The Republic of Indonesia
Ministry of Transportation
Directorate General of Sea Transportation

The Republic of Indonesia
The Project for Review of the Study
For
Maritime Traffic Safety System Development Plan

REPORT Separate (Phase-1)
Volume: Appendix

April, 2023

Japan International Cooperation Agency (JICA)

Japan Aids to Navigation Association (JANA)

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Appendix 1.5.1 -1

MoM 1st JCC

1st JCC MoM

MINUTES OF MEETING
OF
THE FIRST JOINT COORDINATION COMMITTEE FOR
The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia

The first meeting of the Joint Coordination Committee for The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia (hereinafter referred to as "the Project") was held between representatives of the Directorate General of Sea Transportation, Ministry of Transportation, Republic of Indonesia (hereinafter referred to as "DGST") headed by Mr. Basar Antonius and representatives of the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Tomoyuki Kawabata, Senior Representative of JICA Indonesia Office, and JICA contracted with Japan Aids to Navigation Association (hereinafter referred to as "JANA") as a Study Team (hereinafter referred to as "JICA Study Team) headed by Mr. Akira Ubukata.

The list of participants of the 1st JCC meeting is shown in ANNEX 1.

The Program and Agenda of the meeting is shown in ANNEX 2.

JICA Study Team explained the outline and workflow of the Project based on the Draft Inception Report (English version) and DGST basically agreed to the outline and workflow of the Project.

Considering the today's discussion, JICA Study Team shall finalize the Inception Report and submit the Report in both English and Indonesian to DGST by April 30, 2019, as stipulated in Record of Discussion.

Main points discussed in 1st JCC appears as ANNEX 3.

Jakarta, 11 April 2019

Mr. Tomoyuki Kawabata	Mr. Basar Antonius
Senior Representative	Director of Navigation,
JICA Indonesia Office	Directorate General of
Japan International Cooperation Agency	Sea Transportation(DGST),
	Ministry of Transportation,
	The Republic of Indonesia

ANNEX 1

Participants of the 1st JCC Meeting

DGST			JICA / JST		
No.	Name	Title / Section	No.	Name	Title / Section
1	Basar Antonius	Director, Direktorate Navigation	1	NODA Yosuke	First Secretary Embassy of Japan in Indonesia
2	Gus Rional	Deputy Director Aids to Navigation and Maintenance	2	KAWABATA Tomoyuki	Senior Representative Indonesia Office, JICA
3	Dian Nurdiana	Deputy Director Marine Telecommunication	3	Winia Yogawati	Program Officer Indonesia Office, JICA
4	Bambang Kismanto	Deputy Director Navigation for Vessel and Base	4	OTANI Naoki	Deputy Assistant Director Team 2 Transprtation and ICT Group Infrastructure and Peacebuilding Department JICA
5	Tofan Rindoyo	Deputy Director Channel and Traffic	5	ISHIMA Toshitaka	Senior Advisor, JICA
6	Nanditya Darma Wardhana	Assistant Director Operation and Survey Marine Telecommunication	6	UBUKATA Akira	Leader, JST (JICA Stady Team)
7	Muhammad Arianto Wibowo	Assistant Director Equipment Marine Telecommunication	7	SANTO Yoku	Member, JST
8	Asmul Khairi	Assistant Director Navigation for Vessel and Base	8	NITTA Osamu	Member, JST
9	Fathan Mutaali	Staff Directorate Navigation	9	TUKAKOSHI Goro	Member, JST
10	Revo Rizky	〃	10	NODA Masami	Member, JST
11	Ronald N	〃	11		
12	Hendra W	〃	12		
13	Fajar JN	〃	13		
14	Bledey GM	〃	14		
15	Deilly I.P.	〃	15		

ANNEX 2

Program of the Meeting
on
The First Joint Coordination Committee
for
The Project for Review of the Study for Maritime Traffic Safety System Development Plan

(Date / Venue : April 11, 2019 / Meeting Room G Flower, Mercure Hotel)

1	Opening Remarks	by Secretary for DGST	1300 ~ 1315
2	Self-Introduction	by Attendees	1315 ~1330
3	Presentation by JST	by Mr. Ubukata	1330 ~ 1400
4	Presentation by DGST	by Duputy Director of Navigation for Maritime Telecommunication	1400 ~ 1430
	・・・・・・(Coffee Break)・・・・・・		1430 ~ 1445
5	Discussion		1445 ~ 1600

a Agenda 1 Survey Area for the Traffic Volume and Route

b Agenda 2 Site Survey for Disnav Office

c Agenda 3 Task Force Team of DGST

d Agenda 4 Minute of the Meeting

6	Closing Remarks	by Mr. Kawabata, JICA Indonesia

ANNEX 3

Survey of Traffic Volume and Sailing Route

JICA Study Team proposed 6 sites (Bangka strait, Makassar strait, Buru island west sea, Tanjung Priok port, Tanjung Perak port, and Samarinda port) for the survey of traffic volume and sailing route. However, DGST mentioned that several other sites should be selected. Through the discussion, JICA Study Team and DGST agreed that the following sites were surveyed;

Sabang, Kuala Tanjung, Makassar, Labuan Bajo, Surabaya, Kupang and Buru Island.

Survey of District Navigation Office

JICA Study Team proposed site survey of 11 First Class District Navigation Offices (including Tanjung Priok, already investigated in April 2019). DGST mentioned that the Survey should include several Second and Third Class District Navigation Offices. DGST also requested that although the survey will only be conducted in 11 District of Navigation offices, the JICA study team will need to arrange meetings with other District of Navigation which are not listed. The meeting should be conducted by inviting nearest District of Navigation which are not listed, during the visit to the listed District of Navigation.

Through the discussion, JICA Study Team and DGST agreed that the visiting District Navigation Offices are;

First Class District of Navigation : **Samarinda, Tanjung Priok, Makassar, Ambon, Belawan**

Second Class District of Navigation : **Teluk Bayur, Jayapura, Kupang**

Third Class District of Navigation : **Pontianak, Tual, Tarakan**

The Task Force members

JICA Study Team requested DGST to appoint the Task Force, which is composed of the Counterpart members mentioned in The Record of Discussion. DGST will designate the members by end of April, 2019 and inform JST of the members of Task Force Team. .

Purpose of the Task Force

The purposes of the Task Force are shown below.

・To management smooth implementation of the Project.
・To resolve challenges through implementation of the Project.
・To coordinate the Project as a contact point.
・To hold regular meetings such as JCC and discuss relevant issues of the Project.
・To contact and announce the relevant issues of the Project to related parties.
・To ask related offices to accept the survey through the Project.

Survey sea area of the traffic volume

Site survey to District Navigation Office

Appendix 1.5.1 -2

MoM 2nd JCC

MINUTES OF MEETING OF
THE SECOND JOINT COORDINATION COMMITTEEFOR
The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia

The second meeting of the Joint Coordination Committee for "The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia (hereinafter referred to as "the Project") was held between representatives of the Directorate General of Sea Transportation, Ministry of Transportation, Republic of Indonesia (hereinafter referred to as "DGST") headed by Mr. Tofan Rindoyo and representative of the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Kazuo Uezumi, JICA Indonesia Office with Japan Aids to Navigation Association (hereinafter referred to as "JANA") as a Study Team (hereinafter referred to as "JICA Study Team) headed by Mr. Akira Ubukata.

The list of participants of the second JCC meeting is shown in ANNEX 1.

The Program and Agenda of the meeting is shown in ANNEX 2.

JICA Study Team explained the scope of the Project, an outline of which is attached as ANNEX 3 and in principle DGST agreed with the outline, subject to revision which taking into account the input and feedbacks which documented as attachment in ANNEX 4.

Main points discussed in the second JCC appears as ANNEX 4

Jakarta, August 7, 2019

Mr. Tomoyuki Kawabata Senior Representative JICA Indonesia Office Japan International Cooperation Agency	Mr. Basar Antonius Director of Navigation Directorate General of Sea Transportation Ministry of Transportation The Republic of Indonesia

ANNEX 1

Participants of 2nd JCC Meeting

DGST			JICA / JST		
No	Name	Title/Section	No	Name	Title/Section
1	Tofan Rindoyono	Deputy Director of Navigation for Channel and Traffic	1	Hiroyuki Antoku	Japan Coast Guard
2	Gus Rional	Deputy Director, Port Affairs	2	Yasunori Ikeda	Japan Coast Guard
3	Nanditya Darma Wardhana	Assistant Deputy Director, Operation and Survey, MarineTelecommunication	3	Kazuo Uezumi	JICA Indonesia Office
4	Asmul Khairi	Assistant Deputy Director, Programme, Technical Navigation Planning	4	Winia Yogawati	JICA Indonesia Office
5	Tatang Heryana	Assistant Deputy Director, Operation and Survey Aids to Navigation and Worksh	5	Akira Ubukata	Leader, JST
6	Yuliana Siregar	Staff, Directorate Navigation	6	GoroTsukakoshi	Member, JST
7	Fathan Muta'ali	Staff, Directorate Navigation	7	Osamu Nitta	Member, JST
8	Revo Rizki	Staff, Directorate Navigation	8	Yasunobu Honda	Member, JST
9	Orlina Siagan	Staff, Directorate Navigation	9	Masami Noda	Member, JST
10	Hendra Wahyudi	Staff, Directorate Navigation	10	Dhana Mulyana	Local Support, JST
11	Dedy W	Staff, Planning Division	11	Septryani	Local Support, JST
12	L. Wilo	Staff, Planning Division	12		

ANNEX 2

Program of the Meeting
on
The Second Joint Coordination Committee
for
The Project for Review of the Study for Maritime Traffic Safety System Development Plan
(Date / Venue : August 7, 2019 / Aryaduta Hotel Jakarta, Monas 3 Room)

1.	Opening Remarks by Mr. Tofan Rindoyono, DGST	0920 – 0925
2,	Explanation of Scope of "The Project for Review of the Study for Maritime Traffic Safety System Development by JST	0925 – 1115
3.	Coffee Break	
4.	Discussion and Exchange of Views	1115 – 1200
5.	Speech by Mr. Hiroyuki Antoku Japan Coast Guard	1200 – 1210
6.	Closing Remark by Mr. Kazuo Uezumi, JICA Indonesia Office	1210 – 1220

ANNEX 3

Outline of the Project

1. VTS

(1) SOP (Standard Operational Protocol) and Training program for VTS manager and operator

(2) 22 VTS to consolidate with data exchangeable

(3) New nationwide AIS sensors to connect with VTS

(4) VTS operation styles (centering system, blocking system) to review
Survey of Traffic Volume and Sailing Route

(5) IWRAP to define and analysis of new safety traffic route

(6) Development of mobile data software for small vessel (3G/4G/LTE)

(7) DGST website to publish in/out port vessel information, meteorological information (sharing with following No. AtoN as well)

2. Data sharing between VTS and Inaportnet

3. AtoN

(1) Locating lighthouse to review with remote monitoring system development

(2) AIS functioned new system

(3) Maintenance and technical improvement of beacon

(4) Metrological function to develop especially for lighted buoy

(5) Meteorological information to share with other authority such as Indonesian National Board for Disaster Management

4. Coastal Radio Station

(1) Following to SOLAS revision to review district

(2) Integration and Consolidation of each station between main and sub station and other authorities (distress case)

(3) Equipment renewal (most of equipment more than 10 years old)

5. Buoy/Aids Tender

(1) Operational schedule and situation of tenders in each Disnav in efficient and economical operational project

(2) Vessel maintenance to improve based on survey report

(3) New vessel arrangement suitable not only for lighted buoy maintenance and multipurpose as well

(4) Buoy station to improve for operation and maintenance

6. AIS Cloud sensors in nationwide

(1) New cloud AIS sensors installed at 22 VTS and 152 GMDSS (non GMDSS) connected by IP

(2) Data shared by each VTS and HQ

(3) 2 ways function of traffic monitoring and AIS broadcasting for class A and class B as well (both side benefit given)

(4) Whole nationwide traffic routing analysis available for safety traffic measurement tools

(5) Capacity building tools

(6) Future VDES applicable

7. Navtex

(1) Common platform to establish with data exchangeable between CRS (SROP) and other authorities

(2) Contents of broadcasting to re-study not only metrological information

(3) Makassar Navtex not in function since 2016 due to TX RX station connectivity

8. Capacity Building

(1) Active participation in overseas training programs on marine traffic services,

(2) Further fulfilling OJT program by staff participated in overseas training program,

(3) Establishment of a fulfilled carrier pass system to improve their motivation,

(4) Establishment plan of a new training school, which be organized in DGST, specialized to marine traffic safety service such as VTS, AtoN, GMDSS, Buoy tender service.

(5) Effective use and requirement of Light due and/or Non-tax revenue for the training program

9. IT and ITC related

(1) Joint development with IP line and mobile data provider followed by development of Palapa Ring enabling

   a. 22 VTS data exchangeable (Currently all standalone not compatible due to different vendors)

   b. 110 GMDSS to consolidate (Currently all standalone, not IP based)

   c. 284 Light house remote monitor =>Semi attended

   d. 1877 lighted beacons remote monitoring

(2) Proposed aging tender boat scrapping & human resource development of shipbuilding architect

(3) Efficient and sustainable capacity building to realize including IT&ICT training and education

10. Traffic Volume Survey

(1) Adding to off Makassar

(2) Change survey area from west of Buru Island to off .P. Lilumatola (Tg.Dehekolano)

ANNEX 4

Main points discussed and opinions exchanged between JICA Study Team (JST) and Directorate General of Sea Transportation (DGST) are as described hereunder:

Interim Report

DGST mentioned that DGST had expected that an outline of the interim report would be submitted at this meeting. But, after having had the presentation given by JST, DGST could at least get a general idea of it. DGST then requested its early submission. JST, to this request, replied that the report will be prepared at an early possible time.

Method of the Data Analysis

DGST mentioned that DGST understood that survey is being conducted by ways of visiting District of Navigation (Disnav), conducting surveys of traffic volume at sites and through questionnaires. Then, DGST further queried about data analyzing tools asking whether, beside IWRAP, there was other software that JST uses for the study. JST replied that IWRAP is the only tool that will be used for the study, adding that IWRAP enables us to analyze collected data in many ways.

Questionnaires

JST reported that up until now JST has received only 17 filled-in questionnaires sent back from all of Disnav then requested DGST for their cooperation to have remaining questionnaires returned back at an early possible time. DGST replied saying that DGST would remind the Disnav to work on it.

Development of Human Resources

DGST pointed out importance of capacity building mentioning that development of the human resources is one of the main prioritized issues within next 5 years in the Indonesia Government and requested JST to propose a solution to this issue in the Master Plan. Study Team consented to it.

Introduction or Virtual AIS, AtoN AIS and other New Technologies

DGST commented on new technologies that JST had introduced in the presentation mentioning that new technologies such as virtual AIS, AtoN AIS,

VDES, etc., and also introducing an example of dissemination of maritime safety information using advanced technology in Japan which are very applicable for securing safe navigation of ships in waters of Indonesia. DGST then requested JST to study on availabilities of these new technologies in Indonesian waters. Further, DGST also requested the JST to study the security and safety measures in the facilities.

Integration Plan of AIS and AIS Highway

To the plan of integration of AIS and AIS highway that JST had introduced in the presentation, DGST pointed out that there are still some blank areas remaining and queried how the blank area will be covered by AIS network. JST replied that the AIS highway plan needs to be further examined. DGST noted it.

Indonesian Broadband Plan

DGST commented on the Indonesian Broadband Plan mentioning that the Plan is not progressing as scheduled especially there is a delay in eastern regions of Indonesia. DGST agreed to cooperate with JST to get recent information from time to time as it affects the study in a great deal.

Office set up to deal with IT and ICT

As to offices to deal with IT and ICT, DGST requested JST to advise on new office setups in DGST HQs or Disnav in considering present DGST organization. In reply, JST mentioned to work on it for a recommendation.

Timeline/Schedule of the Work

DGST requested JST to submit the timeline/schedule on the revised implementation works, mentioning that knowing the next step to work on, DGST could prepare for the next work. JST replied that the implementation schedule will soon be worked out and forward it to DGST.

Finally, both sides agreed to have routine and continuous communications through mutually agreed methods.

Laws and Regulations, Policy

DGST requested the JST to study the international laws and regulation as well as policy in Indonesia which relevant with the Study of Masterplan, in order to have more comprehensive approach and result of the study.

Discussion with Stakeholders

DGST requested the JST to intensify consultation not only to the related Sub Directorate in Directorate of Navigation and also with the other Stakeholders such as other Directorates, Ministries and Institutions, to have accuracy on the data and also to gain necessary feedbacks.

Appendix 1.5.1 -3

MoM 3rd JCC

KEMENTERIAN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN LAUT

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MINUTES OF MEETING
OF
THE THIRD JOINT COORDINATION COMMITTEE FOR
The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia

The third meeting of the Joint Coordination Committee for "The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia (hereinafter referred to as "the Project") was held between representatives of the Directorate General of Sea Transportation, Ministry of Transportation, Republic of Indonesia (hereinafter referred to as "DGST") headed by Mr. Hengki Angkasawan, Director of Navigation) and representative of the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Tomoyuki Kawabata, Senior Representative of JICA Indonesia Office, and JICA contracted with Japan Aids to Navigation Association (hereinafter referred to as "JANA") as a Study Team (hereinafter referred to as "JICA Study Team) headed by Mr. Yoku Santo on 5th of March, 2020 at Sari Pacific Hotel.

The list of participants of the third JCC meeting is shown in ANNEX 1.

The Program and Agenda of the meeting is shown in ANNEX 2.

JICA Study Team explained the overview of the Progress Report, which is attached as ANNEX 3. DGST basically agreed to it.

Main points discussed in the third JCC appears as ANNEX 4

Jakarta, March 5, 2020

Mr. Tomoyuki Kawabata
JICA Indonesia Office
Japan International Cooperation Agency

Mr. Hengki Angkasawan
Director of Navigation
Directorate General of Sea Transportation
Ministry of Transportation
The Republic of Indonesia

Participants of 3rd JCC Meeting

DGST			JICA /JST		
No.	N A M E	Title/Section	No.	N A M E	Title/Section
1	Hengki Angkasawan	Director of Navigation	1	Tomoyuki Kawabata	JICA Indonesia Office
2	Dian Nurdiana	Deputy Director/ Head of Sub Directorate	2	Naoya Kuboshima	JICA Indonesia Office
3			3	Ms. Winnia	JICA Indonesia Office
4	Nanditya D	Assistant Director/ Head of Section	4	Yuko Santo	JST
5			5	Goro Tsukakoshi	JST
6	Tatang H	Sub Directorate of A to N	6	Dhana Mulyana	Local support - JST
7	Padlani	Sub Directorate of Sealane	7		
8	Jhonson	Sub Directorate of Fleet and Base	8		
9	Jerry I	Sub Directorate of A to N	9		
10	Prayitno	Sub Directorate of Technical Planning	10		
11	Benny	Public Relation DGST	11		
12	Fathan M	Sub Directorate of Maritime Telecommunication	12		
13	Ms. Lisa	Sub Directorate of Maritime Telecommunication	13		
14	Wishnu P	Staff Sub Directorate of Sealane	14		
15	Silo Darmono	Public Relation DGST	15		
16			16		
17			17		
18			18		
19			19		
20			20		

ANNEX 2

Program of the Meeting
on
The Third Joint Coordination Committee
for
The Project for Review of the Study for Maritime Traffic Safety System Development Plan
(Date / Venue : March 5, 2020 / Sari Pacific Hotel Melati room, Jakarta)

1.	Opening Remarks by Director of Navigation	0930 - 0945
2.	Overview of the Progress report and discussion about the priority of project	
	(Coffee Break)	0945 - 1145
3.	Minute of Meeting	1145 - 1200
4.	Closing remarks by JICA	1200 - 1215
5.	Buffet Lunch	1215 - 1300

Annex-4

Main Points discussed at the 3rd Meeting of JCC

Date : 5 March, 2020

1. Opening Remark by Director of Navigation (Represented by Dian Nurdiana)

Appreciation for support from Japan government. New master plan would hopefully enhance maritime safety system and Japan would continue to support on upcoming years.

DGST also hoped that the new MP would include holistic figure to maritime sector in Indonesia in order to materialize the Indonesia policy of the maritime national plan, the strategic plan and also it needs to cover new initiative projects not limited only VTS, CRS, AtoN considering new development of regulation and technologies in maritime sector.

2. Overview of the Progress report and discussion about the priority project by participants

Presentation from Yoku Santo (Leader of JST)

Recent survey data and comparison with previous master plan/data, lead to their 10 points proposal

3. Discussion

a. Indonesia (Directorate General of Sea Transportation):

The proposal can be further described. More elaboration needed on the development plan. Such as :

- the new MP will include activities which related to AtoN, Ship Routing, Navigation Vessels, Maritime telecommunication and Navigation Base.
- location to install aids to navigation in setting a ship's routing, taking into account the port development planning, and other related aspects.
- which of the 10 points proposal that are recommended in order
- the priority works needs to be further elaborated and JANA will provide recommendation based on the scoring list that would be provided or reviewed by the team.
- new formulation of adequacy is needed (i.e. the lighthouse or other navigation system requirement should be based on clusters-25 clusters in total- not length of coastal line-nautical mile)
- the team will review the existing masterplan, and develop new masterplan based on the necessity on several sectors, i.e. AtoN, Ship Routing, Navigation Vessels, Maritime Telecommunication and Navigation Base.
- the MP will include, short term, medium and ling term plan, and cover 5 years plan until 40 years.
- 5 Year plans are needed (instead of 20 years grand plan, especially to get budget approval). Road map to achieve the 2040 master plan

b. Japan (JICA and JANA)

- Installation of visual aids to navigation, such as a buoy, needs consideration from all stakeholders. Individual technical-standards for aids to navigation are prepared by IALA, but there are no criteria for the position of an installation.

  The type of AtoN and its installation position in the port development will be planned with the scale of development, the environment, and the type of vessels to be used.

  The office that maintains and supervises will have a meeting or hold a committee to listen to many opinions from users and stakeholders and make an installation plan that meets safety navigation.

- Proposed development plan is based on the results of the field surveys, such as questionnaire survey to DISNAV and interviews with NANIGASI, as well as current movement of maritime administration in Indonesia.

  The proposals cover each sector, and these are listed as high priority. The operation in each sector are different, and the scoring to select a proposal among different sectors is not possible. No score can be given because the comparison factors are different.

  The decision for the selection of projects will depend on the budget, national strategy and social environment, which will be made by the related agency.

- This proposal is a holistic plan into the future (until 2040) because things like a technology, social environment, etc., grow and change drastically over the years, hopefully this could be a compromise of what Indonesia expected.

  Most of the latest navigational safety measures depend on electronic technology and IT. Especially, the telecommunications infrastructure is being developed every day and there is no point in describing the 10 year's plan and much more 20 year's one.

  DGST has already made the five-year plan by yourself shortly before for AtoN, VTS, CRS and so on. Therefore, the detailed plan for each year will be planned base on your convenience.

  Road map and elaboration for which the feasibility study is to be conducted will be described in the final report.

c. Summary

Japan (JICA and JANA) and Indonesia (DGST) basically understands and will consider both comments. It is in progress. Not enough time to review thoroughly today.

Indonesia (DGST) agrees with Japan's summary of proposals, hopefully there will be further close discussions about the proposed projects.

There are hopefully several prioritize projects amongst the 10 proposals that are in priority, such as (mainly) :

1) Capacity building
2) Innovation of VTS
3) Development of Data base for AIS, including Sea-lane-2, Samarinda
4) Consolidation of CRS
5) Scrap and build of the vessels
6) Development of Maritime Safety Measures at Labuan Bajo

Japan (JICA and JANA) will give further recommendation and information related to the 10 proposals.

DGST will do further internal discussion and will inform Japan (JICA and JANA) for further information on the final decision.

4. IWRAP Seminar

Indonesia and Japan agreed to postpone the IWRAP seminar, taking into account the social circumstances of the recent virus outbreak.

Japan will inform the detail of the new schedule to DGST, after conducting internal discussion.

Appendix 1.5.1 -4

MoM 4th JCC

MINUTES OF MEETING
OF
THE FOURTH JOINT COORDINATION COMMITTEE FOR
The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia

The fourth meeting of the Joint Coordination Committee for "The Project for Review of the Study for Maritime Traffic Safety System Development Plan in Republic of Indonesia" (hereinafter referred to as "the Project") was held between representatives of the Directorate General of Sea Transportation, Ministry of Transportation, Republic of Indonesia (hereinafter referred to as "DGST") headed by Mr. Hengki ANGKASAWAN, Director of Navigation and representative of the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Atsushi NAKAGAWA, Director, Team 2 Transportation Group, Infrastructure Management Dept., JICA Japan with Japan Aids to Navigation Association (hereinafter referred to as "JANA") as a JICA Study Team (hereinafter referred to as "JST) headed by Mr. Yoku SANTO, on August 4, 2020, by Web-meeting (Zoom).

The list of participants of the fourth JCC meeting is shown in ANNEX 1.

The Program and Agenda of the meeting is shown in ANNEX 2.

JST outlined the Draft Final Report of the Project through the Zoom meeting system, using presentation-software called "Power Point", which is summarized as ANNEX 3.

Main points discussed in the fourth JCC meeting is shown in ANNEX 4.

DGST in principle approved the Draft Final Report, taking into account that the JST will revised the draft based on comments and suggestion made by the DGST during the third and fourth JCC respectively. Further, if any questions are raised, additional explanation will be given later.

The parties acknowledge and agree that this Minutes of Meetings may be executed by electronic signature, which is considered as an original signature for all purposes and has the same force and effect as an original signature. "Electronic signature" includes electronically scanned and transmitted versions (e.g., via pdf) of an original signature.

August 4, 2020

_____	_____
Mr. Atsushi NAKAGAWA	Mr. Hengki ANGKASAWAN
Director	Director
Team 2, Transportation Group	Directorate of Navigation
Infrastructure Management Dept.	DGST, MOT
JICA	The Republic of Indonesia

Annex-1

Web-meeting for the 4th JCC

August 4, 2020

Paticipants of DGST

No.	Name	Title/Section	Mail Adress
1	Hengki Angkasawan	Director of Navigation, Directorate General of Sea Transportation	
2	Dian Nurdiana	Head of Sub Directorate of Maritime Telecommunication, Directore of Navigation, Directorate General of Sea Transportation	
3	Zainal Abidin	Head of Sub Directorate of Signs and Workshop, Directore of Navigation, Directorate General of Sea Transportation	
4	Bambang Kismanto	Head of Sub Directorate of Fleet and Navigation Base, Directore of Navigation, Directorate General of Sea Transportation	
5	Zahara Saputra	Head of Sub Directorate of Channel and Fairway Arrangement, Directore of Navigation, Directorate General of Sea Transportation	
6	Suyadi	Head of Sub Directorate of Navigation Technical Planning , Directore of Navigation, Directorate General of Sea Transportation	
7	Nanditya Darma Wardhana	Head of Operation and Survey Section of the Sub Directorate Maritime Telecommunication, Directore of Navigation, Directorate General of Sea Transportation	
8	Mochammad Arianto Wibowo	Head of Equipment Section of the Sub Directorate Maritime Telecommunication, Directore of Navigation, Directorate General of Sea Transportation	
9	Yuliana Minar Puspitasari Siregar	Staff Officer, Sub Directorate of Navigation Technical Planning, Directore of Navigation, Directorate General of Sea Transportation	
10	Fathan Muta'ali	Staff Officer, Sub Directorate Maritime Telecommunication, Directore of Navigation, Directorate General of Sea Transportation	
11	Revo Rizky Aditya	Staff Officer, Sub Directorate Maritime Telecommunication, Directore of Navigation, Directorate General of Sea Transportation	
12	Agus Prabowo Dany Utomo	Staff Officer, Sub Directorate of Channel and Fairway, Directore of Navigation, Directorate General of Sea Transportation	
13	Jerry Indrayanto Baka	Staff Officer, Sub Directorate of Signs and Workshop, Directore of Navigation, Directorate General of Sea Transportation	
14	Lalu Rano Agiansyah	Staff Officer, Sub Directorate of Signs and Workshop, Directore of Navigation, Directorate General of Sea Transportation	

Paticipants of JICA , JST

No.	Name	Title/Section	Mail Adress
1	Atsushi NAKAGAWA	Director, Team2 Transportation Group, Infrastructure Management Dept.,JICA	Nakagawa.Atsushi@jica.go.jp
2	Toshitaka ISHIMA	Senior Advisor for Maritime Safety, Team2 Transportation Group, Infrastructure Management Dept.,JICA	Ishima.Toshitaka@jica.go.jp
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Annex-2

Program of the Web-Meeting
on
The Fourth Joint Coordination Committee
for
The Project for Review of the Study for Maritime Traffic Safety System Development Plan
(Date : 29 July, 2020 / Zoom Meeting : Host JICA)

		WIB (UTC+7)
	Zoom Meeting Room Open	*0900 – 0915*
1.	Introduction of Participants by MC	0915 - 0920
2.	Opening Remarks by Director of Navigation	0920 - 0930
3.	Overview of the Draft Final Report by JANA	0930 - 1015
4.	Exchange of Views	1015 - 1045
5.	Closing Remarks by JICA	1045 - 1050

Zoom Meeting :
URL:https://us02web.zoom.us/j/81962802587?pwd=czJGOHNxeFhoQWVmbVg3cXhlTDlNdz09
Meeting ID: 819 6280 2587
PW: 396803

August 4, 2020

Outline of the presentation of the Draft Final Report

1. The Structure of the Report

Chapter 1 Introduction
Chapter 2 Current Situation Surrounding the Maritime Traffic Safety
Chapter 3 Review of Previous Master Plan and Strategic Plan of DGST
Chapter 4 Field Survey
Chapter 5 Survey of Maritime Traffic Volume
Chapter 6 Present Issues
Chapter 7 Development Plan for Maritime Traffic Safety System

Chapter 1 describes general matters, such as Background, Purpose, Schedule, and so on.

In the Chapter 2 and 3, current situation are described to have a common understanding.

Chapter 4 and 5 mentioned the result of the field survey, based on the visits to DISNAV offices, the interview with the staff and the traffic survey.

Chapter 6 and 7 noted what the present issues are, and the plan that should be implemented in the future.

2. Current situation surrounding the maritime traffic safety

★National policies called “Five Pillars for Maritime Nation”
One of them is “Prioritize Maritime Infrastructure”.
Related policies : Sea Toll, Island’s Connectivity, Short Sea Shipping

★Trend of the Maritime Transportation
The movement of cargoes, ships and ship’s passengers
Marine accident

★Review of Previous MP based on the current situation

●Visual Aids to Navigation
With the advent of GPS, the role of visual aids surrounding the current situation was changed significantly, and it is meaningless to overview the previous plan.
(Keyword : “Adequacy”)
Adequacy for visual aids to navigation, of which the concept was introduced into statistical processing by DGST in 2015, was explained briefly. In addition, the recent navigation of large vessels using visual and radio aids to navigation, as a related matter, was described.

