



Raising the Costa Concordia – the Salvage Challenge

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- January 14, 2012 wrecked on Isola del Giglio, Tuscany region, Italy
- 32 people lost their lives
- Smit removed the fuel from the vessel on March 24, 2012
- 10 groups submitted proposals during March for the wreck removal, tendered by Costa Crociere and the London P&I Clubs
- Titan-Micoperi was awarded the wreck removal and the contract was signed on May 7, 2012
- Titan-Micoperi assumed control of the wreck on May 25th.



TITAN
MICOPERI



BOAT LANDINGS FOR SAFE ACCESS TO CONCORDIA



WELDING WORKSHOP DECK 3

TITAN
MICOPERI



WELDING CABLES SET UP FOR 40 WELDERS 24/7



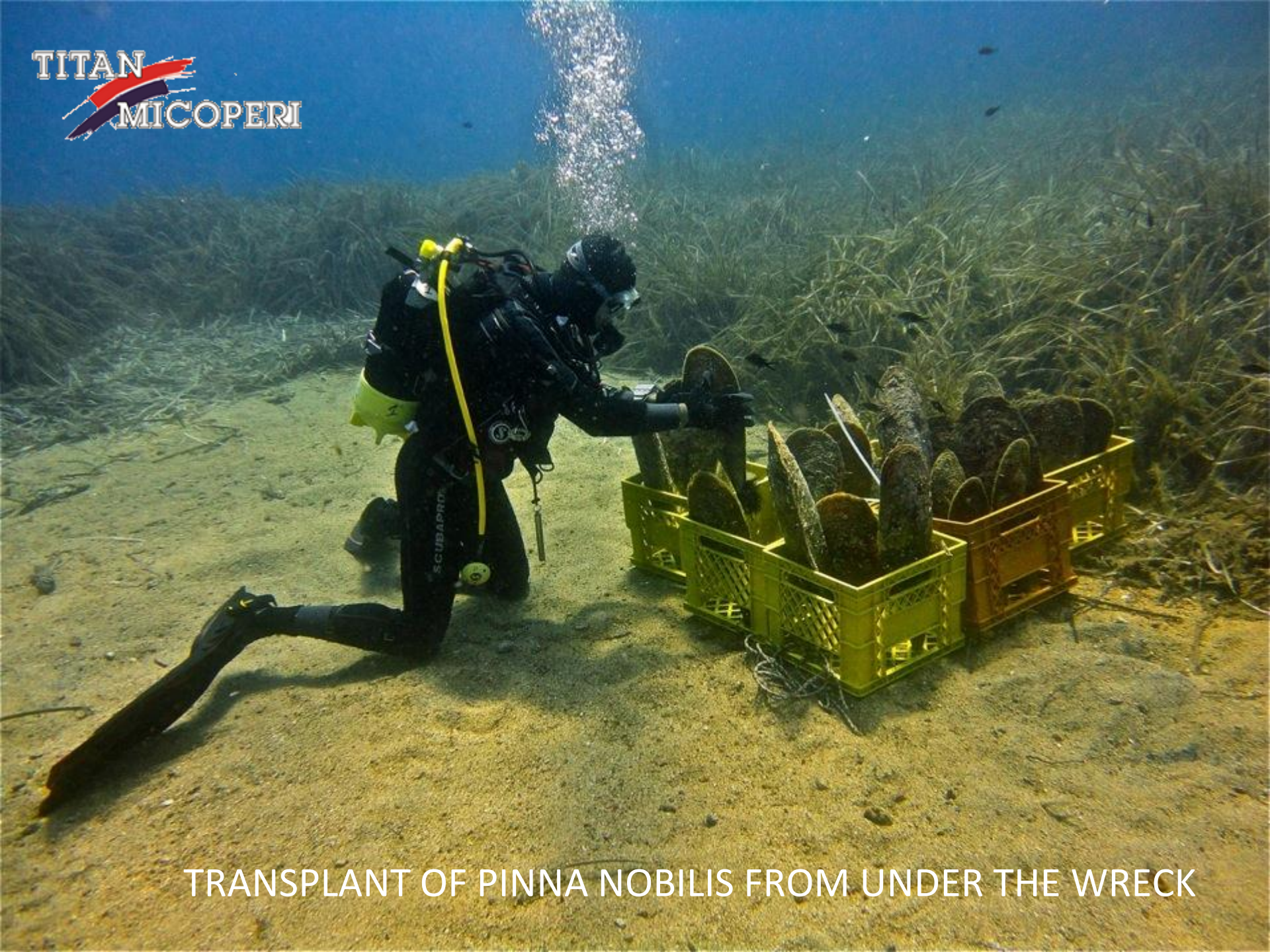


TITAN
MICOPERI



PREPARATIONS TO REMOVE ROCK FROM DAMAGE AREA

The image shows a large-scale maritime repair operation. Two workers are positioned on the red-painted hull of a ship, which is partially submerged in the water. They are working on a large, jagged rock that has impacted the hull, causing significant damage and buckling of the metal plates. The worker in the foreground is wearing a bright orange jumpsuit and a helmet, while the worker in the background is in a grey uniform and white helmet. Both are equipped with safety harnesses and are using ropes and pulleys to manage the rock. A thick, yellow rope runs vertically along the right side of the frame. The water is a deep blue, and the sky is clear. The overall scene conveys a sense of industrial scale and the challenges of offshore maintenance.



