



# Information Network for Maritime Traffic Safety and Security

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# Causal Factors of Maritime Casualty



# Vulnerability of Maritime Safety and Security

◀ Isolated from information

◀ Isolated from resources

◀ Isolated from cooperation

◀ depended on sea condition

Maritime  
Disaster

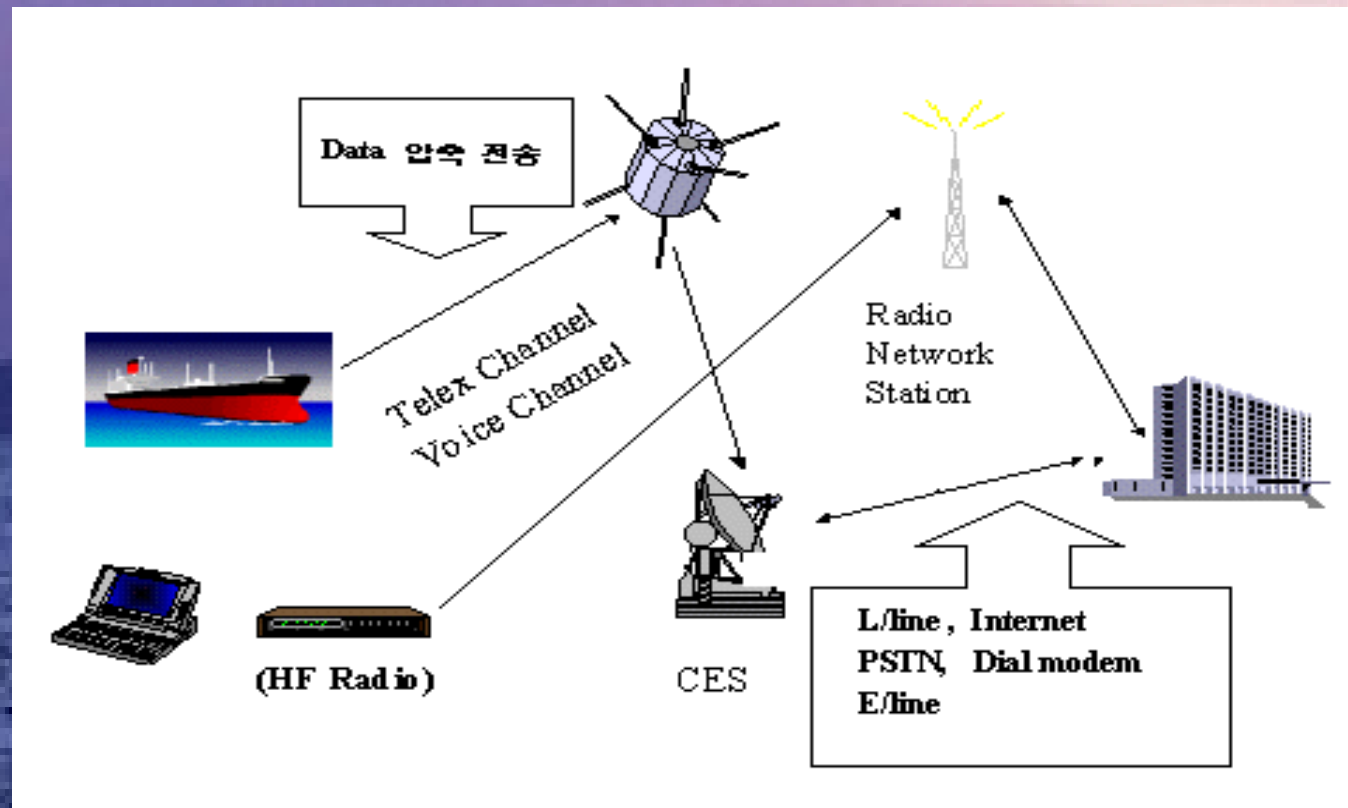
Life

Property

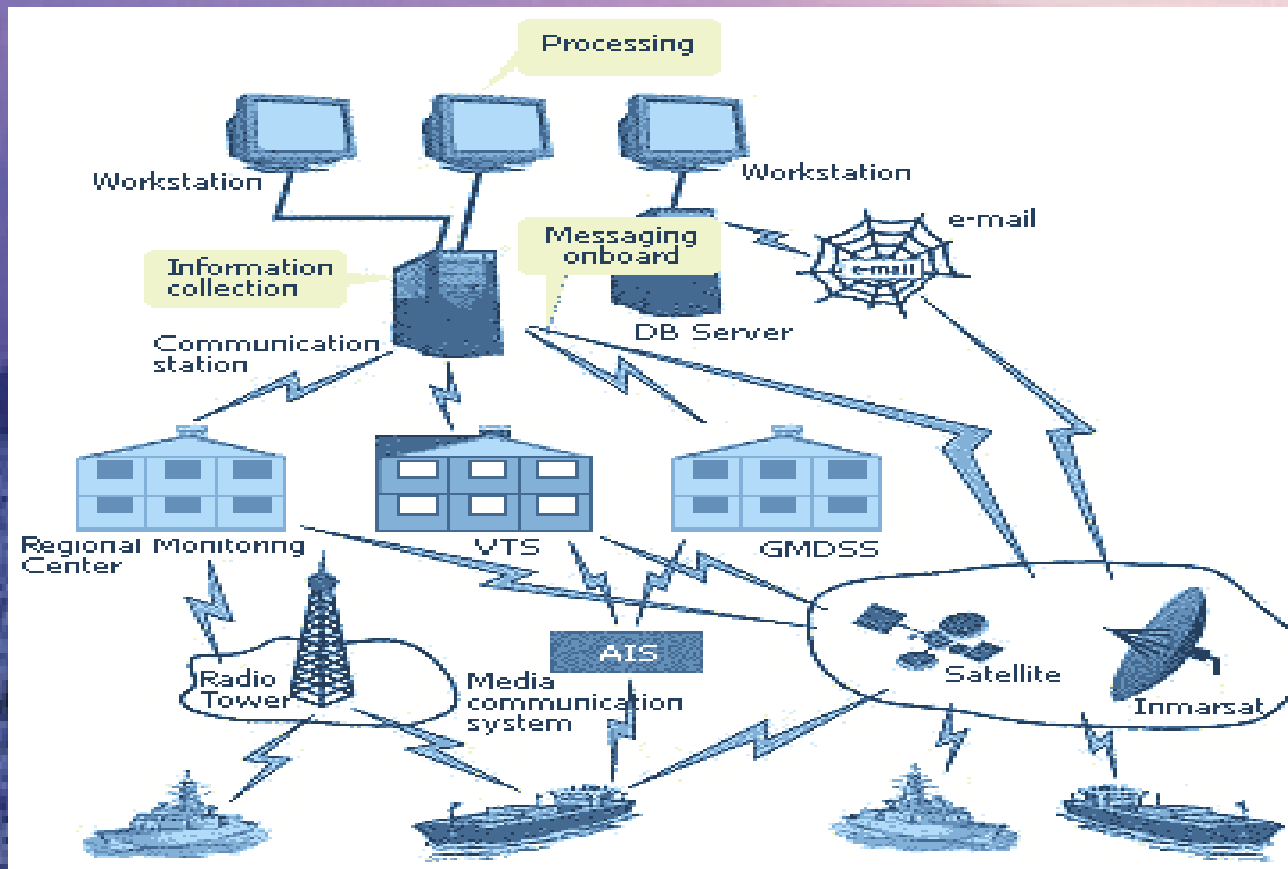
environment

Integrated network for maritime traffic safety and security

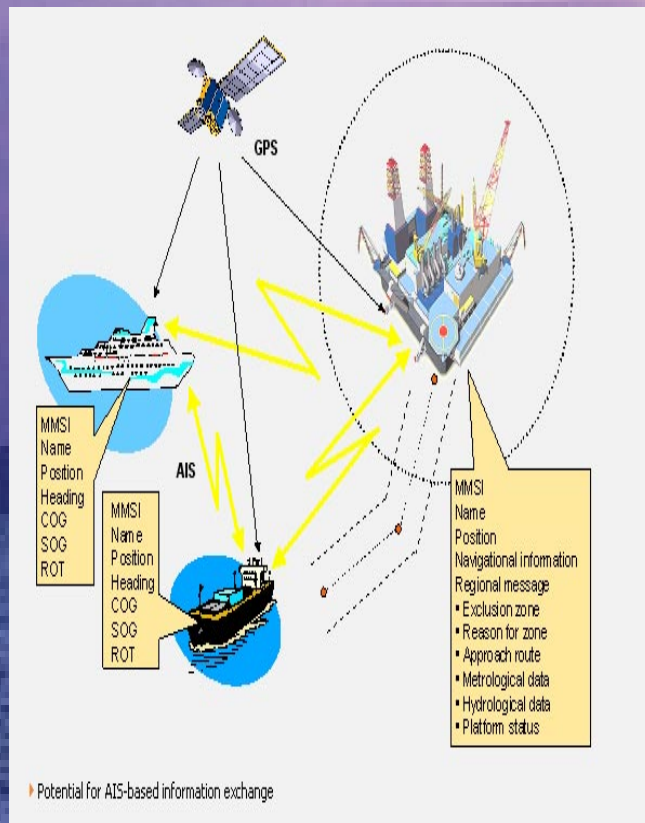
# Information Infrastructure for ship



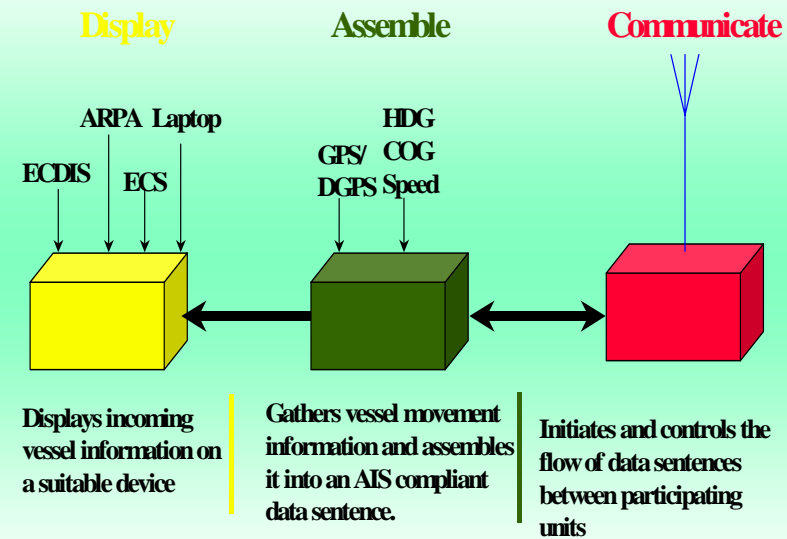