The explanation put the accent on the big change in the navigation method of a large vessel at the time of the previous MP and at present.

●Radio Aids to Navigation

As with the visual aids, the situation surrounding radio aids has changed, the necessity of the previous radio aids is no longer needed.

●Supporting Facilities for Aids to Navigation

The facilities were being developed and expanded.

However, with respect of the vessels, there will be issues regarding operation and maintenance.

●VTS (Vessel Traffic System)

Due to changes in social situations, VTS has been developed in ports and congested traffics.

There are issues in training VTS operators and the operation.

●GMDSS (Global Maritime Distress and Safety System)

At present, the system is being deployed nationwide.

From now on, innovation with a view to renewing equipment and improving operational efficiency will be required.

●ISRS, Telecommunication System

It is necessary to switch to a system that matches the times, namely the development of telecommunication infrastructure.

★The Strategic Plan (RENSTA) of DGST for 2015 – 2019

As part of the National Medium-Term Development Plan, DGST prepare the strategic plan regarding the development for maritime traffic safety system, including the visual aids, GMDSS, VTS and the consolidation of coastal radio stations which are specifies the yearly, budget scale, places.

3. Field Survey and Maritime Traffic Survey

Visit to 13 DISNAV offices and Labuan Bajo as a site of tourism policy, including :

◇ Headquarters
◇ Lighthouse, Light-Beacon
◇ Vessel
◇ Coastal Radio Station
◇ Buoy-Base
◇ VTS.

In addition to these facilities, MCC (Mission Coordination Center) and BPPTL (Maritime Transportation Education and Training Center Jakarta)

Maritime Traffic Survey was conducted at 9 sites using AIS and Radar.

These, including the questionnaire survey, were carried out by consignment contract with Indonesian companies.

In this traffic survey, the data was collected for only 2 days, but the trend and characteristic of traffic flow can be known in the data.
Some of the data will be helpful in considering the individual SOP for a VTS station, for example : the Strait of Madura, the Sunda Strait.

4. Present Issues

The issues being noticed from the survey are picked up.

●Visual Aids to Navigation

Importance of the establishment of Light-Beacons was described in the following points.

- Standardized Installation (Guideline for Establishment)
- Indication of Buoyage Direction
- Standardized Classification for LED Lantern
- Adoption of Specialized Light-Beacon for the right place
- Remote Monitoring

●Radio Aids to Navigation

A typical example was introduced about a Real AIS AtoN and a Virtual AIS AtoN in Tokyo Bay.

●VTS

Several points that need to be improved regarding the effective operation of VTS are mentioned.

- Preparation of Operational Manual
- Installation of Functional Console
- Built of Database
- Implementation of OJT
- Future System to be able to foresee (Innovated and Consolidated System)

●Vessels for Aids to Navigation

Point of view on the defect and deficiency in the newly built ships are introduced.
Symptoms and abnormalities on the disorder of vessel's conditions have been recognized, but where the problem is or what is the problem is has not been understood, since it seems that the experts and engineers involved in shipbuilding are not properly placed.

- Arrangement of life-saving appliances (Rescue Boat)
- Hull Vibration
- Buoy Handling Crane
- Shaft Bearing
- Auto Pilot
- Position of Engine Generator
- High Sea Chest

●Capacity Building and Training

The training systems and the training courses provided are organized properly.
The lack of instructors seems to be causing a setback in execution.
In 2019, only 3 courses regarding aids to navigation (Maritime English x 5, VTS Operator x 2, and Basic AtoN x 1) have been conducted, even though there are 14 courses.

5. Development Plan for Maritime Traffic Safety System

The master plan was prepared into short-term and long-term by summarizing the survey.

★ Short Term Master Plan

●Development of Capacity Building
1) Setting up the Management Group
2) For the VTS Operator

●Development of DATA Base for AIS

●Innovation of VTS Operation
1) Development of Customized Operation Console
2) Implementation of OJT

●Development of Maritime Safety Measures for Tourism

★ Long Term Master Plan

●Development of Capacity Building
1) Establishment of Basic Maritime Knowledge Course
2) Establishment of an educational institution for Aids to Navigation

●Consolidation of Coastal Radio Station

●Development of VTS for Offshore Sabang

●Expansion of AIS Coverage and
Development of New Function of Samarinda VTS

●Scrap and Build of the Vessels for AtoN

●Enhancement of Monitoring AIS Coverage (Sealane-2 : Lombok to Makassar)

●Development of Integrated Information System

Annex-4

Main Points discussed at the 4th Meeting of JCC

Date : 4 August, 2020

1. Opening Remark by Director of Navigation (Represented by Mr. Hengky Angkasawan)

Appreciation for support from Japan government. New master plan would hopefully enhance maritime safety system and Japan would continue to support on upcoming years.

DGST also highlighted that the new master plan is very important for Indonesia government as an umbrella to develop some projects or activities in maritime safety, security and marine environmental protection at least for 20 years, and believed that this new master plan covered concrete strategic and new initiative project in line with Indonesian policy in maritime sector.

2. Presentation of the Draft Final Report (Presented by Mr. Yoku Santo, the leader of JST)

The outline of the presentation is as stated in ANNEX 3, and the appreciation was expressed for the cooperation of many people in the Provinces during the field survey.

Regarding the summary of Chapter 6 and 7, comments were added as follows.

a) As discussed at the 3rd JCC, today, 20 years have passed since the previous master plan, and due to the drastic change in the surrounding environment and the tremendous speed of development of related electronic technologies, it is difficult to foresee the future outlook. The plan targeting 2025 was summarized as a Short-Term Plan, and the plan targeting 2040 was summarized as a Long-Term Plan.

b) In addition, the substances of the 10 priority projects indicated in the Progress Report were considered and incorporated into the Short-Term Plan and the Long-Term Plan in the Chapter 7, as requested at the last meeting.

The developments of human resources that have been specifically mentioned at the previous meeting are also listed with a higher priority.

3. Discussion

a. Indonesia (Directorate General of Sea Transportation):

The proposal can be further described. More elaboration needed on the development plan.

Such as :

1) The DGST thanked JANA for the comprehensive study which comprises on the draft of final report.
2) The DGST highlighted that, due the time constrain during the fourth JCC Meeting, there are needs to conduct sideline meeting between DGST and JANA to further discuss the Draft of Final Reports.
3) The DGST stated that several comments already made during the third JCC have not being accommodated on the draft of final report, and hoped that the JANA could conduct gives and conducted follow up measures based on the comments made during the said meeting.

4) The DGST reminded the JANA that report should at least contains two main items, namely :
   a) Update and master plans up to target year of 2040;
   b) Formulation of short term plans and implementation of feasibility study with approximate cost estimates on the priority projects up to the target year of 2025.
5) The DGST also highlighted that the study not only based on the current condition of maritime sectors in Indonesian waters, but also need to forecast the future demands of maritime traffic, in terms of the traffic, port developments, tourism aspect, and others, which could affecting activities which related to AtoN, Ship Routing, Navigation Vessels, Maritime telecommunication and Navigation Base.
6) The DGST asked that the study could elaborate the effect of the GMDSS modernization to the currents facilities that already installed in Indonesia.
7) The DGST asked the JANA to further elaborate the template of SOP and user manual of VTS, to be implemented on VTS in Indonesia.

b. Japan (JICA and JANA)

The JANA explained the following to the DGST comments.

1) Regarding the matter to update the plan by 2040, it does not make sense to show the annual establishment plan like the previous MP, as described the reason in the Item 2, and it has been shown in the form of the Short-Term Plan and the Long-Term Plan with a roadmap and an approximate cost with a breakdown list for each proposed plan, instead of an annual plan.
   For example, in case of [7.2.1 Development of Capacity Building], the roadmap and the budget is shown in the *Table 7.2.1 -1 : Training Course for Instructor* and in the *Table 7.2.1 -1 : Establishment of E-Learning System,* and the breakdown of the cost is shown in *the Appendix 7.2.1*.
   Similarly, the roadmap and the budget are shown for all short-term plans.
2) The plan proposed on this occasion is based on the premise of anticipating the increase in maritime traffic and the progress of port development accompanying the economic growth, and the maritime traffic safety measures and ship management are grounded on this policy. Of course, these are not only based on this, but also based on the current issues that have emerged from the national policies and the field surveys.
   This applies to “the standardization of a device for aids to navigation”, “the guideline of installation for aids to navigation”, “the development of database for AIS”, “the expansion of monitoring area for vessels’ movement”, “the innovation of VTS operation” and , of course, “the capacity building”.
   “The development of maritime safety measures for small crafts in Labuan Bajo” is in line with tourism promotion of the national policy.
   In the proposal for the Mahakam River in Samarinda, the innovative technology is incorporated into the maritime traffic control with the new signaling system.

Since the structure and configuration of the Ship Routing is different for each port and/or water area and it is incidental to port development, this topic should be discussed substantially with parties concerned.

On these occasions, the guideline of installation and the standardization of aids to navigation which are formulated will be presented as one of the guidelines for governmental action.

As a further note, the general provisions on Ship' Routing are shown in regulation V/10 of the SOLAS Convention and the design guidelines are described by the World Association for Waterborne Transportation Infrastructure (PIANC).

3) Regarding the modernization of GMDSS, it has been conceptually discussed, but at the present time the specific configurations and technical specifications of the equipment have not been decided, and such devices have not been manufactured. We have no choice but to pay attention to the movement of the world now, as described in the report.

   Certainly, the majority of present GMDSS equipment has passed the years and has not supported IP connection, but replacement of equipment will be considered based on the efficient budget use and the current operational status such as the frequency of received distress signals.

4) Examples of the SOP and the user manuals related to VTS operation have already been shown in the Report. But, those should be formulated by each VTS station according to its environment traffic, vessels' movement and the purpose of establishment of its VTS.

   It is possible to undertake consultation for creating a specific SOP.

c. Summary

Japan (JICA and JANA) and Indonesia (DGST) basically understands and will consider both comments.

JANA Agreed with DGST proposal to conduct more thorough and in-depth discussion on the sideline meeting, which will be held by JANA. The detail schedule will be agreed and communicate between JANA and DGST.

Appendix 1.5.3 -1

Implementation Chart

Implemention Chart

Contents	2019											2020										Note
	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	
Collection of Informatin and Data	2/22																						
Preparation of Inception Report																							
Preparation of JCC																							
1st JCC			◆ 4/11 (1st JCC)																				
Preparation of Field Survey																							
Field Survey				(Surabaya)	(Samarinda, Tg. Priok, Makassar, Ambon, Kupan, Tual, Tarakan)																		
Workshop / 2nd JCC						◆ 6/27 (Workshop)	◆ 8/7 (2nd JCC)																
Consignment Contract						(Questionnaire Survey : 6/25 – 11/30)																	
							(Survey of Traffic Flow/Volume : 7/29 – 12/31)					(Analysis of AIS Data : 1/20 – 4/30)											
Preparation of Progress Report																							
Field Survey								(Belawan, Sabang, Pontianak, Bitung, Surabaya, Teluk Bayru, Labuan Bajo)														
Data Collection and Meeting																							
Preparation of JCC																							
3rd JCC														◆ 3/5									
Preparation of Draft Final Report																							
4th JCC (Web-Meeting)																			◆ 8/4				
Preparation of Final Repoet																							
Printing of the Report																							
Note																							

Appendix 1.7 -1

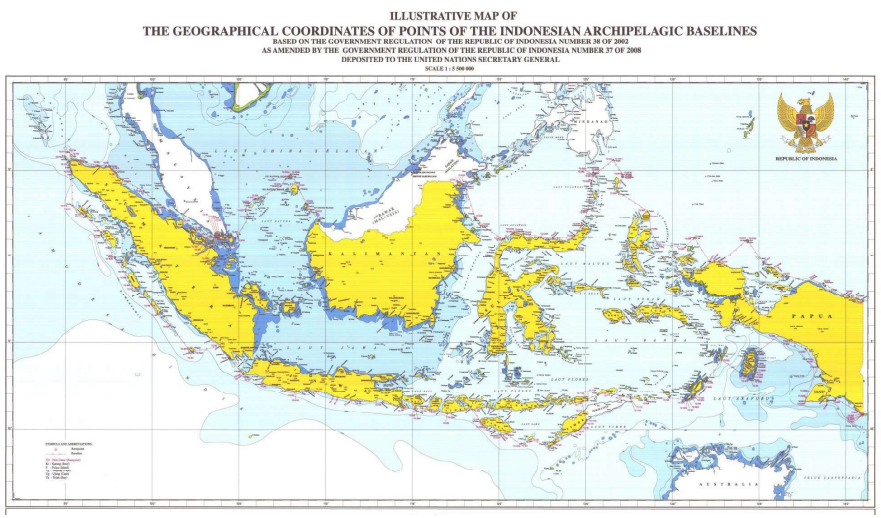
Presentation (DGST)

DIRECTORATE GENERAL OF SEA TRANSPORTATION
MINISTRY OF TRANSPORTATION
REPUBLIC OF INDONESIA

SAFETY OF NAVIGATION IN INDONESIAN WATERS

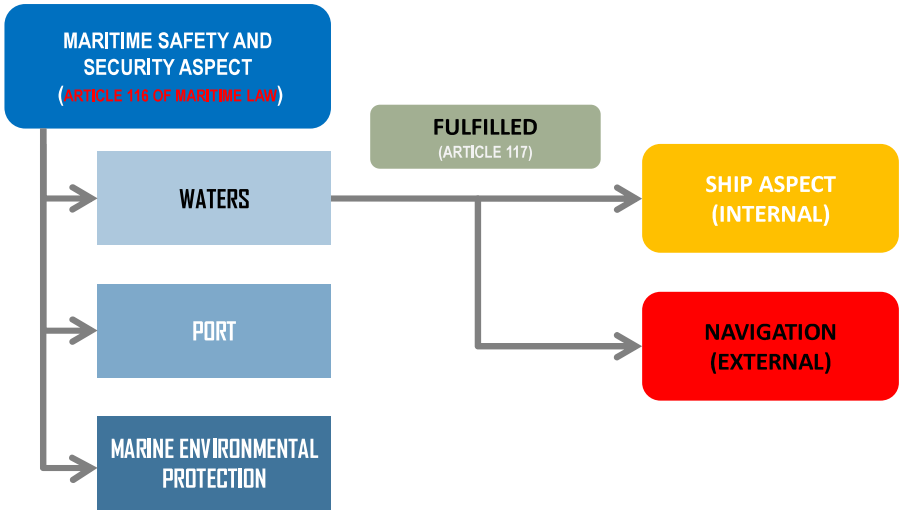
Workshop on
Marine Traffic Safety System Development in Indonesia
Aryaduta, 27 June 2019

INDONESIAN WATERS

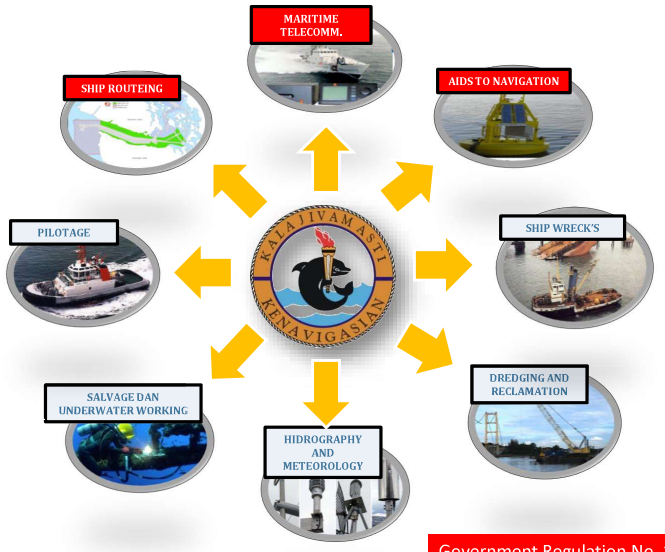


The **TERRITORIAL WATERS OF INDONESIA** are defined according to the principles set out in Article 46 of the UNCLOS. There are 179 archipelagic baselines segment that connect the outer most points of the islands to encompass approximately 3.067.504,14 km2 archipelagic waters. (Government Regulation No.38 Year 2002)

MARITIME SAFETY AND SECURITY



NAVIGATION



Government Regulation No. 10 Year 2010

LEGAL BASIS
OPERATIONAL OF DIRECTORATE NAVIGATION

1. *Republic of Indonesia Act No. 17 / 2008 regarding Shipping*
2. *Government Regulation No.5 /2010 regarding Navigation*
3. *Ministry of Transportation Decree No. PM.25 / 2011 regarding Aids to Navigation*
4. *Ministry of Transportation Decree No. PM.26 / 2011 regarding Maritime Telecommunication*
5. *Ministry of Transportation Decree No. PM.129/ 2016 regarding ship routeing and construction and/or installation on water*

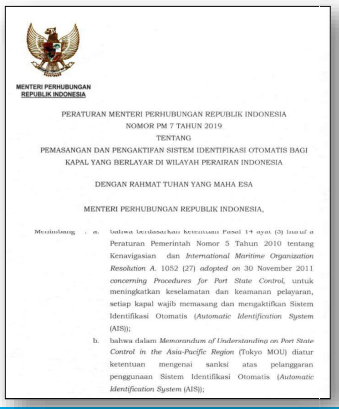
MEASURES WHICH HAS BEEN TAKEN TO ENHANCE SAFETY OF NAVIGATION

- **Developing and establishing infrastructure such as :**
  a. Aids to Navigation (AtoN).
  b. Maritime Telecommunication including Vessel Traffic Services (VTS), Coastal Radio Station (CRS), AIS Base Station, LRIT, IP Base and Simulator of VTS.
  c. State Vessel including Buoy tender and Rigid Inflatable Boat (RIB).
  d. Designated Ship Routeing in such port and Strait
  (**The source of fund** : National Budget, Loan and Grant)

- **Improvement the Capacity Building of Personnel**
  a. Maritime Telecommunication Personnel : VTS Personnel, CRS Personnel
  b. AtoN Personnel : AtoN Manager, AtoN Technician
  c. Ship Routeing Personnel : Marine Surveyor, Hydrographer
  d. State Vessel Personnel
  (**Method** : short course and training which conducted locally (national competent authority) and abroad (cooperation with foreign country such as Japan, Singapore and Australia)

MEASURES WHICH HAS BEEN TAKEN TO ENHANCE SAFETY OF NAVIGATION

- **Developing Regulation**
  Developing and issuing regulation related with safety of navigation such as Standard Operating Procedure (SOP) of VTS, Ministry Decree related with mandatory installation of AIS Class B for Non SOLAS Vessel, Regulation of Vessel Navigating in Lombok and Sunda Strait, etc



MENTERI PERHUBUNGAN
REPUBLIK INDONESIA

PERATURAN MENTERI PERHUBUNGAN REPUBLIK INDONESIA
NOMOR PM 7 TAHUN 2019
TENTANG
PEMASANGAN DAN PENGAKTIFAN SISTEM IDENTIFIKASI OTOMATIS BAGI KAPAL YANG BERLAYAR DI WILAYAH PERAIRAN INDONESIA

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERHUBUNGAN REPUBLIK INDONESIA,

Menimbang : a. bahwa berdasarkan ketentuan Pasal 14 ayat (3) huruf a Peraturan Pemerintah Nomor 5 Tahun 2010 tentang Kenavigasian dan *International Maritime Organization Resolution A.* 1052 (27) *adopted on* 30 November 2011 *concerning Procedures for Port State Control*, untuk meningkatkan keselamatan dan keamanan pelayaran, setiap kapal wajib memasang dan mengaktifkan Sistem Identifikasi Otomatis (*Automatic Identification System* (AIS));

b. bahwa dalam *Memorandum of Understanding on Port State Control in the Asia-Pacific Region* (Tokyo MOU) diatur ketentuan mengenai sanksi atas pelanggaran penggunaan Sistem Identifikasi Otomatis (*Automatic Identification System* (AIS));

KEMENTERIAN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN LAUT
GEDUNG KARYA LANTAI 12 s/d 17

KEPUTUSAN DIREKTUR JENDERAL PERHUBUNGAN LAUT
NOMOR : UM. 008 /12/16 /DJPL-19

TENTANG

PEMBERLAKUAN STANDAR OPERASIONAL DAN PROSEDUR
VESSEL TRAFFIC SERVICE (VTS) BATAM

DIREKTUR JENDERAL PERHUBUNGAN LAUT,

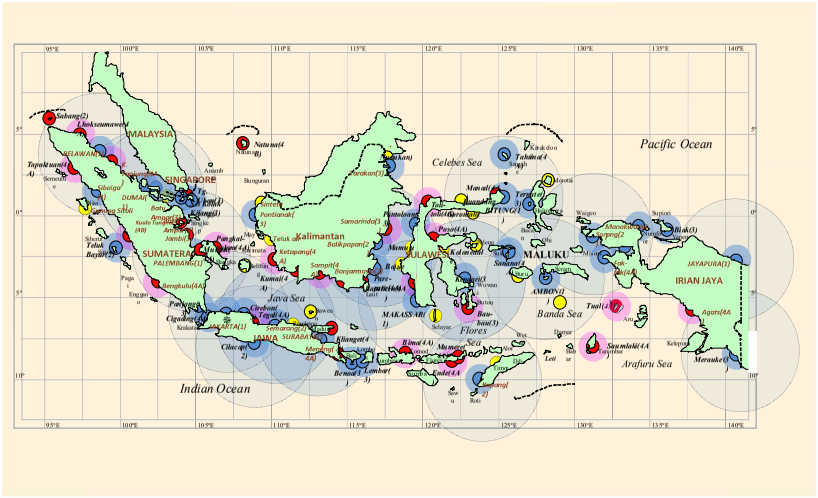
Menimbang : a. bahwa dalam Peraturan Menteri Perhubungan Nomor 26 Tahun 2011 tentang Telekomunikasi Pelayaran, diatur ketentuan mengenai *Vessel Traffic Service (VTS)*;

b. bahwa dalam rangka mewujudkan keamanan, keselamatan dan efisiensi serta perlindungan lingkungan maritim di wilayah kerja *Vessel Traffic Services (VTS)* Batam, diperlukan Standar Operasional dan Prosedur sebagai pedoman pemberlakuannya;

c. bahwa berdasarkan pertimbangan sebagaimana dimaksud pada huruf a dan b, perlu ditetapkan Keputusan Direktur Jenderal Perhubungan Laut tentang Pemberlakuan Standar Operasional dan Prosedur *Vessel Traffic Services (VTS)* Batam.

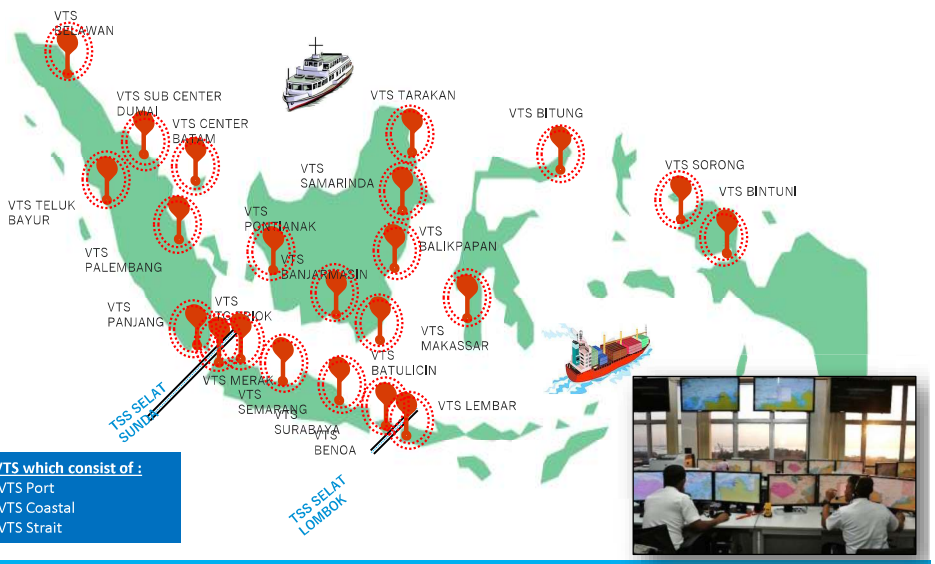
Mengingat : 1. Undang-Undang Nomor 17 Tahun 2008 tentang Pelayaran (Lembaran Negara Republik Indonesia Tahun 2008 Nomor 64, Tambahan Lembaran Negara Republik Indonesia Nomor 4849);

REALIZATION OF THE MEASURES (INFRASTRUCTURE - CRS)



Total the number of CRS:
- **CRS GMDSS 110 Station including 40 CRS equipped with AIS Base Station**
- **CRS Non GMDSS 42 Station**

REALIZATION OF THE MEASURES (INFRASTRUCTURE - VTS)



22 VTS which consist of :

1. VTS Port
2. VTS Coastal
3. VTS Strait

REALIZATION OF THE MEASURES (INFRASTRUCTURE - VTS)

REALIZATION OF THE MEASURES (INFRASTRUCTURE – NAVTEX STATION)

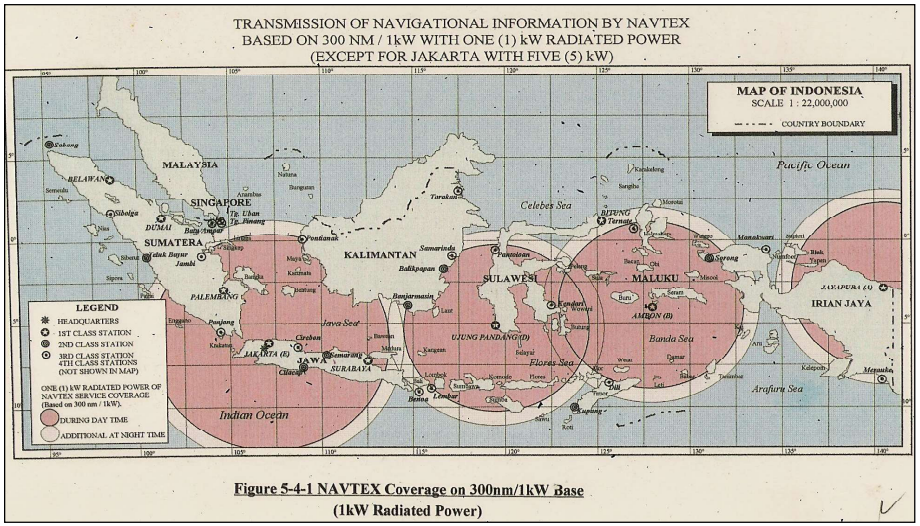
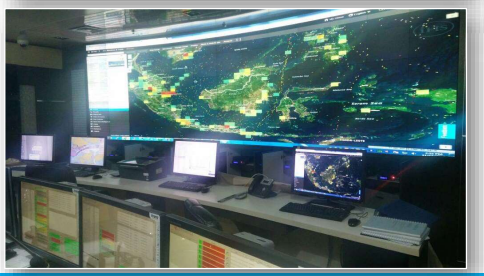


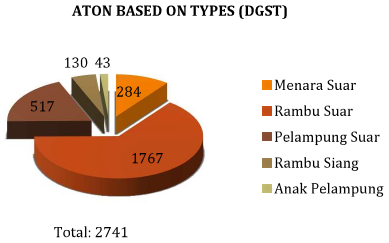
Figure 5-4-1 NAVTEX Coverage on 300nm/1kW Base (1kW Radiated Power)

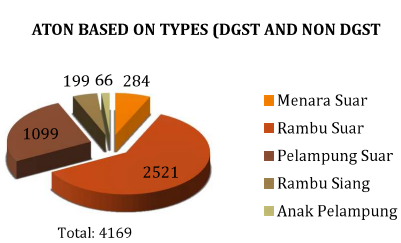
REALIZATION OF THE MEASURES (INFRASTRUCTURE – LRIT)

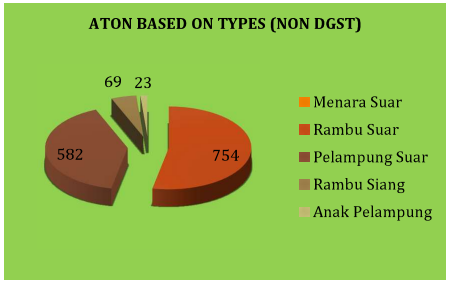
- Indonesia LRIT currently operates properly (24/7) in accordance with IMO rules and Indonesia LRIT National Data Center (NDC) is ready to exchange data with other Data Center.
- Indonesia LRIT NDC is currently managed by the Directorate Navigation, Directorate General of Sea Transportation, Ministry of Transportation in cooperation with Recognized ASP namely PT Electronic Data Interchange Indonesia (PT EDI Indonesia) and Pole Star Space Application Ltd. as a Communication Service Provider. Directorate Navigation was also active in the session of IMSO and IMO to support the implementation of the International LRIT.



