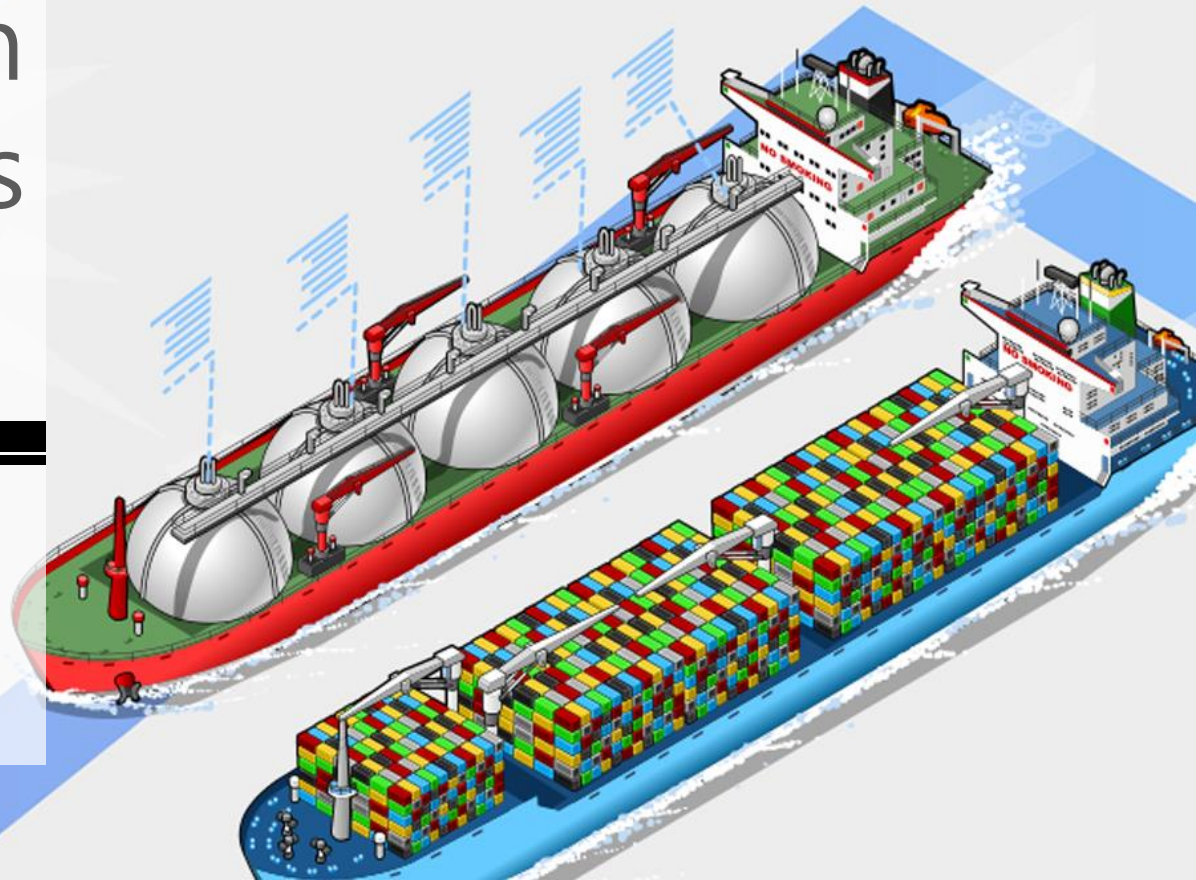
Europe–Korea Conference
On Science and Technology 2022