TRANSPLANT OF PINNA NOBILIS FROM UNDER THE WRECK

ANCHOR POINTS FOR HOLD BACKS PHASE 1

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October 2012



DECEMBER 2012

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FEBRUARY 2013

TITAN
MICOPERI



MARCH 2013

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ANCHOR BLOCKS DRILLING

DIVING CONTROL STATION



8/21/2012 8:57:28 AM
ANCHOR BLOCK N.1 LANDSCAPING

H: 177.1 °
D: 4.70 m
Temp: 23.3 °C



8/25/2012 7:04:41 PM
anchorblock n1 landscaping

H: 48.3 °
D: 6.97 m
Temp: 25.0 °C



**BOTTOM LANDSCAPING
ANCHOR BLOCK
PLACEMENT**

10/22/2012 10:25:19 AM

TITAN
MICOPERI



H: 5.2 °
D: 6.63 m
Temp: 22.3 °C

ANCHOR BARS TENSIONING

10/25/2012 11:20:39 AM

TITAN
MICOPERI

H: 63.4 °
D: 6.00 m
Temp: 22.6 °C

RIGGING HOLD BACK PHASE 1 GROMMETS

TOWERS INSTALLATION



6/9/2013 3:09:02 PM
TOWER AB 7

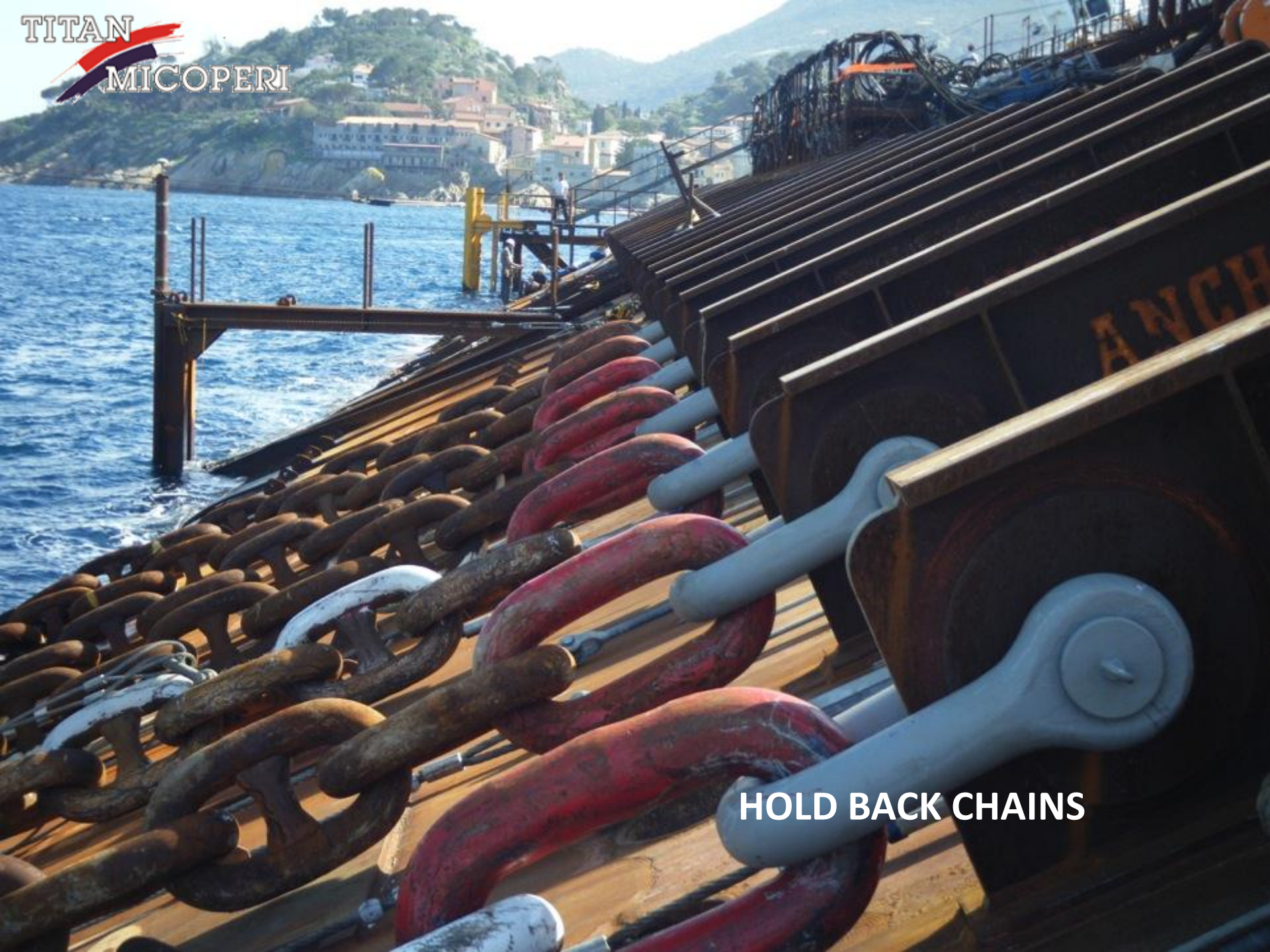
TITAN
MICOPERI

H: 171.2 °
D: 5.13 m
Temp: 18.3 °C



HOLD BACK TOWERS AND JACKS PHASE 2 COMPLETED

16:45 11/AUG/2013



HOLD BACK CHAINS



DAMAGE AREA PROTECTION PLATES

02-05-2013 09:27



ALL WORKERS WERE TRAINED AND CERTIFIED
IN INDUSTRIAL CLIMBING

01.04.2013



FINCANTIERI GENOVA

29.10.2012





INSTALLAZIONE
CASSONE P10



SPONSON P10 FITTING



HEAVY LIFT VESSEL FOR SPONSON INSTALLATION



