

FINAL SAFETY REPORT OF LESS SERIOUS MARINE CASUALTY FOR PILOT BOAT KP-965

Contact with mooring buoy in Basin I of Port of Koper
14. 04. 2026



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REPUBLIKA SLOVENIJA
MINISTRSTVO ZA INFRASTRUKTURO IN
ENERGETIKO

SLUŽBA ZA PREISKOVANJE LETALSKIH,
POMORSKIH IN ŽELEZNIŠKIH NESREČ IN
INCIDENTOV

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Contact with mooring buoy in Basin I of Port of Koper
14. 04. 2026

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Air, Marine and Railway Accident and Incident
Investigation Unit

Izola, 30. 9. 2026

Unofficial English translation

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LEGAL AND METHODOLOGICAL BASIS OF THE REPORT

This report was prepared by the maritime casualty investigator of the Air, Maritime and Railway Accident and Incident Investigation Unit (SPLPŽNI; hereinafter: MAIIS) and issued by the Unit in accordance with the provisions of the Maritime Code of the Republic of Slovenia (Official Gazette of the Republic of Slovenia No. 62/16 – consolidated text, 41/17, 21/18 – ZNOrg, 31/18 – ZPVZRZECEP, 18/21, 21/21 – corr., and 76/23) and the Regulation on the Investigation of Maritime Casualties (Official Gazette of the Republic of Slovenia No. 67/11), which further regulates the procedures and conditions for conducting safety investigations into maritime casualties and incidents.

In preparing this report, consideration was also given to the provisions of Directive 2009/18/EC of the European Parliament and of the Council of 23 April 2009 establishing the fundamental principles governing the investigation of accidents in the maritime transport sector, as well as IMO Resolution MSC.255(84), by which the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) was adopted. Other relevant instruments of the International Maritime Organization (IMO), including applicable circulars, guidelines and recommendations relating to marine safety investigations, as well as relevant guidance issued by the European Maritime Safety Agency (EMSA), were also considered.

This report has been prepared solely for the purpose of determining the circumstances, safety issues, causes and contributing factors of the occurrence under investigation, with the objective of preventing similar maritime casualties and incidents in the future. The report is not intended to determine blame, liability, or any form of legal or disciplinary responsibility.

Pursuant to Article 2, paragraph 1, item 2 of the Regulation on the Investigation of Maritime Casualties, a maritime casualty means any occurrence associated with the operation of a ship in which:

- the person dies or is seriously injured in connection with the operation of the ship;
- a person falls off a ship as a result of the operation of a ship;
- the ship is lost, allegedly lost or abandoned;
- the ship is damaged;
- the ship is stranded unless it is stranded intentionally for a short period of time and is not damaged as a result;
- the ship is unseaworthy;
- the ship collides;
- material damage is caused as a result of the operation of the ship; or
- environmental pollution is caused by damage to the ship or by the operation of the ship.

In accordance with paragraph 2.18 of the IMO Casualty Investigation Code, a serious injury means an injury which renders a person incapable of performing normal routine functions for more than 72 hours, where such incapacity occurs within seven days from the date of the injury. As it was confirmed in the present case that the injured person was incapacitated for work for a period exceeding 72 hours, the occurrence is, for the purposes of the safety investigation, treated as a case of serious injury to a person.

Unless expressly stated otherwise, all times referred to in this report are local times (UTC +2).

When interpreting the provisions of international conventions and other international instruments referred to in this report, their full text, including all annexes, should be taken into consideration.



This report is published in both Slovenian and English. In the event of any inconsistency or discrepancy between the language versions, the Slovenian version shall prevail.

A safety investigation is an independent preventive process and is not intended to determine civil, criminal, disciplinary or any other form of liability, nor to apportion blame to any natural or legal person. Its findings are intended solely to improve safety and prevent similar occurrences in the future; therefore, any use of such findings for other purposes would be contrary to internationally recognized principles of safety investigation.

Information:

Reports on the investigation of maritime casualties and incidents are published on the website of the Ministry of Infrastructure at the following address:

<https://www.gov.si/drzavni-organi/ministrstva/ministrstvo-za-infrastrukturo/o-ministrstvu/sluzbe-za-preiskovanje-letalskih-pomorskih-in-zelezniskih-nesrec-in-incidentov/preiskovanje-pomorskih-nesrec-in-incidentov>
<https://www.gov.si/drzavni-organi/ministrstva/ministrstvo-za-infrastrukturo-in-energetiko/o-ministrstvu/sluzbe-za-preiskovanje-letalskih-pomorskih-in-zelezniskih-nesrec-in-incidentov/preiskovanje-pomorskih-nesrec-in-incidentov/>

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MEANING OF ACRONYMS AND TERMS

Abbr.	Meaning	Brief explanation
AIS	Automatic Identification System	A system for the automatic transmission and reception of data on a vessel's identity, position, speed and course.
COG	Course Over Ground	The direction of the vessel's actual movement over the Earth's surface, expressed in degrees.
ECFA	Event and Causal Factors Analysis	A method for the graphical representation of the sequence of events, contributing factors and related safety issues and safety deficiencies.
EMCIP	European Marine Casualty Information Platform	The European information platform for recording and analyzing marine casualties and incidents.
EMSA	European Maritime Safety Agency	An agency of the European Union whose role includes reducing the risk of marine casualties, ship-source pollution and loss of life at sea by supporting the implementation of relevant EU legislation.
GRP	Glass-Reinforced Plastic	Composite material used in the construction of the hull and structural components of KP-965.
HIN	Hull Identification Number	A unique identification number assigned to the vessel's hull.
IMO	International Maritime Organization	A specialized agency of the United Nations responsible for the safety and security of shipping and for preventing marine and atmospheric pollution from ships.
KOPP	KOPP d.o.o.	Provider of maritime pilotage services and operational user of pilot boat KP-965.
LT	Local Time	Local time used in the report; UTC+2 on the date of the occurrence.
MAIIS	Maritime Accident and Incident Investigation Service / Unit	English designation used for the authority or function responsible for marine casualty and incident safety investigations.
MMSI	Maritime Mobile Service Identity	A unique nine-digit identification number assigned to a maritime radio station or vessel.
SHEL / SHELL	Human factors analysis model	An analytical model used to assess the interfaces between people, procedures, equipment, the environment and other people.
SOG	Speed Over Ground	The vessel's actual speed of movement over the Earth's surface.
SPLPŽNI	Air, Maritime and Railway Accident and Incident Investigation Unit	The Slovenian state safety investigation authority responsible for transport accident and incident investigations.
URSP	Slovenian Maritime Administration	The competent national authority for maritime affairs and safety of navigation.
UTC	Coordinated Universal Time	The international reference time from which local time is determined.
VHF	Very High Frequency	Marine radio communications used between vessels and with VTS and other shore-based services.
VTS	Vessel Traffic Service	A shore-based service that monitors vessel traffic and provides information and support for safe navigation.