The reason Why your digitalization Always fails

2022-07-20 MARSEILLE



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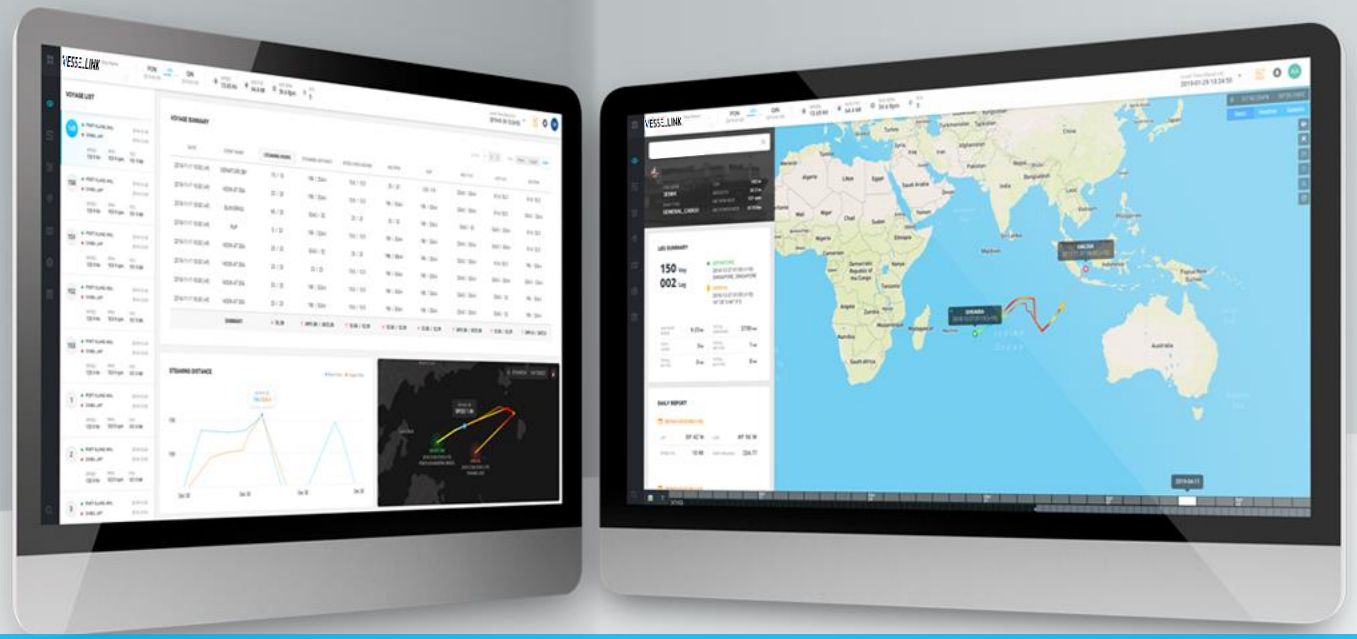
LAB02



VESSELLINK

“Project leader”

