Korea Hydrographic and Oceanographic Agency

KHRA Korea Hydrography and Research Association

Introduction of e-Learning platform For MSDI in TRDC

TRDC

10th MSDIWG Meeting
Busan, ROK, 4~5 March 2019

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- Introduction of TRDC
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- TRDC e-Learning in LMS
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I Background of e-learning

7th MSDIWG Meeting(2016)

Subject	Action No.	Agenda item	Actions	Responsible	Deadline	Status
e-Learning	08/2016	2.3	Request IHB to establish a URL on its MSDI website pointing towards e-learning facilities provided by Caris, Esri and OceanWise. MSDIWG members to supply links to their e-Learning to IHB.	**Chair /IHB**	09/2016	Ongoing

8th MSDIWG Meeting(2017)

F.2	Support development and delivery of e-learning platforms	L	1. Coordinate activities with East Asia TDRC 2. Compile list of existing e-learning modules relevant to MSDI	2018	2020	Ongoing	Esri OceanWise GSDI		

9th MSDIWG Meeting(2018)

Action 25/2018: Esri and OceanWise to provide links to their e-Learning sites.	Teledyne CARIS, Esri, OceanWise	
Action 26/2018: RoK to prepare proposal for the provision on an e-learning platform for the MSDI BoK for MSDIWG 10.	RoK IHO Secretariat	

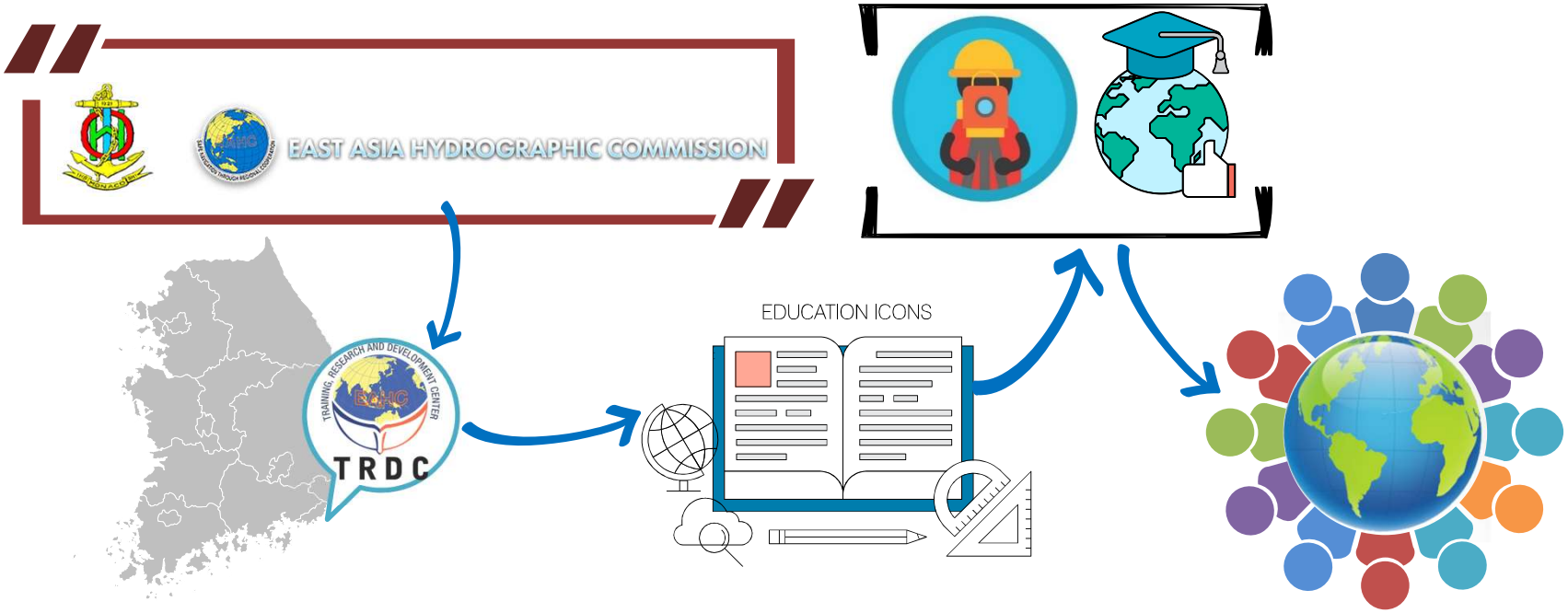
I Introduction of TRDC(I)