Abbr.	Meaning	Brief explanation
Bureau Veritas	classification society	An organization that carries out classification and technical surveys of vessels and verifies their compliance with applicable requirements.
crew member	another person trained to operate the vessel	Term used in the report for the additional person on board the pilot boat who is trained to operate the vessel and provide operational support.
Diamond-process	human factors analysis method	A supporting analytical framework used to distinguish direct actions from factors affecting human performance.
contact with a fixed object	allision with a fixed object	A marine occurrence in which a vessel strikes or comes into contact with fixed port infrastructure or another stationary object.
cross-checking	verification using an independent source	Comparison of visual observations with radar, plotter, AIS or another source in order to support timely detection of hazards or deviations.
pilot boat / pilot vessel	vessel used for the transfer of maritime pilots	A vessel intended for transporting, embarking and disembarking maritime pilots.
plotter	electronic navigational display / chart plotter	Equipment used to display the vessel's position, electronic chart data and the vessel's route or track.
maritime pilot	pilot	A professionally qualified person who advises the master on navigation and maneuvering within a pilotage area.
call sign	ship radio call sign	An internationally assigned designation used to identify a vessel in radio communications.
mooring buoy	floating object used for mooring vessels	A moored or anchored floating item of port infrastructure intended for securing vessels; in the occurrence under investigation, buoy 2/I.
radar	marine radar / radar navigation equipment	Equipment is used to detect objects and determine their bearing and distance from the vessel.
safety barrier	safety barrier	A technical, human or organizational measure intended to prevent an occurrence or mitigate its consequences.
pilot transfer	transfer of a pilot	The operation of embarking, disembarking or transporting a pilot between a ship and a pilot boat.
TZ MAPS EM002	electronic chart database	The chart package used on the FURUNO TZT16X navigation system fitted on KP-965.
pilot boat operator	person operating the pilot boat	The person directly operating and maneuvering the pilot boat.
safety deficiency	safety deficiency	A deficiency in a technical, organizational, operational or regulatory safety system or barrier.
safety barrier	safety barrier	A mechanism or measure intended to prevent the development of a hazardous occurrence or mitigate its consequences.
safety recommendation	safety recommendation	A preventive recommendation issued by the safety investigation authority to reduce the risk of recurrence of a similar occurrence.