Defining problem → Developing Proper tools → Solving problem



Marine engineering with
spec tion in
us vehicles

Deep learn ine learning

CBM, Compute vision

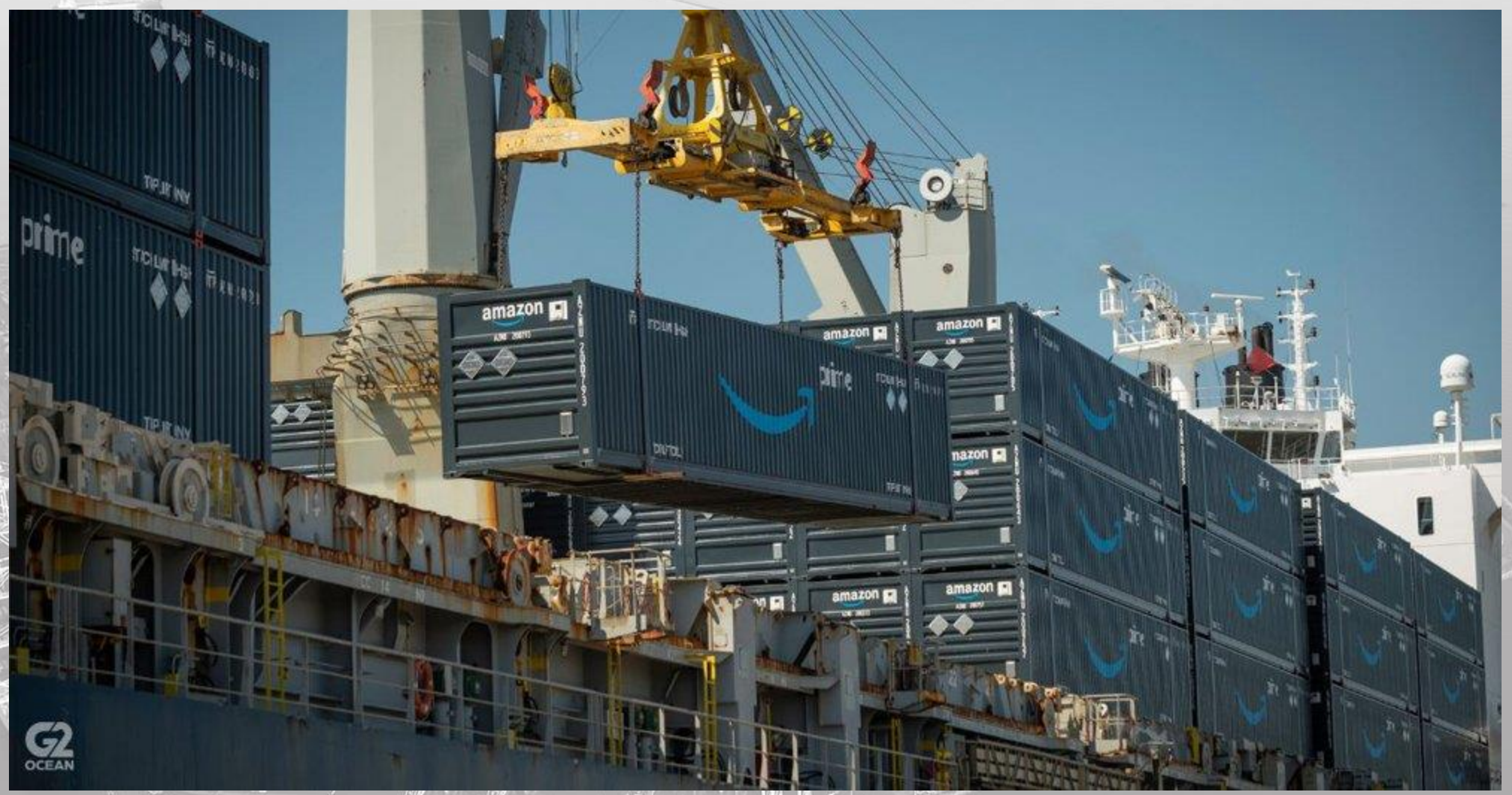




WHY?