GROUTING SPREAD: PIONEER + LIGURIA 1
6 TEAMS • 66 DIVERS • 24/7



PLEX WEBBING SLING
S M

GROUT BAGS

GROUT BAGS



5/28/2013 6:28:58 PM

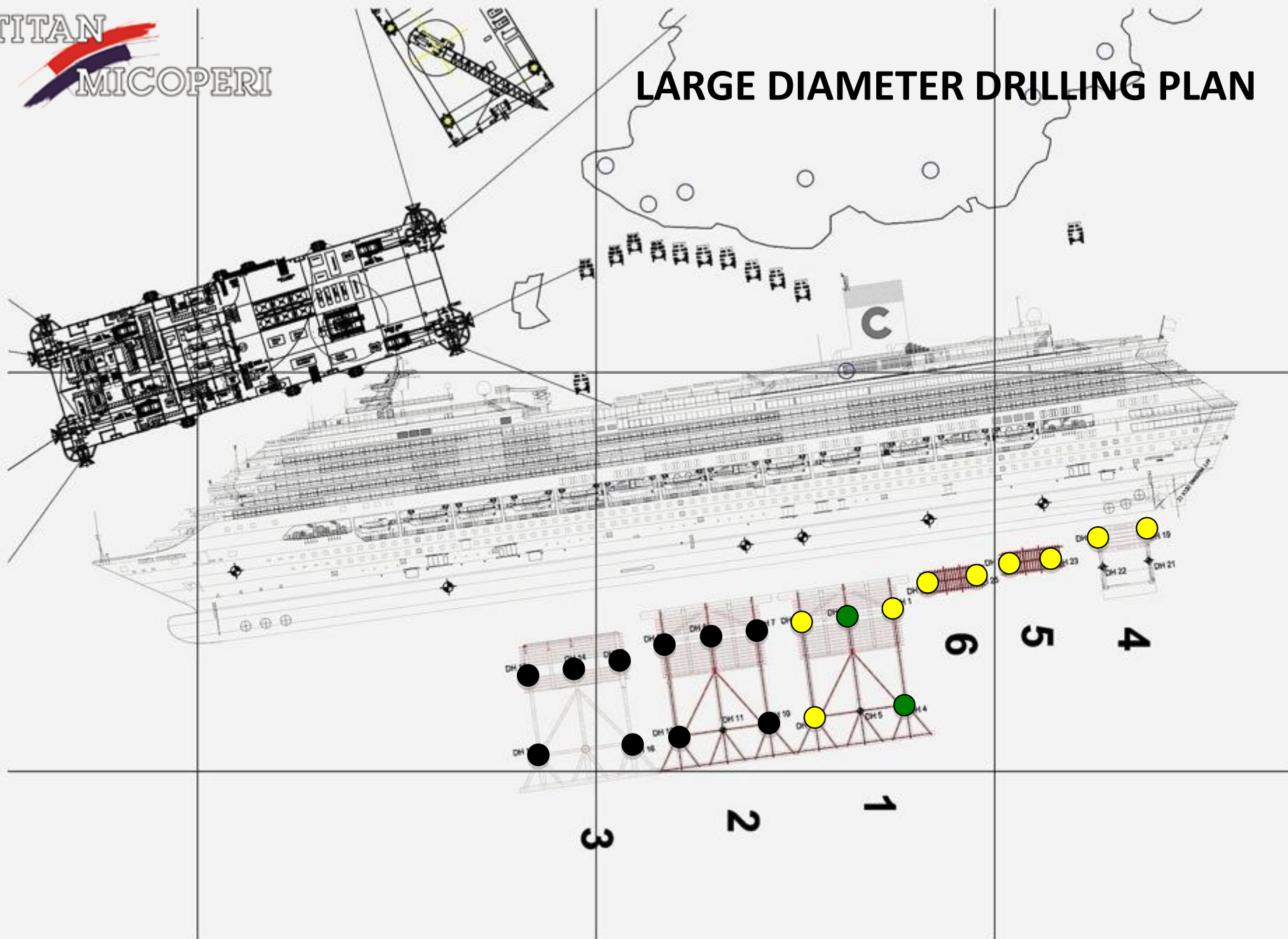
p4 survey

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MICOPERI

H: 217.3 °
D: 28.87 m
Temp: 16.1 °C

GROUT BAGS

LARGE DIAMETER DRILLING PLAN







SUB SEA DRILLING TEMPLATE #2

05.12.2012

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LARGE DIAMETER DRILLING



TITAN
MICOPERI

13.21.42

30/10/12

347
-01

P+14
R-04

T

22.4m

CONDUCTOR THROUGH TEMPLATE

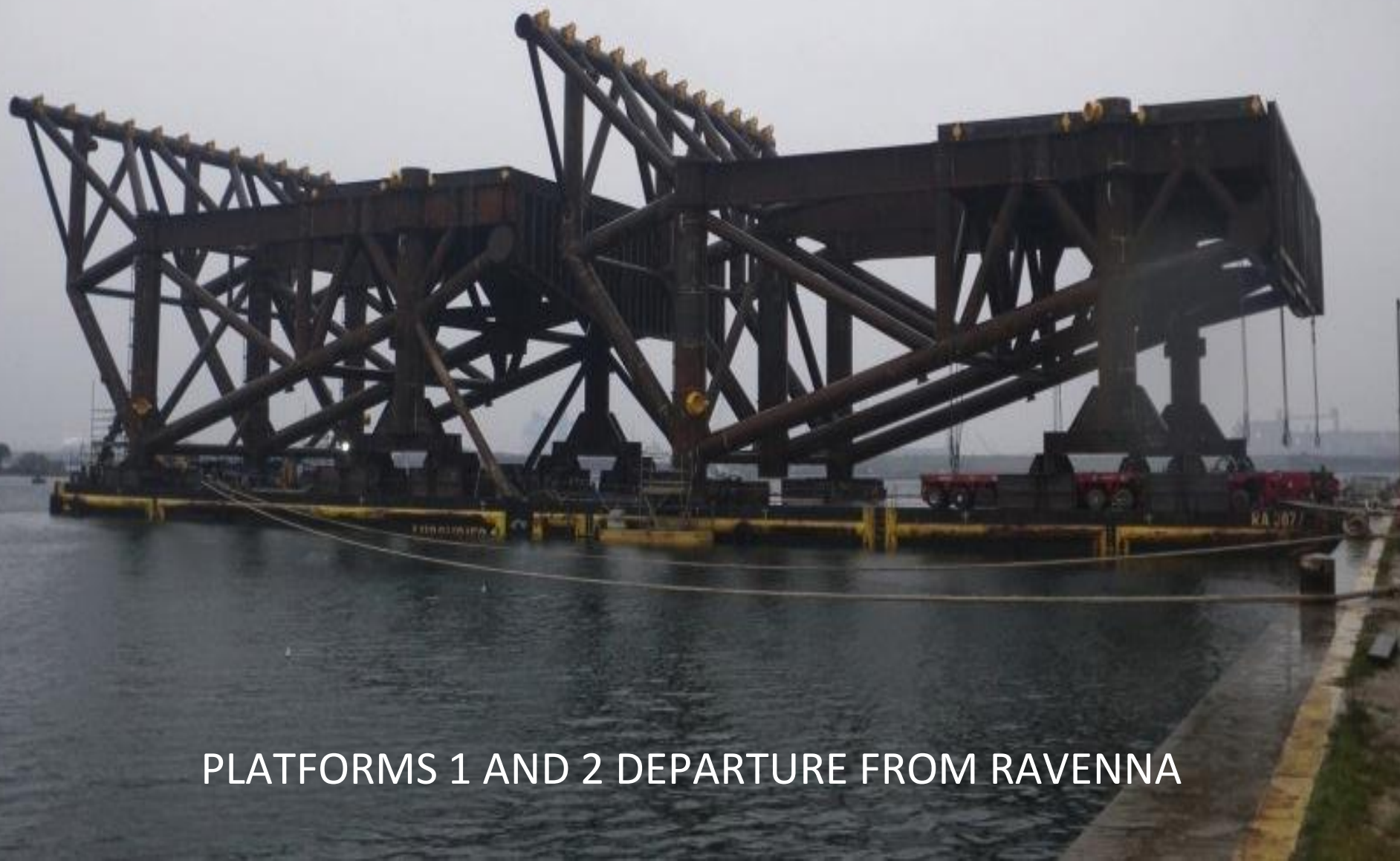
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MICOPERI

