e-Navigator™ eCDIS

Electronic
Chart
Display
Information
System

▲ **HYUNDAI e-MARINE**

▸▸ Introduction

HYUNDAI e-MARINE's electronic chart technology and its application service are now reached to world-class level that credited by international organization such as IMO (International Maritime Organization) and IHO (International Hydrographic Organization).
HYUNDAI e-MARINE also do the utmost effort with the pride and mission that our company is in charge of advanced development of maritime technology in Korea.

Thanks to advances in information technology, free communication between ocean and land is now available and all maritime society carry forward the e-Navigation for maritime accident prevention, transport efficiency, energy conservation and marine environment protection purpose.

HYUNDAI e-MARINE CEO **Dae Sun Chung**

The concept of e-Navigation is establishing the free communication between land, offshore and vessel for traffic control, survey activity, maritime traffic facility management, vessel monitoring and navigation without any limit of time and space. Much before the birth of e-Navigation concept, HYUNDAI e-MARINE devotes only one way for e-Navigation from foundation.

Based on continuous technology innovation, HYUNDAI e-MARINE strengthen the competitiveness of maritime IT and develop new IT convergence with 'e-NAVIGATION and SMART SHIP Solution' slogan for global leader.

Your kind interest and warm concerns for HYUNDAI e-MARINE, the Global Top Maritime IT specialized company would be highly appreciated.

e-NAVIGATION & SMARTSHIP Solution

NAVIGATION EQUIPMENT

K-IBS(Integrated Bridge System)
ECDIS(Electronic Chart Display & Information System)
SAN(Ship Area Network)
ISIG(Intra-Ship Integrated Gateway)
e-A2N AIS
AIS(Automatic Identification System)
Hatteland Marine Computer & Monitor

MARINE CONTROL SOLUTION

e-FMS(Fleet Management System)
e-Sirius
AIS Base Control System
BMS(Bridge Monitoring System)
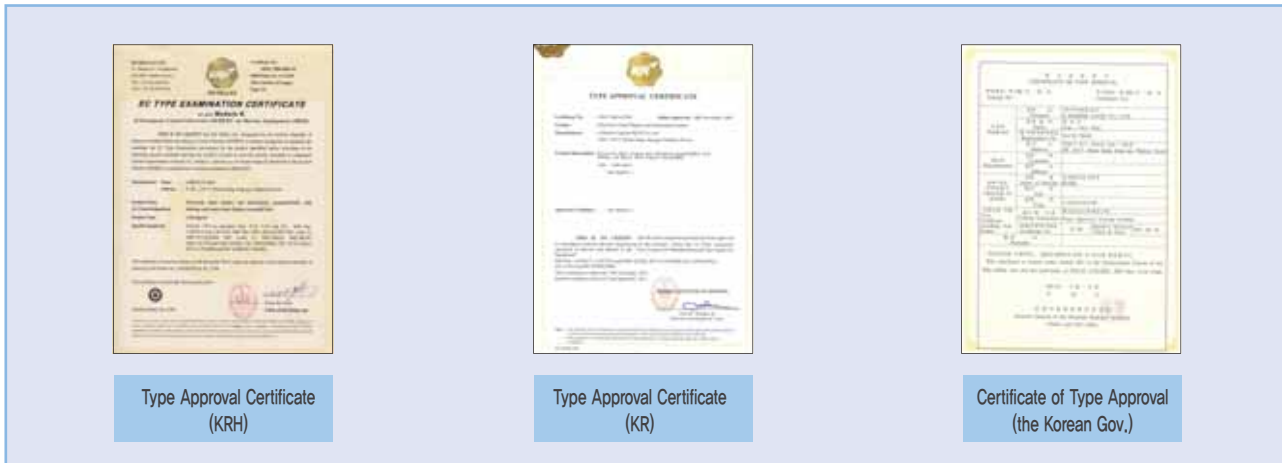AtoN Integrated Management System

CARIS
SevenCs
JEPPESEN

**MARINE GIS SOLUTION**

IHO- S-57 ENC
UKHO ARCS & AVCS
C-Map

DIGITAL CHART SERVICE

▶▶ e-Navigator

e-Navigator is the most advanced marine navigation equipment for safe and clean navigation based on official electronic navigational chart. It support the various function such as Route planning, Route monitoring, Real time positioning, Radar image overlay with Radar and ARPA interface and caution & indication on purpose of collision avoidance.

