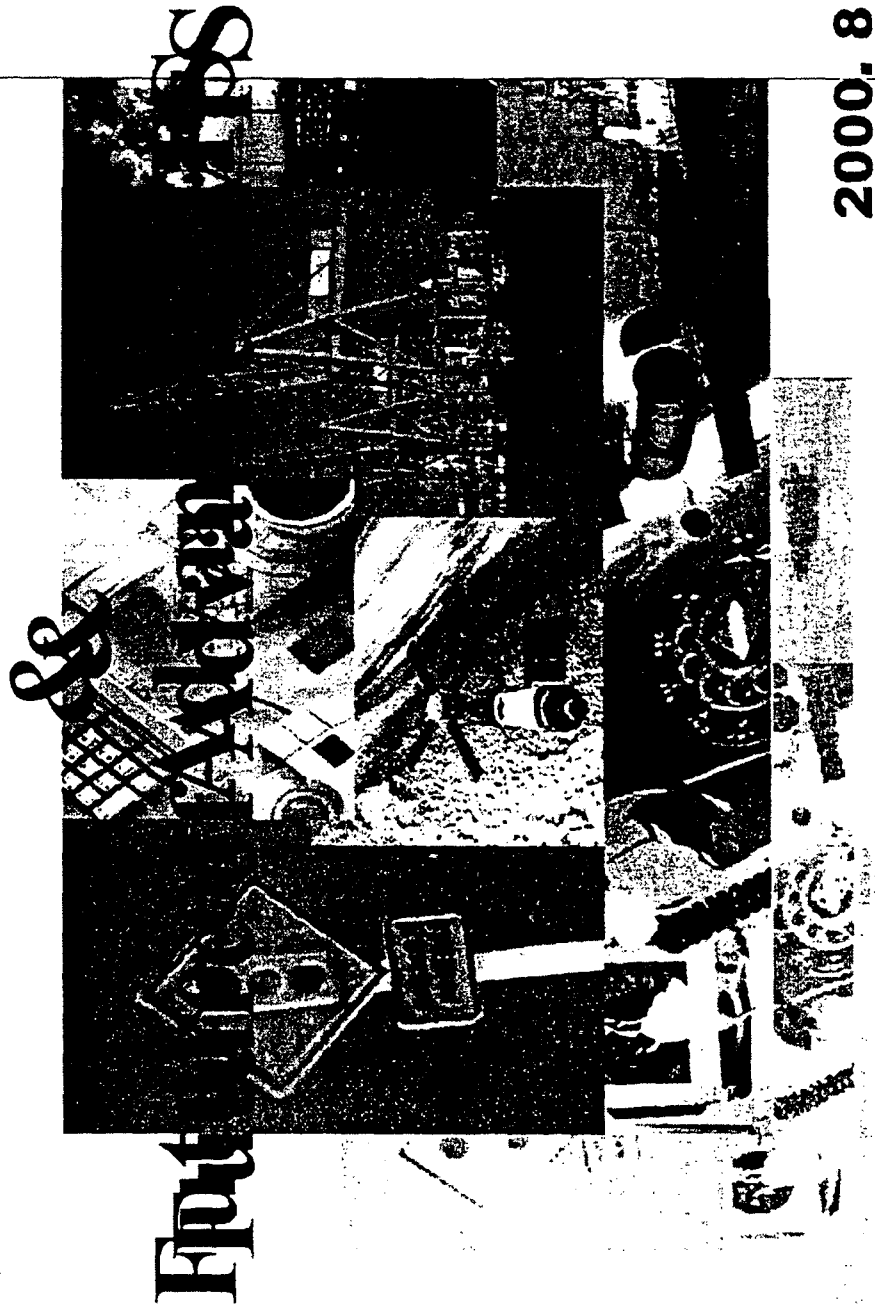
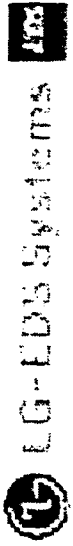