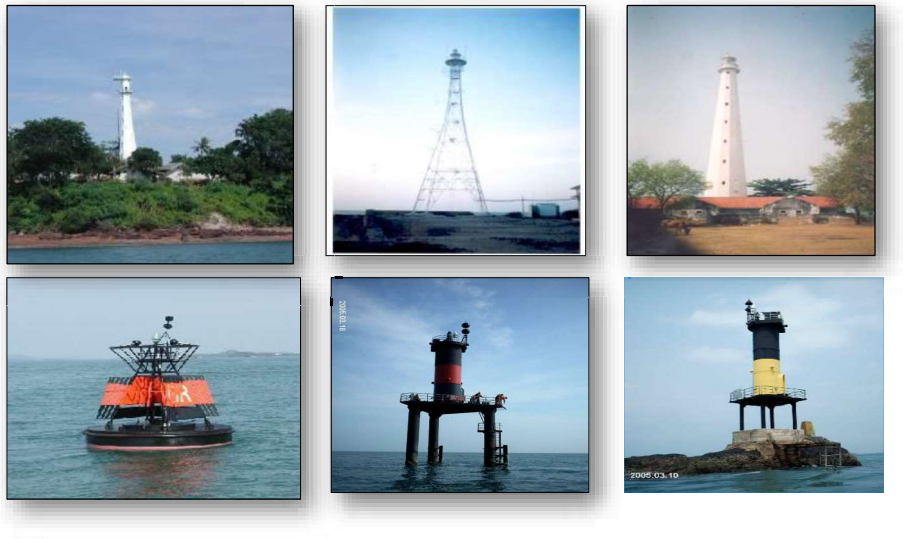
REALIZATION OF THE MEASURES (INFRASTRUCTURE – ATON)



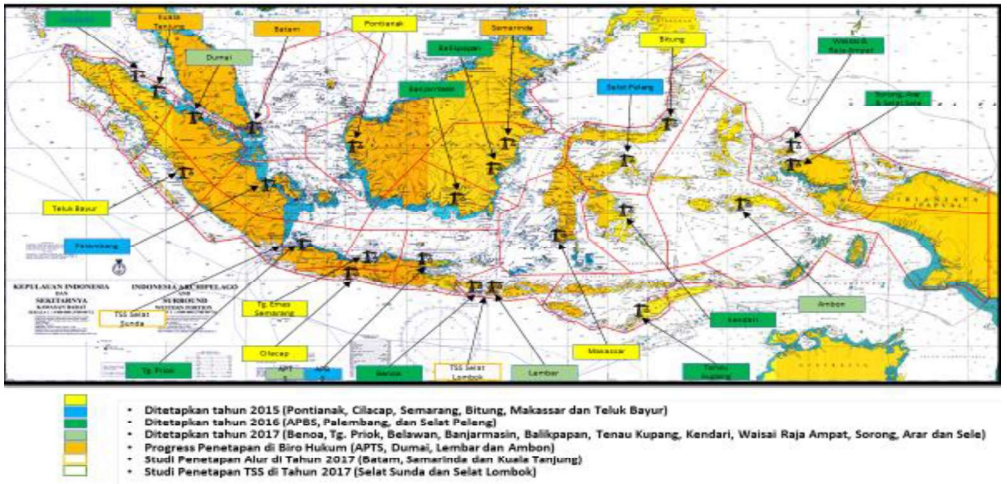




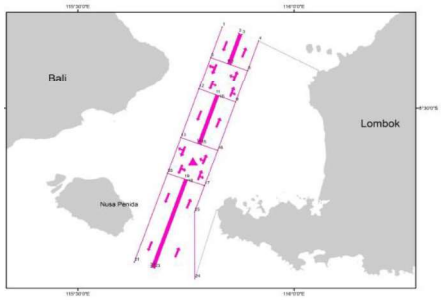
REALIZATION OF THE MEASURES (INFRASTRUCTURE – ATON)



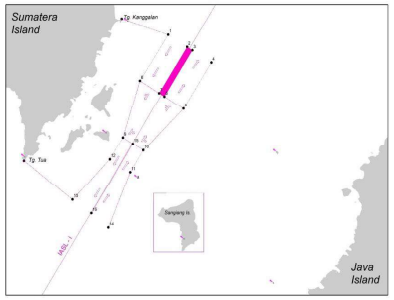
REALIZATION OF THE MEASURES (DESIGNATED SHIP ROUTEING)



REALIZATION OF THE MEASURES (DESIGNATED SHIP ROUTEING - TSS)



Designated TSS in Lombok Strait



Designated TSS in Sunda Strait

101st Session of The Maritime Safety Committee which held on 5 to 14 June 2019 in IMO Headquarter London has endorsed the report of the 6th Navigation, Communication, Search and Rescue (NCSR) Sub Committee Meeting. This endorsement means that Indonesia proposal regarding designation of TSS in Sunda and Lombok Straits is approved.

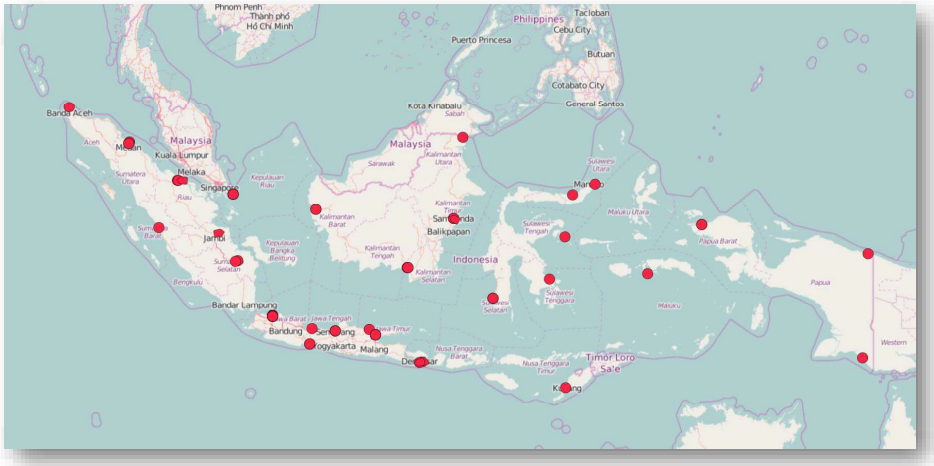
REALIZATION OF THE MEASURES (DESIGNATED SHIP ROUTEING – TSS)

REALIZATION OF THE MEASURES (INFRASTRUCTURE – STATE VESSEL)

No.	KELAS DAN TIPE	JUMLAH
1	KAPAL KELAS I	23
2	KAPAL KELAS II	18
3	KAPAL KELAS III	33
4	KAPAL KELAS IV	1
	JUMLAH	75
5	RIGID INFLATABLE BOAT (RIB)	48
6	FLAT KERJA	5

REALIZATION OF THE MEASURES (INFRASTRUCTURE – STATE VESSEL)

REALIZATION OF THE MEASURES (INFRASTRUCTURE – STATE VESSEL MONITORING)



REALIZATION OF THE MEASURES (BY CONTRIBUTION FOREIGN COUNTRIES)

- Establishment of VTS Dumai and Batam by Grant JICA
- Establishment VTS and AIS Base Station through Indonesia Ship Reporting System Project
- Establishment CRS and AIS Base Station through Phase-4 Project
- VTS Operator Training based on IALA Recommendation V103/1 for Batam and Dumai VTS personnel by Japan Aids to Navigation Association (JANA);
- VTS Operator Training in MATRAIN Malaysia which is subjected to ASEAN Country and funded by Japan ASEAN Integrated Fund (JAIF). The batch-1 commenced in 2017 with the number of trainee from each country is 2 (two) person. Batch-2 started at October 2018 and now is still on going until February 2019;
- To improve the skill and competency of VTS Operator in Indonesia, JICA Japan has installed VTS Simulator in Batam in 2018.
- Installation of Simulator E-Learning System for VTS Operator in VTS Makassar funded by JAIF in order to provide a sufficient knowledge and preparation for the candidate of VTS Operator Indonesia by long distance learning before training in MATRAIN Malaysia;
- VTS Training conducted by MPA Singapore through MoU DGST with MPA to improve the capacity building

REALIZATION OF THE MEASURES (BY CONTRIBUTION FOREIGN COUNTRIES)

DIRECTORATE GENERAL OF SEA TRANSPORTATION - MINISTRY OF TRANSPORTATION

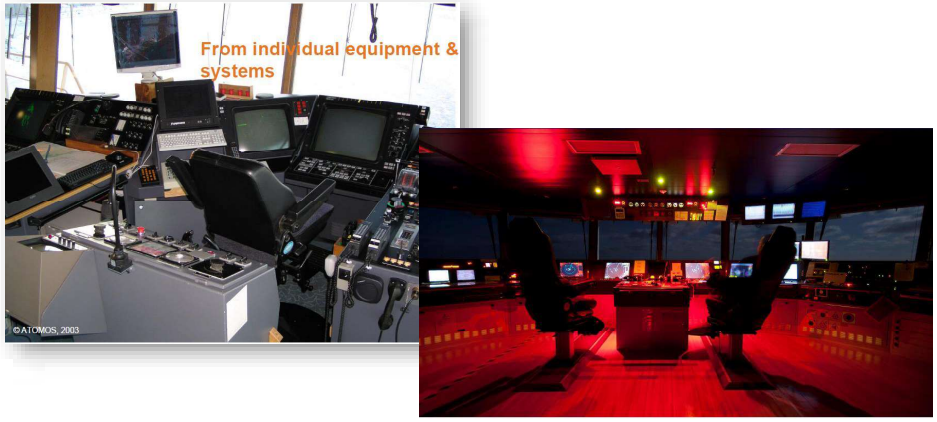
REALIZATION OF THE MEASURES (BY CONTRIBUTION FOREIGN COUNTRIES)

- **JHS Phase 1** has completed in cooperation between three Littoral State (Indonesia, Malaysia and Singapore) and Japanese Government through Malacca Strait Council (MSC). JHS 1 conducted in 5 (five) critical areas in Strait of Malacca and Singapore as follows :
  a. Cape Rachardo
  b. One Fathom Bank
  c. Buffalo Rock
  d. Batu Berhanti
  e. Off Pulau Sebarok
- **JHS Phase 2** with area of survey is a whole Traffic Separation Scheme (TSS) in SOMS excluded 5 (five) critical area which has been surveyed in JHS Phase 1.
- Maintaining Aids to Navigation in Malacca and Singapore Strait through ANF Program

DIRECTORATE GENERAL OF SEA TRANSPORTATION - MINISTRY OF TRANSPORTATION

FUTURE PROJECTION AND DEVELOPMENT

- **GMDSS Modernization**



To this ....

DIRECTORATE GENERAL OF SEA TRANSPORTATION - MINISTRY OF TRANSPORTATION

FUTURE PROJECTION AND DEVELOPMENT

- **Indonesia E-Navigation**

INDO ENAV I

- Developing Coverage AIS Monitoring;
- Integrated system with Inaportnet;
- Developing Metro/Hydro Data (Current, Tide and Wind)
- Developing IP Base for CRS.

INDO ENAV II

- VHF Exchange Data System (VDES);
- Developing System Navigation Data (NAVDAT);
- Developing Regulation

ALL OF THE SYSTEM IS DEVELOPED

BASED ON

USER NEEDS

NOT TECHNOLOGY DRIVEN

THANK YOU

Appendix 1.7 -2

Presentation (E-Nav.)

E-Navigation

Hayama Imazu
Emeritus Professor of Tokyo University of Marine Science & Technology
27 June 2019

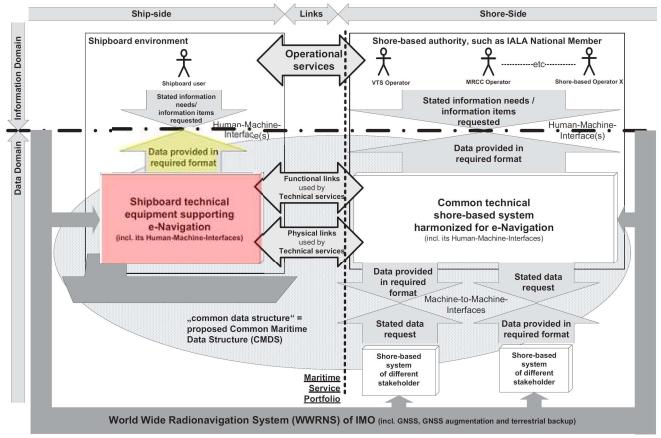
Discussion of E-Navigation at IMO

2006 MSC81 "Development of an E-Navigation Strategy"
2014 MSC94 E-Navigation Strategy Implementation Plan (SIP)
2015-2019 Period to consider the required regulatory framework and technical requirements for SIP
2019 NCSR6 Several Guidelines and Performance Standards

Definition and Scope of E-navigation

- E-navigation is the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.
- E-navigation is intended to meet present and future user needs through harmonization of marine navigation systems and supporting shore services.

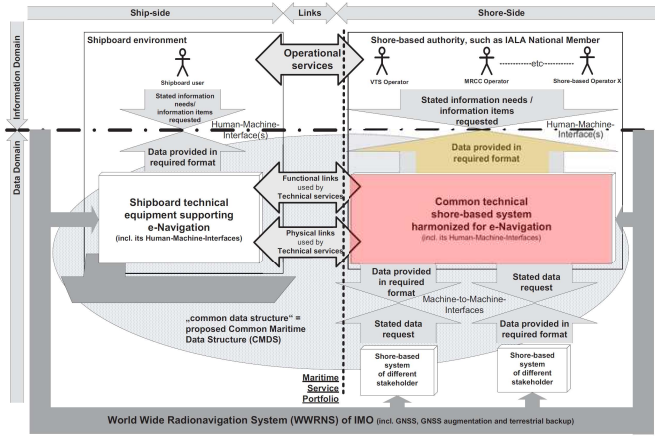
Overarching E-Navigation architecture



On Board
Shipboard Technical Equipment
- Integration of Sensors
- Supporting Information
- User Interface
- Comprehensive System

Output Data
- Data Provided in Required Format

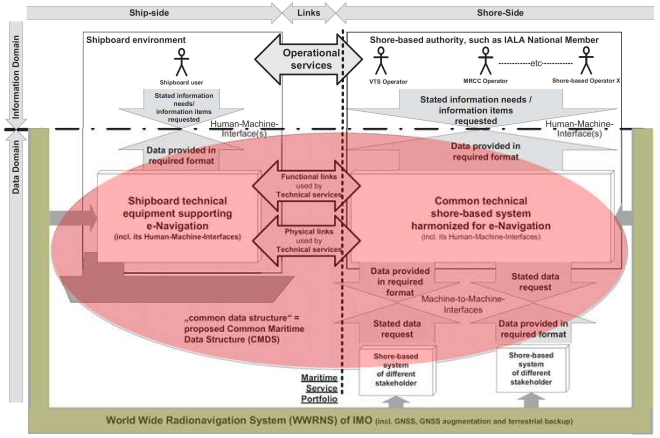
Overarching E-Navigation architecture



Shore
Common Technical Shore-Based System
- Vessel Traffic Service. etc.
- Comprehensive Data in Formats
- User Interface

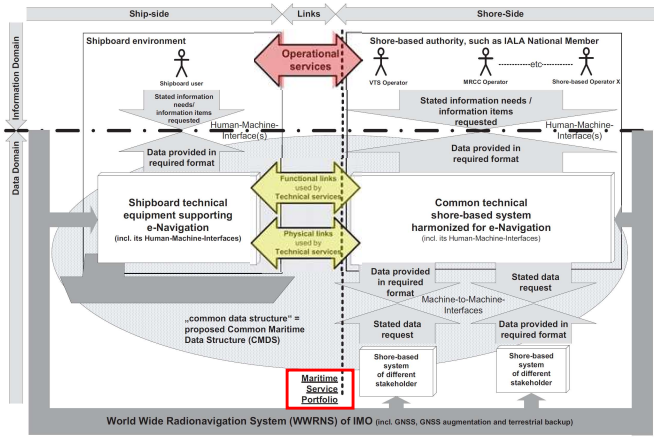
Output Data
- Data Provided in Required Format

Overarching E-Navigation architecture



Common Matter of Ship and Shore
- Common Maritime Data Structure
- Worldwide Radio Navigation System

Overarching E-Navigation architecture



Communication
- Seamless Information and Data Transfer, Ship-Ship, Ship-Shore, Shore-Shore

Links
Connection of Shipboard User and Shore-based Operator
- Operational Services

Connection of Shipboard Technical Equipment and Common Technical Shore-based System
- Technical Services
  Functional Links
  Physical Links

Maritime Service Portfolio
- Service from Shore to Ship through E-Navigation

Sample of Users

Shipborne users
- Generic SOLAS ships
- Commercial tourism craft
- High-speed craft
- Mobile VTS assets
- Pilot vessels
- Coastguard vessels
- SAR vessels
- Law enforcement vessels
- Nautical assistance vessels

Shore-based users
- Ship owners and operators, safety managers
- VTM organizations
- VTS centres
- Pilot organizations
- Coastguard organizations
- Law enforcement organizations
- National administrations
- Coastal administrations
- Port authorities
- Security organizations
- Port State control authorities

E-Navigation Strategy Implementation Plan

- As shipping moves into the digital world, E-navigation is expected to provide digital information and infrastructure for the benefit of maritime safety, security and protection of the marine environment, reducing the administrative burden and increasing the efficiency of maritime trade and transport.
- The E-navigation Strategy Implementation Plan (SIP) introduces a vision of E-navigation which is embedded in general expectations for the on board, onshore and communications elements.

9

The Strategy Implementation Plan is based on the following five prioritized E-Navigation solutions

S1: improved, harmonized and user-friendly bridge design
S2: means for standardized and automated reporting
S3: improved reliability, resilience and integrity of bridge equipment and navigation information
S4: integration and presentation of available information in graphical displays received via communication equipment
S9: improved Communication of VTS Service Portfolio

10

Maritime Service Portfolios (MSPs)

Maritime Service Portfolios is a service provided from shore to vessels through E-Navigation. And, it requires the improvement of the communication method mentioned in S9.

The following six areas have been identified for the delivery of MSPs:

1 port areas and approaches;
2 coastal waters and confined or restricted areas;
3 open sea and open areas;
4 areas with offshore and/or infrastructure developments;
5 Polar areas
6 other remote areas.

Any communications systems used must be able to the deliver appropriate Maritime Service Portfolios in the area.

11

List of proposed MSPs

MSP1; VTS Information Service (IS)

service to ensure that essential information becomes available in time, for onboard navigational decision making.

service provider; VTS Authority

MSP2; Navigational Assistance Service (NAS)

service to assist onboard navigational decision-making, and to monitor its effects.

service provider; National Competent VTS Authority /Coastal or Port Authority

MSP3 Traffic Organization Service (TOS)

service to prevent the development of dangerous maritime traffic situations, and to provide for the safe and efficient movement of vessel traffic

service provider; National Competent VTS Authority /Coastal or Port Authority

12

MSP4; Local Port Service (LPS)

Service is designed to improve port safety and coordination of port services within the port community by dissemination of port information to vessels and berth or terminal operators.

service provider; Local Port/Harbor Operator

MSP5; Maritime Safety Information Service (MSI)

Service is an internationally coordinated network of broadcasts of Maritime Safety Information, from official information providers.

service provider; National Competent Authority

MSP6; Pilotage service

service provider; Pilot Authority/Pilot Organization

MSP7; Tugs Service

service provider; Tug Authority

MSP8; Vessel Shore Reporting

Service for Single-Window, it is one of the most important solutions to reduce the Mariners workload (amount of time spent on preparing and submitting reports to shore-based authorities).

service provider; National Competent Authority Shipowner/Operator/Master

13

MSP9; Telemedical Assistance Service (TMAS)

Service is to provide medical advice for seafarers any time.

service provider; National Health Organization/dedicated Health Organization

MSP10; Maritime Assistance Service (MAS)

Service is to handle communication between the coastal State, ship's officers requiring assistance, and other players in maritime community.

service provider; Coastal/Port Authority/Organization

MSP11; Nautical Chart Service

MSP12; Nautical Publications Service

MSP13; Ice Navigation Service

MSP14; Meteorological Information Service

MSP15; Real-time Hydrographic and Environmental Information Service

MSP16; Search and Rescue Service

14

- Solutions S2, S4 and S9 focus on efficient transfer of marine information and data between all appropriate users (ship-ship, ship-shore, shore-ship and shore-shore).
- Solutions S1 and S3 promote the workable and practical use of the information and data on board.
- A number of necessary actions and tasks to solve the five prioritized E-Navigation solutions (S1, S2, S3, S4 and S9) have been identified.

15

Required regulatory framework and technical requirements for implementation (Tasks) for S2 (Means for standardized and automated reporting)

- Single-entry of reportable information in single-window solution.
- Automated collection of internal ship data for reporting.
- Automated or semi-automated digital distribution / communication of required reportable information.
- All national reporting requirements to apply standardized digital reporting formats based on recognized internationally harmonized standards.

16

- The period has set from 2015 to 2019 to consider the tasks for implementation of SIP.
- It is expected that these tasks when completed during the period 2015–2019, should provide the industry with harmonized information in order to start designing products and services to meet the E-Navigation solutions.

17

Examples of key enablers of E-Navigation

Key Enabler	status
• Globally Standardized Data Exchange	• IMO/IHO harmonization group set up and started to study about IHO S-100
• A harmonized data communication standard	• Ongoing IALA is developing a VHF data Exchange System (VDES)
• Providers and onboard systems for resilient PNT	• Ongoing IMO is developing Performance Standards for multi-system navigation receiver
• Connect all relevant equipment and functionality	• Ongoing IEC is developing a family of standards

18

• Software Quality Assurance	• Ongoing Guidelines to be developed
• Connect all relevant equipment and functionality for VTS	• Ongoing Member States to address individually. IALA and IEC may assist in developing standards
• Coastal States to provide the required infrastructure	• Ongoing IALA, IHO and CIRM may assist in developing required infrastructure, including relevant standards
• Establish Human Centred Design principles	• Ongoing Continue to refine INS and IBS performance standards and guidelines respectively

19

The 8th International E-Navigation Underway Conference 2018

- Held from 24th to 26th January 2018 on board the ferry PEARL SEAWAYS, during which time she sailed from Copenhagen to Oslo and then returned to Copenhagen.
- The theme for the conference was the realization of the Maritime Service Portfolios.

20

The conference generated six highlights.

1. Ship-owners have clearly realized the potential and business cases in E-Navigation both in the areas of safety, efficiency and cost reduction.
2. Increasing attention is being paid to harmonized standards for services and products which are necessary for E-Navigation.
3. Disruption of the maritime industry driven by exponential technological change demands faster stakeholder and regulatory response to achieve the benefits of new technology for human needs.
4. There is increasing collaboration between test bed operators, leading to an acceleration in the realization of new digital maritime services and connectivity infrastructure.
5. Several major projects and global test beds have tested VDES with good results using both terrestrial and satellite platforms. VDES prototypes are now on the way for use on ships and ashore.
6. Autonomous systems, driven by the business case, are becoming operational and authorities and organizations must prepare.

https://www.iala-aism.org/news-events/e-nav-underway/e-nav-underway-international-2018/

21

NCSR 6th session, 16-25 January 2019

- Agreed a draft MSC circular on *Guidelines for the standardization of user interface design for navigation equipment*. The guidelines including icons, apply to INS, ECDIS and Radar equipment, and they may be applied to other electronic navigation equipment where applicable, improving standardization and usability.
- Agreed draft amendments to the *Performance standards for the presentation of navigation-related information on shipborne navigational displays*, including implementation dates, for INS, ECDIS and radar equipment. The implementation date of the revised standard should be 1 January 2024; and for all other navigational displays on the bridge of a ship 1 July 2025.

22

- Finalized the *Guidelines for the presentation of navigational-related symbols, terms and abbreviations*, which provide guidance on the appropriate use of navigation-related symbols to achieve a harmonized and consistent presentation.
- Agreed a draft MSC resolution on *Guidance on the definition and harmonization of the format and structure of Maritime Services in the context of E-Navigation*. The purpose of the guidance is to ensure that Maritime Services are implemented internationally in a standardized and harmonized format. All Maritime Services should be conformant with the International Hydrographic Organization (IHO) S-100 framework standard, which specifies the method for data modelling and developing product specifications.

23

- Following a request by a number of delegations for a more active participation of IMO in the process of harmonization of maritime services, exercising its leading role, the Sub-Committee agreed that IMO should work in collaboration with Member States and in partnership with other international organizations in the further development and harmonization work related to the definition and structure of maritime services in the context of E-Navigation (For example, 16 types of services from MSP1 to MSP16).

24

Appendix 2.2.2 -1

Statistic Table

Total of Debarkation Passenger of Domestic Voyage at 5 Main Ports, 2006-2020 (Person)

Pelabuhan Utama / Main Port	Total Penumpang Pelayaran dalam Total Kedatangan											
	2006											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	7 968	6 707	4 775	3 469	3 955	5 128	8 309	4 074	1 630	10 825	5 124	7 040
Tanjung Priok	21 009	13 807	13 446	13 864	14 423	15 002	29 007	16 870	15 505	33 038	29 976	19 517
Tanjung Perak	30 651	21 635	24 752	24 482	23 914	28 659	39 662	28 991	38 732	89 098	35 644	38 723
Balikpapan	19 158	14 324	14 636	15 516	13 831	15 183	20 761	15 829	21 809	22 897	19 178	65 817
Makassar	23 761	21 013	19 253	19 861	27 766	21 900	36 825	21 607	25 284	38 980	40 019	29 933
Main Port	2007											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	5 467	3 076	1 120	3 469	3 190	4 984	8 309	2 667	4 051	10 505	4 223	12 857
Tanjung Priok	18 793	10 787	13 258	13 705	15 451	19 811	34 639	15 660	17 265	30 062	13 316	13 586
Tanjung Perak	24 933	26 967	33 469	28 224	34 009	42 557	54 096	40 875	56 584	87 259	28 208	38 228
Balikpapan	19 218	15 592	17 458	18 704	16 847	20 781	26 015	19 642	19 449	41 676	45 274	23 657
Makassar	29 065	27 516	23 006	22 760	23 335	39 184	56 188	22 846	37 389	38 146	34 517	32 251
Main Port	2008											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	4 857	4 209	2 904	4 241	4 663	9 567	7 719	5 446	11 271	7 095	6 822	11 515
Tanjung Priok	15 290	11 853	13 740	17 266	21 338	26 625	41 054	30 641	43 987	35 289	19 959	22 849
Tanjung Perak	28 268	24 557	32 980	37 825	36 938	50 326	63 428	57 807	101 912	56 666	35 335	45 428
Balikpapan	26 514	21 592	26 783	9 143	21 910	23 024	25 259	25 260	20 000	16 694	65 139	21 978
Makassar	24 240	18 261	20 009	23 226	26 148	30 764	44 121	31 031	30 492	53 371	34 864	47 911
Main Port	2009											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	7 161	4 236	5 125	2 456	2 881	7 543	7 471	2 934	9 804	2 895	2 073	12 713
Tanjung Priok	22 387	10 919	14 374	10 976	12 322	22 370	30 603	20 911	34 889	17 478	11 592	19 106
Tanjung Perak	34 389	27 324	30 607	28 545	28 778	43 860	44 535	47 272	89 845	33 033	29 115	35 044
Balikpapan	22 468	20 947	11 520	13 890	10 826	13 633	15 437	21 500	15 328	15 328	51 888	41 523
Makassar	29 015	18 261	23 634	22 584	22 404	36 710	39 293	33 144	33 315	37 088	29 567	35 735
Main Port	2010											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember

Belawan	4 728	3 694	2 206	3 250	2 315	5 164	6 379	5 012	11 128	3 296	1 352	8 653
Tanjung Priok	14 349	10 841	13 986	11 380	13 730	16 950	28 837	13 730	35 874	13 369	11 083	18 017
Tanjung Perak	30 325	24 742	30 111	24 282	30 269	41 721	52 035	60 057	71 859	25 129	22 926	30 955
Balikpapan	15 669	13 805	7 841	16 453	12 180	15 623	17 286	14 416	32 733	31 918	9 259	15 286
Makassar	27 759	18 339	17 667	22 584	16 302	22 450	26 274	28 663	31 874	49 090	23 794	24 909

Main Port	2011											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	6 625	4 351	5 061	2 903	5 693	6 904	7 797	11 341	4 428	4 462	1 097	9 019
Tanjung Priok	14 735	10 866	14 335	12 819	16 729	23 925	27 147	33 613	27 443	13 289	11 971	17 387
Tanjung Perak	29 230	23 089	27 127	27 062	32 026	42 437	58 075	92 823	41 707	25 763	34 533	40 110
Balikpapan	11 940	11 940	15 708	20 657	12 189	16 282	17 544	16 723	48 890	17 472	17 061	23 223
Makassar	25 147	24 252	20 739	22 313	19 432	22 188	31 395	38 574	44 328	59 489	31 100	25 180

Main Port	2012											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	7 881	3 911	3 337	3 305	4 457	4 794	8 160	10 803	4 959	2 529	642	10 350
Tanjung Priok	14 927	11 852	10 931	13 904	13 479	18 399	26 058	33 609	22 123	14 551	12 977	17 349
Tanjung Perak	35 045	25 820	29 010	28 486	31 738	41 065	60 523	81 579	30 513	34 642	28 545	37 048
Balikpapan	15 492	14 306	12 654	14 610	13 006	18 242	18 071	23 338	33 349	19 696	21 405	24 022
Makassar	30 660	25 112	24 418	25 950	26 257	25 551	35 852	39 709	49 131	49 356	34 301	33 191

Main Port	2013											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	3 413	3 488	2 845	2 791	3 035	3 342	9 164	8 255	5 226	5 968	247	10 983
Tanjung Priok	13 482	12 833	16 841	12 858	13 744	18 676	33 427	32 525	14 755	14 868	11 315	15 807
Tanjung Perak	23 722	21 578	19 583	24 091	23 040	26 047	56 925	51 899	18 871	21 338	24 711	33 724
Balikpapan	14 581	12 381	11 121	10 494	14 422	18 086	28 375	54 547	32 562	18 505	15 090	16 799
Makassar	35 909	23 737	19 846	23 972	23 718	23 036	34 475	37 472	49 657	37 320	30 092	23 342

Main Port	2014											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	7 200	5 149	4 074	5 167	5 165	6 671	12 763	5 909	5 356	1 127	2 744	7 254
Tanjung Priok	12 477	9 397	12 433	11 296	11 762	17 935	27 144	25 855	10 982	11 184	9 571	14 309
Tanjung Perak	23 965	21 833	25 189	20 221	25 142	44 957	76 620	39 909	24 253	26 121	22 412	27 608
Balikpapan	15 177	9 037	10 786	11 430	7 253	7 105	10 145	25 870	12 272	15 675	11 807	16 430
Makassar	26 989	23 085	29 050	24 246	26 672	36 585	70 828	49 460	36 949	34 870	28 923	32 790

Main Port	2015

Main Port	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	8 151	4 313	5 715	4 442	4 794	6 686	13 783	4 805	5 267	2 574	2 539	10 108
Tanjung Priok	10 401	8 486	11 513	10 955	10 708	14 898	31 752	17 132	11 106	10 782	9 095	11 427
Tanjung Perak	23 965	15 914	16 950	18 119	22 264	32 390	79 584	29 446	25 767	22 700	21 072	24 425
Balikpapan	15 177	14 270	13 943	11 583	15 154	17 902	25 133	21 517	15 792	17 407	24 163	17 907
Makassar	29 355	21 634	22 695	21 213	26 913	32 011	51 335	42 641	32 005	29 023	25 028	32 789

Main Port	2016											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	6 034	3 478	2 727	2 298	3 368	6 476	13 722	4 326	3 908	2 563	2 040	13 605
Tanjung Priok	7 686	7 714	6 971	7 231	6 591	13 556	21 558	17 084	8 493	10 708	7 856	8 529
Tanjung Perak	19 393	14 398	14 091	11 881	19 115	35 624	50 645	17 152	16 066	11 786	9 047	15 514
Balikpapan	16 300	11 895	4 037	5 367	10 403	43 096	23 489	16 530	12 843	17 407	3 496	12 416
Makassar	25 594	17 667	16 722	17 899	22 464	31 039	54 750	33 808	27 196	24 935	20 289	28 691