TRDC

Training Research Development Center

Objectives

- Approved the establishment of TRDC in Korea in EAHC Coordination Meeting in January 2013
- Develop and implement identified training programs
- Capacity building and training for Hydrographic surveyors and Nautical cartographers of IHO member states



I Introduction of TRDC(2)

Organization

2 Features of e-Learning(I)

Strengths

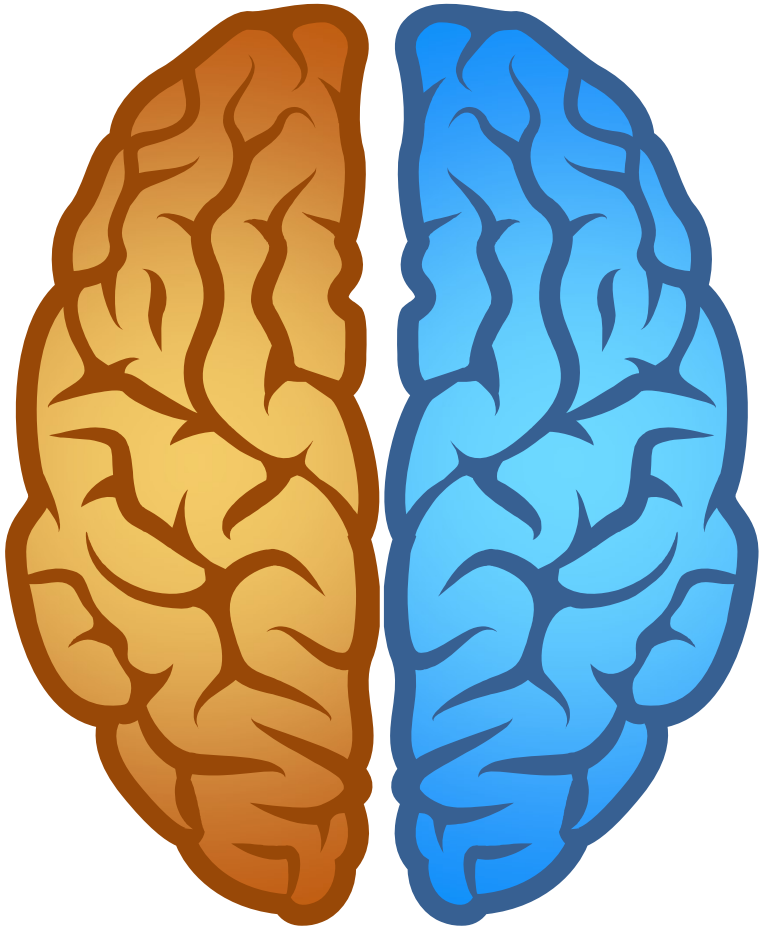
- No restrictions on time and place
- Great effect on low cost
- Customizing the training course according to individual capability
- Reflect the latest trends and theoretical changes
- Self-directed learning rather than cramming education
- Saving the direct expenses by reducing facility cost such as lecture rooms
- Interesting multimedia education
- Various education methods such as two-way instruction
- Saving the time and money for both students and instructors

2 Features of e-Learning(2)

Old Day's Memory

- "Central Nervous System"
- We used to use the book, managed by a teacher store the knowledge in our memory, and retrieve them as required.
- It was an educational system of memorization and spoon-feeding of information.

Memory - The Brain



Today's Memory

- "Digital Nervous System"
- The knowledge is downloaded.
- The teacher is a full-time facilitator to manage information and construct knowledge to deliver skills.