# Experience of VTS in KOREA



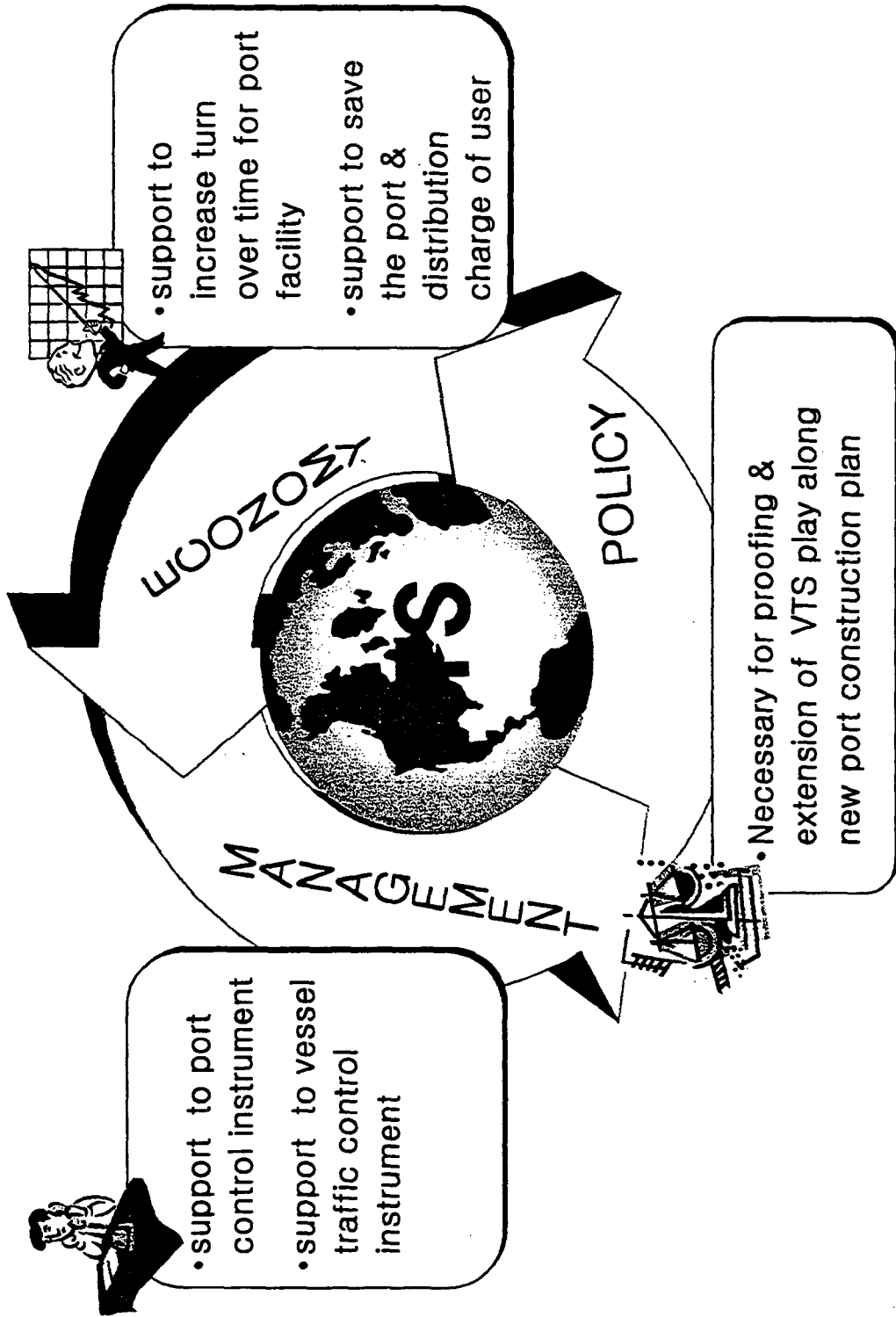
2000. 8



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## 2. HISTORICAL SUMMARY(IN KOREA)-CURRENT OF VTS

The VTS in Korea was developed during six years .

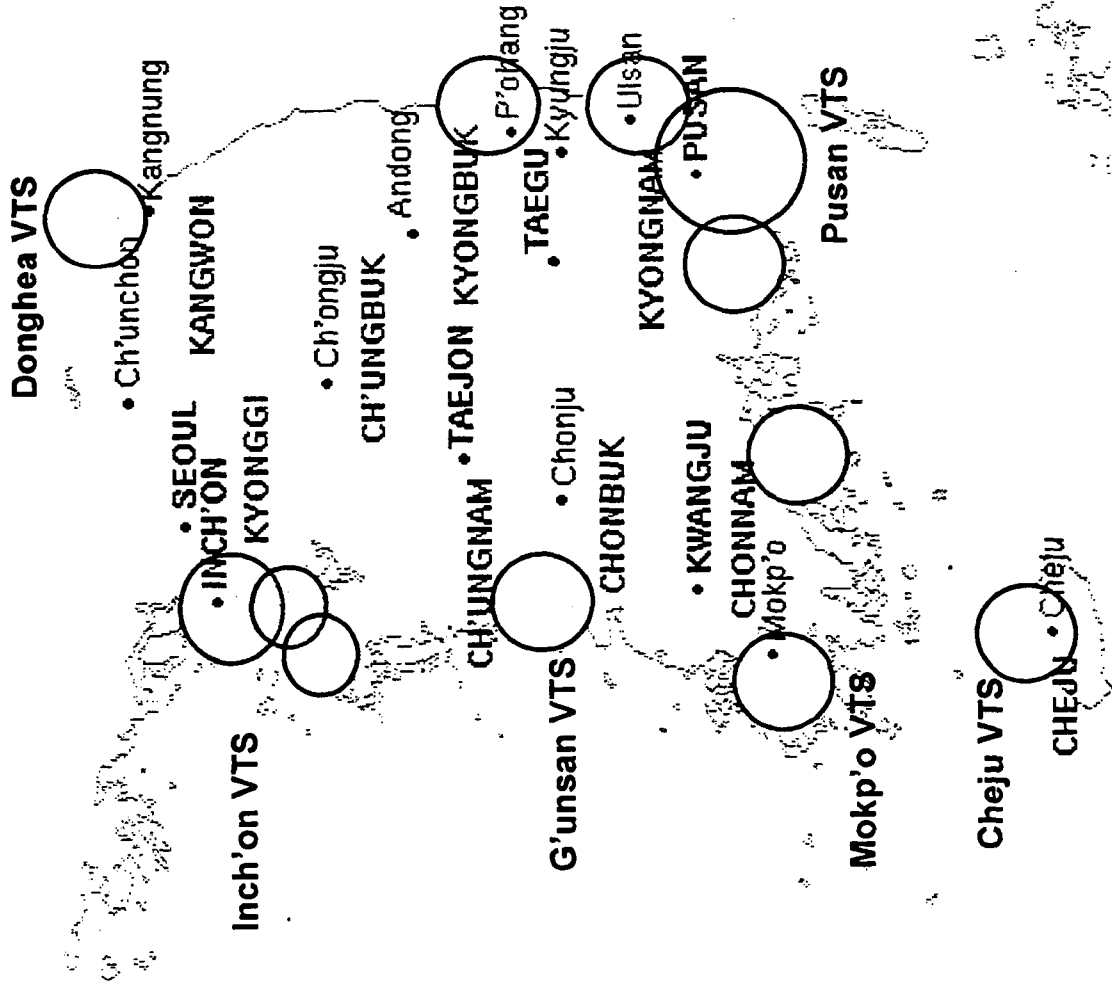
- ORGANITION IN CHARGE : The Ministry of Maritime Affairs
- Duration : 1993 ~ 1999
- Cost : US \$ 47,000,000
- Area : Eighteen Port in Korea