Main Port	2017											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	7 128	3 114	3 580	3 851	3 515	14 670	8 366	3 329	2 513	1 793	1 591	15 392
Tanjung Priok	7 165	6 393	6 386	6 755	7 112	12 819	23 362	9 764	6 283	5 432	4 780	9 610
Tanjung Perak	21 797	11 438	12 827	11 907	16 460	55 242	35 977	44 151	15 119	14 631	11 517	20 478
Balikpapan	14 629	5 429	8 732	9 502	9 571	9 571	45 116	13 613	12 941	11 229	12 085	11 256
Makassar	25 141	16 464	19 334	18 082	22 125	34 098	52 681	25 892	23 359	20 269	18 799	24 600

Main Port	2018											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	4 820	2 050	2 109	2 222	2 804	9 277	4 917	2 792	4 732	20 633	2 955	15 548
Tanjung Priok	6 418	6 668	4 538	5 392	5 550	22 681	12 963	8 323	7 737	6 100	6 906	16 420
Tanjung Perak	12 994	10 736	14 736	8 843	23 935	88 070	23 493	18 999	19 659	15 304	14 017	24 110
Balikpapan	13 860	7 817	21 809	17 796	9 373	23 523	36 393	12 271	9 802	11 923	15 093	13 982
Makassar	21 392	12 730	16 473	13 409	20 405	45 475	38 945	22 200	20 269	19 188	20 443	33 443

Main Port	2019											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	10 731	19 408	8 662	11 718	17 570	24 054	138 994	9 391	8 548	2 163	5 097	16 496
Tanjung Priok	13 354	12 472	17 126	22 801	26 220	38 871	35 247	19 331	20 490	16 307	15 323	29 087
Tanjung Perak	17 872	25 316	21 315	25 079	48 207	86 097	24 543	26 665	35 142	35 679	33 711	48 058
Balikpapan	20 809	14 085	14 367	12 090	14 952	46 213	43 664	20 527	16 397	17 226	16 069	16 564
Makassar	27 767	22 176	25 457	29 144	48 434	82 737	55 381	37 091	37 232	35 435	30 922	47 845

Total of Embarkation Passenger of Domestic Voyage at 5 Main Ports, 2006-2020 (Persons)

Pelabuhan Utama Main Port	Total Penumpang Pelayaran dalam Total Keberangkatan 2006											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	11 610	5 044	4 483	4 075	4 404	5 870	8 914	5 292	549	8 133	7 343	12 279
Tanjung Priok	18 125	12 990	14 024	10 858	10 988	17 170	29 982	13 973	14 012	32 769	43 971	31 318
Tanjung Perak	45 873	32 223	30 675	28 657	30 387	30 798	41 111	30 734	24 892	47 548	105 339	43 781
Balikpapan	19 838	15 415	16 200	14 819	14 143	17 834	21 278	15 000	15 938	18 329	49 027	39 766
Makassar	35 698	28 134	24 774	24 316	25 694	27 943	52 264	27 379	38 789	44 844	54 206	32 052
Main Port	**2007**											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	9 154	4 003	1 150	4 075	3 298	5 738	8 914	2 922	3 491	3 796	4 684	6 303
Tanjung Priok	17 162	13 920	12 081	13 826	14 137	21 040	29 541	13 838	10 146	28 518	27 151	12 389
Tanjung Perak	39 378	37 644	35 313	37 162	42 282	46 511	57 775	36 474	31 260	87 092	71 242	36 833
Balikpapan	15 012	12 808	15 743	24 996	16 294	28 495	23 782	19 242	25 083	46 453	14 070	12 670
Makassar	39 689	32 829	28 693	28 171	32 491	32 421	40 858	33 041	25 718	61 747	27 625	35 540
Main Port	**2008**											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	7 756	4 150	2 671	4 380	3 837	9 030	7 394	5 873	5 354	15 886	5 693	3 538
Tanjung Priok	14 322	12 124	13 181	13 412	18 297	20 680	33 029	25 692	30 862	45 064	23 964	24 978
Tanjung Perak	40 007	29 464	34 519	36 045	39 318	43 784	61 204	42 030	29 561	132 579	53 390	41 409
Balikpapan	29 505	14 285	17 134	17 437	14 719	30 270	28 764	28 596	27 583	64 210	20 654	13 699
Makassar	35 947	26 896	30 917	36 600	33 973	46 708	66 406	51 443	51 739	71 034	39 189	61 189
Main Port	**2009**											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	14 465	3 195	3 388	1 966	2 027	7 085	6 786	2 213	8 755	5 416	1 757	3 863
Tanjung Priok	18 970	9 824	11 798	7 564	11 893	12 366	21 819	14 178	24 746	24 801	14 046	23 840
Tanjung Perak	34 380	23 229	27 784	29 723	28 098	40 845	41 830	29 574	46 969	79 933	41 407	42 038
Balikpapan	16 267	21 350	12 933	11 048	11 490	11 492	16 852	19 504	12 364	12 364	12 547	35 088
Makassar	44 615	26 896	34 569	30 399	29 508	50 439	59 599	50 232	50 386	51 908	33 752	44 141
Main Port	**2010**											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember

Belawan	15 217	4 904	3 388	2 993	3 304	7 205	7 205	3 997	12 937	4 455	1 828	3 387
Tanjung Priok	13 482	11 791	13 225	11 452	11 169	15 977	26 084	11 169	34 136	24 739	11 291	21 017
Tanjung Perak	35 777	27 202	30 502	33 603	27 029	33 529	48 222	27 455	77 157	61 161	29 356	35 955
Balikpapan	13 609	10 964	12 188	12 562	10 659	16 539	21 003	18 607	29 640	8 797	11 805	16 447
Makassar	36 605	18 191	28 294	30 399	19 393	26 408	37 635	42 085	44 095	46 135	33 219	25 164

Main Port	2011											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	16 427	5 218	4 624	2 838	5 695	8 468	8 640	4 038	14 919	4 328	1 833	3 874
Tanjung Priok	14 529	8 616	11 089	12 280	11 612	14 053	25 269	20 642	34 972	19 257	10 222	20 420
Tanjung Perak	32 284	26 626	31 151	33 254	32 876	36 089	45 996	19 588	112 775	57 083	41 960	37 189
Balikpapan	18 754	14 784	12 823	11 016	10 654	17 689	21 282	45 977	17 432	11 113	15 395	19 082
Makassar	36 605	33 285	25 039	28 334	25 589	29 524	41 755	62 588	56 951	62 293	34 981	32 868

Main Port	2012											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	14 580	4 834	3 883	3 331	5 509	7 818	9 784	10 897	8 338	3 077	991	8 097
Tanjung Priok	12 783	9 127	10 073	9 552	9 345	14 544	18 810	25 137	25 944	14 417	13 815	19 306
Tanjung Perak	36 793	28 634	24 726	28 573	27 054	21 336	27 295	47 052	97 851	31 749	37 802	23 437
Balikpapan	14 456	11 745	11 818	12 218	14 695	19 108	20 944	54 068	13 875	18 808	15 724	20 541
Makassar	38 808	41 261	32 341	31 331	29 341	32 000	45 407	66 637	70 056	61 232	37 386	49 372

Main Port	2013											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	11 654	4 857	4 886	4 380	3 972	6 071	9 291	14 700	8 337	6 251	636	7 596
Tanjung Priok	10 391	11 253	13 148	9 457	9 395	13 417	17 589	31 059	22 728	11 736	10 306	14 780
Tanjung Perak	19 967	18 727	17 058	18 142	14 642	13 527	21 506	47 986	58 263	20 968	28 836	20 164
Balikpapan	13 873	12 189	10 315	9 946	12 207	23 194	32 785	36 688	10 731	15 735	13 868	13 855
Makassar	44 072	40 534	29 858	30 502	30 297	30 944	44 281	70 003	65 352	39 546	37 253	34 814

Main Port	2014											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	11 554	5 729	4 275	6 849	5 485	5 956	7 182	10 562	5 115	1 032	2 612	4 680
Tanjung Priok	8 776	7 671	9 560	7 969	8 064	11 445	20 988	25 632	11 153	7 711	7 865	15 070
Tanjung Perak	22 103	23 436	25 760	17 508	19 552	21 083	23 171	96 999	34 296	25 943	19 607	17 978
Balikpapan	12 209	9 072	11 256	11 210	9 640	16 960	39 084	16 352	11 873	18 193	18 788	21 012
Makassar	44 287	33 403	32 480	30 344	34 585	57 952	117 195	72 836	39 368	45 018	39 247	41 732

Main Port	2015

Main Port	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	7 516	2 889	5 894	4 298	4 427	6 029	13 641	6 946	4 285	1 578	2 184	6 884
Tanjung Priok	9 628	5 586	8 132	7 011	7 764	10 855	27 632	14 411	9 544	9 114	6 945	12 834
Tanjung Perak	22 103	12 909	14 878	16 006	13 373	15 046	60 796	78 248	25 116	24 968	18 911	18 766
Balikpapan	12 209	9 634	10 296	12 466	14 541	18 768	25 325	22 047	14 344	15 513	17 286	16 013
Makassar	39 770	30 091	27 195	27 550	30 116	47 389	76 852	52 691	34 223	40 146	31 173	38 104

Main Port	2016											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	12 455	4 377	3 705	3 056	4 909	4 706	16 780	6 082	4 269	2 916	2 648	6 092
Tanjung Priok	6 691	6 911	5 965	5 040	4 521	9 192	20 657	17 141	8 460	7 764	7 150	12 818
Tanjung Perak	24 133	13 993	11 114	11 088	12 373	16 461	81 139	40 224	16 515	18 448	13 678	17 459
Balikpapan	16 275	16 537	7 346	9 736	32 700	13 642	24 368	9 436	13 327	15 513	9 441	12 184
Makassar	39 728	24 732	19 215	19 571	24 615	43 973	54 800	33 815	26 233	27 753	25 199	26 241

Main Port	2017											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	12 364	3 659	3 726	3 813	3 733	6 255	17 949	4 175	3 805	2 284	2 095	6 544
Tanjung Priok	5 286	6 303	4 601	4 285	4 387	16 777	16 649	11 237	5 469	4 686	5 285	11 503
Tanjung Perak	22 477	13 035	14 186	9 697	12 492	12 753	107 208	50 980.50	17 584	16 800	11 681	15 564
Balikpapan	8 316	8 076	6 811	9 203	10 105	10 105	18 880	12 034	10 992	8 953	10 318	16 320
Makassar	28 941	17 871	21 146	18 515	23 466	38 548	51 437	25 687	23 768	20 319	20 345	26 146

Main Port	2018											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	13 993	3 061	2 642	2 710	2 804	6 139	12 001	3 756	4 233	2 616	3 975	9 600
Tanjung Priok	4 730	6 152	3 921	4 474	5 815	22 586	14 596	7 828	6 452	5 515	6 973	17 864
Tanjung Perak	15 626	13 951	13 392	11 208	13 393	67 227	80 087	20 212	20 753	17 569	16 393	19 999
Balikpapan	9 325	5 973	17 077	14 388	11 347	15 963	15 270	12 666	16 089	9 863	12 561	22 027
Makassar	25 476	14 917	15 539	15 256	23 238	49 913	44 199	23 506	20 319	20 233	22 530	34 099

Main Port	2019											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	22 492	33 003	10 765	10 258	10 621	25 687	16 102	10 904	9 948	2 320	7 272	24 847
Tanjung Priok	11 842	13 971	15 078	16 634	19 659	38 098	31 495	21 625	20 478	15 685	15 269	29 623
Tanjung Perak	24 010	24 578	22 442	23 515	29 046	77 413	48 665	33 141	43 024	45 533	38 769	47 618
Balikpapan	12 941	12 525	13 681	15 003	38 786	46 285	27 309	17 557	22 302	16 559	18 806	21 522
Makassar	33 603	24 443	25 457	29 566	50 545	70 160	62 905	34 872	36 133	35 435	33 723	45 704

Total of Loading Domestic Cargo at 5 Main Ports, 2006-2020 (Tons)

Pelabuhan Utama / Main Port	Total Barang Dalam Negeri di Barang yang dimuat											
	2006											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	45 216	44 787	62 019	44 570	44 978	46 095	46 787	37 976	48 394	44 763	41 559	31 458
Tanjung Priok	404 636	387 675	567 709	419 367	474 604	465 584	492 530	537 212	589 335	407 492	622 148	580 122
Tanjung Perak	553 117	595 508	657 972	585 496	935 875	826 977	735 096	1 197 423	1 159 709	1 098 638	901 678	1 239 383
Balikpapan	974 771	803 966	704 835	777 277	861 067	832 868	965 962	840 162	506 097	849 027	955 105	1 052 717
Makassar	189 610	242 226	218 405	247 885	206 813	221 806	197 311	220 756	192 434	175 556	256 808	183 255
Main Port	2007											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	53 465	140 561	49 977	42 486	49 028	60 695	99 221	69 343	128 147	87 977	112 056	81 330
Tanjung Priok	383 471	428 255	567 639	623 092	573 148	554 217	580 409	657 738	690 202	510 527	636 433	619 471
Tanjung Perak	1 059 106	1 180 132	1 017 597	1 077 882	1 032 537	1 059 715	1 209 996	1 243 154	1 330 792	887 412	1 259 805	1 252 168
Balikpapan	779 174	1 276 696	750 420	533 234	949 962	891 416	1 106 194	1 491 154	1 344 342	1 256 121	1 639 201	1 377 499
Makassar	187 055	185 134	218 583	240 976	242 787	225 834	235 534	235 499	264 656	192 520	300 196	178 445
Main Port	2008											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	87 225	121 863	62 439	68 680	80 716	110 354	127 439	104 129	112 274	87 184	129 462	95 054
Tanjung Priok	598 959	513 469	605 368	648 924	696 196	709 685	691 330	694 165	611 484	550 409	539 556	491 576
Tanjung Perak	705 980	703 623	750 269	879 508	737 844	811 667	877 037	880 769	812 659	624 138	871 872	807 642
Balikpapan	1 584 589	1 366 868	1 271 409	1 237 883	1 029 709	287 557	906 436	762 536	1 093 943	624 024	804 504	673 058
Makassar	293 265	271 756	310 842	416 003	306 009	252 959	313 709	229 251	170 719	194 593	272 021	262 945
Main Port	2009											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	85 414	73 737	84 288	110 095	108 411	137 001	115 150	113 442	87 855	94 923	91 505	114 369
Tanjung Priok	576 180	558 041	600 196	548 183	748 331	769 973	824 399	815 065	502 887	701 704	821 779	874 537
Tanjung Perak	735 785	779 618	702 620	671 532	731 522	675 006	742 259	821 684	694 381	702 620	842 479	729 688
Balikpapan	695 790	693 472	723 675	793 173	718 989	417 039	834 113	833 633	718 151	500 282	751 942	537 746
Makassar	258 590	211 183	224 339	384 973	342 793	433 309	323 581	351 601	253 758	320 436	260 740	346 254
Main Port	2010											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember

Belawan	96 055	86 820	75 879	66 379	91 480	96 913	127 248	102 673	78 557	98 571	86 817	121 568
Tanjung Priok	759 907	739 332	778 261	804 779	845 158	969 556	783 117	945 510	691 968	824 952	814 403	944 094
Tanjung Perak	720 058	724 038	639 466	674 251	718 366	713 987	733 373	700 852	555 034	718 363	779 463	721 102
Balikpapan	780 390	687 345	732 021	757 495	901 628	745 849	1 053 969	914 721	914 114	722 770	476 985	749 165
Makassar	271 428	438 321	392 669	431 439	470 692	352 691	357 696	355 371	372 569	393 195	389 939	375 498

Main Port	2011											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	87 611	67 848	125 993	87 681	89 041	123 907	158 766	65 630	60 669	55 463	86 860	88 824
Tanjung Priok	832 107	866 454	1 139 025	1 080 788	1 066 864	1 044 480	1 162 957	971 162	1 062 358	1 161 837	1 150 790	1 302 325
Tanjung Perak	737 074	649 863	589 233	457 834	373 153	521 745	547 455	500 267	398 504	534 833	521 900	519 681
Balikpapan	771 736	711 936	706 347	483 553	400 958	569 009	607 471	698 097	723 651	759 721	780 809	652 043
Makassar	258 577	265 653	378 846	330 212	294 340	323 512	328 513	362 408	361 794	380 151	387 128	318 503

Main Port	2012											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	61 469	56 384	80 729	76 053	79 892	86 731	97 129	45 521	82 045	103 833	104 788	43 111
Tanjung Priok	1 168 501	1 175 847	1 247 308	1 230 408	1 319 772	1 313 780	1 331 926	973 208	1 099 699	1 207 661	1 081 239	1 105 982
Tanjung Perak	477 028	494 755	465 570	525 266	609 756	479 686	582 794	484 478	549 271	601 780	599 913	630 557
Balikpapan	668 928	680 006	599 751	579 593	389 881	518 928	863 274	1 329 271	895 059	737 869	803 597	946 820
Makassar	446 510	358 588	362 479	367 249	416 956	362 665	507 666	475 278	412 297	362 490	394 107	341 579

Main Port	2013											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	51 495	86 728	47 465	59 434	40 249	63 076	64 456	28 617	33 812	60 346	57 654	52 479
Tanjung Priok	1 090 346	1 124 405	989 212	990 118	1 105 606	1 540 161	1 163 945	793 788	1 224 604	1 300 349	1 174 929	1 083 414
Tanjung Perak	497 284	513 828	427 144	526 165	536 290	523 342	587 476	315 474	542 812	453 084	503 029	758 171
Balikpapan	807 921	1 041 815	1 230 068	1 123 020	897 811	675 101	809 190	927 055	1 104 460	739 504	703 333	642 829
Makassar	278 099	332 132	386 969	395 204	380 168	364 470	367 295	323 013	503 032	414 592	404 145	338 186

Main Port	2014											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	33 821	54 333	74 120	48 866	28 311	41 539	33 406	28 968	19 692	46 970	38 528	37 321
Tanjung Priok	956 873	1 074 286	1 053 963	1 037 354	905 165	935 452	733 537	835 271	1 062 346	1 450 358	920 087	955 334
Tanjung Perak	365 977	410 447	480 503	461 909	449 824	539 458	413 726	413 939	556 697	515 975	508 319	993 996
Balikpapan	663 635	938 916	239 327	974 421	803 527	824 382	808 925	758 672	714 426	1 031 438	872 932	835 390
Makassar	402 407	362 279	482 014	425 548	415 256	367 861	384 599	373 202	461 228	460 794	462 348	386 953

Main Port	2015

Main Port	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	37 185	12 555	47 618	32 979	14 608	10 840	6 677	16 784	16 914	4 656	20 906	10 225
Tanjung Priok	813 071	764 594	1 044 705	1 108 044	1 213 562	1 166 550	877 478	1 171 834	1 297 092	1 450 065	1 280 854	1 622 263
Tanjung Perak	558 982	462 240	350 609	579 992	423 226	513 400	311 293	424 228	468 662	386 710	511 359	477 752
Balikpapan	903 654	869 545	671 770	785 209	728 485	824 412	779 371	801 883	844 977	808 753	818 547	824 100
Makassar	348 481	358 284	350 799	350 817	425 331	362 614	243 047	386 115	339 902	383 626	321 859	309 373

Main Port	2016											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	38 611	16 715	10 034	23 978	19 295	14 094	15 143	6 195	4 975	10 265	10 796	12 088
Tanjung Priok	1 042 237	1 447 500	1 261 019	1 285 849	1 260 347	1 368 864	645 905	1 231 018	1 107 705	1 298 754	1 241 174	1 360 381
Tanjung Perak	397 479	436 622	501 290	460 708	390 177	484 511	284 258	575 773	516 744	560 454	511 805	526 394
Balikpapan	817 133	819 995	724 017	471 800	597 909	554 022	902 700	941 400	889 100	910 933	913 706	904 610
Makassar	413 417	328 125	304 890	322 367	326 229	299 728	216 389	339 013	364 478	297 273	364 234	336 059

Main Port	2017											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	11 050	3 609	9 825	20 159	11 198	13 537	14 510	8 024	22 852	32 322	15 094	13 161
Tanjung Priok	922 069	935 420	891 860	1 087 430	1 172 478	1 072 121	796 042	1 322 084	1 254 412	1 322 084	1 377 736	1 202 917
Tanjung Perak	532 884	436 436	467 881	338 400	457 625	414 100	427 339	471 321.33	527 168	498 413	401 478	415 277
Balikpapan	909 750	880 365	898 249	896 130	891 581	895 320	894 343.72	898 148.29	880 000	917 070	866 234	862 313
Makassar	307 523	358 819	384 803	375 451	303 534	262 382	322 320	355 741	333 625	340 236	437 714	412 199

Main Port	2018											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	17 472	6 949	14 744	24 230	15 308	8 974	22 253	35 232	11 058	18 540	33 432	33 628
Tanjung Priok	1 111 787	1 255 175	1 332 693	1 701 832	1 348 758	863 650	1 194 927	850 260	751 408	1 142 940	1 184 938	1 065 148
Tanjung Perak	329 289	422 580	432 200	387 417	428 512	175 117	264 860	456 699	309 922	344 966	205 818	113 193
Balikpapan	863 361	844 226	764 700	801 700	803 500	789 967	739 207	757 900	752 456	758 900	756 400	755 919
Makassar	369 879	337 793	408 977	445 273	381 954	244 455	383 910	373 650	340 236	399 432	432 488	287 196

Main Port	2019											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	139 881	26 935	130 350	296 006	30 047	4 235	8 995	12 298	17 274	26 745	24 205	15 541
Tanjung Priok	1 019 566	1 380 105	1 449 056	1 894 263	1 243 902	836 749	1 314 557	1 155 293	1 084 870	1 071 036	1 051 004	1 216 842
Tanjung Perak	366 379	391 347	318 177	385 245	425 766	250 413	454 437	537 492	413 194	398 114	391 168	396 298
Balikpapan	757 067	756 467	795 652	769 767	773 989	779 776	845 415	799 726	808 301	817 809	808 612	849 451
Makassar	386 220	293 658	364 445	380 144	380 185	237 091	326 403	367 279	378 402	359 782	411 448	343 495

Total of Unloading Domestic Cargo at 5 Main Ports, 2006–2020 (Tons)

Pelabuhan Utama Main Port	Total Barang Dalam Negeri di Barang yang Dibongkar 2006											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	610 644	572 234	610 668	492 913	658 435	609 337	606 350	615 215	567 447	566 593	547 444	502 695
Tanjung Priok	1 117 078	894 915	1 305 580	1 077 441	1 224 259	953 162	1 145 766	1 300 726	1 184 112	1 277 330	1 292 991	1 247 252
Tanjung Perak	961 522	805 570	759 429	633 536	832 729	875 302	667 937	1 177 654	1 101 502	1 118 347	717 150	1 007 679
Balikpapan	924 719	611 667	728 115	679 334	756 491	531 242	876 392	691 453	118 429	756 674	999 397	919 314
Makassar	233 852	252 455	247 506	207 657	259 356	234 658	278 980	305 820	299 249	268 643	249 419	345 845

Main Port 2007												
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	604 729	517 758	548 529	610 150	636 042	511 983	635 837	557 460	604 425	572 209	715 583	727 867
Tanjung Priok	1 030 053	1 125 738	1 148 310	1 360 337	1 271 363	1 308 546	1 750 545	1 335 672	1 510 592	1 350 613	1 236 705	1 380 263
Tanjung Perak	1 209 631	1 025 642	1 019 463	995 621	822 050	939 527	926 160	970 875	1 194 459	790 748	1 056 905	852 258
Balikpapan	478 125	786 322	597 361	376 682	576 598	664 250	766 844	1 186 287	1 050 972	550 479	1 207 674	552 500
Makassar	276 336	268 438	268 877	293 855	233 112	271 533	333 758	313 676	308 108	270 559	330 510	292 347

Main Port 2008												
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	674 107	754 770	636 434	706 487	773 367	827 484	815 580	695 351	585 513	593 422	629 836	577 007
Tanjung Priok	1 343 189	1 320 841	1 484 393	1 718 748	1 748 982	1 188 043	1 406 270	1 526 687	1 415 276	1 192 465	1 218 572	1 297 316
Tanjung Perak	674 444	838 581	643 640	788 310	649 430	690 817	700 659	724 635	674 366	624 336	696 519	741 246
Balikpapan	596 682	812 054	645 543	94 372	840 227	698 757	889 946	1 060 931	378 110	796 406	902 838	841 231
Makassar	409 715	413 862	357 543	455 031	407 724	448 635	469 321	374 656	293 428	377 899	449 118	535 849

Main Port 2009												
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	523 122	592 292	538 999	599 856	659 214	726 314	729 262	693 100	608 994	644 785	584 260	627 014
Tanjung Priok	1 236 056	1 317 001	1 406 584	1 229 790	1 210 680	1 160 300	1 364 894	1 283 725	1 231 075	1 196 447	1 169 652	1 346 347
Tanjung Perak	619 049	536 780	575 137	656 223	554 658	761 679	713 008	775 614	688 544	575 137	729 832	579 961
Balikpapan	707 088	636 326	792 064	805 453	658 207	601 195	700 842	464 238	686 013	553 479	428 280	568 602
Makassar	367 113	437 107	442 385	553 207	536 354	667 623	644 814	604 863	558 691	615 696	608 597	636 886

Main Port 2010												
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember

Belawan	475 286	572 788	610 228	552 434	516 170	555 278	584 333	589 427	547 123	617 787	608 970	555 713
Tanjung Priok	1 095 320	1 063 536	1 202 542	1 334 954	1 398 842	1 314 759	1 343 567	1 446 787	1 064 924	1 376 938	1 271 847	1 017 460
Tanjung Perak	645 139	847 066	632 112	711 874	625 141	838 928	640 899	608 788	647 371	661 733	629 050	769 711
Balikpapan	328 783	362 800	339 970	343 851	348 874	344 232	345 652	346 252	345 379	694 565	663 123	731 640
Makassar	595 879	966 994	644 276	642 052	722 431	598 331	497 958	553 845	598 854	690 271	763 340	703 876

Main Port	2011											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	543 124	445 154	538 424	591 145	615 936	665 576	715 010	505 252	509 961	520 553	736 289	550 921
Tanjung Priok	1 233 726	1 173 989	1 380 057	1 485 993	1 575 302	1 385 658	1 635 652	1 370 281	1 446 006	1 644 579	1 635 081	1 609 027
Tanjung Perak	379 456	457 385	336 146	349 505	239 542	157 561	1 034 838	479 705	498 920	500 484	456 643	440 464
Balikpapan	624 924	824 258	1 074 867	886 081	815 919	1 021 202	586 689	640 069	913 052	893 332	1 055 018	846 595
Makassar	521 121	535 881	537 234	504 277	494 683	483 574	558 091	518 338	438 883	613 546	582 476	638 923

Main Port	2012											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	563 054	524 138	554 425	619 943	485 458	670 283	657 386	422 244	544 203	627 867	667 905	532 362
Tanjung Priok	1 578 387	1 533 816	1 579 753	1 427 235	1 498 605	1 400 494	1 474 030	1 341 112	1 508 957	1 623 938	1 477 406	1 458 831
Tanjung Perak	390 000	436 022	379 263	456 766	552 970	481 624	495 432	529 251	333 522	449 855	336 191	414 543
Balikpapan	928 588	840 425	924 429	826 077	949 430	616 945	1 077 344	926 812	906 441	470 431	1 328 509	1 175 517
Makassar	555 537	566 469	550 467	615 894	627 012	587 048	588 237	493 042	594 728	550 518	593 565	652 932

Main Port	2013											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	572 591	482 701	595 914	672 563	509 897	733 630	553 445	432 785	443 591	467 103	604 912	512 858
Tanjung Priok	1 258 259	1 521 170	1 502 739	1 435 379	1 219 298	1 514 112	1 593 824	1 210 516	1 525 384	1 569 371	1 508 350	1 497 668
Tanjung Perak	406 949	309 099	289 210	427 892	355 007	297 315	501 672	305 386	416 346	413 921	448 765	607 905
Balikpapan	1 383 277	1 588 836	477 519	807 592	798 785	263 909	904 604	498 005	352 875	419 853	563 456	550 558
Makassar	507 984	576 480	547 532	618 308	509 493	532 359	609 995	401 656	572 789	542 457	516 803	497 051

Main Port	2014											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	434 466	516 875	568 675	593 522	450 441	511 642	396 318	226 638	406 594	390 781	407 066	416 838
Tanjung Priok	1 126 931	1 358 129	1 483 457	1 870 626	1 517 936	1 370 689	1 182 536	1 205 304	1 581 760	1 506 027	1 373 281	1 318 356
Tanjung Perak	333 123	326 501	478 145	453 324	456 156	521 769	367 050	378 046	469 906	437 680	387 668	505 741
Balikpapan	876 105	595 996	299 484	544 592	2 740 011	601 102	605 467	516 467	497 665	590 753	1 464 097	1 452 321
Makassar	441 909	424 284	523 881	455 479	519 681	476 336	420 993	410 703	488 160	498 903	477 358	571 487

Main Port	2015

Main Port	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	381 422	298 277	337 659	315 285	327 046	327 053	283 789	367 149	225 637	316 642	370 840	307 446
Tanjung Priok	1 049 355	1 027 689	1 366 393	1 261 200	1 277 199	1 121 858	1 005 583	1 031 282	1 319 076	1 094 509	1 384 017	1 513 781
Tanjung Perak	356 808	329 570	469 360	445 081	445 924	468 755	334 224	434 676	316 675	452 199	552 764	577 300
Balikpapan	1 156 768	1 355 992	425 944	943 774	853 479	581 668	524 872	540 039	404 850	347 068	440 496	449 410
Makassar	429 006	436 385	481 108	433 361	485 833	470 373	408 592	474 656	462 049	506 145	455 988	552 819

Main Port	2016											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	311 884	314 183	399 136	307 990	371 844	306 229	190 177	319 206	266 774	311 308	349 148	341 117
Tanjung Priok	868 641	1 102 717	1 022 590	1 086 082	1 138 368	1 149 272	784 733	991 419	1 008 822	1 061 367	1 198 905	1 101 190
Tanjung Perak	316 352	366 394	527 076	408 341	406 258	448 031	305 203	405 212	403 677	456 730	622 043	376 610
Balikpapan	817 100	921 132	869 116	607 712	712 406	676 217	684 689	691 104	725 497	700 430	705 677	710 535
Makassar	404 379	459 670	521 834	461 506	517 502	492 606	345 479	481 518	512 969	496 455	501 055	480 068

Main Port	2017											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	333 858	371 885	586 994	500 989	486 623	346 537	504 937	389 782	330 813	266 379	434 919	410 282
Tanjung Priok	744 184	1 193 572	1 323 313	1 136 596	1 062 147	703 716	637 469	892 961	1 113 554	1 184 645	1 151 279	1 135 784
Tanjung Perak	485 128	340 822	400 853	408 934	793 861	631 067	543 467	656 131.67	842 093	680 564	906 075	928 935
Balikpapan	705 547	703 012	706 365	704 975	704 784	705 374	705 044.24	705 067.39	705 162	604 565	671 598	668 570
Makassar	456 156	462 687	458 884	472 292	497 508	413 607	417 708	451 910	406 413	456 164	524 242	457 089

Main Port	2018											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	147 379	119 990	180 703	222 512	174 402	157 185	281 527	321 129	204 371	327 048	301 434	333 584
Tanjung Priok	953 261	1 077 080	1 015 257	1 207 871	1 058 804	784 147	912 450	984 217	768 384	1 206 827	815 213	1 437 551
Tanjung Perak	508 225	512 176	649 779	538 508	649 560	467 537	450 704	514 668	641 131	177 369	225 708	512 983
Balikpapan	648 244	592 440	844 200	694 961	710 534	749 898	718 464	726 299	726 299	723 687	725 428	725 138
Makassar	485 052	469 011	478 417	459 047	491 155	370 296	562 121	467 407	456 164	518 520	498 739	386 669

Main Port	2019											
	Januari	Februari	Maret	April	Mei	Juni	Juli	Agustus	September	Oktober	November	Desember
Belawan	1 887 689	1 368 005	1 550 873	4 806 260	328 878	142 426	215 702	161 914	166 453	177 052	225 531	215 973
Tanjung Priok	763 124	977 520	873 267	361 172	1 003 512	654 755	904 380	870 242	1 040 071	1 143 043	1 117 046	1 216 731
Tanjung Perak	397 347	571 680	460 537	520 494	551 776	480 318	587 648	685 394	593 430	465 808	837 060	659 040
Balikpapan	724 751	725 106	762 666	737 507.80	741 760	747 311	742 193	743 755	744 420	743 456	743 877	771 061
Makassar	569 213	556 910	541 190	417 843	559 710	274 742	594 181	532 788	537 209	617 914	518 354	528 281

Appendix 2.6 -1

INAPORTNET

KEMENTERIAN PERHUBUNGAN
REPUBLIK INDONESIA

Apa dan Mengapa

INAPORTNET adalah portal elektronis yang terbuka dan netral guna memfasilitasi pertukaran data dan informasi layanan kepelabuhanan secara cepat, aman, netral dan mudah ***yang terintegrasi*** dengan instansi pemerintah terkait, badan usaha pelabuhan dan pelaku industri logistik untuk ***meningkatkan daya saing komunitas logistik*** Indonesia.

