



DIGITALLY MOVING FORWARD WITH CONFIDENCE



**BUREAU
VERITAS**

SOLUTIONS
Marine & Offshore



**BUREAU
VERITAS**

SOLUTIONS
Marine & Offshore

A GLOBAL LEADER

IN TESTING, INSPECTION & CERTIFICATION

140

COUNTRIES

400,000

CLIENTS

€5.1 BN

IN REVENUE

1,500

**OFFICES &
LABORATORIES**

79,000

EMPLOYEES



DRAWING ON OUR STRENGTHS. ALWAYS DOING BETTER.





DIGITAL AND TECHNICAL

Progress and Creativity have always been at the heart of our business. At the forefront of new digital and technical developments, we can help you meet the challenges of today and tomorrow.

We will support you through digital transformation, to increase your operational excellence and improve safety for all of us.



Bureau Veritas reports 900% rise in demand for remote inspection of offshore rigs

Published by Nicholas Woodroof, Assistant Editor
Oilfield Technology, Monday, 11 May 2020 11:00

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Bureau Veritas is reporting a 900% rise in demand for the remote inspection of offshore assets and equipment since the outbreak of the Covid-19 pandemic.

Bureau Veritas says requests for its remote inspection, certification, exam escalated from a 'want' to a 'need' this year as businesses seek to keep em. number of remote inspection solutions are already in progress for operato there have been in excess of 20 additional requests since the start of this y Inspections and verification are vital for offshore companies to comply wit and performance of their assets and equipment. Through the use of mobile Bureau Veritas employees can carry out these essential services remotely reducing the need for travel.

Demand for remote offshore rigs inspections skyrockets due to COVID-19

OPERATIONS & MAINTENANCE

May 11, 2020, by [Bojan Lepic](#)

Classification society Bureau Veritas (BV), a provider of testing, inspection, and certification services, has noted a 900 per cent rise in demand for the remote inspection of offshore assets and equipment since the outbreak of the COVID-19 pandemic.



Society of Petroleum Engineers



6 hrs ·

The testing, inspection, and certification firm Bureau Veritas is reporting a 900% rise in demand for the remote inspection of offshore assets and... See more



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Bureau Veritas Sees 900% Rise in Demand for Remote Inspection of Offshore Rigs