# Ship Monitoring System



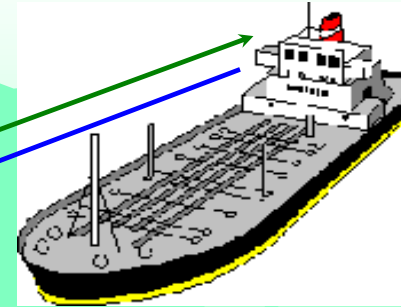
# Automatic Identification System



## AIS Elements

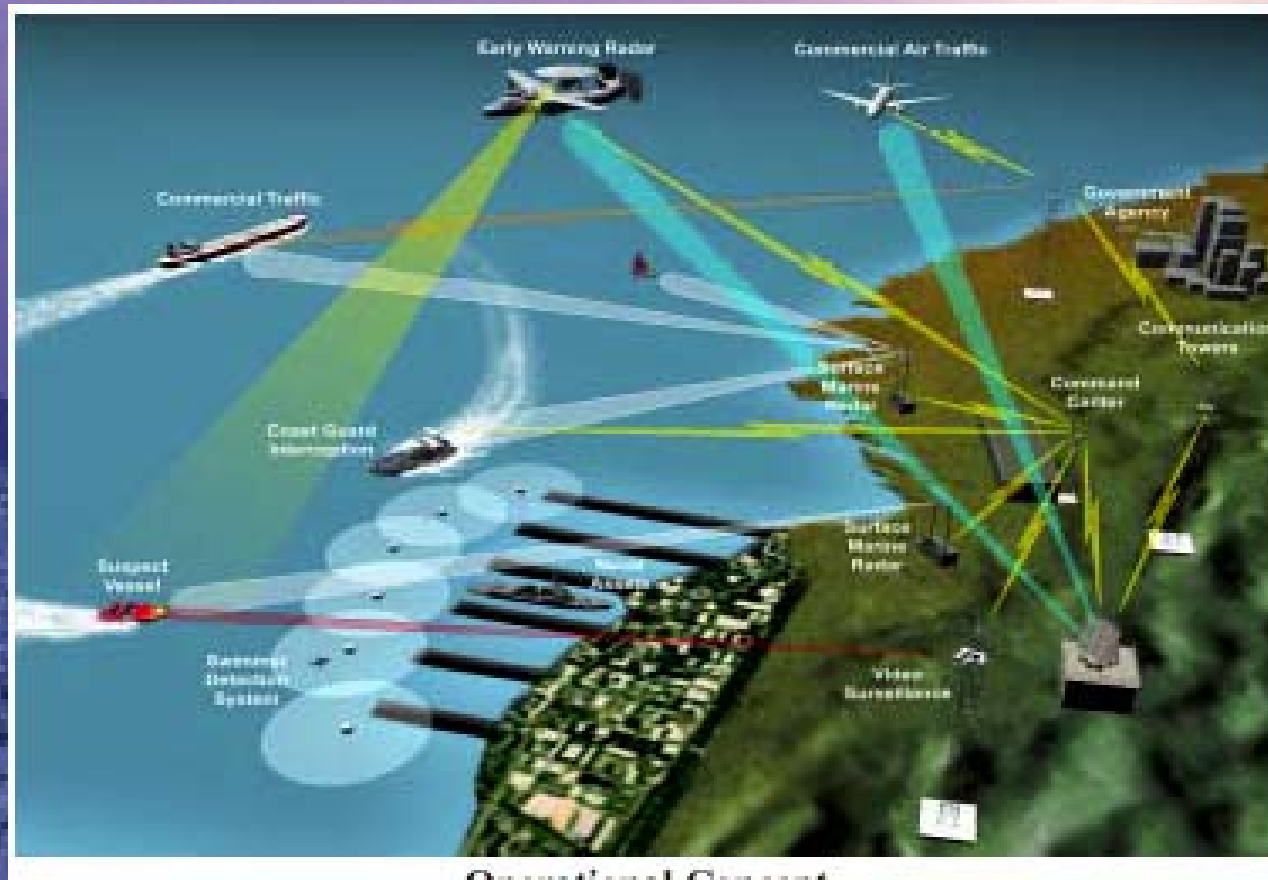


# Ship To Ship AIS



- Raises safety across the board
- Most desired feature
- Provides situational presentation on bridge
- Technology exists
- Product evolving