Pengguna Inaportnet adalah instansi pemerintah & badan usaha pelabuhan serta pelaku industri logistik di Indonesia yang memanfaatkan jasa kepelabuhanan seperti: shipping lines / agents, freight forwarder, CFS (Container Freight Station), Custom brokerage/PPJK, importir & exportir, depo container, warehouse, dan inland transportation (truk, kereta api dan tongkang).

Karakteristik

1. Berbasis web : Selalu dapat diakses dimana saja dan kapan saja (24/7)
2. Mudah digunakan
3. Aman : Pertukaran data dan informasi terjamin kerahasiaannya
4. Cerdas (Intelligent) : Sistem dapat menyesuaikan dengan kondisi pengguna.
5. Netral : Tidak memihak, sistem hanya memberikan akses sesuai dengan tingkat kepentingan pengguna.
6. Otomasi Bisnis Proses existing. Sistem hanya mengotomasi/streamline bisnis proses yang ada (sesuai dengan peraturan/ketentuan yang berlaku)
7. Layanan terintegrasi.

Manfaat

Dengan ciri tersebut maka Inaportnet akan memberikan manfaat bagi komunitas logistik, antara lain sebagai berikut :

1. Single submission.
2. Layanan online, Hemat waktu dan biaya
3. Percepatan proses secara keseluruhan
4. Kemampuan tracing dan tracking.
5. Minimisasi kesalahan pemasukan data dan dokumen
6. Menerima integrasi data secara elektronis
7. Dapat melakukan monitoring atas proses.
8. Meningkatkan daya saing pelaku industri

Layanan

INAPORTNET dikembangkan secara bertahap baik dari jangkauan maupun jenis layanannya. Pada tahun 2013, layanan dimulai dari Pelabuhan Tanjung Priok dengan layanan meliputi : layanan ijin kapal, layanan pengeluaran dan penerimaan container, layanan manifest domestik dan pembayaran secara elektronis.

Saat ini ada 3 layanan yang tersedia di INAPORTNET yaitu :

1. Vessel Management System (VMS) : Layanan INAPORTNET yang terkait manajemen vessel (kapal), termasuk administrasi data kapal, sistem schedulling kapal (create line, voyage, service), serta *clearance* kapal. Saat ini layanan ini hanya tersedia untuk proses layanan kapal di Jakarta.
2. Manifest Domestik : Layanan INAPORTNET yang memungkinkan penyampaian manifest domestik secara elektronis dari shipping line pelabuhan asal ke shipping line pelabuhan tujuan dimana manifest elektronis tersebut dapat diakses oleh instansi pemerintah terkait yang memiliki kewenangan.
3. SmartCargo : Layanan INAPORTNET yang memungkinkan cargo owner / freight forwarder melakukan request service delivery (import) secara online berbasis web, melakukan pembayaran jasa terminal (seperti biaya penumpukan, lift on/off dan lain-lain) secara elektronik, penunjukkan trucking, sampai dengan proses pengeluaran container. Layanan ini tersedia di Tanjung Priok khususnya untuk Terminal 3. Untuk proses receivering (ekspor) masih dalam pengembangan.
4. Cargo Management System : Layanan ini merupakan lanjutan dari pengembangan Smartcargo, yang melakukan layanan terhadap cargo dan container management, meliputi cargo & container data administration, cargo and container tracking & tracing system, and cargo loading / discharge schedulling system. Layanan ini direncanakan tersedia Q4 2013.

Mengapa INAPORTNET?

Performansi logistik Indonesia saat ini menjadi perhatian serius pemerintah dan swasta. Hal ini sering diukur dari beberapa tolok ukur secara statistik seperti dwelling time, kontribusi biaya logistik atas GDP dan Logistik Performance Index (LPI).

Salah satu upaya yang danggap mampu secara cepat dan murah untuk meningkatkan performansi logistik Indonesia adalah pembenahan disisi soft infrastruktur yaitu penyediaan platform IT bagi komunitas logistik untuk bertukar data dan informasi secara terintegrasi. Inilah yang juga dilakukan oleh negara negara yang maju proses logistiknya.

Ide ini bukan baru, salah satu wujudnya yang sudah berjalan dan sering disebut adalah INSW (Indonesia National Single Window) yang bisa disebut memiliki dua pilar yaitu Tradenet dan Portnet.

Jadi, Inaportnet ini adalah salah satu portal INSW sebagai bagian dari upaya mewujudkan Sistem Logistik Nasional (SISLOGNAS) yang berdaya saing global. Tujuan portal ini adalah untuk menjamin terwujudnya sistem logistik nasional yang berdaya saing global.

Appendix 3.1.3 -1

Fleet of Aids to Navigation Vessels

Fleet of Aids to Navigation Vessels

KIP : Buoy Tender, KBP : Aids Tender, KPP : Inspection Boat

ID NO.	DISNAV / CLASS	As of May 31, 2001		As of Oct., 2018		Class/ Type	Year of Built	Age of Ship	DWT/GRT (tons)	Prinpipal Dimensions Loa(Lpp) x B x D(d) (m)	Main Engine Power(PS/kW)	Technical Condition(%)	
		NO.	Ship Name	NO.	Ship Name							in 2001	in 2018
1	SABANG / KLS II	1	KN ANTARES	1	KN ANTARES	I / KBP	1999	19	300/550	48.30 x 9.50 x 3.70	2 x 540	100	60
		2	KN B-133			III / KBP*	1965		34	21.54 x 4.55 x 1.61	1 x 240	65	scrapped
				2	KN Benggala	III / KPP	2016	2	149	32.40 x 6.20 x 3.20	2 x 1,450		99
2	BELAWAN / KLS I	3	KN ARCTURUS	3	KN ARCTURUS	I / KBP	1999	19	300/550	48.36 x 9.50 x 3.70	2 x 540	93	71
		4	KN SUAR-008	4	KN SUAR-008	III / KBP	1973	45	67/190	21.52 x 5.02 x 2.01	1 x 150	62	55
		5	KN B-118			III / KBP*	1961		45/127	21.60 x 4.60 x 1.66	1 x 240	51	scrapped
				5	KN Berhala	I / KIP	2017	1	1,208	60.00 x 12.00 x 4.70	2 x 2,610		99
3	SIBOLGA / KLS III	6	KN ALTAIR		shifted to BANJYA'N	----	----	----	----	----	----	----	----
			shifted from SURABAYA	6	KN MANDALIKA	I / KBP	1975	43	404/767	48.90 x 9.85 x 5.70	1 x 1,600	55	76
4	DUMAI / KLS I	7	KN KARAKATA		shited to TG.PRIOK	----	----	----	----	----	----	----	----
			shifted from TG.PINANG	7	KN PARI	I / KIP	1978	40	606/684	52.90 x 10.60 x 4.50	1 x 850	62	70
				8	KN Marore	III / KPP	2011	7	70	30.00 x 6.20 x 1.40	1 x 750		85
				9	KN Rupat	I / KIP	2017	1	1,208	60.00 x 12.00 x 4.70	2 x 2,610		99
		8	KN MITRA-Ⅲ			III / KBP*	1975		50	21.28 x 4.75 x 1.85	1 x 168	71	scrapped
		9	KN SUAR-012			III / KBP*	1981		---	22.00 x 6.60 x 3.28	1 x 382	61	scrapped
		10	KN SUAR-006			III / KBP*	1973		65	22.00 x 5.00 x 3.40	1 x 18	63	scrapped
		11	KN AE-025			III / KPP*	1969		83	21.00 x 5.00 x 3.00	1 x 10	55	scrapped
		12	KN DUDAT D-045			III / KBP*	1953		84	24.48 x 5.15 x 2.32	1 x 150	59	scrapped
5	TG.PINANG / KLS I	13	KN ADHARA	10	KN ADHARA	I / KBP	1999	19	300/578	48.30 x 9.50 x 3.70	2 x 540	100	62
		14	KN PARI		shifted to DUMAI	----	----	----	----	----	----	----	----
				11	KN Jadayat	I / KIP	2003	15	649/858	58.02 x 11.00 x 4.50	1 x 1,000		75
		15	KN MITRA-Ⅳ	12	KN MITRA-Ⅳ	III / KBP	1975	43	65	24.15 x 5.10 x 1.90	2 x 163	54	63
		16	KN SUAR-004	13	KN SUAR-004	III / KBP	1971	47	56	21.05 x 4.22 x 2.07	1 x 200	61	40
		17	KN MANTANG	14	KN MANTANG	III / KPP	2000	18	17/51	15.80 x 4.75 x 1.85	2 x 760	100	61

ID NO.	DISNAV / CLASS	As of May 31, 2001		As of Oct., 2018		Class/ Type	Year of Built	Age of Ship	DWT/GRT (tons)	Prinpipal Dimensions Loa(Lpp) x B x D(d) (m)	Main Engine Power(PS/kW)	Technical Condition(%) in 2001	Technical Condition(%) in 2018
		NO.	Ship Name	NO.	Ship Name								
5	TG.PINANG / KLS I			15	KN Nongsa	V / KPP	2014	4	6	10.00 x 3.00 x 0.30	3 x 200		72
6	PALEMBANG / KLS I	18	KN DAIK (D-044)	16	KN DAIK (D-044)	III / KBP	1953	65	60/65	30.50 x 5.02 x 2.32	1 x 150	50	60
				17	KN Kalian	I / KIP	2017	1	628	60.00 x 12.00 x 4.70	2 x 1,380		99
			shifted from BANJAR'N	18	KN MOKMER	III / KPP	1999	19	37	17.00 x 4.20 x 0.80	2 x 700	98	80
		19	KN DATTA D-047			III / KBP*	1953		58	28.46 x 4.97 x 2.08	1 x 150	66	scrapped
		20	KN SUAR-001			III / KBP*	1951		36	22.36 x 4.12 x 1.85	1 x 115	60	scrapped
		21	KN AE-028			III / KPP*	1969		59	20.34 x 4.91 x 2.79	1 x 245	64	scrapped
		22	KN B-125			III / KBP*	1961		35	21.41 x 4.59 x 1.66	1 x 240	57	scrapped
7	TLK BAYUR / KLS II	23	KN MUCI	19	KN MUCI	I / KBP	1975	43	550/608	44.90 x 9.80 x 5.00	1 x 1,200	61	56
				20	KN Sibarubaru	I / KIP	2017	1	628	60.00 x 12.00 x 4.70	2 x 1,380		99
8	TG. PRIOK / KLS I		shifted from DUMAI	21	KN KARAKATA	I / KIP	1972	46	553/569	50.50 x 10.00 x 4.50	1 x 850	85	70
				22	KN Miaplacidus	III / KPP	2008	10	96	23.80 x 5.35 x 2.50	1 x 1,100		80
				23	KN Enggano	III / KPP	2016	2	155	29.53 x 6.36 x 3.2	2 x 1,450		99
				24	KN Edam	I / KIP	2017	1	1,208	60.00 x 12.00 x 4.70	2 x 2,610		99
		24	KN PAMANCASA			I / KBP*	1978		905	45.60 x 10.00 x 5.70	1 x 1,200	60	scrapped
		25	KN PERMATA			I / KBP*	1953		685	53.27 x 9.70 x 2.95	1 x 500	46	scrapped
		26	KN MITRA- I			III / KBP*	1960		104	21.00 x 5.40 x 3.00	1 x 235	63	scrapped
		27	KN SUAR-014			III / KBP*	1980		109	22.60 x 5.00 x 2.30	1 x 380	43	scrapped
		28	KN AP-027			IV / KBP*	1966		47	17.15 x 4.80 x 2.30	1 x 150	56	scrapped
		29	KN AB-P3			IV / KBP*	1971		8	9.60 x 3.00 x 1.50	1 x 100	58	scrapped
9	CILACAP / KLS III	30	KN SUAR-005	25	KN SUAR-005	III / KBP	1971	47	41/47	21.05 x 4.22 x 1.80	1 x 200	70	46
		31	KN SUAR-007	26	KN Suar-007	III / KBP	1973	45	60/66	22.30 x 5.00 x 1.99	1 x 200	69	47
			shifted from SURABAYA	27	KN PRAJAPATI	I / KIP	1979	39	606/685	52.90 x 10.60 x 4.50	1 x 850	68	77
10	SEMARANG / KLS II		shifted from BTKP	28	KN KUMBA	I / KIP	1972	46	552/569	50.50 x 10.00 x 4.50	1 x 850	60	70
		32	KN B-126	29	KN B-126	III / KBP	1961	57	34	21.15 x 4.63 x 1.64	1 x 240	61	51
		33	KN SUAR-011	30	KN SUAR-011	III / KBP	1980	38	55/115	22.90 x 6.60 x 2.30	1 x 382	54	64

ID NO.	DISNAV / CLASS	As of May 31, 2001		As of Oct., 2018		Class/ Type	Year of Built	Age of Ship	DWT/GRT (tons)	Prinpipal Dimensions Loa(Lpp) x B x D(d) (m)	Main Engine Power(PS/kW)	Technical Condition(%)	
		NO.	Ship Name	NO.	Ship Name							in 2001	in 2018
10	SEMARANG / KLS II			31	KN Karimunjawa	III / KPP	2016	2	155	29.53 x 6.36 x 3.2	2 x 1,450		99
		34	KN B-008			III / KBP*	1945		40	18.94 x 4.60 x 1.70	1 x 240	59	scrapped
		35	KN B-124			III / KBP*	1961		44/47	21.05 x 4.58 x 1.86	1 x 240	55	scrapped
11	SURABAYA / KLS I	36	KN PRAJAPATI		shifted to CILACAP	----	----	----	----	----	----	----	----
				32	KN Bimasakti Utama	I / KIP	2008	10	1,271	59.95 x 11.40 x 4.70	1 x 1,200		85
				33	KN Masalembo	I / KIP	2017	1	1,208	60.00 x 12.00 x 4.70	2 x 2,610		99
		37	KN MANDALIKA		shifted to SIBOLGA	----	----	----	----	----	----	----	----
		38	KN DAMARA	34	KN DAMARA	III / KBP	1953	65	73	23.83 x 4.92 x 2.10	1 x 240	59	55
		39	KN SUAR-002			III / KBP*	1951		---	20.93 x 4.00 x 1.75	1 x 115	60	scrapped
		40	KN AE-029	35	KN AE-029	III / KPP	1969	49	40/59	20.40 x 5.94 x 2.72	1 x 230	59	76
12	BENOA / KLS II	41	KN MIZAN	36	KN MIZAN	I / KBP	1996	22	257/454	43.00 x 9.00 x 3.70	2 x 650	98	76
				37	KN Nusapenida	I / KIP	2017	1	1212	60.00 x 12.00 x 4.70	2 x 2,610		99
		42	KN BOGA			II / KBP*	1952		194	35.90 x 6.53 x 2.37	1 x 430	60	scrapped
13	KUPANG / KLS II	43	KN MINA	38	KN MINA	I / KBP	1997	21	250/440	43.00 x 9.00 x 3.70	2 x 650	98	61
				39	KN Nipa	I / KIP	2017	1	1,208	60.00 x 12.00 x 4.70	2 x 2,610		99
		44	KN DINGKI D-045			III / KBP*	1953		79	24.79 x 5.04 x 1.90	1 x 150	51	scrapped
14	BANJARMASIN / KLS II	45	KN BIDO			II / KBP*	1952		194	35.90 x 6.53 x 2.37	1 x 430	50	scrapped
		46	KN SUAR-003	40	KN SUAR-003	III / KBP	1971	47	78/133	21.09 x 4.22 x 2.30	1 x 200	58	60
		47	KN AE-032	41	KN AE-032	III / KPP	1971	47	105	21.20 x 5.00 x 2.72	1 x 245	77	60
			shifted from SIBOLGA	42	KN ALTAIR	I / KBP	1999	19	550	42.00 x 9.50 x 3.00	2 x 540	100	80
				43	KN Kunyit	I / KIP	2017	1	1,127	60.00 x 12.00 x 4.70	2 x 1,380		99
		48	KN MOKMER		shifted to PALEMB'G	----	----	----	----	----	----	----	----
15	PONTIANAK / KLS III	49	KN BALAM			II / KBP*	1952		192	35.90 x 6.53 x 2.37	1 x 430	44	scrapped
				44	KN Alnilam	I / KBP	2008	10	838	51.94 x 10.20. x 4.35	1 x 1,387		80
				45	KN Pengiki	III / KPP	2016	2	155	29.53 x 6.36 x 3.20	2 x 1,450		99
		50	KN AE-012	46	KN AE-012	III / KPP	1967	51	50/48	17.75 x 4.50 x 2.50	1 x 150	58	49

ID NO.	DISNAV / CLASS	As of May 31, 2001		As of Oct., 2018		Class/ Type	Year of Built	Age of Ship	DWT/GRT (tons)	Prinpipal Dimensions Loa(Lpp) x B x D(d) (m)	Main Engine Power(PS/kW)	Technical Condition(%)	
		NO.	Ship Name	NO.	Ship Name							in 2001	in 2018
16	SAMARINDA / KLS I	51	KN MITHUNA	47	KN MITHUNA	I / KIP	1975	43	606/644	52.90 x 10.60 x 4.50	1 x 850	57	70
		52	KN DAGONG			III / KBP*	1953		79	24.79 x 5.04 x 1.90	1 x 150	39	scrapped
		53	KN SUAR-010	48	KN SUAR-010	III / KBP	1975	43	46/67	22.85 x 5.20 x 2.30	1 x 150	62	60
		54	KN MARAPAS	49	KN MARAPAS	III / KPP	1999	19	46/37	17.59 x 4.95 x 2.40	2 x 700	100	80
				50	KN Miang Besar	I / KIP	2017	1	1,127	60.00 x 12.00 x 4.70	2 x 1,380		99
17	TARAKAN / KLS III	55	KN BLEKOK			II / KBP*	1952		192	36.03 x 6.54 x 2.28	1 x 430	41	scrapped
		56	KN DUKU (D-043)			III / KBP*	1953		78	24.79 x 5.04 x 1.90	1 x 150	49	scrapped
				51	KN Sarang Aloe	III / KPP	2010	8	77.52	24.79 x 5.04 x 1.90	1 x 215		77
				52	KN Maratua	I / KIP	2017	1	1,127	60.00 x 12.00 x 4.70	2 x 1,380		99
18	MAKASSAR / KLS I	57	KN MENGKARA	53	KN MENGKARA	I / KBP	1996	22	257/454	43.00 x 9.00 x 3.70	2 x 650	74	71
		58	KN MITRA-Ⅱ			III / KBP*	1960		150	24.40 x 6.30 x 3.00	2 x 360	55	scrapped
		59	KN B-120	54	KN B-120	III / KBP	1961	57	41	21.00 x 4.50 x 2.00	1 x 150	60	65
				55	KN De Brill	I / KIP	2017	1	1,212	60.00 x 12.00 x 4.70	2 x 2,610		99
				56	KN. Akelamo	III / KPP	2012	6	----	32.40 x 6.20 x 3.20	2 x 1,100		86
19	KENDARI / KLS III	60	KN BARAU			II / KBP*	1952		193	35.90 x 6.54 x 2.37	1 x 430	41	scrapped
		61	KN BAYAN			II / KBP*	1952		193	38.20 x 6.50 x 2.95	1 x 430	48	scrapped
			shifted from AMBON	57	KN MAYANG	I / KBP	1996	22	257/454	43.00 x 9.00 x 3.70	2 x 650	98	65
				58	KN Andromeda	I / KBP	2008	10	838	51.94 x 10.20. x 4.35	1 x 1,367		80
20	BITUNG / KLS I	62	KN MERAK	59	KN MERAK	I / KBP	1996	22	250/454	43.00 x 9.00 x 3.70	2 x 650	90	60
		63	KN SUAR-009	60	KN SUAR-009	III / KBP	1974	44	50/67	21.52 x 5.02 x 2.50	1 x 150	63	44
				61	KN Miangas	I / KIP	2017	1	1,208	60.00 x 12.00 x 4.70	2 x 2,610		99
		64	KN B-134			III / KBP*	1964		25/67	21.54 x 4.55 x 1.63	1 x 240	67	scrapped
21	AMBON / KLS I			62	KN Alphard	I / KBP	2008	10	838	51.94 x 10.20. x 4.35	1 x 1,387		78
				63	KN. Bacan	I / KIP	2017	1	1,180	60.00 x 12.00 x 4.70	2 x 2,610		99
		65	KN MAYANG		shifted to KENDARI	----	----	----	----	----	----	----	----
22	SORONG / KLS I	66	KN MAHKOTA		shifted to TUAL	----	----	----	----	----	----	----	----

ID NO.	DISNAV / CLASS	As of May 31, 2001		As of Oct., 2018		Class/ Type	Year of Built	Age of Ship	DWT/GRT (tons)	Prinpipal Dimensions Loa(Lpp) x B x D(d) (m)	Main Engine Power(PS/kW)	Technical Condition(%)	
		NO.	Ship Name	NO.	Ship Name							in 2001	in 2018
22	SORONG / KLS I	67	KN PRADAWANA	64	KN PRADAWANA	I / KIP	1979	39	604/762	52.90 x 10.60 x 4.50	1 x 850	85	61
				65	KN. Kofiau	III / KPP	2012	6			2 x 1,100		82
				66	KN Yefyus	I / KIP	2017	1	1,208	60.00 x 12.00 x 4.70	2 x 2,610		99
		68	KN RAJA AMPAT			II / KPP*	1954		398	37.00 x 6.72 x 2.13	1 x 150	36	scrapped
		69	KN S.KAIBUS			IV / KBP*	1955		30	11.00 x 3.00 x 1.25	1 x 68	50	scrapped
23	JAYAPURA / KLS II	70	KN ALDEBARAN	67	KN ALDEBARAN	I / KBP	1999	19	300/578	48.30 x 9.50 x 3.77	2 x 540	100	56
				68	KN Bepondi	III / KPP	2016	2	149	32.00 x 6.26 x 3.46	2 x 1,450		99
		71	KN TNH. MERAH			II / KBP*	1966		143	27.50 x 6.30 x 2.65	1 x 230	64	scrapped
		72	KN TLK. DORERI			II / KBP*	1970		150	27.50 x 6.40 x 2.65	1 x 230	49	scrapped
		73	KN FJS RMAINUM			IV / KPP*	1972		84	21.50 x 6.10 x 2.75	1 x 550	60	scrapped
24	MERAUKE / KLS III	74	KN MERPATI	69	KN MERPATI	I / KBP	1997	21	257/454	43.00 x 9.00 x 3.70	2 x 650	98	66
		75	KN TLK. KABARE			III / KPP*	1962		208	32.55 x 7.20 x 2.50	2 x 225	61	scrapped
		76	KN BINTANGGOR	70	KN BINTANGGOR	IV / KPP	1967	51	133/25	19.00 x 4.52 x 1.51	1 x 100	73	54
25	TUAL / KLS III		shifted from SORONG	71	KN MAHKOTA	I / KBP	1997	21	257/454	43.00 x 9.00 x 3.70	2 x 650	98	60

Appendix 3.1.5 -1

List of CRS

List of Coastal Radio Station

No		Name of DisNav Location of Radio	Class	GMDSS	Area	Non-GMDSS
1	**Sabang**					
	1	Sabang	II	GMDSS (JRC)	A3	
	2	Ulee Lheue	IIIA	GMDSS (SAILOR)	A2	
	3	Tapak Tuan	IVA	GMDSS (JRC)	A2	
	4	Meulaboh	IVA	GMDSS (KENTA)	A2	
	5	Sinabang	IVA			○
	6	Susoh	IVA			○
2	**Belawan**					
	1	Belawan	I	GMDSS (SAILOR)	A3	
	2	Kuala Tanjung	IIIA	GMDSS (JRC)	A2	
	3	Tg. Balai Asahan	IIIA	GMDSS (SAILOR)	A2	
	4	Lhokseumawe	IIIA	GMDSS (JRC)	A2	
	5	Kuala Langsa	IVA	GMDSS (SAILOR)	A2	
	6	Pangkalan Susu	IVB	GMDSS (SAILOR)	A2	
	7	Tanjung Sarang Elang	IVB			○
3	**Sibolga**					
	1	Sibolga	IIIA	GMDSS (SAILOR)	A2	
	2	Gunung Sitoli	IVA	GMDSS (SAILOR)	A2	
	3	Pulau Tello	IVA	GMDSS (KENTA)	A2	
	4	Lahewa	IVA	GMDSS (SAILOR)	A2	
	5	Teluk Dalam	IVB	GMDSS (SAILOR)	A2	
	6	Sirombu	IVB			○
	7	Sikara Kara	IVB			○
4	**Dumai**					
	1	Dumai	I	GMDSS (SAILOR)	A3	
	2	Bengkalis	IIIA	GMDSS (SAILOR)	A2	
	3	Tembilahan	IVA	GMDSS (SAILOR)	A2	
	4	Bagan Siapi – api	IVA			○
	5	Selat Panjang	IVA	GMDSS (SAILOR)	A2	
	6	Pekanbaru	IVA			○
	7	Rengat	IVA	GMDSS (SAILOR)	A2	
5	**Tanjung Pinang**					
	1	Tanjung Pinang	IIIA	GMDSS (SAILOR)	A2	
	2	Tanjung Uban	IIIA	GMDSS (JRC)	A2	
	3	Sei Kolak Kijang	IIIA	GMDSS (SAILOR)	A2	
	4	Natuna	IIIA	GMDSS (JRC)	A2	
	5	Tarempa	IIIA			○
	6	Batu Ampar	IIIA	GMDSS (SAILOR)	A2	
	7	Tanjung Balai Karimun	IVA	GMDSS (KENTA)	A2	
	8	Pulau Sambu	IVA			○
	9	Dabo Singkep	IVA	GMDSS (SAILOR)	A2	
6	**Teluk Bayur**					
	1	Teluk Bayur	II	GMDSS (JRC)	A3	
	2	Sipora	IIIA	GMDSS (SAILOR)	A2	
	3	Air Bangis	IVA	GMDSS (SAILOR)	A2	
	4	Sikakap	IVB			○
7	**Palembang**					
	1	Palembang	I	GMDSS (JRC)	A3	
	2	Jambi	IIIA	GMDSS (JRC)	A2	
	3	Pangkal Balam	IIIA	GMDSS (SAILOR)	A2	
	4	Kuala Tungkal	IIIA	GMDSS (SAILOR)	A2	
	5	Muntok	IIIB	GMDSS (SAILOR)	A2	
	6	Muara Sabak	IVA	GMDSS (SAILOR)	A2	
	7	Ranjung Pandan	IVB	GMDSS (SAILOR)	A2	

List of Coastal Radio Station

No	Name of DisNav Location of Radio	Class	GMDSS	Area	Non-GMDSS
8	**Tanjung Priok**				
	1 Jakarta	I	GMDSS (JRC)	A3	
	2 Panjang	IIIA	GMDSS (SAILOR)	A2	
	3 Cigading	IIIA	GMDSS (SAILOR)	A2	
	4 Cirebon	IIIA	GMDSS (SAILOR)	A2	
	5 Bengkulu	IIIA	GMDSS (JRC)	A2	
9	**Semarang**				
	1 Semarang	I	GMDSS (JRC)	A3	
	2 Tegal	IIIA	GMDSS (JRC)	A2	
	3 Pekalongan	IIIA			○
	4 Karimun Jawa	IVA			○
	5 Jepara	IVA	GMDSS (SAILOR)	A2	
	6 Juwana	IVA			○
	7 Rembang	IVA	GMDSS (KENTA)	A2	
10	**Cilacap**				
	1 Cilacap	I	GMDSS (JRC)	I	
11	**Surabaya**				
	1 Surabaya	I	GMDSS (JRC)	A3	
	2 Kali Anget	IIIA	GMDSS (JRC)	A2	
	3 Meneng (Banyuwangi)	IIIA	GMDSS (JRC)	A2	
	4 Panarukan	IVA			○
	5 Gresik	IVA			○
	6 Probolinggo	IVA	GMDSS (SAILOR)	A2	
	7 Bawean	IVA			○
	8 Pasuruan	IVA			○
	9 Masalembo	IVA			○
12	Benoa				
	1 Benoa	II	GMDSS (JRC)	A3	
	2 Lembar	IIIA	GMDSS (SAILOR)	A2	
	3 Bima	IIIA	GMDSS (JRC)	A2	
	4 Padang Bai	IVA	GMDSS (SAILOR)	A2	
	5 Celukan Bawang	IVA	GMDSS (SAILOR)	A2	
	6 Badas	IVA			○
	7 Gilimanuk	IVA	GMDSS (SAILOR)	A2	
	8 Kabuhan Lombok	IVA	GMDSS (KENTA)	A2	
13	**Kupang**				
	1 Kupang	II	GMDSS (SAILOR)	A3	
	2 Ende	IIIA	GMDSS (JRC)	A2	
	3 Maumere	IIIB	GMDSS (JRC)	A2	
	4 Waingapu	IVA	GMDSS (SAILOR)	A2	
	5 Kalabahi	IVA			○
	6 Larantuka	IVA			○
	7 Atapupu	IVA	GMDSS(INVELCO)	A2	
	8 Reo	IVA			○
	9 Seba	IVA			○
14	**Pontianak**				
	1 Pontianak	IIIA	GMDSS (SAILOR)	A2	
	2 Ketapang	IIIA	GMDSS (JRC)	A2	
	3 Sintete	IVA	GMDSS (SAILOR)	A2	
15	**Banjarmasin**				
	1 Banjarmasin	II	GMDSS (JRC)	A3	
	2 Sampit	IIIA	GMDSS (JRC)	A2	
	3 Kumai	IIIB	GMDSS (SAILOR)	A2	
	4 Batulicin	IIIB	GMDSS (JRC)	A2	
	5 Kotabaru	IIIB			○
16	**Samarinda**				
	1 Samarinda	IIIA	GMDSS (SAILOR)	A3	
	2 Balikpapan	I	GMDSS (JRC)	A3	
	3 Tanjung Santan	IVA	GMDSS (SAILOR)	A2	

