R/V L'ATALANTE WORKS IN 2021

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Objectives

Extend the Atalante's lifetime of 10 years:

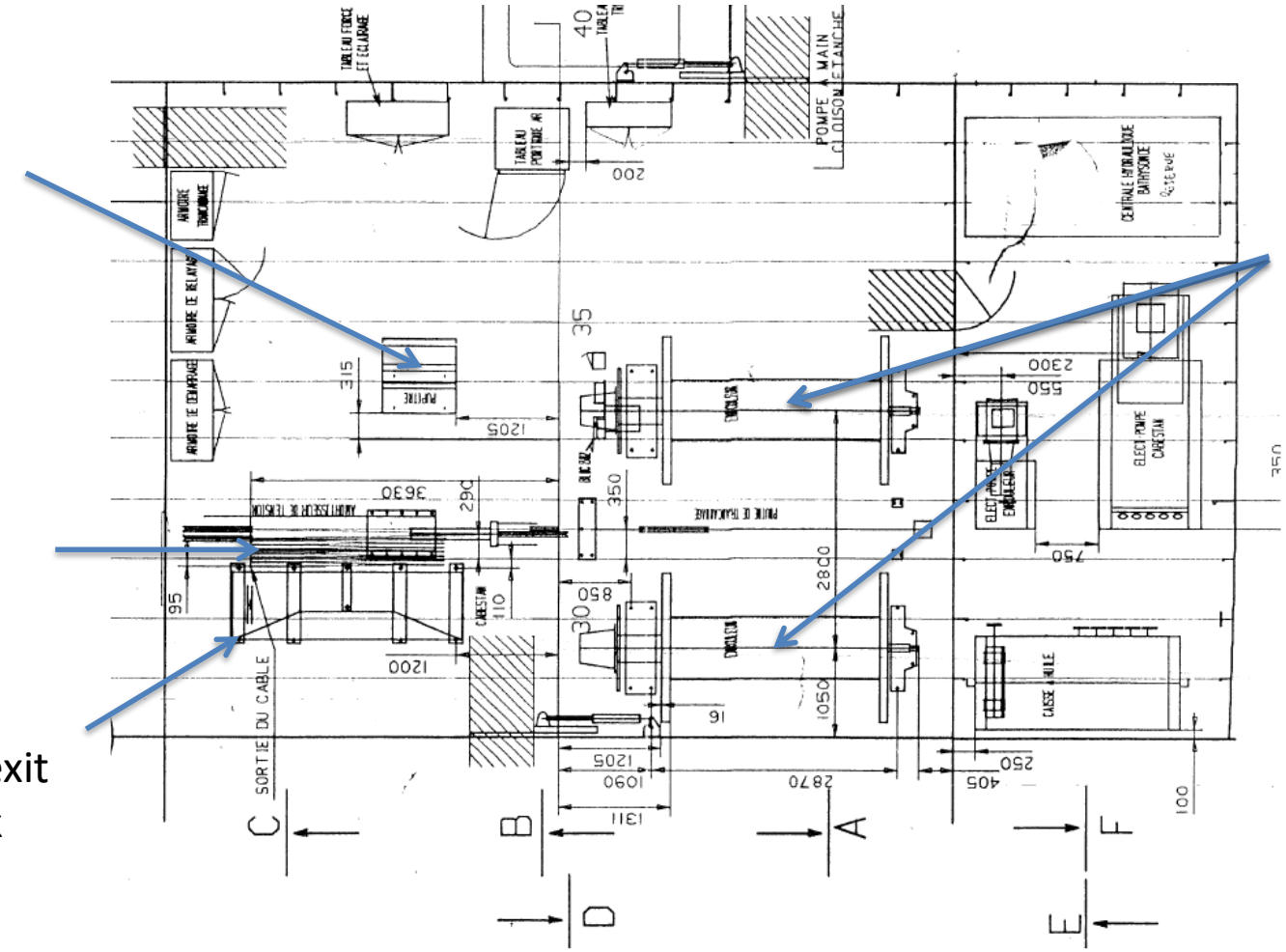
- Replacement of gensets
- **Replacement of the deep water winch and the lateral gantry to improve coring**
- Maintenance works on board

Current deep water winch

Control consol

Capstan

Cable exit to deck



Current coring performances

Current cable (19 mm steel non-rotating wire rope) and current lateral gantry (max SWL 10 T) is too restrive in terms of depth use and coring quality.

Current limits are :

- Coring depth for a 20 m pipe : 4718 m
- Coring depth for a 15 m pipe : 4772 m
- Coring depth for a 10 m pipe : 4825 m
- Max lift-off force : 2 tonnes.

Following several CINEMA analyses, best solutions to achieve best depth and best coring quality is to use a synthetic cable.