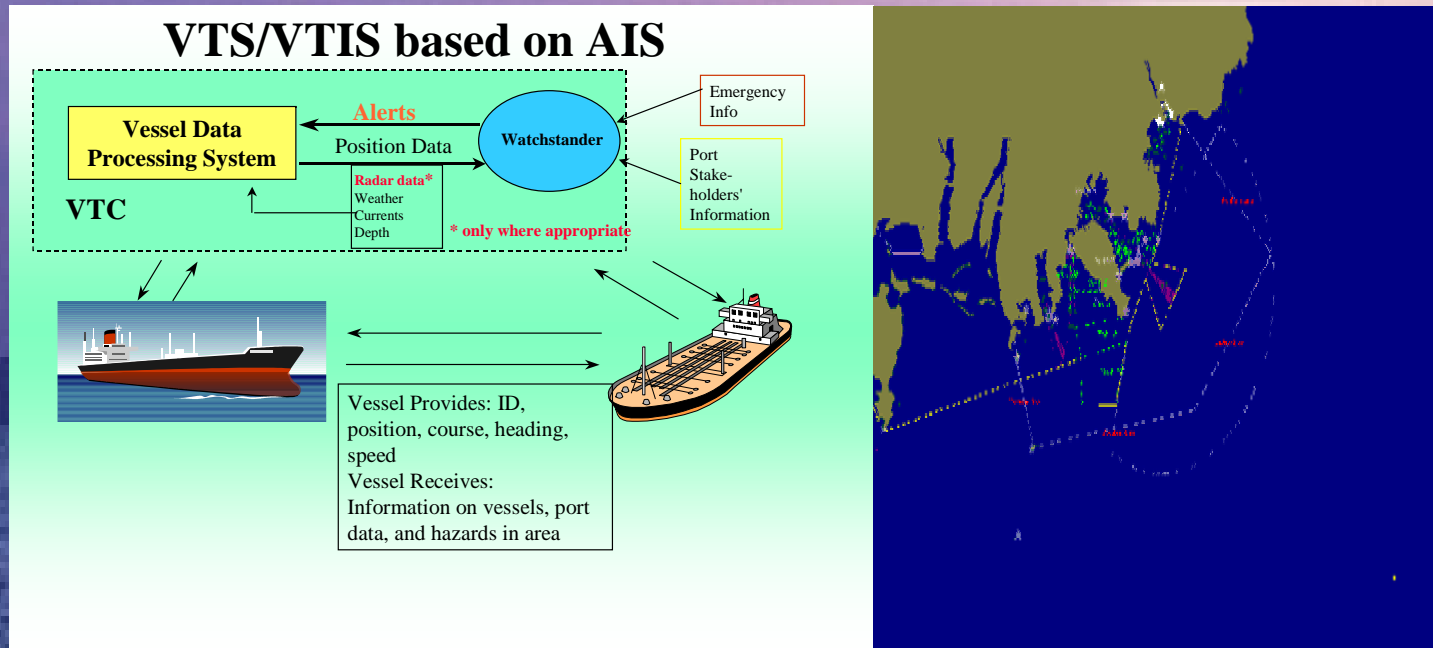
# Maritime Security System



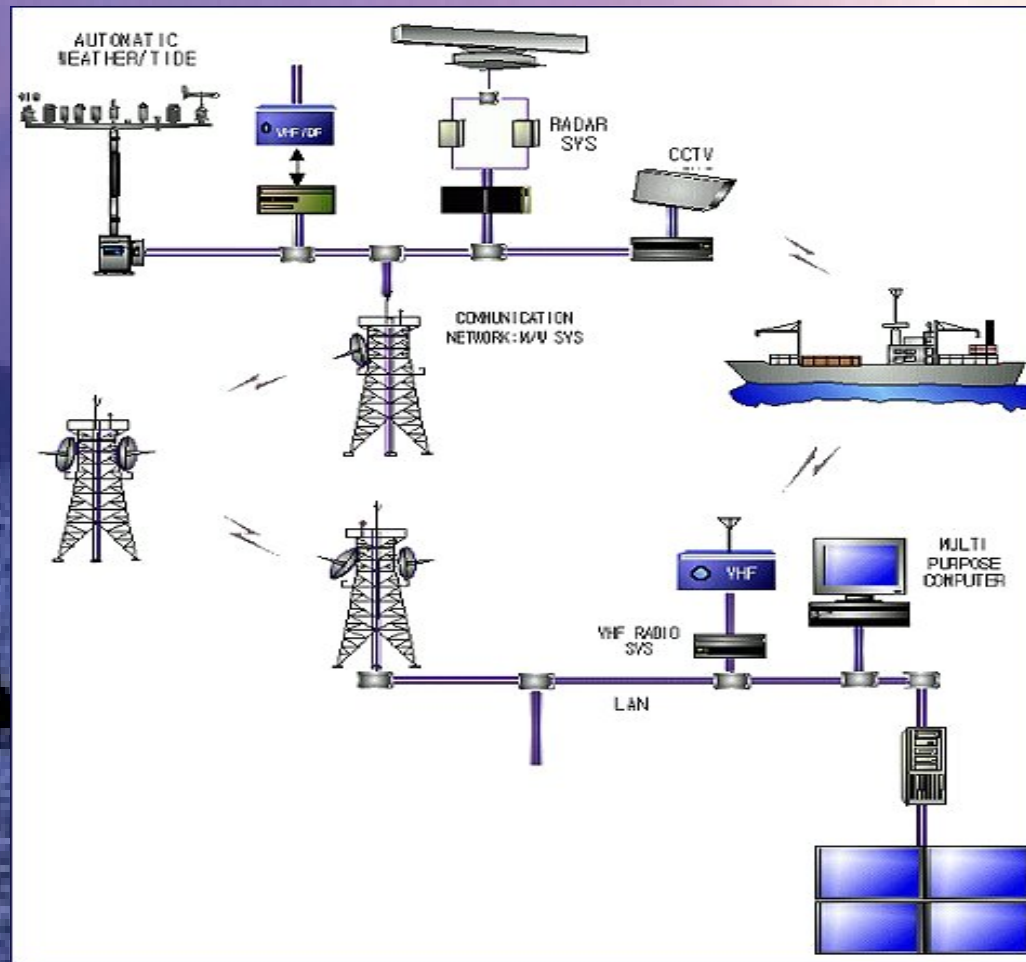


# Vessel Traffic Service

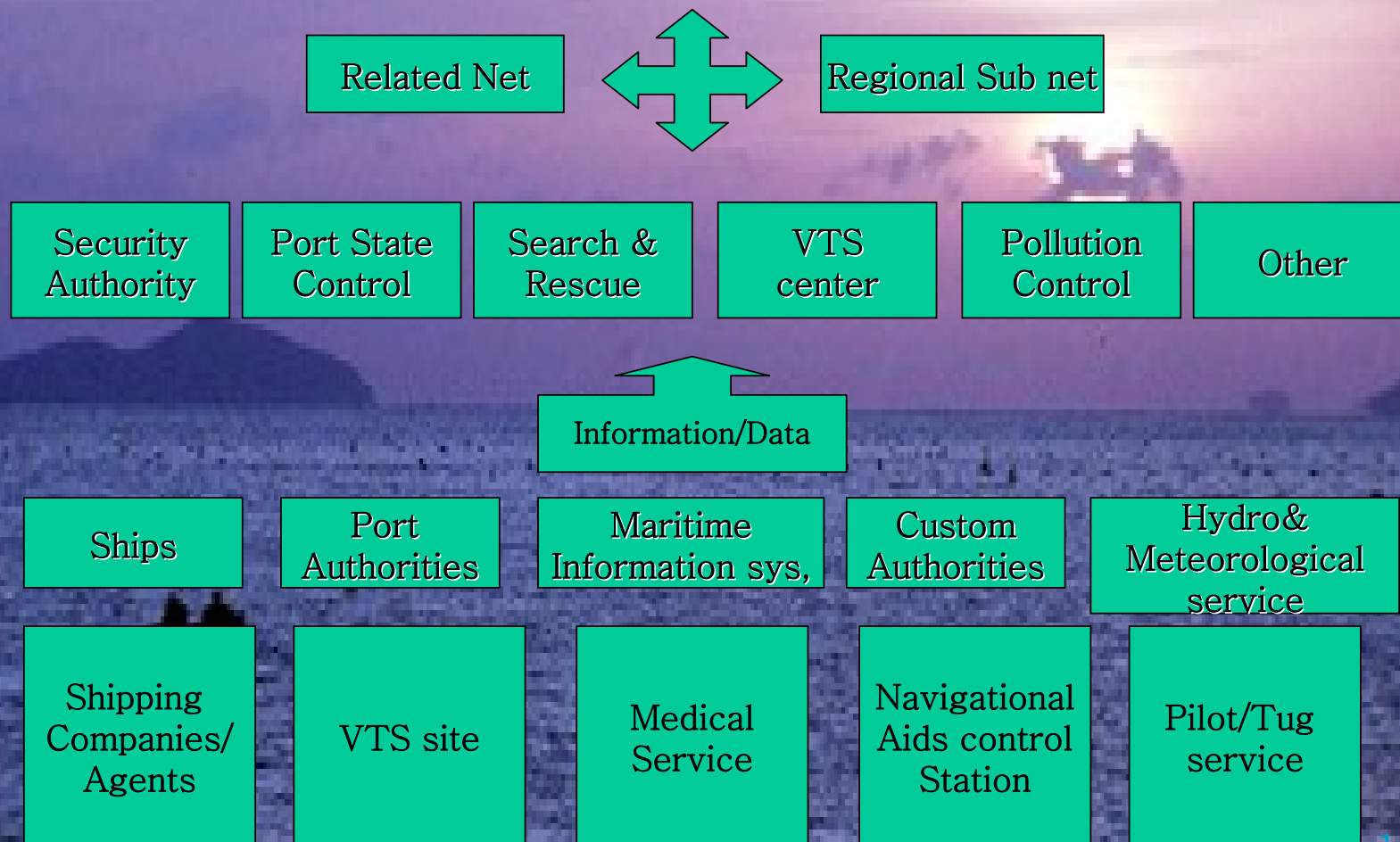
## VTS/VTIS based on AIS



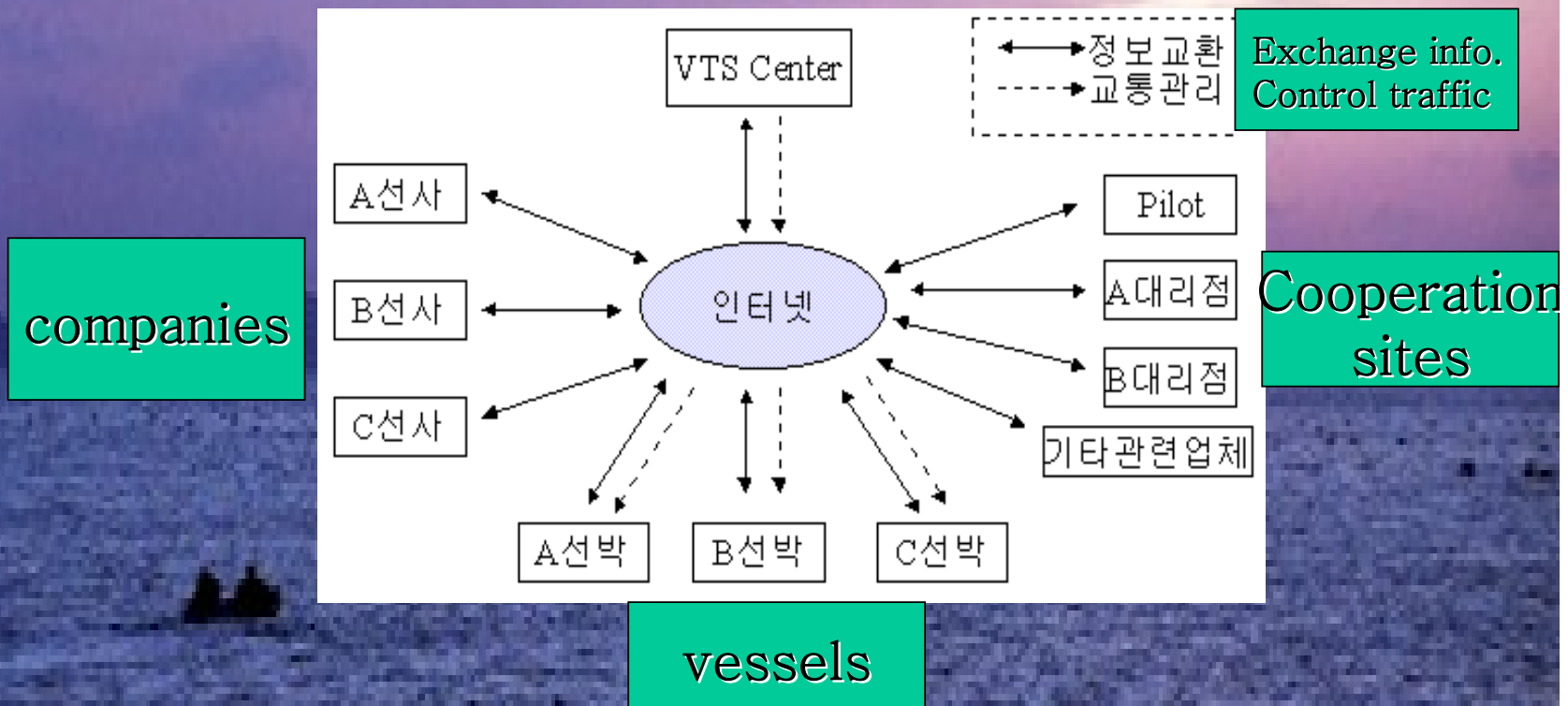
# Vessel Traffic System



# Korea Marine Safety and Security Information Network



# Information Network for Maritime Traffic Service



# Waterway Service for Entering Port

The screenshot displays a VTS software interface within a Microsoft Internet Explorer browser window. The browser title is "Full Life Time. - 유니텔이(가) 공급한 Microsoft Internet Explorer - (오프라인)". The address bar shows "C:\WORK\wpof\HOMEPAGE\포탈포\main.htm".

The main interface features a map of Masan Port with several callouts:

- Calling Masan Port Service :**  
30 minutes before  
Dong-du-mal L/H (Ch. 14)  
1. Ship name  
2. Call sign  
3. Gross Tonnage  
4. destination
- Masan Port Service**  
Working Ch.14, 16  
Masan Pilot  
Working Ch.06
- VTS limit line**
- Ship wrecked**