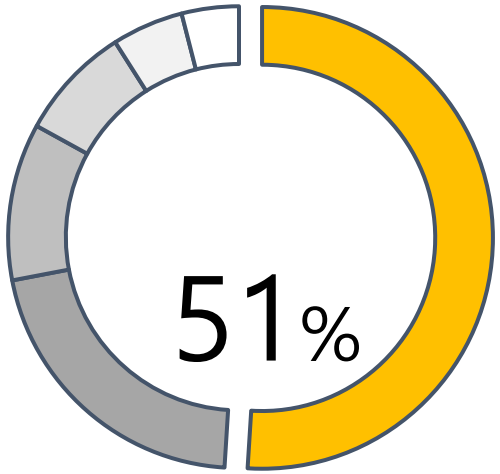


Solving the ‘problem’ they are facing

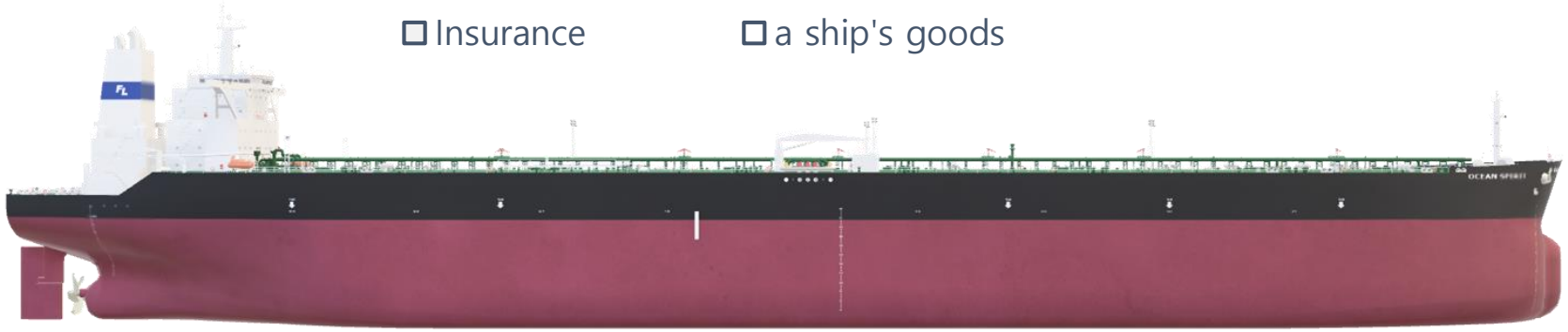


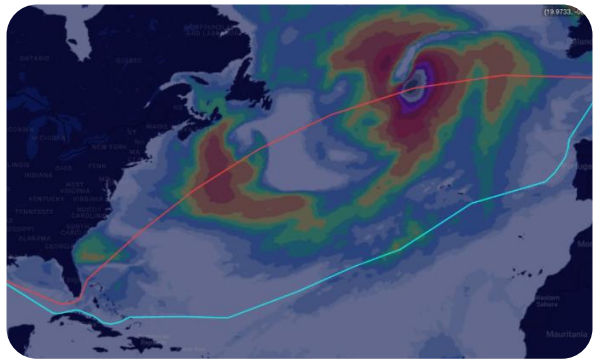
출처 : G2 Ocean 홈페이지

Percentage of fuel costs during ship management

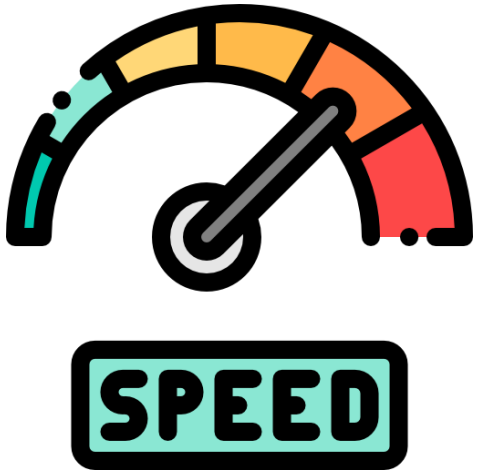


- Fuel
- personnel expense
- Maintenance
- Mangement
- Insurance
- a ship's goods

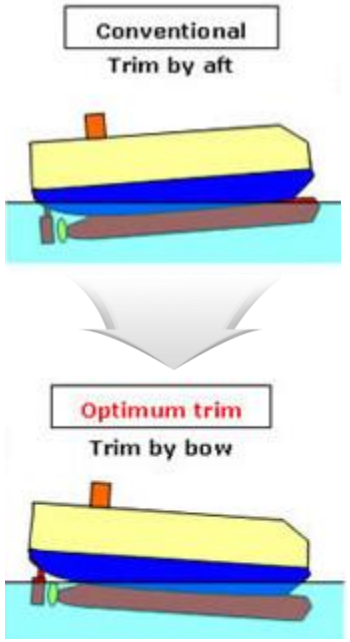




Weather Routing



Optimum Speed



Optimum Trim

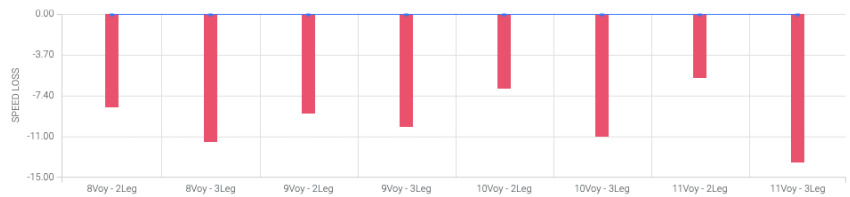
LAB02 | SAMPLE 6 | SGSIN 2022-07-14 — 6 % — ZASDB 2022-08-02 | SPEED 12.43 kn | M/E DFOC - | RPM 47.11 rpm | BF 4 | LAT 6°8.760' N | LON 95°48.216' E | LAST DATA (LOGGER) 2022-07-16 11:01 | Attained CII D 2.16