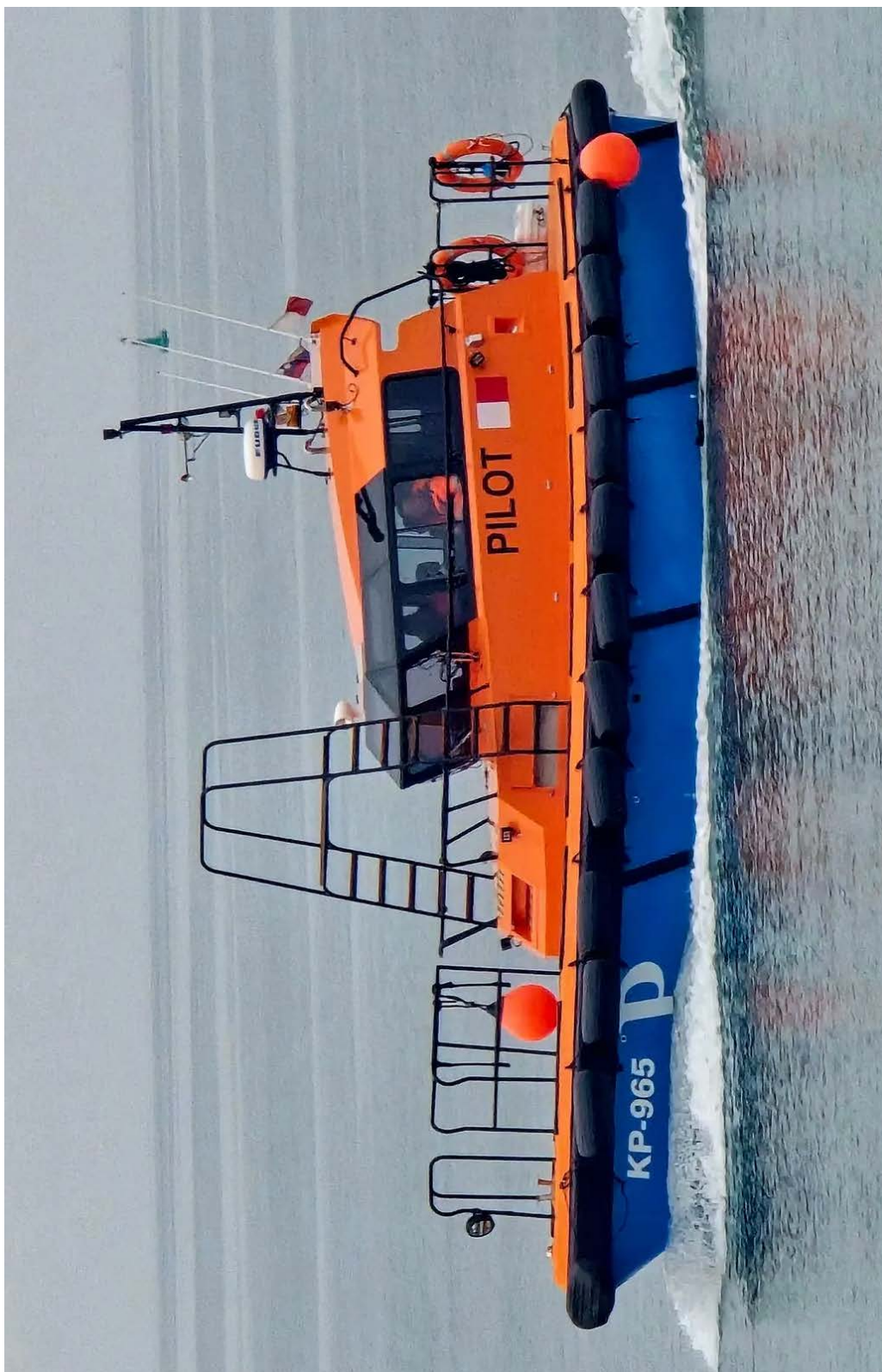


Figure 1: Pilot boat KP-965



SUMMARY

On 14 April 2026 at approximately 02:16:48 LT, pilot boat KP-965, during a night pilot transfer from Basin III towards M/V MSC CAITLIN II in Basin I of the Port of Koper, contacted mooring buoy 2/I with its forward section. On board were the pilot boat operator, an additional person trained to operate the vessel (hereinafter: “crew member”), and the pilot.

After taking the pilot off M/V ANJI SOUNDNESS, KP-965 proceeded for most of the passage at approximately 22 knots. According to his own statement, the operator temporarily lost active monitoring of the intended track. The last pre-contact AIS data point, at 02:16:45 LT, showed 19.2 knots at a calculated distance of 54.6 m from the buoy. The crew member detected the buoy at approximately 20–30 m and warned the operator; however, speed reduction and the avoiding maneuver were initiated too late to prevent contact.

Meteorological visibility was good; however, the port lighting background reduced the contrast of the white, unlit mooring buoy. The radar and the FURUNO TZT16X plotter were switched on and operational, but according to KOPP the mooring buoys were not visible or displayed on the electronic display at the time. The precise technical reason could not be established because historical display data were not available. Owing to the temporarily altered seating arrangement, the crew member was seated in a position with restricted forward visibility and without direct access to the navigation displays.

No personal injuries occurred; however, the pilot fell from his seat during the sudden event. KP-965 sustained damage to the forward GRP laminate, one propeller shaft and both propellers. The buoy sustained damage to its guard rail, including a broken supporting post, while the basic mooring function remained intact. No pollution occurred.

The investigation found that the occurrence was not the result of an isolated individual error. Contributing factors included high speed, temporary loss of track monitoring, ineffective shared lookout, the crew member’s restricted field of view, and the ineffectiveness of electronic and organizational safety barriers. Based on the final information, initial practical training of the pilot boat operator and the crew member was probably carried out; however, for the period before the occurrence there was no demonstrated unified and traceable system of practical assessment, formal authorization and recurrent training. The identified systemic deficiencies form the basis for safety recommendations addressing training, safe speed, allocation of duties, use of navigation equipment, post-occurrence procedures and the regulatory framework for training.



CHAPTER 1 – FACTUAL INFORMATION

1.1. Vessel Particulars

Table 1: Vessel particulars

Vessel Particulars	
Vessel identification	KP-965
Type / purpose	Motorboat P11; commercial use – transport of maritime pilots
Operator	KOPP d.o.o., Koper
Owner	NLB Lease&Go d.o.o., Ljubljana
Year / builder / place	2024; NASAI MARINE SL; St. Carles de la Ràpita, Spain
Classification society	Bureau Veritas
Flag / port of registry	Republic of Slovenia / Koper
Navigation area	Coastal area (C)
MMSI / call sign	278002044 / S5K2965
HIN	ES-NSI00119D410
Principal dimensions	Length 10.80 m; breadth 3.32 m
Hull material	Polyester / GRP composite
Propulsion	2 × Volvo Penta D6-340; total approximately 500 kW
Engine serial numbers	A1051382 and A1251859
Maximum permitted persons	7
Navigation equipment	VHF, magnetic compass, AIS, radar, FURUNO TZT16X / TZ MAPS EM002
Seating configuration	One seat was under repair due to a warranty issue; safety belts were not provided
Navigation permit	Valid until 17 March 2027; registration dated 17 March 2025, No. 3734-1-00038/2025
Marine Casualty / Incident Information	
Date and time	14 April 2026, most probably 02:16:48 LT
Type of occurrence	Contact with a fixed object – mooring buoy 2/I
Location	Port of Koper, Basin I
Operation	Pilot transfer from ANJI SOUNDNESS towards MSC CAITLIN II
Persons on board	Pilot boat operator, an additional person trained to operate the vessel, and the pilot
Personal injuries	None
Damage	Forward GRP structure, one propeller shaft, both propellers; local damage to the guard rail of buoy 2/I
Environmental impact	No pollution or discharge



1.2. Route particulars

Table 2: Route particulars

Time (LT)	Key information
02:13:28–02:13:33	Pilot transfer from ANJI SOUNDNESS to KP-965.
02:15:48	SOG 22.0 knots; approximately 721 m from the buoy.
02:16:30	SOG 21.3 knots; approximately 212 m from the buoy.
02:16:45	Last pre-contact AIS data point: SOG 19.2 knots; COG 133.2°; 54.6 m from the buoy.
~02:16:48	Most probable time of contact with buoy 2/I.
02:18:59	KP-965 arrives alongside MSC CAITLIN II; the pilot boards the vessel.

