Preparing the Maritime Human Capital for Global Competition: The Role of Maritime Education and Training
Maritime Education and Training Institutions
MET Institutions (HE)

• **Akademi Laut Malaysia (ALAM)**
  – Diploma
  • Nautical
  • Marine engineering
  • Modular & Offshore training
  • Maritime studies

• **Netherlands Maritime Institute Technology (NMIT)**
  – Diploma
  • Maritime Transportation Management
  • Shipping Management
  • Port Management
• Politeknik Ungku Umar
  – Diploma
    • Marine engineering
• Ranaco
  – Diploma
    • Logistic & Supply Chain Management
    • Marine Cargo Surveying
    • Maritime Management
    • Maritime Technology Engineering +Watch Keeping Engineering (WKE)
    • Offshore Engineering
    • Occupational Safety & Health
    • Integrated Management System
• Universiti Malaysia Terengganu (UMT)
  • Degree
    • Maritime Management
    • Ocean science
    • Biology marine
    • Nautical science and maritime transportation
    • Maritime technology

• Universiti Malaysia Sabah (UMS)
  – Degree
    • Bachelor of Science with Honours (Marine Science)
• Universiti Teknologi Mara (UITM)
  – Degree
    • Marine Technology

• Universiti Pertahanan Nasional Malaysia (UPNM)
  – Degree
    • Bachelor of Science and Technology (Maritime Technology)
• Universiti Putra Malaysia (UPM)
  – Diploma
    • Fisheries
  – Degree
    • Aquaculture

• Universiti Teknologi Malaysia (UTM)
  – Degree
    • Engineering (Mechanical-Naval Architecture and Offshore Engineering)
• Akademi Laut Malaysia Sdn Bhd (ALAM),
• Akademi Kastam Di Raja Malaysia (AKMAL)
• Borneo Safety Training Services Sdn. Bhd.
• Centre of Maritime Excellence Sdn Bhd (CME),
• Centre For Logistics Leaderships In Bussiness Sdn Bhd (CLLB)
• Construction and Industrial Safety Training Centre Sdn Bhd (CONSIST)
• FMM Institute (FMM)
• Institut Perikanan Malaysia (IPM)
• Innatech Sdn Bhd (INNATECH)
• Institut Latihan Pentadbiran dan Pengurusan Pengangkutan Laut (ILPPPL),
• Maritime Skills Sdn. Bhd. (MSSB)
• Maritime Safety & Training Services Asia Sdn Bhd (MSTS)
• Meridian Season Sdn. Bhd. (MARCO)
• Niche Masterpiece Sdn. Bhd. (META)
• Orion Maritime (M) Sdn Bhd (ORION)
• Pelorus Sdn Bhd (PELORUS)
• Pelita MasLaut Sdn Bhd (PELITA MASLAUT)
• Plomo Human Capital Mangament Centre (PLOMO)
• Penjana Ilmu Sdn Bhd (PENJANA)
• Pusat Pendidikan dan Latihan APMM
• Pusat Latihan Pelaut Dagang (M) Sdn Bhd (PLPD)
• PSM Marine Services Sdn Bhd (PSM)
• Pusat Latihan Gerakan Polis Marin (PULAMAR)
• Sri Bima Training Centre Sdn Bhd (SMTC)
• Sarawak Maritime Academy Sdn Bhd (SMA),
• Terengganu Safety Training Centre Sdn Bhd (TSTC)
Maritime Industry Sectors
MARITIME INSTITUTE OF MALAYSIA
INSTITUT MARITIM MALAYSIA
PORTS

MARITIME SERVICES
TOURISM

LEISURE
MARINE EQUIPMENTS

ENFORCEMENT AGENCIES
MARDEP, RMN, MMEA
The Potential of the Maritime Industries in Malaysia

• Growing intra-regional trade
• Growth generated by economic corridors
• Growing demand for medium size vessels
• Promoting maritime ancillary services
• Generating high income activities
The Supply and Demand in Maritime Workforce
HIGHLIGHTS of MANPOWER
2010 UPDATE

• Based on data collected from Questionnaires sent to Governments, Shipping Companies and Crewing experts

• Incorporates views and perceptions of people within industry with input from universities in Europe and China

• 2010 update is most comprehensive BIMCO/ISF study conducted so far
Manpower 2010

- It includes detailed assessment of the size of the commercial trading fleet and its likely growth
- The supply estimates utilized more robust information from many countries
- Since it utilizes improved methodology, the results cannot always be directly compared from previous studies
Manpower 2010

• Despite global economic downturn, the supply and demand for Ratings are balanced, but some shortages for officers, particularly for certain grades & ship types such as tankers and offshore vessels.

