



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **EXECUTIVE SUMMARY**

The primary objective of the Philippine Navy (PN) Information System Strategic Plan (ISSP) is to clearly define its Information and Communication Technology thrust, to map out strategy, and to enumerate specific plans and support activities which can enable the PN to accomplish its core mandate. Recognizing the growing demands for secure and reliable communications, near real-time surveillance, system integration and inter-agency collaboration, the PNISSP CY 2022-2024 is designed to support the accomplishment of Major Final Output (MFO) of the organization that is to conduct Territorial Defense, Security, and Stability Services. It reflects the role of ICT in supporting the operational requirements of PN units. Likewise, the PN shall continue the implementation of organization-wide information and communications systems anchored on the priorities identified in the E-Government Master Plan (EGMP) and the PN Active Archipelagic Defense Strategy (AADS).

This ISSP is the PN's ICT implementing strategy to address the capability requirements for *information assurance* across all levels of command with particular focus on the following mission critical information system services:

1. **C4ISTAR system** - is an activity that synchronizes and integrates the planning and operation of C2 centers, information and communication systems centers/nodes, sensors, assets, processing exploitation & dissemination systems in direct support of current & future operations. In the Philippine Navy this system comprises the following:

a) **Maritime Situational Awareness System (MSAS)** – A system that will collect information from airborne, ship-borne and land-based monitoring systems that will generate maritime picture and enable a nationwide maritime situational awareness.

b) **Common Operating Picture (COP)** – A system that depicts friendly, adversary, and third-party (gray/unknown) force dispositions and contacts on tailored graphical backgrounds. It includes a variety of near real-time friendly and adversary air, ground and maritime tracks, threat/ warning data, and intelligence broadcasts.



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

2. **Cyberspace Operations**- the employment of information and communications technologies to ensure the protection, defense and continuous use of the PN and AFP data networks, exchange of information and denial of cyber attacks.

3. **General Admin and Support Services** – this comprises the core information system services for organizational and resource management.

The PN ISSP 2022-2024 is divided into five (5) parts, namely: Part I–Organizational Profile; Part II–Information Systems Strategy; Part III–Detailed Description of ICT Projects; Part IV – Resource Requirements; and Part V – Development and Investment Program:

1. Part I- provides an introduction of the organization’s mandate, vision, and mission. With the present ICT situation and strategic challenges, proposed ICT system solutions are enumerated to merit the development of PN Information System Strategy Plan for the accomplishment of the Major Final Output.

2. Part II- enumerates and describes the information systems and sub-systems to be developed and the required databases which include a general description of individual information systems, data archiving storage/media that shall comprise the PN enterprise information system.

3. Part III-provides the detailed description of the proposed ICT projects and the priority sub system for CY 2018 to 2020 implementation that is vital to the accomplishment of the Navy’s mission. In order to gauge the output /outcome of the project, a Performance Measurement Framework is systematically crafted.

4. Part IV - enumerates the required ICT equipment for the proposed projects.

5. Part V - summarizes the project development schedule and breakdown of investments.



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**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

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**PART I. ORGANIZATIONAL PROFILE**

**A. DEPARTMENT/AGENCY VISION/MISSION STATEMENT**

**A.1. Mandate**

On May 20, 1898 Aguinaldo had the Philippine flag hoisted on the ship which was allowed by the Americans on Manila Bay to sail from coast to coast. Thus the Magdalo became the first vessel of the Revolutionary Navy and probably the bearer of the Philippine flag, antedating even the flag's first exhibit and proclamation as official symbol of the nation on June 12, 1898, when Aguinaldo formally declared Philippine Independence.

Today, May 20 is celebrated as the foundation day of the Philippine Navy.

**Legal Basis**

Executive Order No. 389 dated December 23, 1950 - created and organized the PN as one of the Major Services of the AFP with primary concerns in operations at sea.

Executive Order 292 (National Defense Preliminary Provisions), Chapter 6 (Armed Forces of the Philippines), Section 35 (Organizational Structure):

*"The AFP shall consist of the General Headquarters; the Major Services namely: the Philippine Army, the Philippine Air Force, the Philippine Navy and, until otherwise provided by law, the Philippine Constabulary; and other existing units, services and commands of the AFP. The Secretary of National Defense may, in accordance with the policies or directives of the President, create additional units, services and commands, or reorganize the AFP in response to any situation or in pursuance of operational or contingency plans. No Major Service may be unfilled, inactivated or merged with another Service, without the approval of the Congress."*



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **Functions**

Under Executive Order 292 (National Defense Preliminary Provisions), Chapter 8 (Major Services), Section 52 (The Philippine Navy) and 53 (Functions):

The Philippine Navy shall be responsible for the naval defense of the Philippines. It shall be organized as prescribed by the Secretary of National Defense, upon recommendation of the Chief of Staff.

The Philippine Navy shall:

- (1) To organize, train, equip, maintain, develop and deploy forces for prompt and sustained naval and maritime operations to accomplish the AFP mission;
- (2) Prepare the necessary naval units for the effective enforcement of all applicable laws upon the Philippine seas and waters, the prosecution of national defense plans and programs and armed forces missions, including the expansion of a peacetime navy component to meet any emergency;
- (3) Formulate and develop doctrines, concepts, systems, policies, procedures, strategies, tactics and techniques for operations peculiar to the Navy;
- (4) Enforce laws and regulations pertaining to navigation safety of life at sea, immigration, customs revenues, narcotics, quarantine, fishing and neutrality of the territory contiguous waters of the Philippines;
- (5) Organize, train and equip all naval reserve units; and
- (6) Perform such other functions as may be provided by law or assigned by higher authorities.



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **A.2. Vision Statement:**

"By 2020, we shall be a strong and credible Navy that our maritime nation can be proud of."

### **A.3. Mission Statement:**

"To conduct prompt and sustained naval and maritime operations in support of the AFP mission."

The Navy's mission is supported by its core values of honor, dedication, patriotism, solidarity, leadership and professionalism.