2 Features of e-Learning(3)

Traditional Learning

- Teacher Centered
- Single Media
- Isolated Work
- Information Delivery
- Factual-based Learning
- Bricks & Board
- Push approach

e-Learning

- Student Centered
- Multimedia
- Collaborative Work
- Information Exchange
- Skills-based learning
- Technology-enabled learning
- pull approach

3 TRDC Education course_ S8-Cat B

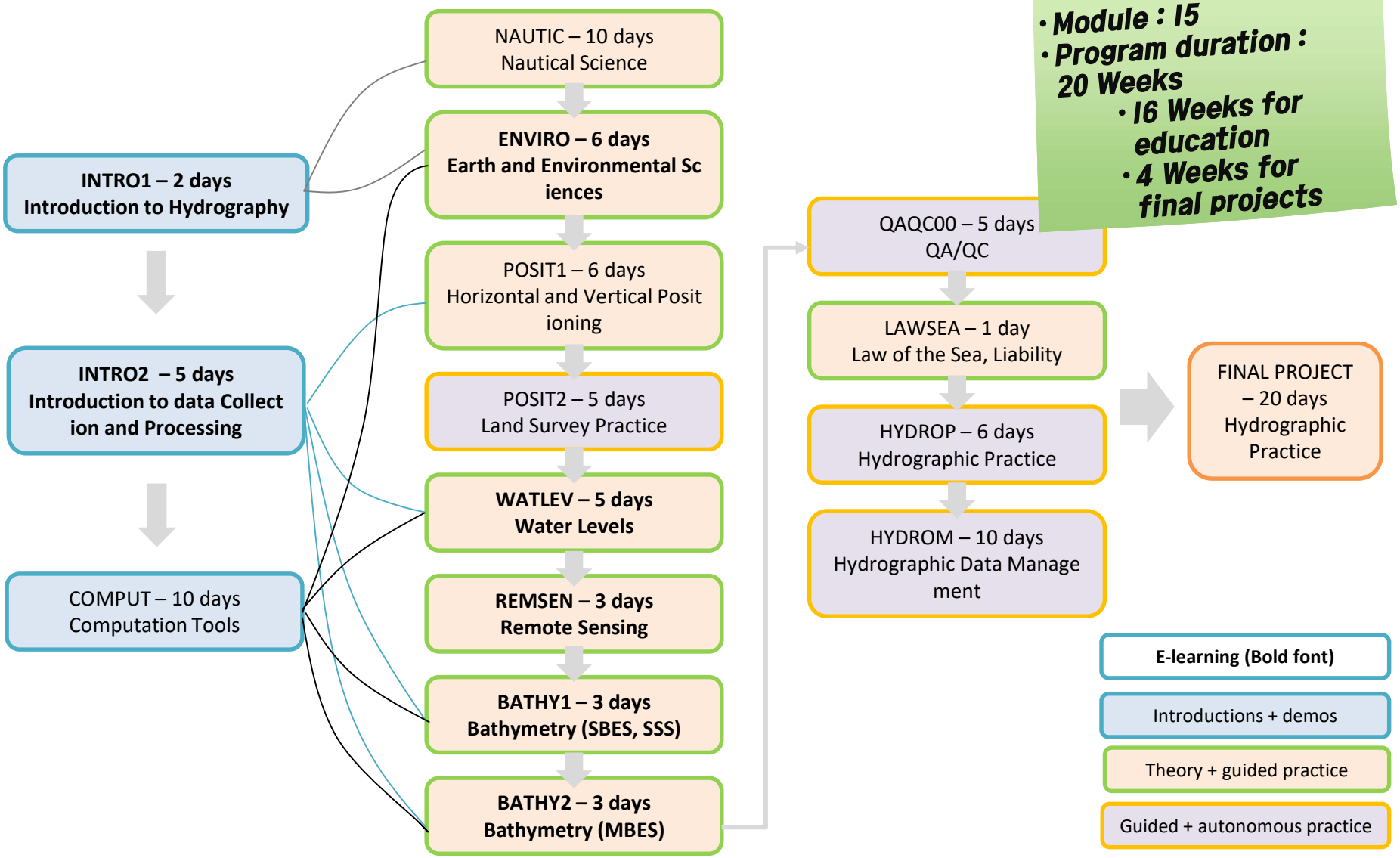
Module 1	Module 2	Module 3	Module 4	Specialism 1
Foundations of Marine Geospatial Information	**Marine Data Assessment, Compilation and Production**	**Marine Environment And Context**	**Marine Spatial Data Infrastructure**	**Remote Sensing For Hydrographers**
• Introduction to Charts & ENCs • Chart Compilation Concepts • ENC Data Concepts • Product Maintenance	• Chart Design & Planning • Compiling Topography & Coastline • Compilation of Other Features • Product Finishing: ENCs & Paper Charts • Evaluating Bathymetry • Complex Compilation	• Marine Geology • Oceanography • Maritime Law	• Marine Data Products Services • Marine Spatial Data Infrastructure • MSDI Applications • Marine Information Objects	• Photogrammetry Concepts and Techniques • Remote Sensing • Imagery Interpretation