( US \$ : Thousand )

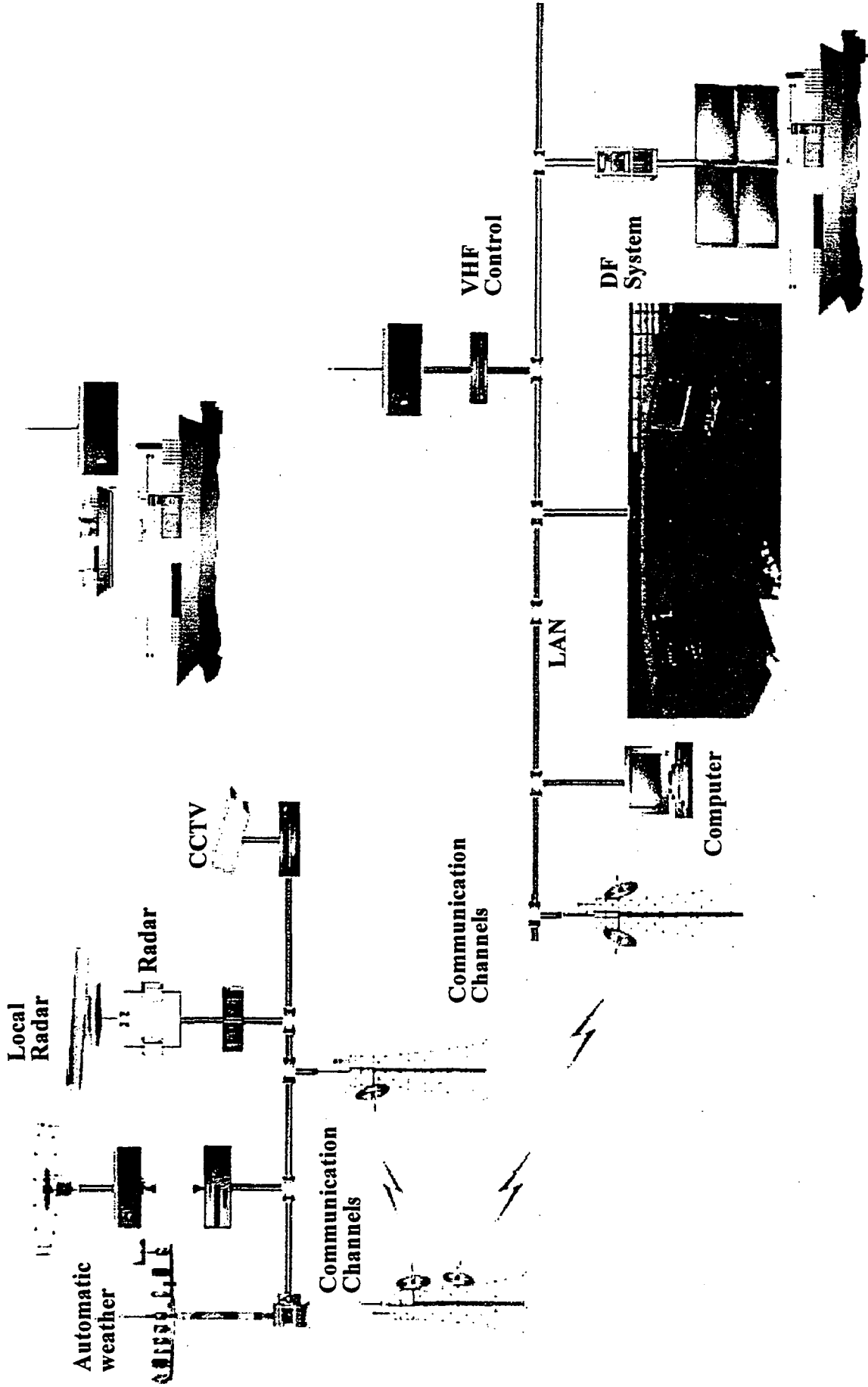
Duration	INVESTMENT PLAN PER YEAR					
	'93-'94	'95	'96	'97	'98	'99
COST	1,273	11,257	8,954	12,265	7,129	5,930
PORT	Layout Service : Pohang	Yosu/Kwangyang, Ulsan,Inchon/Pyo nhtack/Daesan	Pusan Masan/ Jinhea	19,394		Donghae,Gunsan, Mok'po, Cheju Ulsan