List of Coastal Radio Station

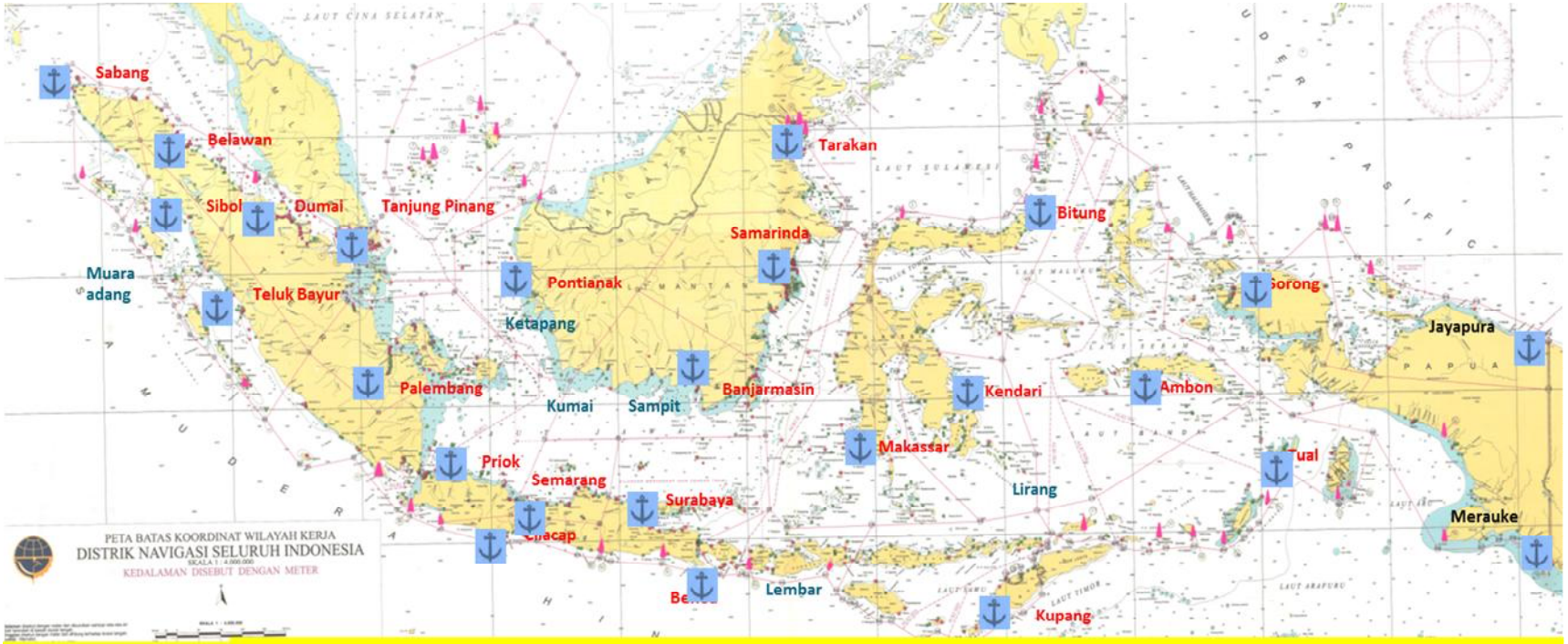
No		Name of DisNav Location of Radio	Class	GMDSS	Area	Non-GMDSS
17	**Tarakan**					
	1	Tarakan	IIIA	GMDSS (SAILOR)	A2	
	2	Nunukan	IVA			○
	3	Tg. Selor	IVA			○
	4	Tg. Redep	IVA			○
18	**Makassar**					
	1	Makassar	I	GMDSS (JRC)	A3	
	2	Pare-Pare	IIIB	GMDSS (JRC)	A2	
	3	Mamuju	IVA			○
	4	Palopo	IVA	GMDSS(INVELCO)	A2	
	5	Selayar	IVB	GMDSS(INVELCO)	A2	
19	**Kendari**					
	1	Kendari	IIIA	GMDSS (SAILOR)	A2	
	2	Bau-bau	IIIA	GMDSS (JRC)	A2	
	3	Raha	IVA	GMDSS (SAILOR)	A2	
	4	Kolaka	IVA	GMDSS (SAILOR)	A2	
	5	Pomalaa	IVA	GMDSS (SAILOR)	A2	
	6	Banabungi	IVB			○
20	**Bitung**					
	1	Bitung	I	GMDSS (JRC)	A3	
	2	Pantoloan	IIIA	GMDSS (SAILOR)	A2	
	3	Poso	IIIA	GMDSS (JRC)	A2	
	4	Toli-Toli	IIIA	GMDSS (JRC)	A2	
	5	Donggala	IVA	GMDSS (KENTA)	A2	
	6	Gorontalo	IVA			○
	7	Luwuk	IVA	GMDSS (SAILOR)	A2	
	8	Siau	IVA			○
	9	Manado	IVA	GMDSS (JRC)	A2	
	10	Tahuna	IVA	GMDSS (KENTA)	A2	
	11	Parigi	IVA	GMDSS (SAILOR)	A2	
	12	Kolonedale	IVA			○
	13	Kwandang	IVA	GMDSS (SAILOR)	A2	
	14	Banggai	IVB			○
	15	Ampana	IVB			○
21	**Ambon**					
	1	Ambon	I	GMDSS (JRC)	A3	
	2	Ternate	IIIA	GMDSS (SAILOR)	A2	
	3	Namlea	IIIA	GMDSS (SAILOR)	A2	
	4	Sanana	IIIA	GMDSS (SAILOR)	A2	
	5	Tobelo	IVA			○
	6	Banda	IVA	GMDSS(INVELCO)	A2	
	7	Amahai	IVB			○
22	**Tual**					
	1	Tual	IIIA	GMDSS (JRC)	A2	
	2	Saumlaki	IIIA	GMDSS (JRC)	A2	
	3	Dobo	IVA	GMDSS (SAILOR)	A2	
23	**Sorong**					
	1	Sorong	II	GMDSS (JRC)	A3	
	2	Manokwari	IIIA	GMDSS (SAILOR)	A2	
	3	Fak-Fak	IIIA	GMDSS(INVELCO)	A2	
	4	Kaimana	IVA	GMDSS(INVELCO)	A2	
	5	Bintuni	IIIA	GMDSS(INVELCO)	A2	
	6	Amamapare	IVB			○
24	**Jayapura**					
	1	Jayapura	I	GMDSS (JRC)	A3	
	2	Biak	IIIA	GMDSS (SAILOR)	A2	
	3	Serui	IVA	GMDSS (SAILOR)	A2	
	4	Sarmi	IVA	GMDSS (KENTA)	A2	
	5	Nabire	IVA			○
25	**Merauke**					
	1	Merauke	IIIA	GMDSS (SAILOR)	A2	
	2	Agats	IIIA	GMDSS (JRC)	A2	
	3	Bade	IVA			○

Appendix 3.3 -1

Strategic Plan

PETA LOKASI KEGIATAN STRATEGIS PEMBANGUNAN TRANSPORTASI LAUT DALAM RENCANA STRATEGIS DIREKTORAT JENDERAL PERHUBUNGAN LAUT TAHUN 2015-2019

PEMBANGUNAN FASILITAS KENAVIGASIAN TAHUN 2015-2019



Keterangan :

Distrik Navigasi

Pembangunan Fasilitas Kenavigasian (pada 33 provinsi di 25 distrik navigasi)

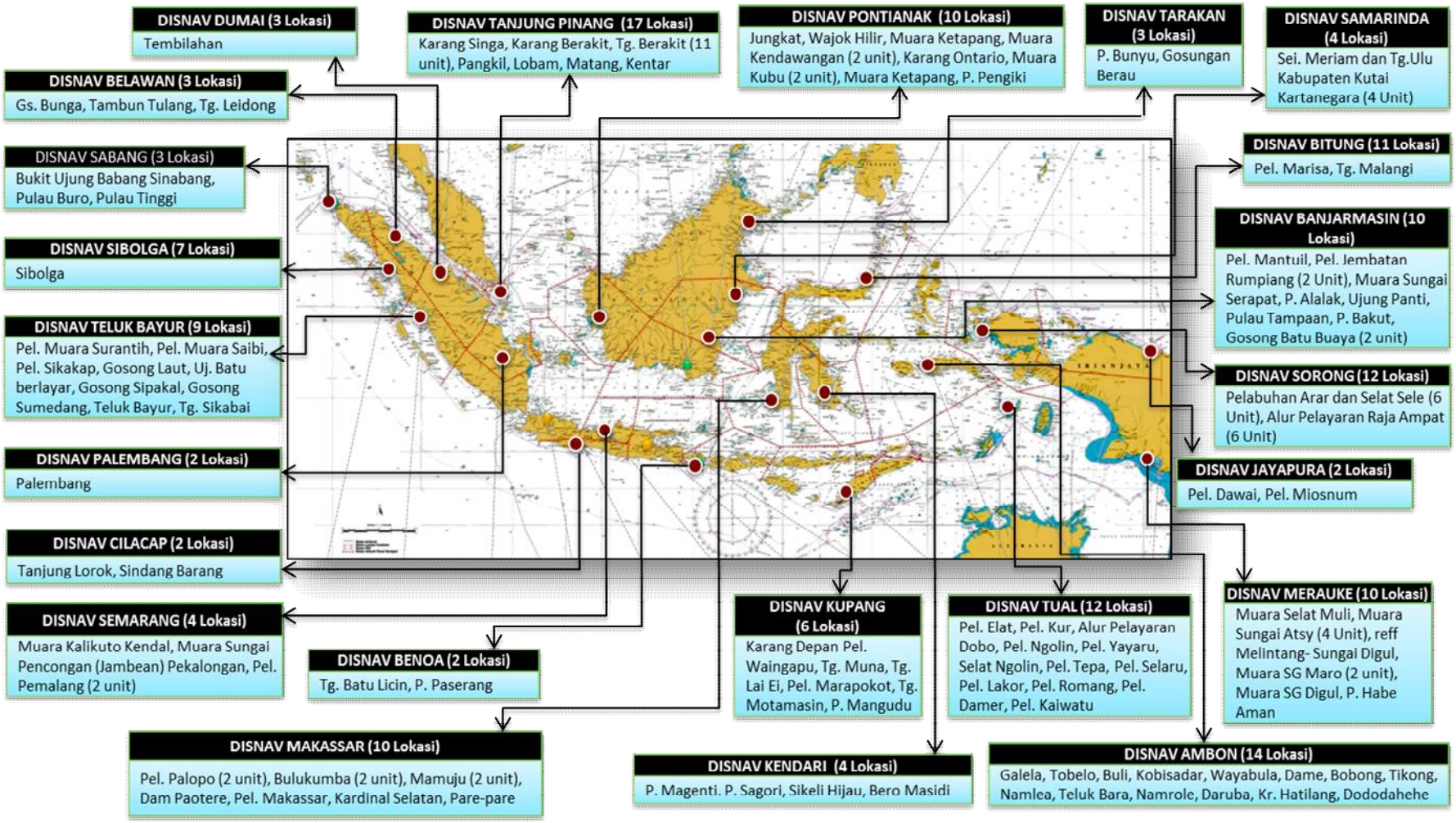
- Pembangunan SBNP (Sarana Bantu Navigasi Pelayaran) : **754 Unit**
- Pembangunan GMDSS (Global Marine Distres Safety System : **144 Unit**

Pembangunan VTS (Vessel Traffic Service) : **35** Unit

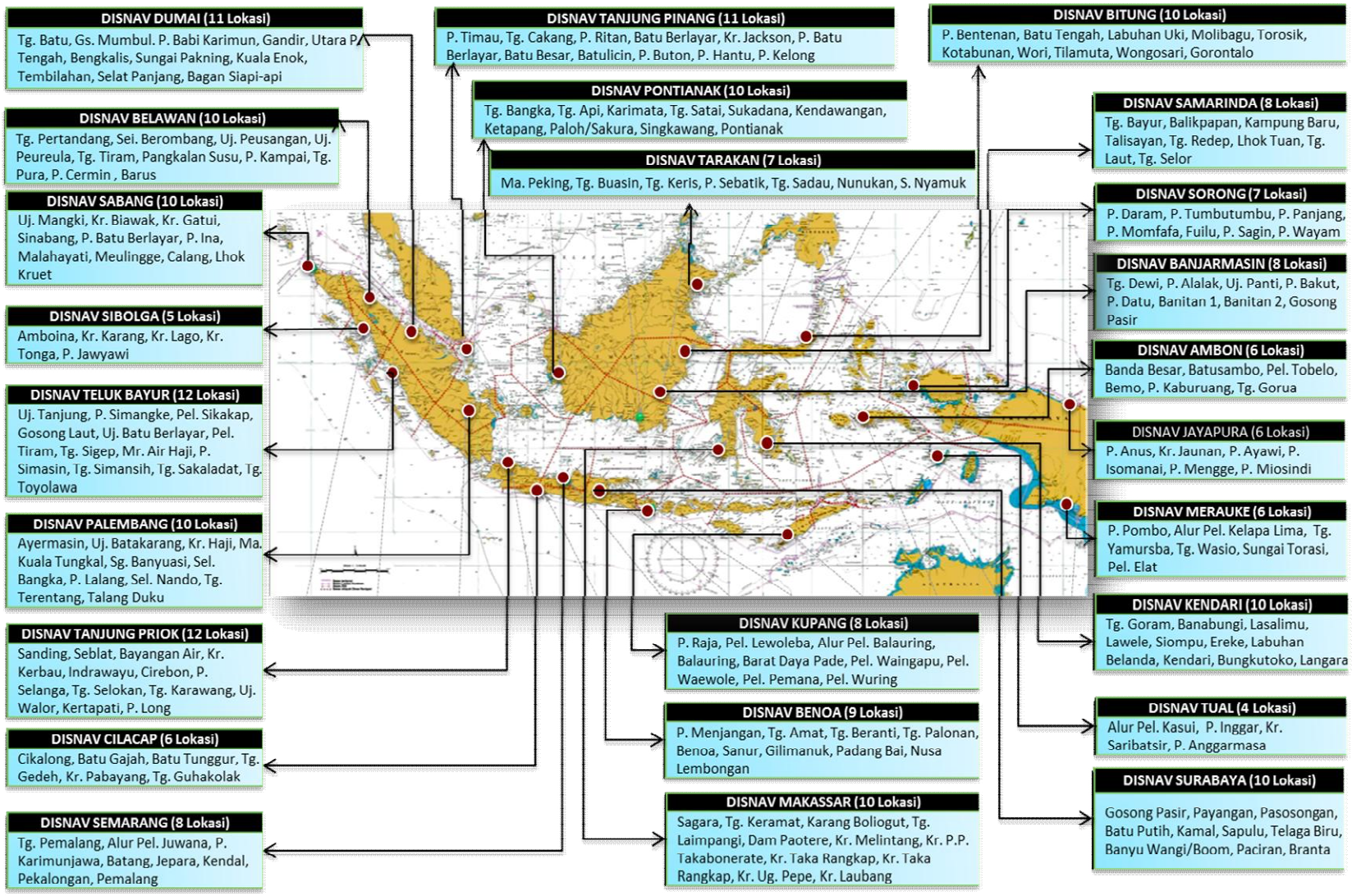
Pembangunan Kapal Negara Kenavigasian : **41**Unit

Indikasi Pendanaan (Rp. Miliar)	2015	2016	2017	2018	2019	Total
- SBNP	451,29	469,342	488,115	507,640	527,945	2,444,.332
- GMDSS	289,000	300,560	312,582	325,086	338,089	1,565.317
- VTS	197,00	204,880	213,075	221,598	230,462	1,067.016
- Kapal Kenavigasian	807.500	807.500	807.500	934.000	934.000	4,290.500

