

A Technical and Networking Visit to Surabaya



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INTRODUCTION

The technical visit has become an important part of interpersonal development of human capital especially for educators from a university. There is a certain knowledge that cannot be acquired and will not be imparted without a technical visit. The technical visit is a vital part of one's career development where it helps to bridge the gap between learning through the theoretical and the real working environment.

In general, the visit also provides first-hand knowledge about the organisational structures and modes of operation in different industries, particularly involving the marine sector. The scope of the technical visit which has been determined by the organiser varies, and it can be clustered into three main areas that is, the research, technology and human capital training.

A technical and networking visit to Surabaya was organised by the Marine Engineering and Naval Architecture Technical Division, The Institution of Engineers, Malaysia (IEM) from 1st to 3rd March 2012. Amongst the objectives of the visit are to develop a networking relationship with the counterpart parties in Surabaya, as well as to attain specific knowledge in the research and technological development in the marine industries. In addition, the visit also serves as a platform to present the *SME Assist* as an agenda of Universiti Sains Malaysia (USM), which could enable opportunities for future collaboration in teaching and research.

The delegation from USM comprises Dr Abdul Rahim Othman (Chairman of *SME Assist*, BJIM), Associate Prof. Dr Shahrul Kamaruddin (Deputy Chairman of *SME Assist*, BJIM) and Associate Prof. Dr Mohd Rizal Arshad (Head of Underwater Robotics Research Group).

SCOPE OF VISIT

The scope of the visit focuses on the following:

- Visit to Dok Perkapalan Surabaya (DPS) – One of the largest dockyards in Indonesia.
- Visit to Indonesia Hydrodynamics Laboratory (IHL), Universitas Teknologi Sepuluh November – Marine laboratory (longest towing tank in Indonesia/South East Asia).
- Visit to Balai Pendidikan dan Pelatihan Ilmu Pelayaran (BP2IP), Surabaya – Ship handling simulator (computer generated) and engine room simulator (real live size). This training centre is meant for nautical and marine engineering cadets who will serve the commercial fleet upon graduation.
- Networking session with marine businesses in the Surabaya region during dinner.

- Socialising in Golf (Optional Afternoon of 2 March 2012). This session would also involve local engineers/businessmen and IMarEST members from Surabaya.

A VISIT TO DOK PERKAPALAN SURABAYA (DPS)

History started on 22 September 1910, when the colonial Dutch Government established N.V Droogdok Maatschappij. It was originally intended to service Dutch ships in Indonesia. Between 1942 and 1945, the company was managed by the Japanese Government under the name of Harima Zosen. After its nationalisation on 1 January 1961, N.V Droogdok Maatschappij Soerabaja became a state-owned company named P.N Dok dan Perkapalan Surabaya. Based on the decree by the Minister of Sea Communication in 1963, the dockyard Sumber Bhaita was integrated into the company. Thereafter, since 8 January 1976, the company has assumed a new legal status as a 'PT'.



PT. Dok & Perkapalan Surabaya owns 4 floating docks, which are able to accommodate vessels of up to 290m in length and of approximately 135,000 DWT. They also have the possibility of repairing vessels up to 310m in length along the shipyard quays. The quays are about 6,000m long in total, including 3,500m of quays fully equipped with the essential infrastructure, electric supply and technical gas supply. 24 cranes which are able to lift up to 300t are available. The technical features of PT. Dok & Perkapalan Surabaya docks are as follows:

Description	Dok I	Dok II	Dok IV	Dok V
Length Over Pontoon	99.24 M	99.24 M	94.30 M	138.52 M
Length Over All	113.24 M	109.24 M	112.30 M	152.52 M
Capacity	3500 TLC	3500 TLC	4000 TLC	6000 TLC

A VISIT TO THE INDONESIAN HYDRODYNAMICS LABORATORY (IHL)

The Indonesian Hydrodynamics Laboratory (IHL) is an advanced research laboratory of BPPT (the Agency for Assessment and Application of Technology) with sophisticated facilities such as Towing Tank, Manoeuvring and Ocean Engineering Basin, and Cavitation Tunnel, for testing many types of ships and offshore structures.