e-Learning

- ***Program duration : 26 weeks***
  - ***20 weeks for education***
  - ***6 weeks for final project***

3 TRDC Education course_ S5-Cat B

- **Module : I5**
- **Program duration : 20 Weeks**
  - **I6 Weeks for education**
  - **4 Weeks for final projects**



3 e-Learning education course

15 Units (Applies to offline 4 weeks)

S-8B Foundation of Marine Geospatial Information

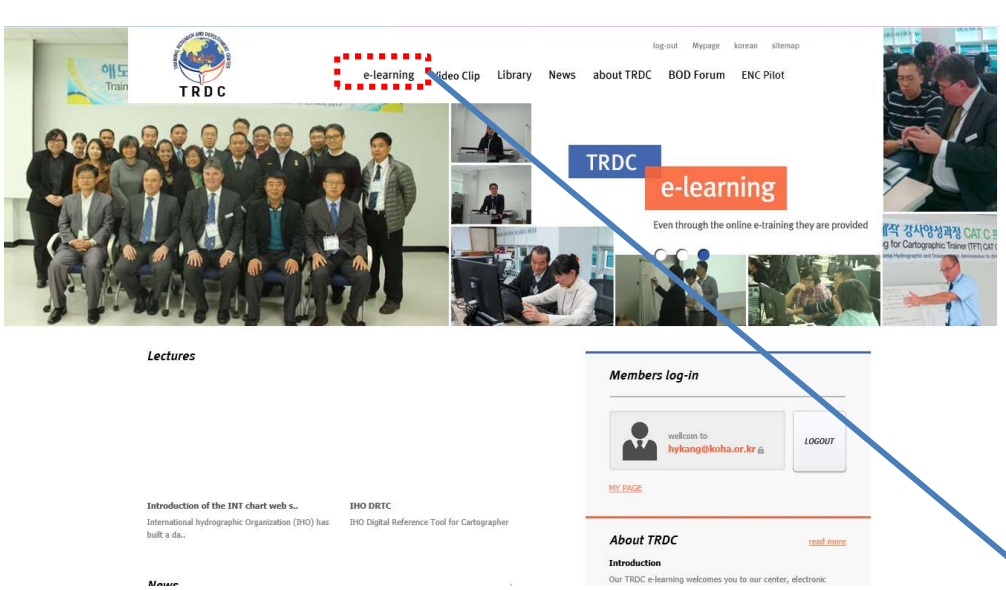
Topic	#	Class
An Introduction to Charts and ENCs	1	The Use of Nautical Charts and Publications
	2	The International Framework, Standards and Specifications
	3	ENCs, ECS and ECDIS
	4	The Design of Charts and ENCs
	5	Source Material for Chats and ENCs
Chart Compilation Concepts	6	How Chats are Constructed
	7	Practical Geodesy for Charts and ENCs
	8	Evaluation of Bathymetric Surveys
	9	Sounding selection and contouring
ENC Data Concepts	10	Introducing S-57 and ENC Production
	11	Data Creation and Editing
	12	Validating ENC data
Product Maintenance-Ways of Updating	13	Method of Updating
	14	Notice of Mariners
	15	Notice to Mariners Block Exercise