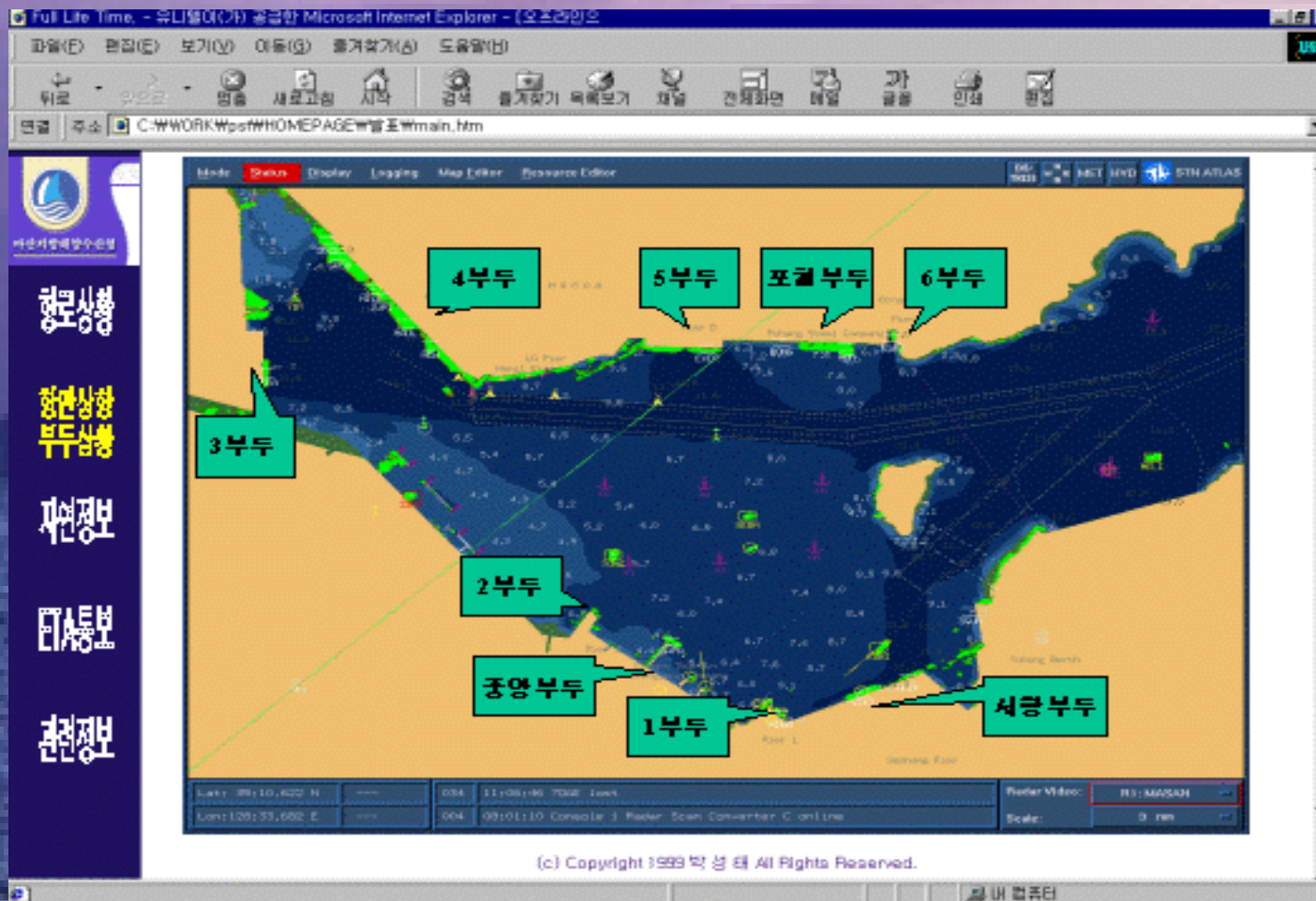
On the left side, there is a vertical menu with Korean text: "항로상황", "항만상황", "부두상황", "ITMA", "항만정보", and "업체, 선박 정보게시".

At the bottom of the map area, there is a status bar with the following information:

Lat: 35.05, 570 N	---	026	11/15/98 08:10 seek	Header Video: RL KADOKKO
Lon: 129.56, 062 E	---	062	08:01:08 Console 1: ShipLau Processor onLine	Scale: 24 nm

At the bottom center, it says "(c) Copyright 1999 박성태 All Rights Reserved."

# Visualized data for berths in real-time



# Internet Traffic Management

Full Life Time. - 유니텔이(가) 공급한 Microsoft Internet Explorer - (오프리라인)

파일(F) 편집(E) 보기(V) 이동(O) 즐겨찾기(S) 도움말(H)

뒤로 앞으로 멈춤 새로고침 시작 검색 즐겨찾기 북마크 채널 검색결과 대화 가 공유 인쇄 편집

주소 C:\WORK\wps\HOME\PAGE\말포\main.htm

## Internet Traffic Management Area

이론과학연구소

형로상황  
항면상황  
부두상황  
ITMA  
형민정보  
업체, 선박  
정보게시

IR

- soback.komet.net (1)
- Masan VTS Center
- multimate.net (3)
- Shunk
- Masan VTS Center
- bigbossman
- Norman

Get Instant

IR - Chat Room

multimate.net

Leave current chat

Masan VTS Center: Adv: Reduce yr speed.

NORMAN: Reduced my sp'd.