# 3. CURRENT STATUS SUMMARY OF VTS

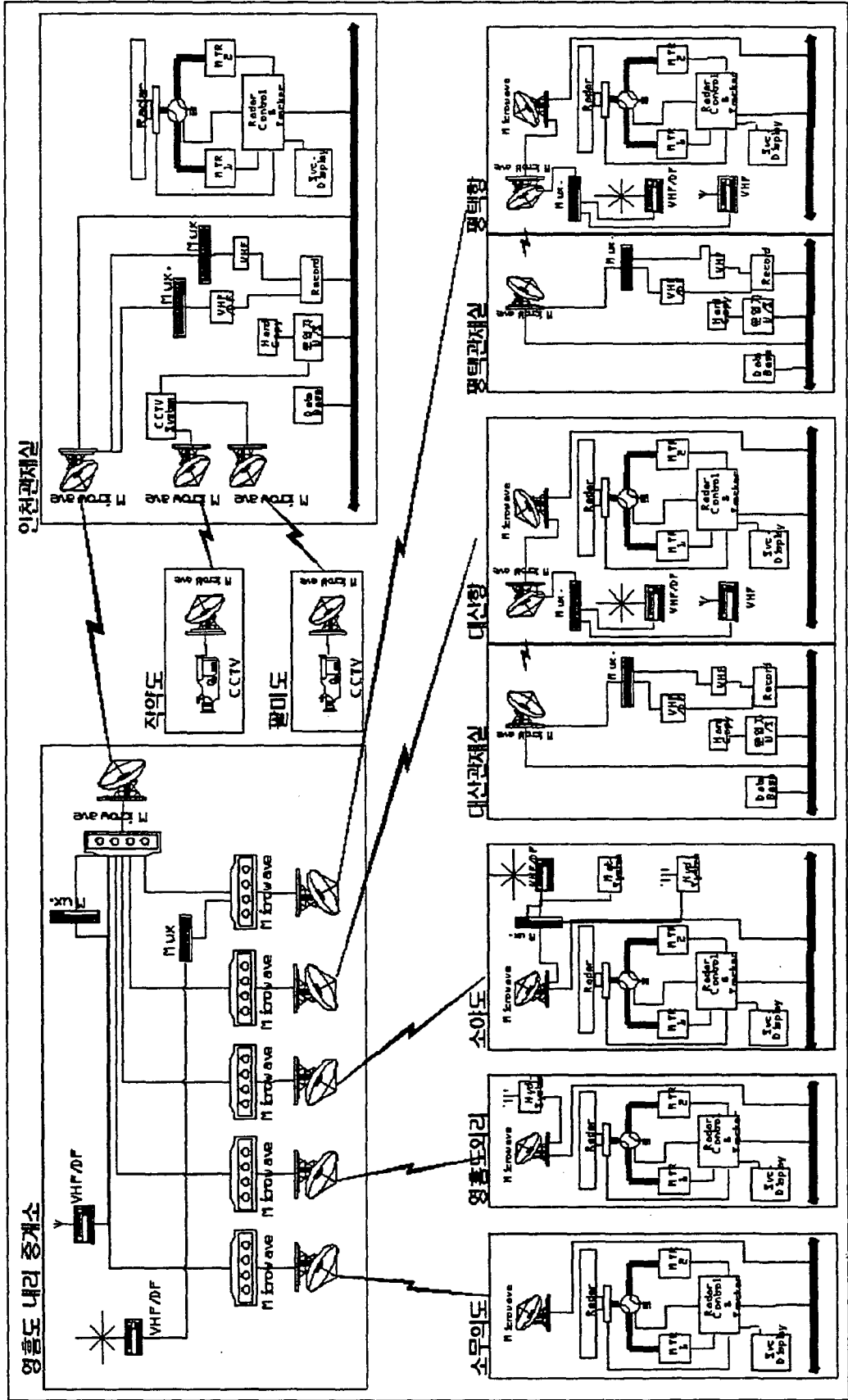
VTS Center	Construction	Establishment
P'ohang	'92.03~'92.12	1993. 01
Yosu/ Kwangyang	'95.01~'96.03	1996. 04
Ulsan	'95.10~'96.08	1996. 09
Masan/ Jinhea	'95.01~'98.06	1998. 09
Inch'on/ Pyungteak/ Deasan	'96.01~'98.06	1998. 12
Pusan	'96.01~'98.08	1998. 01
Cheju/ Donghea/ G'unsan/ Mokp'o	'97.01~'98.12	1999. 04



# 4. CONCEPTUAL CONFIGURATION-CURRENT OF VTS



VTS system configuration of Port Inch'on (for instance)