LEG PERFORMANCE

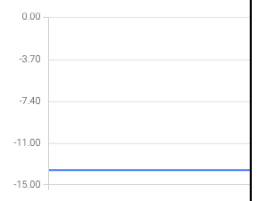
CONDITION: ALL | BAL

LEG STATISTICS — Actual — Target

SPEED LOSS



SISTER SHIP — Average — Actual



VOY	LEG	DEPARTURE	ARRIVAL	CONDITION	LOAD (%)	RPM	ALL WEATHER SPEED (knot)	ALL WEATHER DFOC (t/day)	ALL WEATHER DISTANCE (NM)	ALL WEATHER SLIP (%)	BF	GOOD WEATHER SPEED (knot)	GOOD WEATHER DFOC (t/day)	GOOD WEATHER DISTANCE (NM)
11	3	PONTA DA MADEIRA 2022-06-01 04:18:00 (-3)	LIANYUNGANG 2022-07-18 17:00:00 (+8)	LADEN	46	45.67	10.87	40.13	11,262.00	7.63	4.02	10.89	40.15	5,595.00
11	2	CAOFEIDIAN 2022-04-06 22:00:00 (+8)	PONTA DA MADEIRA 2022-05-16 08:00:00 (-3)	BALLAST	58	49.85	13.79	50.54	12,478.00	-6.25	3.41	13.86	50.46	8,988.00
10	3	TUBARAO 2022-02-17 05:30:00 (-3)	CAOFEIDIAN 2022-04-02 07:00:00.01 (+8)	LADEN	46	45.67	11.14	40.58	11,737.00	5.58	3.57	11.21	40.27	7,727.00
10	2	CAOFEIDIAN 2021-12-30 21:06:00 (+8)	TUBARAO 2022-02-12 00:24:00.01 (-3)	BALLAST	38	42.86	12.03	33.41	11,759.00	-6.97	3.40	11.89	32.72	7,622.00
9	3	TUBARAO 2021-11-16 23:30:00 (-3)	CAOFEIDIAN 2021-12-25 17:00:00.01 (+8)	LADEN	71	52.15	12.79	61.23	11,852.00	5.26	4.13	13.02	61.58	6,486.00

DAILY REPORT

EVENT NAME: NOON AT SEA
REPORT TIME: 2022-07-13 12:00 (0)

DEPARTURE: SINGAPORE 2022-06-22 09:12 (+8)
ARRIVAL: PONTA DA MADEIRA 2022-07-23 11:00 (-3)

CHECK POINT

STOPPAGE

OFF COURSE

ECA

HRA

Beaufort Scale 4

Hull Fouling Risk SW temp. under 25°C

SPEED LOSS (3 month) To be updated

SPEED LOSS (3 day) To be updated

Normal — Caution

SHIP DATA

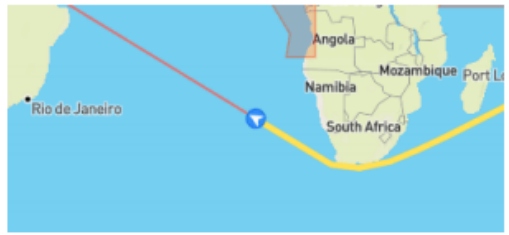
DATA SOURCE	NOON REPORT	LOGGER
SPEED (knot)	12.8	12.77
RUNNING HOUR (hour)	25	25
DISTANCE (mile)	320	319
RPM	50.2	50.06
SLIP (%)	6.19	6.15
DRAFT (m)	12.78	12.49
TORQUE RICH (%)	-3	-3
ME FOC (M/T)	51.3	51.24
GE FOC (M/T)	6.3	5.96
BLR FOC (M/T)	0	0
TOTAL FOC (M/T)	57.6	57.2