1.3. Weather and Environmental Conditions

Wind ENE 3.7 m/s, meteorological visibility 21 km, with no fog or precipitation. According to the statements, port lighting and reflections reduced the contrast of the white, unlit buoy 2/I, which was positioned outside the usual navigation route.

1.4. Involvement of Shore and Port Services

VTs was monitoring traffic and had VHF/VTs data available. It was not notified of the contact. According to the information received, the KOPP director was notified at approximately 02:45; URSP received unofficial information on 15 April, while the formal report was submitted on 18 April 2026.

1.5. Consequences and Implications

Table 3: Consequences and implications

Area	Finding
Vessel	Damage to the forward GRP laminate; one bent propeller shaft; both propellers deformed.
Buoy 2/I	Damaged guard rail and broken supporting post; the basic mooring function remained intact.
Persons / environment	No personal injuries and no pollution.

1.6. Human Factors

Table 4: Human factors

Person	Relevant information
Pilot boat operator	Approximately 3 hours of sleep; concern for a sick child; he described a lapse in attention and loss of track monitoring. Formal qualifications, including VHF competence, were valid.
Crew member	Approximately 1.5–2 hours of sleep; restricted forward view and no direct access to the radar/plotter; warning given at approximately 20–30 m. Formal competence was demonstrated.
Pilot	Did not actively monitor the navigation because he regarded himself as a passenger; had a partial forward view and partial view of the displays.



1.7. Organizational Factors and Operational Procedures

KOPP retrospectively describes broad initial practical familiarization for the pilot boat operator and the crew member; however, for the period before the occurrence, no unified traceable system was demonstrated with assessment criteria, formal authorizations and recurrent training. Speed rules, lookout duties, the standard for use of radar/plotter and the post-contact procedure were not comprehensively formalized as a verifiable operational system.

1.8. Previous and Subsequent Occurrences

No previously comparable recorded occurrences involving contact between KOPP pilot boats and mooring infrastructure were identified in the VTS/URSP records or in the records of the investigating body. The absence of records does not allow any conclusion to be drawn regarding possible internal near-miss occurrences that were not recorded.



CHAPTER 2 – NARRATIVE OF THE OCCURENCE

On 14 April 2026, KP-965 was carrying out consecutive pilot transfers during the night shift. Following completion of the unberthing of ANJI SOUNDNESS, the pilot was taken on board the pilot boat at 02:13:28 LT. On board were the pilot boat operator, the crew member and the pilot. The next task was to transfer the pilot to MSC CAITLIN II at Berth 7A in Basin I.

Following the transfer, KP-965 accelerated to approximately 22 knots. The operator intended to proceed along a safe track outside the area of the mooring buoys, but according to his own statement he temporarily lost active monitoring of the intended track. Before the high-speed night passage, no explicit allocation of lookout and cross-checking duties had been agreed. Because one seat was under repair, the crew member was seated aft on the port side, with restricted forward visibility and without direct access to the navigation displays; the pilot monitored the passage passively.

Raw VTS/AIS data show SOG 21.3 knots at 02:16:30 at a distance of approximately 211.8 m, and the last pre-contact data point of 19.2 knots at 02:16:45, 54.6 m from the buoy. The crew member detected the buoy at approximately 20–30 m and warned the operator. The operator reduced power and engaged astern propulsion, but the remaining distance no longer allowed effective stopping or avoiding maneuver. The most probable time of contact was 02:16:48 LT; the precise speed at physical contact cannot be determined because AIS reports were transmitted at intervals.

Buoy 2/I was white, unlit and intended for mooring outside the usual navigation route. Meteorological visibility was good, but the port lighting background reduced its contrast. The radar and plotter were switched on and operational; however, KOPP subsequently confirmed that the mooring buoys were not visible or displayed on the electronic display at the time. As the plotter does not maintain display history, the selected scale, layers or the technical reason for the non-display could not be reconstructed; the radar settings and the actual intensity of radar monitoring likewise could not be reconstructed.

No personal injuries or water ingress occurred upon contact. Following a rapid internal inspection, KP-965 completed the immediate transfer to MSC CAITLIN II. Subsequent technical inspections identified, in addition to damage to the forward laminate, one bent propeller shaft and deformation of both propellers. The buoy sustained local damage to its guard rail but retained its basic functionality. VTS/URSP was not immediately notified of the contact.

2.1. Key Reconstruction

Table 5: Key reconstruction of the occurrence

Phase	Evidence-supported situation
Approach	High-speed night passage; temporary loss of monitoring of the intended track; no effective independent navigational cross-check.
Detection / response	Buoy detected very late; speed reduction and astern propulsion initiated immediately before contact.
After contact	Transfer completed following a limited internal inspection; no immediate notification to VTS/URSP.

