Short sea transport - The next global trend driving technological innovation

航運業前景：短程海運帶動行業科技創新

Dr Martin Stopford, President of Clarkson Research Services Limited believes that sea transport between regional ports is an emerging global trend. There's huge potential in short sea trade, and it is one of the solutions to address global warming.

克拉克森研究服務有限公司總裁馬丁•史托福博士相信，航運物流轉型到區域性港口，將成為全球新趨勢。短程海運潛力無窮，亦是應對地球暖化的方案之一。

New technologies are game changers that could shake up the shipping and maritime industry from all angles. Dr Martin Stopford, President of Clarkson Research Services Limited, believes in the importance of getting back to basics and addressing practical industry needs. He also foresees huge potential in short sea trade, particularly in Asia.

Practical use of new technologies

Dr Stopford is an industry veteran with 45 years of experience. Instead of discussing in what ways technologies are disruptive to the industry, he asserts that the first step is "for shipping companies to ask what their customers want, for example, do they want to reduce their carbon footprint, and have access to efficient, cheap and hassle-free transport? Shipping companies have to determine what the goal is, what technologies are available, and what the best practical way to achieve that goal is."

Despite the fact that artificial intelligence and blockchain are becoming familiar terms across industries, the future of the shipping industry is tied up with more than just the adoption of new technologies. Rather, it is about introducing a new generation of ship optimisation that makes shipping smart.

"Truly disruptive technology is characterised by the fact that physical assets suddenly become obsolete," says Dr Stopford. "Back in the 1960s when shipping companies had to replace 200 cargo ships with 50 container ships, that was truly disruptive. Digital technology for the shipping industry is not so disruptive as cargo transport still has to use ships." He continues, "the use of IoT technology for instance, to improve communication from the offices, the customers to the ships, is just incredibly difficult, and that's our challenge."

Shipping's Field of Dreams

Technology is offering new ways for shipping companies to improve operational efficiency, stay competitive and even generate new cargoes. The key question is using technology to give customers something new. Dr Stopford quotes an example, "In the three years after Uber was introduced into New York Manhattan, ride hailing in Manhattan grew about 25%. But in the New York boroughs it grew by about 300%. For example, in the Bronx pickups surged from 1,189 a week in 2016 to an average of 6,132 a week in August 2017 . Yellow taxis had shunned the boroughs and the Uber was quick, cheap, available and happy to do short rides. That may seem a long way from shipping but many businesses in outlying areas within Europe and Asia struggle to get their goods to market. Just like the famous quote in the movie Field of Dreams - if you build it they will come."

He stresses, "We have to learn to walk before we can run. We'll start with the basics, like how to manage the existing ships in an effective way with the use of new technologies, to improve all aspects of the transport service in the way like the systems operated by Uber, UPS and Amazon have already done for cabs and delivery vans. And there are many other simple innovations like using robots to clean the ship's underwater hull while it is on berth handling cargo."

Giving customers information is also crucial in reducing carbon. Businesses and consumers must know the carbon footprint of the goods they buy. "Imagine going to the supermarket and seeing

labels that tell you the product's carbon emissions in transport. Better information leads to better decisions. SAs shipping companies reduce carbon emissions and make that data available to shippers and consumers, they have a new way to compete", says Dr Stopford. "It will lead to the phasing out of cargo shipping that isn't productive, and the introduction of green ways of moving cargo—probably short sea transport which uses low-carbon ships."

New trends in regional freight

In April 2018, the International Maritime Organisation (IMO) agreed that shipping should reduce its CO2 emissions by at least 50% by 2050 compared to 2008. From Dr Stopford's point of view, developing short sea business is one of the solutions to address global warming. "Take Southeast Asia as an example. Geographically it has many islands, making it difficult for land transport. And sea transport is one of the best ways of moving cargo, because ships have much lower carbon footprints than lorries and railways."

He points to the fact that the world is moving to a more distributed trade network in which more vigorous short sea shipping can play a vital part. For example, "Although we have 213 ports in the U.K., we bring 11,000 containers a day into three ports in the southeast of the country, which are extremely congested. Direct shipment to local ports would cut both carbon and congestion. In Europe, manufacturing needs to develop in outlying regions, producing local jobs. Likewise, Southeast Asia and the south China Sea will be benefited from the support of efficient logistics systems by using digital technology."

Dr Stopford believes that sea transport between regional ports is an emerging global trend, like ride hailing in the Bronx. "What's needed is a system that allow small shippers to go online and book cheap, reliable transport for a few containers from a local port. Technology has made this far more feasible than it was ten years ago – just look at what's happening on land. It's just a new version of tramping and is not exactly a new concept! What's new is the technology for managing big systems."

Short sea transport is also a good testing ground for the new generation of low carbon ships using battery technology. "The operation of electric ships is easier in local trade, which has already started using them for ferries, supply boats etc," he confirms.

Dr Stopford recalls that he first visited Hong Kong thirty years ago to give a talk to the Hong Kong Shipowner's Association. At the upcoming Asian Logistics and Maritime Conference (ALMC) to be organised by the Hong Kong Trade Development Council, this industry expert says he is once again honoured to share his views on how the shipping industry should face the challenges issued by technological advances, and possible solutions for the future. Was he right in his predictions 30 years ago? "That's my secret." he says with a grin!