11

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PLANNING TO IMPLEMENTATION



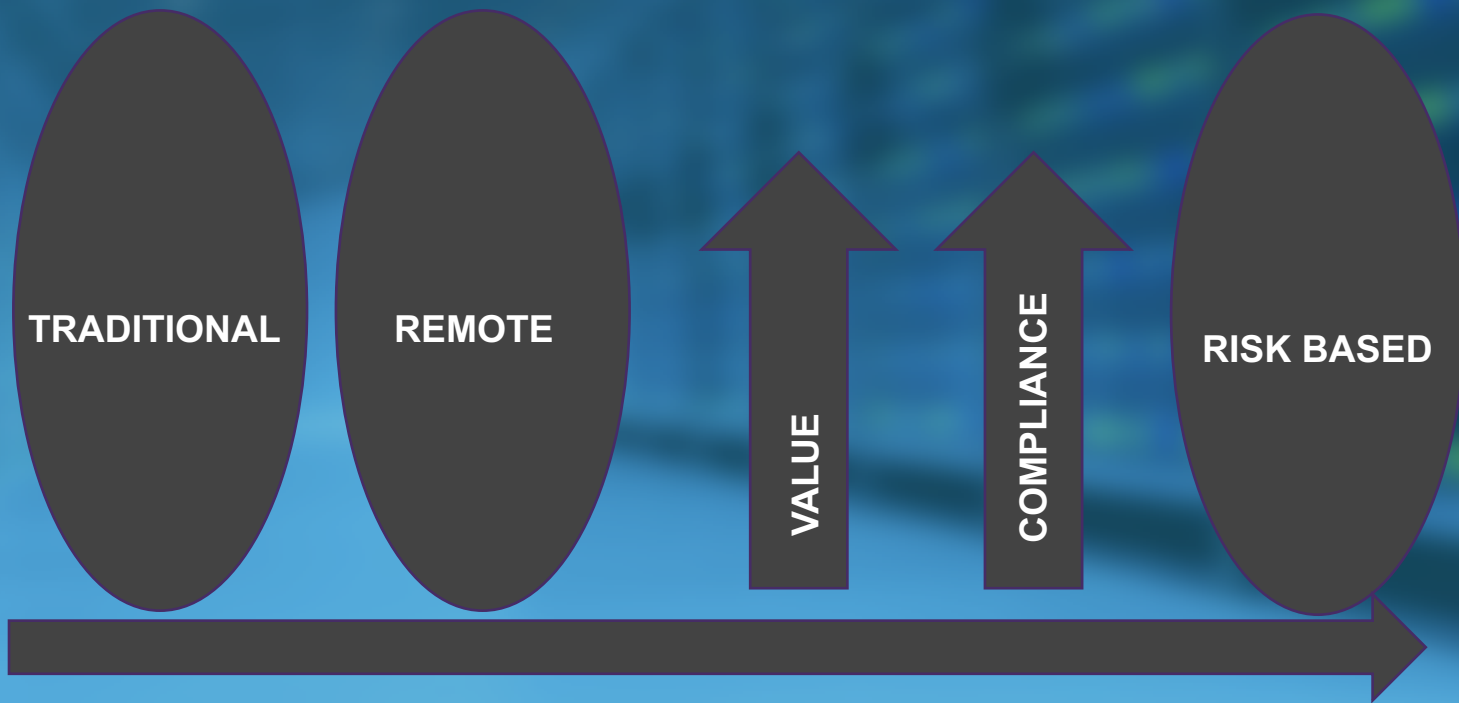
CREDIT





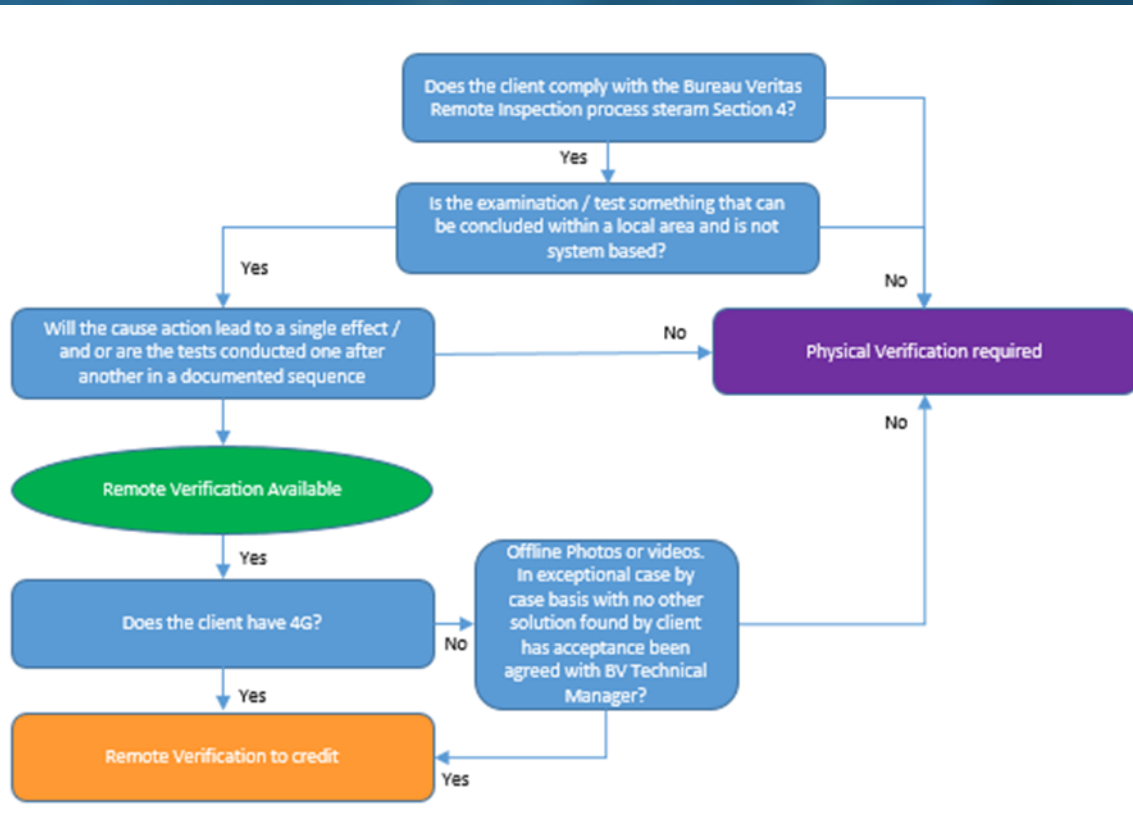
PLANNING TO IMPLEMENTATION

Risk Based Verification





PLANNING TO IMPLEMENTATION – DECISION TREE





PLANNING TO IMPLEMENTATION – THE DETAIL

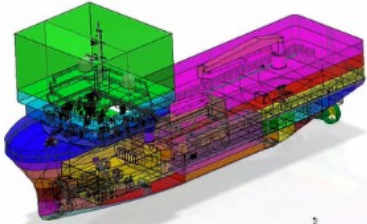
Short Description	Examination Lev	Suitable for Remote Verificatio	Comments	Priority
Temporary Refuge LQ Leakage	2	Yes	Remote if no visit	High
UHF Radio Test	3	No	Defer until 2nd half of 2020	N/A
Naturally Ventilated Hazardous Areas	1	N/A	Defer until 2nd half of 2020	N/A
Ventilation System Visual Examination	1	N/A	Defer until 2nd half of 2020	N/A
Fire/Gas Damper Function Test	1	Yes	Defer until 2nd half of 2020	N/A
Non-Hazardous Area Ventilation System Pressurisation Function Test	1	Yes	Remote if no visit	Med
Module Differential Pressure Instrumentation Function Test	1	Yes	Remote if no visit	Med
HVAC System Fire Dampers and Fans Logic Tests	1	Yes	Remote if no visit	Med
Visual Examination	1	N/A	Defer until 2nd half of 2020	N/A