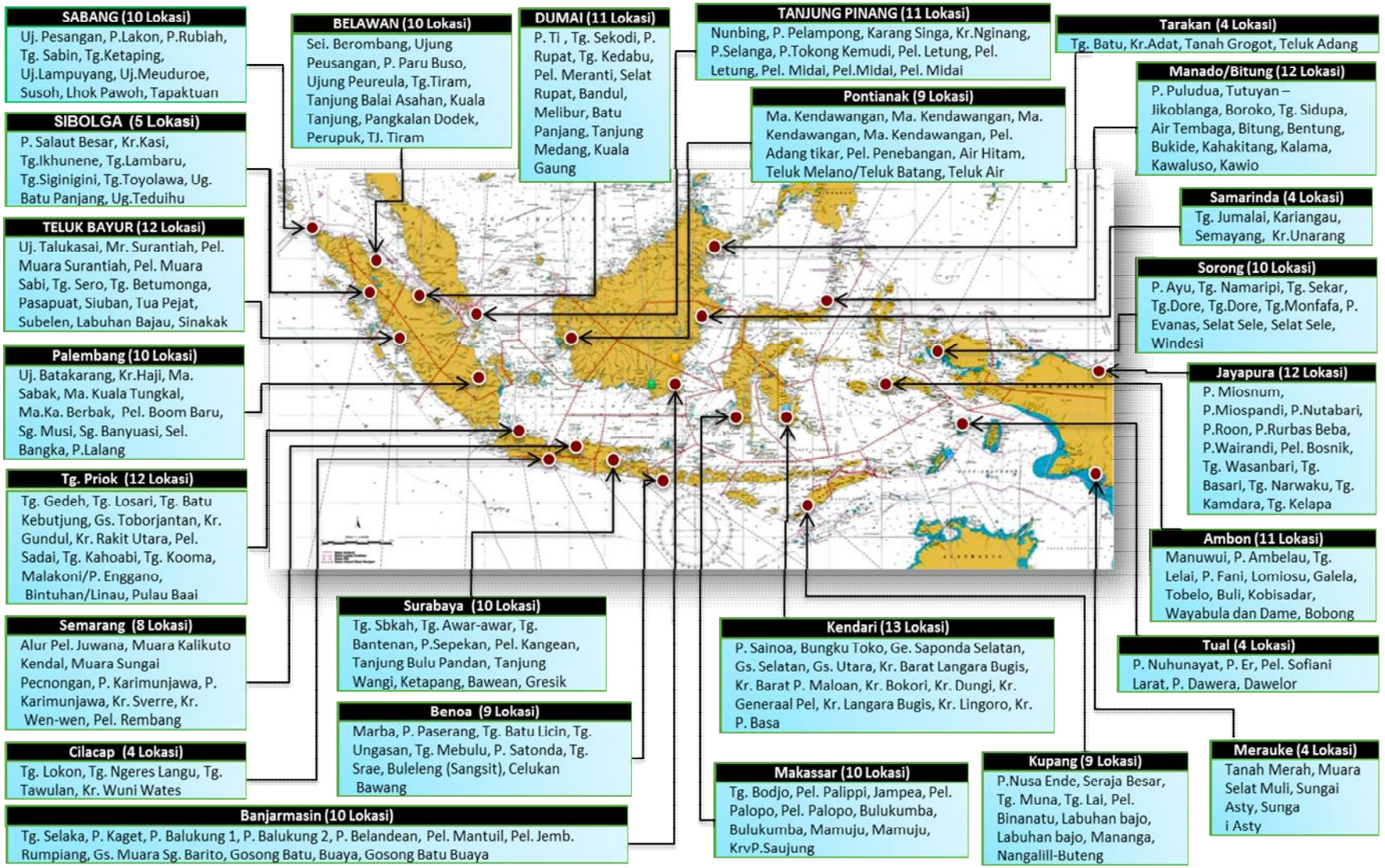
PEMBANGUNAN SARANA BANTU NAVIGASI PELAYARAN (SBNP) TAHUN 2015



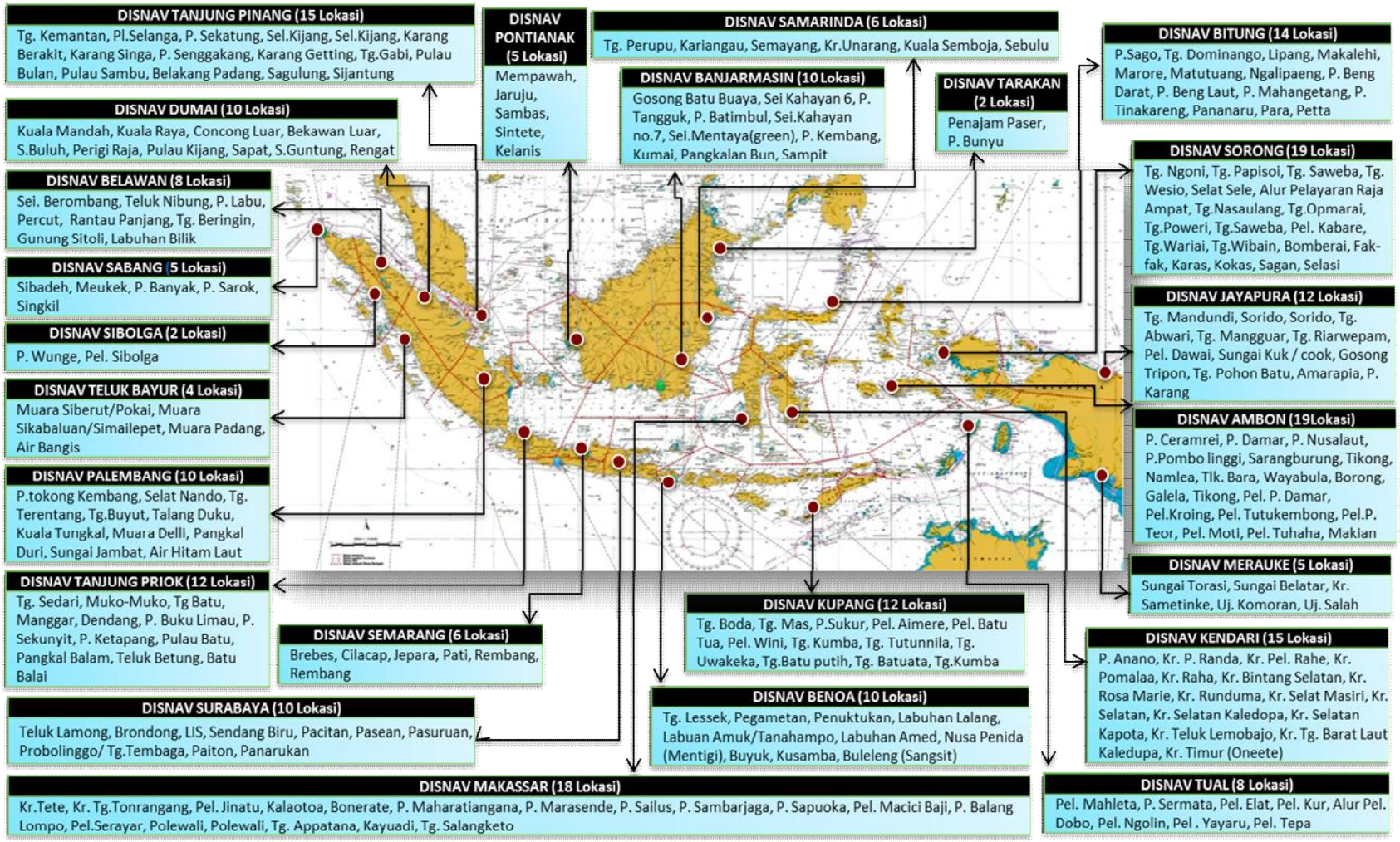
PEMBANGUNAN SARANA BANTU NAVIGASI PELAYARAN (SBNP) TAHUN 2016



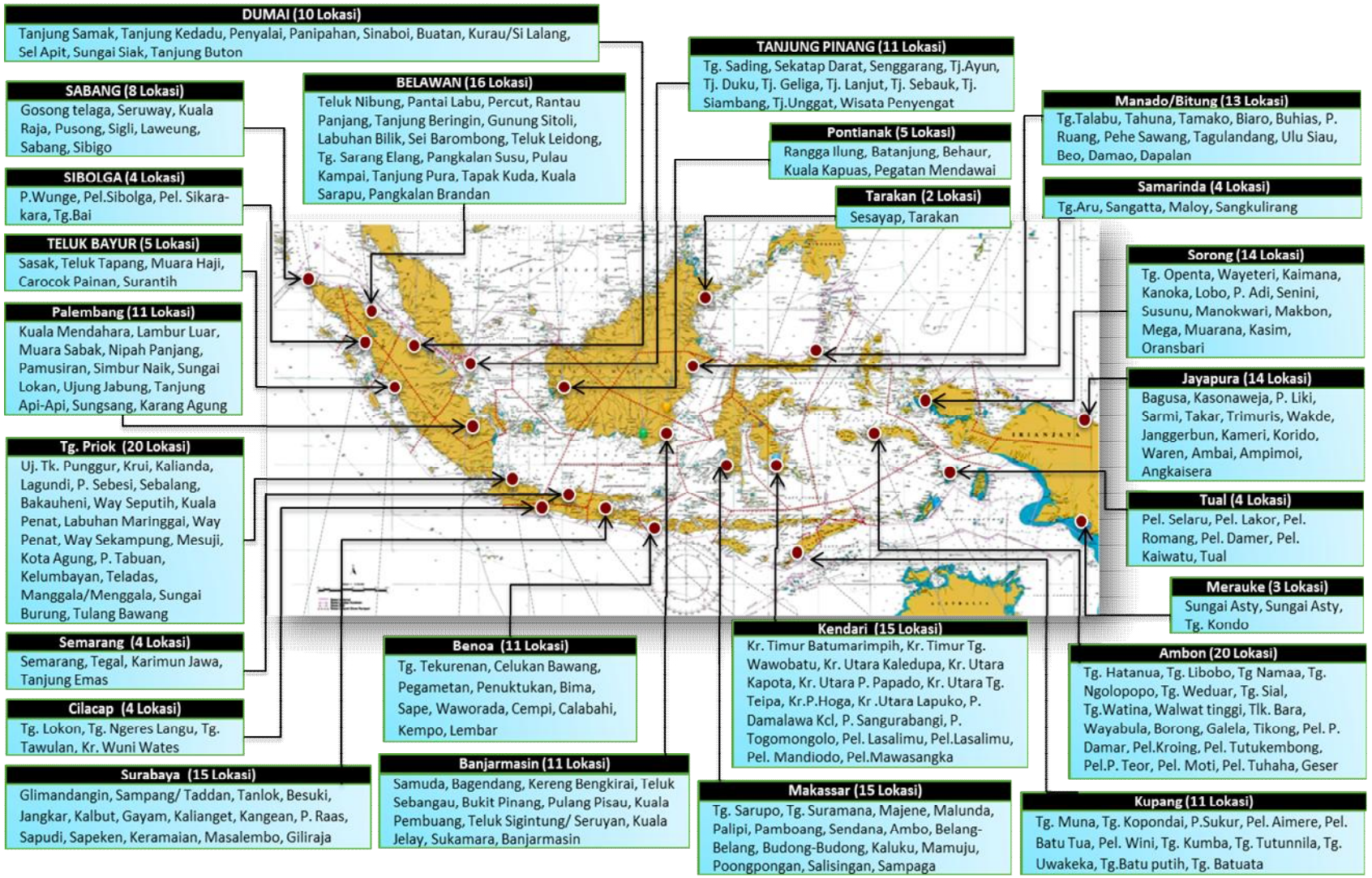
PEMBANGUNAN SARANA BANTU NAVIGASI PELAYARAN (SBNP) TAHUN 2017



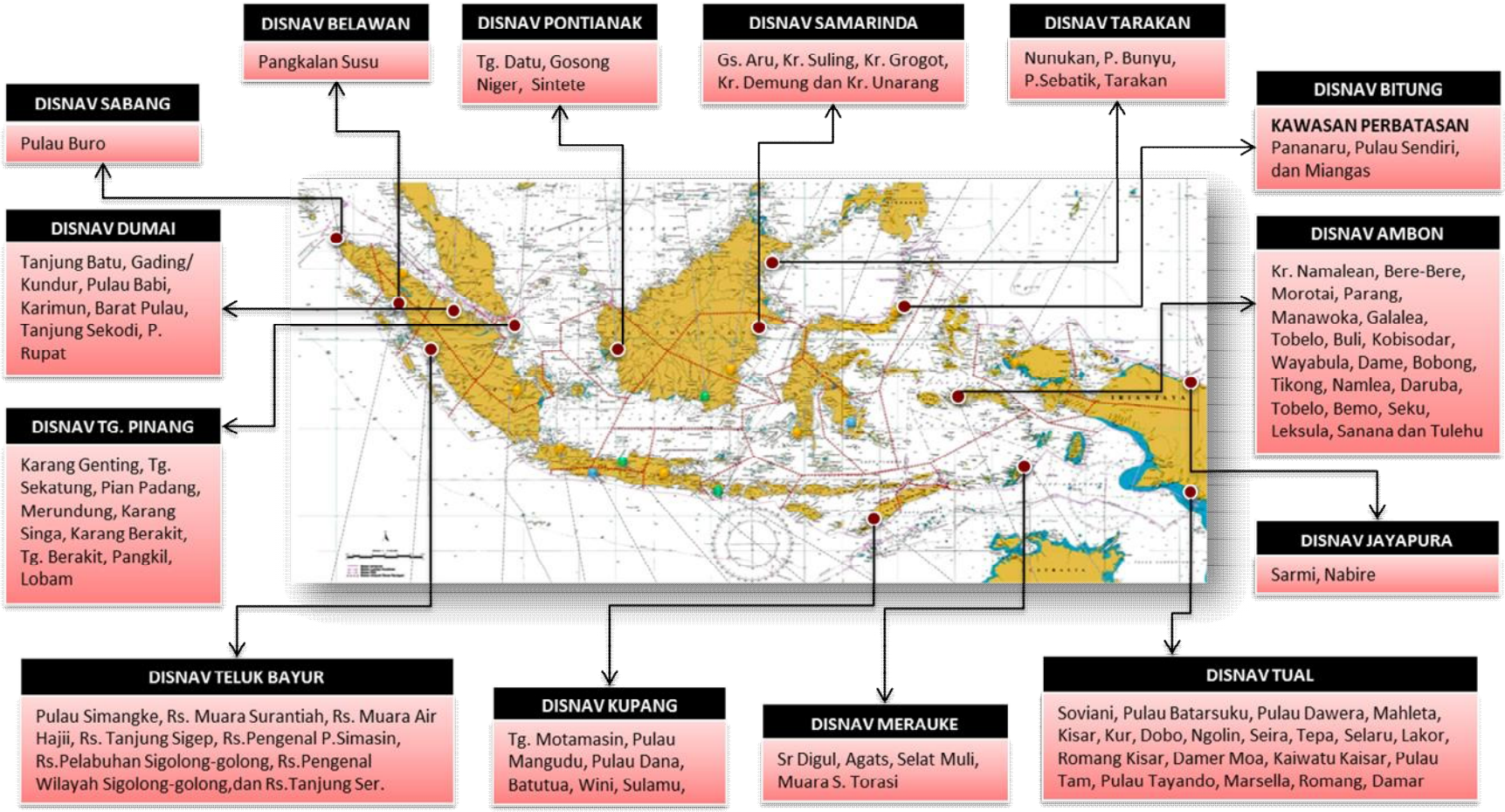
PEMBANGUNAN SARANA BANTU NAVIGASI PELAYARAN (SBNP) TAHUN 2018



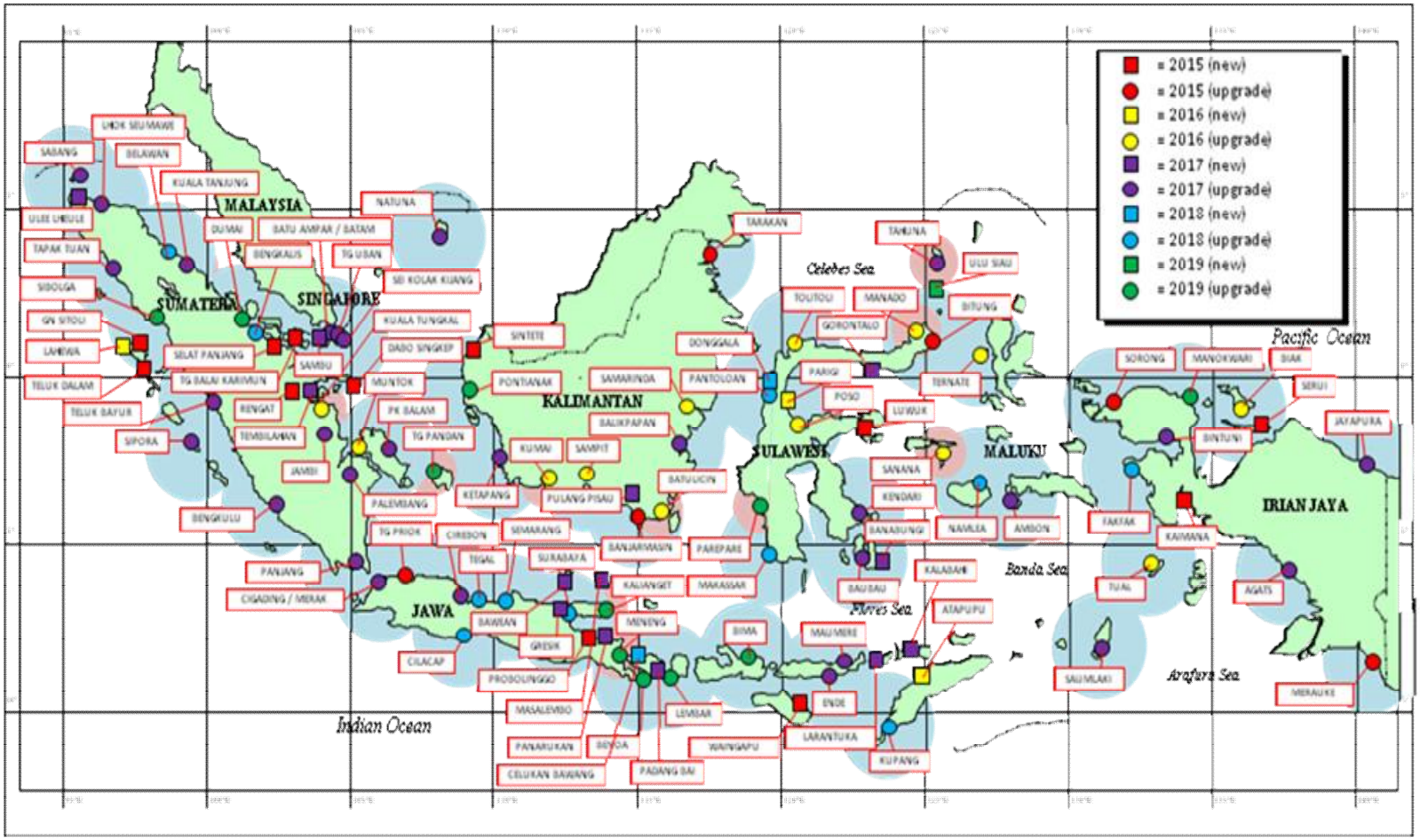
PEMBANGUNAN SARANA BANTU NAVIGASI PELAYARAN (SBNP) TAHUN 2019



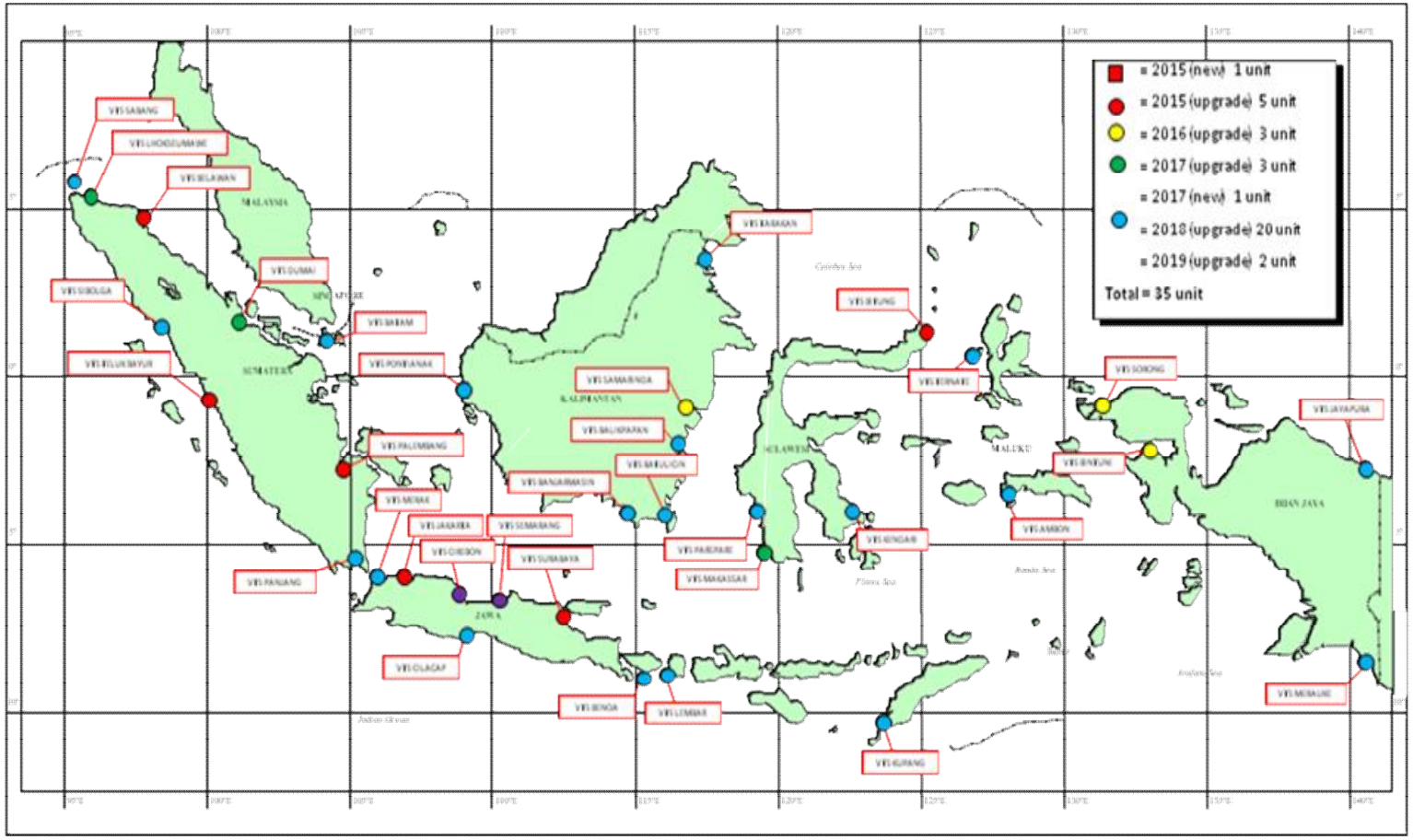
PEMBANGUNAN SARANA BANTU NAVIGASI PELAYARAN (SBNP) PADA PADA WILAYAH PERBATASAN TAHUN 2015-2019



PEMBANGUNAN GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS) PADA SETASIUN RADIO PANTAI (SROP) 2015-2019



PEMBANGUNAN VESSEL TRAFFIC SERVICE (VTS) TAHUN 2015 - 2019



RENCANA PENEMPATAN KAPAL KENAVIGASIAN TAHUN 2015-2019

Pembangunan Kapal Navigasi	Tahun 2015	Tahun 2016	Tahun 2017	Tahun 2018	Tahun 2019
Indikasi Pendanaan (Rp. Milyar)	280.65	766.18	1,078.47	1,365.63	1,354.07
Lokasi penempatan Kapal Induk Perambuan	Dumai, Makassar, Bitung, Sorong, Tarakan	Belawan, Tanjung Pinang, Semarang, Sabang	Palembang, Merauke, Ambon, Surabaya, Benoa	Teluk Bayur, Kupang, Banjarmasin, Pontianak, Samarinda	Kendari, Jayapura, Tual, Sibolga, Cilacap
Lokasi Penempatan Kapal Pengamat Perambuan	Teluk Bayur, Benoa, Kupang, Sabang, Sibolga	Bitung, Banjarmasin, Pontianak, Jayapura, Merauke	Tanjung Pinang, Kendari, Semarang, Samarinda, Makasar	Surabaya, Belawan, Tual, Tanjung Priok, Cilacap	Dumai, Sorong, Ambon, Tarakan, Palembang

Appendix 4.1 -1

Phot Album

Appendix 4.1 -1 (1/14)

Phot Album (Kupang)

Kupang

Briefing about explanation of the purpose prior to the survey at NAVIGASI Office.

Coastal Radio Station

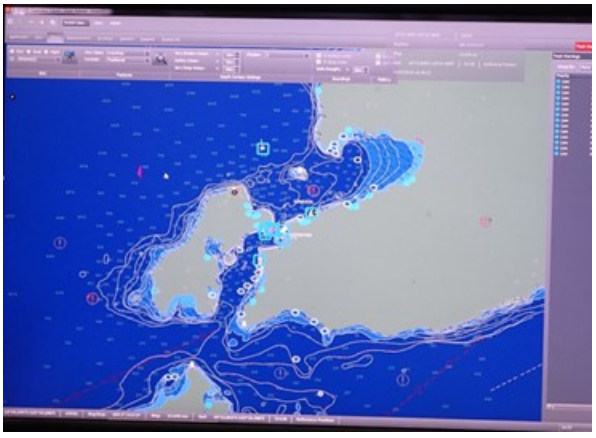
Coastal Radio Station(RX)

GMDSS operator console

on duty operator

AIS Receiver

Emergency Generator



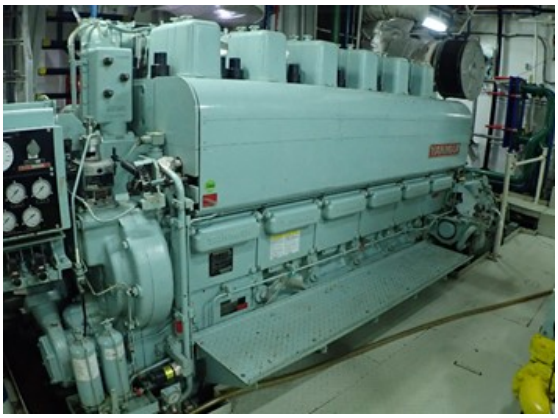
Buoy Tender KN NIPA

Bridge

Front deck crane

Engine console Room

Engine Room



Port main machine

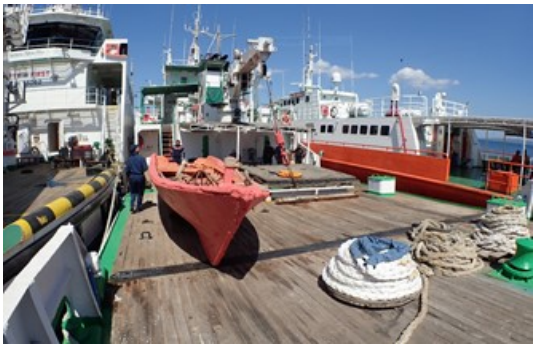
Generator

Buoy Tender MINA

Engine Console

Bridge

Front Deck



Rear Deck

Port main machine

Starboad main machine

Buoy Yard

Chain

maintained body

Sinker

body during work

Work Shop

Drilling machine

Top mark

Top mark

Lathe

Coastal Radio Station(TX)

Transmitter Antenna

HF Transmitter Units

Kupang Light House

Height 15m Luminous range 15 miles

New Light House was being constructed that would be 40 meters next to the present one.

Port of Kupang

Container Terminal

Basin for small craft

Cargo Pier

Appendix 4.1 -1 (2/14)

Phot Album (Ambon)

Ambon

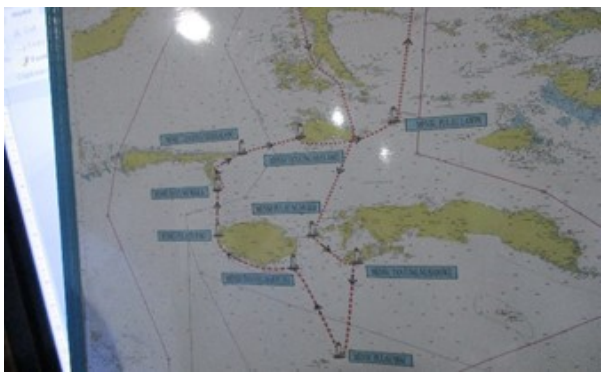
NAVIGASI Office

Castal Radio Station

NAVIGASI Drictoer (right)

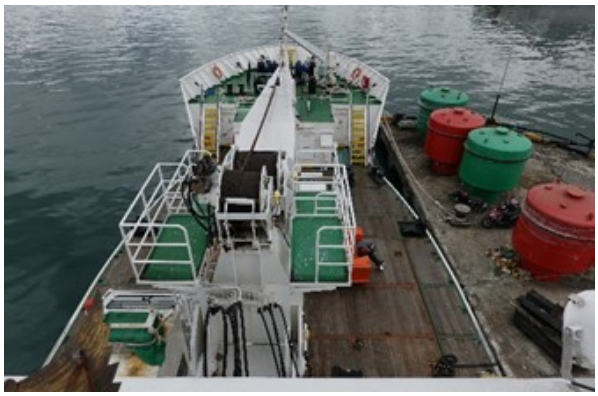
Survey meeting

Traffic survey area

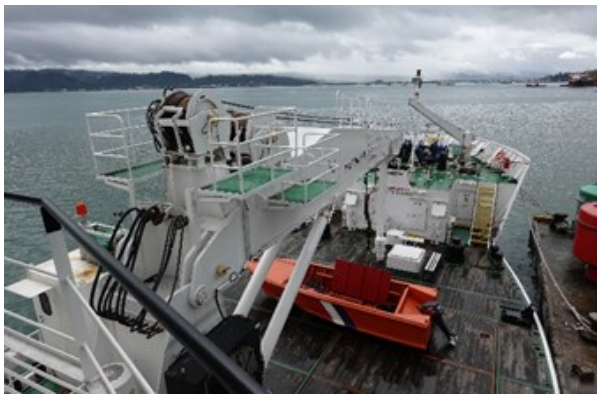


Bouy Tender

KN SACAN



Crane on the fore deck



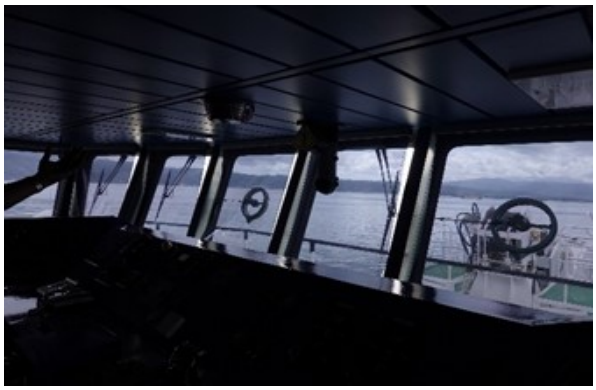
Fore deck

Crane cockpit

Workshop entrance

inside of the workshop


Bridge equipment



Looking out from the bridge

Rader indicator

Wireless communication equipment

Receiving equipment

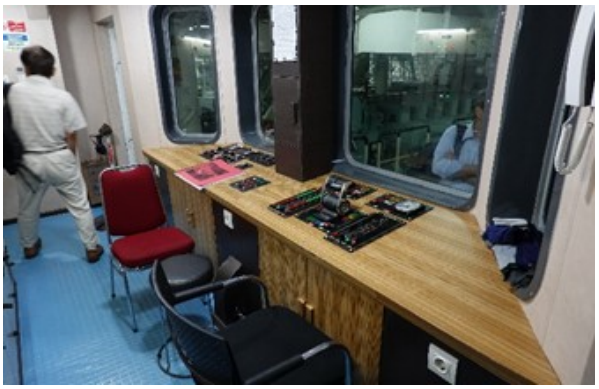
Chart table

Rader antenna

Main engine

Main engine

Clutch mechanism



Engine operating room

Power panel

Control panel

Auxiliary engine

Harbour engine

Workshop

Inside of workshop

Machine equipment

Drilling machine and grinder

Machine equipment

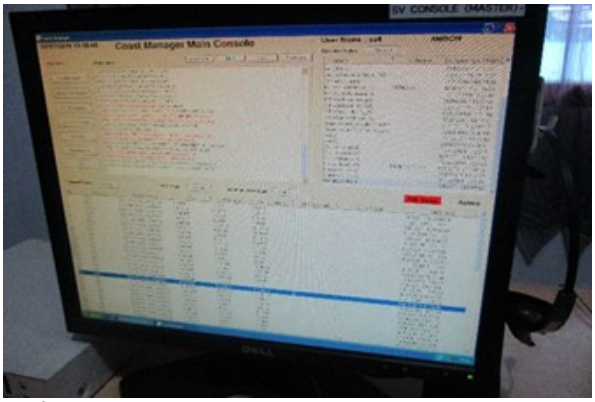
Lathe

Drilling machine

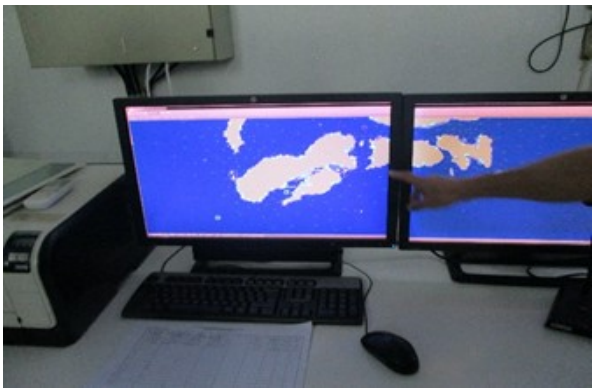
Maintained body

Coastal Radio Station (Receiver)

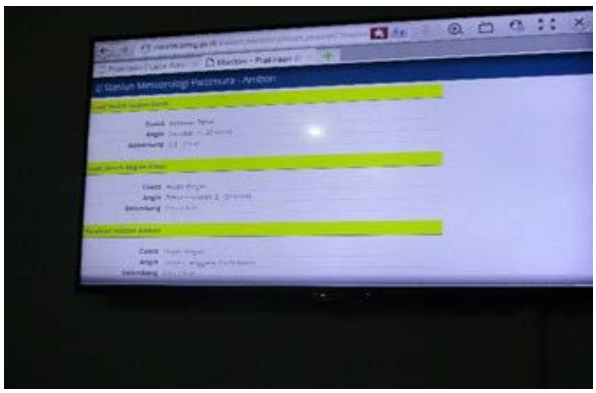
HF / MF transceiver



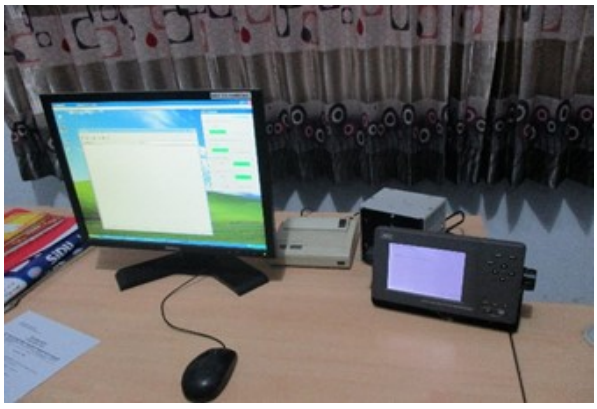
MF HF console



SRS console



Ocean weather information display



NAVTEX operation board

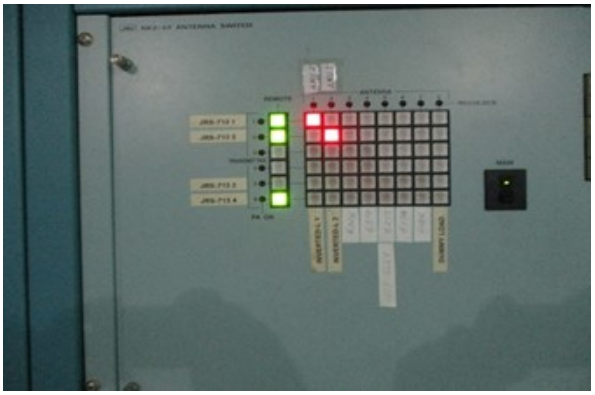
HF / MF antenna

Coastal Radio Station (Transmitter)

MF / HF transmitter

VHF radio

Power board



MF / HF antenna switcher

MF / HF antenna tower

VHF antenna tower

MF / HF antenna

MF / HF antenna tuner

Light House

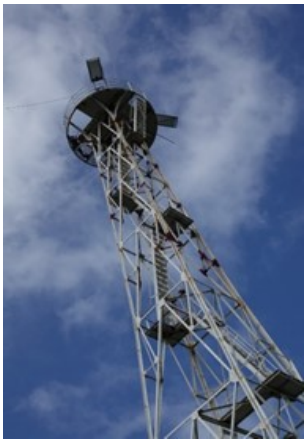
Office and lighthouse

Site information board

Light House

View from the tower

Solar panel



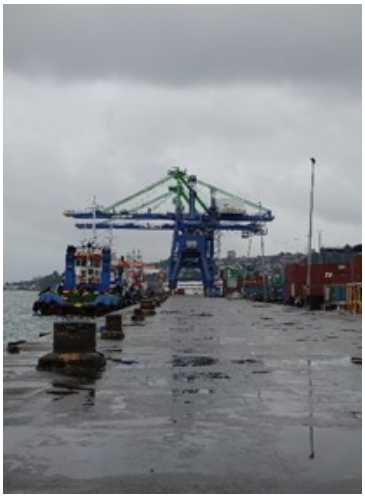
Lantern

Internal wiring

Port of Ambon

Wharf

Passenger ship mored



Gantry crane

Move to the pier

Wharf

Cruise line

Container yard

Appendix 4.1 -1 (3/14)

Phot Album (Tual)

Tual

NAVIGASI Office

Staff dormitory

WORKSHOP

Universal Iron-steelworker

Drilling machine

Sherring machine

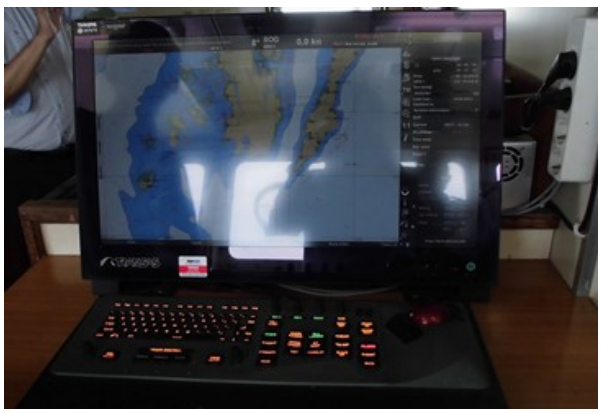
Lathe

maintained body

AIDS Tender WAHKOTA

Bridge in voyage

rear deck



ECDIS

Class B AIS Transponder

Engine room

Main engine

COASTAL RADIO STATION

Coastral Radio Station

GMDSS Console

Antenna

HF Transmitter

VHF Transceiver

Tg. Gurang Light-House

Appendix 4.1 -1 (4/14)

Phot Album (Tanjung Priok)

Tanjung Priok

Coastal Radio Station(TX)

TX antenna group

Transmitter equipments

Antenna Switch rack

UPS units

Work Shop

out side of the work shop

milling cutter

lathe

lathe

bend machine

precision processing machine

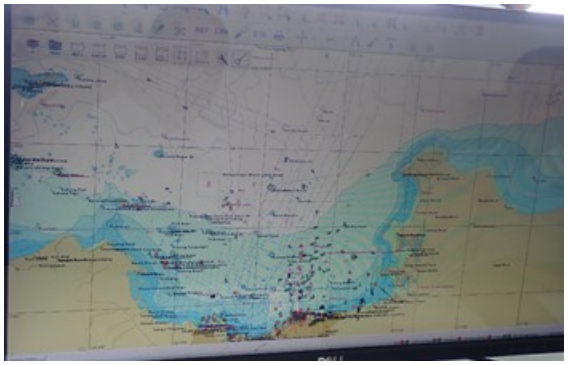
bow saw machine

woodworking machines

VTS

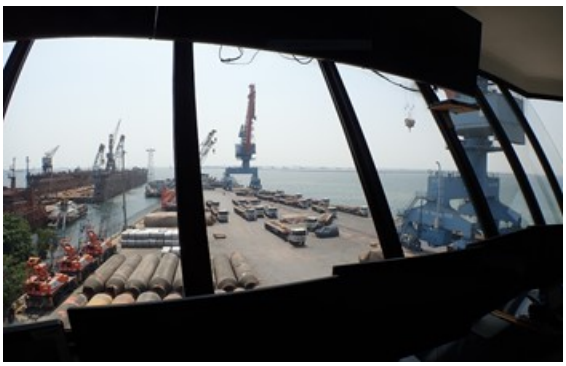
VTS operation room

monitor screen for berth



AIS vessels in tne vicinity

AIS units



view from the operation room

Appendix 4.1 -1 (5/14)

Phot Album (Samarinda)

Samarinda

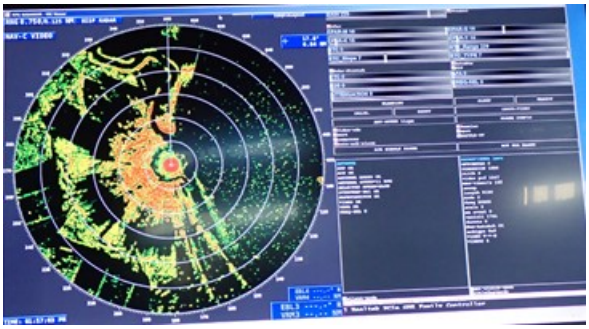
NAVIGASI Office

Briefing about explanation of the purpose prior to the survey at NAVIGASI Office.

Coastal Radio Station and VTS

Coastal Radio Station is attached to VTS

AIS dispay screen



Radar dispay screen

Bouy Tender

KN MITHUNA

KN MIANG BESAR

Workshop

outside of the workshop

maintained body

inside of the workshop

working table

Roll bender

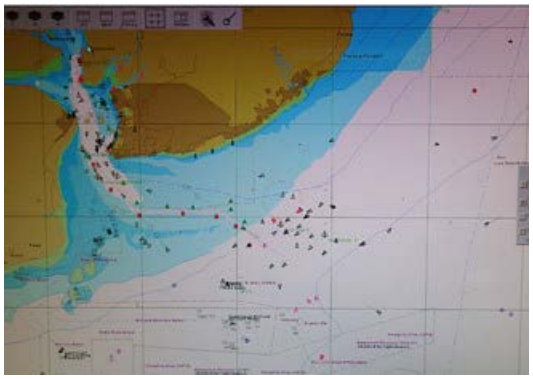
Drilling machine

Balikpapan

VTS and Coastal Radio Station

AIS console

VHF and HF Transceiver



AIS vessels in the vicinity

Tokong Hill Light House

Various kind of Antennas are equipped.
Lantern is under the Radar pedestal.