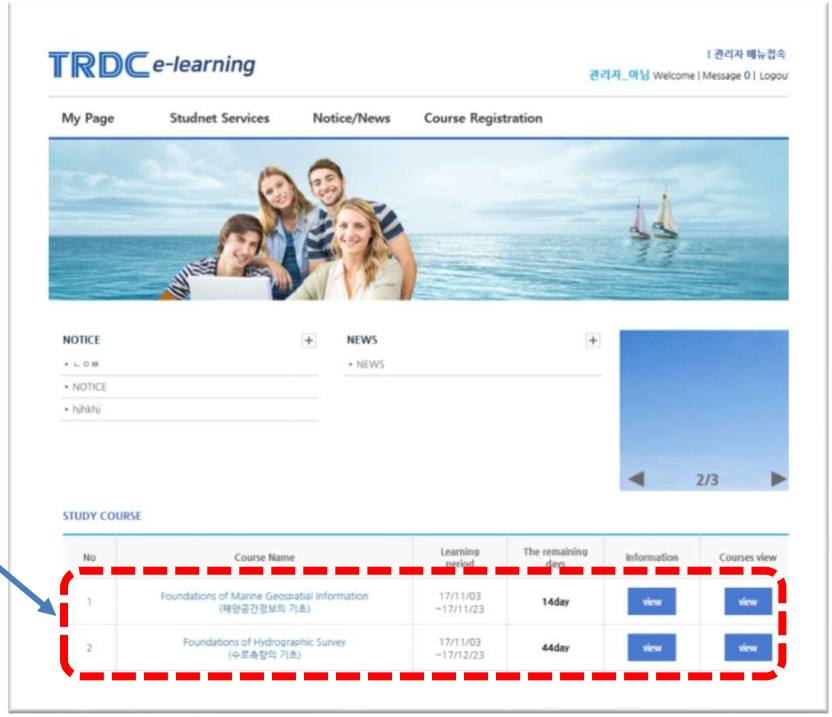
S-5B Foundation of Hydrograph Survey

Topic	#	Class
Introduction	1	Introduction to Hydrography
Environmental Sciences	2	Meteorology
	3	Oceanography
	4	Marine Geology
Water Levels	5	Tidal theory
Positioning	6	GNSS Concepts
Bathymetry	7	Underwater Acoustics 1/2
	8	Underwater Acoustics 2/2
	9	Single Beam echo sounders
	10	Side scan sonars
	11	Other systems
	12	Multibeam fundamentals
	13	Multibeam Practical
Remote Sensing	14	Remote Sensing Principles
	15	LiDAR application

