# E-NAVIGATION TESTBED

# APPWEB 2.0

# CAPACITY BUILDING

Asia-Pan-Pacific Web APPWEB: Web based e-Navigation Testbed

IALA · Ministry of Oceans and Fisheries · GMT

Australian Government Australian Maritime Safety Authority · United States Coast Guard · Canadian Coast Guard

2021 NOV

## APPWEB 2.0 CAPACITY BUILDING

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Asia-Pan-Pacific Web Portal e-Navigation Testbed


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Ⅱ PROGRESS

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IALA · Ministry of Oceans and Fisheries · Australian Government Australian Maritime Safety Authority · United States Coast Guard · Canadian Coast Guard · GMT

CHAPTER

I

ASIA-PAN-PACIFIC WEB PORTAL E-NAVIGATION TESTBED

APPWEB 2.0 CAPACITY BUILDING

# BACKGROUND

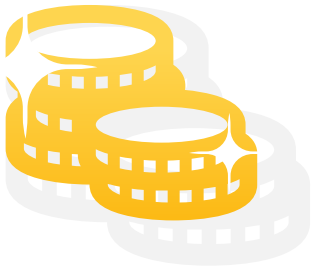
MAIN CONCERNS OF

MARINE STAKEHOLDERS

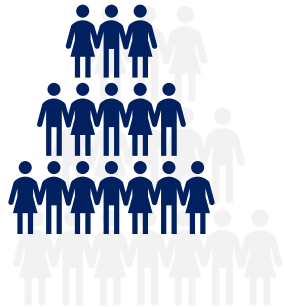
NOW WORLD MARITIME IS

# I BACKGROUND
# MAIN CONCERNS OF MARINE STAKEHOLDERS

**3,156** CASES OF **INCIDENTS**

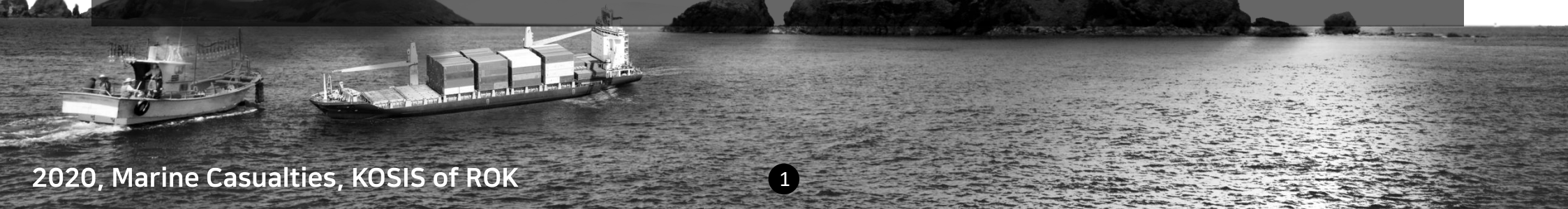


OVER **$207M** OF PHYSICAL **LOSSES**



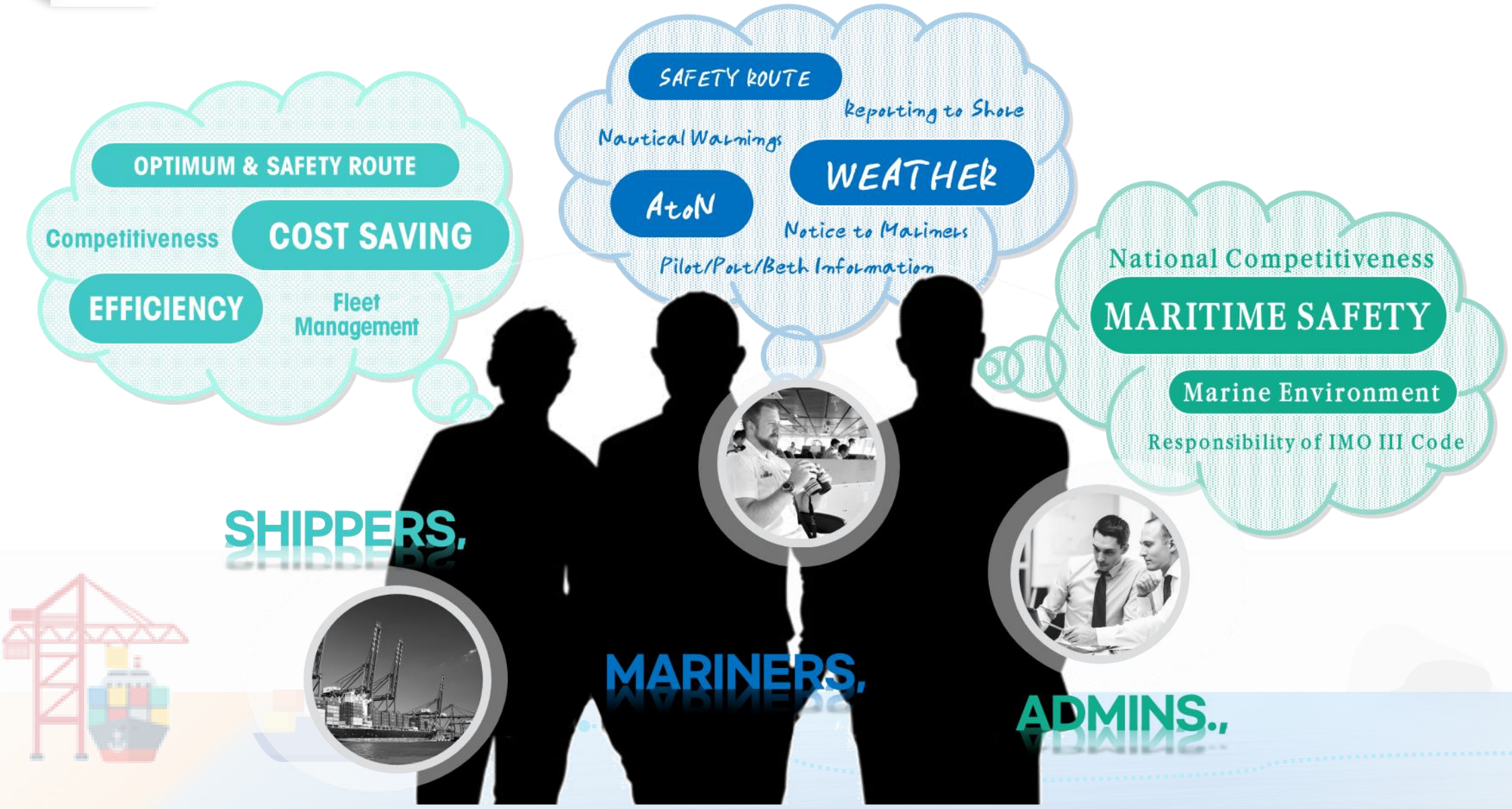
**553** MARINERS **INJURED**

**84.5%** by **HUMAN ERROR**



2020, Marine Casualties, KOSIS of ROK

# I BACKGROUND
# MAIN CONCERNS OF MARINE STAKEHOLDERS



# I BACKGROUND

## NOW WORLD MARITIME DOES ...

**Initially**
considered in
**IMO MSC81**

**2006**

**2008**

**MSC85**
e-Nav strategic and