Mechanical Defect - No data within 24 hrs

ROB

HFO 4,113.2 M/T	**LSFO** 0 M/T
ULSFO 0 M/T	**DO** 0 M/T
MGO 0 M/T	**ULSMGO** 532.3 M/T
ME CYL OIL 83,337 LITER	**ME SYS OIL** 66,000 LITER

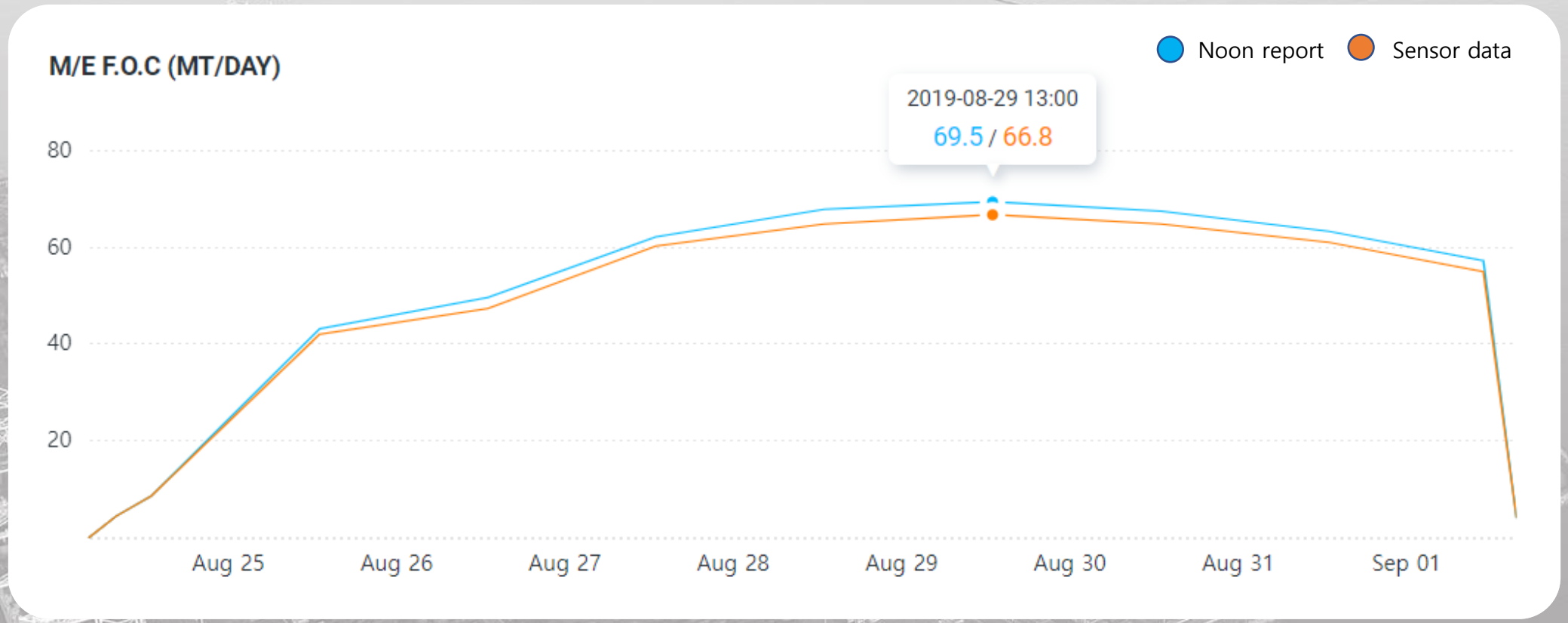
SHIP POSITION



WEATHER

Bad Weather — Today

DATE	2022-07-12	2022-07-13	2022-07-14	2022-07-15	2022-07-16	2022-07-17
B.SCALE	4	4	5	3	5	6
WAVE	2.87 m	2.87 m	3.05 m	2.13 m	1.77 m	2.88 m
WIND	6.82 knot	6.82 knot	9.33 knot	4.99 knot	8.05 knot	11.27 knot
CURRENT	0.09 knot	0.09 knot	0.1 knot	0.13 knot	0.24 knot	0.39 knot