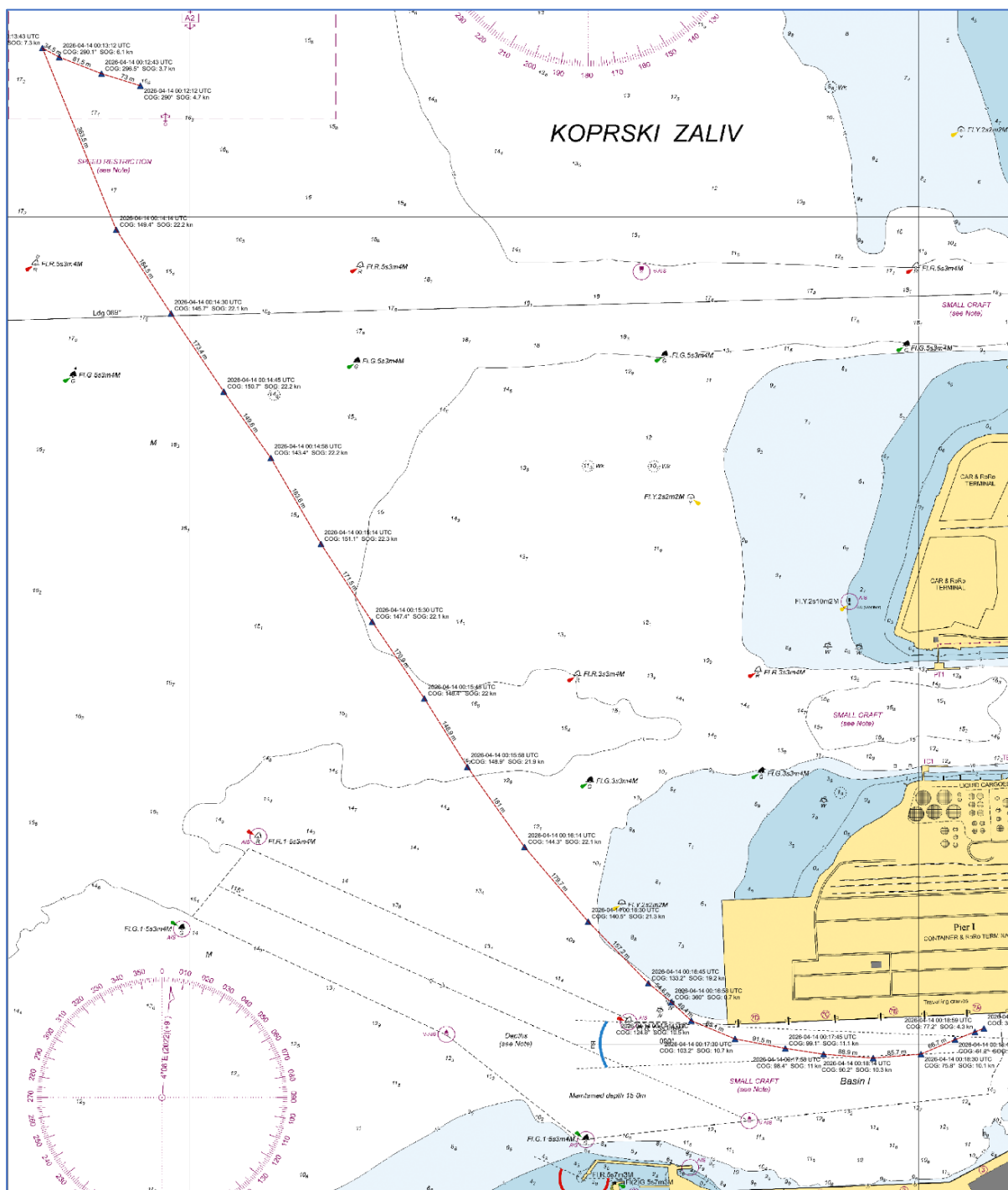


Figure 2: Reconstruction of the KP-965 track based on raw VTS/AIS records. Source: SMA

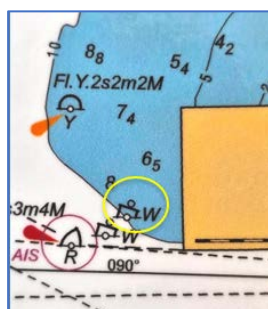


Figure 3: Extract from nautical chart INT 3469 showing the mooring infrastructure area and buoy 2/I (yellow circle). Source: GIS

CHAPTER 3 - ANALYSIS

3.1. Methodological Framework

The analysis was conducted in accordance with the principles of safety investigation, without apportioning blame. The methods used included VTS/AIS and VHF timeline reconstruction, comparison of statements, technical and cartographic assessment, SHEL/SHELL, the Diamond-process as a supporting human-factors framework, and safety-barrier analysis. Retrospective statements were distinguished from contemporaneous traceable records.

3.2. Prescribed / Expected Safe Practice and Actual Navigation

Table 6: Actual navigation compared with expected safe practice

Element	Expected safe practice	Actual practice	Assessment
Track / speed	Continuous monitoring of the safe track and speed allowing sufficient time for detection and maneuvering.	Deviation from the intended track; approximately 22 knots for most of the transfer.	Ineffective
Lookout	Clear allocation of duties and independent, timely warning.	Crew member without an explicit task and with restricted view; pilot passive.	Degraded
Radar / plotter	Cross-checking using multiple independent sources, awareness of display limitations and radar cross-check.	Equipment operational; buoys not visible on the display; active radar cross-check not demonstrated.	Ineffective in use
Seating arrangement	Supporting person to have an adequate view and access to information.	One seat under repair; crew member without direct access to the displays.	Degraded
After contact	Immediate reporting, preservation of data and documented technical assessment.	Rapid internal inspection, continuation of the transfer, no immediate notification to VTS/URSP.	Incomplete



Figure 4: Forward view from the cabin and position of the radar/plotter. Source: MAIIS.



3.3. SHEL/SHELL Analysis

Table 7: SHEL/SHELL Analysis

Element	Finding
S – Software	Pre-occurrence rules concerning speed, lookout duties, use of radar/plotter, recurrent training and action following contact were not comprehensively formalized and traceable.
H – Hardware	Propulsion, steering, radar and plotter showed no technical failure before contact; the buoys were not visible on the electronic display. One seat was under repair.
E – Environment	Good meteorological visibility, but a visually complex port environment and a white, unlit buoy with reduced contrast.
L – Liveware	The operator described a lapse in attention; short actual sleep was a possible performance-shaping factor, but fatigue as an independent factor was not established.
L–L – Liveware– Liveware	There was no clear allocation of navigational duties; shared situational awareness between the operator, crew member and pilot was not established.

3.4. “Diamond-process” Human-Factors Analysis

The “Diamond-process” was used as a supporting analytical framework to distinguish immediate actions from the circumstances that influenced task performance. The analysis begins with a broad review of the available information and then progressively focuses on the most important and best-supported safety issues, contributing factors and systemic deficiencies.