mean approved

**MSC94**
e-Navigation
**SIP** approved

**2014**

**2017**

**HGDM**
organized

**S-mode**
**S-10x**

**MCP**
**Consortium**
launched

**2019**

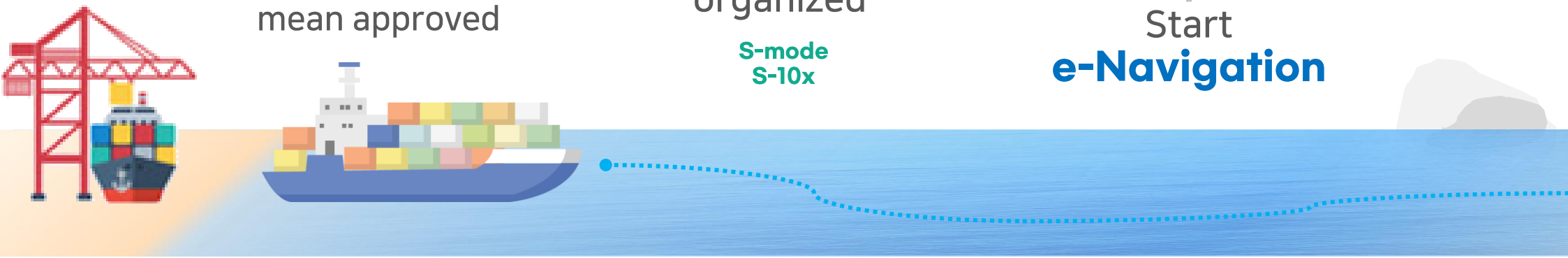
**2020**

Start
**e-Navigation**

**Service**
**ongoing**

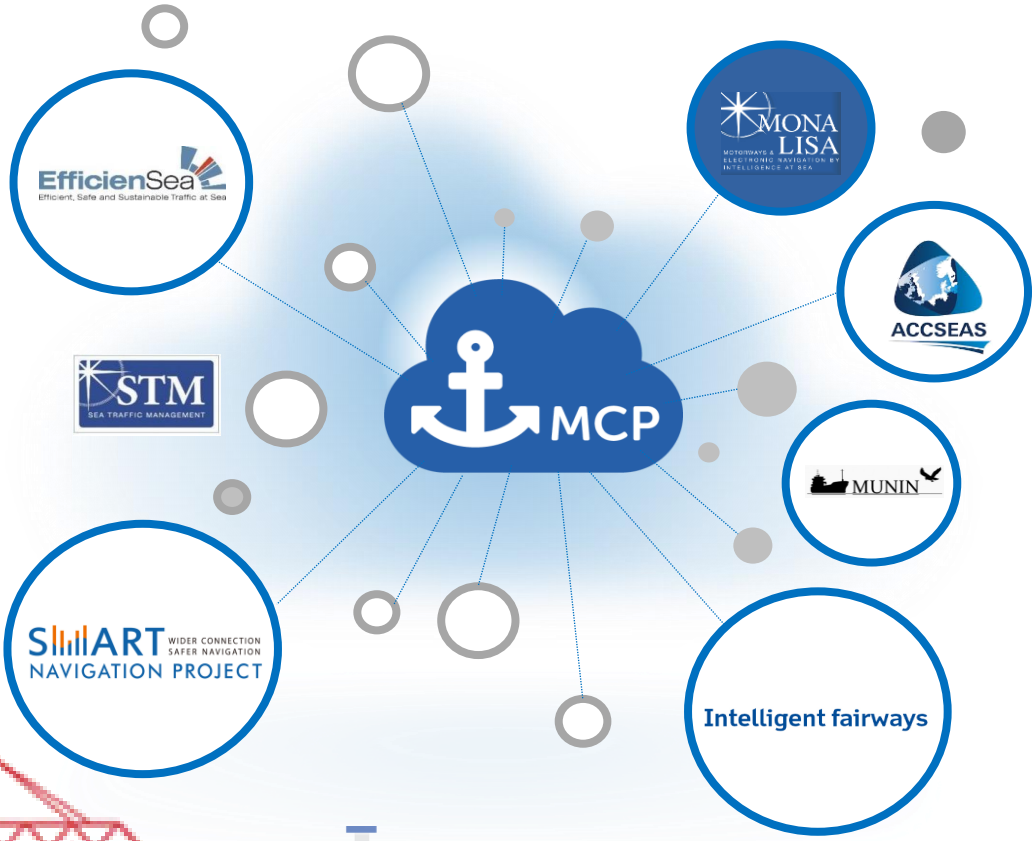
**2021**

- Hyperconnected
- Standardization
- Digitalization
- Customization



# I BACKGROUND

## NOW WORLD MARITIME DOES ...




## WHY?

**DIGITALIZATION**

**STANDARDIZATION**

AND **CONNECTION?**

# I BACKGROUND

## NOW WORLD MARITIME DOES ...

**Time = Cost** equals ten times of **Investment**
Money at least

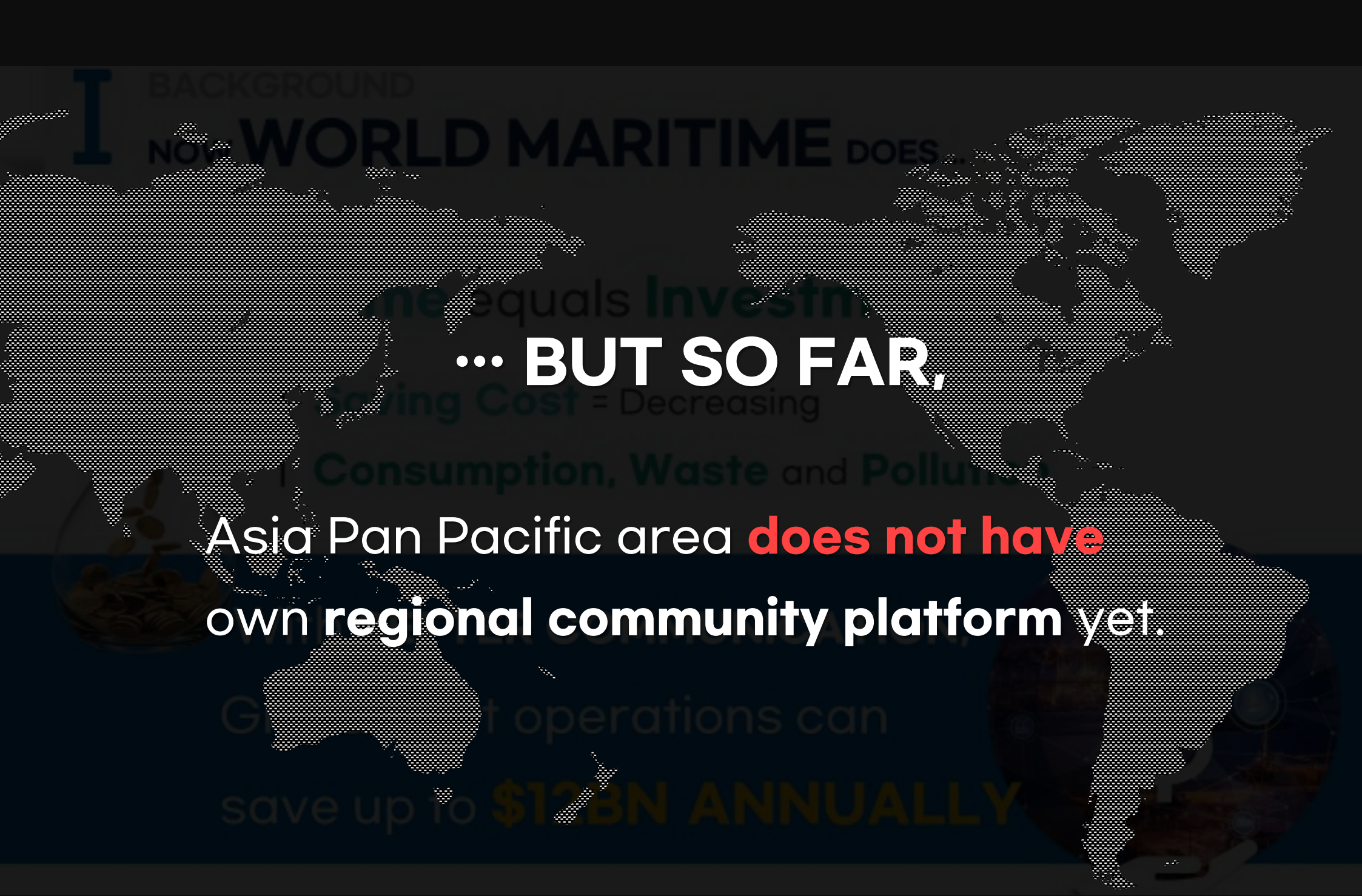
**Saving Cost** is a definite way to decrease