3ton, 600Ton → 0.3 million dollars





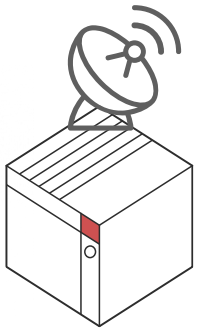


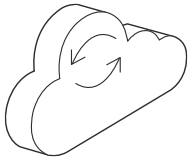


IoT project : 3 years 10 million dollars



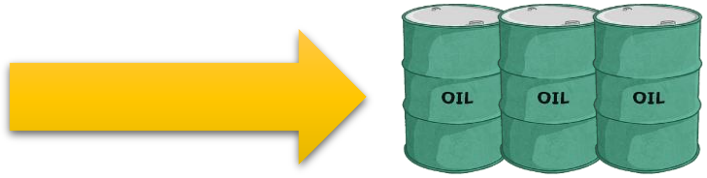




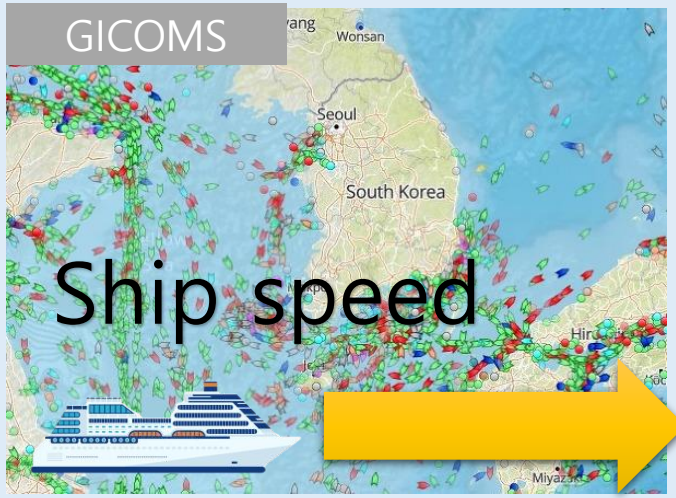


Flowmeter IoT Device Cloud

Fuel consumption

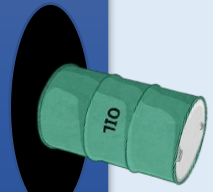


Algorithm project : 3 months 0.1 million dollars

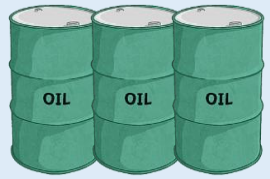


Ship speed

Fuel assumption model
(virtual engine model)



Fuel consumption



선사 관리 | 선박 제원 정보 | **선박 연료유 관리** | 선박 모니터링 | 데이터 관리 | 영우해운(주) | 선박명 또는 선박번호를 입력해 주세요.

3동주

레포트 다운로드 | 저장

< 2021 >



월별 소모율 그래프

자동계산값 | 수정된 자동계산값

행 추가 | 행 삭제

월	공급량 (L)			소모량 (L)		잔량	운항 시간 (hr)		운항 거리 (마일)	평균 속도 (노트)	소모율 (%)	적정 여부	초과 사유	소모량 계산	파일 첨부
	전월 이월	금월 공급	합계	보고량	산출량	이월량	항해	대기							
2021-01	37,086	58,000	95,086	65,168	69,991	29,918	252	492	2,611	10.36	93	O			
2021-02	29,918	54,000	83,918	58,724	61,396	25,194	219	453	2,276	10.39	96	O			
2021-03	25,194	103,000	128,194	75,974	65,229	52,220	224	520	2,397	10.7	116	O			
2021-04	52,220	49,000	101,220	53,744	59,599	47,476	191	529	2,146	11.23	90	O			
2021-05	47,476	63,000	110,476	61,881	65,346	48,595	233	511	2,393	10.27	95	O			
합계		479,000		499,381	520,609		1,817	4,015	19,162						

OUR MISSION

INNOVATE THE OCEAN WITH DIGITAL SOLUTION

"Safety, Efficiency, Environment regulation compliance smart ship solution"