## 6. COMPONENTS FOR EACH PORT-CURRENT OF VTS

VTS is consist of RADAR, CCTV, VHF/DF, etc. The following shows VTS componets for each port

PORT	VTS System Equipment		
	RADAR	CCTV	VHF/DF
P'ohang	4	2	3
Yosu/Kwangyang	5	5	1
Ulsan	5	3	3
Masan/Jinhea	4	2	2
Inch'on/Pyungteak /Deasan	6	2	1
Pusan	5	1	1
Cheju	1	1	1
Donghea	3	1	1
G'unsan	2	1	1
Mokp'o	3	3	1



## 7. APPLIED VESSEL-CURRENT I OF V13

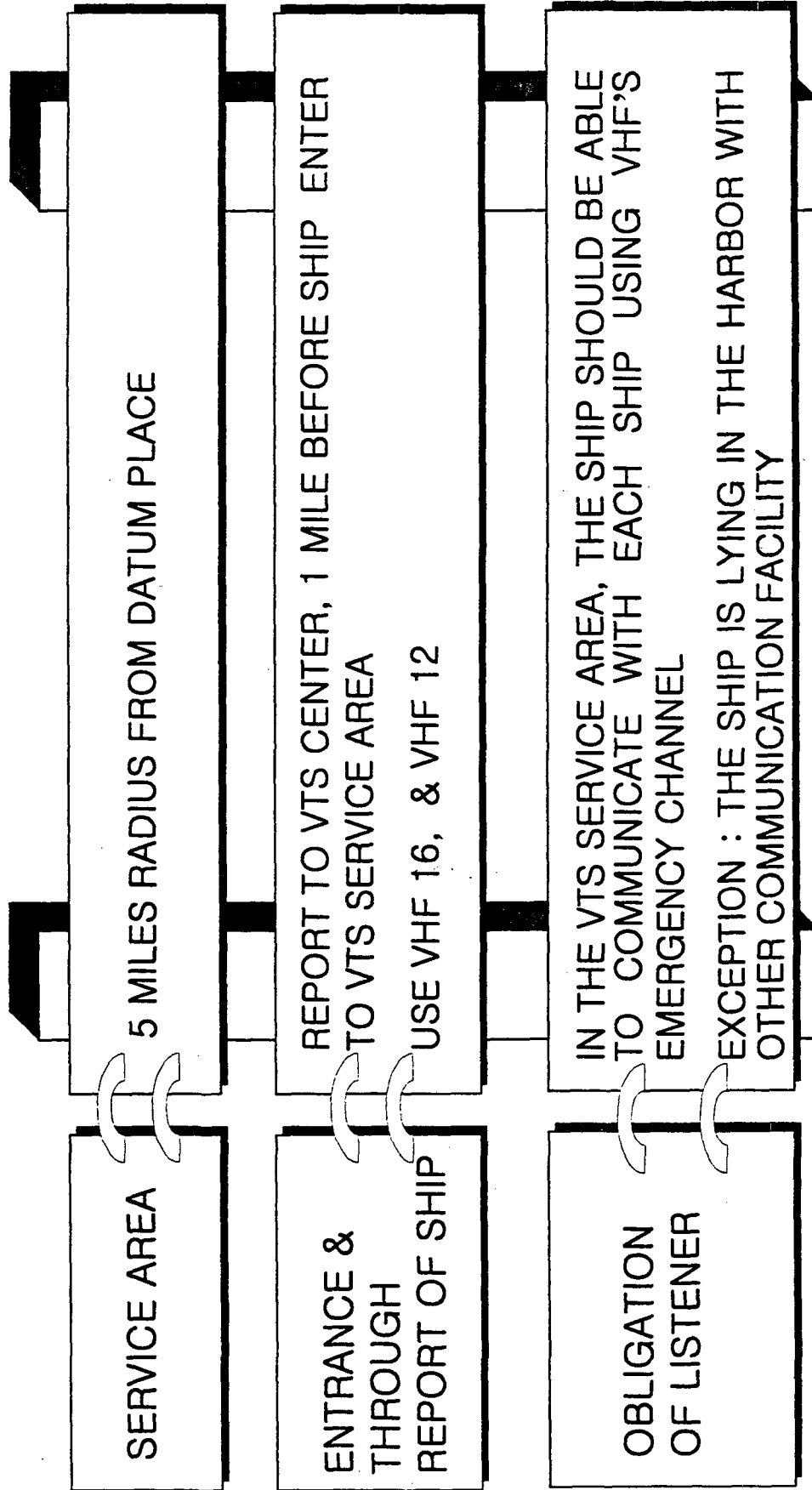
- Overseas Ship over G/T 300 & Working vessel for develop

- The vessel On Board Dangerous Cargo that is enacted the vessel traffic safety statute

- Tugboat Over length 200m

- The Vessel support to entry in port /sail to port vessel

# 8. OPERATIONAL RULES-CURRENT OF VTS



# 2.1 PROBLEMS & SOLUTIONS CONCERNING VTS

## PROBLEMS

- INSUFFICIENT INFORMATION SHARING EACH VTS CENTER
- INSUFFICIENT INTERFACE FUNCTION WITH PORT-MIS
- INSUFFICIENT USING SKILL FOR VTS
- ENGLISH OPERATION SYSTEM
- INSUFFICIENT A MAN OF EXPERIENCE MAINTENANCE & REPLY
- TO BE ABSENT OF SPECIALIST ENGINEER WITHIN A COUNTRY
- MAINTENANCE & REPLY BY FOREIGN ENGINEER