• Level of training of new entrants have been maintained or increased in many countries
Manpower 2010

• World supply of seafarers in 2010:
  624,000 Officers
  747,000 Ratings

• Significant increase of supply by China, India and Philippines; and some European nation
### BIMCO/ISF estimates

<table>
<thead>
<tr>
<th>Area</th>
<th>Current Supply</th>
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<th></th>
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<tbody>
<tr>
<td></td>
<td>Officers (1000’s)</td>
<td>%</td>
<td>Ratings (1000’s)</td>
</tr>
<tr>
<td>OECD Countries</td>
<td>184</td>
<td>29.4</td>
<td>143</td>
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<tr>
<td>Eastern Europe</td>
<td>127</td>
<td>20.3</td>
<td>109</td>
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<tr>
<td>Africa/Latin America</td>
<td>50</td>
<td>8.0</td>
<td>112</td>
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<tr>
<td>Far East</td>
<td>184</td>
<td>29.5</td>
<td>275</td>
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<tr>
<td>Indian Sub-Continent</td>
<td>80</td>
<td>12.8</td>
<td>108</td>
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<tr>
<td>All National Groups</td>
<td>624</td>
<td>100.0</td>
<td>747</td>
</tr>
</tbody>
</table>
Supply/Demand Balance

• Balance for Ratings, and modest shortage of Officers (about 2%)
• Indicate some problems with supply of Senior Officers and Engineers
• Supply could increase but improved training and recruitment levels need to be maintained to ensure a future pool of suitably qualified and high calibre seafarers
Supply Demand Gap for Officers next decade
Manpower 2010

• This “benchmark” assumes a modest increase in the number of ships in the world fleet of 2.3% per annum (similar to past decade)
• Manning levels are assumed to decline slightly on average
• Supply side assumed that recruitment rates will continue same rate with wastage rates 1% loss from industry
Manpower 2010

• Despite these conservative assumptions, the current moderate officer shortage is expected to persist, unless maritime training is further increased, and/or measures to reduce wastage rates.

• If general economic conditions continue to improve (hot scenario) there will be serious shortage.
Conclusion of Manpower 2010

- Industry to face challenging future for crewing
- Many uncertainties, tight labour market
- To ensure rapid growth in qualified seafarer numbers especially Officers
- To reduce wastage from industry
Conclusion of Manpower 2010

• Industry requires well qualified and high calibre seafarers capable of adapting to change and handling the new wide range of tasks

• Any training to focus on Quality
Issues and Challenges of Local Maritime Industry
Issues and Challenges

• Lack of skilled manpower
• Lack of capital to expand
• Shortages in the latest hi-tech facilities and equipment
• Small domestic market share
How to overcome the Problem

• Have long-term plan to develop industry
• Upgrade technical skills
• Encourage more OEM (Original Equipment Manufacturer) /MRO(maintenance and Repair Operations) activities
• Provide more/better incentives
Developing an Effective MET System
Developing An Effective MET System

➢ Application of Internationally recognized standards.

Example:

- Deck and Marine Engineering program by following the Business and Technological Education Council (BTEC) Higher National Diploma (HND) programme of the U.K.
- The First Phase addresses “core units” and the Second Phase - “advanced studies” with opportunities for progression onto higher qualifications including post-graduate and doctorate degrees

➢ Cooperation with International MET institutions:

- The close cooperation and coordination with national and international counterparts enhances and provides mutual benefits for all concerned parties.
Developing An Effective MET System

- Close cooperation with shipping/ maritime industry to meet their requirements.
  - to equip the graduates with a full-fledged knowledge and understanding for the application of the latest available technology – hardware and software.

- Adopting new education and training technologies into MET
  - prepares the cadets of the day and those of the future to effectively optimize the safe usage, care and maintenance of advanced ship-board automated systems or of the other sectors of the maritime industry.
Developing An Effective MET System

- Updating programs to cover new technologies applied in shipping/ maritime industry
  - updated programs must include units that support engineering skills - marine systems and data systems, as well in the study related to modern digital circuits and their use in computer systems.