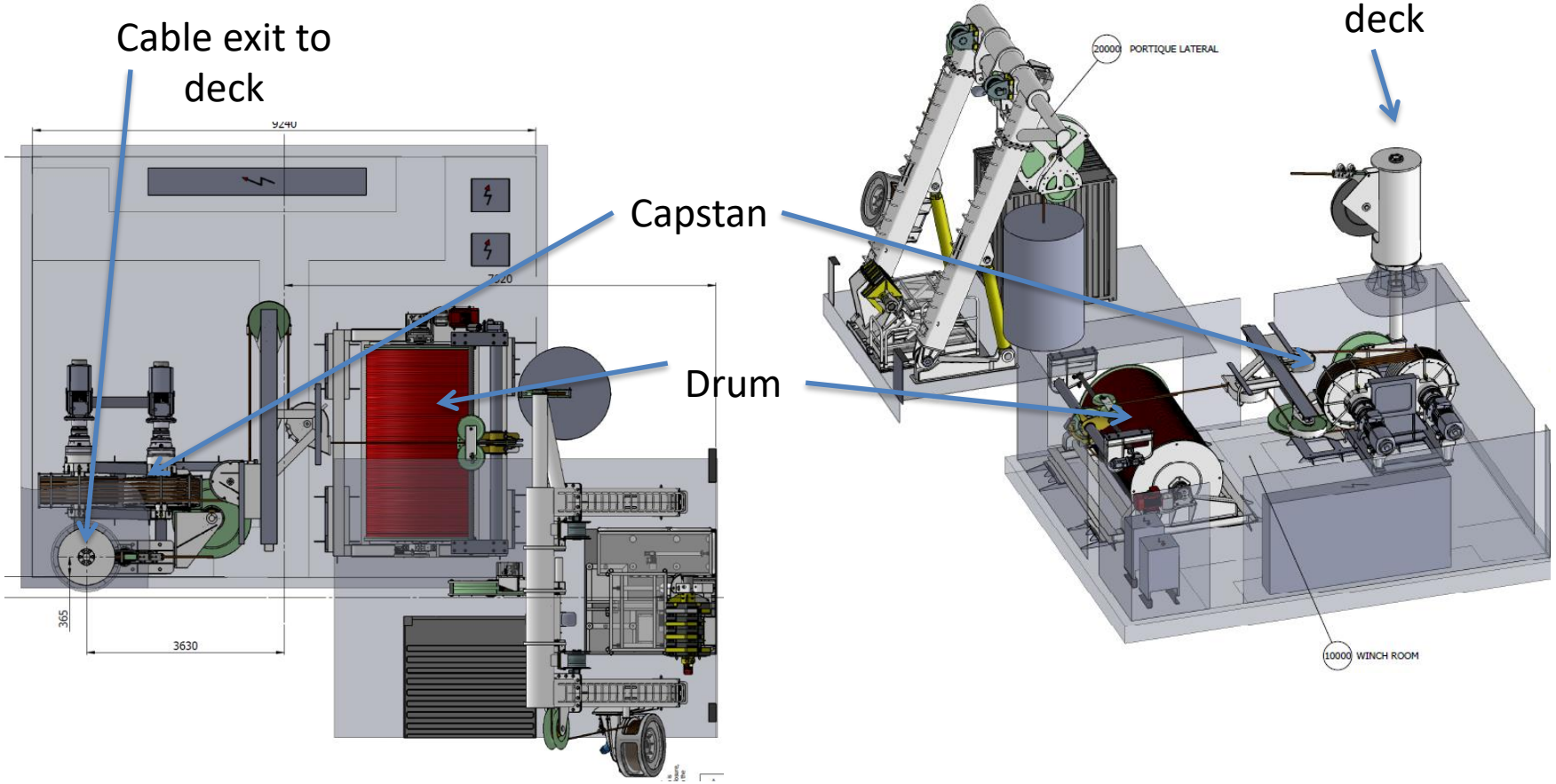
Objectives new coring performances

Main objectives of new coring performances are :

- Lateral gantry or boom with SWL of 20 T
- Using Calypso coring 5T (same use on Pourquoi Pas?) with pipes up to 30 m
- Depth of coring up to 6 000 m
- Cable use for coring but also for others uses as Penfeld, dredging, etc

New deep water winch

Pre-study arrangement



Choice of new cable

Several synthetic cables have been compared to :

- Optimise diameter/length of cable and minimize the number of layers on the drum while respecting the available space in the winch room
- Improve the quality of coring

Neverthless, suppliers will offer Ifremer a choice of cable (diameter to be determined).
Before contract signature, when the tenders are submitted, a first sample of cable must be provided to perform traction test and validate different characteristics of the cable under tension.
After contract signature, a 200 meters sample of cable will be supplied (charged to Ifremer) to perform tensile and fatigue tests on pulleys to validate the choice of cable. In case of non-compliance with the fatigue requirements, the supplier will be required to propose another one.