**Consumption, Waste** and **Pollution**

With **BETTER COMMUNICATION,**

Global Port operations can

save up to **$12BN ANNUALLY**



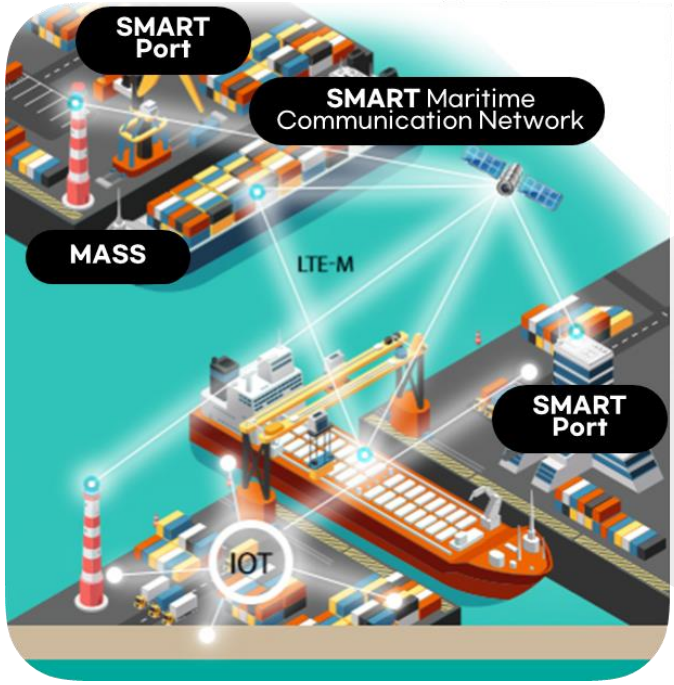
# ··· BUT SO FAR,

Asia Pan Pacific area **does not have** own **regional community platform** yet.

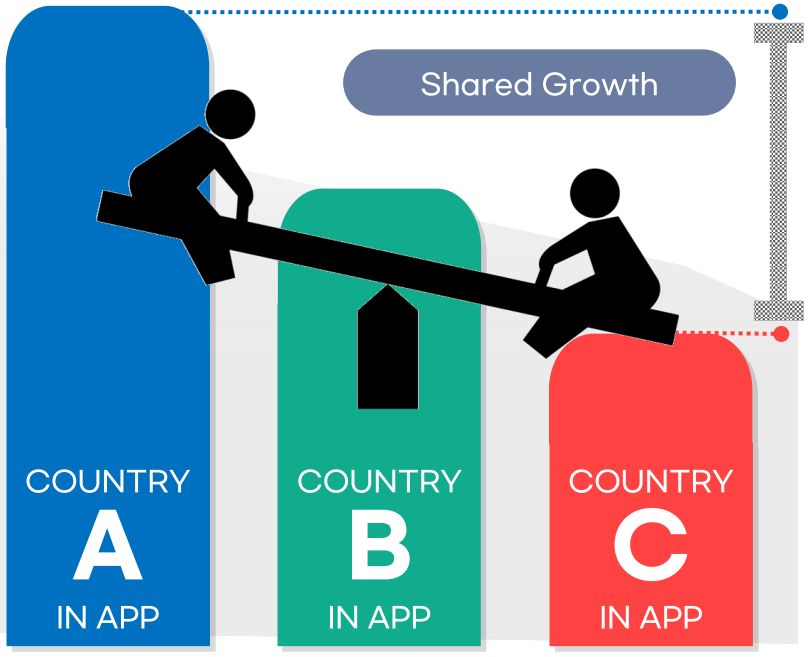
# I BACKGROUND

## NOW WORLD MARITIME DOES ...

## " HUGE GAPS "




- DELAY IN IMPLEMENTING E-NAVIGATION SERVICES
- IMBALANCE IN SAFETY & EFFICIENCY BENEFITS FROM TECHNOLOGY




The level of preparation for **emerging technologies**

**varies from country to country**

# I BACKGROUND

## NOW WORLD MARITIME DOES ...

Safety & Efficiency
Synergy in AP region

COUNTRY **A** IN APP

COUNTRY **B** IN APP

COUNTRY **C** IN APP

## GAPS

- **LACK** OF SUITABLE **LEGAL FRAMEWORKS**
- **UNCLEAR** ROLES AND RESPONSIBILITIES
- **INSUFFICIENT** RESOURCE ALLOCATION, EDUCATION AND TRAINING

## RESULT

- **UNAWARE** OF EXACT OPERATIONAL STATUS OF AIS-TO-NAVIGATION
- **INCONSISTENCY** BETWEEN CHART AND ACTUAL ATON
- MSI **NOT PROMULGATED** PROPERLY TO MARINERS