Deluge Initiation (Non-Electrical Initiation)	1	Yes	Remote if no visit	Med
Deluge Operation Test – Non Wet Test	1	Yes	Remote if no visit	Med
Manual bypass valve	1	Yes	Remote if no visit	Med
Deluge Operation Indication	1	Yes	Remote if no visit	Med
Deluge Valve Air Supply Hold-up Test	1	Yes	Remote if no visit	Med
Design Firewater Demand Availability	2	Yes	Defer until 2nd half of 2020	N/A
Flame Trap Examination	1	N/A	Defer until 2nd half of 2020	N/A
Spark Arrestor Examination	1	N/A	Defer until 2nd half of 2020	N/A
Exhaust External Insulation Examination	1	N/A	Defer until 2nd half of 2020	N/A
Exhaust Bellows Examination	1	N/A	Defer until 2nd half of 2020	N/A
Exhaust System Integrity Examination	1	N/A	Defer until 2nd half of 2020	N/A
Gas Turbine Enclosure (including internal insulation, drains and sumps) Integrity	1	N/A	Defer until 2nd half of 2020	N/A
Rotating Equipment Drive Belt	1	N/A	Defer until 2nd half of 2020	N/A
Rotating Equipment Clearance	1	N/A	Defer until 2nd half of 2020	N/A
Avoidance of mechanical sparking and frictional heat – internal clearances	1	N/A	Defer until 2nd half of 2020	N/A
Overspeed Trip Protection	1	Yes	Remote if no visit	High