Based on HYUNDAI e-MARINE's own ECDIS Kernel technology, e-Navigator certified its quality from DNV(Det Norske Veritas), KR(Korean Register), KRH(KR Hellas), the Korean Government.

| Type Approval Certificate (KRH) | Type Approval Certificate (KR) | Certificate of Type Approval (the Korean Gov.) |

IMO(International Maritime Organization) regulated ECDIS mandation for large new built vessels starting from July, 2012.
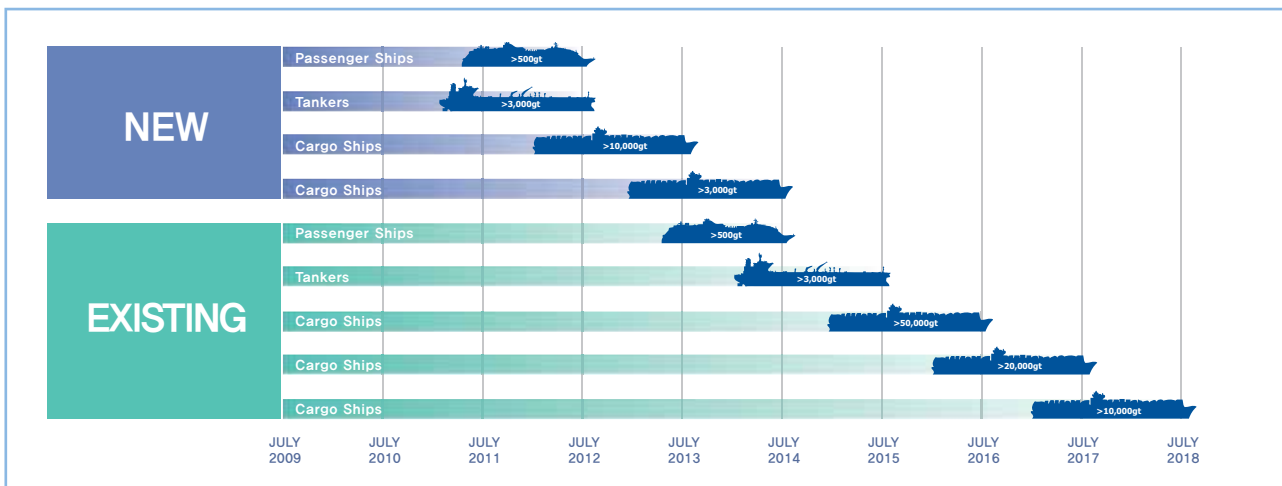
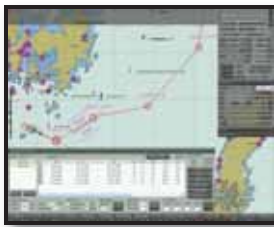e-Navigator conforms to latest international standard and regulation from IMO, IHO, IEC, etc...

IMO	IHO	IEC
Res.A.813	S-57 Ed3.1.2	61174 Ed3.0
Res.Msc.232(82)	S-52 Ed3.4	61162-1 Ed4.0
Res.A.830	S-63 Ed1.0x	60945 Ed4.0
Res.A.694		62288 Ed1.0
SOLAS Chapter V		

⚓ User-friendly Interface

Land MAP(Option)

Track Log

Targer(AIS/ARPA) Information

Route Planning

Menu Bar

Voyage Data Monitoring

Route Monitoring

Wind Information

Sounding Information

Anchor Monitoring

M.O.B

# ⚓ Route Planning & Route Monitoring for safe and efficient navigation

Route Planning

e-Navigator makes vessel route planning easily and preciously before the navigation.
Safe and efficient navigation is possible through e-Navigator route planning. Operator can design the optimized route plan and existing route can be saved or loaded to other fleet. Existing route plan also can be processed by dangerous factor analysis and validation check for safe and efficient navigation purpose.