DRILL HEAD Ø 2 METERS





2 M DIAMETER DRILLING ON GRANITE - PLATFORM LEGS



PLATFORMS 1 AND 2 DEPARTURE FROM RAVENNA



PLATFORM 1 INSTALLATION



PLATFORM 2 INSTALLATION



BLISTER TANKS FOR BOW SUPPORT

BLISTER TANK INSTALLATION



STRAND JACKS AND BUNDLES INSTALLATION

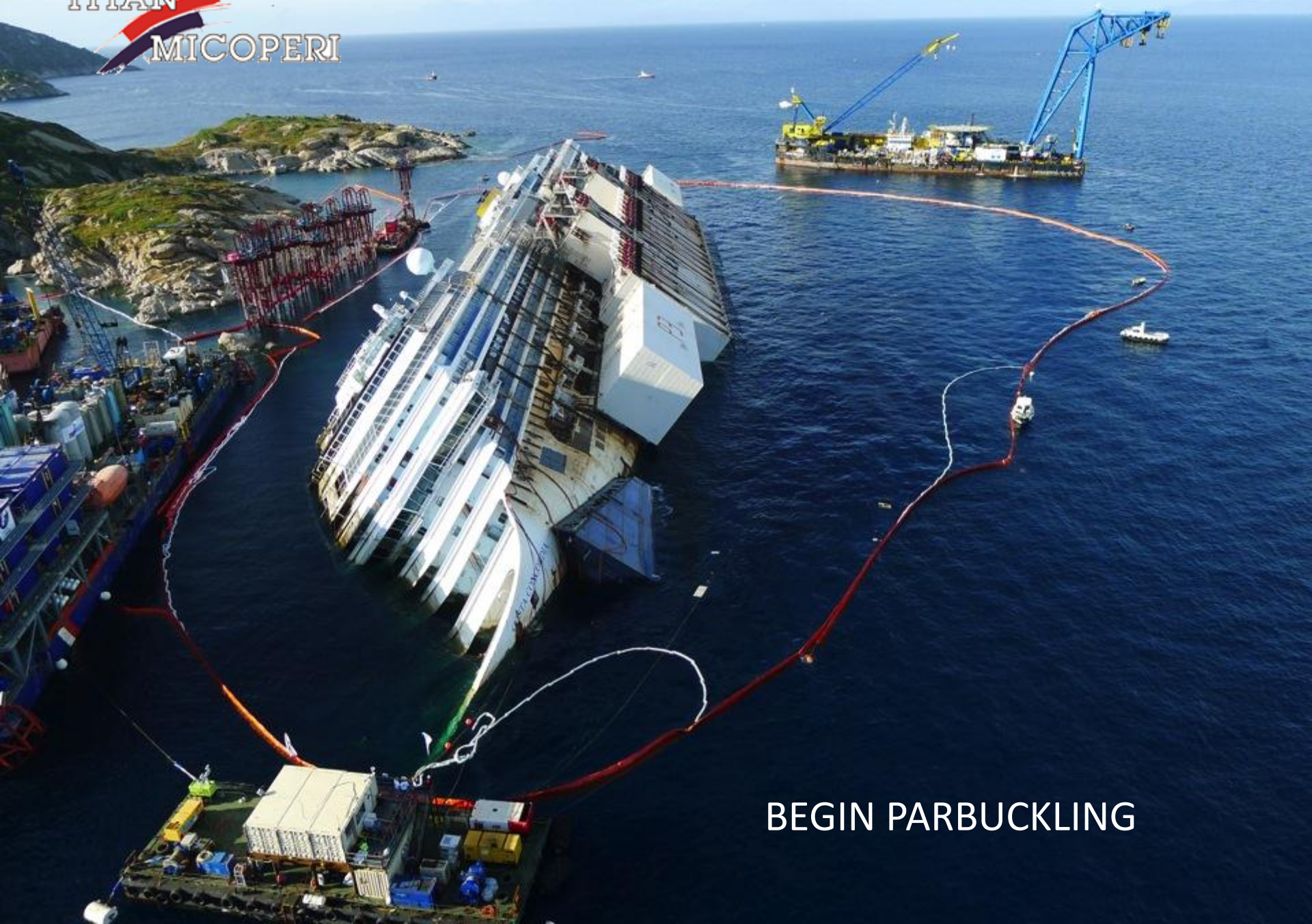


STRAND JACKS POWERPACKS ON TALL SPONSONS SWING SETS