DIGITAL TWIN TECHNOLOGY

3D

A digital twin of your physical asset



SMART DATA

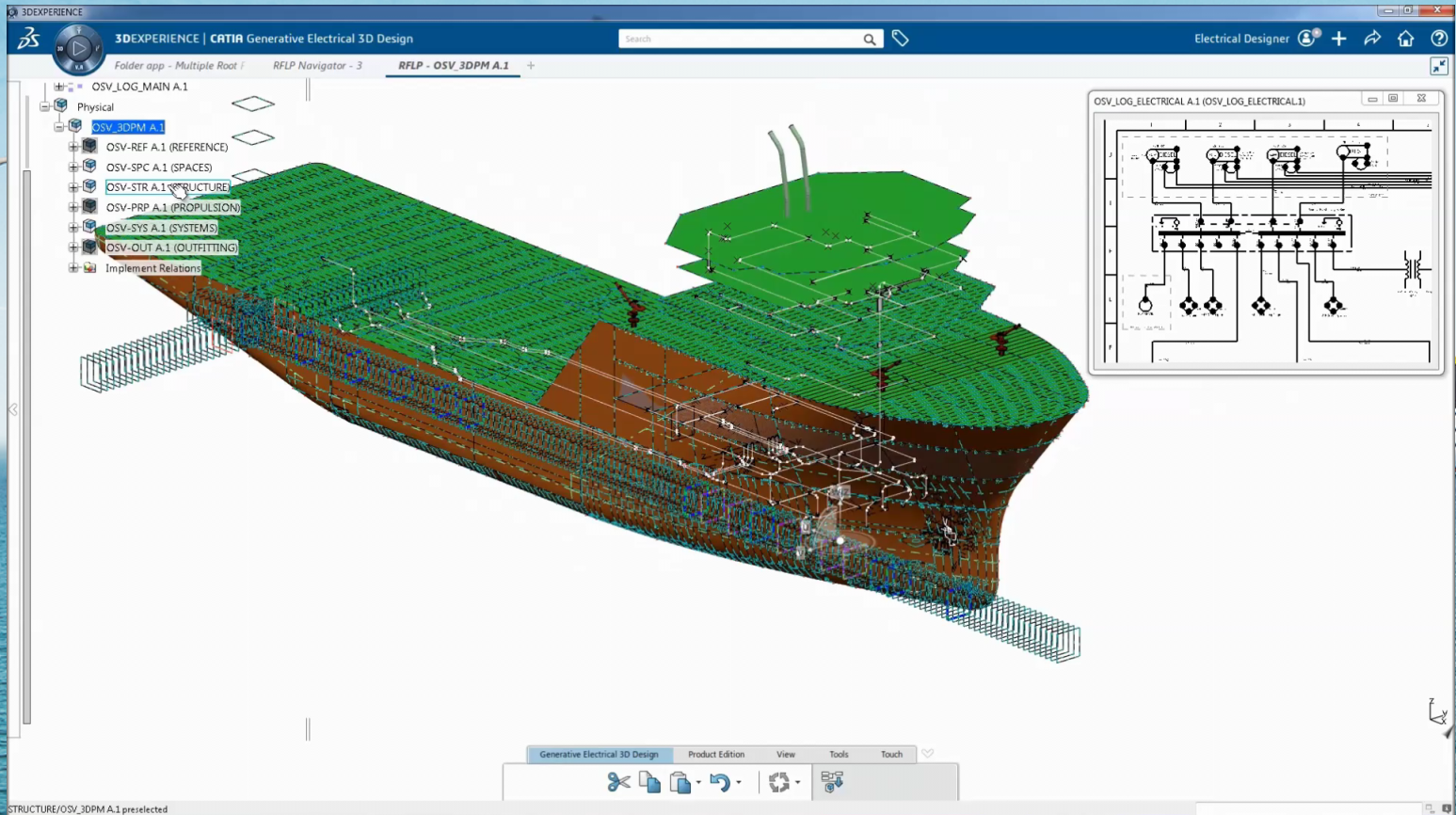
A data-driven solution to guide your decisions