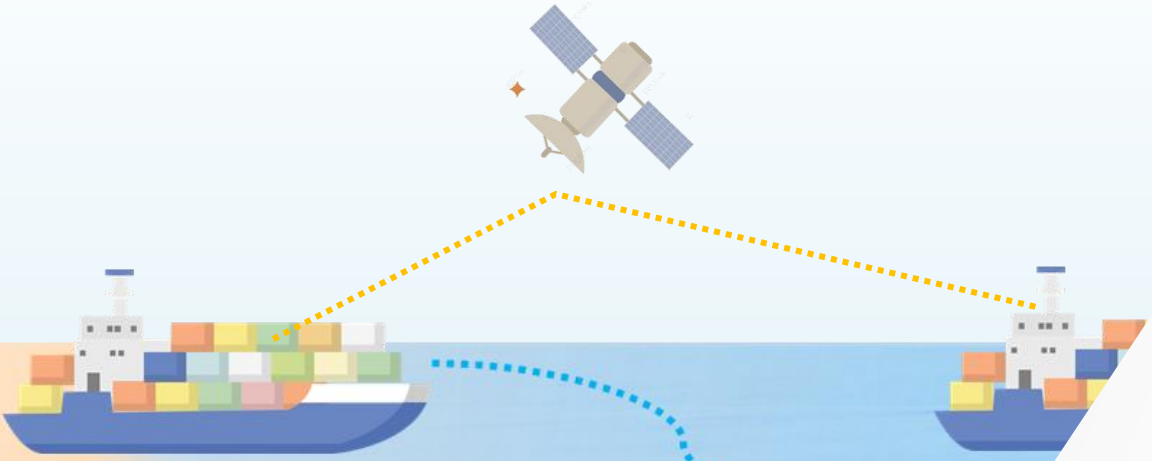
CHAPTER

II

ASIA-PAN-PACIFIC WEB PORTAL E-NAVIGATION TESTBED

APPWEB 2.0 CAPACITY BUILDING

# PROGRESS SO FAR



PROGRESS OF

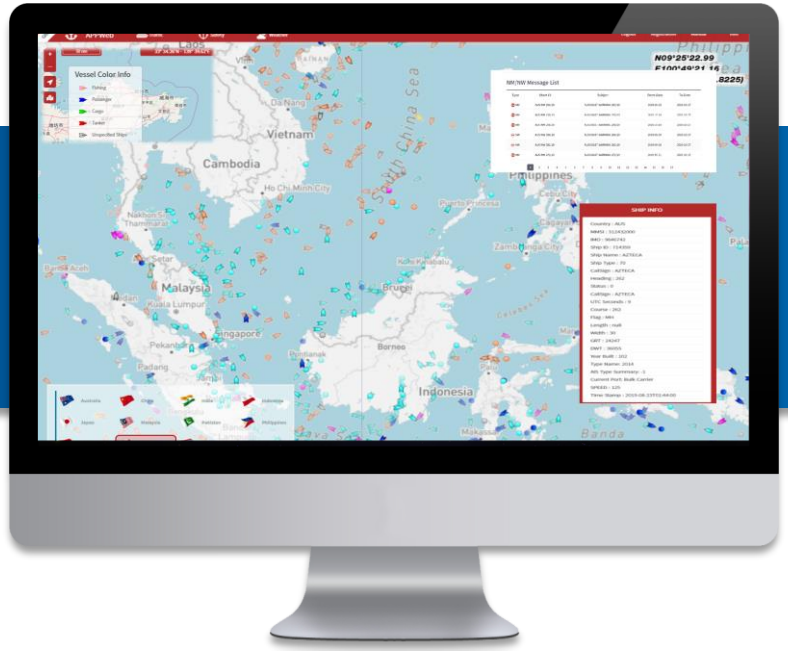
CONSULTATION

PROGRESS OF

IMPLEMENTATION

# II PROGRESS SO FAR

# PROGRESS OF CONSULTATION




## APPWEB WILL BE SOLUTION

- INITIATED SINCE **LATE 2017**
- REPORTED AT **19TH APHOMSA 2018**
- THE **1ST APPWEB**(DEMO) LAUNCHED IN 2019
- **APPWEB 2.0** DEVELOPMENT IS ONGOING

# II PROGRESS SO FAR

## PROGRESS OF CONSULTATION

Work closely to establish an Asia-Pan-Pacific version of BalticWeb as a **demonstrator gateway for e-Navigation services.**

### 2017

### AMSA & MOF

**Have the first discussion** on implementation of the APPWeb during the IALA ENAV 20th Session.

### 2017

### AMSA,MOF & USCG

### 2018

### APPWEB BETA

**Completed the 1st beta** version using Baltic web source and **demonstrated** at 19th **APHoMSA Forum**

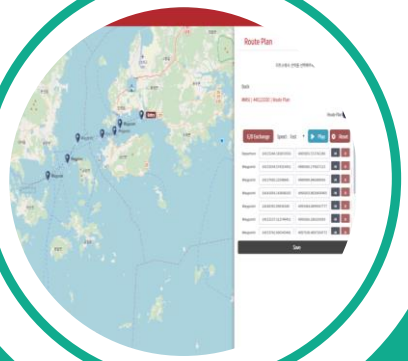
# II PROGRESS SO FAR

# PROGRESS OF CONSULTATION

## 2019 SEP

**Interfaced MSI data** with KHOA* and AMSA. Developed an **indepen-dent data management system** from Njord.

## APPWEB 1.0



## 2019 JULY

## AMSA, MOF & IALA

Discussed on **direction** of APPWeb development and **cooperation plans** among **MOF, AMSA and IALA**