創新科技雖然全方位顛覆航運及物流業，但克拉克森研究服務有限公司總裁馬丁史托福博士卻認為，業者應該回歸基本，以科技解決行業上的實際需要。他預計短程海運潛力無窮，特別在亞洲國家。

新科技的實際應用

在業內超過45年的史托福博士認為，與其討論新科技如何顛覆行業的發展，「船公司更應該集中了解客人的需要，例如是否需要降低二氧化碳排放量，和使用便宜、高效及輕鬆無憂的運輸方案？在了解實際需要後，再看有甚麼科技可以應用，以至哪個方案最能實際地達到目標。」

雖然創新科技如人工智能及區塊鏈的應用已引起行業的廣泛討論，但是航運業的未來並不止關乎應用創新科技，而是在於如何透過科技提高船運的效益。

史托福博士說：「真正顛覆性的科技會令到實物資產變得不合時用。例如，在1960年代，船公司要以50隻貨櫃船取代200隻貨船，那才是真正的顛覆。數碼科技說不上是顛覆性，因為貨運仍然需要用船隻。」他續指：「例如，利用物聯網以加強船公司、客戶及船隻之間的溝通，不只是非常困難，也是業界面對的挑戰。」

航運業的《夢幻成真》

科技為船公司帶來提高營運效率的新方案，保持競爭優勢，甚至帶來新商機。史托福博士認為，如何利用科技為消費者帶來新意才是關鍵。「三年前，當Uber進駐紐約曼克頓，叫車服務生意增長了約25%，但在紐約個別行政區卻增長了約300%。例如，布朗克斯由2016年每周1189次增至2017年8月的6132次。的士都避走了，因為Uber又快又平而且很樂意接載短途乘客。這對於航運業而言似是風馬牛不相及，但其實在很多歐洲和亞洲的偏遠地區都難以將其產品推向市場。正如荷里活電影《夢幻成真》(Field of Dreams)中有一句對白：『如果你將它建好，他就會來。』(If you build it, they will come)。」

他強調：「不能未學行先學走。我們應該回到基本—如何透過科技更有效管理現有的船隊，例如參考Uber、UPS及Amazon在管理旗下車隊及送貨車的系統，來優化運輸服務的每一個環節。又例如，當船泊岸上落貨時利用人工智能機械人清洗船隻底部，都是創新科技的簡便應用。」

他又認為，為消費者提供減碳的資訊亦相當重要；無論營商者或是消費者，都應該知道商品產生的碳足跡。「試想像，超市的商品都有標籤顯示運輸時釋出的碳排放量，消費者在得到這些資訊後，便可以作出更好的消費選擇。引伸而至，船公司亦會想辦法減低現有船隊的碳排放量，並讓發貨人及消費者取得這些資訊，那就成為船公司新的競爭優勢。如此一來，低效益的貨船就會被環保的船運方案，例如低碳的短程航運所取代。」

區內貨運新趨勢

國際海事組織(IMO)於2018年4月簽署海運減排協議，要求航運業在2050年把二氧化碳排放量減少50%(與2008年相比)。史托福博士認為，短程海運是應對地球暖化的方案之一。「以東南亞國家為例，地理上，這些國家有很多島嶼，陸路運輸較為困難，而航運是其中最理想的物流方案之一，尤其船隻的碳排放量較貨車及鐵路為低。」

他認為，全球貿易正轉型為分散的貿易網絡，而短程貨運亦將佔一席位。「以英國為例，雖然我們只有213個港口，但每日都有1.1萬隻貨櫃運到其中三個東南部的港口，貨運十分擠塞。反之，如果直接從內陸港口運貨，就可以減低碳排放和抒緩擠塞情況。因此，歐洲國家應該考慮在近郊恢復船運業，為本土創造就業機會。同樣地，透過數碼科技，東南亞及南中國海會受惠於有效率的物流管理系統支援。」

史托福博士稱，航運物流由以往集中在國際航運中心，轉型到區域性港口，是全球的新趨勢，情況就如布朗克斯的叫車服務般。「只是需要一個讓小型發貨人，自助上網預訂從內陸港口運載幾隻貨櫃的系統。那也不算是甚麼創新概念，只是『不定期航行(tramping)2.0』。相比10年前，科技已令構想變得更可行，叫車服務系統是很明顯的例子。創新更多的是指應用科技於龐大的系統管理上。」

他提到，短程航運是發展電池驅動摩打低碳船的最理想試點。「電池船於區域貿易的操作相對容易，而事實上，現在已有渡輪、補給船等在使用電池驅動摩打。」

史托福博士回想，早於30年前已來香港為香港船東會演講。在即將由香港貿易發展局舉辦的「亞洲物流及航運會議」(ALMC)上，他準備與業者分享新科技發展帶來的挑戰，以及未來應對的方案。那麼30年前的預言，今天可已實現？「這是我的秘密！」他微笑說。

Meet Dr Stopford at:
Maritime Forum 2

Smart shipping: How disruptive is new age tech?

Date : 19 November
Time : 2:30pm-3:45pm
Venue : Room A

與史托福博士會面：
航運論壇2

智能航運：新時代科技如何顛覆業界？

日期：11月19日
時間：2:30pm-3:45pm
地點：活動室A