



DIRECTORATE GENERAL OF MARITIME ADMINISTRATION

Ministry of Ports, Shipping and Waterways • Government of India



About Training Eco-System

A Digital Transformation for Maritime Education



Overview

- A unified, cloud-based framework by DG Shipping to regulate and advance maritime training, certification, and skill development in India.

Key Features

- Integration of 7 critical modules (e.g., Faculty Development, LMS, Web-Based Simulators) into one cohesive system.
- Real-time oversight and advanced technology for secure, transparent processes.

Objectives

- Strengthen training delivery and assessment integrity.
- Enhance transparency in certification services.

Impact

- Transition from paper-based to secure digital platforms.
- Eliminate fraud, bridge academia–industry gaps and align with modern shipboard technologies.
- Ensure Indian seafarers remain globally competitive.

Implementation

- Available as a single integrated solution or modular approach.
- Represents a strategic shift toward modernized maritime education and continuous professional development.

Components of Training Eco-System



Learning Management System



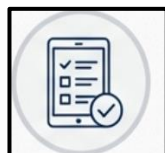
Web-Based Simulator



Faculty Development Program (FDP)



Online Marine Certificates Verification (OMCV)



Digital TAR Book



AR/VR Training System

Components of Training Eco-System

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Digital TAR Book : Key Features

Create a **world class, unified digital platform** that enhances efficiency , transparency and integrity in seafarer training and certification , positioning DG Shipping as pioneer of such initiatives



Unified Access

A single portal for Seafarers, Officers, MTIs, Companies, and DG Shipping with role-based access control.



Real-time Progress Tracking

Live dashboards to monitor overall progress against training requirements.



Secure & Verifiable Entries

Officers approve tasks using multi-factor authentication of the documents uploaded by cadets



Offline Functionality

Enables cadets to log training tasks offline and officers to verify them, with automatic sync when connectivity is restored. ..



Integrated Learning Support

Potential to link tasks with digital learning materials, tutorials, and multimedia content (as proposed by AEMTC)..



Automated Audit & Reporting

Centralized repository enables instant audit trails and generation of compliance reports, eliminating manual checks.

Web Based Simulator : Key Features

- Browser-based maritime simulator enabling real-time training across navigation, engine, and crew operations with full DG Shipping/STCW compliance.
- Interactive, multi-role platform with scenario editing, multiplayer teamwork, detailed replay, assessments, and LMS integration.



Simulator Modules for both Deck and Engine.



Automated Proctoring and Supervision System



Role based access



Interactive UI



Cloud Deployment



Monitoring and Evaluation



Integration with DGS Ecosystem



Security and Compliance

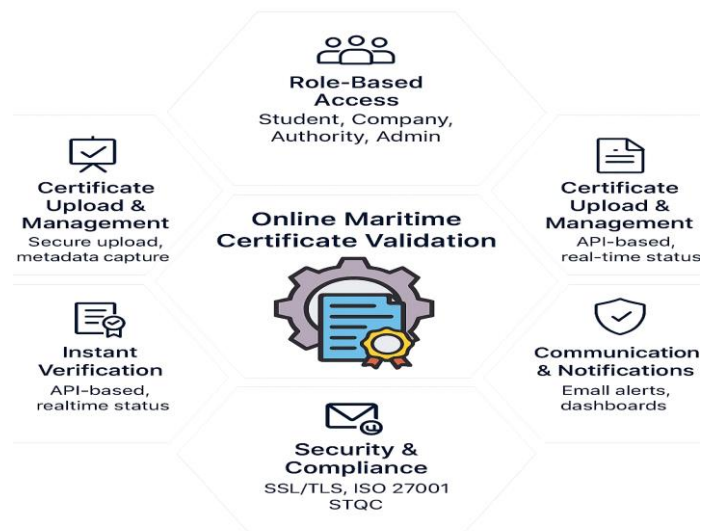
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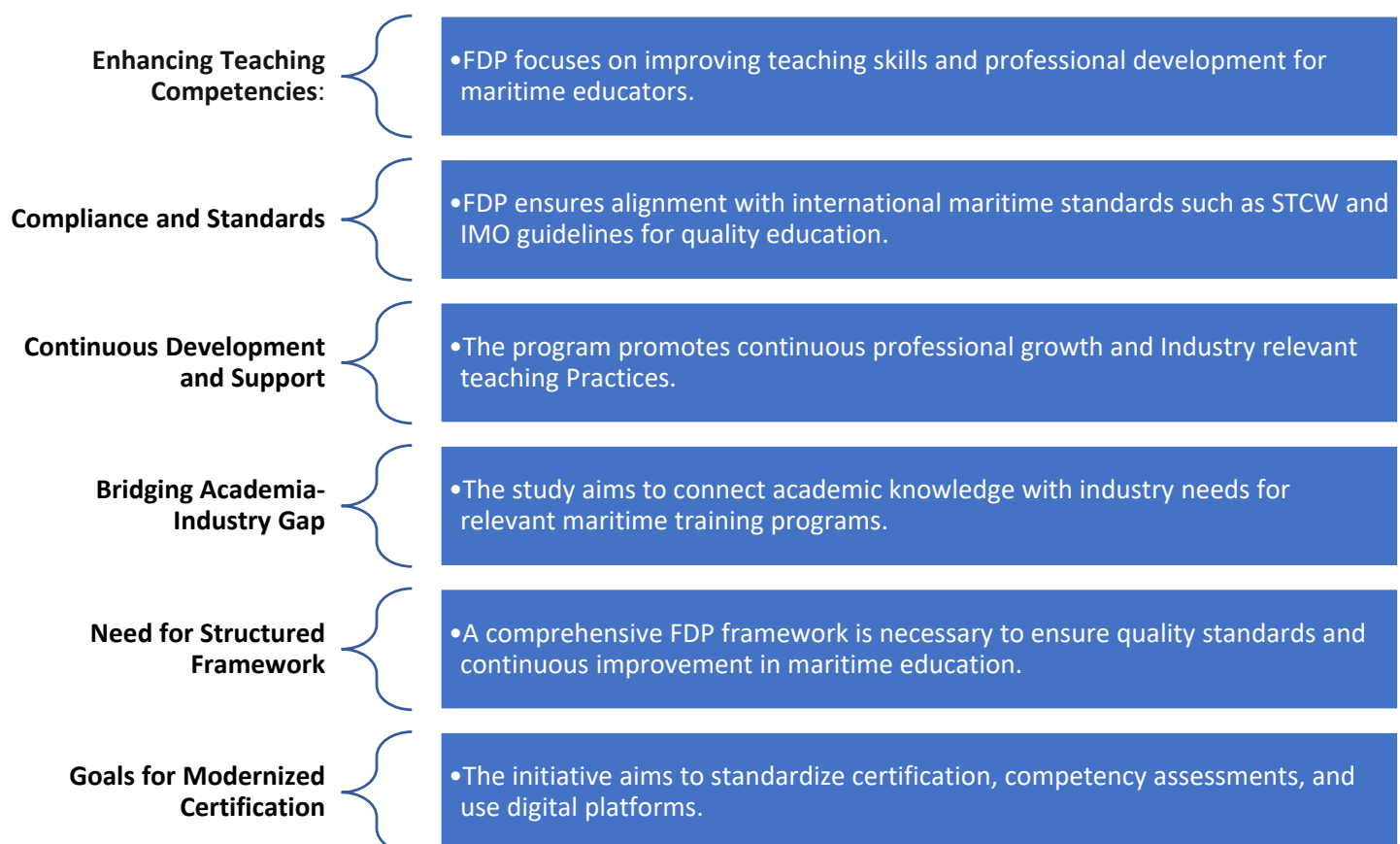
Online Marine Certification Verification : Key Features