## THEYDISCUSSED AND CONCLUDED

1. To **prepare** for **basic requirements docs** and **start designing**

2. Decided **application** of **S-124 as MSI data standard** (e-Navigation MS 5)

3. To **gather requirements** from **other nations** in **Asia Pacific area** prior to **developing APPWeb 2nd Version**

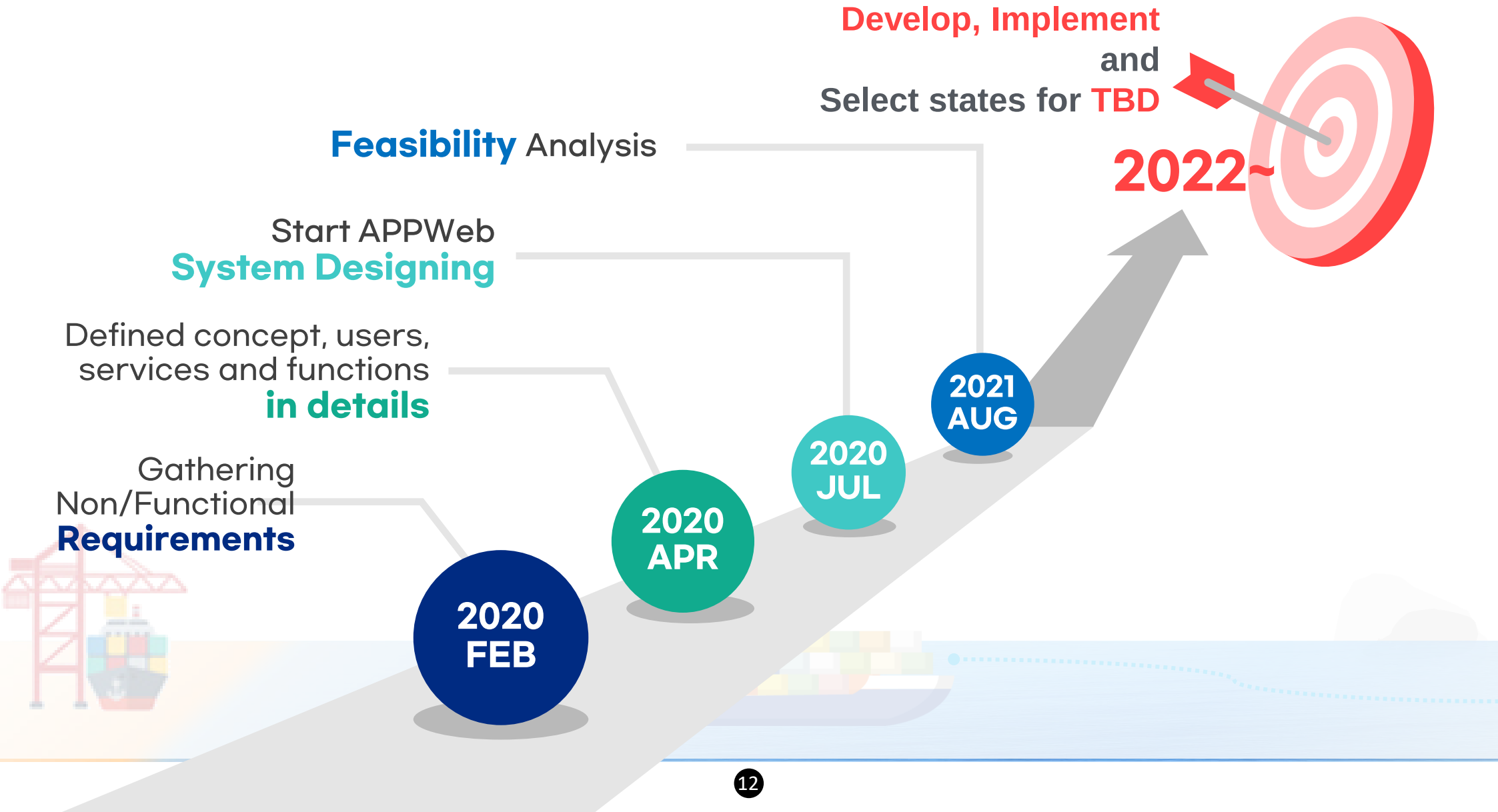
4. To define **non/functional** requirements

5. **IALA** and **AMSA will annotate on RFP** which **MOF draft**

※ KHOA (Korea hydrographic and oceanographic agency)

# II PROGRESS SO FAR

## PROGRESS OF IMPLEMENTATION



CHAPTER

III

ASIA-PAN-PACIFIC WEB PORTAL E-NAVIGATION TESTBED

APPWEB 2.0 CAPACITY BUILDING

# CONCEPT & FUNCTIONS

WHAT IS **APPWEB ?**

**FUNCTIONS**

AND **SERVICES**

# SYSTEM CONFIGURATION

## DATA GATHERING

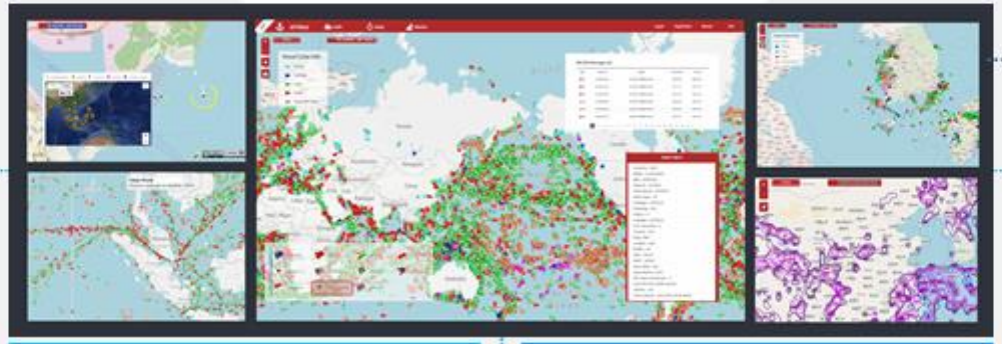
- SAT (CSP) — AIS Location Data
- Flag State — Incident History; Static & Dynamic Info; Shipper info
- Coastal State — NAVTEX(S-124) data
- Meteorological Agency — Weather Info
- IALA — AtoN Info
- ReCAAP — Pirate Info
- Ship — Route