Choice of new cable

Free space available in the winch room is restricted, hence drum dimensions are limited and consequently length and diameter of cable are also limited.
An ideal solution is also to reduce the number of layers to improve cable winding

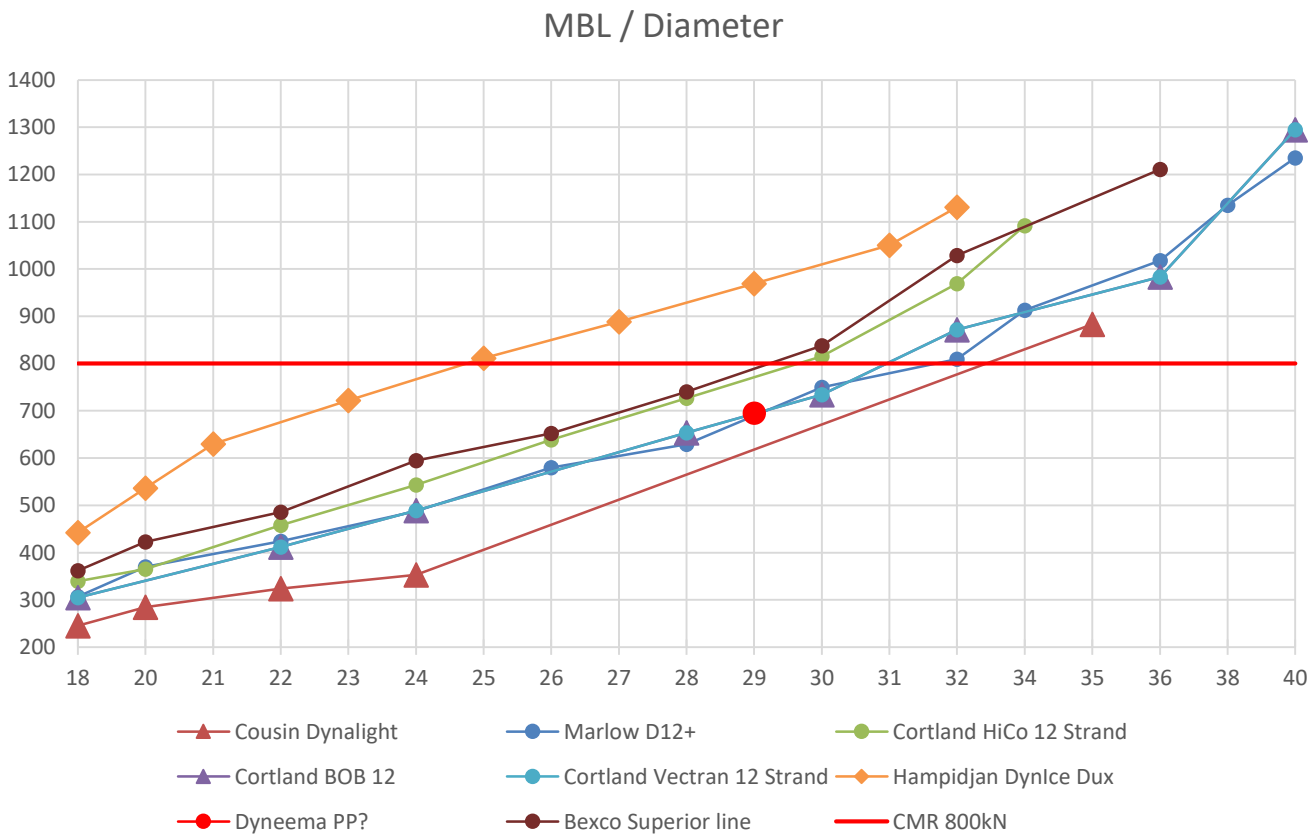
Diameter of drum					Winding layers 10		11		12		13		14		15		16		17		18	
n x d cable	mm	Length of drum	Nb spires	Cable diameter	Final diameter	Length rolled	Final diameter	Length rolled	Final diameter	Length rolled	Final diameter	Length rolled	Final diameter	Length rolled	Final diameter	Length rolled	Final diameter	Length rolled	Final diameter	Length rolled	Final diameter	Length rolled
30d câble	780	3115	120	26	1230	3 791	1 275	4 263	1 320	4 752	1 365	5 259	1 410	5 782	1 455	6 322	1 501	6 879	1 546	7 453	1 591	8 045
35d câble	910	3115	120	26	1360	4 281	1 405	4 802	1 450	5 340	1 495	5 896	1 540	6 468	1 585	7 057	1 631	7 663	1 676	8 287	1 721	8 927
40d câble	1040	3115	120	26	1490	4 771	1 535	5 341	1 580	5 929	1 625	6 533	1 670	7 154	1 715	7 792	1 761	8 448	1 806	9 120	1 851	9 809
50d câble	1300	3115	120	26	1750	5 751	1 795	6 419	1 840	7 105	1 885	7 807	1 930	8 526	1 975	9 263	2 021	10 016	2 066	10 786	2 111	11 573
30d câble	840	3115	111,5	28	1325	3 792	1 373	4 264	1 422	4 754	1 470	5 261	1 519	5 784	1 567	6 325	1 616	6 882	1 664	7 457	1 713	8 049
35d câble	980	3115	111,5	28	1465	4 282	1 513	4 804	1 562	5 343	1 610	5 898	1 659	6 471	1 707	7 060	1 756	7 667	1 804	8 291	1 853	8 931
40d câble	1120	3115	111,5	28	1605	4 773	1 653	5 343	1 702	5 931	1 750	6 536	1 799	7 157	1 847	7 796	1 896	8 452	1 944	9 124	1 993	9 814
50d câble	1400	3115	111,5	28	1885	5 753	1 933	6 422	1 982	7 108	2 030	7 811	2 079	8 531	2 127	9 267	2 176	10 021	2 224	10 792	2 273	11 579
30d câble	900	3115	104	30	1420	3 790	1 472	4 262	1 524	4 752	1 575	5 258	1 627	5 781	1 679	6 321	1 731	6 879	1 783	7 453	1 835	8 044
35d câble	1050	3115	104	30	1570	4 280	1 622	4 802	1 674	5 340	1 725	5 895	1 777	6 468	1 829	7 057	1 881	7 663	1 933	8 286	1 985	8 926
