



CASE
BACKGROUND

National Maritime Case Competition (NMCC)

Case Background

1. Introduction to Singapore's Maritime Industry

The Maritime Industry is known to be a broad and diverse industry which is divided into 4 main sectors; shipping, port, offshore & marine engineering and shore based maritime services with all sectors working in tandem with each other. Over the years, Singapore has developed into a premier International Maritime Centre where it houses more than 5,000 local and international maritime organisations and business. These companies supply innovative products and services ranging from the design and construction of ships to the backend business involving the management of shipping lines, custom brokerage, marine insurance and ship finance. To remain competitive, Maritime Singapore is looking to harness and capitalise on the emerging technologies arising from Industry 4.0.

2. Industrial Revolution 4.0

“The Only Thing That Is Constant Is Change” -Heraclitus

Industrial Revolution 4.0 is about transforming the current industry by leveraging on smart technology in daily routine, digitising and improving effectiveness and competitiveness of production and service i.e. reducing processing time.

Similarly, it was mentioned by *Klaus Schwab*, founder and executive chairman of the World Economic Forum that “*one of the features of this fourth industrial revolution is that it doesn't change what we are doing but it changes us.*” The application of technology has reached far and wide, immersing itself into various sectors of human development.

There are many other examples out in the market, such as:

- Automated ground vehicles which are developed and researched by technology giants such as Uber, Tesla, Nissan, Google and many as the future of transportation;
- Drones for surveying and delivery;
- Use of Human Genome Project for studying Neuro Technological enhancement and Genetic engineering;
- Banks' attempting to use Algorithmic Trading, also known as Black-box trading, to predict market trends and place a trade, which in theory, generates profits at a speed that is impossible for a human trader;
- Substituting bulky textbooks with laptops and tablet computers in our education system



3. Conclusion

Despite constant effort to put the concepts from the Industrial Revolution 4.0 into practice, we are still far from what we envision ourselves to be. What may be the possible reason that technology is facing difficulty in penetrating the industry?

Are we able to justify a stronger push for technology in the maritime industry by looking at the many existing cases in the market today?

Imagine how the future of Maritime Industry would be if we were to harness the power of technology and reap its benefits.

You, being the millennials who serve as the pillar of economic growth of Singapore, what do you hope to see and change for Singapore's Maritime Industry? What impacts can we bring, as revolutionaries entering the new age of Industrial Revolution 4.0?

***Please refer to case question for the actual requirements**



4. Supplementary Reading

CGTN (Director). (2019). China's Mega Projects: Transportation [Motion Picture]. Retrieved from https://www.youtube.com/watch?v=IYJ4-fTDy_E

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Geographic, N. (Director). (2018). City of the Future: Singapore – Full Episode | National Geographic [Motion Picture]. Retrieved from <https://www.youtube.com/watch?v=xi6r3hZe5Tg>

Jasmina Ovcina Mandra. (2018, Feb 12). World Maritime News. Retrieved from <https://worldmaritimeneeds.com/archives/243966/interview-complete-transformation-of-how-ports-operate-imminent/>

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Post, S. C. (Director). (2018). Chinese housing projects go green with “vertical forests” [Motion Picture]. Retrieved from <https://www.youtube.com/watch?v=7Ro89SNTRo0>

****note: the following readings are able to be downloaded from online source***

Carnegie Mellon University. (1997). Intelligent Unmanned Ground Vehicles Autonomous Navigation Research at Carnegie Mellon. In M. H. Hebert, C. Thorpe, & A. Stentz, Intelligent Unmanned Ground Vehicles Autonomous Navigation Research at Carnegie Mellon. New York: Springer Science Business Media, LLC.

Hendershott, T., & Riordan, R. (2011). Algorithmic Trading and Information. Berkeley: University of California at Berkeley; Karlsruhe Institute of Technology.

Lucianna Kiffer, D. L. (2018). Analyzing Ethereum's Contract Topology. Boston, MA, USA. ACM, New York, NY, USA: Internet Measurement Conference (IMC '18).