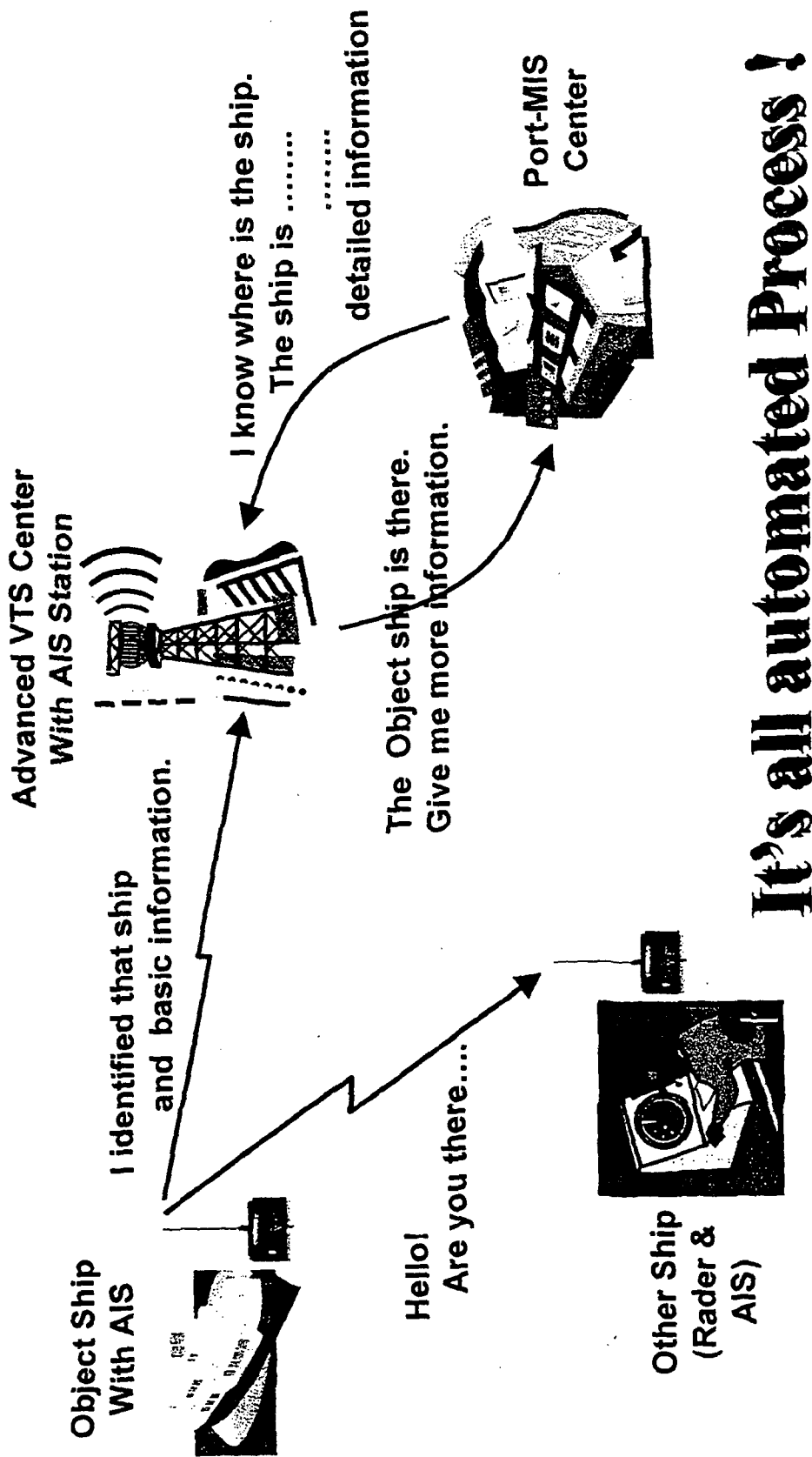


## SOLUTIONS

- ESTABLISH INFORMATION SHARING SYSTEM
- SUPPORT TECHNOLOGY EDUCATION TO PERSON IN CHARGE
- UP-GRADE TO KOREAN PERSON

# 10. FUTURE OF VTS

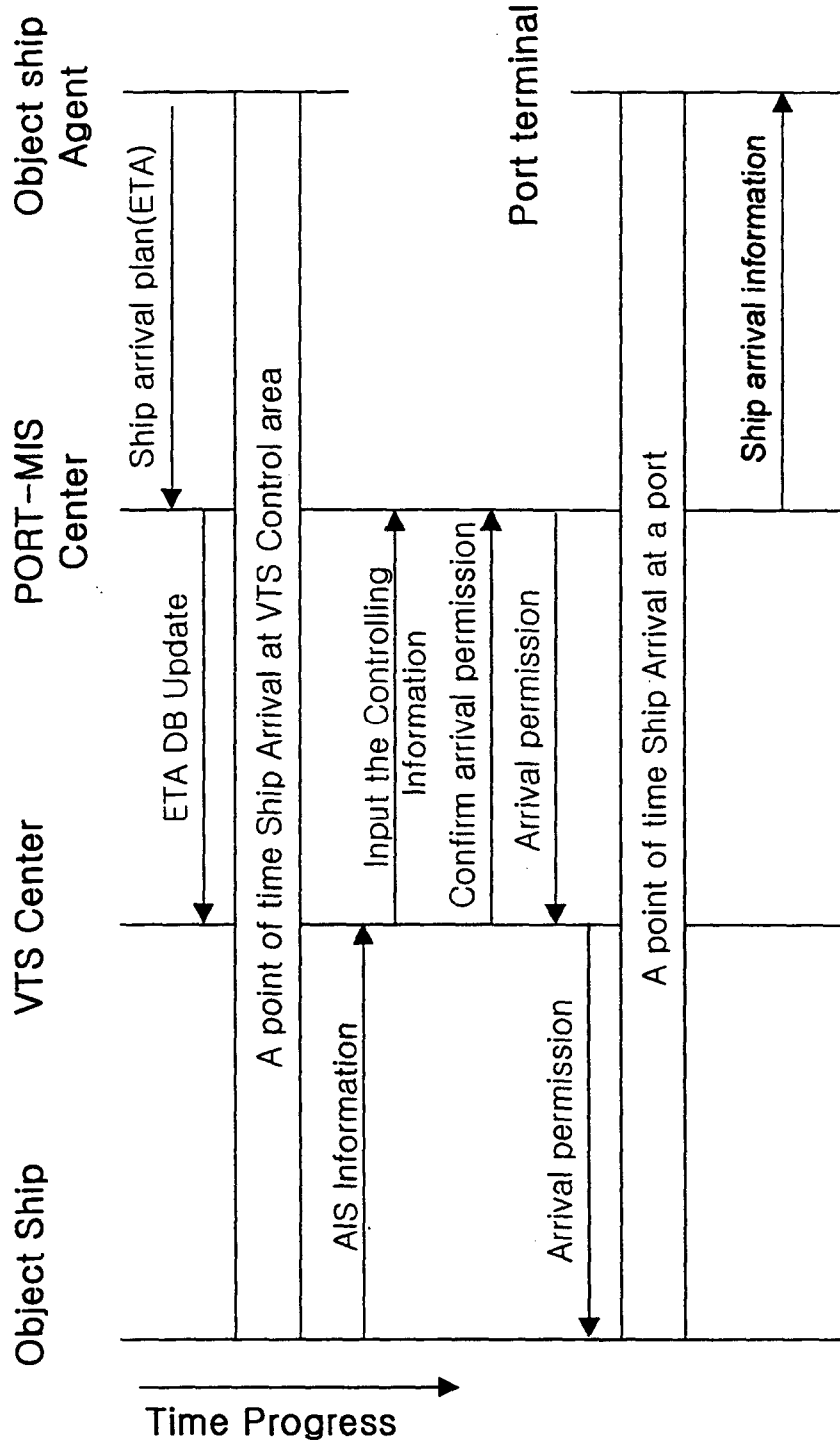
In this study, We are going to present a direction that makes efficient vessel traffic control system by integration of AIS, VTS and PORT-MIS.



## It's all automated Process !

# 11. ADVANCED VIS OPERATING PRINCIPLES-FUNCTION OF VIS

Advanced VTS operation process start on ship's agent. For instance, An object ship are going to arrive at a port.