### **A.4. Major Final Output**

MFO 1: Territorial Defense, Security and Stability Services:

- Maritime Defense and Stability Services
- Force Level Command and Control (C2, Training and Support)
- International Humanitarian Assistance and Peacekeeping Operations
- International Defense and Security Engagement
- Internal Security Operations
- Disaster Response
- Support to National Development
- Maritime Security



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**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

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**PART I. ORGANIZATIONAL PROFILE**

**B. DEPARTMENT/AGENCY PROFILE**

**B.1. Name of Designated IS Planner : CAPT MARCO Y IMPERIO PN(GSC)**

- Plantilla Position : Assistant Chief of Naval Staff for Command and Control, Communications, Cyber, Intelligence Surveillance and Reconnaissance Systems, N6
- Organizational Unit : Philippine Navy
- E-mail Address : imperio.marcos@navy.mil.ph
- Contact Numbers : (02) 522-2376

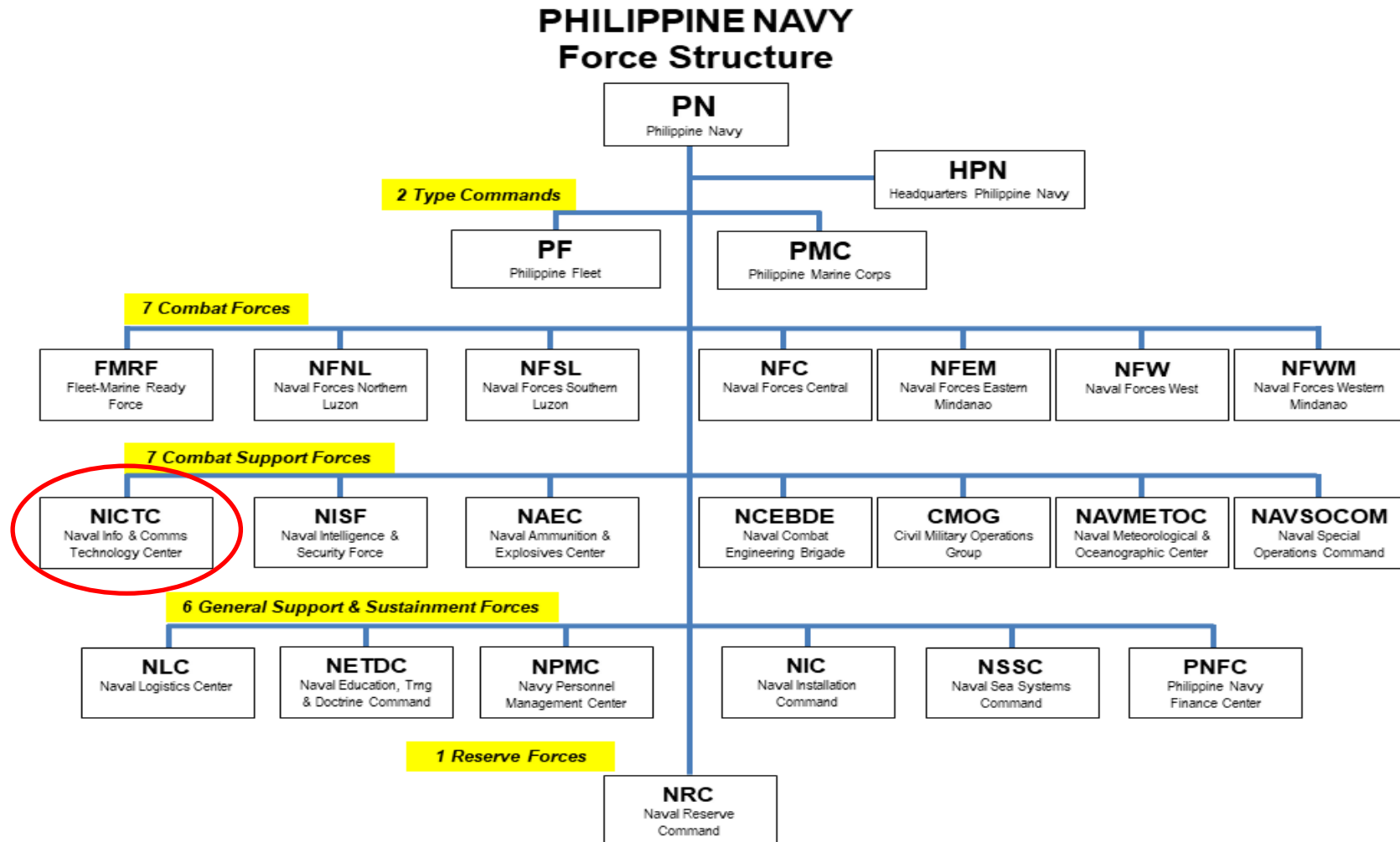
**B.2. Current Annual Budget (Year 2020)**

- General Appropriations Act (GAA) - Php 29,053,943,000.00
  - Information and Communication Equipment (CO) - Php 134,009,000.00
    - 2020 ICT Budget approved thru MITHI - Php 81,633,084.00
- Other Sources of Funds



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

**B.3. Organizational Structure**





## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **PN ORGANIZATIONAL FUNCTION**

#### **2 TYPE COMMANDS**

##### **PHILIPPINE FLEET (PF)**

###### **MISSION:**

Prepare and, as directed, operate assigned forces for Naval Operation in order to support the PN to accomplish its mission.

###### **CAPABILITIES:**

- a. Organize and equip a force-mix of Fleet units for deployment to the Naval Forces.
- b. Trains Fleet units and personnel in all aspects of Naval Warfare.
- c. Maintains the operational readiness of ships, craft, aircraft, and special warfare units.
- d. Provides logical support to sustain the Fleet units on deployment.
- e. Formulate and recommend doctrines, policies, plans and programs.
- f. Manages the distribution, career development, welfare, and discipline of assigned personnel.

##### **PHILIPPINE MARINE CORPS (PMC)**

###### **MISSION:**

Provide combined arms unit for amphibious operations and such other operations in support to the mission of the Philippine Navy.