The best-supported elements were loss of active track monitoring, high speed, late warning due to the crew member’s restricted position, the pilot’s inactive cross-checking, and continuation of the plan after contact. Short actual sleep and personal concerns were treated as possible performance-shaping factors, not as independently established fatigue.

3.5. Safety-barrier Analysis

Table 8: Safety-barrier analysis

Barrier	Observed condition	Assessment
Safe track / speed	The track was not continuously monitored; speed substantially reduced the time available for detection and maneuvering.	Ineffective
Shared lookout	The crew member had a restricted view, and the pilot did not actively monitor the navigation.	Degraded
Radar / plotter	The equipment was operational, but the buoys were not visible on the display; radar cross-check was not demonstrated.	Degraded
Seating arrangement	The temporary configuration restricted the crew member’s field of view and access to navigational information.	Degraded
Post-contact inspection / reporting	The initial inspection did not identify all damage; VTS/URSP were not immediately notified.	Limited / ineffective
Training / authorizations	Initial familiarization was probably carried out, but traceability, criteria and recurrent assessment were not demonstrated.	Partially established

3.6. Analysis of a Similar Occurrence

No previous comparable recorded contacts between KOPP pilot boats and mooring infrastructure were identified in the VTS/URSP records or the records of the investigation body. It is therefore not justified to conclude that a recurring documented pattern existed.

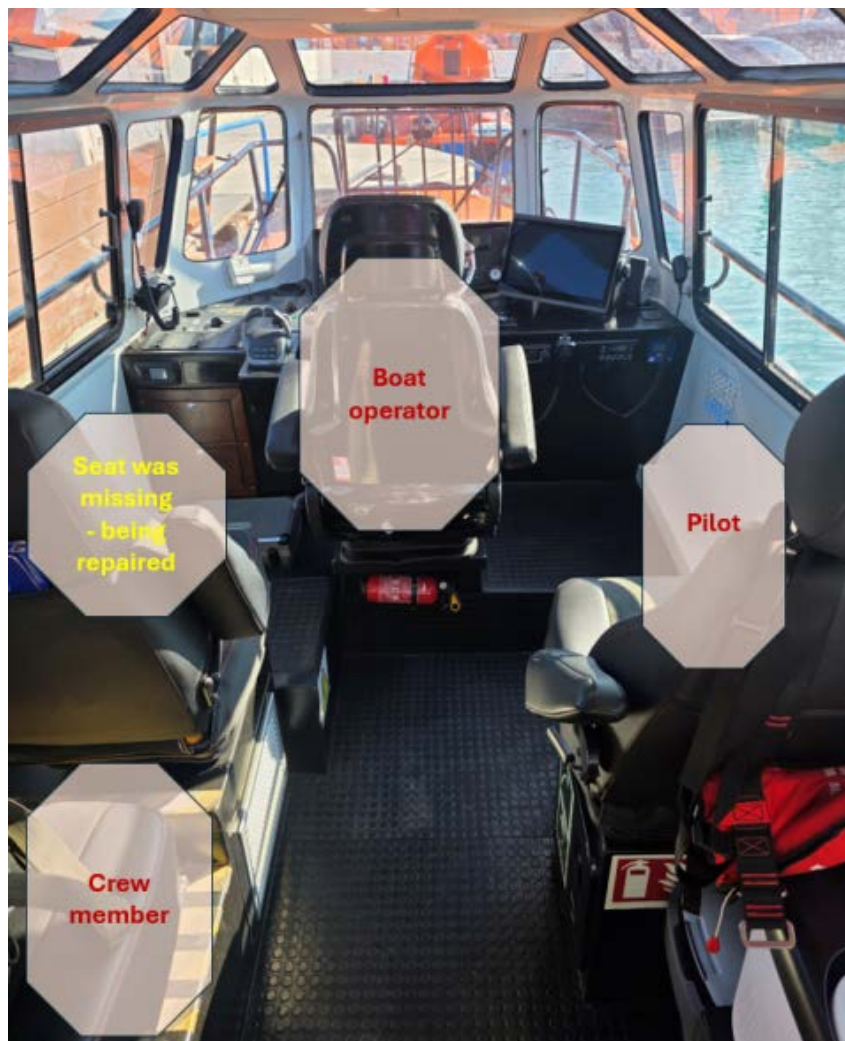


Figure 5: Confirmed seating arrangement of persons (reconstruction), source: MAIIS

3.7. Limitations of Analysis

Table 9: Limitations of the analysis

Area	Limitation / treatment
Speed / navigation display	The vessel's actual speed could not be reliably reconstructed from the available data; the last pre-contact value of 19.2 knots is used. No plotter display history or radar settings were available.
Training	Initial familiarization was probably carried out, but without contemporaneous traceability; a recurrent training system was not demonstrated.
Night visibility / seating	A night-time reconstruction and a regulatory assessment of restraint systems were not carried out; conclusions therefore remain cautious.
Time pressure	The objective timeline does not confirm operational urgency.



CHAPTER 4 - FINDINGS

4.1. Casualty Event

On 14 April 2026, at most probably 02:16:48 LT, KP-965 contacted mooring buoy 2/I with its forward section during a night pilot transfer towards Basin I. There were no personal injuries and no pollution. The forward GRP laminate, one propeller shaft and both propellers were damaged; the buoy sustained local damage to its guard rail while its basic function remained intact.

4.2. Direct Cause

The direct cause was continued navigation towards the mooring buoy at a speed which, following the very late detection, no longer allowed effective stopping or an avoiding maneuver. Power reduction and astern propulsion were applied immediately before contact.

4.3. Contributing Factors

Table 10: Contributing factors

Contributing factor	Finding
Speed	Approximately 22 knots for most of the pilot-transfer passage.
Track monitoring	Temporary loss of active monitoring of the intended track.
Shared lookout	The crew member had a restricted view and no direct access to the displays; the pilot did not actively monitor the navigation.
Environment / navigation equipment	The white, unlit buoy had reduced contrast; the buoys were not visible on the electronic display, and effective radar cross-check was not demonstrated.
Human factors	Possible reduced alertness of the operator was a performance-shaping factor; time pressure was not established by the evidence.