COLLABORATIVE PLATFORM

Your teams working as one







END-TO-END ASSET MANAGEMENT

A high degree of certainty in an asset's reliability, availability, and maintainability provides a variety of benefits. These include;

- Extended asset availability
- Awareness of constraints on maintainability during asset operations, and fewer production losses as a result of downtime.
- Reliability and maintenance provide you with a basis on which to make sound decisions regarding vessel improvements and risk-based maintenance practices, resulting in minimal downtime.
- Ability to strategically move towards remote operations

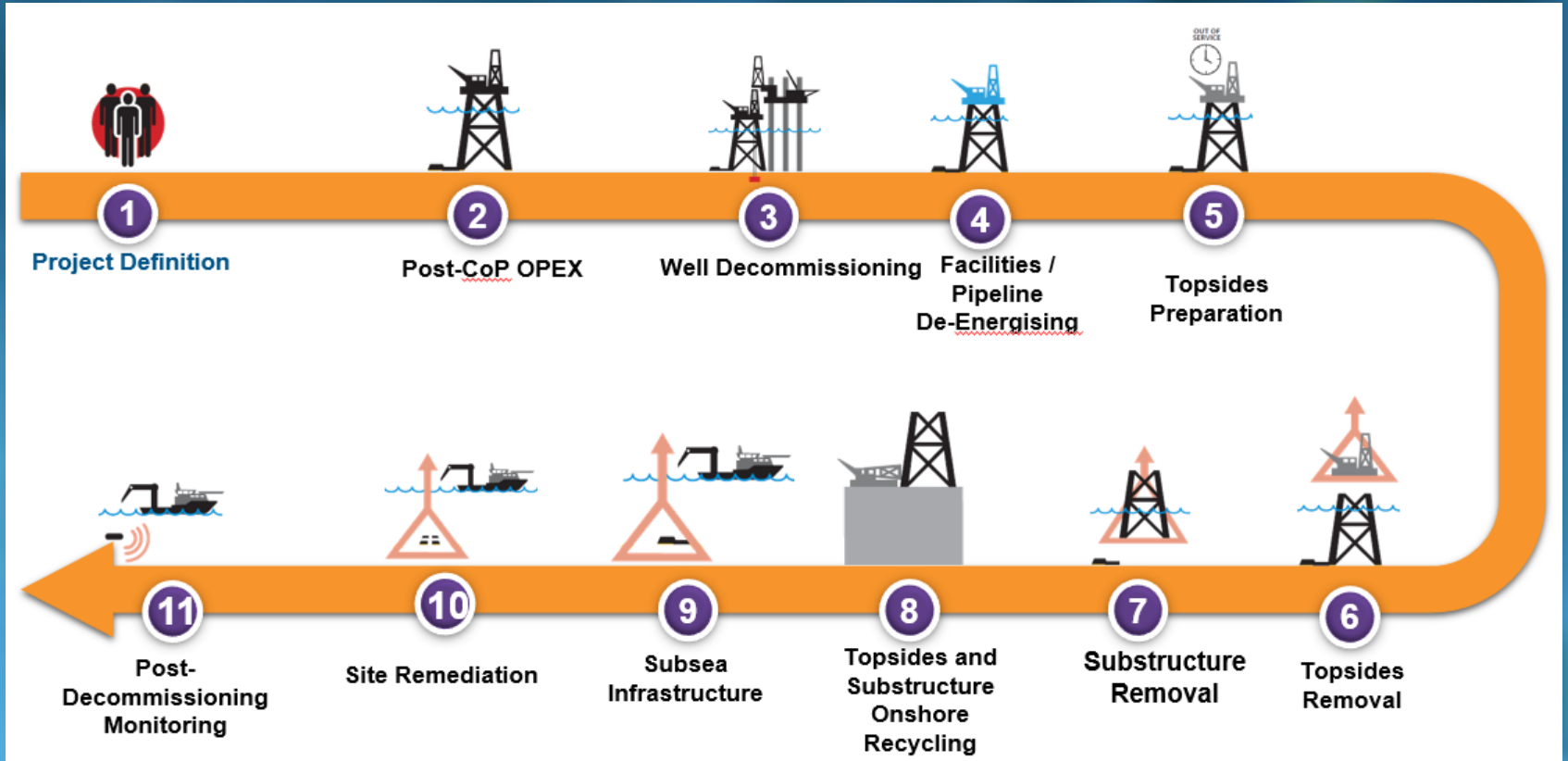


WORLD CLASS DECOMMISSIONING EXPERIENCE

- Decommissioning compliance support of the first ever production spar- Anadarko Petroleum Red Hawk Spar
- Certification of a new facility to ISO30k standard at Malaysian shipyard
- Feasibility study for the Port of Dundee to become an ultra-deep water port for decommissioning and this supported the Scottish Governments call for evidence to make Scotland a global centre of excellence for decom
- Marine assurance activities on a wide range of projects. This includes the recent Shell Curlew FPSO
- Providing Marine Warranty on various assets since 1992



