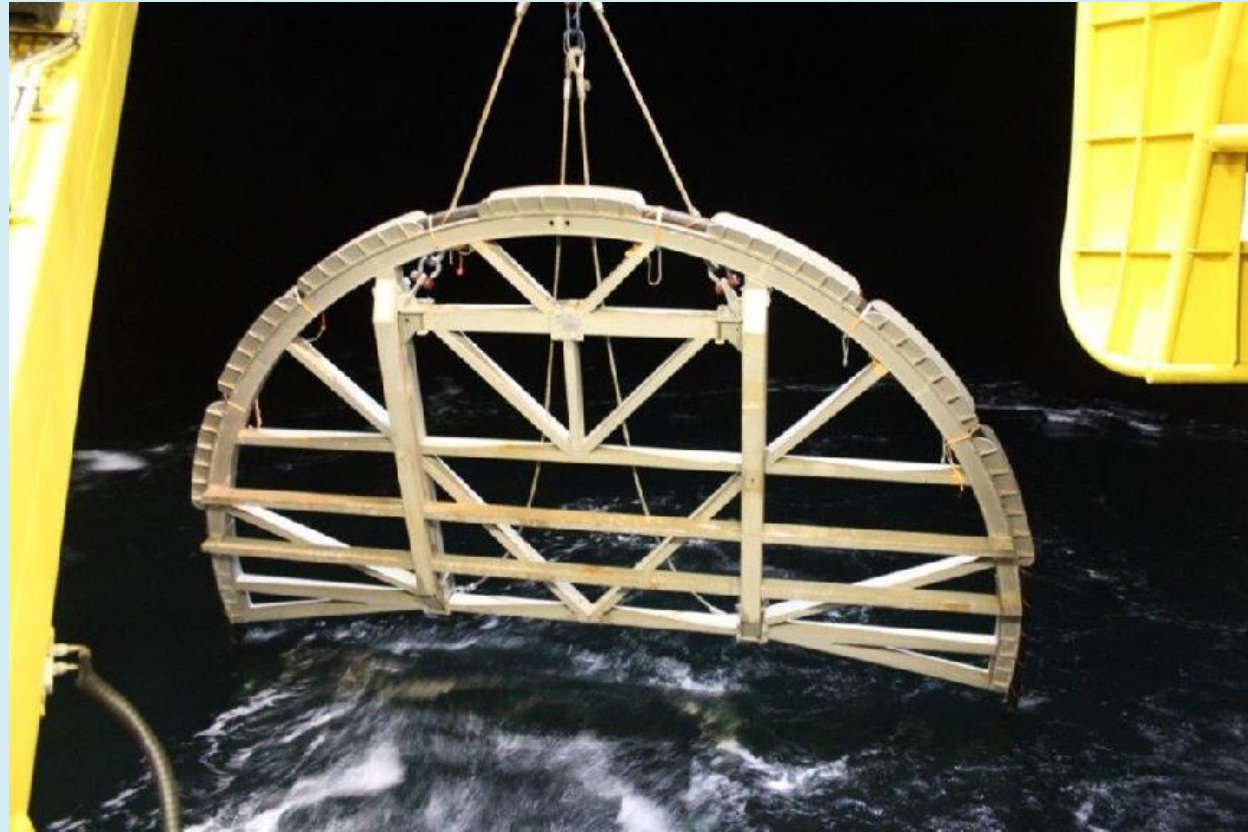
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Thank you



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