Online Marine Certificates Verification (OMCV) is a digital platform (www.omcv.org) that streamlines maritime certification by allowing seafarers to upload all relevant documents like educational credentials, statutory certificates, and professional qualifications for verification by a dedicated backend team. Once validated, the documents receive a digital stamp, instantly confirming authenticity to shipping companies and regulatory authorities. The system also provides an API-based, real-time verification service that connects with global issuing authorities to ensure immediate validation of certificate details



Faculty Development Programme : Key Features

Faculty Development Program (FDP) is a structured initiative to enhance teaching competency, technical knowledge, and professional skills of maritime faculty. Maritime education quality is directly linked to faculty competence.



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LMS : Key Features

A centralized, digital platform for delivering, managing, tracking, and evaluating learning and training programs efficiently, ensuring consistent standardised content delivery, learner engagement, performance monitoring, and continuous skill development along full proof assessment.

❑ **Standardized & DGS-Compliant:**

Dedicated D.G. Shipping LMS for STCW, CoC, and career courses, transitioning from ADU e-learning to an advanced STCW deep-learning platform.

❑ **Immersive & AI-Enabled Learning:**

Curated content with 3D animations, simulations, and interactive modules, supported by AI-based personalized learning and assessments.

❑ **Secure & High Integrity:**

AI face verification, anti-cheating controls, encrypted access, PCI-DSS compliant payments, and assessments enabled only after 100% course completion.

❑ **Accessible & Trackable:**

Bilingual (English/Hindi) content with real-time progress tracking and analytics for trainers and administrators.

AR/VR : Key Features

AR/VR in Maritime Training refers to the use of Augmented Reality (AR) and Virtual Reality (VR) technologies to simulate real-life shipboard operations, environments, and emergency situations, enabling seafarers and cadets to develop practical skills in a safe and controlled setting.

AR (Augmented Reality): Overlays digital information, instructions, or 3D objects onto the real-world environment.

VR (Virtual Reality): Creates a fully simulated maritime environment where trainees can practise operations and scenarios virtually.

- ❑ **Immersive Training Environment** – Creates realistic virtual shipboard environments for experiential learning.
- ❑ **Bridge & Engine Room Simulation** – Replicates navigation, bridge, engine-room and cargo operations.
- ❑ **Emergency Scenario Training** – Enables trainees to practise emergency response and crisis situations safely.
- ❑ **Risk-Free Practice** – Allows high-risk operations to be practised without exposing trainees to actual hazards.
- ❑ **Hands-on Skill Development** – Supports practical training for maintenance, safety drills and operational procedures.
- ❑ **Interactive Learning** – Improves engagement through simulated, scenario-based learning rather than only classroom instruction.
- ❑ **Decision-Making & Situational Awareness** – Provides realistic situations to develop operational judgement and problem-solving skills.
- ❑ **Performance Assessment** – Enables monitoring of trainee performance and provides feedback for improvement.
- ❑ **Remote & Flexible Access** – Web-based simulation can reduce dependence on physical simulator availability and support anytime-anywhere training.
- ❑ **STCW-Aligned Training** – Simulation environments can be structured around required STCW competencies.



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