DECOMMISSIONING

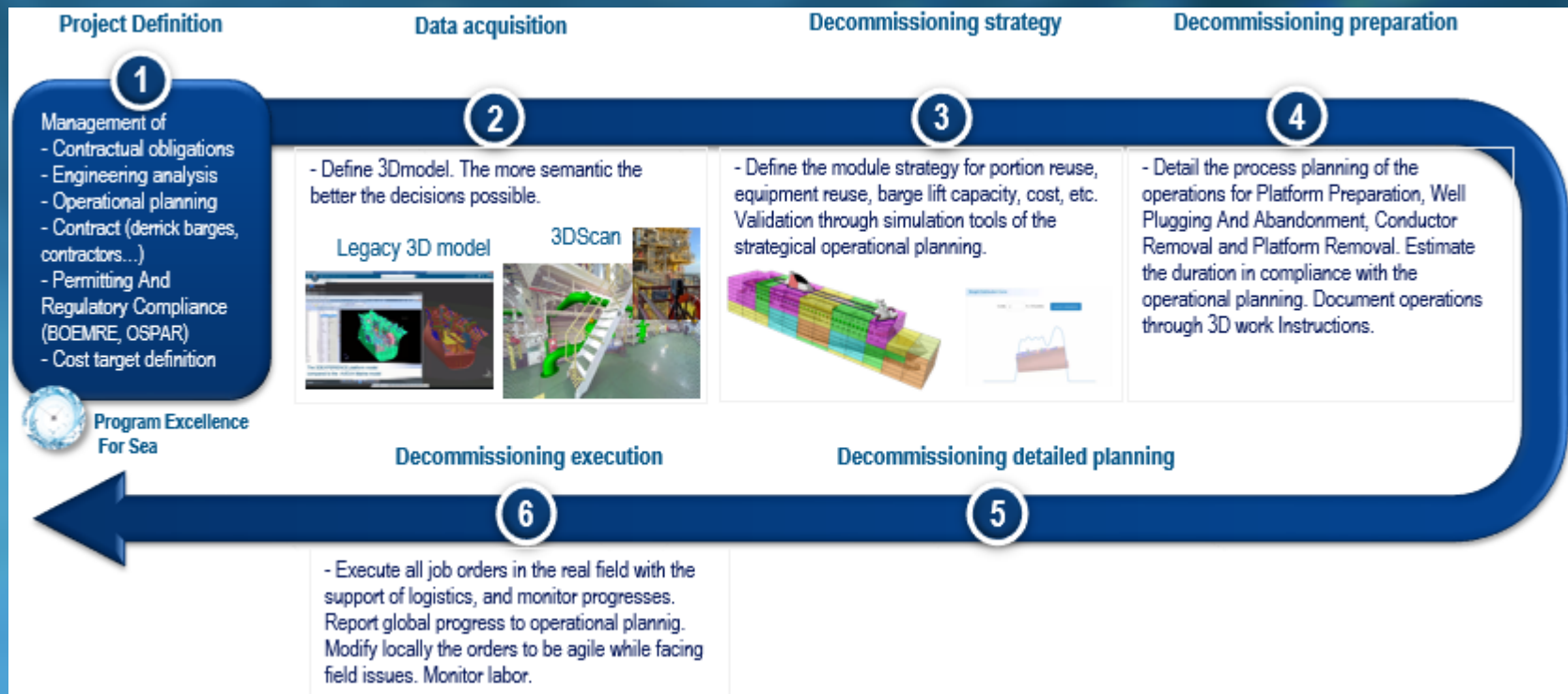




VERISTAR AIM3D can provide 9% to 15% savings on total decommissioning project cost on assets 10,000 tonne of topsides and above. VAIM3D brings benefit across the decom project lifecycle.					
	Common Activities	Fixed installations Only			
	PLANNING	SHUTDOWN (Manned to Unmanned installation)	REMOVAL	MONITORING	YARD SERVICES
SAFETY & REGULATORY	Safety Case Management of Change	Safety Case Management of Change	Safety Case Management of Change	Monitoring of remaining structures assurance	ISO 30K Certification for Ship Recycling Facility
	Marine Assurance	Marine Assurance	Marine Warranty Services		Ship Recycling Facility Plans
	IVB	IVB SECE Reduction	IVB		
	Risk Profiling & Management	Vessel Inspections	Voyage Marine Assurance		
	HAZOP / Safety Studies	Heavy lift assessments			
	HSE and Regulator Engagement				
	Legislation Review				
	Chemical Permits				
	Decom Programme Consultancy				
CoP Document to gain CoP permit					
Pipeline Decom Programme Consultancy					
ENVIRONMENTAL	Environmental Impact Assessment		Seabed Clean up assurance	Subsea Monitoring assurance	
	Waste Assessment		Weather services for transport to shore	Monitoring and assurance of recycling process	
	Environmental Permits		Environmental Exposure Management		