DECK 8 BALLAST CONTROL SYSTEMS

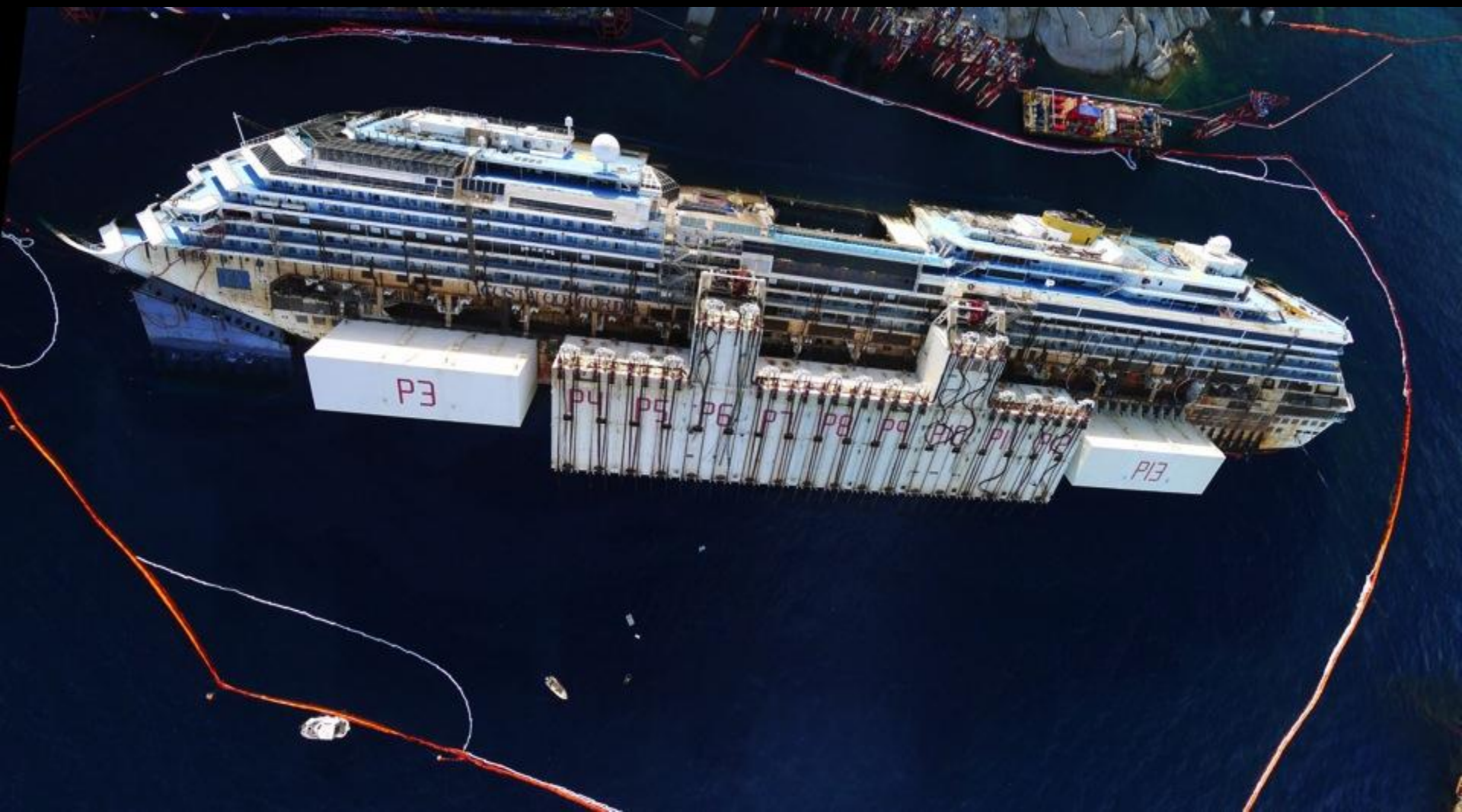


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BEGIN PARBUCKLING

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MICOPERI







SUCCESSFUL PARBUCKLING



RECOVERY OF OVERHEAD HAZARDS FOR SAR DIVING OPERATIONS

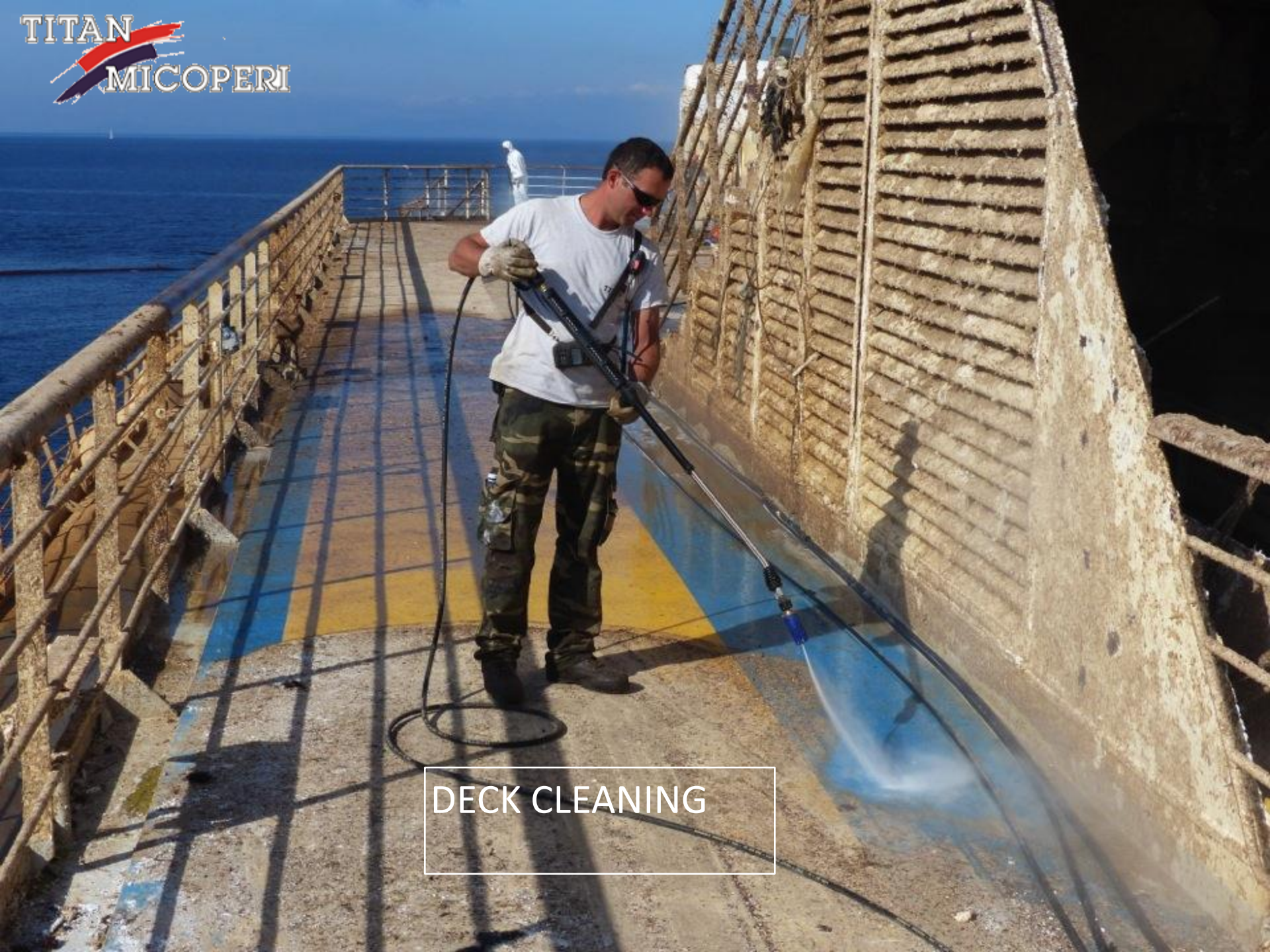


STARBOARD AFT DAMAGE

SHORT SPONSONS SUBMERGED

POOL AS SALT WATER STORAGE FOR DECK CLEAN UP



A man in a white t-shirt, camouflage pants, and sunglasses is using a high-pressure water gun to clean a ship's deck. The deck has blue and yellow painted sections. The ship's hull is visible on the right, and the ocean is in the background. The text "DECK CLEANING" is overlaid in a white box at the bottom.