Route Monitoring

e-Navigator provides route monitoring function to watch the planned route.
Including time information to next WP(Way Point), operator can check the Estimated Arrival Time(ETA) and distance right away during navigation.
Up to changeable navigation environment, operator can modify and adopt the existing route plan for safe and precise navigation to the final destination.
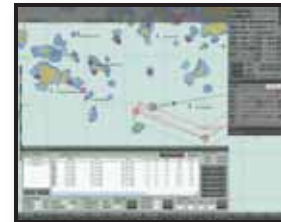
⚓ Various Chart Support for customized condition
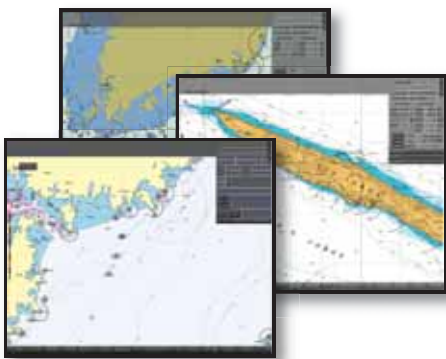
Chart

e-Navigator supports various electronic chart to display worldwide electronic chart.
ENC, AVCS, ARCS, C-Map which are most widely used electronic charts are available in e-Navigator and display two types of electronic chart at the same time.
Comparing to paper chart, electronic chart is more convenient, easy to use & storage and most of all, operator can always use the latest chart update with automatic chart update.
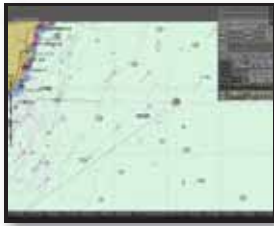
3D MAP

e-Navigator displays 3D chart and electronic chart at the same time. Operator can see the three-dimensional seabed area with actual sounding. This function can be very useful to design safe route plan just at a glance.

⚓ Chart Tool Function for user convenience

Chart Tool

Operator can draw the symbols on the eletronic chart just like paper chart. Drawing symbols in electronic chart is much easier than paper chart with using various symbol images in chart tool. Drawing symbol is automatically saved on the electronic chart and operator can refer to this in nest route. Operator can also draw the various figures to display and manage the important information for navigation.

⚓ Powerful Target Monitoring for safe navigation

AIS (Automatic Identification System)

With Automatic Identification System(AIS), it is possible to display nearby vessel's real time information such as position, course and speed for vessel tracking & monitoring and collision avoidance purpose.
e-Navigator is especially designed to select color for each country for easy vessel monitoring.
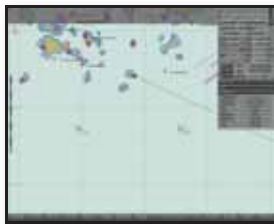
ARPA (Automatic Radar Plotting Aids)

e-Navigator also has ARPA target display function. All radar targets are displayed on electronic chart and operator can easily check various target information such as speed, distance, CPA/TCPA and etc... More than 100 ARPA targets are displayed at the same time for powerful tracking and monitoring purpose.

⚓ Various Information Support for easy navigation

Data Display

Through e-Navigator screen, operator can check the all relevant real-time information for own ship. Own ship position, speed, heading and current status are displayed in one screen for safe navigation.

Caution Alarm

In case of off-course, dangerous area, shallow water warning, interface equipment failure and CPA/TCPA, e-Navigator gives visual warning and indication with alarm sound for operator's urgent and proper action.

Radar Image Overlay

e-Navigator provides radar image overlay on the electronic chart. It is easy to figure out the specific vessel from radar image overlay with electronic chart.
Operator can easily compare between object in electronic chart and object from radar and updated information can be adopted on electronic chart right away.

▶Specifications

MODEL	eM-X19C	eM-X23C
Type Approval	Type Approved KRH, KR, the Korean Gov.	
H/W — Main Control Unit	Intel® Core™2 Duo Desktop CPU E6400 2 GB RAM, 250GB HHD, 3.5 inch FDD, Intel® 10/100/1000Mbps Ethernet, VGA (128MB), Windows XP	
H/W — Display Monitor	19.0" 1280x1024	23.1" 1600x1200
H/W — UPS	3,000VA, 30.2m	
Integration — GPS	O	
Integration — Gyrocompass	O	
Integration — Speedlog	O	
Integration — ARPA	O	O
Integration — AIS	O	O
Integration — RADAR Image	Optional	Optional
Integration — Echo Sounder	O	O
Integration — Auto Pilot	Optional	Optional
Integration — Wind Sensor	O	O
Installation Kit — AD Converter	O	
Installation Kit — NMEA Combiner	O	
Installation Kit — Accessory	O	
Console	Stand Type Console	
Map Data	ENC, AVCS, ARCS, C-Map	
Operation S/W	e-Navigator Operation S/W	

KR KOREAN REGISTER   KRH WWW.KRHELLAS.COM   ADMIRALTY CHARTS AND PUBLICATIONS   PRIMAR STAVANGER   C-MAP by JEPPESEN   HATTELAND® DISPLAY

e-Navigator™ eCDIS

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