AIS Receiver

Appendix 4.1 -1 (6/14)

Phot Album (Tarakan)

Tarakan

NAVIGASI Office

Office view

Trakan CRS (left)

VTS center (3F)

Workshop (cwnter)

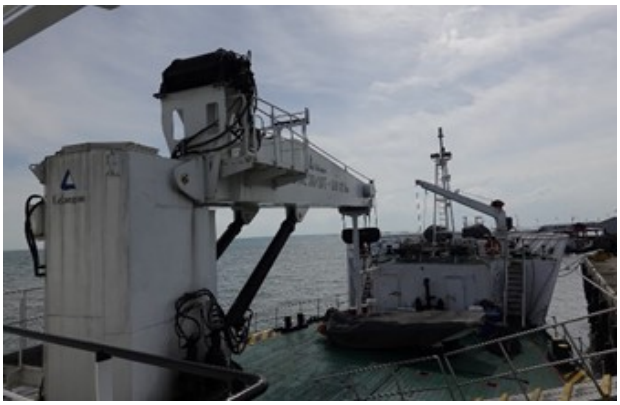
DISNAV pier

Bouy Tender

KN MARATUA

KN MARATUA from behind

Fore deck crane



Main and auxiliary crane

Crane cockpit

Lifeboat

Life raft


Bridge equipment

Engine console

GMDSS

Wireless communication equipment

NAVTEX

Bridge

Coal carrier

Main engine

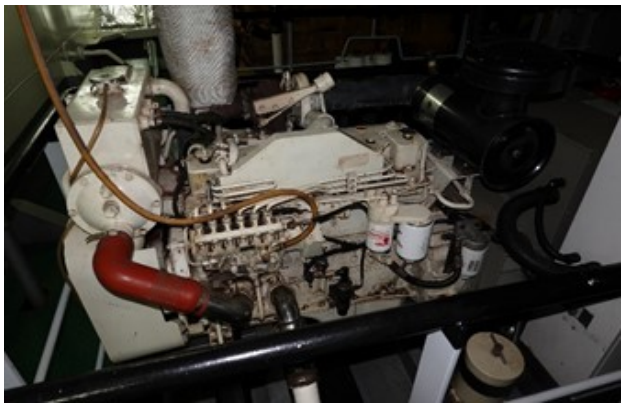
Main engine

Spare engine

Output display board

Engine console

Engine control board



Harbour engine

Workshop

workshop

Machine tool storage

Machine tool strage

Lantern

Lantern

Buoy body

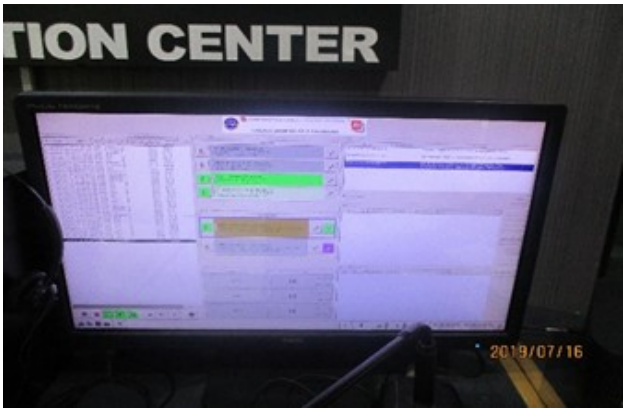
Spare lantern and body

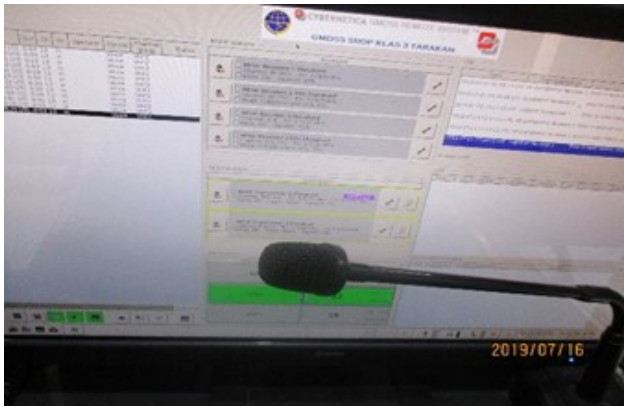
Buoy strage

Coastal Radio Station

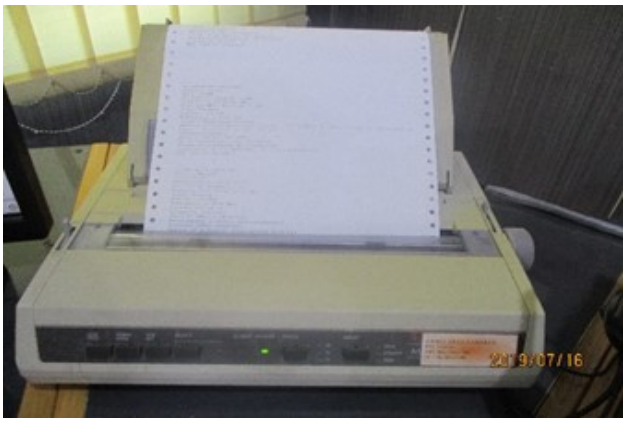
Operation console

AIS display

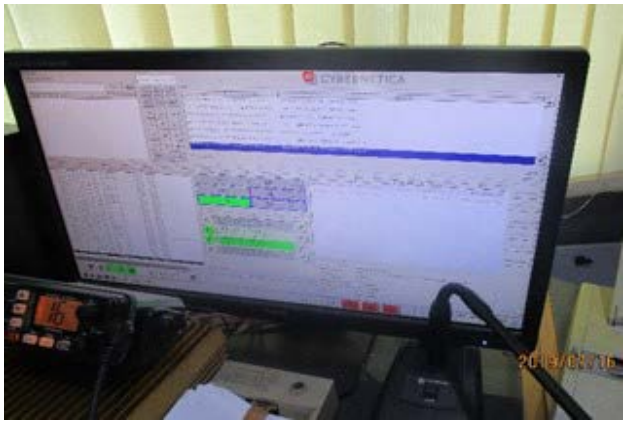




MF / HF GMDSS console



DSC message printer



VHF GMDSS console

VHF transceiver

HF / MF transceiver

SRS display

SRS equipment

SRS display (improvement)

Antenna and tower

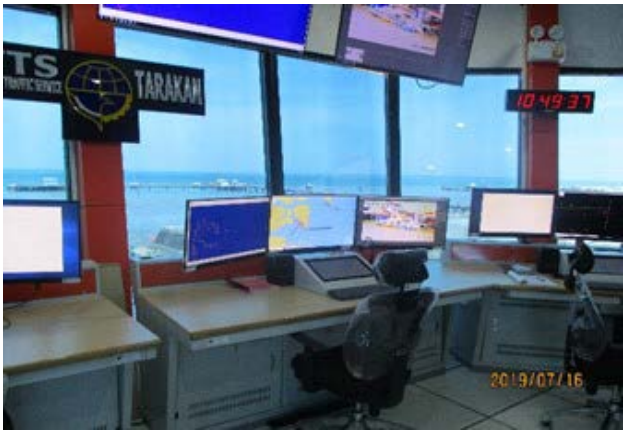
Radio station and antenna tower

VHF antenna tower

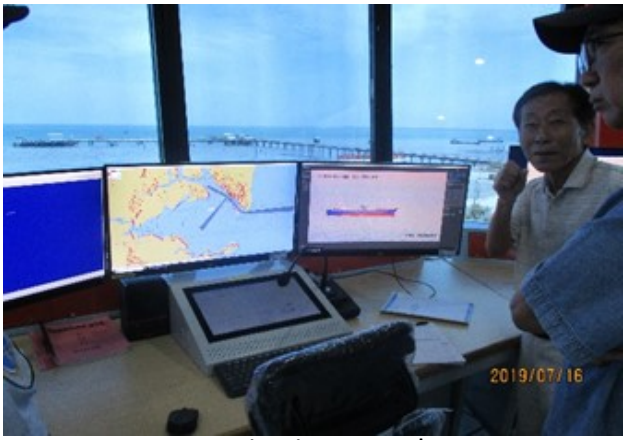
Power line route

Freestanding triangular tower base

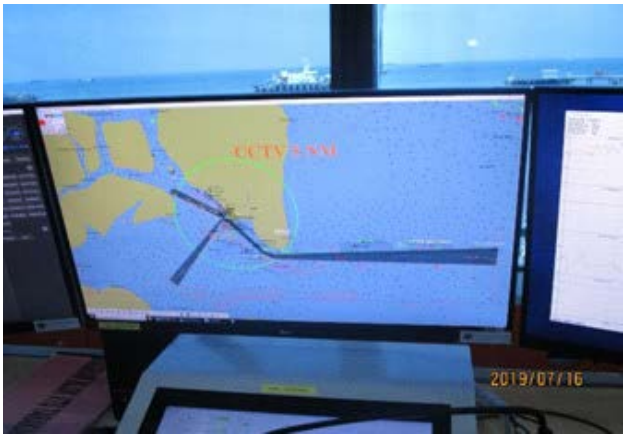
Tarakan VTS center



Operation room



Monitoring console



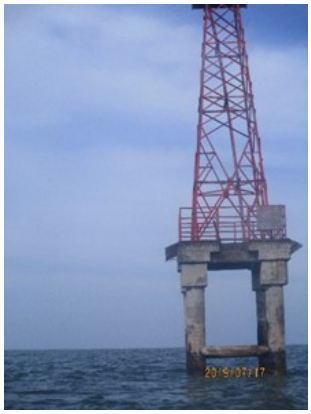
Surveillance area

VTS facility

Radar antenna

in front of VTS center Water area

Aids to navivation



Pier

Charter ship

Surrounding boats

Appendix 4.1 -1 (7/14)

Phot Album (Makassar)

Makassar

NAVIGASI Office

Buoy Strage Area

maintained body

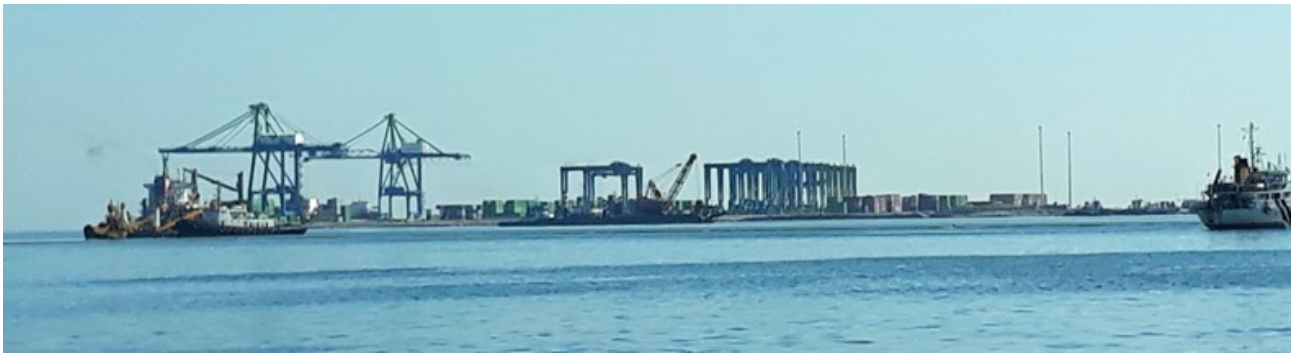
MAKASSAR VTS

VTS Operation console

view from the operation room

operation displays

PORT of MAKASSAR



NEW PORT Container wharf

Container Yard

Reventment work and Dredging work

Fishing port area

Fishing boarts

COASTAL RADIO STATION (RX)

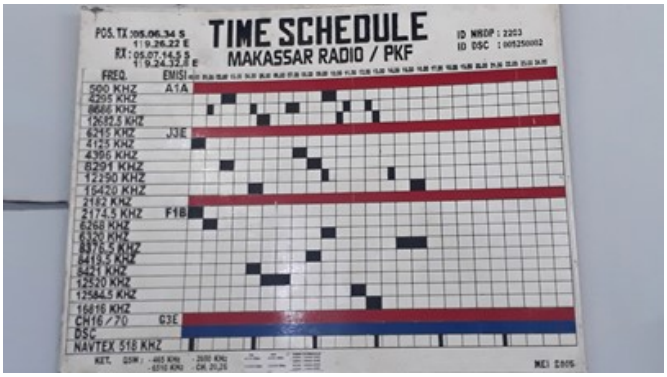
Operation console and Receiver

Receive Antenna

Coastal Radio Station(TX)

Transmitters

Transmit Antenna



Appendix 4.1 -1 (8/14)

Phot Album (Belawan)

Belawan

NAVIGASI Office

Briefing prior to survey

Workshop

maintained body

under working

spare lanterns

Maitenace working room

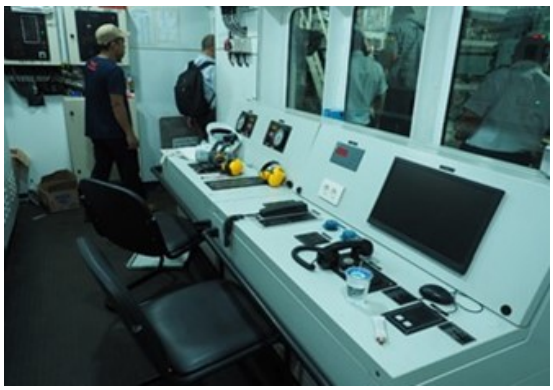
supplies for Light House

supplies for Light House

Buoy tender

KN BERHALA

Bridge



Engine control console

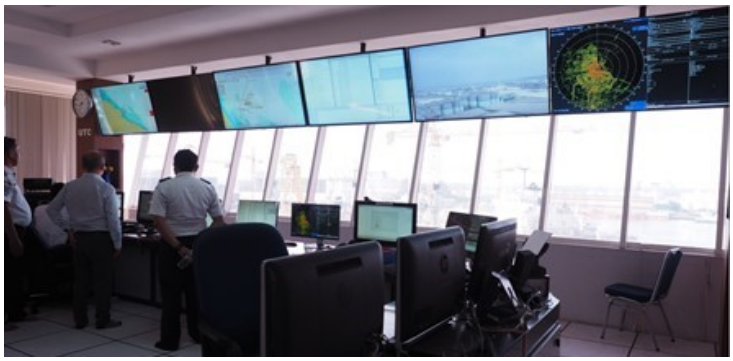
Engine control board

Main engine

Generator

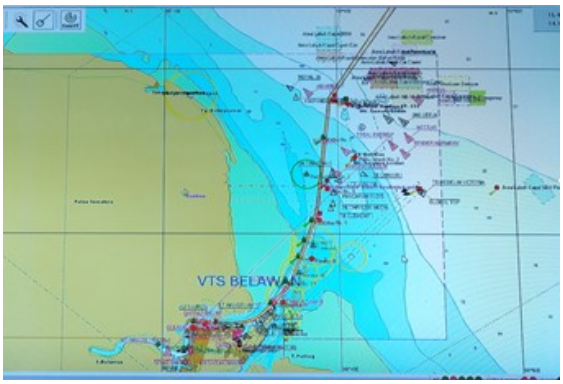
VTS and GMDSS COASTAL STATION

Coastal Radio Station(RX) is attached to VTS



Operation room

Radar screen



AIS vesseles in the vicinity

HF MF VHF AIS receivers

view from the operation room

Coastal Radio Station(TX)

TX antenna

Antenna setting controller

Transmission time schedule

Nipah Larangan Light House

Height 40m Luminous range 17miles

Because of soft ground, slant to backward and supported by beams.

Support beams

Port of Belawan and AtoN

Gantry crane

Port side Light beacon

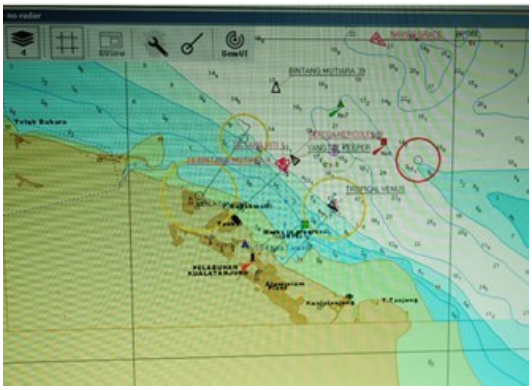
Starboard side Lighted buoy

KL Tanjung

Coastal Radio Station

Operation room

Surveillance camera image



AIS vesseles in the vicinity

UPS and AIS receiver

VHF transceiver

HF transceiver

Port of KL Tanjung

Connecting road to jetty

Connecting road view from jetty about 2km

Gantry crane on jetty

Loadingarm for crude palm oil

Container yard at the base of the connecting road

Appendix 4.1 -1 (9/14)

Phot Album (Sabang)

Sabang

Bouy Tender and AtoN Tender

Buoy tender ANTARES

AtoN tender KN BENGGALA

Coastal Radio Station

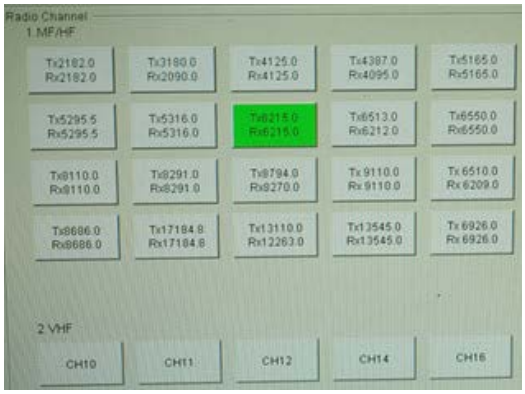
Coastal Radio Station entrance

Antennas

Communication console

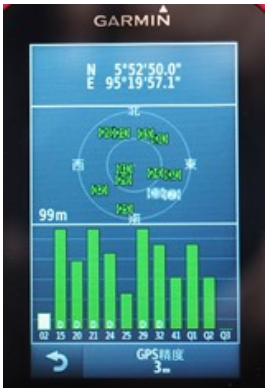
AIS VHF HF HF Antenna switch

General Telephone console



Transceiver on duty at 6,215.0 kHz

AIS vessels in the vicinity



DGPS Receiver locates in the Radio station. The correction data from Quasi-Zenith System is available

Le Meuse Light house

Light house and Quarters

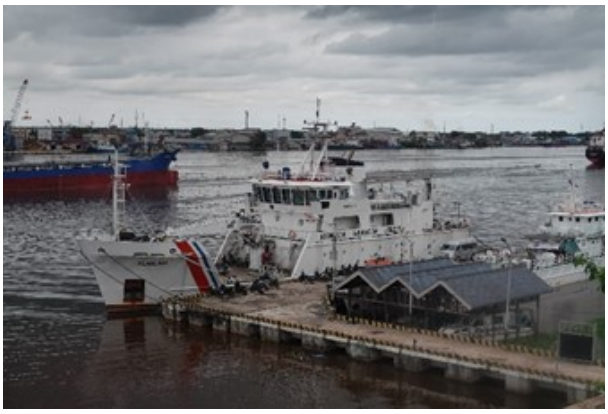
Height 29m Luminous range 16 miles

Appendix 4.1 -1 (10/14)

Phot Album (Pontianak)

Pontianak

Buoy Tender ALNILAM



Front deck and crane

Crane cockpit

Life raft

Lifeboat operating device

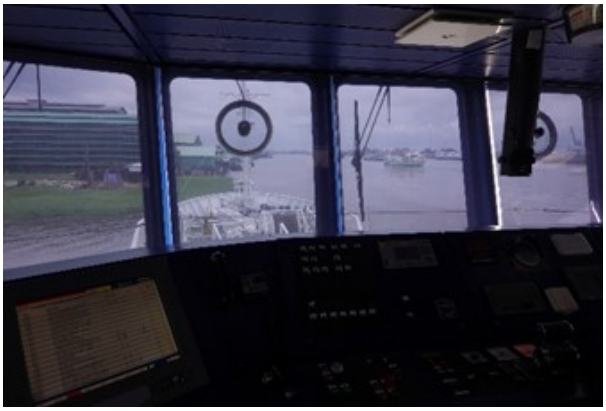
Workshop

Kitchen

Bridge

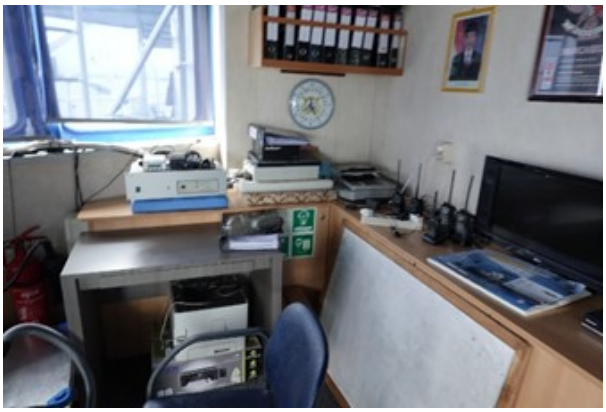
Monitor display

Transceiver



Looking forward from the bridge

Communication equipment



Office

Spare engine

Main engine

Spare engine nameplate

Main engine

Spare engine

Movable display board

Spare engine control panel

Control panel

Workshop

Inside the workshop

working

Grinder grinding

Machine equipment

Lantern

Buoy storage

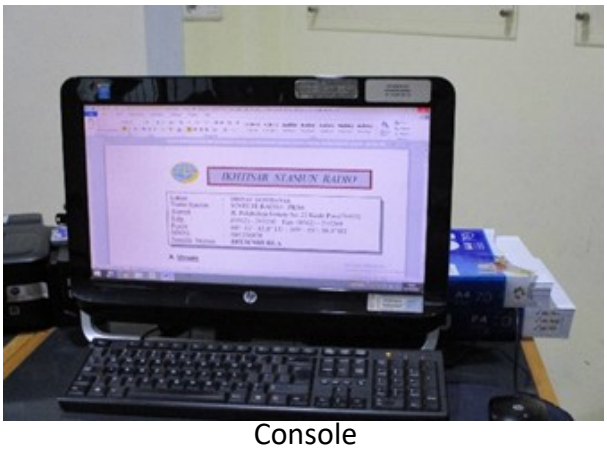
Buoy storage

Pontianak Coastal Radio Station

Coastal Radio Station

GMDSS console

MF / HF, VHF, GMDSS console

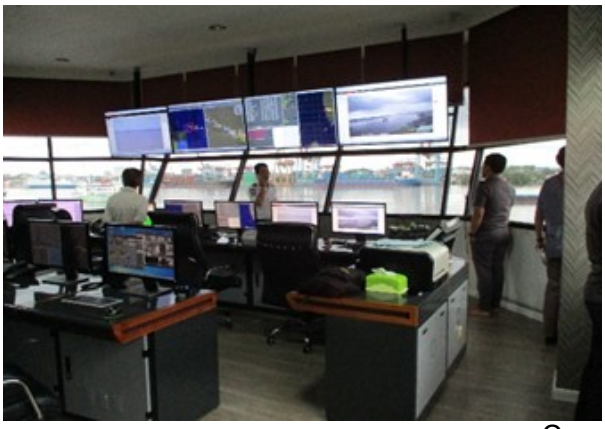


Console

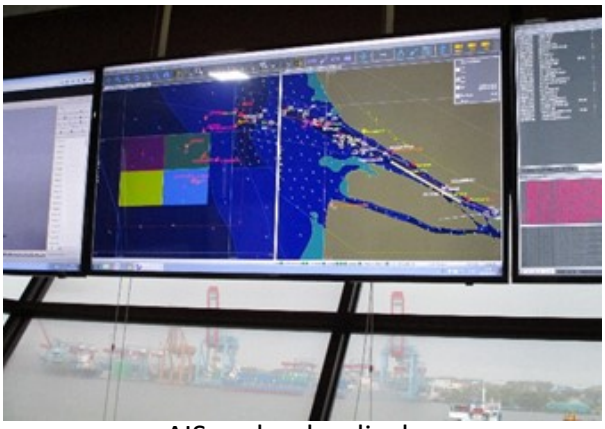
HF / MF antenna

MF / HF Radio

Pontianak VTS Center



Operation room



AIS and radar display

Tide table

Overlooking the river

Tg Intan (VTS remote monitoring station)

Monitoring station and Light house

First floor in the light house

Radar equipment

Emergency generator

Relay unit

Appendix 4.1 -1 (11/14)

Phot Album (Bitung)

Bitung

Navigasi Office

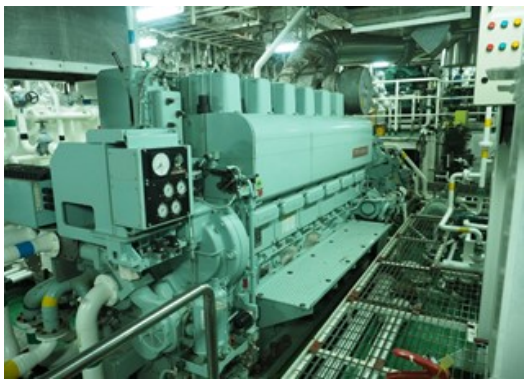
Buoy Tender

KN MIANGAS

Bridge

Front deck and crane

Engine controll console



Starboard main engine

MERAK

Bridge

Rear deck crane

Port main engine

Workshop

Workshop outside

Maintained body

Workshop inside

Coastal Radio Station(RX)

Coastal Radio Station (RX)

Antenna

Operation room

Transmimssion schedul

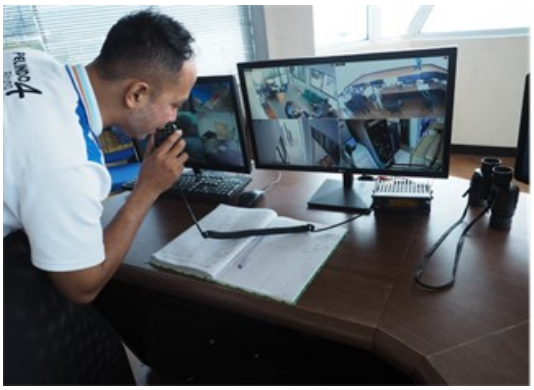
GMDSS workstation

HF receiver

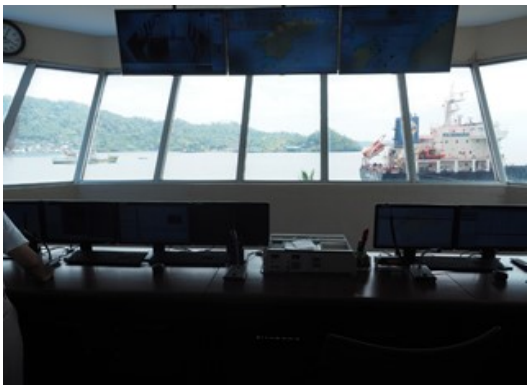
Manager unit

Bitung VTS

Operation room



Communicate with a ship by VHF



View from the operation console

Gantry crane and container yard

Palm oil loading berth and pipe line

Coastal Radio Station(TX)

Antennas

HF transmitter

Tanjung Kapas Light House and Radar

Light tower Height 30m Luminous range 20 miles

Radar tower

in-house power generator

Personnel quaters and facilities

Manado Coastal Radio Station

on duty officer

VHF transceiver

HF transceiver

Gn.Wenang Light House

entrance to basement

Emergency generator

basement

Spiral staircase

view from the top

Appendix 4.1 -1 (12/14)

Phot Album (Surabaya)

Surabaya

NAVIGASI Office

Workshop

outside appearance of Workshop

spare Lantern

inside of Workshop

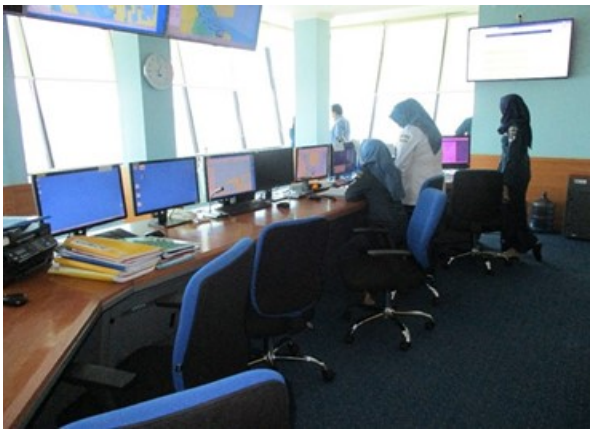
drilling machine

before maintenace body

maintenaced body

VTS and Coastal Radio Station

VTS and Coastal Radio Station



operation console

view from the operation room

Appendix 4.1 -1 (13/14)

Phot Album (Teluk Bayru)

Telk Bayur

DISNAV office

Survey meeting

Port of Teluk Bngas

Port of Teluk Bayur

Buoy Tender KN MUCI

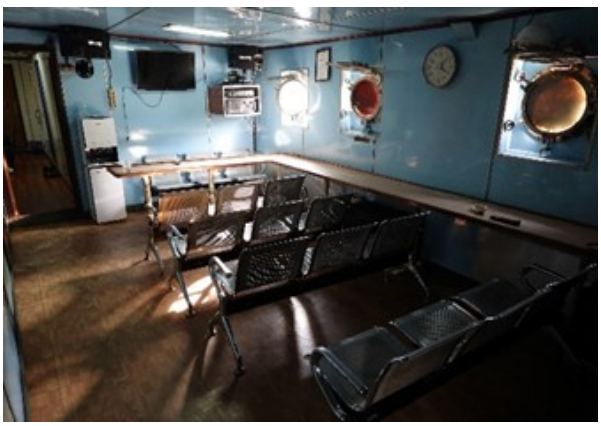
KN MUCI

Crane cockpit

Crane boom

Appearance near bridge

Fore deck



Public room

Kitchin

Bridge

AIS and VHF transceiver

Operation power board

Wireless communication equipment

Chart table

Onboard telephone

NAVTEX (left)

EGDIS

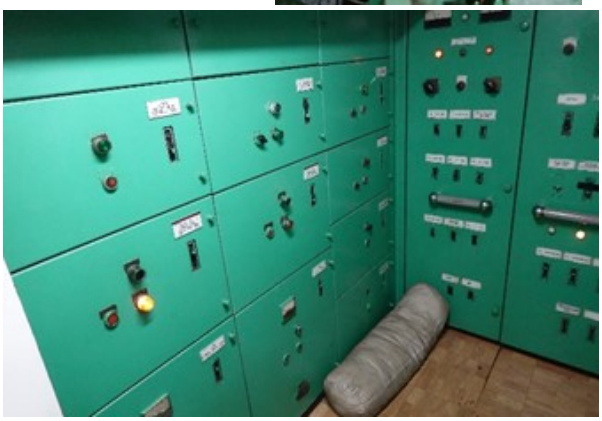
Maine engine

Name plate (Japanese shipyard)

Auxiliary engine

Maine engine

Generator



Control panell

Workshop

Inside the workshop

Machine Tools

Welding machine

Mobile crane

Iron chain

storage

Composite type rubber boat

Workshop entrance

Buoy strage

Buoy strage

Buoy turret

Sinker

Buoy in the harbor

Teluk Bayur Coastal Radio Station

Coastal Radio Station

MF/HF, VHF transceiver (out of service)

Spare equipment

MF / HF console

MF / HF console

MF / HF tranceiver (spare)

Teluk Bayur VTS center

VTS operation console

Display of jurisdiction area

Display of AIS monitoring area

Displaying ocean weather information

VHF transceiver

Master Cable

Jurisdiction area map

Radio station antenna, Rararand Lighthouse

VHF antenna

Surveillance camera (Upper right tower)

Radar antenna

MF / HF
antenna tower

Lighthouse

Lighthouse lense

Looking at the radio station from the lighthouse

Appendix 4.1 -1 (14/14)

Phot Album (Labuan Bajo)

Labuan bajo

Komodo Island

Light-House under construction

sightseeing boat

East sea area of the island

anchoring status of small boats at dusk