## 12. MULTI INTERFACE UNIT-FUTURE OF VTS

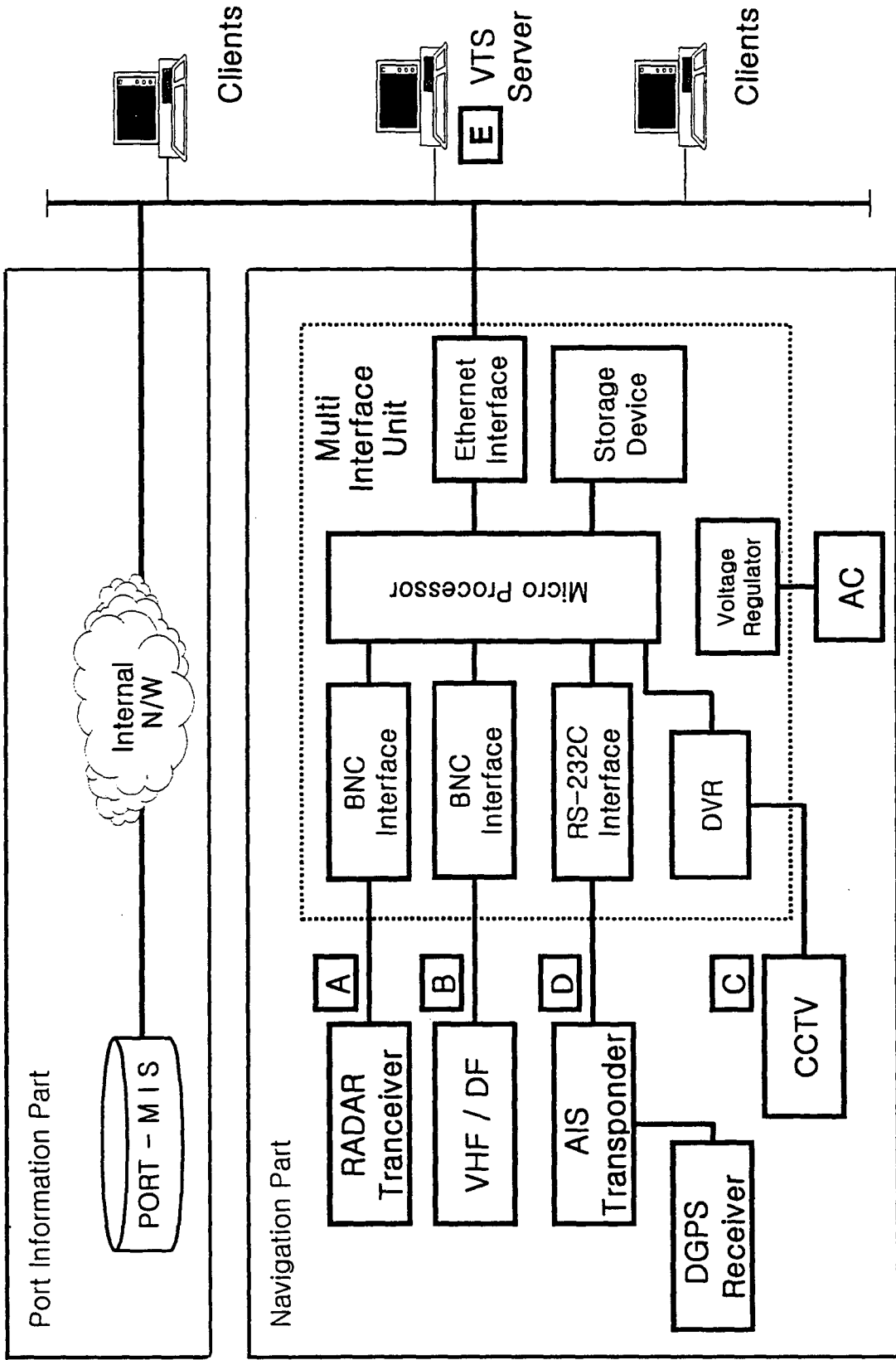
### Feature

- Computer Interface with VTS main devices
  - RADAR, VHF/DF, AIS, CCTV
- Automatically data processing between AIS and PORT MIS
- Automatically Record of the essential monitoring and control data
  - RADAR Image , VHF/DF Record , AIS Log , CCTV Hardcopy

### Effects

- Improvement in vessel control according to integration of various information
- Automation for vessel traffic management administration
- pursuit and analysis of cause at an accident

# 15. INTEGRATED VESSEL TERMINAL UT VTS



# 14. APPENDIX-STATUS OF KOREA(AIS)

The Ministry of Maritime Affairs and Fisheries of Korea (MOMAF) drives the development of AIS plan & project

## ◆ Operating Center Development

- Shore side base station : 11 site
- Relay station : approximately 38 site
- Control center : 11 site established VTS Center + 38 uninhabited center
- Components : 4S Transponder, GPS/VHF antenna, Base controller  
DGPS, Operating Software
- Developing budget : 3770million won(2000-2002)

Based on GP&C product (Sweden)  
# 30Km/1 site

## ◆ Ship side Component Development

- Target ship : Based on SOLAS
- Components : Ship side Transponder, GPS/VHF antenna,  
Base controller(PC), Operating Software

## ◆ Development Schedule

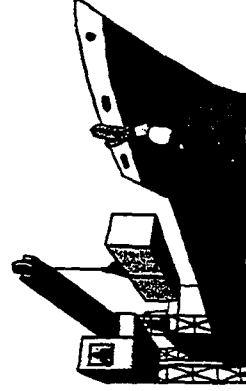
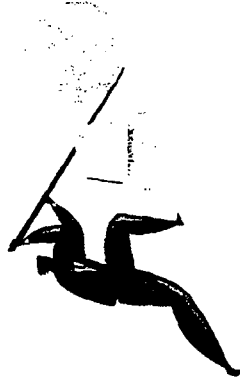
- Feasibility Study & Master Plan : 2000
- Facilities construction & Test : 2000 ~ 2002. 6
- official Operating : 2002 7. 1 ~



## 13. AFFILIATE- JIANGSU OF NONGHAI (FON-THIJS)

PORT-MIS, Total Port operating support EDI system from arrival to departure.

- ◆ History
  - Open the PORT-MIS at pusan port as test bed : '92. 1
  - Expanded to Ulsan, Masan, P'ohang : '93.12
  - Expanded to Inch'on : '96.1
  - Expanded to Honam & kangwon : '97.1
  - Totally integrated all the area : '99.9
- ◆ Function
  - Shipping Management(arrival/departure, birthing, Vessel control, Pilot etc)
  - Freight Management
  - Facilities Management
  - Statistics



# 16. APPENDIX- PORT MIS PROCESS(SHIP NAVIGATION OPERATION)