S-1xx Converter Module

CSP: Communication Service Provider

Internal Network

## APPWEB



**SERVICE**
Ship Monitoring, Info Management, Safe operation and navigation support

**OPERATION**
Management of ID authority, Network, Security, and Service, Training supports

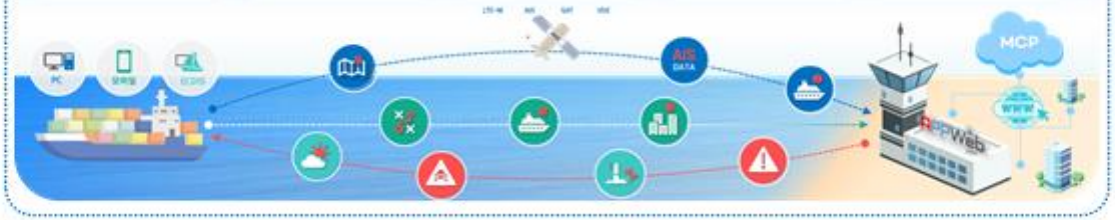
Data Center A

INTERNET

Data Center B

**TYPE OF INFORMATION**

| | | | | |
|---|---|---|---|---|
| Location Info | Incident History | Static Info | Dynamic data | Shipper Info |
| Weather Info | AtoN Info | NAVTEX | Pirate Info | Route Source |




Internal Network

MCP — EU PLATFORM

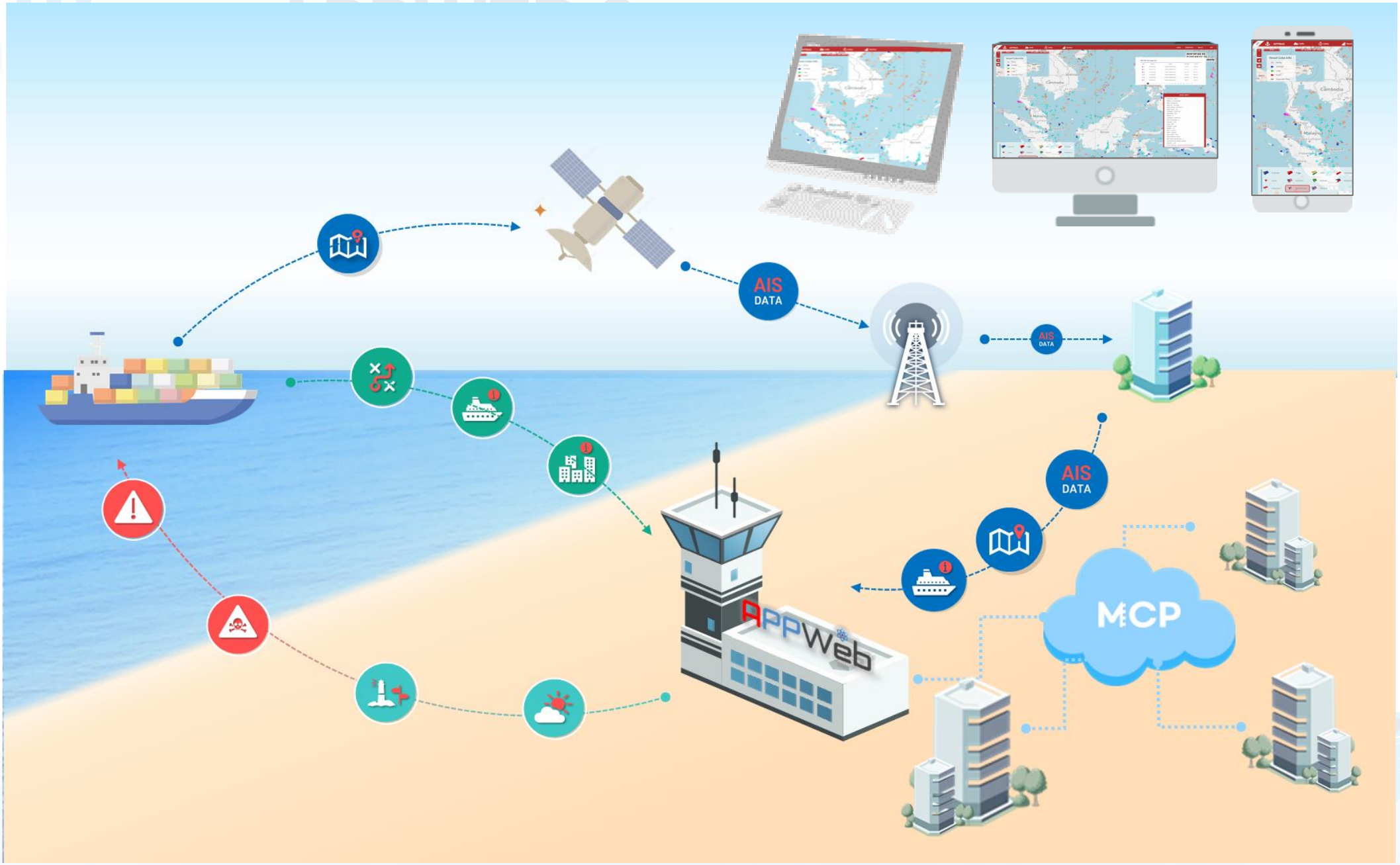
## SYSTEM USER

**Government Agency**
- Coastal/Port/Flag states in Asia-Pan-Pacific Area
- Port Authority, Coast Guards, Navy, ETC
- SAR