4.4. Systemic Factors

Initial training was probably carried out, but without unified traceability, standardized criteria, formal authorizations and evidence of recurrent training. Safe-speed rules, allocation of duties and the standard for use of radar/plotter were not comprehensively integrated into a verifiable operational system. The temporary seating configuration was not supported by a documented risk assessment, and the post-contact procedure did not ensure immediate notification, preservation of data and a traceable technical assessment.

4.5. Safety Issue

The principal safety issue was an insufficiently integrated and verifiable system for the safe conduct of high-speed night pilot transfers between port basins. The system was overly dependent on the operator's continuous attention, while other navigational and organizational barriers did not interrupt the development of the hazardous situation in time.

4.6. Safety Deficiencies

Table 11: Safety deficiencies



No.	Safety deficiency
1	Initial and recurrent training and practical assessment were not sufficiently traceable and standardized.
2	Safe-speed criteria for internal transit were not sufficiently clearly defined, implemented and supervised.
3	Lookout and cross-checking duties were not clearly activated; the temporary seating configuration reduced the support available from the crew member.
4	Use of radar/plotter, display limitations and cross-checking of hazards were not sufficiently standardized and verified.
5	The post-contact procedure did not ensure immediate notification, preservation of data and a documented technical decision on continuation of navigation.
6	The regulations did not sufficiently link the required competence of both roles with initial, recurrent and traceable practical assessment.

The ECFA event and causal factors analysis diagram, prepared in accordance with IMO Resolution A.1075(28), is shown on the following page.



4.7. ECFA DIAGRAM



Figure 6: EFCA Diagram



CHAPTER 5 – SAFETY ACTIONS TAKEN

SI-MAIIS-AT001-2026

Safety action and evidence of implementation

No safety actions had been taken by the time the final report was issued.

Comment of the investigation body

Following expiry of the thirty-day period for review and comments on the final draft report, no comments were received from MZIE / Directorate of Aviation and Maritime Transport. KOPP replied that it had no comments on the draft report and that it would implement the safety actions during the first half of 2027.



CHAPTER – SAFETY RECOMMENDATIONS

Note:

In exceptional cases, where there is an immediate risk to safety, an interim preliminary safety recommendation may be issued even though the formal investigation has not yet been completed.

Based on the analysis of the occurrence, the investigation body issues the following safety recommendations aimed at preventing the recurrence of similar occurrences:

SI-MAIIS-SR003-2026 – Training and competence assessment

Addressee: KOPP d. o. o.

It is recommended that KOPP establish a traceable system of initial and recurrent training for pilot boat operators and for the additional person trained to operate the pilot boat, with clearly defined training content, practical assessment, performance criteria and authorization to perform duties independently.

SI-MAIIS-SR0004-2026 – Safe speed and navigation within the port

Addressee: KOPP d. o. o.

It is recommended that KOPP define and implement operational criteria for the safe speed of pilot boats when navigating between port basins, particularly at night and in the vicinity of mooring infrastructure, considering visibility, available maneuvering space, lookout and navigation equipment.

SI-MAIIS-SR005-2026 – Allocation of duties and lookout

Addressee: KOPP d. o. o.

It is recommended that KOPP clearly define the duties of the pilot boat operator and the additional trained person with regard to lookout, monitoring the vessel's position and heading, use of navigation displays and timely warning of hazards, considering the actual seating arrangement and field of view.

SI-MAIIS-SR006-2026 – Use of navigation equipment

Addressee: KOPP d. o. o.

It is recommended that KOPP standardize the use of radar, plotter and other navigation sources, including verification of the suitability of chart data, display limitations, selection of an appropriate scale and mandatory cross-checking of position and hazards. Any discrepancies identified between official nautical charts and electronic displays on pilot boats should be recorded, assessed in terms of risk and appropriately addressed.

SI-MAIIS-SR007-2026 – Action following an accident or contact

Addressee: KOPP d. o. o.

It is recommended that KOPP establish a formal procedure for action in the event of a marine casualty or incident involving a KOPP pilot boat, including immediate notification of VTS/URSP, preservation of data, inspection of the vessel and affected infrastructure, and a decision on continuation of navigation.

SI-MAIIS-SR008-2026 – Regulatory framework for training

Addressee: MZIE / Directorate of Aviation and Maritime Transport
Slovenian Maritime Administration

It is recommended that the competent authorities consider amending the regulations¹ governing maritime pilotage so that requirements for initial and recurrent training, practical assessment, maintenance of competence and documented traceability are clearly defined both for the pilot boat operator and for the additional person trained to operate the vessel.

Such provisions could be incorporated into the existing Article 20 of the Rules on Maritime Pilotage or into a new additional article, should that be more appropriate in terms of the structure of the Rules.

SI-MAIIS-SR009-2026 – Determination and recording of minimum pilot boat manning

Addressee: Slovenian Maritime Administration

For information: Bureau Veritas Slovenia

It is recommended that the Slovenian Maritime Administration, in cooperation with the classification society Bureau Veritas, harmonise and correct the number of crew members² required for the safe navigation of pilot boats, so that, for vessels (KP-165, KP-859 and KP-965) intended for pilot transfer, the requirements of the third paragraph of Article 20 of the Rules on Maritime Pilotage are duly taken into account.

The established minimum number of crew and the required competence should be stated consistently in the vessel survey report and consequently be properly recorded in the Register of Boats or other official vessel records.

Note: Safety Recommendation SI-MAIIS-SR009-2026 was added after the draft report had been circulated. During the report-review period, it was communicated orally to the responsible personnel of URSP.