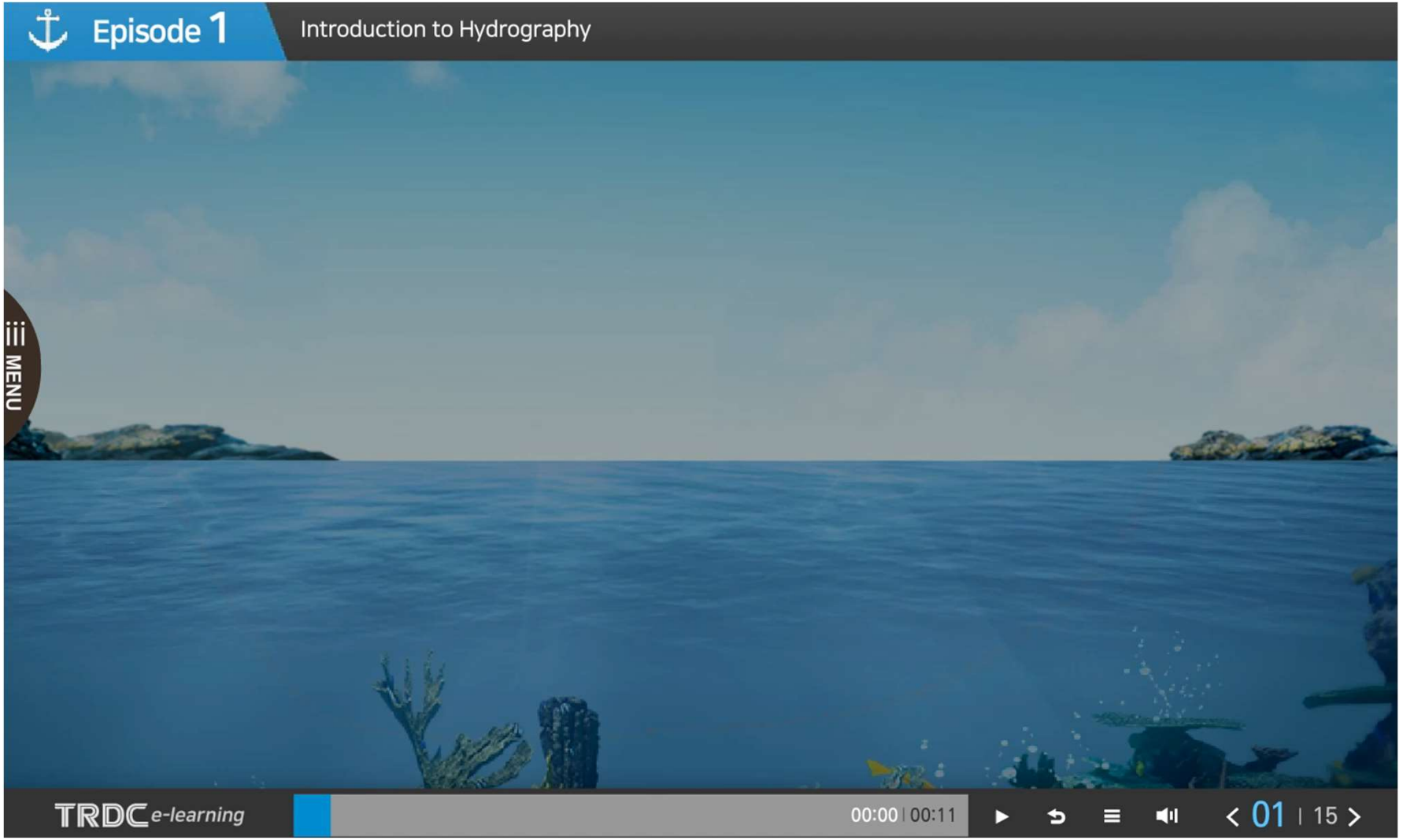
4 TRDC e-Learning

Accessible through TRDC website(URL: http://trdc.eahc.asia/)