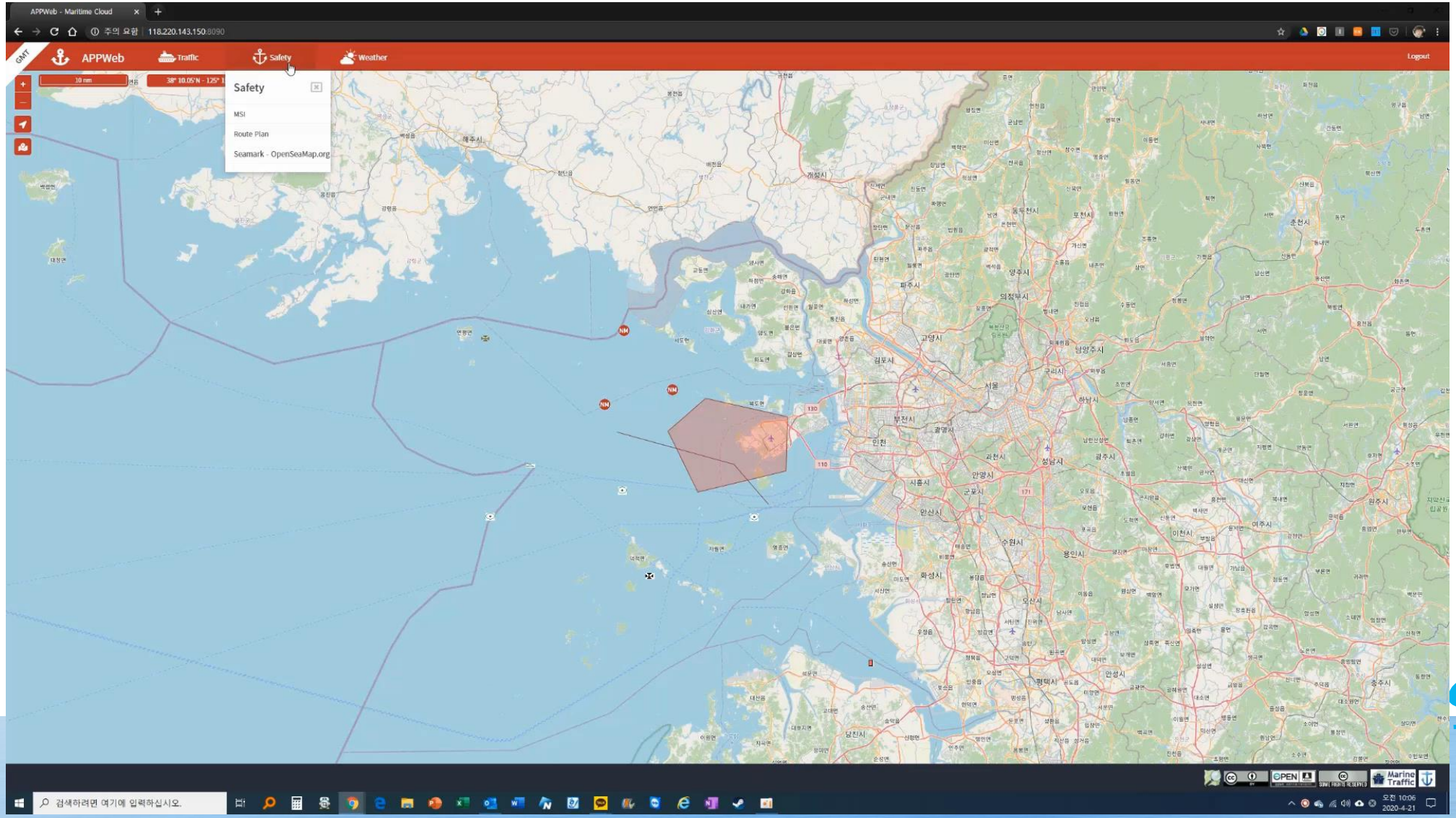
**International Org.**
- APHoMSA
- e-Nav Global Testbed
- IMO
- IALA
- IHO
- Digital@Sea Conference

**Civilian Users**
- Ship Owner, Sailors, Mariners, Shipping Companies
- 3PLs

# CONCEPT DIAGRAM



# III CONCEPT & FUNCTIONS
# FUNCTIONS AND SERVICES



ASIA-PAN-PACIFIC WEB PORTAL E-NAVIGATION TESTBED

APPWEB 2.0 CAPACITY BUILDING

CHAPTER

IV

# ROADMAP

## ROADMAP

# IV ROADMAP

ROADMAP

## 2023 › 2024 › 2025 ~

- **SYSTEM IMPLEMENTATION**
- **FS** & **CONSULTING**
- SELECT TESTBED (**2 COUNTRIES**)
- CONFIRM **USER REQUIREMENTS**
- **FIELD SURVEY**

- START **ODA** PROGRAM
- ESTABLISH **DATABASE** (**MSI AND ATON**)
- SETUP AND STORE **MSI DATASET**

- **EXPAND** ODA PROGRAM (**MORE COUNTRIES**)
- EARNESTLY ESTABLISH THE **REGIONAL PLATFORM** IN ASIA-PAN-PACIFIC AREA

※ FS: Feasibility Study

# V CONCLUSION

## " COOPERATE FOR FUTRE OF APP REGION "

THIS TIME SHOULD BE **DIFFERENT**

UNAVOIDABLE **GLOBAL TREND**

APPWeb

**SAFETY = EFFICIENCY**

**GROW TOGETHER**
IN APP REGION

**PLEASE CONTACT MOF OF ROK IF YOU HAVE INTEREST IN APPWEB TESTBED PROJECT !**

Asia-Pan-Pacific Web APPWEB: Web based e-Navigation Testbed

# THANK YOU

## AND Q & A

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