¹ Explanation of Safety Recommendation SI-MAIIS-SR008-2026 – investigator's expert opinion

In the investigator's assessment, the proposed amendment to the Rules would not introduce a new obligation but would define existing requirements more clearly. The regulation governing the provision of the public service of maritime pilotage already requires a training system for operating pilot boats and recurrent training of operators, while the Rules on Maritime Pilotage require, in addition to the person operating the vessel, the presence of another person trained to operate it. As pilot boats operate in a demanding port environment, often at night and in close proximity to ships and mooring infrastructure, it is appropriate to define initial and recurrent, and where necessary additional practical training for the specific pilot boat for both persons. The purpose of the proposed amendment is primarily to ensure that the competence requirement for both persons is not understood merely as fulfilment of a formal condition, but as actual, maintained and practically verified competence for the specific pilot boat and the conditions in which it is operated. Training and assessments should also be properly recorded so that their completion and scope can subsequently be verified. This would provide a clearer link between the general training-system requirement under the Regulation and the specific operational requirements laid down in the Rules for work on a pilot boat.

² The purpose of the recommendation is to ensure that, when determining the minimum number of crew for a pilot boat, not only the general technical requirements but also the specific operational requirements of maritime pilotage and alignment with the legal basis are considered.

The third paragraph of Article 20 of the Rules requires, in addition to the person operating the vessel, another person trained to operate the vessel; the pilot does not replace that person. Accordingly, the vessel's purpose, required manning and the information contained in technical and registration documents must be mutually consistent and reflect the actual requirements for the safe conduct of pilotage



ANNEXES

Annex 1. – Illustration of damage to the boat

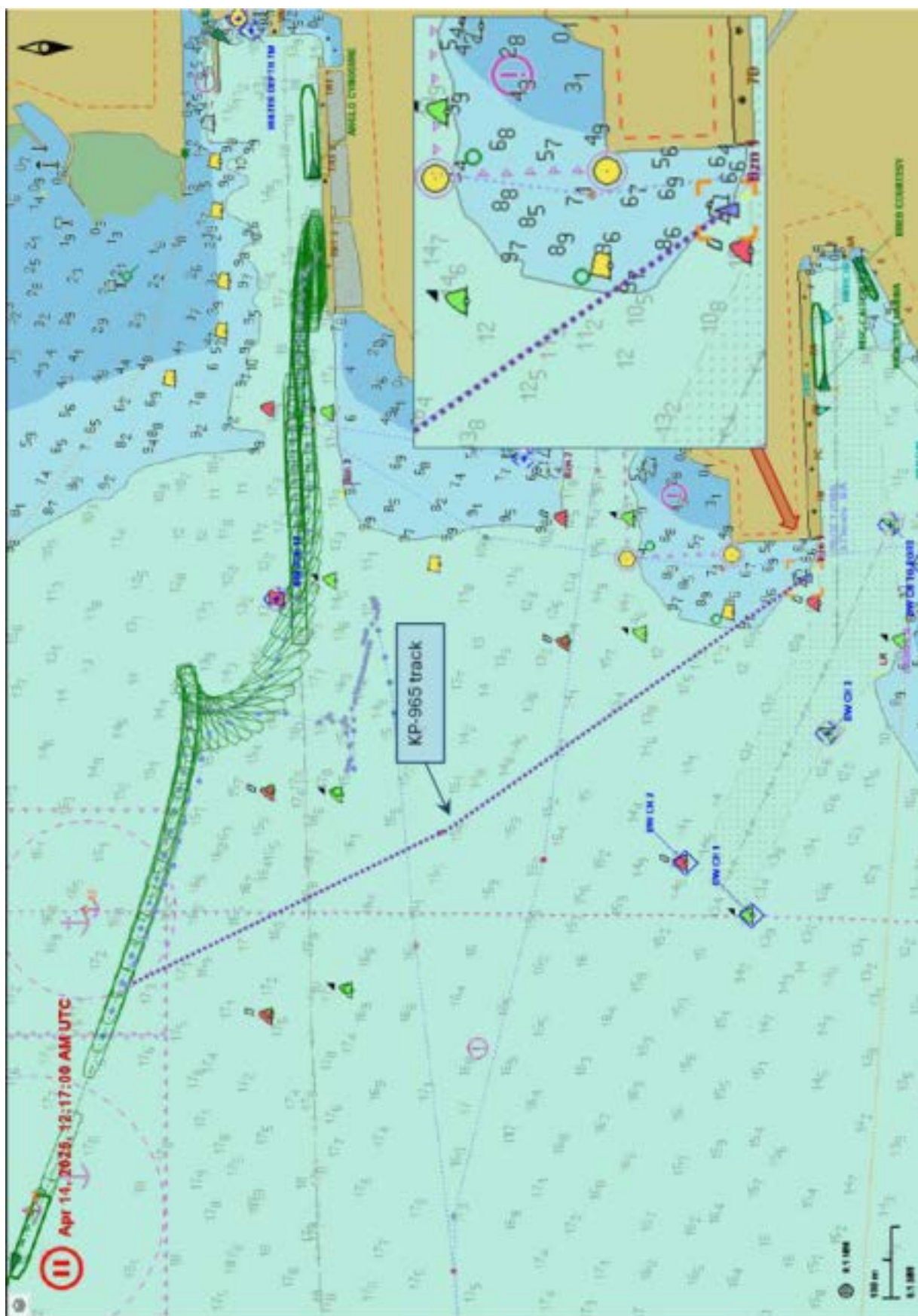
Annex 2. – Illustration of the pilot boat track

Annex 3. – Images of the mooring buoy and VTS surveillance cameras

Annex 1. – Illustration of damage to the boat



Annex 2. – Illustration of the pilot boat track



Annex 3. – Images of the mooring buoy and VTS surveillance cameras



Photo of a mooring buoy; damage indicated by the red square



Footage from an SBI security camera taken moments before contact, source: VTS



Thermal imaging camera footage from the SBI at 02:16:24 LT, approximately 20 seconds before contact; source: VTS



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