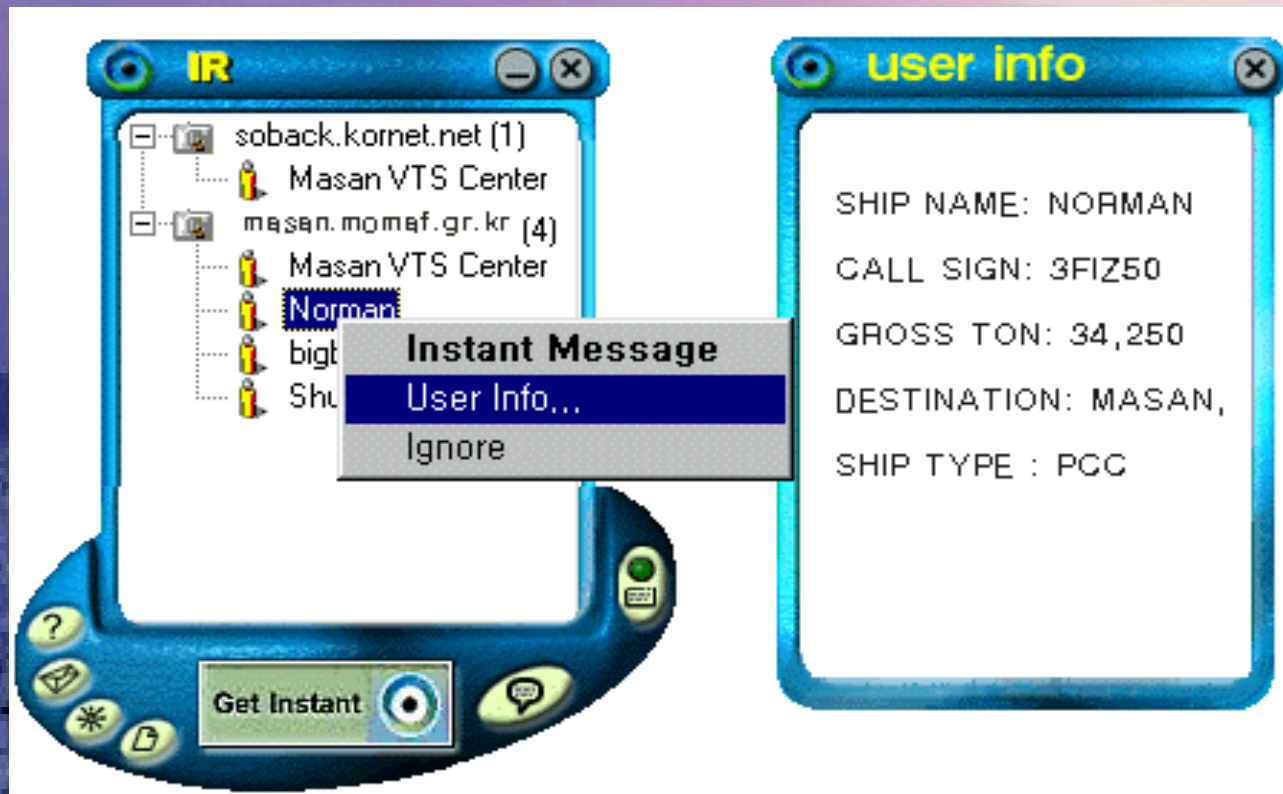
Masan VT

NORMAN

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내 컴퓨터

# Exchange of information between ship and shore(ship)





# Weather and Sea Condition

The screenshot shows a web browser displaying a weather website. The main content area is titled "요리예 날씨 - 인천광역시" (Weather Forecast - Incheon Metropolitan City). Below the title, there is a section for "인천 (4/12) (중)" (Incheon (4/12) (Mid)). This section contains a table with weather icons and a sea condition table. The sea condition table has columns for "인천 (Incheon)" and "남동해역 (South-East Sea Area)". The table shows various sea conditions such as "파도 1.5~2.0", "파도 2.0~2.5", "파도 2.5~3.0", "파도 3.0~3.5", "파도 3.5~4.0", "파도 4.0~4.5", and "파도 4.5~5.0".

인천 (Incheon)	남동해역 (South-East Sea Area)
파도 1.5~2.0	파도 1.5~2.0
파도 2.0~2.5	파도 2.0~2.5
파도 2.5~3.0	파도 2.5~3.0
파도 3.0~3.5	파도 3.0~3.5
파도 3.5~4.0	파도 3.5~4.0
파도 4.0~4.5	파도 4.0~4.5
파도 4.5~5.0	파도 4.5~5.0

Below the sea condition table, there are sections for "관련 사이트" (Related Sites) and "주요지역" (Main Areas). The "주요지역" section lists various regions in South Korea, including Incheon, Seoul, and Gyeonggi-do.

# Conclusion

- ◆ Designed integrated maritime safety and security information network to reduce risk of maritime casualty.
- ◆ Developed internet traffic management system to enhance safety of vessel around seaport.
- ◆ Proposed information site for maritime traffic service.

The study will be carried out in order to provide information to prevent maritime casualty for small ships which are not equipped with advanced communication system