###### **CAPABILITIES:**

- a. Provide units for amphibious operations.
- b. Provide security to Naval Base and vital Government Installations.
- c. Assist in disaster rescue and relief operations.





## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

- d. Develop techniques, tactics, and doctrines employed by landing force in the amphibious operations.
- e. Support the Navy's role in socio-economic development program of the national government.
- f. Train Marine reservists.

### **7 Combat Forces**

#### **6 NAVAL FORCES**

**Naval Forces Northern Luzon (NFNL-La Union)**

**Naval Forces Southern Luzon (NFSL-Bicol)**

**Naval Forces West (NFW-Palawan)**

**Naval Forces Central (NFC-Cebu)**

**Naval Forces Eastern Mindanao (NFEM-Davao)**

**Naval Forces Western Mindanao (NFWM-Zamboanga)**

#### **MISSION:**

Conduct naval and maritime operations in order to protect and defend the country's maritime areas within its AOR.

#### **CAPABILITIES:**

- a. Conduct PN territorial defense operations in the Naval Forces' AOR.
- b. Conduct ISO in support to ground and air operations.
- c. Exercise operational control over PN units deployed in the AOR.
- d. Direct and supervise on-site training and operations of units in the AOR.
- e. Provide integrated defense and assistance activities to AFP and other government or civilian agencies in the AOR.
- g. Expand the coverage of CMO activities to sea-oriented projects along coastal areas.



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **FLEET-MARINE READY FORCE (FMRF)**

#### **MISSION:**

Conduct naval operations in designated area of operations in order to accomplish the AFP mission.

#### **CAPABILITIES:**

- a. To provide command and control, communications, and intelligence (C3I) to OPCON units.
- b. To conduct internal security operations in support to the UC campaign plan.
- c. To conduct territorial defense operations in maritime area of interest.
- d. To conduct limited disaster response/humanitarian assistance operations
- e. To conduct international defense and security engagement activities.
- f. To conduct training activities to enhance operational readiness of staff and OPCON units
- g. To evaluate naval doctrines formulated for the Fleet through conduct of exercises or study of actual naval operations.
- h. To plan and conduct of unilateral/bilateral/multilateral naval



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **Combat Support, General Support and Sustainment, and Reserve Forces**

#### **NAVAL SEA SYSTEMS COMMAND (NSSC)**

##### **MISSION:**

Conduct depot level maintenance and support of ship systems and to provide CEIS in order to sustain and enhance operational capability of the Philippine Navy.

##### **CAPABILITIES:**

- a. Maintain and operate shipyard facilities in order to provide ship repair services to the PN units afloat, perform ship design and construction activities and development of ship building techniques.
- b. Provide repair, maintenance and field services on shipboard weapons, communication and electronics equipment.
- c. Conduct research and development through maximum utilization of indigenous materials and resources.
- d. Provide, operate and maintain the required communication-electronics and information systems in order to support command and control in the attainment of PN mission.
- e. Operate and maintain limited repair services on communication electronics and computer inventories and networking setup.
- f. Conduct industrial training activities in order to enhance and maintain a pool of technically skilled personnel.

#### **NAVAL EDUCATION, TRAINING, AND DOCTRINE COMMAND (NETDC)**

##### **MISSION:**

Conduct individual training and education to naval personnel in order to provide them with necessary knowledge, skills and attitudes essential in the accomplishments of the Philippine Navy mission.

##### **CAPABILITIES:**



### **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

- a. Provide basic and professional leadership and skills training to Navy personnel.
- b. Develop, evaluate and/or validate naval doctrines and curricula.
- c. Assist and conduct unit training activities of the unit.
- d. Formulate, develop and evaluate doctrines, tactics and procedures in naval warfare.
- e. Administer and advancement and classification of naval personnel.
- f. Administer Naval Station San Miguel.
- g. Conduct rescue and assistance operations in times of calamities.
- h. Print and publish training manuals and publications for the Philippine Navy.

### **NAVAL RESERVE COMMAND (NRC)**

#### **MISSION:**

Organize, train, equip and administer naval reservists in order to provide the Philippine Navy the base for expansion in the event of war, invasion, rebellion or disaster/calamities and to assist in the socio-economic development of the county.

#### **CAPABILITIES:**

- a. Train and develop PN reservists.
- b. Conduct mobilization and assembly test.
- c. Assist in disaster relief, rescue and rehabilitation.
- d. Maintain and update PN Reservists roster.
- e. Assist in socio-economic program of the government.
- f. Conduct accounting and monitoring of PN reservists.
- g. Assist in the operational maintenance of national government facilities when needed.
- h. Implement policies and programs pertaining to retirees and veterans.



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **NAVAL CONSTRUCTION BRIGADE (NCBde)**

#### **MISSION:**

Conduct naval construction and combat engineering in support to the PN mission.

#### **CAPABILITIES:**

- a. Perform specialization tasks in the construction and the rehabilitation of piers, harbors and beach facilities including harbor clearance and salvage work and reclamation.
- b. Prepare architectural/engineering plans and design requirement of the PN including management and supervision.
- c. Construct roads, building structure and facilities of Naval/Marine units and public works project of the national government, when directed.
- d. Conduct Basic Seabees Course for trainees and specialization for EP.
- e. Assist in port services at designated areas in times of emergency or as directed by authorities.
- f. Fortify bases, naval Stations and detachments.
- g. Conduct relief and rescue operations during disaster and calamities.
- h. Reinforce tactical and technical reconnaissance in support to the Naval/Marine and other forces.
- i. Conduct well drilling operation and other specialized constructions.
- j. Fight as infantry in time of emergencies.

### **NAVAL INSTALLATION COMMAND**

#### **MISSION:**

Provide base and combat service support services to PN and AFP tenant units.