- Covering all stage of MET to achieve continuous and unified education of benefit to the maritime industry learning institutions and industry
Developing An Effective MET System

- Balancing and matching academic studies and onboard training / industry internship
  - carry out their applications in practical settings. The sea service must be planned and must include evidence of satisfactory completion of such training as required for the first certificates of competency as “officer of the watch (OOW)” in accordance with the STCW Convention
  - Understanding the requirements of industry through very close collaboration and regular feedback
Developing An Effective MET System

National ranking of MET institutions

- International cooperation for MET
- Cooperation with industries
- Qualified HR in industry
- Innovative approach to MET
National ranking of MET Institutions

- Numbers of publish academic books
- Number of students
- Simulators, laboratories and facilities
- Academic staff
- Development of new trends technologies
- Train-the-trainer related issues
- Quality assurance
National ranking of MET Institutions

Input on non-technical skills in MET

- Crisis Management
- Leadership
- Teamwork
- Communication
- Stress management
Non-Technical Skills Input

- Psychology
- Decision making
- Situation awareness

In aviation industry it is now a requirement in Europe to test pilots for non-technical skills.

Anaesthetic Non-Technical skills (ANTS) developed by researchers– comprehensive and reliable nontechnical skills assessment tool
Non-Technical Skills Input

Maersk send their Chief Officers for the 3-day leadership course before promotion to command, but no legislation requirement yet.

One week CRM is considered not enough to fix the "problem employee"

Review of maritime accident data base from UK, USA, Norway and Canada in 2006 confirms that human error is the main contributing factor in the maritime accidents – illustrates the importance of non-technical skills
Developing An Effective MET System

- Old plus new techniques

Consider a good harmonization of theoretical knowledge with practical skills.

Putting together traditional teach method with latest technologies use of training.
Great Teachers

• "The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires." —William Arthur Ward

• The teacher who is indeed wise does not bid you to enter the house of his wisdom but rather leads you to the threshold of your mind.

~ Khalil Gibran
Great Teachers

- The best teachers teach from the heart, not from the book.
  ~ Anonymous

- Teaching is the profession that teaches all the other professions.
  ~ Anonymous

- The object of education is to prepare the young to educate themselves throughout their lives.
  ~ Robert M. Hutchins
Traits of Great Teachers

- Fairness
- Positive Attitude
- Preparedness
- Personal Touch
- Sense of humor
- Creativity
- Willingness to admit mistakes
- Forgiving
- Respect
- High expectations
- Compassion
- Sense of belonging
- Creative
- Versatile
- Resourceful
- Disciplined
- Patient
- Charismatic
NMIT-INDUSTRY COLLABORATION TO MEET THE INDUSTRY DEMANDS

- Work closely with various institutions, authorities, associations and organizations in Malaysia to understand better the industry requirements.

- GAP analysis to enhance skills, productivity, quality and safety issues.

- Look at re-skilling, upgrading and refresher programs to elevate and maintain industry standards, and optimizing the HUMAN CAPITAL DEPLOYMENT.
NMIT-INDUSTRY COLLABORATION TO MEET THE INDUSTRY DEMANDS

- Design BRIDGE programs to narrow the GAP between two or more different disciplines in an industry eg: Maritime and Oil & Gas

- Facilitate through DIALOGUES/ FORUM with industry players and tailor made specific requirements.

- Assist Government to set INDUSTRY STANDARDS to streamline connectivity.
Importance of R&D

• R&D is an important means to develop the intellectual capital the Malaysian Maritime Industries must develop and retain. This emphasis on the establishment of NMIT is recognized and encouraged. To succeed in this transition, we must address the following challenges:
  
  ❖ To maintain and improve the position against worldwide competition through improved knowledge and skills of the Malaysian human capital.
Importance of R&D

- To be a trendsetter in responsible exploitation and management of marine resources.

- To combine competitiveness and profitability with a sustainable industrial development taking due consideration of safety and environment.
Importance of R&D

- To focus on technology and innovation as the means to assure a continued profitable Malaysian high end industry.
The Graduates should be *Global market ready*

- Proactive
- Ambitious
- Excellent Communication Skills
- Success-driven
- Enthusiastic
- Disciplined
- Reliable
- Determined
• Positive Attitude
• Goal-oriented
• Level-headed
• Productive
• Industrious
• Flexible
• Confident
• Adaptable
• Detail-oriented
• Loyal
• Problem solver
• Honest
• Creative
• Adaptable
• Poised
• Self-controlled
• Professional
“The empires of the future are empires of the mind”

-Winston Churchill-
"The future belongs to those who see possibilities before they become obvious."

-John Scully-
"No one is less ready for tomorrow than the person who holds the most rigid beliefs about what tomorrow will contain."

-Watts Wacker, Jim Taylor and Howard Means-
Well, you can’t score goals if you don’t take a shot...

Technique is passing the ball with one touch, with the right speed, at the right foot of your partner...

To be World Class, you must firstly be very good. Then work with World Class Partners...
THANK YOU