40d câble	1200	3115	104	30	1720	4 770	1 772	5 341	1 824	5 928	1 875	6 533	1 927	7 154	1 979	7 792	2 031	8 447	2 083	9 119	2 135	9 808
50d câble	1500	3115	104	30	2020	5 750	2 072	6 419	2 124	7 104	2 175	7 807	2 227	8 526	2 279	9 262	2 331	10 015	2 383	10 785	2 435	11 572
30d câble	960	3115	97,5	32	1514	3 790	1 570	4 262	1 625	4 751	1 681	5 257	1 736	5 781	1 791	6 321	1 847	6 878	1 902	7 452	1 958	8 044
35d câble	1120	3115	97,5	32	1674	4 280	1 730	4 801	1 785	5 339	1 841	5 895	1 896	6 467	1 951	7 056	2 007	7 662	2 062	8 286	2 118	8 926
40d câble	1280	3115	97,5	32	1834	4 770	1 890	5 340	1 945	5 927	2 001	6 532	2 056	7 153	2 111	7 791	2 167	8 446	2 222	9 119	2 278	9 808
50d câble	1600	3115	97,5	32	2154	5 750	2 210	6 418	2 265	7 104	2 321	7 806	2 376	8 525	2 431	9 261	2 487	10 015	2 542	10 785	2 598	11 572
30d câble	1020	3115	91,5	34	1609	3 778	1 668	4 249	1 727	4 737	1 786	5 242	1 844	5 763	1 903	6 302	1 962	6 858	2 021	7 430	2 080	8 020
35d câble	1190	3115	91,5	34	1779	4 267	1 838	4 787	1 897	5 323	1 956	5 877	2 014	6 448	2 073	7 035	2 132	7 640	2 191	8 261	2 250	8 900
40d câble	1360	3115	91,5	34	1949	4 756	2 008	5 324	2 067	5 910	2 126	6 512	2 184	7 132	2 243	7 768	2 302	8 422	2 361	9 092	2 420	9 779
50d câble	1700	3115	91,5	34	2289	5 733	2 348	6 399	2 407	7 083	2 466	7 783	2 524	8 500	2 583	9 234	2 642	9 985	2 701	10 753	2 760	11 538

Flange max diam	2100 mm
Nb safety turns on drum	2,5
Mini cable length	6500 m
Max nb of cable turns	20
Mini drum diameter (n x cable diameter)	30
Mini cable diameter	26 mm
Length of drum	3115 mm

2,5 est le minimum donné par la NR526

Use a cable with a diameter of 26, 28 or 30 mm (depends on the supplier)

Choice of new cable



Choose a cable with Dyneema SK78 with 12 x 12 strands or 12 strands

Planning

- Summer and Automn 2019 : Tender and contractual discussions
- January 2020 : Contract signature
- January to May 2020 : Study of new winch and lateral frame
- May to november 2020 : Manufacturing
- December 2020 : FAT
- January 2021: Delivery
- February to April 2021 : Integration on board and trials

Thank you for your attention
Any question ?