DECK CLEANING

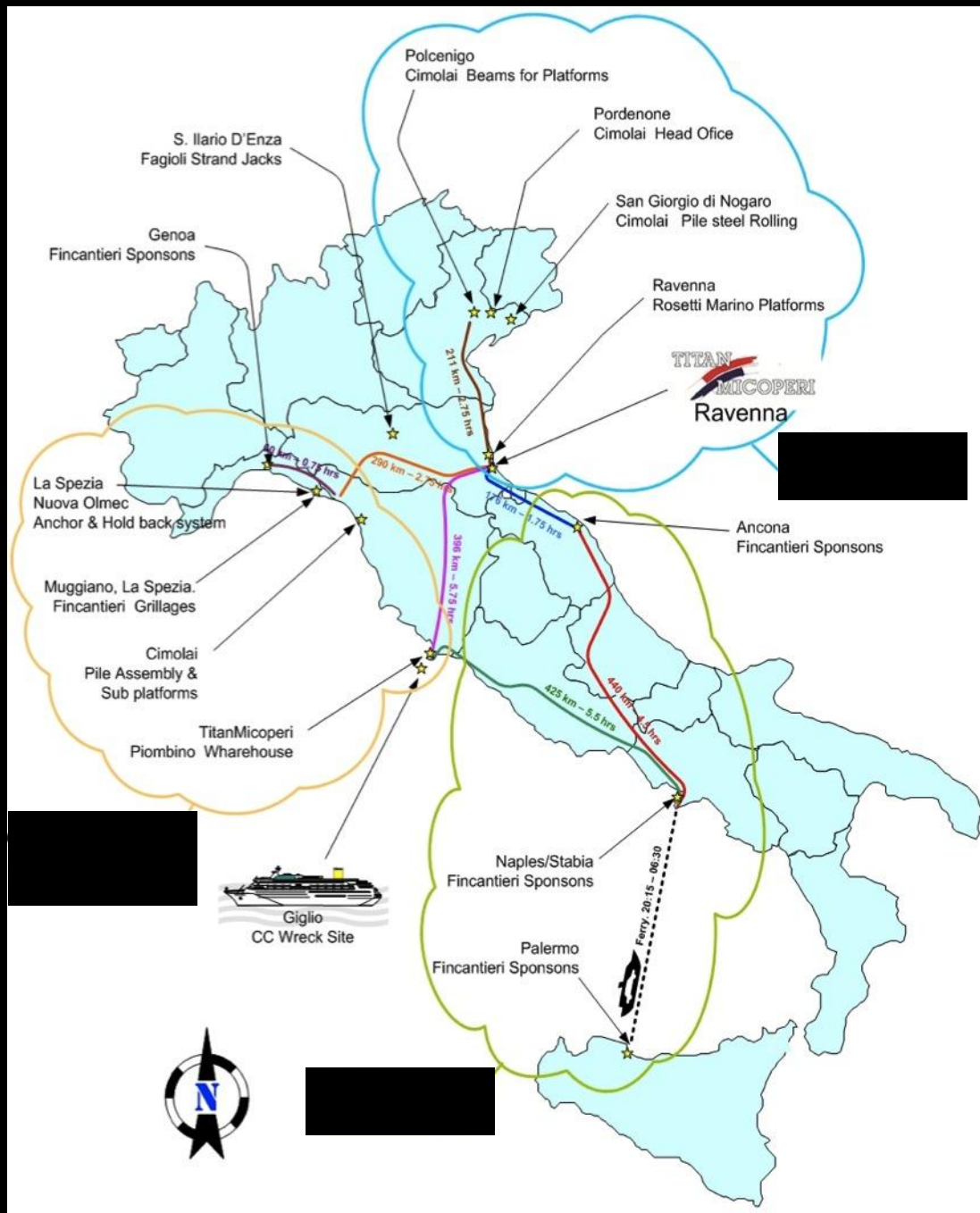


DEBRIS REMOVAL



STARBOARD SPONSONS IN LIVORNO







INTERSTING FACTS

- 40,000 Man hours of engineering
- 530 People working on site
- 55 Certified welders
- 130 Certified divers
- 15,000 Individual dives logged
- 27,000 Hours of ROV footage
- 19,978 Tons of grout cement
- 33,020 Tons of steel fabricated
- 9.3 Tons of welding rod
- 37 Kilometers of weld put down



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THANK YOU

Questions



CROWLEY[®]
People Who Know[™]