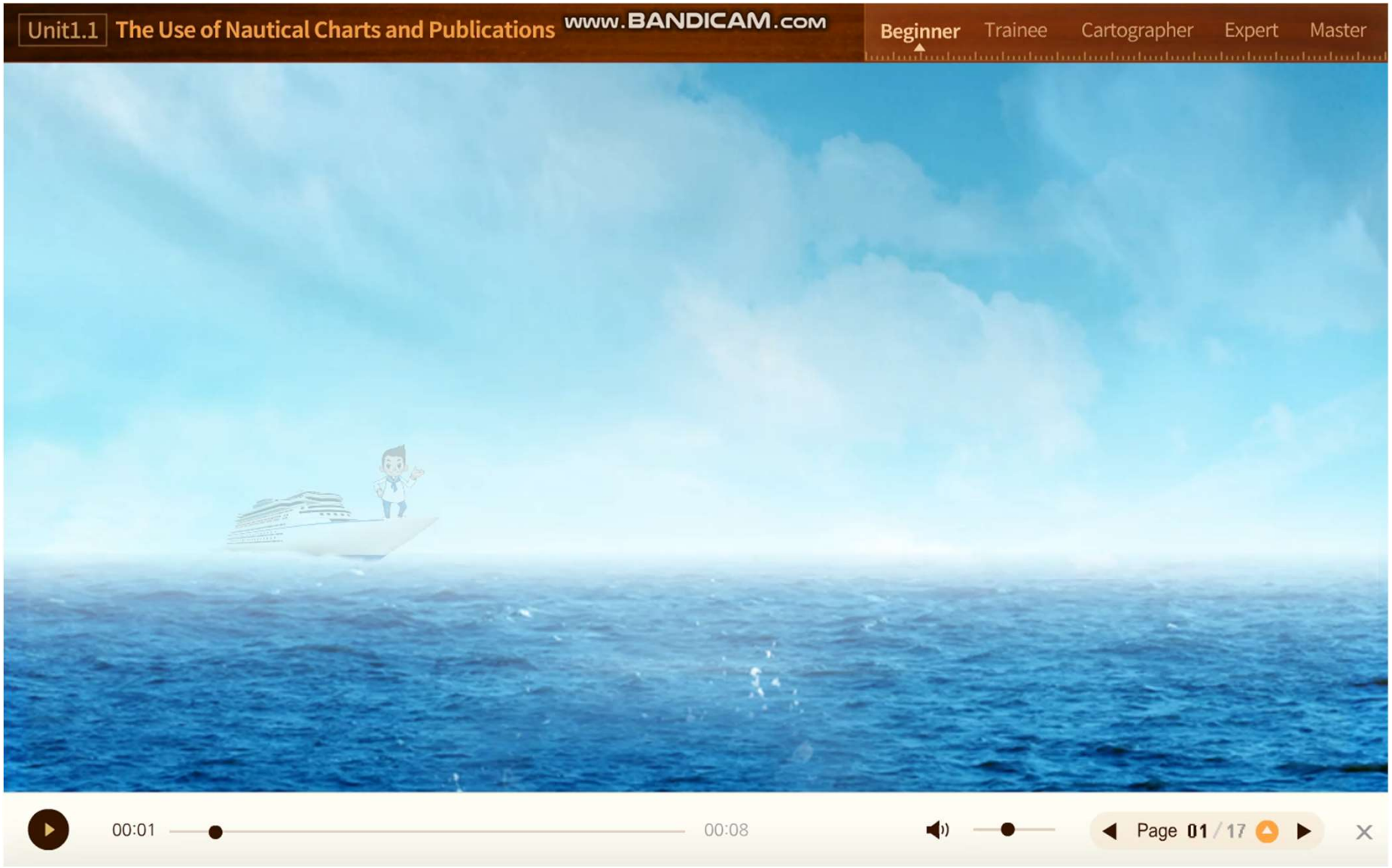




S5-Cat B Demo


Episode 1
Introduction to Hydrography
MENU
TRDC e-learning
00:00 | 00:11
01 | 15

S8-Cat B Demo


Unit1.1 The Use of Nautical Charts and Publications
www.BANDICAM.com
Beginner Trainee Cartographer Expert Master
00:01
00:08
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4 TRDC e-Learning LMS

Platform & Main function

Statistics for
attendance & classes

Assignment
Management

Completion the course &
Digital certificate issuance

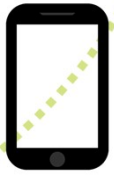
Opening classes
& management

Submit the Test

LMS : Learning Management System

e-mail between
students and instructors

Student community



Text message
(TBC)

5 MSDI & TRDC e-Learning System

TRDC e-Learning System

6 Conclusions

Conclusions

- ROK proposes utilizing the TRDC e-learning platform for MSDI e-learning service.

Recommendations

- The MSDIWG is recommended to use the TRDC e-learning platform, as it may seem fit for MSDI e-learning contents and save the cost & time for establishing MSDI e-learning platform.

Justification and Impacts

- TRDC e-learning platform will provide high quality and knowledge about MSDI e-learning service for the implementation and technical development of MSDI around the world.

Action Required of MSDIWG

- The MSDIWG is invited to
  a. Discussion
  b. Agreement of the members


THANKS!