#### **CAPABILITIES:**



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

- a. Administer, supervise the construction, repair and maintenance of all building and facilities to include roads, pier and wharves.
- b. Administer, supervise all activities inside Naval Bases on matters pertaining to base defense, security, law enforcement, fire protection and sanitation.
- c. Provide, administer or arrange for port services such as refueling, rewatering, shore power connection, berthing, small boat, ferry tugboat and sludge disposal services.
- d. Provide, administer or supervise messing, club, recreational, athletic, religious postal, commissary, land transportation, educational & other related facilities and services.
- e. Provide, administer, operate and maintain housing facilities, guesthouse, VIP quarters, BOQ's, TOQ's and barracks.
- f. Provide other support services such as refueling and rewatering facilities, ordnance storage, and energy plant, firing range, motor pool, gas stations, band and combo services.



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **NAVAL INFORMATION AND COMMUNICATION TECHNOLOGY CENTER (NICTC)**

#### **MISSION:**

Provide and operate C4ISTAR System in order to support Maritime Situational Awareness, Maritime Operation and Maritime Cooperation of the Philippine Navy

#### **Functions:**

- a. Plan, develop, install, operate, maintain and secure the C4SR systems of the Philippine Navy.
- b. Conduct application development, operation & maintenance.
- c. Provide C4SR Technical Assistance, Support and Services.
- d. Conduct C4SR System's operations, maintenance and repair training.
- e. Conduct research & development on C4SR System.

### **NAVAL INTELLIGENCE AND SECURITY FORCE (NISF)**

#### **MISSION:**

Conduct intelligence and counter intelligence operations in support of the PN mission.

#### **CAPABILITIES:**

- a. Provide domestic intelligence coverage within the territorial jurisdiction of the Philippines to include internal/territorial waters.
- b. Conduct counterintelligence operations to ensure the security of PN personnel, units, installations, facilities and vital documents.
- c. Conduct signal and technical intelligence operations.
- d. Undertake special activities in support of PN strategic objectives.
- e. Conduct intelligence and security training activities.



### **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

- f. Maintain and provide watercraft to support intelligence and counterintelligence operations.
- g. Support and assist in the enforcement of maritime laws and regulations.
- h. Conduct research and development activities to electronics, ordnance and special equipment of intelligence applicability.
- i. Conduct coastal monitoring activities within territorial waters.
- j. Perform other intelligence related tasks as may directed by higher headquarters.

### **PHILIPPINE NAVY FINANCE CENTER (PNFC)**

#### **MISSION:**

Provide prompt and timely financial services in order to contribute to the successful accomplishment of the PN.

#### **CAPABILITIES:**

- a. Process all claims and ensure their validity and propriety prior to payment.
- b. Maintain and operate Naval Finance Service units to provide efficient financial services to all PN units.
- c. Train DOs, SDO's, agent officers, cash tellers and other finance personnel.
- d. Operate and maintain the PN payroll system to include the distribution of pay and allowances to PN personnel.
- e. Operate and maintain computer application under the PNFC Information System.
- f. Conduct minor repair and maintenance of facilities, and vehicles.
- g. Conduct perimeter defense of installation utilizing individual weapons.

### **NAVAL LOGISTIC CENTER (NLC)**

#### **MISSION:**

Provide responsive and sustained logistic support to PN units.





## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **CAPABILITIES:**

- a. Determine the supply requirements of the PN.
- b. Maintain inventory within the establish level of supply.
- c. Procure, receive, store, issue, account and dispose supply and materials.

### **HEADQUARTERS PHILIPPINE NAVY & HEADQUARTERS SERVICE GROUP (HPN & HSG)**

#### **MISSION:**

Provide administrative and service support to HPN.

### **CAPABILITIES:**

- a. Provide administrative and service support to HPN.
- b. Provide security, intelligence and camp defense of HPN complex and its environs.
- c. Supervise the maintenance and repair of building, wharfs, ground and other facilities at HPN complex.
- d. Plan, coordinate and supervise activities pertaining to port services at HPN and enforcement of port rules and regulations.
- e. Provide a company of organic and attached elements to perform honors, ceremonies and escort duties.
- f. Provide limited medical and dental services.
- g. Maintain, operate and supervise special service activities/facilities at HPN
- h. Procure, store and issue supplies and materials for HPN offices.
- i. Perform other functions as directed by competent authority.

### **CIVIL MILITARY OPERATIONS GROUP (CMOG)**

#### **MISSION:**

Provide Civil Military Operations in order to support the Philippine Navy in the accomplishment of its mission.



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **CAPABILITIES:**

- a. Conducts Humanitarian Civil Assistance (HCA) in urban and remote areas to support the program of the Government in coordination with the Local Government Agencies/Units;
- b. Conducts Inter-Agency Coordination to support operational level requirements;
- c. Conducts information-related activities directed to the external public to ensure a clear, accurate and timely dissemination;
- d. Formulate and conducts production of Counter Propaganda materials;
- e. Develop and conducts counter propaganda activities;
- f. Conducts Research and Special Studies in Relation to Civil Affairs, Public Affairs and PSYOPS activities; and
- g. Conduct CMO training.

### **NAVAL PERSONNEL MANAGEMENT CENTER (NPMC)**

#### **MISSION:**

To provide human resource management services in support to the Philippine Navy Mission.

#### **CAPABILITIES:**

- a. Manage the PN personnel recruitment program;
- b. Manage progressive career of officers, enlisted personnel, civilian employees, and reservists;
- c. Manage the PN retention program;
- d. Provide information management services; and
- e. Provide personnel management for assigned personnel.



## INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024

### B.3. Organizational Structure

• Total No. of Employees	25,878 (as of 2020)
• Total No. of Type Commands	<u>2</u>
• Total No. of Combat Forces	<u>7</u>
• Total No. of Combat Support Forces	<u>7</u>
• Total No. of General Support and Sustainment Forces	<u>6</u>
• Total No. of Reserve Forces	<u>1</u>

### Recapitulation of Total Personnel (CY 2020)

UNIT	Line Officer	EP	TAS Officer	Civilian Employee	TOTAL
Type of Commands					
Philippine Fleet	830	4370	3	34	<b>5,237</b>
Philippine Marine Corp	652	8611	5	11	<b>9,279</b>
Combat Forces (Regional Offices)					
Naval Forces Northern Luzon	26	60	1	11	<b>98</b>
Naval Forces Southern Luzon	25	60	1	9	<b>95</b>
Naval Forces Central	25	60	1	10	<b>96</b>
Naval Forces West	26	60	1	11	<b>98</b>
Naval Forces Eastern Mindanao	25	60	1	5	<b>91</b>
Naval Forces Wester Mindanao	28	60	1	15	<b>104</b>
Fleet-Marine Ready Force	32	66	0	4	<b>102</b>
Combat Support, General Support and Sustainment, and Reserve Forces					
Naval Installation Command	327	1490	280	271	<b>2,368</b>



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

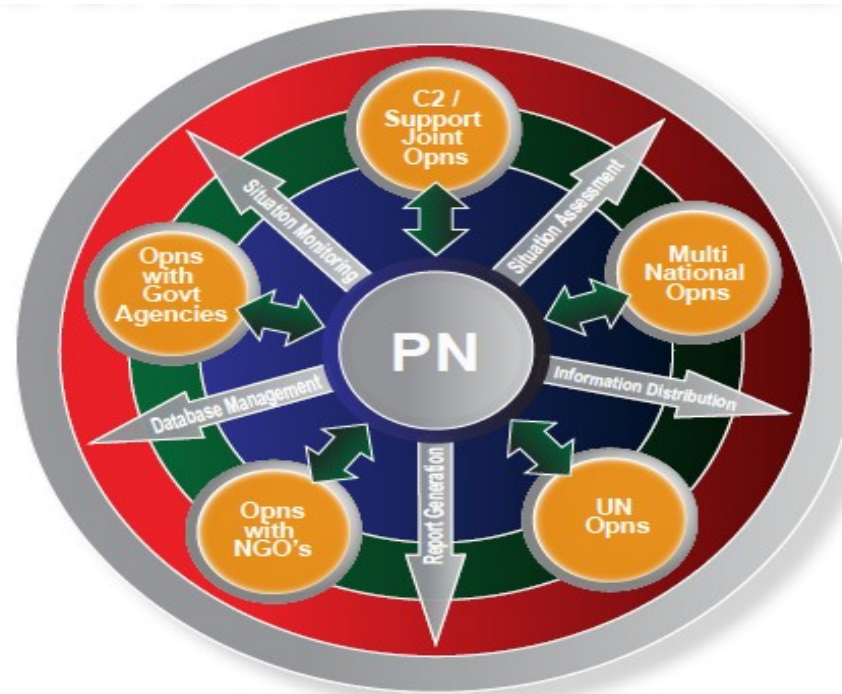
<b>UNIT</b>	<b>Line Officer</b>	<b>EP</b>	<b>TAS Officer</b>	<b>Civilian Employee</b>	<b>TOTAL</b>
Naval Construction Brigade	90	630	1	24	<b>745</b>
Naval Education, Training, and Doctrine Command	82	198	6	39	<b>325</b>
Attached/Unassigned NETDC	180	640	0	0	<b>820</b>
Naval Reserve Command	68	371	1	8	<b>448</b>
Naval Sea Systems Command	110	460	1	246	<b>817</b>
Civil Military Operations Group	47	234	0	4	<b>285</b>
Headquarters Philippine Navy	234	454	18	184	<b>890</b>
Naval Info and Communication Tech. Center	55	291	0	77	<b>423</b>
Naval Intelligence and Security Force	68	390	0	76	<b>534</b>
Naval Logistics Center	46	111	1	50	<b>208</b>
Philippine Navy Finance Center	43	105	0	21	<b>169</b>
Naval Personnel Management Center	28	50	0	0	<b>78</b>
Other Units					
Receiving Station Philippine Navy	45	131	0	0	<b>176</b>
General Headquarters/ Unified Commands/ AFP-Wide Service Support Units (GHQ/UCs/AFPWSSUs)	339	2053	0	0	<b>2,392</b>
<b>TOTAL</b>	<b>3,431</b>	<b>21,015</b>	<b>322</b>	<b>1,110</b>	<b>25,878</b>



## INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024

### PART I. ORGANIZATIONAL PROFILE

#### C. THE DEPARTMENT / AGENCY AND ITS ENVIRONMENT (FUNCTIONAL INTERFACE CHART)



*PN Operations Center Manual*

Pre-Crisis Situation   Situation Development   Crisis Response & Recovery   Post Crisis

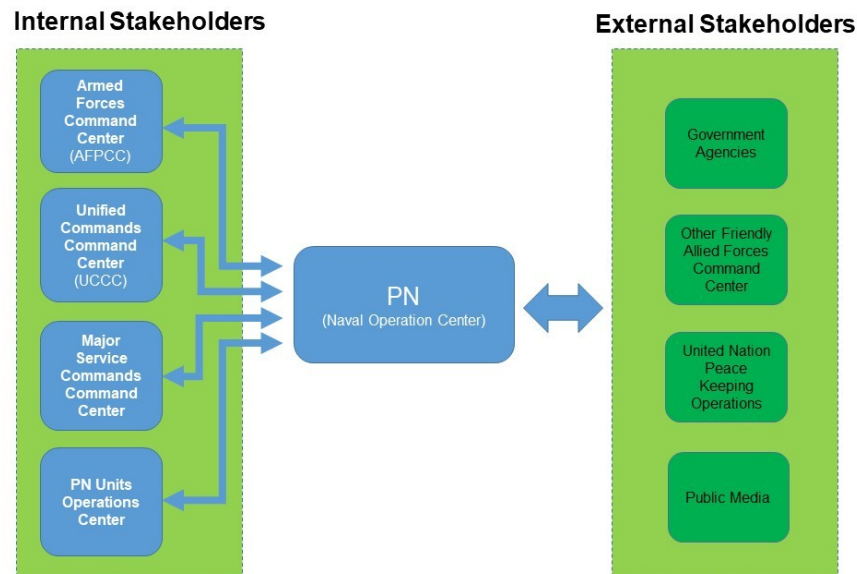
The Philippine Navy (PN) supports the AFP in the accomplishment of its mission particularly in the maritime environment. It provides situation assessment, situation monitoring, information distribution, report generation and database management in the conduct of joint, multi-national, United Nations and inter-agency operations. This information services are continuously provided from pre-crisis situation monitoring to post-crisis assessment.



## INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024

In addition, the C4ISTAR Manual provides the operational relationship of the Philippine Navy to its internal and external stakeholders. The integrated information from the C4ISTAR Systems is shared with AFPCC, Unified Commands, Major Services and Naval Forces operations centers. Moreover, the PN through its Naval Operation Center (NOC) functions as the point of contact with the regional naval allies, other government agencies, and public media (*see illustration below*).

### PN Operational Relationship



This operational relationship is inscribed in Maritime Cooperation (MC), which is one of the strategic concept of the PN operational strategy. The Maritime Cooperation supports the military, diplomatic, and constabulary role of the Philippine Navy. In a domestic milieu, this involves engaging the agencies of the government and the private sector. In a diplomatic role, MC functions through a system of alliances, multilateral regimes, or bilateral engagements which



### **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

the Philippine government is involved in. On the other hand, MC in a military role involves the development of both military and non-military means and measures by engaging other major military service units in the conduct of joint operations.

Relative thereto, MC is the force multiplier of the other strategic concepts by encouraging partnership across services, agencies, regional partners, or stakeholders, the process of arriving at solutions to security concerns is strengthened, risks are mitigated success is ensured, and gains are maintained. Hence, ICT support is imperative for the successful implementation of the PN operational strategy.



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**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

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**PART I. ORGANIZATIONAL PROFILE**

**D. PRESENT ICT SITUATION (STRATEGIC CHALLENGES)**

**B.**

**C.**

**D.**

**D.1. Mission Critical Services**

In line with the institutionalization of the Active Archipelagic Defense Strategy (AADS), the Philippine Navy is shifting majority of its ICT resources to provide support for Maritime Situational Awareness and Command and Control while sustaining current information systems for administration and office automation process in support to PN maritime operations and cooperation. The following are significant mission-essential services leveraged by ICT systems:

1. C4ISTAR system - is an activity that synchronizes and integrates the planning and operation of C2 centers, information and communication systems centers/nodes, sensors, assets, processing exploitation & dissemination systems in direct support of current & future operations. This is basically an integrated intelligence and operations function supported ably by C4ISTAR systems. The goal is to provide accurate, relevant and timely information/ intelligence to decision makers and information workers alike. C4ISTAR is the lifeblood of effective decision making and information exchange. Its components are the following:

- a. Command & Control (C2) system – arrangement of personnel, facility that enable the commanders to direct and control forces under him.
- b. Communications – consist of long range and short, wired or wireless communications equipment and terminals for voice, data and video exchange.





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## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

c. Cyber - is a global domain within the information environment consisting of the interdependent network of information technology infrastructures and resident data, including the Internet, telecommunications networks, computer systems, and embedded processors and controllers.

d. Intelligence, Surveillance & Reconnaissance (ISR) system – refers to the deployment and operation of sensors that are linked to provide information on things, environment, enemy, terrain etc. to support current and future operations.

2. General Admin and Support Services – this comprises the core information system services for personnel management, financial management, logistical, ship & yards, hospital operations management, messaging system, internet service, web hosting and office automation.

### **MITHI Projects Implementation**

C4ISR system fuses and integrates information from surveillance operations and other means to support operational level decision-making. The PN implemented various mission essential ICT projects funded by the Medium-term IT Harmonization Initiative (MITHI) of the Government. These projects are key enablers of the C4ISR Systems with the following capabilities:

a. Establish and Maintain Common Maritime Operating Picture - The realization of Naval Operation Reporting System (NORS) project integrates and automates the reporting of individual status and operating condition of all deployed naval ships, aircraft and marine units. The system provides the commanders with timely situational awareness and common operating picture for decision making.

b. Collect Data through All-Source Information Systems – The deployment Asset Tracking System as part of the NORS project allows real-time monitoring of PN's surface, ground, and air assets. To supplement this capability is the establishment of Naval Systems Engineering Management IS (NSEMIS) which monitors and manages the PN's newly acquired surface assets. The NSEMIS also provides an optimize fleet administration, planned maintenance, inventory control, purchasing, safety, quality and environment and document management in order to achieve cost efficiency in maintenance and repair implementation.



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**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

c. Provide Secured Network Support to Operating Units – The continues enhancement of the PN Closed Network (Red Net) and the Controlled Public Network (Gray Net) paved the way for the effective management of PN desktop computers, laptop computers, servers, network devices, and other IT assets. The deployment of enterprise firewall, Network Access Controller (NAC), Public Key Infrastructure (PKI), SIEM, and other network security equipment significantly improved the security of PN Information Infrastructure.

d. Platform for inter-agency collaboration and partner nation engagement - The acquisition of Licensed Enterprise Zimbra Mail thru the Email Enhancement project enables the PN personnel to communicate or exchange correspondence, letters, and files with other government agencies, private institutions, and partner nations with adequate level of security.

**B.**

**C.**

**D.**

**D.1.**

**D.2. Office Automation**

- Personnel Records Automation - The PN developed the Integrated Personnel Management System (IPMS) to automate and improve human resource processes and other recurring reports. The IPMS integrates applications, modules and databases from different functional units/offices. Apart from the need to sustain the vital information system, it also requires continuous modification and enhancement.

- Email and Instant Messaging – The PN Email Messaging and the PNC2 Messenger System are two widely utilized information systems which allow data communication among PN units, offices, and Personnel. The PN was able to improve the functionalities of its email messaging through acquisition of the Enterprise version funded by the MITHI.