PANOCEAN POSSM POLARIS SHIPPING SMKLCSM Dorlko Limited

KONGSBERG kt sat KSA Korea Shipping Association KR KOREAN REGISTER KRISO 선박해양플랜트연구소

Institute using system

34 institutes +

Cumulative number of ships

500 vessels +



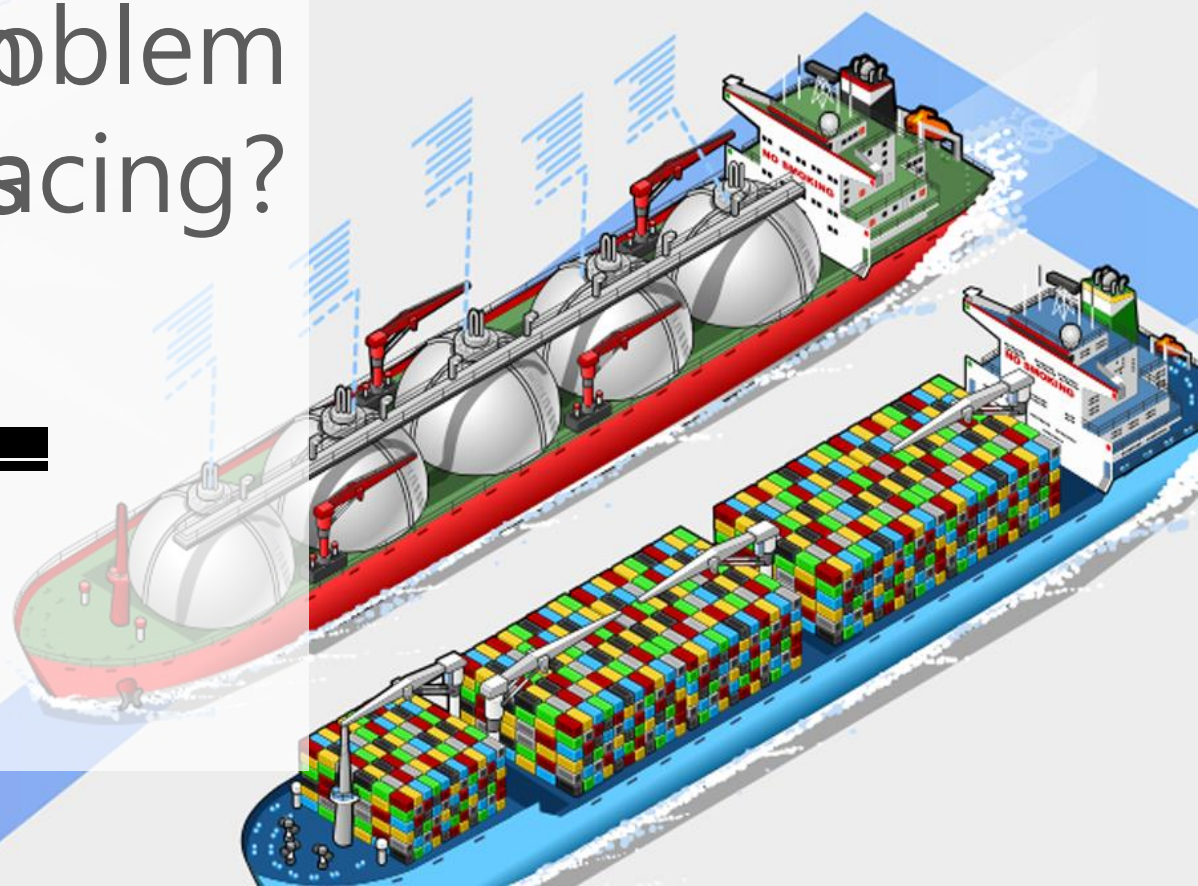
Solving the ‘problem’ they are facing

Europe–Korea Conference
On Science and Technology 2022

The reason
Why your digitalization
Always fails

The year solution
Really solving the problem
Always are facing?

2022-07-20 MARSEILLE



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Efficiency

Safety



Regulation compliance

Unable to control safety

Hard to save money

Out of budget due to regulation

Please keep paying attention
to the changes that LAB021 will make

Thank you