The Laboratory is devoted to research and development, and marine business services related to the propulsive, sea-keeping and manoeuvring performances of ships and offshore structures of all types. The role of IHL is not only to study and develop the hydrodynamic performance of existing design, but also to contribute to the continuing progress and development of technology and know-how. The facilities equipped are as follows:

Towing Tank

- Tank Dimensions: Length 234.5m (incl. Harbour) x Breadth 11m x Water Depth 5.5m
- Towing Carriage: Manned, Maximum Acceleration 1 m/s², Maximum Speed 9 m/s
- Ship Model: Wooden Model 4 – 9m
- Wave Maker: Hydraulically driven dual-dry-back-flap type capable of generating regular and irregular waves with a period of 0.5 – 3.5 seconds with direction between 0° and 180° and significant wave height up to 0.5m
- Manoeuvring and Ocean Engineering Basin
- Cavitation Tunnel
- Workshops.



The visit involved a discussion on the capacity of IHL and research institutes in Malaysia, especially USM, and how further collaboration could be initiated in the future.

A VISIT TO BALAI PELAYARAN DAN PELATIHAN ILMU PELAYARAN

BP2IP (Balai Pelayaran dan Pelatihan Ilmu Pelayaran) in Surabaya was initially named as Surabaya Institute of Education and Training Cruise (BPLP) which was a filial arm of BPLP Semarang in 1982, then turned into Hall of Sailing Basic Education and Training (BPLPD) Surabaya in 1990, and subsequently renamed as BP2IP Surabaya since 2002.

As a Technical Implementation Unit (UPT) under the Education and Training Agency of Transportation, the main task BP2IP Surabaya is in implementing education and training in the areas of primary and secondary levels of sea-going courses in compliance with standards and provisions of the legislation in force, and may hold other sea-going functional technical training based on Head of Marine Transportation Pusdiklat's assignment.

Facilities equipped are as follows:

- Bridge Simulator
- Steering Trainer
- Workshop
- Radar Simulator
- ARPA Simulator
- Navigation aid Simulator
- Engine Graphic Simulator.



LESSONS LEARNT

Apart from understanding the relationship on how to adopt the real problem in the academic world from the studies and assignment perspective, the technical visit also works as a refresher for the educator and gives a fresh insight of making learning more interactive. It is one of the best examples of "Enjoyable Learning". The visit has made acquiring knowledge more interesting and fun, and can be translated into a new method of knowledge acquisition.

It builds up interest in an uninteresting subject and also works as a get-together for educator and students.

One of the main highlights of the technical visit is to follow through the technology adoption for the fabrication and maintenance processes of the marine industries. This comprises a wide range of technologies. Throughout the visit, the participants, many of whom have no previous knowledge and experience in such field, acquired an understanding of the processes and technologies used throughout the marine industries, whilst learning about the advances of the technologies and the stringent safety requirements involving this sector. As a result, one would have gained the ability to identify the correct processes and equipment to use, and the tools and equipment appropriate to each stage of the ship building and fabrication process. The visit has made the participants understand the subject to its core, particularly the marine engineering environment. It also gave an idea about the job profile for such an environment.

Arguably, strategic human capital development is the key element to human resource issues in the 21st century. This can be observed through the visit where the strategic human resource initiatives were derived, particularly by the training organisation. The initiatives include the adoption of a "human investment perspective" that values the skills, knowledge and abilities of the future trainees. Therefore, looking at the similar perspective, what one can learn from the visit is that effective human resource management strategies should focus on the added value of the human resource functions.

This strategic approach would include a valiant effort to form strategic partnerships with the future companies that will be employing the trainee. This could be achieved by the participation within the planning and strategy of interested companies. With a strategic approach in place, the human capital development would be able to function within the objectives and goals of the training organisation and companies itself. This would result in maintaining a competitive advantage and effectively managing a workforce of the 21st century. A critical function of human capital development is matching it with the needs of the company as this process is seen as the "gateway" to ensuring that the training organisation succeeds in "transferring the right knowledge at the right time, with the right skills." This function will place demands on the training organisation as a result of the diverse needs of numerous companies. ■

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