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

### **D.3. Web Presence**

The PN website (**[www.navy.mil.ph](http://www.navy.mil.ph)**) serves as a potent conduit of information for all programs and activities your navy is undertaking to best serve the people. The PN website provides information regarding the latest news and events in the PN, transparency seal, recruitment information, procurement bulletins, wellness information, Flag Officer in Command information, PN mission and vision, PN organization, and contact information. In addition to showcasing websites, the PN is also delivering citizen-centric web services such as the Procurement Information System (PrISM) which allows the public to monitor the progress of PN projects and procurements in an effort to promote transparency and prevent corruption. Every day these web applications are faced with a sizeable number of network intrusion attempts with few who were able to gain access with malicious intent.

### **D.4. ICT Training and Literacy**

The Technical personnel of the PN continuously advance in the field of ICT through intensive and up-to-date trainings. Cybersecurity related seminars are also conducted regularly to all PN Units in order to raise awareness on the current cyber threat landscape.

### **D.5. Computer Ratio/ Density**

Almost all PN Ships, units, and offices are equipped with computers for data communication, operational use, and administrative matters. The PN Offices has a ratio of 1 computer for every 2 users with most of these computers are obsolete or installed with unlicensed software; however, after acquisition of brand new computers from the MITHI, most offices are now having a ratio of 1:1 with improved productivity because of computer performance. While limited computer availability presents a fundamental challenge, the organization is faced with even greater difficulty in sustaining software licenses, internet subscription, and firewall subscription.

### **D.6. Cybersecurity**



## **INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

The PN's adoption of cyberspace as one of the domains of operations expands the role of NICTC – the PN unit primarily responsible for ICT related activities – to include cyberspace operation missions. Currently, several PN personnel slowly transitioned from their present skillset into cybersecurity field. However, it still lacks the workforce to meet the demand for cybersecurity.

### **PART I. ORGANIZATIONAL PROFILE**

#### **E. STRATEGIC CONCERNS FOR ICT USE**



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

<b>MAJOR FINAL OUTPUT</b>	<b>CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS</b>	<b>PROBLEMS</b>	<b>INTENDED USE OF ICT</b>
<b>MFO1 :</b> Territorial Defense, Security, and Stability Services	<b>Maritime situational awareness</b> <ul style="list-style-type: none"><li>▪ Monitor surface, sub-surface, air, land based object of interest</li><li>▪ Track all assets Monitor and analyze events and incidents</li></ul>	<b>Situation Monitoring:</b> <ul style="list-style-type: none"><li>a. Limited capabilities to persistently monitor key maritime traffic areas</li></ul>	<b>C4ISTAR System:</b> Littoral Monitoring System (LMS) for Maritime Situational Awareness System (MSAS) : <ul style="list-style-type: none"><li>▪ To monitor maritime traffic by establishing and operating LMS stations along North, WPS, ASL and Sulu sea that are capable of:<ul style="list-style-type: none"><li>○ RADAR detection</li><li>○ AIS</li><li>○ Visual / EOS</li><li>○ Identification</li><li>○ Secured Comms</li></ul></li></ul>



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

<b>MAJOR FINAL OUTPUT</b>	<b>CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS</b>	<b>PROBLEMS</b>	<b>INTENDED USE OF ICT</b>
<b>MFO1 :</b> Territorial Defense, Security, and Stability Services	<b>Maritime situational awareness</b> <ul style="list-style-type: none"><li>▪ Monitor surface, sub-surface, air, land based object of interest</li><li>▪ Track all assets</li><li>▪ Monitor and analyze events and incidents</li></ul>	<b>Situation Monitoring:</b>  b. Limited capabilities of Navy vessel to detect, identify and communicate sea contact information to HHQs.  <b>Information Distribution and Report Generation:</b>  Limited connectivity of MSA platforms and operation centers for prompt reporting and information distribution	<b>C4ISTAR System:</b> Surface ISR and Airborne ISR for Maritime Situational Awareness System (MSAS): <ul style="list-style-type: none"><li>▪ Enhance capability of Navy vessel to detect and identify sea contact capable of:<ul style="list-style-type: none"><li>○ RADAR detection</li><li>○ AIS</li><li>○ Visual / EOS Identification</li><li>○ Secured Comms</li></ul></li></ul> To achieve integrated C2 of remote LMS and platform through applicable military and COTS communication systems



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

MAJOR FINAL OUTPUT	CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS	PROBLEMS	INTENDED USE OF ICT
<b>MFO1 :</b> Territorial Defense, Security, and Stability Services	<b>Maritime situational awareness</b> <ul style="list-style-type: none"> <li>Monitor surface, sub-surface, air, land based object of interest</li> <li>Track all assets</li> <li>Monitor and analyze events and incidents</li> </ul>	<b>Situation Assessment:</b> <ul style="list-style-type: none"> <li>a. Lack of global/ regional maritime information about presence, movement and identity of ships entering/ exiting Philippine territorial waters</li> </ul>	<b>C4ISTAR System:</b> Naval Operation Reporting System (NORS) <ul style="list-style-type: none"> <li>COP-GIS</li> <li>COP-Tracking System</li> <li>Event Management System</li> </ul> <p>To aid in correlating and verification of detected sea contacts through subscription of Online Maritime Traffic Data</p>
		<ul style="list-style-type: none"> <li>b. Different and Non-interoperable tracking systems</li> </ul>	<p>To integrate different tracking systems into one (1) COP</p>
		<ul style="list-style-type: none"> <li>c. No real-time / near real-time battle space awareness to monitor deployed unit /platform sensor operations.</li> </ul>	<p>To enable and ensure automated and integrated track data exchange among deployed units/platforms</p>



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

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<b>MFO1 :</b> Territorial Defense, Security, and Stability Services	<b>Maritime situational awareness</b> <ul style="list-style-type: none"><li>▪ Monitor surface, sub-surface, air, land based object of interest</li><li>▪ Track all assets</li><li>▪ Monitor and analyze events and incidents</li></ul>	<b>Report Generation:</b>  Non-responsive and under-utilized current Geographic Information System (GIS)	<b>C4ISTAR System:</b> To develop a customized GIS application that will provide Naval Operation Reporting System (NORS) and COP capability for the PN
	<b>Video, data and voice communications</b> <ul style="list-style-type: none"><li>▪ Provide means of command and control</li><li>▪ Reporting of events and incidents through data, voice, and video at levels of command</li></ul>	<ul style="list-style-type: none"><li>▪ Out-dated and standalone PN-wide VTS equipment</li><li>▪ Lack of reliable communications support systems for directing PN ships, aircrafts and marine troops operations</li></ul>	<b>C4ISTAR System:</b> <ul style="list-style-type: none"><li>▪ Enhance the PN – wide <b>Video Teleconferencing System (VTS)</b></li></ul>





INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024

MAJOR FINAL OUTPUT	CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS	PROBLEMS	INTENDED USE OF ICT
	<b>Video, data and voice communications</b> <ul style="list-style-type: none"><li>▪ Provide means of command and control</li><li>▪ Reporting of events and incidents through data, voice, and video at levels of command</li></ul>	<ul style="list-style-type: none"><li>▪ Limited secured communications linkages between KIG islands, Operations Centers and other PN units</li><li>▪ Limited power availability for communications system linkages between KIG islands, Operations Centers and other PN units</li></ul>	<ul style="list-style-type: none"><li>▪ <b>Rapidly deployable communications platforms</b> capable of establishing an on-site operation center for directing naval operations and joint/ inter-agency operations</li><li>▪ <b>Secured Communications System</b> through acquisition of secured tactical radio</li><li>▪ <b>Global System for Mobile Communications</b></li><li>▪ <b>Hybrid Power System</b> to ensure availability of communications</li></ul>



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

<b>MAJOR FINAL OUTPUT</b>	<b>CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS</b>	<b>PROBLEMS</b>	<b>INTENDED USE OF ICT</b>
<b>MFO1 :</b> Territorial Defense, Security, and Stability Services	<b>Video, data and voice communications</b> <ul style="list-style-type: none"><li>▪ Provide means of command and control</li><li>▪ Reporting of events and incidents through data, voice, and video at levels of command</li></ul>	<ul style="list-style-type: none"><li>▪ Limited data communications linkages between KIG islands, Operations Centers and other PN units</li><li>▪ Difficulty in acquiring and sustaining expensive cost of VSAT and INMARSAT services</li><li>▪ Limited Campus Area Network due to widely dispersed buildings for training, administration and support services</li></ul>	<b>Satellite Communication System:</b> <ul style="list-style-type: none"><li>▪ Ensure reliable communications through acquisition of VSAT equipment</li><li>▪ Continuous request for VSAT and INMARSAT sustainment fund</li><li>▪ Utilization of G-Sat and other low-cost Ku/Ka band satellite services</li><li>▪ Enhance the Internet access and information exchange training institution</li></ul>



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

<b>MAJOR FINAL OUTPUT</b>	<b>CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS</b>	<b>PROBLEMS</b>	<b>INTENDED USE OF ICT</b>
	<b>Video, data and voice communications</b>	Depreciated security level of PN red network due to inter-linkages with the PN ships using commercial satellite	<b>Virtual Private Network System</b> by acquisition and deployment of enterprise firewalls and hardware-based encryptors.
<b>MFO1 :</b> Territorial Defense, Security, and Stability Services	<b>Video, data and voice communications</b>	No interconnectivity between local telephone exchange and VOIP	<b>Telephone Exchange System</b> through acquisition of VOIP gateway appliance to interconnect IP PBX and analog telephone lines
	<b>Cyberspace Operations</b> - To gain and maintain freedom of action in cyberspace.	Constant exposure to the threats from cyberspace targeting PN infrastructure and users	To harden PN network security through the development of domain services, access control and acquisition of servers, operating systems and endpoint securities



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

MAJOR FINAL OUTPUT	CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS	PROBLEMS	INTENDED USE OF ICT
<b>MFO1 :</b> Territorial Defense, Security, and Stability Services	<b>Cyberspace Operations</b> To gain and maintain freedom of action in cyberspace.	Vulnerable computer systems and unpatched software.	Acquisition of software licenses to avail security updates and critical patches.
		Difficulty in securing interconnected networks of fleet-marine units	To establish an enterprise class network with end to end security solution among PN units
		Potential threat associated with interfacing with the networks of other government agencies	To ensure information security through the upgrade of Network Firewalls and Network Access Control (NAC) systems
		Insufficient hardware resources to accommodate additional websites and web applications	<b>Web Hosting System</b> through acquisition of additional servers and employment of virtualization software for hardware maximization



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

<b>MAJOR FINAL OUTPUT</b>	<b>CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS</b>	<b>PROBLEMS</b>	<b>INTENDED USE OF ICT</b>
General Administration Support service	PN personnel administration and management	Separate and stand-alone Personnel Records and Pay and Allowance Systems	Enhanced PN Integrated Personnel Management System
		Outdated Order Issuance, Clearance and Personnel Records Management	Enhanced PN Centralized Clearance System
	Administration and management of properties, supply, and logistics (Logistics Support)	Incomplete Integrated Logistics Management Information System (ILMIS)	Fully-functional Logistics Management System (LogMS) through continued software development
	Administration and management of ships and yards activities (Ships and Yards Support)	Outdated PN Ships & Yards Management Information System (SYMIS)	Upgrading to PN System Engineering Management Information System (SEMIS)



**INFORMATION SYSTEMS STRATEGIC PLAN (ISSP) 2022 - 2024**

<b>MAJOR FINAL OUTPUT</b>	<b>CRITICAL MANAGEMENT/OPERATING /BUSINESS SYSTEMS</b>	<b>PROBLEMS</b>	<b>INTENDED USE OF ICT</b>
General Administration Support service	Management and administration of medical services (Medical and Health Support)	Lacks the features and functionalities needed for Naval Hospital operation	Development of the Medical Information Computerized System interoperable with the DOH's HOMIS application
	Management and administration of naval education and training (Education and Training Support)	Non-availability of electronic library system for the centralized storage of PN manuals, policies, doctrines and other references	Development of Learning Management System
		Limited workstation for training	Enhance PN Personnel computer training