	Identification and management of hazardous materials	Identification and management of hazardous materials	Identification and management of hazardous materials		
	Identification and management of recyclable materials	Identification and management of recyclable materials	Identification and management of recyclable materials		
			Recycling Facility Assessment		
			Audit during Recycling and Certification of Completion		
		Downstream Waste Management Assurance			
ASSET	Lifetime Extension Assessments	Structural Integrity Studies	Module Separation Studies and Assurance	Preservation of Assets Assurance	
	Inventory Assessment	Plant Integrity Studies	Lifting Plans, Studies and Assurance		
	Decom Philosophy	Plant Inspection	Identification and Management of Inventory to Reuse/Repurpose/Disposal		
	Technical Due Diligence	Decontamination Risk Assessments and Assurance	Subsea Removal Studies and Assurance		
	Disposal Planning	Noise & Vibration studies	Marking of Remains Assurance		
	Abandonment Manual				
	Baseline Assessment				
	CMMS Alignment				
	Preservation Philosophy				
PEOPLE	Stakeholder Identification	Stakeholder Management	Stakeholder Management		
	Societal Impact Assessment	Occupational Hygiene			
	Human Factors	Human Factors			
WELLS	Integrity Modelling	Integrity Modelling			
	P&A Strategy	P&A Assurance			



