

## MT1002 INTRODUCTION TO MARITIME INDUSTRY

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1. (a) 1) Ship building: China build new ships and sell them to Singapore.
- 2) Ship repairs: Due to Singapore's geographical advantages, many ships from China come to its berths or to the ship repair yards, waiting to be repaired.
- 3) Bunkering: as one of the busiest port in the world and a major refining center, Singapore is very successful in the bunkering industry, which provides full range of services to ships from China.

(b) 1) The old Singapore cruise center is constrained by height, due to the cable cars in Sentosa.

2) Marina Bay Cruise Center provides more capacity, which gives ships more maneuvering space. The old one has thin channel, and ships have to go around Sentosa.

3) Ships can approach Marina Bay Cruise Center more easily and directly.

2. (a) In freight market, ship owners provides sea transport services, which contains voyage charter, time charter, and bare boat charter. In Sale & Purchase Market, shipowners sale and purchase second-hand vessels, and it serve as an alternative source of vessels during freight booms period and exit during recession, which allows easier entry and exit to the shipping market. In new building market, ship owners pay cash to shipyard for building new ships. When old ships fail to function well, ship owners sell their ships to scrap dealers for scrapping.

(b) Major bulk: Aluminum, Bauxite, Coal, Phosphate rock, Iron ores, Grain;

Minor bulk: Others (Crude oil, chemicals, oil products, LPG, LNG...)

3. (a) 1) Rig builders

2) Shipbuilders

3) Suppliers (ropes, bridges, machinery, etc.)/ Marine base

4) Training (mainly seafarers)

5) Owners of OSV

6) Service suppliers (class, surveyors, consultants)

7) Financial/ legal

(b) 1) Supplying the crew: ships' officers and ratings, including training

2) Maintaining the ship's condition: hull, machinery, planned maintenance system (PMS), trading certificates are valid

3) Ensuring that ship is properly managed: meeting owner's requirements, meeting statutory requirements (ISM code/SOLAS), ensuring adequate supplies (food, consumables, and spares)

(c) Hydrography plays a naval role in most countries, which is within jurisdiction of MPA in Singapore. It establishes navigational depth of rocks, shoals, submerged objects, and wrecks. It also estimates case in Singapore Strait of sunken ships.

(d) 1) provides quality assurance for vessels, offshore structures and shore-based installations

2) Provides quality certification for vessels, offshore structures and shore-based

installations

3) Establishes and maintains technical standards for the construction and operation of vessels and offshore structures.

4) Carries out regular surveys to ensure vessels are compliant with all standards

5) Provides management systems certification, e.g. ISO 9001, ISO14001, etc.

4. (a) As a main rig builders in the world, Singapore's maritime industry will be effected a lot when the rig builders suffer a drop in business. Rig builders, especially for the offshore industry. The offshore industry is always a main source of crude oil, if it is affected, the price of oil will be higher, and the whole maritime transport will be affected. As a result, the whole Singapore's maritime industry will suffer a recession.

(b) MPA Regulation, Surveyor, Fuel tester, Legal lawyer.

5. (a) NOO: They own ships and do not operate their own ships, but they charter out bareboat to other parties.

NVOCC: They do not own ships, and charter boats from non-operating owner.

(b) Temperature and salinity affect the water draft of vessels. Tropical water is warmer than winter water, hence water in Norway is denser, and the boat floats more. The Plimsoll line is lower in Norway, than in Singapore.

(c)(i) Beam: overall width of the vessel.

(ii) Displacement: Measure of the weight of water that a vessel displaces when it is floating.

(iii) Lightweight displacement: the weight of vessel excluding cargoes, fuel, fresh water, ballast water, stores, passengers, crew, etc.

(iv) Deadweight tonnage: Measure of how much weight a vessel is carrying or can safely carry including cargoes, fuel, fresh water, ballast water, stores, passengers, crew, etc.

(v) Net tonnage: Indicate the volume of a vessel's revenue earning spaces.