ADDING VALUE TO DECOMMISSIONING



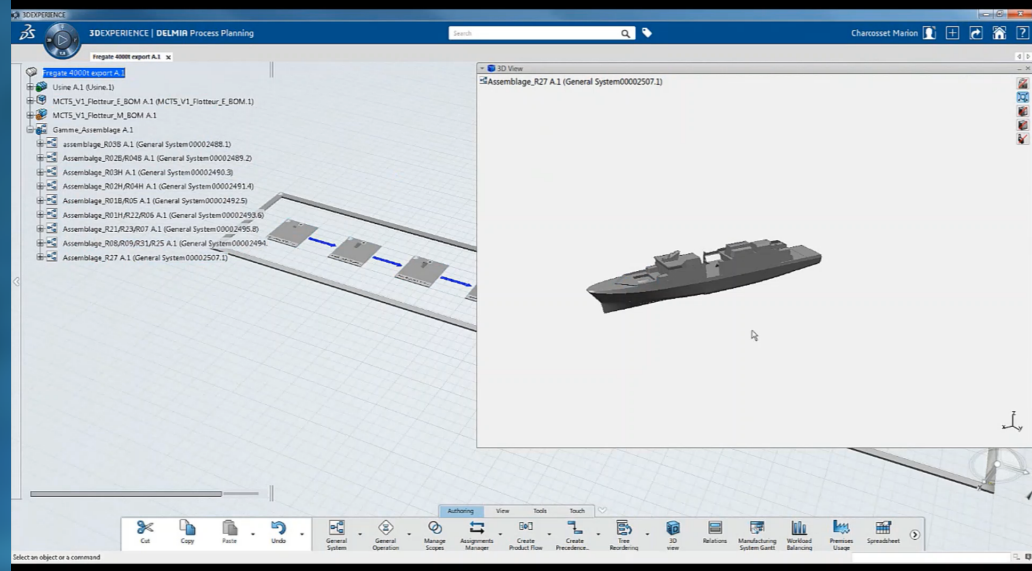
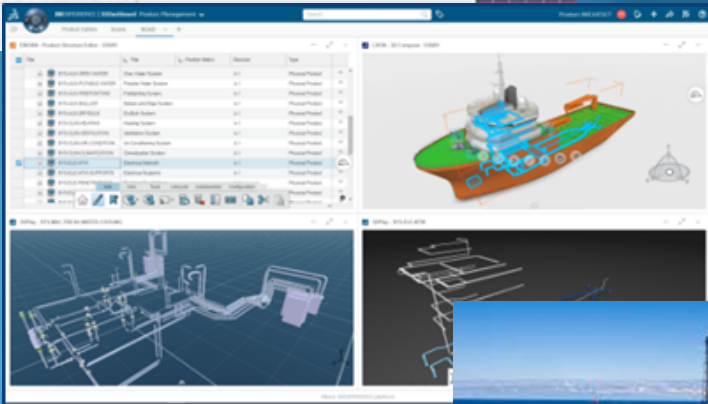


DIGITALISING DECOMMISSIONING

Work Breakdown Structure % of Decommissioning Project Costs	% of Saving with Digital Twin Technology
Operator Costs 17% (Operator Project Management 7%, Post CoP OPEX 10%)	15%
Removals (Topsides) 9%	14%
Removals (Jackets) 9%	11%
Subsea Infrastructure 9%	19%
Facilities de-energising 3.5%	>30%
Topside Preparation 3.5%	>30%
Onshore Recycling 2%	10%
Site Remediation & Monitoring 2%	10%



ADDING VALUE TO DECOMMISSIONING





ADDING VALUE TO DECOMMISSIONING



- PERSONNEL
- OPERATORS
- INSURERS
- SUPPLY CHAIN

CONNECTIVITY, CYBER SAFETY & SECURITY





THE DIGITAL REACH





ALWAYS PURSUING NEW AND BETTER SOLUTIONS.

We address future challenges before our clients face them.